2019 IAFICO Annual Conference
Global Forum for Financial Consumers

Reshaping Investment and Financing through Digital Innovation

Date : August 19-20, 2019
Venue : Gadjah Mada Unviersity, Yogyakarta, Indonesia
Host : IAFICO(www.iafico.org)
Department of Economics and Business, Gadjah Mada Unviersity
Organizer : SKK University (Center for Insurance& Pension Research)
Sponsor ; ADBI(Asian Development Bank Institute)

IAFICO Chairperson’s Greeting

In recent years, major reform has been going on in economy, society, and industry due to digital innovation, an unprecedented technological changes represented by AI (Artificial Intelligence), Big Data, Cloud computing, IOT (Internet of Things) and so on. These changes have also promoted development of finance and investment, causing a huge impact on financial consumers as well. The changes are now everywhere - including U.S., Europe, Asia and Africa.

The rapid digitalization of financial service sector makes it difficult to maintain traditional systems among financial suppliers, regulators, or consumers. The so-called Fintech, Insutech, BigTech, RegTech, SupTech are required at every inch of financial market. The IAFICO’s 2019 global forum focuses on finance and investment aspect of the digital innovation, inviting many distinguished global scholars to the honorable University of Gadjah Mada (UGM), Indonesia.

Special thanks go to Professor Eduardus Tandelillin and the Faculty of Economics and Business, UGM, the host institution. Professor Tandelillin and his Scientific Committee members did a really great job to host this wonderful conference, while working for the highly reputable, active, and globalizing university.

In addition, the IFICO and I appreciate the ADBI and dean Naoyuki Yoshino for a generous sponsorship for the 2019 IAFICO conference. As its name implies, the Asian Development Bank Institute is committed to development of Asian region by helping to develop infrastructure and capacity, which is an identical mission of the IAFICO in financial service sector.

Thanks to those great host university and sponsorship, the 2019 Indonesia Conference could become another big success in providing knowledge and sharing experience for financial consumer research across the world, following the 2018 Tokyo conference hosted by Waseda University (led by professor Hongmu Lee), as well as the 2017 Shanghai conference hosted by Fudan University (run by professor Xian Xu).

I do hope all the participants can enjoy every seminar and speech at the IAFICO and develop friendship among them. Thanks a lot.

Hongjoo JUNG

Welcoming Address of IAFICO President

Distinguished guests,

We all understand how financial consumers have behavioural biases, and lack of knowledge about financial products can lead to poor financial decisions. Regulators have relied on two strategies to help consumers with this problem, namely information transparency and encouraging consumers to seek financial advice. Meanwhile, the financial services industry players must consider another aspect, which is competition. In combination, all of these aspects will help consumers making informed financial decisions and select the financial products that best suited for their needs.

At the same time, the financial sector is being transformed by technology. People who care about financial consumers need to look closely at technological innovations such as Cloud Computing, AI and IoT, and consider whether some could help solve financial consumers problems, while also examining the risks they may carry. Banks have understood the power of advancement in digital technology. Nowadays digital banking is more than a marketing strategy, it is a crucial element to their success. Digital technology transforms the way banks doing business and interact with their customers.

Hence, we are proud to host the annual conference of IAFICO this year and address some key issues relating to financial consumers and technology. Our conference will focus on "Reshaping Investment and Financing through Digital Innovation for SME" Experts from around the world will dive into some key topics in three different panels. The first panel will look at the financial and economic development in the region, the second panel will show a comparison of efforts to build financial consumers literacy in the region and in Europe, while the last panel will specifically look at the Indonesian case. Tomorrow, we will have the opportunity to listen to some experiences and best practices is digitalization, consumer behaviour and financial consumer protection, as well as ethical business conduct. In addition, we will also have the opportunity to listen to the Indonesian market. We hope that you will find the Global Forum for Financial Consumers a beneficial event, one that enables you to share, discuss, and learn about recommendations that will be most relevant and appropriate for your country, in your context.

Ladies and gentlemen,

This event will not be a success without the close collaboration between IAFICO and the Faculty of Economics and Business, Universitas Gadjah Mada. We also extend our appreciation to our generous support from ADB Institute, and the cooperation from our co-host Indonesian Finance Association, the Association for Indonesia's Master of Management Program, as well as other co-host universities, and our generous sponsors.

Finally, we would like to thank you for your participation and welcome you to Yogyakarta. We sincerely wish that you will have not only an insightful conference and productive networking but also an enjoyable stay in Yogyakarta, the centre of Indonesian culture. Thank you and have a wonderful conference.

Eduardus TANDELILLIN

Contents

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IRFC Editorial Board

Introduction of the IAFICO

The International Academy for Financial Consumers (IAFICO) is a professional academic organization established by finance, accounting, and economics scholars throughout Asia-Pacific, and is focused on the internationalization of financial consumer research and the protection of financial consumers. The IAFICO is aimed at serving as a global platform for sharing information, knowledge of financial products and services, regulations and supervision, institutions and culture, education, and training in order to reasonably serve financial consumer's interests and well-being. Moreover, the Academy also purports to facilitate long-term financial development from impartial perspectives. Headquartered in Seoul, South Korea, the Academy was established in December 2014 by a dozen of professors interested in finance and financial consumer issues. The Academy has held five conferences since its foundation year, showing huge interests and support from a myriad of universities in the world.

The IAFICO was in essence founded to conduct research on financial consumers from a global perspective. The Academy observes and studies consumers through financial services provided by banks, stock brokers, insurers, credit cards, etc. Across countries, the Academy has been comparing consumers, products, services, distribution channels, providers, rules and laws, and other institutional structure. The consumers may share commonalities or could differ from one another. Likewise, some experiences may be portable to other countries, and some countries may have impeccable products or institutions that other countries should emulate.

Vision

The Academy yearns to be a global platform for sharing information, knowledge of financial products and services, regulations and supervision, institutions and culture, education and training to reasonably serve financial consumer's interests and well-being, and long-term financial development from impartial perspectives.

Mission

- Sharing relevant information, either success or failure, on financial development;
- Discussing financial issues in an impartial way from financial consumer's perspectives;
- Finding long and short-term solutions to economic and social developments;
- Providing recommendations to measure and manage common issues across countries in a collective way.

As part of its actions to fulfil its mission and vision, the IAFICO holds an Annual Conference to showcase, discuss, and propose recommendations on various topics in finance. Having successfully held the Annual Conference for five times (i.e., in Korea, China, and Japan), the 6th Annual Conference of IAFICO titled the Global Forum for Financial Consumer will be held in Yogyakarta, Indonesia. Specifically, the Academy has appointed Universitas Gadjah Mada Faculty of Economics and Business (UGM FEB) to host the 6th Annual Conference on August 19-20, 2019 in Yogyakarta with a grand theme "Reshaping Investment and Financing through Digital Innovation."

Introduction of UGM, the 2019 Host

Faculty of Economics and Business Universitas Gadjah Mada (FEB UGM) is a leading school of business and economics in Indonesia. It is a premier, if not the best, school of business and economics in Indonesia. As a matter of fact, FEB UGM is the first, and as of today still the only, Indonesian business school, accredited by the Association to Advance Collegiate Schools of Business (AACSB). The Faculty has a mission of developing leaders with integrity and knowledge needed to serve the society.

Beginning its services in the academic year of 1955/1956, the Faculty offers a vast array of fields and courses at undergraduate, master's, and doctorate levels, such as economics, economic development, finance, marketing, strategic management, human resource management, management information system, accounting information system, management accounting, financial accounting, etc. Those programs are offered by three departments (i.e., Business, Economics, and Accounting) where each department's major competitive advantages come from its high-caliber professors and world-class learning infrastructure. All of the programs are also accredited and ranked "A" by the Board of National Accreditation. With its profile, academic resources, systems and processes, the Faculty is renowned as one of the best, if not the best, business school in the country.

FEB UGM will be working alongside the IAFICO and the conference's committees that comprise reputable figures and institutions such as: Indonesian Finance Association, Aliansi Program Magister Manajemen Indonesia (Association for Indonesia's Master of Management Program) to assure that the 6th Global Forum for Financial Consumer 2019 will succeed to shed more light on financial consumer's prospect, protection, and future advancement. Furthermore, other institutions may support this event through sponsorship and/or a co-hosting role.

General Information about 2019 Conference

• Venue

Universitas
Gadjah Mada

Magister Manajemen Fakultas Ekonomika dan Bisnis (MM FEB UGM)
Master of Management Faculty of Economics and Business
Universitas Gadjah Mada
Jl. Teknika Utara, Bulaksumur, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa
Yogyakarta, Indonesia

Registration Fee(+Membership Fee)

Regular Member: US$100 (+US$50)
Student Member: US$50 (+US$50)
Non-Member: US$500
Bank Information : Wooribank, 1006-901-439342
* Lunches(August 19-20) and Dinner(August 19) are included
* If you have a problem with bank transfer, you can pay on-site.

• Registration Desk Open Time

August 19 am 8:30 – pm 17:00 / August 20 am 8:30 – pm 16:00
If you would like to pay for the registration fee, membership fee or BOD membership fee, please come to the desk at the time above.

• Hotel Information

Wisma MM UGM Hotel Yogyakarta

Jl. Colombo No.1, Karang Malang, Caturtunggal, Kec. Depok, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281

• Emergency Contact

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Forum Schedule At A Glance

August 19	
Time	Venue : Master of Management Faculty of Economics and Business UGM
08:30–09:00	Registration & Coffee
09:00–09:30	**Opening & Welcome Remark** Chairman of IAFICO (Prof. Hongjoo Jung) Chairperson of Korean Consumer Agency (Prof.Heesook Lee) *online Dean of ADBI (Naoyuki Yoshino) Dean of FEB UGM (Dr. Eko Suwardi) Rector of UGM (Prof. Panut Mulyono)
09:30–09:35	Presenting Souvenirs to the rector and the dean
09:35–10:35	Keynote Presentation
10:40–12:00	Plenary Session1: Finance & Economic Development
12:00–13:00	Lunch * BOD meeting, invited only
13:00–14:30	Plenary session 2: Financial Consumer & Literacy
14:40–16:00	Plenary session 3: Indonesian Financial Consumers
16:00–17:00	Preparation to Prambanan
17:00–18:45	Trip to Prambanan
18:45–22:00	Gala Dinner and Ramayana Ballet Performance

August 20	
Time	Venue : Master of Management Faculty of Economics and Business UGM
08:30–09:00	General meeting for members (at room 1)
09:00–10:30	Concurrent Session 11(Online),12 &13
10:30–10:45	Coffee Break
10:45–12:15	Concurrent Session 21,22,23 & 24
12:15–13:15	Lunch
13:15–14:45	Concurrent Session 31, 32(Online) & 33
14:45–15:00	Closing Ceremony (Award Ceremony)

Forum Schedule

August 19

Venue: Auditorium

MC: MM FEB UGM

SESSION 1 09:00-09:30	**Opening & Welcome Remarks**
	♦ **Moderator**: Eduardus Tandelillin (Professor, UGM, Indonesia) Hong Joo Jung (Chairman of IAFICO, SKKU, Korea) Hee Sook Lee (Chairperson of Korean Consumer Agency, Korea) Naoyuki Yoshino(Dean of ADBI, Japan) Eko Suwardi(Dean FEB UGM, Indonesia) Panut Mulyono(Rector of UGM, Indonesia)

SESSION 2 09:35-10:35	**Keynote Presentation**
	♦ **Moderator**: Dr. Eddy Junarsin (UGM, Indonesia) ♦ **Presentation 09:35-09:55** ♦ **Title** **Research for Protection Mechanism of Internet Insurance Consumers: Based on Comparison between China and Japan Practice** | Wimboh Santosa (Chairman of the Board of Commissioner of Indonesia Financial Services Authority-OJK, Indonesia)) ***Presenting Gift(09:55-10:00)*** **My Wife is my Insurance Policy: Household Decision-making and Couples' Purchase of Long-Term Care Insurance** | Sharon Tennyson (Editor of IRFC, Cornell University, USA) **Financial Consumer Protection: Challenges and the Way Forward** | Marimuthu Nadason (President of CI, Malaysia)

SESSION 3
10:40-12:00

Plenary session 1 Finance & Economic Development

- **Moderator**: Dean Naoyuki Yoshino (ADBI, Japan)
- **Presentation**

India Growth Story and the Financial Markets

| Sankarshan Basu (IIM, India)

Bank lending to the private sector: Implications from nonperforming Loans in Lao PDR

| Phouphet Kyophilavong (National University of Laos, Laos)

Investment Behavior of Women Business Owners in Myanmar

| Daw Tin Tin Htwe, Nay Zin Win (Yangon University of Economics, Myanmar)

The CFPB and Prudential Regulation: Unresolved Conflicts

| You Kyung Huh (Consumers Korea, Korea)

<Discussion>

Muhammad Arif Sargana (Director of Pakistan Telecom Authority, Pakistan)

Rofikoh Rokhim (University of Indonesia, Indonesia)

SESSION 4
13:00-14:30

Plenary session 2 Financial Consumer & Literacy

- **Moderator**: Professor Sharon Tennyson (Cornell University, USA)
- **Presentation**

The Assessment of Financial Literacy: The Case of Europe

| Gianni Nicolini (University of Rome, Italy)

Measuring financial literacy of startup households in Vietnam and recommendations for financial education programs

| Dinh Thi Thanh Van (Vietnam National University, Vietnam)

Role of Financial Education in Consumer Protection

| Paul Selva Raj (FOMCA, Malaysia)

Consumer Protection Concerns Pertaining to Home Owner's Safety in Light of Bank's Asset Securitization Motives : A Comparative Analysis

| Shanuka Senarath (University of Colombo Sri Lanka, Sri Lanka)

Microfinance Consumers' Perspective of Micro Financing (MF) and

Traditional Money Lending (TML) in Bangladesh
: A Comparative Analysis

| Muhammad Mamun (University of Dhaka, Bangladesh), Md.Zahid Hossain(Bank Asia LTD, Bangladesh)

<Discussion>

Adele Atkinson (OECD, UK)

Satoshi Nakaide (Waseda University, Japan)

SESSION 5

14:40-16:00

Plenary session 3 : Indonesian Financial Consumers

- **Moderator**: Professor Man Cho (KDI School, Korea)
- **Presentation**

An Overview of Peer to Peer Landing in Indonesia

| Irwan Adi Ekaputra (President of Indonesia Finance Association)

Assessing the Effectiveness of Indonesia Health Insurance Scheme; A Client's Perspective

| Rofikoh Rokhim (Chair of Indonesian Master of Management Program Association & Independent Commisioners of Bank Rakyat Indonesia), Ida Ayu Faradynawati (Universitas Indonesia, Indonesia), Melia Retno Astrini (Universitas Indonesia, Indonesia)

Financial Inclusion in Indonesia: A Province Level Analysis

| Supeni Anggraeni Mapuasari (Universitas Gadjah Mada, Indonesia) and Ahmad Maulin Naufa (Universitas Gadjah Mada, Indonesia)

<Discussion>

Peter Morgan (ADBI, Japan)

Sang Ho Kim (GIST, Korea)

August 20

SESSION 11	**Online Session : Financial Consumer Protection in South America**
09:00-10:30	**Venue : Room 1**

- **Moderator**: MZ Mamun (University of Dhaka, Bangladesh)
- **Presentation**

Regulation of Time Taken by Financial Customer Care Services and Consumer Redress: Case Law of the Brazilian Superior Court of Justice

| Lais Bergstein (Dotti, Brazil)

<Discussion> Sebastian Barocelli (University of Buenos Aires, Argentina)

Consumer Protection and Sharing Economy: Financial Aspects

| Sebastian Barocelli (University of Buenos Aires, Argentina)

<Discussion>Cristobal Caorsi (Chile National Consumer Agency, Chile)

Protection of Financial Consumers in Chile

| Cristobal Caorsi (Chile National Consumer Agency, Chile)

<Discussion>Lais Bergstein (Dotti, Brazil)

SESSION 12	**Digital Age and Consumer Protection**
09:00-10:30	**Venue : Room 2**

- **Moderator**: Sankarshan Basu (IIM, India)
- **Presentation & Discussion**

Implications of the Use of Personal Data for Financial Service Consumers

| Adele Atkinson (OECD, UK)

<Discussion> Johanes Widijantoro(University of Atma Jaya Yogyakarta, Indonesia

Digital Age and Consumer Protection of Financial Services in Indonesia

| Johanes Widijantoro (University of Atma Jaya Yogyakarta, Indonesia

<Discussion> Hong Joo Jung (SKKU, Korea)

Culture&Cultural Difference in Global Financial Regulation

| Hong Joo Jung (SKKU, Korea)

<Discussion> Adele Atkinson (OECD, UK)

SESSION 13

09:00-10:30

Financial Consumer Protection 2

Venue : Room 3

- **Moderator**: Sharon Tennyson (Cornell University, USA)
- **Presentation & Discussion**

A Study on the Changes of the Korean Financial Consumer Protection Law

| Min Seob Yoon (Korea Consumer Agency, Korea)

<Discussion> Kadalarasane Thulukanam(Pondicherry University, India)

Demonetization and Its Impact on Indian Consumers : Is It a Bone or Bane for the Economy?

| Kadalarasane Thulukanam, Tripura Sundari C.U(Pondicherry University, India)

<Discussion> Mi Soo Choi (Seoul Digital University, Korea)

Financial Consumer Dispute Mediation and Resolution in Korea

| Mi Soo Choi (Seoul Digital University, Korea)

<Discussion>Min Seob Yoon (Korea Consumer Agency, Korea)

SESSION 21

10:30-12:15

Digitalization

Venue : Room 2

- **Moderator**: Phouphet Kyophilavong (Lao National University,Laos)
- **Presentation**

FinTech Mega-Trends: Implications for Financial Consumers

| Man Cho (KDI, Korea)

Fintech and Inclusive Growth: Evidence from China's Household Survey Data

| Xun Zhang(Beijing Normal University, China)

<Discussion> Shao Jie (Waseda University, Japan)

How Does the Quantity of Disclosed Information Provided by Insurers Affect Entity Behaviors in Internet Insurance Market? A

Study Based on Tripartite Evolutionary Game Analysis Between Government, Insurance Companies and Consumers

| Shao Jie (Waseda University, Japan)

<Discussion> Xun Zhang (Beijing Normal University, China)

SESSION 22

10:30-12:15

Ethical Business

Venue : Room 3

- **Moderator**: Daw Tin T. Htwe (Yangon University of Economics, Myanmar)
- **Presentation**

Consumer Oriented Assessment Program in Korea and Institutional Improvement Cases in the Financial Sector

| Ho Seok Jang (Korea Consumer Agency, Korea)

<Discussion> Jung Hyun Sohn (SKKU, Korea)

Efficient Balanced contract plan between Social Insurance and Personal Insurance: Focusing on the Sales Capacity of Personal Health Insurance by Insurance planner

| Jung Hyun Sohn (SKKU, Korea)

<Discussion> Ho Seok Jang(Korea Consumer Agency, Korea)

SESSION 23

10:30-12:15

Consumer Behavior

Venue : Room 4

- **Moderator**: You Kyung Huh (Consumers Korea, Korea)
- **Presentation**

Awareness of consumer protection in the money lending system in Klang Valley, Malaysia

| Daljit Kaur Sandhu (Universiti Putra Malaysia, Malaysia)

<Discussion> So Young Lim(SKKU, Korea)

Consumer Analysis in FinTech Overseas Remittance

| So Young Lim (SKKU, Korea)

<Discussion> Daljit Kaur Sandhu(Universiti Putra Malaysia, Malaysia)

SESSION 24

10:30-12:15

Finance and Economy

Venue : Room 1

- **Moderator**: Hongmu Lee (Waseda University, Japan)
- **Presentation**

An Economic Analysis of Korea Housing Loan Repayment

| Myung Chang Lee (SKKU, Korea)

<Discussion> Naoyuki Yoshino(ADBI, Japan)

How to Avoid Household debt overhang?

| Naoyuki Yoshino(ADBI, Japan)

<Discussion> Sharon Tennyson(Cornell University, USA)

Determinants and Impacts of Financial Literacy in the Lao PDR

| Peter Morgan(ADBI, Japan)

<Discussion> Eduardus Tandelillin(Universitas Gadjah Mada, Indonesia)

SESSION 31

13:15-14:45

Global Economy

Venue : Room 2

- **Moderator**: Shanuka Senarath (Univ. of Colombo, Sri Lanka)
- **Presentation**

What Are the Differences Between Cooperatives and Insurance Companies? A Study Based on Legislation System of Japan

| Akifumi Kusano(Waseda University, Japan)

<Discussion> Yoon Lee (SKKU, Korea)

Payment Method Choice Experiment on E-marketplace

| Yoon Lee (SKKU, Korea)

<Discussion> Han Yi Zhang (Qingdao University of Technology, China)

Corporate Social Responsibility Reporting Standards in China : Trend and Prospect

| Han Yi Zhang (Qingdao University of Technology, China)

<Discussion> Akifumi Kusano(Waseda University, Japan)

SESSION 32

13:15-14:45

Online Session

Venue : Room 1

- **Moderator**: Tadayoshi Otsuka (Waseda Univ., Japan)
- **Presentation**

Supervision over Bank Fees : Lessons Learned from the Israeli Bank Fees Reform

| Ruth Plato-Shinar (Netanya Academic College, Israel)

SESSION 33

13:15-14:45

Indonesian Financial Market

Venue : Room 3

- **Moderator**: Sang-Ho Kim (GIST, Korea)
- **Presentation**

The Price Impact of Foreign and Domestic Investors' Block Trading: They Hypothesis Testing of Price Pressure, information and Sloping Down Demand Curve

| Wirasmi Wardhani (Universitas Gadjah Mada, Indonesia)

<Discussion> R. Heru Kristianto HC (Universitas Pembangunan Nasional, Indonesia)

Are All Related Party Transactions the Same? A study in Indonesia Stock Exchange.

| Hety Budiyanti (Universitas Negeri Makasar, Indonesia)

<Discussion> Wirasmi Wardhani (Universitas Gadjah Mada, Indonesia)

Is the Company's Ownership Structure Relevant in the Corporate Cash Policy? Evidence from Indonesia

| R. Heru Kristianto HC (Universitas Pembangunan Nasional, Indonesia)

<Discussion> Hety Budiyanti (Universitas Negeri Makasar, Indonesia)

Abstracts

August 19	Session 2 (9:35-10:35)
Author	Sharon Tennyson (Editor of IRFC, Cornell Univ., USA)
Title	My Wife is my Insurance Policy: Household Decision-making and Couples' Purchase of Long-Term Care Insurance

Abstract

We examine couples' decisions to purchase long-term care insurance (LTCI) using a family bargaining framework. LTCI purchase is a discrete decision around which spouses' interests may diverge substantially, hence it is amenable to bargaining analysis. Using panel data on married couples ages 50-75 from the Health and Retirement Study (HRS), we test and find support for the hypothesis that family bargaining affects LTCI decisions. Individual respondents' LTCI status and the household composition of LTCI ownership are significantly related to spouse and relationship characteristics. Standard measures of spousal bargaining power such as age and education differences and income shares, as well as self-reported measures of say in household decisions, have effects on LTCI ownership. When husbands have more say in household decisions, ownership of LTCI is less likely. Patterns are consistent with husbands maximizing consumption in healthy states and relying on wives for informal care in unhealthy states.

August 19	Session 2 (09:35-10:35)
Author	Marimuthu Nadason (President of CI, Malaysia)
Title	Financial Consumer Protection: Challenges and the Way Forward

Abstract

Financial consumer protection is an important issue for a modern society where people cannot live without financial products and services such as savings, loans and insurance. The growing complexity of financial products over the past decade, coupled with financial innovations and the increasing transfer of risks to households have put enormous pressure and responsibilities on the shoulders of financial consumers. In this interdependent world, financial consumer protection involves both international and domestic factors. Due to globalisation and liberalisation of financial services, the systemic risk caused by one financial institution in one country often influences the consumers in other countries. Thus, communication and cooperation among countries are essential for financial consumer protection. Consumers International places great priority on banking and financial issues. With 250 members from 121 countries as well as representations in several important institutions at the Global level, I strongly believe that CI can make a significant impact on enhancing consumer protection in the financial sector. Some of the key issues in enhancing consumer protection are information design and disclosure, framing information on financial products in a form that is understood by consumers, the need for a strong and effective national financial consumer protection body, an effective redress and dispute resolution systems and promoting competition in the financial services.

August 19	Session 3 (10:40-12:00)
Author	Sankarshan Basu (IIM, India)
Title	India Growth Story and the Financial Markets

Abstract

In this talk, I shall look at the Indian financial system, highlight its key developments and interlinkages with the international markets. This is all the more relevant than ever before as the global focus on India increases and India also becomes more integrated with the global markets. A part of the talk shall also delve in to what that had meant for the Indian economy and the population at large and how that is changing the consumer behaviour in India. Impact of digitization and other technical facets will also be discussed.

August 19	Session 3 (10:40-12:00)
Author	Phouphet Kyophilavong (National University of Laos, Laos)
Title	Bank lending to the private sector: Implications from nonperforming Loans in Lao PDR

Abstract

This is the first empirical study on commercial bank loans in Lao PDR. In 2014, the country has its nonperforming loan ratio reaching 13%. This paper analyzes 992 bank loans originated by three state-owned commercial banks, in which around half are nonperforming loans. Our regression analysis shows that male as the borrower, agricultural production, longer tenor, higher frequency of collection and loan monitoring, and borrowing from multiple sources are positively associated with nonperforming loans. The results provide insights on lending to agricultural societies.

Keywords: Bank lending, nonperforming loan, regression model, Laos

August 19	Session3 (10:40-12:00)
Author	Daw Tin Tin Htwe, Nay Zin Win (Yangon University of Economics, Myanmar)
Title	Investment Behavior of Women Business Owners in Myanmar

Abstract

Investment has been important part of the economy as a whole but also play as a partial part of the business and individuals. Individuals invest in different types of investment based on their preference and risk taking behavior. Each type of investment has its own advantages and disadvantages. Depending on their financial knowledge and awareness, their investment decisions are different. Moreover, the investment behavior of each and every investor is different depending on psychological, sociological and demographical factors. Women in Myanmar have taken a more significant role in the economy and their investment behavior became hot topic to study. Understanding the factors influenced on the investment behavior is important for both the investors themselves and financial institutions. By studying the investment behavior of woman business owners, it will be helpful to find out the ideal investment options for women. The findings could be useful to financial institutions to devise appropriate strategies and to market appropriate financial products or offer new financial products to investors in order to satisfy their needs.

Keywords: Investment Behavior, Risk, Attitude, Financial Literacy, Influencing Factors.

August 19	Session 3 (10:40-12:00)
Author	You Kyung Huh (Consumers Korea, Korea)
Title	The CFPB and Prudential Regulation: Unresolved Conflicts

Abstract

One of the most significant changes sparked by the 2008 Global Financial Crisis (GFC) was the formation of the Consumer Financial Protection Bureau (CFPB) under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act).

A significant rationale to establish the CFPB is that prudential regulation and consumer protection, two primary goals of financial regulation, conflicted with each other. The thinking was that if a single agency concurrently performed both regulatory mandates, one might undermine the other. Resolving the differences between the two goals is a delicate "balancing act" faced by regulatory agencies if they seek to protect consumers and maintain the solvency of major financial institutions at the same time, because "deterrence and financial sanctions could deplete assets" and ultimately threaten the stability of financial institutions.

Prior to the 2008 GFC, the primary financial regulators (i.e., the Federal Reserve, the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation; hereinafter collectively, "Prudential Regulators") were essentially understood to be "prudential bank regulators," whose primary mission was the safety and soundness of banks. As such, these Prudential Regulators failed to exercise their powers for consumer protection.

The creation of separate agencies, one like the CFPB, to rectify the problem of dysfunctional agencies with multiple objectives is certainly not the norm. The reorganization is not a panacea, as "regulatory reorganizations within the financial services industry do not so much eliminate the existence of conflicts, as they alter the dimension on which conflicts arise and change the locus of their resolutions."

My paper seeks to assess if the reforms have achieved what they purported. In other words, did the creation of the CFPB reduce conflict between the objectives of financial regulation;or did the reform just 'alter the dimension' of the conflict. The answer, I find in this paper is that the latter is more plausable.

As a first step, I first acknowledge that that are substantial differences between prudential regulation and consumer protection. The first type of conflict between consumer protection and prudential regulation is a conceptual, theoretical or perceived

conflict that is related to goals, missions, or incentives of each regulator (Type 1 Conflict). Type 1 conflicts caused the Prudential Regulators to subordinate consumer protection (a secondary goal) to prudential regulation (the primary goal). The second type of conflict is a procedural, technical or methodological conflict which arises from the differences in strategies or approaches in discharging consumer protection and prudential objectives (Type 2 Conflict). Type 2 conflicts make it difficult for agencies to develop the skills to carry out the tasks needed for consumer protection. The third type of conflict is one arising from rivalry for resources between multiple goals in an agency (Type 3 Conflict). A clear statement of the dimensions of conflicts will allow a more precise diagnosis of whether or not the creation of the CFPB resolved the conflicts.

The next part of the paper then analyzes the statutory and otherwise formal coordination mechanisms of the CFPB and the Prudential Regulators, in areas of supervision, enforcement, and rulemaking. Through a series of case studies, I show that the differences in technical approaches to supervisory actions and enforcement create a "culture clash" within the agency. The CFPB initially adopted a "tough cop" approach in enforcement, one like those adopted by other (retail) consumer protection agencies (i.e., SEC, FTC). The early years of the CFPB show an increase in numbers and intensity of enforcement actions. As for rulemaking, agency coordination with Prudential Regulators has not gone well especially with regards to rulemaking that have a significant prudential impact on the financial institutions (i.e., overdraft rules, arbitration rules). In other words, conflicts have been either externalized or embedded within the culture of the agency.

Further, the CFPB, despite its unique agency design (deliberately designed for maximum insulation from political influence), is not politically independent from the changes in the political coalition (Republican Congress and President). The Trump presidency (and his political appointee) has drastically influenced the intensity of enforcement, the rulemaking agenda, and budget allocated to the agency.

The case studies demonstrate how the different types of conflicts between prudential regulation and consumer protection failed to resolve even after the creation of the CFPB. The conflicts were either externalized (i.e., open dissent from the OCC), or were embedded within the culture of the CFPB. External politics will continue to influence how conflicts are resolved

August 19	Session 4 (13:00-14:30)
Author	Gianni Nicolini (University of Rome, Italy)
Title	The Assessment of Financial Literacy: The Case of Europe

Abstract

The study starts from the definition of financial literacy and its components, to identify the criteria that an assessment methodology should have to properly measure it. In the second part an empirical analysis of the degree of financial literacy of the adult population in several European countries (France, Germany, Italy, the UK, Spain, etc.) is used to highlight similarities and to stress differences between different countries. Results show how the availability of 50 items allows to differentiate the financial literacy of individuals addressing different areas of knowledge (e.g. loans, investments, money management). The use of money (e.g. credit cards, debit cards, cash) is the area of knowledge where individuals seem to be more knowledgeable and confident. On the opposite investment and investment products (e.g. stock, bonds) represent a weak points with average scores to different questions that are dramatically low.

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August 19	Session 4 (13:00-14:30)
Author	Dinh Thi Thanh Van (Vietnam National University, Vietnam)
Title	The Role of Fintech Development in Financial Inclusion in Asian Countries

Abstract

Fintech which is abbreviation for financial technology, is an industry that uses technology to provide financial services and make financial systems more efficient. Fintech plays an important role in improving access to financial services for all, at the same time, promoting financial inclusion. Financial inclusion represent for availability of financial system which is straightforward to access to useful financial products and services by everyone at reasonable prices. The study examined the relationship between Fintech development and financial inclusion in 45 Asian countries. Using the GMM regression technique, the paper confirms the correlation between Fintech development and financial inclusion through the enhancement of Fintech infrastructure and Fintech ecosystems to facilitate improve financial inclusion.

Keywords: Fintech, Fintech development, financial inclusion, Asia

August 19	Session 4 (13:00-14:30)
Author	Paul Selva Raj (FOMCA, Malaysia)
Title	Role of Financial Education in Consumer Protection

Abstract

As financial markets become more sophisticated and consumers assume growing share of the responsibility and risk of financial decisions, financial education is necessary to ensure sufficient levels of consumer protection as well as smooth functioning of the financial markets as well as the economy in general. Financial education and consumer protection are not substitutes but rather complements. There is widespread recognition that strengthening people's financial capability is increasingly necessary as financial products become more complex and people obtain financial products for the first time as a result of wide range of distribution channels, including non-bank providers. However, in order to take advantage of these opportunities, people need to be equipped with the knowledge, skills, motivations and confidence to make informed decisions on how to manage their personal finances. People who make good financial decisions and then implement these decisions are more likely to achieve their financial goals, improve their welfare and protect themselves against financial risks and negative shocks. Effective financial education and awareness campaigns would thus help consumers better understand financial risks and products and thus make better decisions according to their personal needs and circumstances. For countries as a whole, strengthening the financial capability of population can strengthen the economy and improve financial stability.

August 19	Session 4 (13:00-14:30)
Author	Shanuka Senarath (University of Colombo Sri Lanka, Sri Lanka)
Title	Consumer Protection Concerns Pertaining to Home Owner's Safety in Light of Bank's Asset Securitization Motives : A Comparative Analysis

Abstract

Asset securitization is a process utilized by banks in order to convert their illiquid, long term, assets into liquid securities. Mortgage backed asset securitization involves 'selling' home loan montages originated by banks to a third party trust with the view of detaching such assets from its originator's bankruptcy estate. In a legal point of view, the trustee then becomes the 'new owner' of such mortgages. Bank would act in the capacity of the servicer and will continue to collect mortgage installments from mortgagor, while homeowners are usually unaware of the fact that their mortgages are now assigned to a third party trustee.

Utilizing a lexonomic (economic analysis of law) approach embedded in second best efficiency criteria this research investigates into actual securitization contacts, practices and related regulation, while making an international comparison, finds that actual securitization practices in Sri Lanka / Australia and US may pose significant moral and safety concerns on homeowners. Inter alia if bond holders decide to liquidate their bonds prematurely, the trustee has the absolute legal right to sell mortgages underneath such securities via the servicer (bank), and thus the home owners may find their houses been sold without any default from their side, posturing serious concerns about unconfinable conduct with respect to safety of mortgage owners.

One likely solution is to deviate from conventional practice of not informing the borrower about any likely assignment of their mortgage but recommend banks to gain the consent of borrowers for such transactions prior to the mortgage contract. Provided, borrowers may not wish to take excessive risk, banks may offer discounted interest rates to such mortgagors who are willing to take such risk (e.g. for example those who may invest in a second house may likely to pay a lower interest rate by accepting the risk of selling their homes at the market rate pre maturely).

August 19	Session 4 (13:00-14:30)
Author	Muhammad Mamun (University of Dhaka, Bangladesh), Md.Zahid Hossain(Bank Asia LTD, Bangladesh)
Title	Microfinance Consumers' Perspective of Micro Financing (MF) and Traditional Money Lending (TML) in Bangladesh: A Comparative Analysis

Abstract

The comparative analysis between services of TML and MFIs in Bangladesh noted that the MFIs are positively contributing to employment generation, living standard, household income and education. The limited collateral free MFI loans are not as easily available as TML. Mortgage of wealth and its forfeiting is more common in TML. The MFI loan taking has started under the influence of its mass promotion, but still the clients follow the suit of their ancestors' TML loan taking. The initial screening procedures for MFI loans are strict, objective and stringent. Clients take TML loans for the sake of continuity and procedural lenience even if those are linked with stern collaterals. In terms of repayment policies MFI and TML are not much different; but regarding alternative repayment and loan security TML is more apathetic, harsh, inconsiderate and on occasion cruel on default clients. Regarding sustainability it is found that MFI clients are comparatively doing better in business.

August 19	Session5 (14:40-16:00)
Author	Rofikoh Rokhim (Chair of Indonesian Master of Management Association (APMMI) & Independent Commisioners of Bank Rakyat Indonesia), Ida Ayu Faradynawati (Universitas Indonesia, Indonesia), Melia Retno Astrini (Universitas Indonesia, Indonesia)
Title	Assessing the Effectiveness of Indonesia Health Insurance Scheme; A Client's Perspective

Abstract

In 2014, a Mandatory National Health Insurance Scheme (JKN—Jaminan Kesehatan Nasional), managed by Indonesia's Social Security Organising Body (known as BPJS--Badan Penyelenggara Jaminan Sosial) was introduced. Participation towards the program is mandatory for all Indonesian residents. By the end of 2018, JKN has 205.07 million participants, or 78.8% from a total of Indonesian residents, and targeted an increase of the participation of up to 95% of total Indonesia population in 2019. This study aims to evaluate the performance of BPJS from perspective of its customers, in this case Indonesia citizens, using perception surveys. Specifically, this study looks at the level of awareness, perceptions of, and support the Mandatory Health Insurance Scheme (JKN) among the citizens. It is important to conduct this survey in order to identify areas of improvement for the program and subsequently, the feedback could be used to inform further regulatory reforms specifically looking from the perspective of its clients. This paper will be organized as follows; first, we briefly review the implementation of Mandatory National Health Insurance Scheme (JKN) thus far and identify potential problems within customers' context. This will help to assess the current situation in the market and provide direction for the survey development. We will explain the implementation of the methodology used and follow this with the results of data analysis. Finally, the findings of the survey will be presented with emphasis on the implications for government to improve health insurance scheme in Indonesia.

Keywords: insurance; health insurance; perception survey

August 19	Session5 (14:40-16:00)
Author	Supeni Anggraeni Mapuasari (Universitas Gadjah Mada, Indonesia), Ahmad Maulin Naufa (Universitas Gadjah Mada, Indonesia)
Title	Financial Inclusion in Indonesia: A Province Level Analysis on People Engagement in Banking Services and Human Development Index

Abstract

Financial inclusion is a well-received goal of countries around the world since it is expected to support economic development. Because it reflects effective and efficient access to banking services, people can maximize the utilization of financial services to helps them cope with life strategies and emergencies. Easy access to financial services is making them able to have a more financial choice for better decision making in life. Nevertheless, research providing the real proof of its positive externalities is still limited. With province-level data, this paper is aimed to (1) capture the brief profile of financial inclusion in Indonesia, (2) examine its direct effect towards people's engagement in banking services, and (3) examine its positive correlation to human development index. This article is using publicly available data from the Indonesian Financial Authority, Central Bureau of Statistics, and The World Bank Global Financial Index Data. By using correlation analysis, financial inclusion index has positive correlation towards both total credits and total savings in each province. It also shows positive correlation towards province-level human development index. This research is providing empirical evidence on how financial inclusion brings positive impacts to the country.

Keywords: financial inclusion, savings, credits, human development index, life expectancy, financial services

August 20	Session11 (09:00~10:30)
Author	Lais Bergstein (Dotti, Brazil)
Title	Regulation of time taken by financial customer care services and consumer redress: case law of the Brazilian Superior Court of Justice

Abstract

Time exerts multiple influences on consumer relations, since it is a triggering factor for several legal obligations. The valuation of time as an essential and limited resource has emerged in the context of post-modernity with the formation of a new consciousness about the effects that its passage exerts on people. In Brazil, since 2009 several judicial decisions recognized the time lost by consumers trying to solve conflicts with suppliers as a special kind of moral damage and guaranteed the right to redress. Nowadays several states have laws limiting the time consumers are required to spend in bank lines. Therefore, the financial institutions must provide efficient customer care services in order to meet the legal requirements. The Brazilian Superior Court of Justice also recognizes that the financial institution that does not observe the legal obligation to preserve consumer's time must compensate the time lost with a cash indemnity. Recently, a financial institution payed 50,000 dollars to redress consumer's lost time in lines, considering that: the "voluntary disrespect of legal guarantees, with the clear intention of optimizing profit to the detriment of quality of service, reveals offense to the duties attached to the objective good faith principle and configures unfair and intolerable injury to the social function of productive activity and protection of consumer time." One of the National Consumer Relations Policy's principles, based on good faith, is the harmonization of the interests of the participants in a consumer relation. It also assigns the consumer basic rights of effective prevention and full redress (article 6, VI, Consumer Defense Code). In this context, the research proposes a dual-criterion to pursue the adequate compensation for the time lost by consumer through the evaluation of suppliers conduct. The study makes a distinction of consumer time and supplier's time and defines the "planned disregard" as the abusive devaluation of time and the efforts made by consumers to achieve a successful conclusion to consumer contracts, mostly due to the lack of investments in efficient customer care services. The paper presents the legal duties of effective prevention and full redress of damages in Brazilian consumer law, which are the legal tools to compensate the damage due to the loss of time suffered by consumers. Finally, it suggests a new business ethics for financial institutions and proposes how the members of the national consumer protection system, such as the regulatory agencies, civil entities and the Judiciary, may contribute with structural processes to the prevention of undue loss of consumer time and to the improvement of financial consumer's services.

KEYWORDS: Consumer time; customer care services; damage due to time lost; planned disregard; full redress.

August 20	Session11 (09:00~10:30)
Author	Sebastian Barocelli (University of Buenos Aires, Argentina)
Title	Consumer Protection and Sharing Economy: Financial Aspects

Abstract

Information and communication technologies (ICT) have severely impacted the way consumers and suppliers establish and develop their relationships in the market.

The vulnerability of the consumers in mass consumption, which is depersonalized and globalized, is compounded by the unnaturally of the technological event, the control of the electronic media by the supplier and a greater propensity to risks related to security and self-determination in terms of personal data, means of payments, breach of trust, fraud, and trademark fraud, among others.

In this context, a significant phenomenon is that of the so-called "sharing economy" or "collaborative consumption".

The "sharing economy" is defined as a movement that encompasses new economic practices that have in common some degree of participation or collective organization in the provision of goods and services.

This definition places emphasis on those practices and business models based on horizontal networks and the participation of a community, built on distributed energy and trust within communities instead of centralized institutions. It highlights the collective and community aspect, as well as the need for trust and participation to develop the activity, and extends the scope of the sharing economy. The philosophy of sharing economy emphasizes the creation of communities that, in a framework of trust, allow access to underutilized goods by sharing them.

Sharing economy is essentially linked to peer-to-peer (P2P) and business-to-peer (B2P) technology for its operation, in the supply based on the access to the unproductive goods as opposed to its acquisition; a combination that can sometimes be based on a relationship between equals (P2P) or on a company's license to access goods on demand (B2P), differentiating between companies that try to monetize services around communities of users and those technological companies that connect some users with others and charge a fee for it.

One of the aspects that deserve special attention are the methods of payment, financing, the use of credit cards, among others.

E-consumers deserve a level of protection that is not less than that afforded in other forms of commerce.

In addition, the hypervulnerability of consumers in the digital environment obliges States to adopt specific protection policies.

Therefore, the organizers of collaborative economy networks are strictly liable for damages suffered by consumers in context of consumption.

August 20	Session11 (09:00~10:30)
Author	Cristobal Caorsi (Chile National Consumer Agency, Chile)
Title	Protection of Financial Consumers in Chile

Abstract

While the World Bank identified in 2013 the presence of dedicated units for financial consumer protection in 69 countries, by 2017 those units jumped to 86. The Chilean Government was a relatively early mover in this trend, establishing in 2011 by law a specialised unit within the National Consumer Agency, along tools such as mandatory disclosure of the Annual Percentage Rate (APR) in credit products and a voluntary trustmark for financial entities, among others. By using as reference the framework of a recent publication; "An International Comparison of Financial Consumer Protection" (Chen et al, 2018) the research aims to offer an overview of the model adopted by Chile. This means a revision of the background of financial consumer in Chile, the system adopted, institutions involved, vulnerable groups targeted and market issues. Thus, allowing a comparison of Chile with the 13 economies covered in the aforementioned publication.

August 20	Session12 (09:00~10:30)
Author	Adele Atkinson (OECD, UK)
Title	Implications of the Use of Personal Data for Financial Service Consumers.

Abstract

Technological innovations have greatly increased the capacity of financial services providers to capture, store and analyse a wide variety of customer data, ranging from financial situation to their preferences, habits or physical location.

These trends can bring benefits to consumers, but also new risks that are specific to the financial services sector and that might require a dedicated policy response. Positive outcomes include potentially cheaper and more relevant financial products and access to credit for those without any traditional credit record. However, at the same time consumers may not be aware of the extent to which their data is being used, or abused. They may be marginalised as a result of opaque and potentially unfair data-mining practices or even find themselves victims of fraud and cybercrime.

A comprehensive policy response is required to protect consumers, combining robust financial protection and greater consumer awareness and financial education.

August 20	Session12 (09:00~10:30)
Author	Johanes Widijantoro (University of Atma Jaya Yogyakarta, Indonesia)
Title	Digital Age and Consumer Protection of Financial Services in Indonesia

Abstract

Digitalization has penetrated various industrial sectors including financial services which have brought various changes in the production, distribution and consumption patterns. Like all new developments, there is potential for both increased opportunities and risks for consumers. It was broadly known that consumers of financial services were frequently damaged because of various unfair trade practices conducted by financial service providers, their low level of financial literacy, and the weakness of consumer protection policy. Making sure the foundations of a connected system are designed to benefit consumers will be essential. This article aims to explore the problems and challenges faced by policy makers, especially Financial Services Authority / Otoritas Jasa Keuangan (OJK) in protecting the interests of consumers of financial services in the digital era. One of the challenges faced by the OJK is running a dual role i.e. on the one hand should ensure financial services providers operate correctly and responsibly, and on the other hand also must empower and protect consumers' interests. Begins by describing the situation of the financial services consumer protection in Indonesia, this article will further examine the protection of what is required by the consumer financial services and consumer protection policies which should be taken by the OJK in order to address the challenges faced. Some suggestions and recommendations will be submitted to end this article.

August 20	Session12 (09:00~10:30)
Author	Hong Joo Jung (SKKU, Korea)
Title	Culture & Cultural Difference in Global Financial Regulation

Abstract

- Culture, value system determining behavioral pattern of people or human organization, is getting more attention in financial supervision system, in particular in some European countries.
- This paper reviews some policy and academic research on the relationship between culture and financial regulation after showing cultural difference among countries.
- Although financial regulators pay attention to industry culture, we need to look at regulators' culture and their difference as well as consumers' difference in culture.
- Behavioral economics or finance needs to be explored in financial services sector for financial consumer protection and development of financial system.

Keywords: Culture, Cultural Difference, Financial Regulation

August 20	Session 13 (09:00-10:30)
Author	Min Seob Yoon (Korea Consumer Agency, Korea)
Title	A Study on the Changes of the Korean Financial Consumer Protection Law.

Abstract

1. Characteristics of Korea's financial regulations

□ Regulated regulations by financial industry

- Korea's financial regulations have industry-specific regulatory systems that are divided into Bank, Insurance, Financial Investment Business, and credit finance business.

* In the case of investment banking, five businesses were divided into securities, asset management, futures trading, merchant banking and trust business before the establishment of 「FINANCIAL INVESTMENT SERVICES AND MARKETS ACT」 in 2007.

- In the financial industry, most are controlled by the Financial Services Commission and the Financial Supervisory Service, but in the case of loan business, which is a type of credit finance business, local governments often control it.

□ Different regulations for the same function

- Different regulations are applied to the same financial instrument as the regulatory system is maintained by different industries
- For example, regulations such as LTV (Loan to Value ratio), Debt To Income (DTI) and Debt Service Ratio (DSR) are strongly applied to banks for loans, but they have been eased for other financial industries

□ Protection of financial consumers through regulation of conduct

- ■ No definition of a financial consumer's concept
- ■ Financial consumers were protected by regulating financial business practices.

2. Changes in the financial consumer protection system

□ Definition of financial consumer concept

- Those who use financial services, i.e., those who do business with financial institutions, are defined as financial consumers;
- Wide concept rather than simply a trader of financial instruments

☐ Differential regulations by financial instrument

- deposits, loans, guaranteed products(insurance), and investment products
- different degree of regulation depending on risk of product type

☐ Step-by-step regulations

- Strengthen regulations on sales by dividing financial services into production and sales levels
- The same regulation applies when selling the same product regardless of the seller's industry

☐ The Financial Consumer Act was proposed to reflect the above changes

August 20	Session 13 (09:00-10:30)
Author	Mi Soo Choi (Seoul Digital University, Korea)
Title	Consumer Dispute Mediation and Resolution in Korea

Abstract

The Financial Disputes Settlement Committee (FDSC) is a committee that has been created within the FSS specifically to help mediate and resolve financial disputes between consumers and financial service firms. Upon a consumer petition or in response to a consumer complaint, the FSS verifies the relevant facts and makes impartial recommendations so that both the consumer and the financial institution can mutually come to a resolution with resorting to often time-consuming and costly litigation through the court.

A total of 25,044 consumer dispute cases were resolved before reaching the Financial Dispute Settlement Committee (FDSC) in 2017, a decrease of 1,564 (5.9 percent) from a year earlier. Dispute resolutions involving banking and nonbanking financial firms decreased by 1,198. For financial investment services providers, the total figure fell by 299. Resolutions involving life insurance firms decreased by 1,368 , while resolutions involving nonlife insurance firms grew by 1,301. Of the mutually agreed resolutions reached, the initiating party's claims were accepted in 46.1 percent of the cases.

The FDSC held six meetings—one for banks, nonbank financial institutions, and financial investment services providers, and five for insurance firms—and mediated 19 cases. The number of cases involving banks, nonbanking firms, and financial investment firms for which the FDSC deliberated fell by 12 to 2. Requests made by the initiating parties were accepted and made eligible for remedy in 50 percent of the cases.

August 20	Session 13 (09:00-10:30)
Author	Ahcene Lahsasna (Salihin Academy, Malaysia)
Title	Financial Consumer Protection in the Context of Islamic Finance Practice

Abstract

Financial consumer protection is regarded among the top priorities and concern in the context of Islamic finance practices. It is ranked among maqasid al Shariah the objective of Shariah which represent a core driver that shape the Islamic finance industry. By looking at maqasid al Shariah they are five main categories that represent the priority of Shariah, they are: preservation and protection of religion (al-din), preservation and protection of life (al-nafs), preservation and protection of progeny or dignity (al-'ird) (Nasl), preservation and protection of intellect (al-aql), preservation and protection of wealth (al-mal). The fifth objective of Shariah is well connected to the financial consumer protection because it deals with protection and preservation of wealth from any harm. As it is known that, the consumers represent the purchasing power in the marketplace, hence they always been regarded as a target for scam, price manipulation, cheating, fraud, and miss presentation, which expose their finance, wealth and interest to high risk. Hence, their financial interest must be protected and preserve to ensure their countenance support to the economics, as they are the main contributor to the economic development and they are behind any success of products and services in the market, because of their purchasing power loyalty and continuance support and commitment will keep the economics grow a life. Thus, the purpose of this paper is to highlight the importance of financial consumer protection in the context of Islamic finance by showing the Shariah rules, means and tools that have been highlighted and used in business and finance to ensure that the interest of the financial consumers is secured and protected. The paper will extend the discussion to some other important aspects in the context of the effort of the regulators in Malaysian market and its legal framework in the context of Islamic finance that help to increase customer awareness and financial literacy with the objective to ensure soundness in dealing with the financial affairs.

Key words: Financial consumer, financial Protection, Islamic finance, Regulator

August 20	Session 21 (10:45-12:15)
Author	Man Cho (KDI, Korea)
Title	FinTech Mega-Trends: Implications for Financial Consumers

Abstract

The dazzling speed of the ICT (Information and Communication Technology) development during the last decade or so has been changing the landscape of financial service industry around the globe, the phenomenon often summed up as the advancement of FinTech (or Financial Technology). This on-going and technology-enhanced change in finance is so deep and fundamental that some observers make such an extreme statement, “banking is necessary; but banks are not.” Nonetheless, the effects are likely to be different for different countries. Given this backdrop, the current study offers a survey as to where we are in three particular FinTech services – crowdfunding, mobile payment, and AI robot-assisted investment advice, and as to what policy implications we should draw from those observed changes in delivering those services to financial consumers. Relevant topics to be discussed in terms of the former include expansion of financial inclusion with the alternative financial service channels, use of soft data in credit risk evaluation, adoption of the decentralized service platforms (i.e., Blockchain or Distributed Ledger Technology), role of BigTech and other non-traditional service providers, among others. Based on the survey of those issues, attempt will be made to draw welfare implications of those FinTech trends, in particular, with respect to ensuring financial stability and protecting financial consumers and, further, to project anticipated effects for countries of diverse financial market conditions. In so doing, those theoretical arguments and empirical evidences of relevancy from academic and industry sources will be utilized.

August 20	Session 21 (10:45-12:15)
Author	Xun Zhang (Beijing Normal University, China)
Title	Fintech and Inclusive Growth: Evidence from China's Household Survey Data

Abstract

This paper represents an early attempt to investigate whether Fintech development reduces disparity and contributes to financial inclusion and inclusive growth in China. Over the past decade, with the rapid expansion of Fintech, China has seen a transformation in the accessibility and affordability of financial services, particularly for formerly financially excluded populations. Linking the index of digital inclusive finance with China Family Panel Studies (CFPS) data, we initially find that Fintech development has a positive effect on household income, and the positive effect comes from rural households, suggesting that Fintech development helps narrow urban-rural income gap in China. We further analyze the mechanism underlying the Fintech-disparity relation and find that Fintech has significantly increased the probability that rural residents become entrepreneurs, while the effect on urban households is not significant. A decomposition of Fintech development shows that financial depth, which measures the development of the paying, lending, insurance, and investing sectors, and digital service provision, which measures the accessibility of financial services, are the two factors that contribute to entrepreneurship. Additionally, households with lower incomes or social capital have a higher probability of becoming entrepreneurs with the help of Fintech, which is also consistent with inclusiveness.

August 20	Session 21 (10:45-12:15)
Author	Shao Jie (Waseda University, Japan)
Title	How does the Quantity of Disclosed Information Provided by Insurers Affect Entity Behaviors in Internet Insurance Market? - A Study Based on Tripartite Evolutionary Game Analysis between Government, Insurance Companies and Consumers

Abstract

In the first quarter of 2018, InsurTech deals reached $724 million2 , which is a record of this industry, and a 155% increase from first quarter of 2017. The emergence of internet insurance provides a new consumption pattern for insurance consumers in e-commerce era. However, without agents fulfilling duty of disclosure, many consumers realize that their own interests sometimes cannot be guaranteed. This paper will analyze the costs and benefits of three parties (i.e. government, insurance companies and consumers) and their strategies regarding information disclosure of insurance products on internet. By using evolutionary game model under bounded rationality assumption, the Nash Equilibrium (NE) and evolutionary stability strategy (ESS) of the system are explored. Then this article will analyze how entities affects each other's strategies in internet insurance market, and explain the different current situation in China and Japan. The results show that (Disclosing, not Regulating, Satisfied) is bound to be the best ESS and it is consumers' buying decision not regulation that ultimately compel insurers to disclose enough information. Finally, this article will suggest some measurements to promote the development of internet insurance market in both Japan and China.

Keywords: internet insurance; information asymmetry; information disclosure; tripartite evolutionary game analysis

August 20	Session 22 (10:45-12:15)
Author	Ho Seok Jang (Korea Consumer Agency, Korea)
Title	Consumer Oriented Assessment Program in Korea and Institutional Improvement Cases in the Financial Sector

Abstract

The main purpose of this study is to introduce Consumer-oriented Program in Korea and improved cases about financial laws and regulations through the Program.

The KCA (Korea Consumer Agency) in cooperation with the KFTC (Korea Fair Trade Commission), has been conducting a 'Consumer-oriented Assessment' program to ensure 'consumer orientation', based on the Framework Act on Consumer since 2009.

Annually, the project reviews the government's laws and institutions for each sector from consumers' perspectives and seek ways to improve them. The KCA and KFTC identify statues or policies that restrict the rights of consumers and recommend relevant ministries and municipalities to amend those statues or polices. Specifically, the procedure of assessment and recommendation is as follows: firstly, identify statues or policies that need to be improved through consumer counseling, redress of consumer damage, media reports, and idea contest, secondly, review the policies and come up with ways to make improvements, thirdly, discuss with relevant ministries and municipalities, and finally issue recommendations.

The Evaluation criteria or indicators for Consumer Orientation can be mainly classified into five types from the consumers' point of view: (1) harm consumer safety, (2) provide incomplete information, (3) limit consumer choices, (4) limit consumers' options for transactions, (5) constrain other basic rights of consumers. Over the past 10 years, 268 recommendations have been issued and 87 of those have been accepted by relevant ministries or municipalities, applying for those indicators.

We introduce several cases, such as reinforcement of consumers' P2P investment protection, improvement of motor vehicle lease agreement, etc., of institutional improvement in the financial sector and discuss policy implications of the Consumer-oriented Assessment Program.

August 20	Session 22 (10:45-12:15)
Author	Jung Hyun Sohn (SKKU, Korea)
Title	Efficient Balanced contract plan between Social Insurance and Personal Insurance: Focusing on the Sales Capacity of Personal Health Insurance by Insurance planner

Abstract

General Issues relating to National Health Insurance in Korea

1. financial problems
2. frequent conflicts of interest on health insurance
3. the spread of moral hazard
4. resistance of subscribers to higher insurance premiums

Issue alternative

Revitalization of private health insurance (personal health insurance) is an improvement of the national health insurance system. Contribute to the efficiency of the entire NHS system with efficiency

Realistically, the supply of private health insurance (personal health insurance) in Korea depends on insurance planners

The Problem of Private Health Insurance Supply by Insurance planner

1. lack of understanding social insurance
2. Lack of consulting skills to balance social and private health insurance
3. The insurance plan itself rather than the customer, and the interests of the insurance company to which you belong, are encouraged to purchase private medical insurance

Sugestion1; Need to strengthen the expertise of insurance planners

1. Product history; shifting product education focused on selling point to education focused on interpreting terms and conditions; and also focusing on social insurance, etc.
2. Regulatory knowledge; training on insurance business laws, etc., which are not currently implemented by an insurance company or by an educational institution.
3. Financial knowledge; need to further develop basic knowledge of finance and economy from insurance-oriented knowledge

Sugestion2; Need to strengthen the analysis capability of insurance planners

1. Design ability; need to acquire a qualified financial certificate that includes all

aspects of financial consulting ability, social insurance, etc.

2. Descriptive power; RP training and script memorization to upgrade the explanatory power.
3. Customer-oriented; need to strengthen ethical training for insurance recruiters

Readiness; Need to increase the role of Sales Manager to train and manage insurance planners

August 20	Session 23 (10:45-12:15)
Author	Daljit Kaur Sandhu (Universiti Putra Malaysia, Malaysia)
Title	Awareness of consumer protection in the money lending system in Klang Valley, Malaysia

Abstract

This study was undertaken with the primary objective of understanding the consumers' awareness on their rights in the licensed moneylending industry in Klang Valley, Malaysia. The Moneylenders Act 1951 in Malaysia directly provides two rights to the consumers which is the right to information and right to receive a copy of the moneylending agreement. However, there is a gap on whether these consumers who borrow money from licensed moneylenders obtain these basic rights. This ongoing research focusses on the perspective of consumers who have experience borrowing money from licensed moneylenders in Klang Valley, Malaysia. Observation and interview were the main primary data collection method supported by NVivo 12 software as the data management tool. The Moneylenders Act 1951 is the law that regulates the formal moneylending industry, which was the main secondary source. Six areas on consumer rights from The United Nations Guidelines were adapted for this study, consisting of right to consumer education, right to be informed, right to choose, right to safety, right to satisfaction of basic needs and right to complain. Through phenomenology inquiry themes relating to the chosen rights were generated. Preliminary findings indicate consumers have a low level of engagements in most of the six rights, raising concern on the protection afforded by the moneylending system.

Keywords: consumer protection, consumer rights, moneylending, Moneylenders Act 1951.

August 20	Session 23 (10:45-12:15)
Author	Kadalarasane Thulukanam, Tripura Sundari C.U (Pondicherry University, India)
Title	Demonetization and Its Impact on Indian Consumers : Is It a Bone or Bane for the Economy?

Abstract

The Demonitisation notification by the India Government on 8th November 2016 had serious impact on many sections of the population whose major source of the study examines, trade and livelihood dependent on cash. The middle and below poverty line people are the one who were affected by this action. To reduce corruption or black money this is not the only tool, the policies which Government suggests must be for the people's welfare and should not be a disaster. Hence the current paper attempts to reveal the impact of demonetization on consumer and producer who are the main players of the economy. The opinion of common people and bank employees are regarding demonetization is collected with the help of a questioner. Required data are sourced from RBI and Economic survey, for which percentage methods, data visualization technique, and qualitative analysis is used and the policy suggestions are drawn based on the findings.

Key words: Costumer protection, data visualization technique, Demonitisation, Government policy, India, qualitative analysis.

August 20	Session 23 (10:45-12:15)
Author	So Young Lim (SKKU, Korea)
Title	Consumer Analysis in FinTech Overseas Remittance

Abstract

According to the World Bank, more money goes into developing countries through remittance than with government aid. Despite the international economic recession and tight labor market, the volume of overseas remittances has remained steady at a certain rate. In particular, the amount of money sent by migrant workers from developing countries to their home countries is the main determinant of the size of individual overseas remittances While the size of global overseas remittances is continuously increasing, FinTech business, which provides low-cost overseas remittance services using the Internet and smart phones, is also growing. Excessive fees incurred when using formal banks were burdensome to people from developing countries. However, FinTech has innovative benefits such as low fees, time savings, and easy remittance. This study attempts to analyze consumers who are using FinTech for overseas remittances. We will analyze in detail the satisfaction according to the remittance method, the satisfaction according to the consumer age, the remittance method according to the consumer age, difference in preference by nationality(bank/remittance companies) and difference in preference by gender(bank/remittance companies). The goal of this study is to examine the existing financial system through consumer analysis and to present the future direction of Fin Tech in Korea. For the analysis, we surveyed the financial status (deposit, overseas remittance, credit card, loan) of foreign workers in Korea. The questionnaire is largely divided into 4 parts ; I. Bank, II. Overseas remittance, III. Credit card and IV. Loan. And the total number of questions is 44. In addition, seven questions were presented for the analysis of respondents. We obtained the questionnaire results in 1739 respondents in 28 countries.

Keywords : FinTech, Financial Consumer, Overseas Remittance, Crosstabulation

August 20	Session 24 (10:45-12:15)
Author	Naoyuki Yoshino(ADBI, Japan)
Title	How to avoid household debt overhang ?

Abstract

In this paper we develop an analytical framework using the household utility maximization approach to model stability conditions to avoid household debt overhang. Our theoretical framework suggests that household debt stability is a function of five factors, namely the rate of interest, period of lending, income growth, loan-to-income ratio, and households' disutility from borrowing parameter. Further, we apply our analytical model to the case of India and estimate household debt stability conditions for Indian households under various scenarios to estimate the ceiling borrowing ratios borrowing below which households can avoid the risk of running into a debt overhang problem.

Keywords: debt overhang, household finance, household borrowing

August 20	Session 24 (10:45-12:15)
Author	Peter Morgan(ADBI, Japan)
Title	Determinants and Impact of Financial Literacy in the Lao PDR

Abstract

Financial literacy is gaining increasing importance as a policy objective in many countries. However, internationally comparable information on financial literacy is still scarce. The Organisation for Economic Cooperation and Development International Network on Financial Education (OECD/INFE) survey of adult financial literacy is a standardized survey instrument, but so far has mainly been implemented in higher-income countries outside of Asia. Our paper extends the literature by conducting the survey in a relatively low-income Asian economy—the Lao PDR—and analyzing the determinants of financial literacy and the effects of financial literacy on other behaviors. We also compare these results with those of our earlier study of financial literacy in Cambodia and Viet Nam. This study of the Lao PDR extends our research in the Cambodia-Lao PDR-Myanmar-Viet Nam (CLMV) region, and the survey was broadened to include more variables that could be used as effective instrumental variables for financial literacy to deal with possible endogeneity problems. This increases our confidence in our findings that financial literacy positively affects both savings and financial inclusion.

Generally, our study corroborates the findings of studies of other countries, but uncovers some differences as well. The average financial literacy score in the Lao PDR is found to be 12.5, slightly below that of Viet Nam (12.7) and higher than that of Cambodia (11.8). These scores are at the lower end of the range seen in a sample of 30 economies that have implemented the OECD/INFE survey, but they can be considered normal in view of the low levels of per capita income in these economies. The main determinants of financial literacy are found to be educational level, income, age, and occupational status. Both financial literacy and general education levels are found to be positively and significantly related to savings behavior and financial inclusion, and these results hold even when correcting for possible endogeneity of financial literacy.

Keywords: financial literacy, financial behavior, financial inclusion, household saving,

Cambodia, Lao PDR, Viet Nam

August 20	Session 31 (13:15-14:45)
Author	Akifumi Kusano (Waseda University, Japan)
Title	What Are the Differences Between Cooperatives and Insurance Companies? A Study Based on Legislation System of Japan

Abstract

In Japan, there is an insurance product called Kyosai which is the same with insurance in substance. It provides some categories: fire, death, injury, car accident, and so on. Kyosai and insurance are both governed by Insurance Contract Law. However, cooperatives (provider of Kyosai) and insurance companies are governed by different company acts. On the other hand, cooperatives are regulated by each cooperative law while insurance companies are regulated by the Insurance Business Act. The American Chamber of Commerce in Japan criticizes ensuring a "level playing field" between Cooperatives and Financial Services Authority (FSA)-Regulated Insurance Companies. Against such argument, cooperatives insist that Kyosai should be regulated by cooperative laws, as it is not the same as insurance.

First, this article introduces the features of Kyosai and cooperatives. Secondly, this study analyses the differences between cooperatives and insurance companies especially solicitation: market size, applicable law, and supervision, and finally proposes suggestions to regulations and rules of cooperatives and insurance companies.

Key words: insurance business act, comparative law

August 20	Session 31 (13:15-14:45)
Author	Yoon Lee (SKKU, Korea)
Title	Payment Method Choice Experiment on E-marketplace

Abstract

Studies on trade payment method have focused on payment term determination factors such as firm size, product price level, country credit rate, etc. Those researches were based on statistical data or survey result which showed final result of the payment term choice. Therefore, there was little attention on other factors affecting negotiation and determination process of payment terms on international trade. To fill these gap, we applied and examined some behavioral economics theories such as Status Quo Bias and Anchoring effect on payment method choice or change.

To achieve our research goal, we proceeded field experiment toward exporting companies in Alibaba.com which was the largest B2B e-marketplace in the world. Based on experiment design, we requested offer toward exporting companies with different conditions to check status quo bias and anchoring effect, and compared differences in response of each group.

The result showed most of the exporting companies had status quo bias which means prefer traditional payment method than new payment methods. However, the experience of using new payment method could diminish status quo bias as Paypal accept ratio is high in the group provided Paypal before. And an initial request for Paypal and low advance payment ratio lead to higher acceptance ratio of Paypal and lower advance payment ratio. This means a preemptive request from importer could cause anchoring effect for determining payment method or condition.

This research attempted to apply a new topic, research methods and theories which did not use in previous researches on trade payment method. Though these attempts would need more time and effort to be popular, it could contribute to increasing diversity of methodology and breadth of international trade studies.

August 20	Session 31 (13:15-14:45)
Author	Han Yi Zhang (Qingdao University of Technology, China)
Title	Corporate Social Responsibility Reporting Standards in China : Trend and Prospect

Abstract

Chinese Academy of Social Science (CASS) published CASS-CSR 4.0 at the end of 2018 which is a representative CSR Reporting Guideline in China. In fact it is significantly different from global standards but the relevant researches are almost non-existent. In order to contribute to the literature in this area, this study discusses three topics: the policies, laws and regulations on CSR practices in China; the current CSR reporting standards and guidelines in China; introduce CASS-CSR 4.0 comparing it to the previous versions and GRI G4. After that, some suggestions and prospects were proposed for foreign-invested companies in China.

Key words: Corporate Social Responsibility Reporting, China, CSR reporting , standards

August 20	Session 32 (13:15-14:45)
Author	Ruth Plato-Shinar (Netanya Academic College, Israel)
Title	Supervision over Bank Fees ; Lessons Learned from the Israeli Bank Fees Reform

Abstract

In many countries there is no supervision over bank fees. Each bank determines its own fees, and as long as the bank discloses its list of fees and their rates to the public, the banking regulator does not intervene.

However, banks may use this mechanism of fees in an inappropriate manner, in order to increase their profits at the expense of the retail sector - individuals, households and small businesses, which are perceived as weak customers.

Indeed, this had been the situation in Israel for many years. Due to a lack of competition between the banks, they permitted themselves to collect very high fees. An additional problem was the multiplicity of fees: There were banks that charged retail customers more than 300 different types of fees. Each bank titled and calculated its fees differently, which made it virtually impossible for customers to compare fees from bank to bank. Furthermore, the banks used to collect double fees for the same transaction.

In 2007, following a report of the Parliamentary Inquiry Commission, the Israeli Banking Law was amended and authority was thereby conferred on the Governor of the Bank of Israel to oversee the fees charged to the retail sector.

By virtue of his authority, the Governor published a closed list of fees the banks are entitled to collect. However, he did not intervene in the level of the fees, and allowed the banks discretion in this regard. The expectation was that a price competition would start and lead to a reduction of prices. Unfortunately, this expectation did not materialize and no meaningful reduction of prices was noticeable. Consumer organizations argued that the reform had failed, and called for a deeper intervention by the Governor.

In the following years, and particularly in the aftermath of a huge social protest that erupted in the Summer of 2011 against the high cost of living in Israel, the Governor escalated his supervision over the bank fees, by imposing additional restrictions and obligations. In some cases – he even limited the level of the fees.

Today, more than a decade after the bank fee reform took place, surveys conducted by the Bank

of Israel reflect a real improvement in the situation of retail customers; a reduction of the bank fees and a diversity of prices between the banks.

Although the reform decreased the banks' earnings, they still exist and thrive. They survived the financial crisis relatively unscathed, and continue to make enormous profit.

Having said this, two reservations should be made. Firstly, the fact that improvement has been achieved up to now does not mean that the Supervisor can rest on his laurels and let market power continue from here. The Supervisor must constantly examine the bank fees system and impose additional limitations in response to changing circumstances. For example, the current trend that the Israeli banking system is undergoing, namely the closing of branches and the move to digital banking, reduces banks' costs and should – respectively – also reduce the fees charged for banking services.

Secondly, the positive results of the Israeli Bank Fees Reform do not necessarily lead to the conclusion that bank fees should be subject to supervision in all countries. However, where banks abuse their market power to the detriment of weaker customers, such as households and small businesses, in a systematic manner and as prevailing practice, as was the case in the Israeli banking market, then supervision should take place, in order to protect the underdog.

August 20	Session 33 (13:15-14:45)
Author	Wirasmi Wardhani (Universitas Gadjah Mada, Indonesia)
Title	The Price Impact of Foreign and Domestic Investors' Block Trading: They Hypothesis Testing of Price Pressure, information and Sloping Down Demand Curve

Abstract

Theoretically, block trading should not have any impact on stock price changes but the results of empirical studies find that block trading has a price impact. Price changes occur are theoretically associated with three hypotheses: price-pressure hypothesis, sloping-down demand curve hypothesis, and information hypothesis. Using LQ45 data in 2015-2017 on the Indonesia Stock Exchange (IDX) this study found a temporary price impact on the sale of blocks. At the time of sell and buy initiated testing based on the investor type, it is found that foreign sell-initiated, foreign buy-initiated and domestic buy-initiated have a permanent price impact that confirms support for the information hypothesis depending on the type of initiating investor. Otherwise, domestic sell-initiated have a temporary price impact that confirms support for the price-pressure hypothesis.

Keywords: Block Trading, Price-pressure Hypothesis, Information Hypothesis, Sell and Buy Initiated, Foreign Investor, Domestic Investor.

August 20	Session 33 (13:15-14:45)
Author	Hety Budiyanti (Universitas Negeri Makasar, Indonesia)
Title	Are All Related Party Transactions the Same? A study in Indonesia Stock Exchange

Abstract

This study aims to examine the effect of related party transactions (RPTs) conducted by public firms in Indonesia Stock Exchange. RPTs are known to have positive and negative effect for the firms especially their minorities shareholder. To disentangle the two possible effect, sub-categorizations of RPTs are employ such as trade activities, receivables activities, service payment activities and asset activities for the negative effect (tunneling); and cash receipt activities for the positive effect (propping). The research sample is all public firms listed in IDX that conducted RPTs during 2009-2015. The hypothesis is tested using panel data with random effect, fixed effect or OLS method. The result shown that these categorizations are useful in disentangling the effect of RPTs to firm value. Furthermore, good corporate governance mechanism is also examine to study their role in lowering the negative effect and enhancing the positive effect of RPTs to firm value. The result shown that some good corporate governance mechanism play an important role in moderating the relationship between RPTs and firm value.

Keywords: Good Corporate Governance, Propping, Related Party Transactions, Tunneling.

August 20	Session 33 (13:15-14:45)
Author	R. Heru Kristianto HC (Universitas Pembangunan Nasional, Indonesia)
Title	Is the Company's ownership Structure Relevant in the Corporate Cash Policy? Evidence from Indonesia

Abstract

Corporate governance is expected to be able to take on the responsibility to monitor the management team so that they work effectively in increasing shareholder prosperity. This empirical research examines implications insider ownership, institutional ownership, independent board to monitor, control management cash. This research based on agency theory framework, corporate governance for a typical developing country using Indonesia listed firms samples over 2001-2017. Dynamic panel regression and regression moderated analysis used in this research.

We show that; insider ownership weakens the relationship between cash and firm value. Insider ownership strengthens the relationship between optimal cash holding and firm value. Insider ownership does not interaction effect the relationship between speed of adjustment of cash and firm value. Overall these results suggest that the insider ownerships and independent board strengthens the relationship between corporate cash policy and firm value. Institutional ownership does not interaction effect the relationship between corporate cash policy and firm value.

Keywords: cash policy; insider ownership; institutional ownership; independent board

2019 IAFICO Annual Conference
Global Forum for Financial Consumers

Reshaping Investment and Financing through
Digital Innovation

Date : August 19-20, 2019
Venue : Universitas Gadjah Mada, Yogyakarta, Indonesia
Host : IAFICO(www.iafico.org)
Department of Economics and Business, Universitas Gadjah Mada
Organizer : SKK University (Center for Insurance& Pension Research)
Sponsor : ADBI(Asian Development Bank Institute)

ISBN : 979-11-962446-2-0

Keynote Address
Professor Emeritus Datuk Dr. Marimuthu Nadason
President of Consumers International
At the IAFICO Conference 2019
19 August 2019, Gajah Mada University, Yogyakarta

Good Morning Ladies and Gentlemen

Thank you Mr/Ms Chairman for your kind introduction

I understand that this is the first time that the International Academy of Financial Consumers (IAFCO) has invited a representative from Consumers International to speak at their event. On behalf of CI, I would like to thank the organisers for inviting me to share the thoughts of a Consumer Activist at this event. Honestly, I think it is very timely and appropriate.

For CI, banking and finance issues are one of the key issues faced by consumers throughout the globe. One clear indication is that on the 15th March every year, Consumers throughout the world celebrate World Consumer Rights Day as a celebration of unity and purpose of consumers. CI would every year determine a central theme for the event. Normally, the theme is for that particular year; rarely the theme is extended for 2 years. But in the case of Banking and Financial Issues, the theme on banking and finance was celebrated over 3 years; the only theme in the history of CI to be extended over 3 years. That is how important the issue of banking and finance is to CI and consumers. For your information the themes were:

2011 – Our Money Our Rights

2012 – Show Banks the Yellow Card, and in,

2013 – Our Money, Our Rights: Campaigning for Real Choice in Financial Services

As President of CI I give my commitment that CI will continue to work with all key stakeholders to strengthen consumer protection in the financial sector. With 250 members from 121 countries as well as representations in several important institutions at the Global level, I strongly believe that CI can make a significant impact on enhancing consumer protection in the financial sector. The growing complexity of financial products over the past decade, coupled with financial innovations and the increasing transfer of risks to households have put enormous pressure and responsibilities on the shoulders of financial consumers.

In this interdependent world, financial consumer protection involves both international and domestic factors. Due to globalisation and liberalisation of financial services, the systemic risk caused by one financial institution in one country may influence the consumers in other countries because the regulations and business practices in the domestic market may have to change to keep up with international trends. Thus communication and cooperation among countries are essential for financial consumer protection.

Over the past decade, financial consumer protection has become an increasingly mainstream priority, A strong consumer protection regime is key to ensuring that expended access to financial services benefits consumers, enabling them to make well informed decisions on how best to use financial services, building trust in the formal financial sector and contributing to healthy and competitive financial markets. The global crises of 2008 highlighted the importance of financial consumer protection for long-term stability of the world financial system. The need for financial stability, financial integrity, financial inclusion and financial consumer protection objectives to complement one another has become an increasingly common theme highlighted by global policy makers in recent years.

Personally I am also very involved in financial and banking matters in my own state. I am a member of the Board of Directors of the national Ombudsman for Financial Services. Through the complaints and issues raised in the Ombudsman as well as the National Consumer Complaints Centre, operated by my National Consumer Organisation, FOMCA we have been advocating for stronger measures on financial education and financial protection. Some of the key complaints on banking and financial services received by the NCCC are on unfair interests, charges and penalties, changing interest rates, hidden charges, assignment of loans to unauthorised and unregulated parties (collection agencies) unfair contract terms and misleading advertisements.

For example from our feedback from our National Consumer Complaints Centre, we realised that many consumers did not fully understand their insurance policy. Thus when it came for to the time for them to make their claims, to their dismay they found that there were restrictions and limitations in their policy and they could not get the coverage that they had expected and had been paying their premiums over a long period of time. I thus conducted a national survey to ascertain how well consumers understood their policy. We found that most consumers did not read, did not fully understand their policy and most importantly most consumers were not aware of the limitations and restrictions in their policy. 73% of consumers indicated that they would really appreciate a product disclosure sheet that would explain to them in simple terms, the key elements of their policy, especially the limitations and restrictions. FOMCA is thus currently advocating with the Central Bank to make it mandatory for all insurance policies to have a product disclosure sheet so that consumers understand what they are buying and at time of purchase can actually compare different products and choose what best value is for money.

Financial consumer protection is an important issue for a modern society where people cannot live without financial products and services such as savings, loans and insurance. It cannot be denied that the development of the financial market has made a great contribution to the quality of life and economic growth of society.

The following is some key points of CI's recommendations on consumer protection in financial services:

1. Information design and disclosure

Consumers should receive clear, sufficient, reliable, comparable and timely information about financial service products. Contracts must include clear up front pricing so that consumers can appreciate the cost of the product before becoming obligated to pay. Financial service providers should be responsible for testing the quality and comprehensibility of the information provided, with additional audits conducted by national regulators.

Standard formats (such as Product Disclosure Sheet) should be used for the presentation of information about financial service products so that consumers can easily compare products.

2. Contracts, charges and practices

Many financial service products are now so complex that consumers, regulators and even the financial service providers themselves cannot understand them. This complexity needs to be managed. Regulators should introduce a requirement of comprehensibility and prohibit products that are not comprehensible; they should require the availability of simple standard financial service products and key financial service products should be required to meet minimum standards of consumer protection.

Conflict of interest in the provision of advice and sale of financial services needs to be addressed. Financial advice to consumers should be separated from sales-based remuneration. Additionally, there should be protection against inappropriate marketing methods.

The following practices should be cause for a contract to be voidable:

- failure to gain the informed consent of the consumer;
- unfair or unreasonable fees and costs charged to consumers and included in consumer contracts for financial services products;
- clauses in financial service contracts that result in consumers waiving core consumer protections, and,
- the sale of financial services that are unsuitable for the consumer.

3. The structure and functions of national financial consumer protection bodies

Under the UN guidelines for consumer protection, all governments have a responsibility to protect and promote consumer rights. Governments should each establish a national body that has consumer protection as an explicit regulatory objective with full authority to investigate, halt and remedy violations of consumer protection law, including where necessary the right to define specific practices or products as unfair, deceptive or otherwise illegal.

The body should be independent of the industry, free from conflicts of interest and include a balance of members with industry and consumer expertise. Representatives of the consumer interest should be integrated into the governance of the sector at national level.

4. Redress and dispute resolution systems

Access to dispute resolution and redress is one of the eight consumer rights. Governments should ensure that consumers have access to adequate redress mechanisms, which are 'expeditious, fair, inexpensive and accessible'. Governments should also provide collective redress mechanisms, in order to reduce the demand for individual proceedings.

Findings from these redress mechanisms should be synthesised and reported to regulators in order to inform future regulation.

5. Promoting competition in financial services

The financial crisis led to a significant reduction in competition in the financial services sector which was already suffering from a high level of market concentration. Competition is an important consumer issue and CI strongly recommends that countries take action to promote competition as a means to enhance consumer protection in financial services.

6. Access to basic financial services and the role of new forms of service

Universal access to free or affordable basic financial services should be a specific aim of government policy on financial services. New innovations and technologies are already making great strides in this area, increasing access but also raising new challenges for consumer protection. Governments should seek to encourage innovation in safe, effective, low cost methods for banking inclusion whilst supporting the development of consumer protection.

Conclusion: ongoing international co-operation on financial consumer protection

There is now an urgent need for stronger international co-operation on financial consumer protection. The financial crisis showed that weak consumer protection in one country can now pose a risk to other countries and the global dimension of financial services means that financial market conduct regulators around the world now often face similar issues and challenges. Increasingly, consumers throughout the world are beginning to face similar issues and problems, thus needing a more global approach (rather than just a national approach) towards financial consumer protection.

Thus stakeholders representing the protection of financial consumers also need to cooperate both to learn from one another as well as where possible to undertake collaborative international actions to protect consumers. We cannot deny that financial products are constantly evolving and very often consumers fail to understand or have the ability to protect themselves. Thus consumer organization and other key stakeholders such as IAFICO need to collaborate to effectively advocate to put consumer protection in place, especially, to protect low income and less educated consumers. Further, collaboration is also necessary to empower consumers to protect themselves and make informed decisions in purchasing financial products and services.

I once again thank the organizers for inviting me to speak at this event. And I look forward to close cooperation between CI and IAFICO for the protection and betterment of financial consumers throughout the world.

Thank you.

*LINKING ACADEMIC RESEARCH WITH PUBLIC POLICY**

*LET'S KEEP TRYING!

SHARON TENNYSON
PROFESSOR, DEPARTMENT OF POLICY ANALYSIS AND MANAGEMENT
CORNELL UNIVERSITY

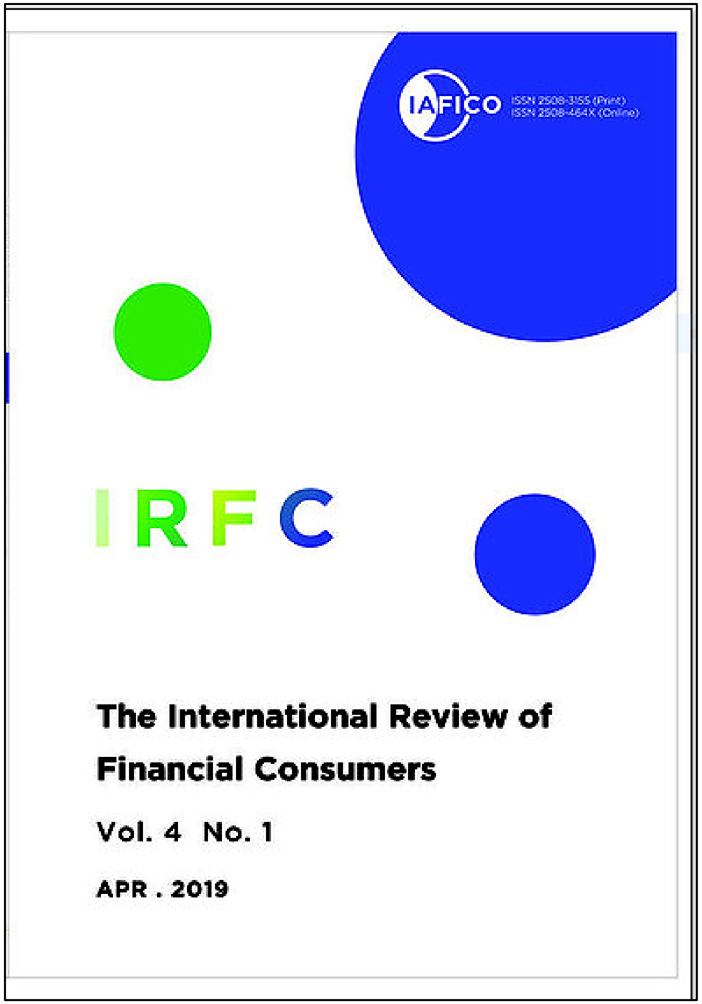
GFFC Yogyakarta 8.18.2019

International Review of Financial Consumers

In 2016 IAFICO established IRFC as a peer-reviewed academic journal publishing studies related to financial consumers.

It focuses on the topics of financial products and services, regulations and supervision, institutions, and financial culture.

The Journal's research seeks to maintain an efficient and equitable financial market.



IRFC History and Accomplishments

- Inaugural Editors
  - Prof. Man Cho, KDI School of Public Policy & Mgmt
  - Prof. Tsai Jhe Chen, National Chengchi University
- International Editorial Board
  - Representing countries in Asia, Europe and North America
- Published twice per year since Oct 2016
  - 25 articles in six issues

Research Aims

- IRFC successfully promotes international research
  - Research published on Korea, Indonesia, Australia, Bangladesh, Taiwan, USA, France, UK, and Japan
  - Comparative cross-country research also published

- IRFC successfully promotes inter-disciplinarity
  - Empirical research using lab experiments, large datasets, surveys, interviews and legal analysis
  - Conceptual research applying economic, legal and regulatory frameworks also published

Research Focus

- IRFC successfully publishes on relevant, important, current issues including:
  - Consumer financial protection and regulatory reforms
  - Financial services and service quality
  - Fintech and financial innovations including crypto-currency and micro-products
  - Consumer financial capability and financial education
  - Consumer behavior in financial markets
  - Financial markets and economic development

IRFC is Ready for Next Phase

- SCOPUS indexing for IRFC
  - Many preparatory requirements already accomplished in previous years
  - A small amount of “polishing” is underway in preparation for application this fall
- Special Issues
  - In addition to promoting publication of research presented at annual GFFC, targeted topics for specials issues will be periodically advertised

Does Research Matter?

Edward Rubin* famously said [regarding US Congress hearing on Truth in Lending Act]:

> "The Subcommittee's enthusiasm for debate and general aggressiveness toward its witnesses was combined, and perhaps causally connected with, its remarkable passivity about empirical data."

* US legal scholar, current Dean of Vanderbilt Law School

Research as Retrospective Evaluation

- Michael Greenstone, former chief economist US Council of Economic Advisers:
- Retrospective analysis can help show what works and what does not, and in the process can promote the repeal or streamlining of less effective rules and the strengthening or expansion of those that are working well.

Source: Sunstein, 2010

Price Regulation in Car Insurance

- US states regulate insurance and in early years regulation often focused on insurance prices
- The state of Massachusetts (MA) had very strict regulation of prices for car insurance
- Social objectives of MA car insurance laws [1977]:
  - Universal coverage
  - "Reasonable" rates for all
    - No premium surcharges on residual market policies
    - No use of age, gender, marital status in setting rates
    - Rate subsidies to high-cost drivers

Insurer Exits 1988-2000

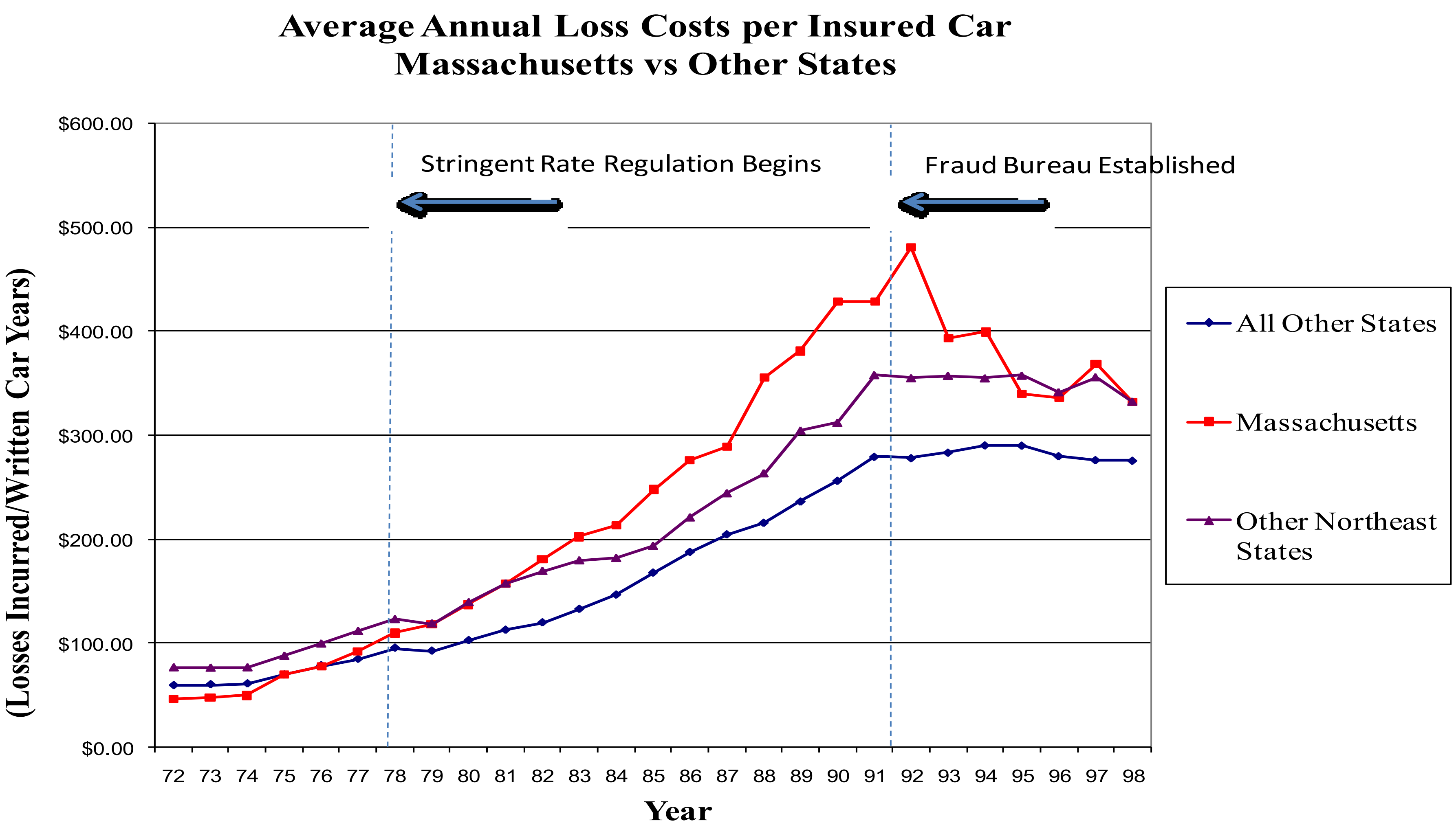
Voluntary Exits		Involuntary Exits	Entrants
Aetna*	Hartford	American Mutual Ins Co	American Auto Ins Co**
AIG	Home	American Universal Ins Co	American States Ins
Allstate	John Hancock*	American Hardware Mutual	Classic Indemnity Co
Central Mutual	Kemper	Classic Indemnity Co	Commercial Union Homeland*
Chubb	Nationwide	Fitchburg Mutual	Commonwealth Mutual
Cigna*	Peerless	New England Fidelity Ins	Masswest Ins Co
Colonial Penn*	Reliance	Providence Washington	New England Fidelity Ins
Continental	Royal	Trust Ins Co	Peoples Service Ins Co
Crum and Forster*	St Paul	Worcester Ins Co	Pilgrim Ins Co
Firemans Fund	Shelby		Premier Ins Co of MA**
General Accident	US F&G*		Trust Ins Co.
General Motors Ins	Utica National		

Source: Derrig (1993), Yelen (1993) and authors' compilations from NAIC data and A.M. Best Company Reports.

* Exit was part of a more general strategy to reduce or withdraw from automobile or personal insurance lines.

** Firm entry was part of a reorganization of a national group's business into Massachusetts-only writings.

Car Insurance Costs Rise



Source: Derrig and Tennyson, 2010

Evidence Supports Change

Headline: “NEW DIRECTION FOR MASS DRIVERS!”

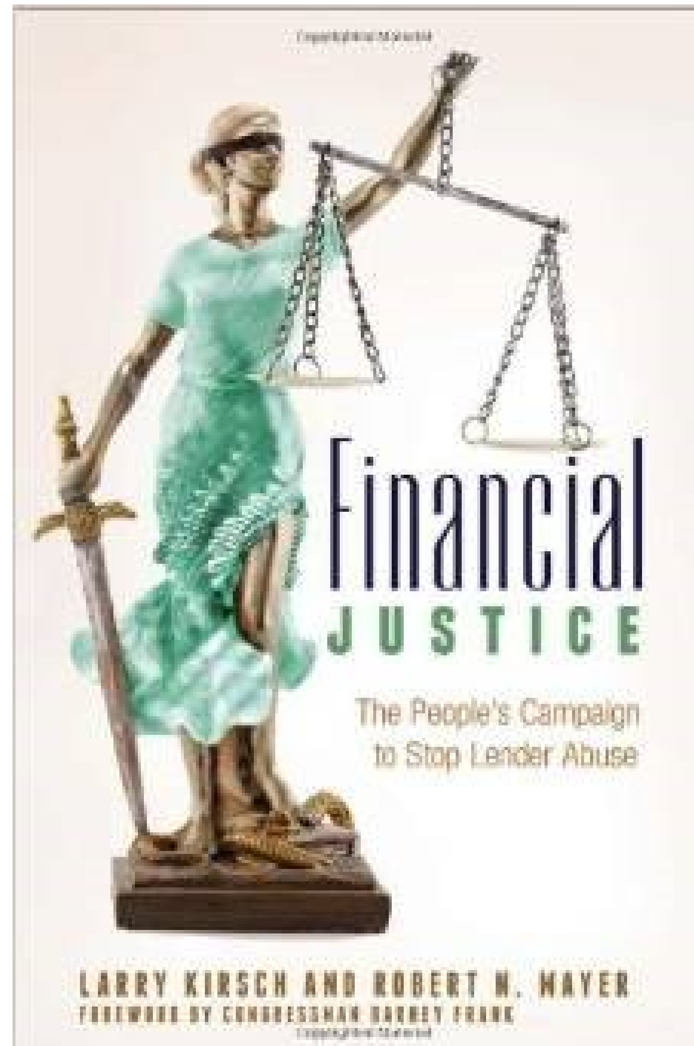
“Starting April 1, 2007 Massachusetts auto insurance undergoes a major change. Individual insurers, including the companies we represent, will price auto policies with their own rates, approved by the state insurance commissioner.”

Research and Advocates

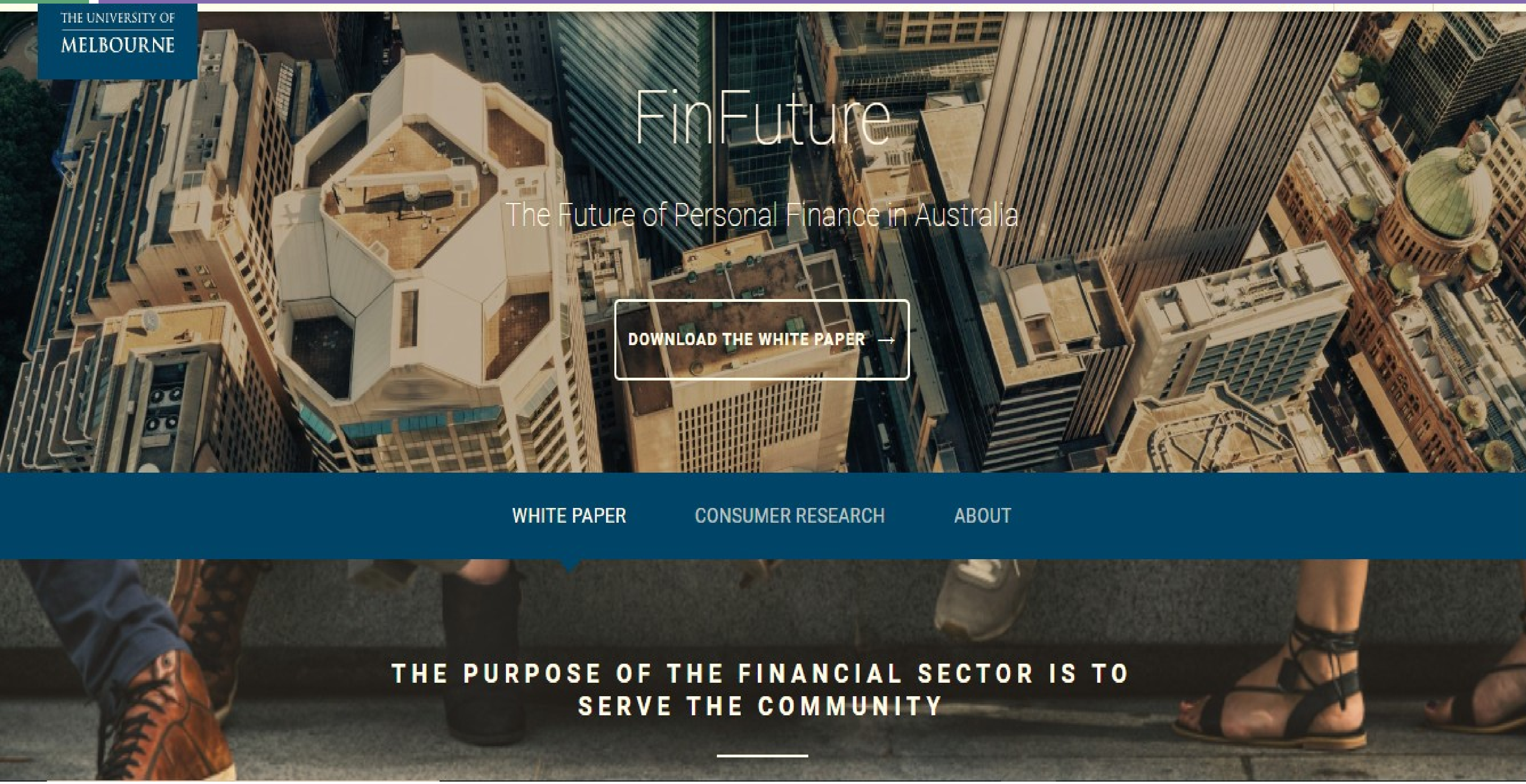
- Massachusetts Automobile Insurance competition was spearheaded by the *Fairness for Good Drivers Coalition*
- Use of academic research provided by expert witnesses and consultants
- But: contacts with Governor, consumer awareness campaign, years of pressure

Research Advocacy and US CFPB

Campaign for CFPB supported by academic research (Elizabeth Warren and co-authors) but catalzyed by a coalition of consumer advocacy groups and government agencies



Research and Advocacy in Australia



"IMPROVING THE FINANCE SECTOR FOR ALL AUSTRALIANS" AUGUST 2019

Research and the Evolution of Policy

- The "information revolution" in economics (1980s) had profound effects on the design of consumer protection policies.

- Problems of Information in Markets
  - Costly information
  - Missing information
  - Asymmetric information
  - False information

Information Policies

- Howard Beales et al. 1981*:

  "Where inefficient outcomes are the result of inadequate consumer information,… simply adjust the information available to consumers, still leave consumers to make their own choices."

*The Efficient Regulation of Consumer Information
Beales, Craswell, Salop; *Journal of Law and Economics* 24, p.491

Problems of Information

- Costly information
- Missing information
- Asymmetric information
- False information
- Cognitive limits in use of information

Evolving Policy Perspectives

- Gillian Hadfield et al. 1998:

  "Consumer protection instruments that actually generate information that is costly for consumers to interpret or access may be counterproductive."

- Simple disclosures which provide only crude information may be more effective

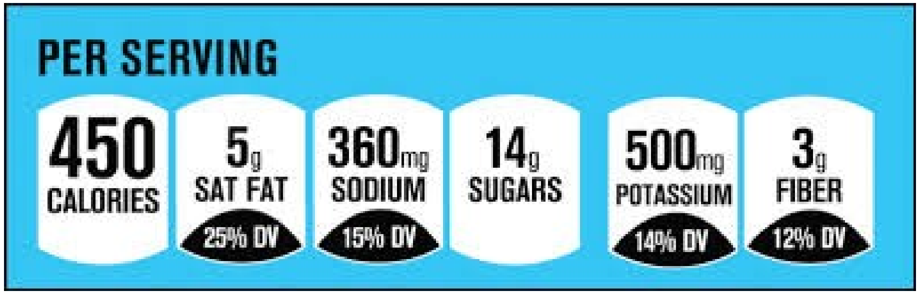
Restaurant Hygiene Score Cards

Problems of Information

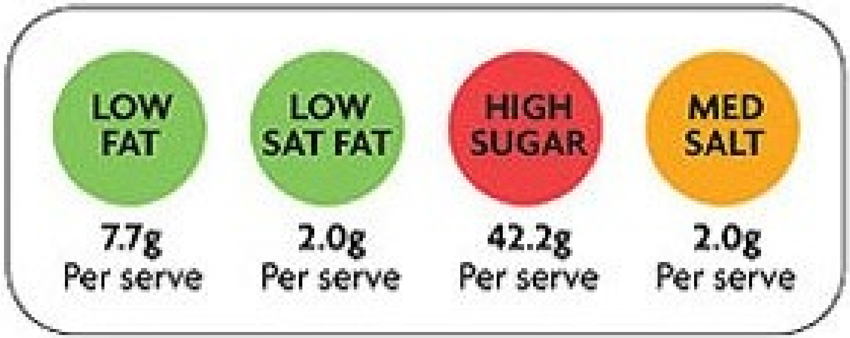
- Costly information
- Missing information
- Asymmetric information
- False information
- Cognitive limits in use of information
- Lack of self-awareness in use of information
- Deliberately misleading or shrouded information

Profit-Maximizing vs Mandated Disclosure

Front of Package Labeling



Voluntary US label
“Nutrition Keys”



Mandatory UK label
“Traffic Light” system

Increasingly, mandated product disclosures are being designed by government based on consumer research and testing

Nudges: Limitations and Problems

- Nudges are often ineffective in solving complex policy problems.

- Credit card billing disclosures designed to increase consumers' monthly payments by providing suggested payment amounts have little effect on the target consumer population (Jones et al., 2015) and may cause some consumers to reduce rather than increase monthly payments (Navarro-Martinez et al., 2011; Salisbury, 2014).

[redacted]

Manage your account online: [redacted]

Additional contact information conveniently located on reverse side

ACCOUNT SUMMARY

Account Number: [redacted]

Previous Balance	$506.92
Payment, Credits	-$1,031.09
Purchases	+$1,503.12
Fees Charged	+$9.09
New Balance	$988.04
Opening/Closing Date	03/11/11 - 04/10/11
Total Credit Line	$2,000
Available Credit	$1,011
Cash Access Line	$400
Available for Cash	$400

PAYMENT INFORMATION

New Balance	$988.04
Payment Due Date	05/07/11
Minimum Payment Due	$19.00

Late Payment Warning: If we do not receive your minimum payment by the date listed above, you may have to pay a late fee of up to $35.00 and your APR's will be subject to increase to a maximum Penalty APR of 29.99%.

Minimum Payment Warning: If you make only the minimum payment each period, you will pay more in interest and it will take you longer to pay off your balance. For example:

If you make no additional charges using this card and each month you pay...	You will pay off the balance shown on this statement in about...	And you will end up paying an estimated total of...
Only the minimum payment	13 years	$2,163
$36	3 years	$1,288 (Savings=$875)

If you would like information about credit counseling services, call [redacted]

Digitization: New Challenges

Data Privacy

Artificial Intelligence

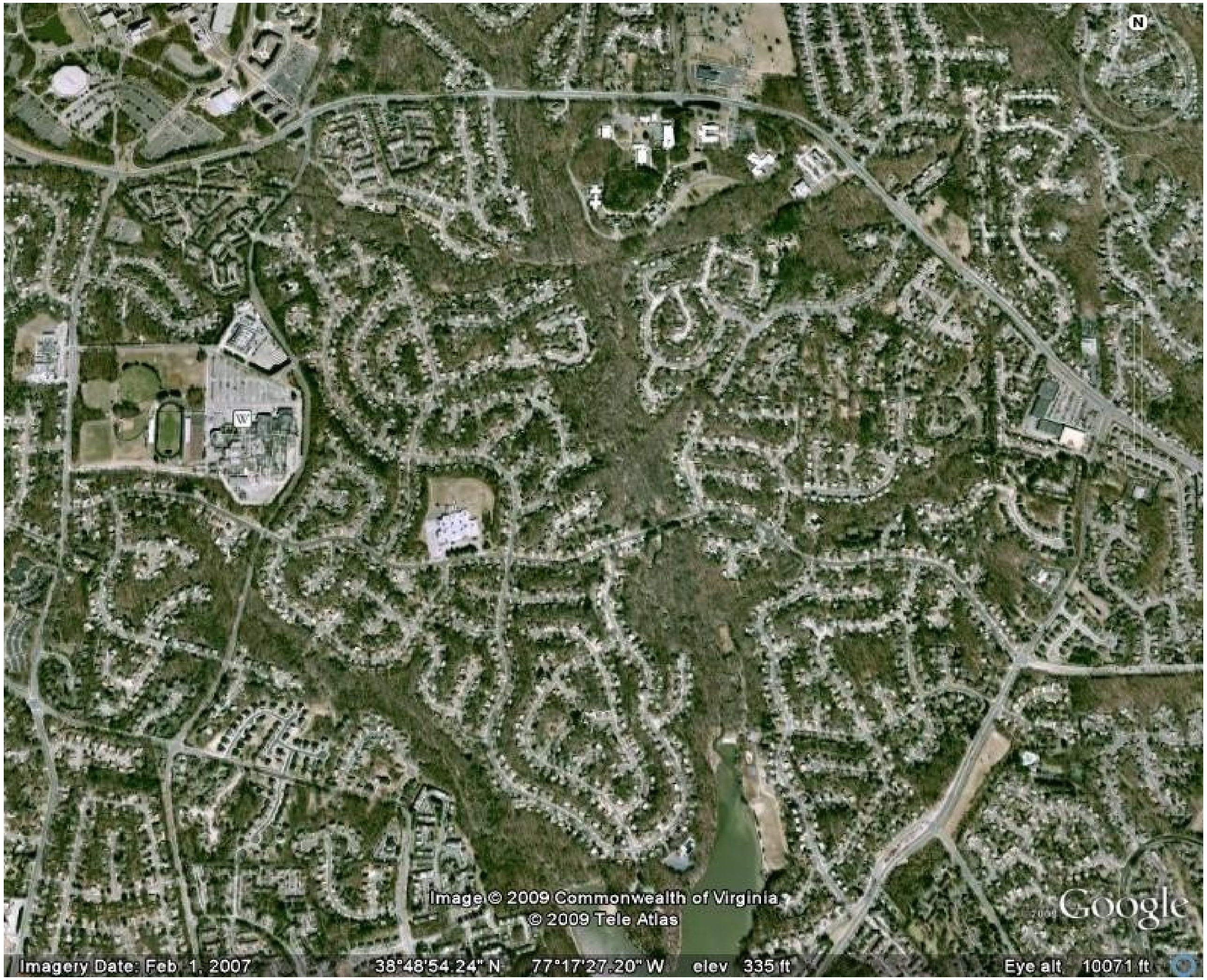
Digital Currencies

RegTech Development

General Points

- Research does matter – over the long run, through interactions with policy choices
- Advocates need research
- Policy progress is not linear – ongoing research, new tools, new frameworks are essential
- Not all policy relevant research is about policy
  - Research fosters higher levels of critical thinking

The View from 10,000 Feet Reveals Patterns



*LINKING ACADEMIC RESEARCH WITH PUBLIC POLICY**

*LET'S KEEP TRYING!

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GFFC Yogyakarta 8.18.2019

INDIA GROWTH STORY AND FINANCIAL MARKETS

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IIMB

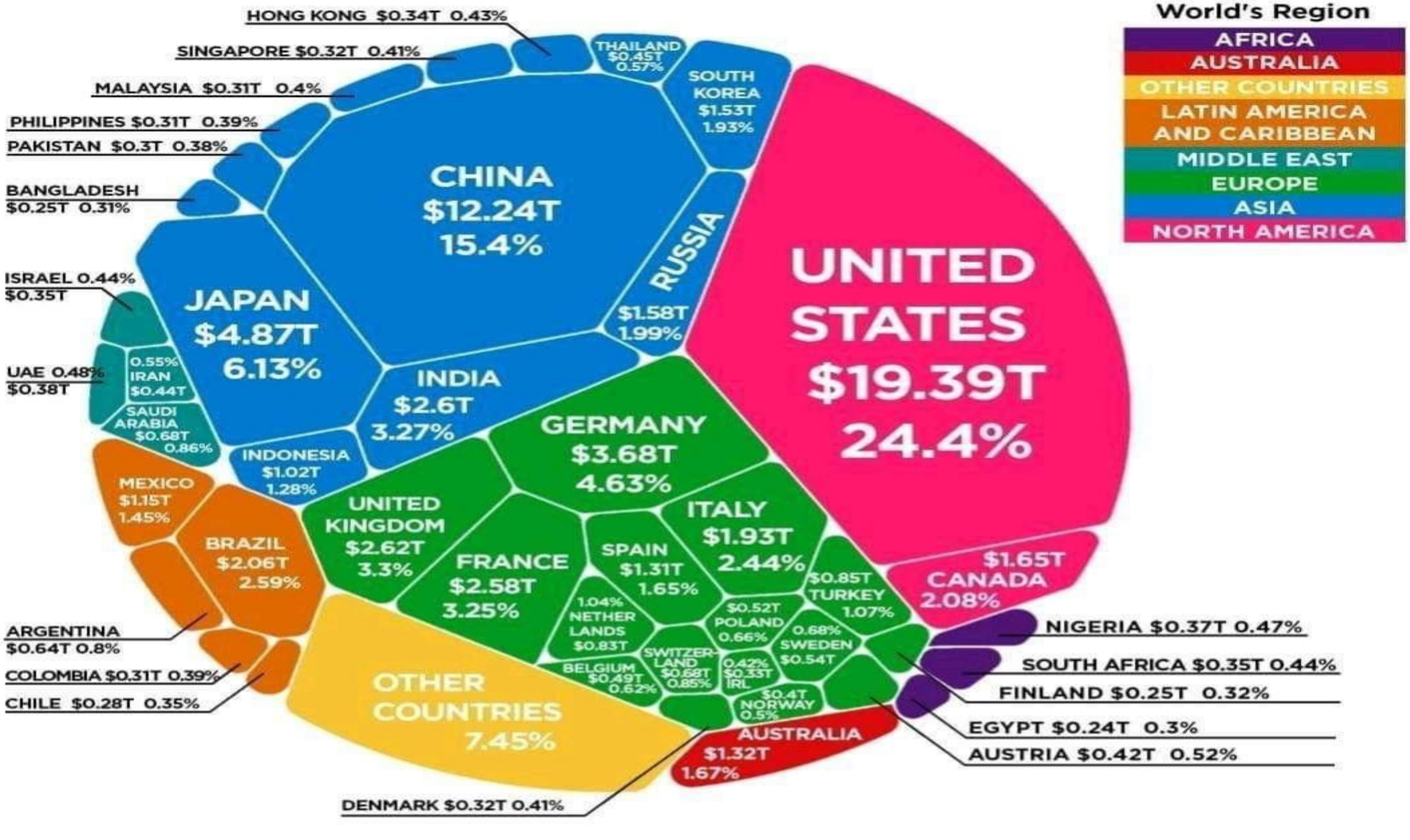
तेजस्वि नावधीतमस्तु

भारतीय प्रबंध संस्थान बेंगलूर

INDIAN INSTITUTE OF MANAGEMENT BANGALORE

80 Trillion Dollar $ 😳

World Economy in a Single Chart 👇



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Indian Population Highlights

- Second most populated country in the world – has about 17.74% of the world's population.
  - According to the 2017 revision of the World Population Prospects population stood at 1,324,171,354.
- During 1975–2010, the population doubled to 1.2 billion.
- The Indian population reached the billion mark in 1998. India is projected to be the world's most populous country by 2024, surpassing the population of China.
- It is expected to become the first political entity in history to be home to more than 1.5 billion people by 2030, and its population is set to reach 1.7 billion by 2050. Its population growth rate is 1.13%, ranking 112th in the world in 2017.
- India has more than 50% of its population below the age of 25 and more than 65% below the age of 35. It is expected that, in 2020, the average age of an Indian will be 29 years, compared to 37 for China and 48 for Japan; and, by 2030, India's dependency ratio should be just over 0.4.
- The sex ratio is 944 females for 1000 males (2016). This ratio has been showing an upwards trend for the last two decades after a continuous decline in the last century.

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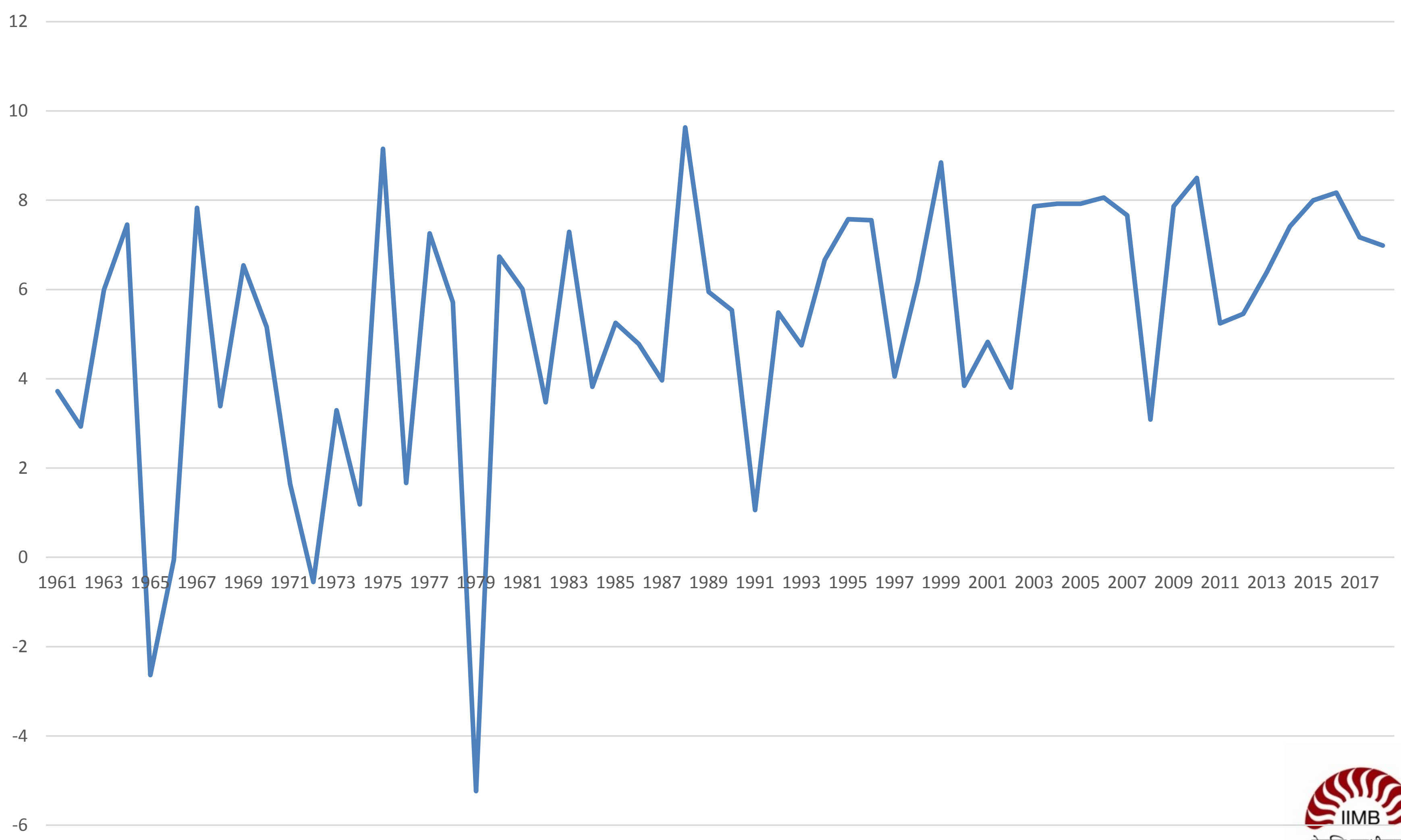
Indian GDP Growth Rate (in %)



Financial Sector in India

- The Indian Financial Sector comprises of
  - Banks
  - Non Banking Financial Services
  - Equity Markets
  - Commodity Markets
  - Insurance Services
  - Pension Services

Financial Regulators in India

- Reserve Bank of India (RBI) – Banks, NBFCs
- Securities Exchange Board of India (SEBI) – Equity markets and Commodity Markets
- Insurance Regulatory Development Authority (IRDA) – Insurance Sector
- Pension Fund Regulatory Development Authority (PFRDA) – Pension Sector

Financial Literacy in India

- Interesting divide
  - Urban India generally highly financially literate
  - Issues of financial literacy in rural India
- Matter of priority for the government and the regulators
  - Active efforts are being made to significantly enhance the financial literacy levels across al segments of the population
  - Increased access to financial services, particularly in rural India, is being targeted to enhance financial literacy

Issues with respect to the Global Economy – 1

- Banking Sector
  - Strong regulatory barrier to starting of new banks
  - Bureaucratic approach to operations
  - Types of products allowed
    - Need better clarity on some products, particularly derivative products
  - Broader issue of full convertibility of the currency
  - Strong adherence to AML norms – hence funds flow from some geographies difficult
- Equity Sector
  - Generally most interlinked with the global markets
  - Some issues in terms of sources of investments, particularly from overseas investors in terms declaration of sources of funds – adherence to the AML provisions

Issues with respect to the Global Economy – 2

- Insurance Sector
  - Ownership issues
  - Capital adequacy issues
  - Product type and related investment issues
- Pension Sector
  - Still a developing sector and hence not a very large one as yet

Issues with respect to the Global Economy – 3

- Commodity Markets
  - Transparency issues
  - Access issues
  - Potential intervention by the government, particularly in the agri commodity sector
  - Lack of advanced and specialized derivative contracts
- NBFC sector
  - One of the largest segments in the financial sector
  - Some issues of regulation, particularly for the unorganized sector
  - Need increased adherence to regulation, particularly in the light of less bureaucratic approach

Final Comments …..

- Indian markets reasonably well developed
  - Politically stable environment as well as a reasonably conservative regulatory regime
- Over the last 15 years, have become fairly integrated with the global markets
- Some improvements and clarifications necessary to ensure even smoother integration
- Financial Literacy needs to be strengthened
  - Increased and easy access to financial services to rural India will be a game changer

Some recent developments ……

- Demonetization of high value currency notes – midnight November 8, 2016

- Insolvency and Bankruptcy Code, 2016

- Unified indirect taxation: Goods and Services Tax (GST) – effective July 1, 2017

Thank You!

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Bank lending to the private sector: Implications from nonperforming Loans in Lao PDR

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Thipnakhone Sananikhom[3]

Abstract

This is the first empirical study on commercial bank loans in Lao PDR. In 2014, the country has its nonperforming loan ratio reaching 13%. This paper analyzes 992 bank loans originated by three state-owned commercial banks, in which around half are nonperforming loans. Our regression analysis shows that male as the borrower, agricultural production, longer tenor, higher frequency of collection and loan monitoring, and borrowing from multiple sources are positively associated with nonperforming loans. The results provide insights on lending to agricultural societies.

Keywords
Bank lending, nonperforming loan, regression model, Laos

Introduction

Having been classified as one of the least developed economies in the world for several decades, Lao PDR (Lao People's Democratic Republic) achieves rapid economic development in 2006-2014. Its nominal GDP growth rate (measured in US$) is around 16.8% per year on geometric average in the same period, while its inflation rate ranges between -2.932% and 10.805%. Like other socialist economies, state-owned commercial banks in Lao PDR are dominant in the market of bank lending. However, there is one interesting observation that state-owned banks in Lao PDR are very aggressive in lending to private sector, while foreign banks mainly lend to state-owned enterprises.

Lending to private sector is generally risky in emerging economies. Arellano (2008) even argues that sovereign borrowers in emerging economies are likely to default in economic downturns because of high volatility in their business cycles and high frequency of economic crises. Borrowers from private sector are always riskier than sovereign borrowers in these economies, being more sensitive to fluctuating economic environments. As a small emerging economy with population at around 7 million, Lao PDR experiences high level of nonperforming loans (NPL) in 2014, with estimated NPL ratio at around 13% in state-owned commercial banks. The original intention of this paper is to find out how to predict NPL. Through our data analysis, we find out more interesting facts on the behavior of state-owned banks in Lao PDR and the determinants on NPL. This paper analyzes a total of 992 bank loans provided by three state-owned commercial banks, in which around half are nonperforming loans. All the borrowers are in private sector. Most loans are collateralized with lands and homes. Around 30% loans are associated with forest and agricultural production. Our

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regression analysis shows that male as the borrower, lower interest rate (associated with loans for agricultural production), loans of longer tenor, higher frequency of collection, and borrowing from multiple sources are positively associated with nonperforming loans. Also, it finds that the state-owned banks in Lao PDR have done internally a quality job in predicting credit quality of their borrowers. Foreign banks may not easily achieve the same degree of predictive accuracy. As a result, they simply focus on lending to state-owned enterprises. The case of Lao PDR shows a simple formula to effectively attractive international capitals to an emerging economy. Foreign investors tend to look for safer assets in an emerging economy. Its government should thus enable and facilitate state-owned enterprises and governmental organizations to get funds directly from the foreign investors. With better knowledge about local business and political environments, state-owned banks should place more emphasis on loans to private sector. This paper proceeds as follows. Section 2 introduces the economic and banking environments of Lao PDR. Section 3 summarizes the data and the variables to be used. Section 4 discusses the statistical methodology and empirical results. Section 5 concludes the paper.

Economic and Banking Environments of Lao PDR

Lao PDR begins to switch from a centrally-planned economy to a market-oriented economy in 1986. Such new policy is seriously challenged during the Asian financial crisis of 1997 and 1998. At that time, its local currency (Kip) against the US Dollar depreciates by more than 70%. Its inflation jumps to around 150% in early 1999. Macroeconomic environments of Lao PDR get more stabilized in the first half of the 2000s. Table 1 shows the GDP (measured in current US$), real GDP growth and inflation rate in 2006-2013. Real GDP growth ranges consistently between 7.5% and 8.7% in this period. Its inflation rate normally stays above 8% but suddenly drops to -2.932% in 2009 shortly after the global financial crisis in 2008.

In Lao PDR, bank loans mainly support corporate financing in private sector in addition to owners' equity. Although state-owned commercial banks of the country are dominant, both joint-venture banks and foreign banks have gradually increased their shares for the past several years. Table 2 shows the shares of state-owned commercial banks in the bank loan market in 2008-2013. State-owned commercial banks account for around 58%-70% share of all loans in this period. Table 3 displays the loans by bank types and loan types in Q2 2013. From the "%" next to the column "Total", the shares of state-owned commercial banks, joint-venture banks and foreign banks are 64.95%, 24.90% and 10.15% respectively. As shown in the columns for both "claims on SOE" and "claims on private sector", foreign banks lend more proactively to state-owned enterprises (SOE) than to private enterprises. They own around 38% share in claims on SOE but less than 8.50% share in claims on private enterprises. This suggests that the foreign banks in Lao PDR are very risk-averse in this economy.

There are four state-owned commercial banks in Lao PDR. Table 4 shows their size of operation. The first three banks, namely Banque pour le Commerce Extrieur Lao, Lao Development Bank and Agricultural Promotion Bank, are larger in market share than the last one in terms of number of branches, number of money changers and number of ATM machines. The sample of this paper mainly comes from these three larger banks. Table 5 summarizes the distribution of nonperforming loans (NPL) among the three banks and others banks in 2011-2014. Obviously their shares on the NPL fluctuate remarkably in this period and demonstrate no clear pattern.

Lao PDR establishes its stock exchange, with only two firms listed at the very beginning. The number of listed firms grows to 5 at the end of 2015. With such a small scale of stock market, bank lending is the primary source of capitals to support private sector.

How much interest rate do borrowers pay in Lao PDR? Table 6 shows the interest rate charged to three groups of borrowers, namely Grade A customers, Grade B customers and Grade C customers. The grades are the credit quality measures, with Grade A is the best. State-owned commercial banks adopt an 8-grade system to classify internally the credit quality of borrowers. In 2006-2013, Grade A customers pay an interest charge for short-term loans at 12.65%-17.50%. Grade B and C customers pay higher interest charges in 2011-2013. However, their interest charges are lower than those for Grade A customers in 2006-2010. One reason is the policy in Lao PDR to encourage banks providing affordable loans to borrowers in forest and agricultural sector. The borrowers in this sector are risky but get lower interest charge. The interest charges for long-term loans (3-6 years) reach the level of around 20.20%. From Table 6, we observe no strong association between interest rate and credit grades. However, interest rates always go higher with longer loan tenor. Comparing the inflation rates in Table 1 and the interest rates in Table 6, we note real interest rate reaching the maximum at 19.34% in 2009. Most real interest rates stay between 6% and 13%. It is obvious that there is no strong association between interest rate charges and inflation rates.

Table 1 GDP and Inflation of Lao PDR in 2006-2013

Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
GDP (at current price of US$ bln)	3.453	4.223	5.444	5.833	7.181	8.283	9.359	11.192	11.997
Annual Real GDP growth (%)	8.619%	7.597%	7.825%	7.502%	8.527%	8.039%	8.024%	8.471%	7.515%
Annual Inflation (%)	10.805%	7.438%	8.863%	-2.932%	10.018%	3.803%	4.306%	8.216%	-0.304%

Source: World Bank Database

Table 2 Share of Loans Provided by State-owned Commercial Banks in Lao PDR in 2008-2013

	Year					
Type of Banks	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
State-owned Commercial Banks	69.28%	62.98%	60.46%	64.15%	58.63%	62.56%
Others	30.72%	37.02%	39.54%	35.85%	41.37%	37.44%

Source: Bank of Lao PDR

Table 3 Claims by Bank Types and Loan Types in the Banking System of Lao PDR at the end of Q2 2013

NB: All claims are in bln of Kip	**Claims on SOE**	**%**	**Claims on private sector**	**%**	**Total**	**%**
State-owned commercial banks + Specialized banks	0.990	55.23%	18.686	65.56%	19.676	64.95%
Joint-venture banks + Private banks	0.120	6.70%	7.423	26.04%	7.543	24.90%
Foreign Branches + Affiliated banks	0.683	38.08%	2.392	8.39%	3.074	10.15%
Total	1.793	100.00%	28.501	100.00%	30.293	100.00%

Source: Bank of Lao PDR

Table 4 Operational Size of State-owned Commercial Banks in Lao PDR (Q2 2013)

Name	Number of Branches	Number of Services Units	Number of Money Changer	Number of ATM
Banque pour le Commerce Extrieur Lao	18	46	11	222

Lao Development Bank	18	64	22	144
Agricultural Promotion Bank	17	77	2	22
Nayoby Bank	10	62	0	0

Source: Bank of Lao PDR

Table 5 Shares of Nonperforming Loans in Lao PDR (2011-2014)

	Year			
Bank Name	**2011**	**2012**	**2013**	**2014**
Lao Development Bank (LDB)	80.61%	8.12%	0%	44.23%
Agriculture Promotion Bank (APB)	0.00%	0%	0%	39.26%
Banque Pour Le Commerce Exterieur Lao (BCEL)	8.23%	3.32%	0%	2.21%
Other banks	11.17%	88.56%	100%	14.30%

NB: The first 3 banks are state-owned commercial banks in Laos. Source: Bank of Lao PDR

Table 6: Interest Rate of Bank Loans of State-owned Commercial Banks in Lao PDR

	Year							
Interest Rate of Bank Loans	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Kip Accounts (A)	**Grade A Customers**							
Short-term (1 year) (%)	17.5	18.17	17.5	15.49	14.09	12.65	13.07	12.82
Medium term (1-3 years) (%)	17.5	18.44	18.39	15.75	14.4	13.51	13.44	13.16
Long-term (3-6 years) (%)	20.5	21.08	20.16	16.41	14.98	14.2	14.01	13.76
Kip Accounts (B)	**Grade B Customers**							
Short-term (1 year) (%)	15.35	13.17	13.48	13.01	13.27	13.63	13.02	13.04
Medium term (1-3 years) (%)	16.31	14.73	14.54	14.14	14.47	14.8	14.35	14.33
Long-term (3-6 years) (%)	16.31	15.33	15.6	14.67	15.15	15.33	14.79	14.75
Kip Accounts (C)	**Grade C Customers**							
Short-term (1 year) (%)	15.58	10.63	14.78	14.08	14.33	14.73	14.05	14.17
Medium term (1-3 years) (%)	16.73	11.42	15.89	15.25	15.33	15.66	15.24	15.27
Long-term (3-6 years) (%)	17.38	12.21	17.5	16.03	16.17	16.35	15.72	15.79

NB: "Kip" is the name of the currency in Lao PDR. "Kip Accounts" means local currency accounts.
Source: Bank of Lao PDR

The Data and The Model

After an introduction to macro environments on capital sources in Lao PDR, this section begins to look at the firm-level information of the borrowers in private sector. We collect data from three state-owned commercial banks in Lao PDR via their data files kept by Bank of Lao (BOL), the central bank of Lao PDR, and our survey conducted in July-November of 2014. The sample includes a total of 992 business loans for the private sector, in which 512 are nonperforming loans. We define nonperforming loans (NPL) as those loans classified as Grade C or worse in the loan grading system in Lao PDR. These nonperforming loans include loans with past dues and defaults. Table 7 shows the breakdowns of the sample. This study mainly considers firm-level information and ignores macroeconomic dynamics4 because of limited data on NPL. The

[4] Lao PDR does not have long data history on both macroeconomic variables and NPL. Thus, we cannot easily evaluate both firm-level information and macroeconomic dynamics like what Bonfim (2009) analyzes data in Portugal. However, many credit risk models and credit scoring models tend to have their risk ranking robust over time. This means, actual default rate may fluctuate over time in an economic cycle, while high-risk borrowers remain to be high risk throughout the cycle.

effect of macroeconomic conditions is generally clear: During economic downturns, borrowers of poor credit quality become vulnerable.

Table 7 The Sample of Preforming and Nonperforming Loans Collected in July-November of 2014

Source	Number of Sample
Lao Development Bank (LDB)	500
Agriculture Promotion Bank (APB)	296
Banque Pour Le Commerce Exterieur Lao (BCEL)	196
Total	992
Loan Status	**Number of Sample**
Performing Loans (Covering Grade A & B in the loan classification system)	480
Nonperforming Loans (Covering Grade C, D and E in the loan classification system)	512
Total	992

Our sample echoes the press release of IMF on February 26, 2015 regarding Lao PDR's nonperforming loans in state-owned commercial banks in 2014. According to IMF states, state-owned commercial banks in Lao PDR have their average NPL increasing from 2% to 8%. All these nonperforming loans come from loans to private sector. In Q2 of 2013, Bank of Laos (BOL) reports that around 61% of all claims in state-owned commercial banks are claims on private sector. With 8% NPL reported by IMF and 61% claims on private sector reported by BOL, we estimate that state-owned commercial banks have their NPL ratio at around 13% for the portfolio of loans to private sector. So far Bank of Lao PDR releases no official statistic on NPL ratio in the banking system.

Determinants on Nonperforming Loans

To examine determinants leading to nonperforming loans, we identify a long list of independent variables to be studied. A total of 56 variables are grouped into four major categories:

- FOBC: Borrower Characteristics (a total of 10 variables)
- FOFC: Borrower Financial and Credit Risk (a total of 32 variables)
- FOBR: Relationship between a customer's loan with approved credit (a total of 6 variables)
- OFS: Other factors (a total of 8 variables)

Table 8 displays all the variables, including their definitions and measurement methods. Only a small number of accounting variables are included in our analysis because bank lending in Lao PDR is almost collateral-based. Quality of accounting information in emerging markets tends to be doubtful. It is unreliable and unrealistic to apply accounting-based models, such as those mentioned in Altman (1968) and Altman and Saunders (1998), to predict borrowers' risk in Lao PDR. In general, collateral-based lending is prevalent in emerging economies because of uncertain business environments, rapidly-changing government policies and short business history of borrowers. Menkoff, Neuberger and Suwanaporn (2006) studies loans in Thailand and argues that collateral-based lending is important in emerging economies because of its improving credit availability in opaque information environments. Most of the variables chosen are categorical variables, which are easy to observe and measure. Many of the variables in our analysis are similar to the variables considered in Dinh and Kleimeier (2007) on modelling retail credit risk in Vietnam, a neighbor country of Lao PDR. The first variable in Table 8 is BLC (Business Loan Classification), the label for nonperforming loan (NPL) status. We conduct correlation analysis on all the independent variables. Almost all the numeric variables measured in local currency Kip, such as income, expenditure, collateral value, loan balance and etc., are highly correlated with total value of assets (TVA). This group of variables can be regarded as a factor of firm size. Other variables tend to be less correlated, with correlations between 0.05 and 0.30. Credit rating grade (CRG) is slightly associated with three variables, Enterprises form as private enterprise (EPE), Times of running business (TRB) and Times of collection (TOC). We are not clear how the state-owned banks do their credit assessment. These banks normally do not publicly disclose their methods.

Table 8 Independent Variables on Nonperforming Loans: Definitions and Expected Impacts

Variable Labels	**Definition of Variables**	**Measurement**
BLC	Bank Loan Classification	1 = NPL; 0 = otherwise
Factors of Borrower Characteristics: FOBC		
EJV	Enterprise form as joint-venture	1 = yes; 0 = otherwise
ECO	Enterprise form as co-operations	1 = yes; 0 = otherwise
EPE	Enterprise form as private enterprise	1 = yes; 0 = otherwise
EFE	Enterprise form as foreign enterprise	1 = yes; 0 = otherwise
EID	Enterprise form as individual	1 = yes; 0 = otherwise
AOC	Age of borrower	Year
GOC	Gender of borrower	1 = male; 0 = otherwise
NEDU	Education level of borrower (number of year)	Year
CUS	Borrowers marital status	1 = Married; 0 = otherwise
NFM	Number of family members	Person
Factors of Borrower Financial and Credit Risks: FOFC		
TRB	Time of running business	Year
LIR	Loan interest rate	Percent (%)
TVA	Total value of assets	Lao Kip
CLA	Collaterals as luxury assets (diamonds, gold)	1 = yes; 0 = otherwise
CFB	Collaterals as financial bill of exchange	1 = yes; 0 = otherwise
CIW	Collaterals as inventory in the warehouse	1 = yes; 0 = otherwise
CRC	Collaterals as receivable	1 = yes; 0 = otherwise
CAU	Collaterals as authorization (concession)	1 = yes; 0 = otherwise
CGU	Collaterals as guarantors	1 = yes; 0 = otherwise
CLV	Collaterals as light vehicles	1 = yes; 0 = otherwise
CHV	Collaterals as heavy vehicles	1 = yes; 0 = otherwise
CLD	Collaterals as lands	1 = yes; 0 = otherwise
CHO	Collaterals as home	1 = yes; 0 = otherwise
CBU	Collaterals as buildings	1 = yes; 0 = otherwise
CFA	Collaterals as factories	1 = yes; 0 = otherwise
CMA	Collaterals as machineries	1 = yes; 0 = otherwise
CCO	Collaterals of owner	1 = yes; 0 = otherwise
CCS	Collaterals of shareholder	1 = yes; 0 = otherwise
CCF	Collaterals of family	1 = yes; 0 = otherwise
CCA	Collaterals of another one	1 = yes; 0 = otherwise
AVCB	Amount of value collaterals of borrowers	Lao Kip
FIC	Firm's internal income	Lao Kip

FEC	Firm's external income	Lao Kip
FIE	Firm's internal expenditures	Lao Kip
FEE	Firm's external expenditures	Lao Kip
TNE	Total numbers of employees	Number of Person
ALA	Amount of loan approved	Lao Kip
OSB	Outstanding balance	Lao Kip
OWE	Owner's equity	Lao Kip
TVL	Total value of liability	Lao Kip
NPB	Net profit of business	Lao Kip
OTD	Other debts (debt from other sources)	Lao Kip
Factors of Borrower relationship: FOBR		
BOP	Borrowing periods	Month
TOC	Times of collection	Time per Year
CRG	Credit rating grade	Rating (1 Worst to 8 Best)
BFS	Borrowing from other sources	1 = yes; 0 = otherwise
UCG	Loan purpose	1 = Investment; 0 = other
NBE	Number of business that borrower establishes	Number
Other factors: OFS		
PSL	Place of support loan	1 = Vientiane (the capital); 0 = other
BHI	Business sector form as handicraft-industry sectors	1 = yes; 0 = otherwise
BSC	Business sector form as constructions	1 = yes; 0 = otherwise
BAT	Business sector form as assembly-technical sectors	1 = yes; 0 = otherwise
BFA	Business sector form as forest and agricultural sectors	1 = yes; 0 = otherwise
BST	Business sector form as trade	1 = yes; 0 = otherwise
BTP	Business sector form as transportation-post sectors	1 = yes; 0 = otherwise
BFSA	Business sector form as services	1 = yes; 0 = otherwise

Empirical Results and Discussions

We firstly compile summary statistics on all the variables and divide the results into three columns: performing loans (PL), nonperforming loans (NPL) and all (Total). Also, we apply t-test to evaluate difference between PL group and NPL group in their means. Table 9 exhibits the means and the test results.

Table 9 Differences between Performing Loans and Nonperforming Loans in the Independent Variables

This table shows the statistics of three groups: Performing loan (PL), Nonperforming loan (NPL) and Total and test whether PL and NPL groups are different in their mean statistics. "***" means being significant at 1% level. Those categorical variables with mean ratio at 0.20 or lower in "Total" are excluded from this significance testing because they are less represented in this sample.

Variable Label	Variable Description	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	Diff
		Performing Loans				Nonperforming Loans				Total				
BLC	Bank Loan Classification	0	0	0	0	1	0	1	1	0.48	0.5	0	1	
EJV	Enterprise form as joint-venture	0	0.06	0	1	0	0.04	0	1	0	0.05	0	1	
ECO	Enterprise form as co-operations	0	0	0	0	0.1	0.29	0	1	0.05	0.22	0	1	
EPE	Enterprise form as private enterprise	0.61	0.49	0	1	0.37	0.48	0	1	0.48	0.5	0	1	***
EFE	Enterprise form as foreign enterprise	0	0	0	0	0	0.04	0	1	0	0.03	0	1	
EID	Enterprise form as individual	0.39	0.49	0	1	0.53	0.5	0	1	0.46	0.5	0	1	***
AOC	Age of borrower	44.03	8.57	24	78	42.79	9.12	20	69	43.39	8.88	20	78	***
GOC	Gender of borrower	0.69	0.46	0	1	0.66	0.47	0	1	0.68	0.47	0	1	
NEDU	Education level of borrower (number of year)	12.31	3.18	5	18	10.56	4.02	5	18	11.41	3.74	5	18	***
CUS	Borrowers marital status	0.03	0.17	0	1	0.02	0.13	0	1	0.02	0.15	0	1	
NFM	Number of family members	5.15	1.8	1	20	4.82	1.55	1	14	4.98	1.68	1	20	***
TRB	Time of running business	9.3	7.18	1	55	6.47	5.32	1	33	7.84	6.44	1	55	***
LIR	Loan interest rate	13.19	2.11	4	16	12.91	2.29	8	18	13.04	2.21	4	18	***
TVA	Total value of assets	25,100	88,200	45	695,000	6,210	24,600	20	365,000	15,400	64,500	20	695,000	***
CLA	Collaterals as luxury assets (diamonds, gold)	0	0.05	0	1	0.06	0.23	0	1	0.03	0.17	0	1	
CFB	Collaterals as financial bill of exchange	0.01	0.12	0	1	0.01	0.08	0	1	0.01	0.1	0	1	
CIW	Collaterals as inventory in the warehouse	0.05	0.22	0	1	0	0.04	0	1	0.03	0.16	0	1	
CRC	Collaterals as receivable	0.04	0.2	0	1	0.02	0.13	0	1	0.03	0.17	0	1	
CAU	Collaterals as authorization (concession)	0.04	0.2	0	1	0	0	0	0	0.02	0.14	0	1	
CGU	Collaterals as guarantors	0	0.05	0	1	0.01	0.08	0	1	0	0.06	0	1	
CLV	Collaterals as light vehicles	0.05	0.21	0	1	0.08	0.27	0	1	0.07	0.25	0	1	
CHV	Collaterals as heavy vehicles	0.02	0.14	0	1	0.01	0.09	0	1	0.01	0.11	0	1	
CLD	Collaterals as lands	0.97	0.18	0	1	0.82	0.39	0	1	0.89	0.31	0	1	***
CHO	Collaterals as home	0.8	0.4	0	1	0.72	0.45	0	1	0.76	0.43	0	1	***
CBU	Collaterals as buildings	0.04	0.19	0	1	0	0.06	0	1	0.02	0.14	0	1	
CFA	Collaterals as factories	0.04	0.2	0	1	0.02	0.13	0	1	0.03	0.17	0	1	
CMA	Collaterals as machineries	0.02	0.14	0	1	0.02	0.13	0	1	0.02	0.14	0	1	
CCO	Collaterals of owner	0.74	0.44	0	1	0.6	0.49	0	1	0.67	0.47	0	1	***
CCS	Collaterals of shareholder	0.02	0.14	0	1	0.02	0.13	0	1	0.02	0.14	0	1	
CCF	Collaterals of family	0.4	0.49	0	1	0.36	0.48	0	1	0.38	0.49	0	1	
CCA	Collaterals of another one	0.04	0.2	0	1	0.06	0.24	0	1	0.05	0.22	0	1	
AVCB	Amount of value collaterals of borrowers	6,350	25,200	8	283,000	2,690	9,520	2	122,000	4,460	18,900	2	283,000	***

FIC	Firm's internal income	10,900	58,000	6	1,020,000	3,510	13,500	1	200,000	7,070	41,600	1	1,020,000	***
FEC	Firm's external income	1,350	19,000	5	350,000	92	920	2	18,000	699	13,200	2	350,000	***
FIE	Firm's internal expenditures	10,500	56,800	5	963,000	2,200	8,390	1	110,000	6,210	40,100	1	963,000	***
FEE	Firm's external expenditures	1,150	15,200	1	280,000	124	1,520	1	33,100	619	10,700	1	280,000	***
TNE	Total numbers of employees	12.06	38.28	1	668	9.54	22.44	1	350	10.76	31.14	1	668	***
ALA	Amount of loan approved	2,790	12,200	20	200,000	1,610	6,310	2	100,000	2,180	9,630	2	200,000	***
OSB	Outstanding balance	1,930	10,700	1	200,000	1,040	5,360	0.25	100,000	1,470	8,380	0.25	200,000	***
OWE	Owner's equity	5,310	31,500	3	440,000	1,190	5,420	1	90,000	3,180	22,300	1	440,000	***
TVL	Total value of liability	19,800	71,900	16	540,000	5,030	21,600	4	315,000	12,200	52,900	4	540,000	***
NPB	Net profit of business	1,180	32,000	-302,000	540,000	1,050	3,730	-19	33,500	1,110	22,400	-302,000	540,000	
OTD	Other debts (debt from other sources)	1,580	11,400	0	146,000	182	2,050	0	40,500	858	8,070	0	146,000	***
BOP	Borrowing periods	20.77	32.66	1	510	20.66	14.83	2	95	20.71	25.08	1	510	
TOC	Times of collection	2.29	3.53	1	12	4.63	4.87	1	24	3.5	4.43	1	24	***
CRG	Credit rating grade	5.19	1.16	3	8	2.17	0.95	1	7	3.63	1.84	1	8	***
BFS	Borrowing from other sources	0.04	0.2	0	1	0.02	0.13	0	1	0.03	0.17	0	1	
PSL	Place of support loan	0.4	0.49	0	1	0.19	0.39	0	1	0.29	0.45	0	1	***
BHI	Business sector form as handicraft-industry sectors	0.08	0.27	0	1	0.04	0.2	0	1	0.06	0.24	0	1	
BSC	Business sector form as constructions	0.13	0.33	0	1	0.15	0.36	0	1	0.14	0.34	0	1	
BAT	Business sector form as assembly-technical sectors	0.03	0.18	0	1	0.03	0.16	0	1	0.03	0.17	0	1	
BFA	Business sector form as forest and agricultural sectors	0.17	0.37	0	1	0.39	0.49	0	1	0.28	0.45	0	1	***
BST	Business sector form as trade	0.34	0.47	0	1	0.27	0.44	0	1	0.3	0.46	0	1	***
BTP	Business sector form as transportation-post sectors	0.05	0.21	0	1	0.02	0.15	0	1	0.04	0.18	0	1	
BFSA	Business sector form as services	0.18	0.39	0	1	0.08	0.27	0	1	0.13	0.34	0	1	
UCG	Loan purpose	0.56	0.5	0	1	0.78	0.42	0	1	0.67	0.47	0	1	***
NBE	Number of business that borrower establishes	1.21	1.16	0	20	1.07	0.91	0	10	1.14	1.04	0	20	***

The statistics under "Total" reveal the following interesting facts. 48% are loans to private enterprises (indicated in EPE) and 46% are loans to individual business owners (indicated in EID). The remaining 6% loans are provided to joint-ventures, co-operations and foreign enterprises. This sample is truly a sample of loans offered to the private sector. 68% borrowers are males or represented by males (indicated in GOC). This suggests that females in Lao PDR are given high opportunity and recognition on getting access to bank loans and/or managing private enterprises. 89% collateral is linked with lands (CLD). 76% collateral linked with home (CHO). 67% collateral is linked with machineries (CMA). 7% collateral is linked with on light vehicles. Other types of collaterals account for less than 5% in the sample. 29% loans are arranged in Vientiane, the capital city and the business center of Lao PDR (indicated in PSL). 30% loans are offered to business for trading (indicated in BST). 28% loans are offered to business for forest and agricultural sector (indicated in BFA). 13% loans are offered to business for services (indicated in BSFA).

The column "Diff" in Table 9 shows "***", which means "significant at 1% level" for the difference in mean. The variables include both categorical and numeric variables. For ease of analysis, the "***" excludes those categorical variables with mean ratio at 0.20 or lower. The excluded categorical variables are the categories less represented in the sample (less than 20% of the total observations). From the "***" in the table, we find that nonperforming loans are associated with the following determinants, including EID: Individual as the borrower, TOC: High frequency of loan collection and monitoring, BFA: A business for agricultural production, and UCG: Loans for investment purpose.

Performing loans are associated with the following determinants, including EPE: A private enterprise as the borrower, AOC: High in age of the borrower, NEDU: High education level of the borrower, NFM: High in the number of family members, TRB: Long business history, LIR: High loan interest rate, TVA: High in total value of assets, CLD: Using lands as collateral, CHO: Using home as collateral, CCO: Using own assets as collateral, AVCB: High in collateral value, FIC: High in internal income, FEC: High in external income, FIE: High in internal expenditures, FEE: High in external expenditures, TNE: High in total numbers of employees, ALA: High in amount of loan approved, OSB: High in outstanding loan balance, OWE: High in owner's equity, TVL: High in total value of liability, OTD: Having other debts, CRG: High in credit rating grade, PSL: Loan arranged in the capital city, BST: Business sector form as trade, and NBE: High in number of business established.

Many determinants on performing loans are actual proxies on firm size, such as income amount, expenditures amount and number of employees. It is generally true that larger firms tend to be safer.

Logistic Regression on Nonperforming Loans

We further develop a logistic regression model to include all the independent variables into one single equation, which is written as follows:

$$\ln\left(\frac{p}{1-p}\right) = a_0 + \sum_1^n a_i Variable_i + error \quad (1)$$

where $p = 1$ *if BLC =1 (i.e. nonperforming loan)*

$p = 0$ *if BLC = 0 (i.e. performing loan).*

This equation is able to capture correlation effects among the variables and identify the most important determinants on nonperforming loans. As some variables are highly correlated, there may be multicollinearity problem in coefficient estimation. We believe that this problem should be limited to those independent variables measured in Kip. Table 10 shows the coefficients.

Table 10 Coefficients of Logistic Regression on Nonperforming Loans

This table shows the coefficients of the logistic regression with nonperforming loans as the dummy dependent variables. The TVA is strongly correlated with numeric variables measured in Kip. However, the regression results demonstrate that TVA is the only “Kip” variables with significant effect on nonperforming loans. “***” & “**” mean being significant at 1% and 5% respectively.

Nonperforming Loan as the Independent variables		Coeff.		z
EPE	Enterprise form as private enterprise	-0.0841		-0.17
AOC	Age of borrower	-0.0197		-0.72
GOC	Gender of borrower	1.5784	***	2.82
NEDU	Education level of borrower (Number of Year)	-0.1371		-1.74
CUS	Borrowers marital status	-0.4408		-0.36
NFM	Number of family members	-0.2142		-1.46
TRB	Time of running business	-0.0082		-0.20
LIR	Loan interest rate	-0.4529	***	-3.47
TVA	Total value of assets (million Kip)	-0.0000	***	-2.75
CLA	Collaterals as luxury assets (diamonds, gold)	6.6613		0.74
CFB	Collaterals as financial bill of exchange	-4.3497		-1.52
CIW	Collaterals as inventory in the warehouse	-0.9379		-0.53
CRC	Collaterals as receivable	-0.9021		-0.57
CGU	Collaterals as guarantors	1.7384		0.00
CLV	Collaterals as light vehicles	0.0695		0.05
CHV	Collaterals as heavy vehicles	0.0096		0.00
CLD	Collaterals as lands	-2.3136		-1.28
CHO	Collaterals as home	0.4709		0.79
CBU	Collaterals as buildings	-2.2551		-0.61
CFA	Collaterals as factories	2.0066		0.76
CMA	Collaterals as machineries	0.8267		0.21
CCO	Collaterals of owner	0.1380		0.22
CCS	Collaterals of shareholder	-1.2418		-1.06
CCF	Collaterals of family	-0.0342		-0.06
CCA	Collaterals of another one	-1.4457		-1.56
AVCB	Amount of value collaterals of borrowers (million Kip)	0.0000		-0.87
FIC	Firm's internal income (million Kip)	0.0000		-0.20
FEC	Firm's external income (million Kip)	0.0000		-0.17
TNE	Total numbers of employees	0.0077		0.71
ALA	Amount of loan approved (million Kip)	0.0000		0.73
OSB	Outstanding balance (million Kip)	0.0000		0.35
OWE	Owner's equity (million Kip)	0.0000		1.56
NPB	Net profit of business (million Kip)	0.0000		0.92
OTD	Other debts (debt from other sources) (million Kip)	0.0000		-0.51
BOP	Borrowing periods	0.0215	***	2.69
TOC	Times of collection	0.1788	***	3.21
CRG	Credit rating grade	-4.3518	***	-9.99
BFS	Borrowing from other sources	6.1919	**	2.46
PSL	Place of support loan	-0.6652		-1.09
BHI	Business sector form as handicraft-industry sectors	-0.8377		-0.40
BSC	Business sector form as constructions	-0.1487		-0.07
BAT	Business sector form as assembly-technical sectors	-0.9710		-0.42
BFA	Business sector form as forest and agricultural sectors	-1.4017		-0.70
BST	Business sector form as trade	-1.1400		-0.59
BTP	Business sector form as transportation-post sectors	-1.6517		-0.78
BFSA	Business sector form as services	-1.4765		-0.74

UCG	Loan purpose	-0.0594		-0.12
NBE	Number of business that borrower establishes	0.3601		2.21
Constant		25.9469		5.86
Number of obs		992		
LR chi(40)		1178.86		
Prob > chi2		0.00000		
Pseudo R2		0.8579		

The table indicates that gender (GOC), loan interest rate (LIR), total value of the assets (TVA), borrowing periods (BOP), times of collection (TOC), credit rating grade (CRG) and borrowing from other sources (BFS) are critical factors on the credit risk. Male borrowers (GOC =1) are strongly associated with higher credit risk. This means that female borrowers in Lao PDR tend to be safer. This echoes many research results that female borrowers are less risky and female managers are conservative to run businesses (see, for instance, Palvia, Vähämaa and Vähämaa [2015]).

The regression results show that good credit ratings grade (GOC) is strongly related to lower credit risk. It seems that the three state-owned commercial banks in Lao PDR have internally done a quality job in assessing the credit quality of borrowers. Some argue that bank lending of state-owned banks in an emerging economy is manipulated by its government to achieve desired political agendas (see, for instance, Carvalho 2014). However, Lazzarini et. al. (2014) argues that state-owned banks in emerging economies do not systematically lend to underperforming firms. Our results seem to suggest that state-owned commercial banks in emerging economies do own the capability in differentiating credit risk but their lending may be politically manipulated. In general, state-owned banks in emerging economies are better than foreign banks in analyzing hidden risk factors, such as borrowers' political connections and matches between borrowers' business strategies and government policies. These hidden factors are very fundamental in making lending decisions in emerging economies, especially socialist economies. Statistical models for risk scoring prevalently used by foreign banks find it hard to measure and incorporate these hidden risk factors because of limited information available[5]. As shown in Table 3 and discussed in Section 2, foreign banks in Lao PDR are keen on lending to state-owned enterprises. It is consistent with many previous findings that that foreign banks are selective in choosing their clients in emerging markets (see, for instance, Beck, Soledad and Peria [2010]; Degryse, Havrylchyk, Jurzyk, and Kozak [2012]; and Gormley [2010]). Foreign banks even offer relatively lower interest rates for safer borrowers in foreign countries, such as state-owned enterprises and governmental organizations.

Table 10 also indicates that both "borrowing periods (BPO)" and "times of collection (TOC)" have positive association with nonperforming loans. These two variables are generally associated with either loans of larger amount or loans for long-term investment or both. When the economic conditions change over time, some borrowers of these loans tend to have liquidity issues and loan repayment problems. As mentioned before, Total value of asset value (TVA) is strongly correlated with other numeric variables measured in Kip. In our regression analysis, TVA is the only "Kip" variable having significant effect on performing loans. It is an effect of firm size on nonperforming loans. That is, larger firms are safer. "Borrowing from other sources (BFS)" is positively associated with nonperforming loans. This BFS can reflect a situation of over-borrowing. Some borrowers escalate their debts by borrowing new funds to settle loan repayment of other funding sources. On the other hand, if a private enterprise

[5] Given the loan size of the loans in the sample, the loans are similar to retail credits in developed economies. As pointed out by Allen, DeLong and Saunders (2003), it is not easy to model the credit risk of retail business loans and other retail loans because they have limited information from historical credit databases.

borrows from a foreign bank in addition to a state-owned bank, the foreign bank may apply tougher loan covenants and make the private enterprise easy to deviate from the loan covenants. There is one interesting finding in the table that "loan interest rate (LIR)" is negatively associated with nonperforming loans. Generally, higher loan interest rate should be positively associated with either high credit risk or less bargaining power of borrowers or both. In Lao PDR, the government always encourages affordable loans offered borrowers for agricultural production. These borrowers tend to be risky and they are charged at lower interest rates. We find from our sample data that LIR (loan interest rate) and BFA (business sector form as forest and agricultural sectors) are correlated at around -0.30. We believe that the negative effect of LIR is an effect of the risk associated with loans for agricultural production.

Conclusions

This paper has summarized the macroeconomic environments for financing private enterprises and businesses in Lao PDR and identified determinants on nonperforming loans. Male borrowers, lower interest rate associated with forest and agricultural sector, loans of longer tenor, more frequent loan collection, and borrowing from multiple sources are factors leading to higher probability of nonperforming loans. It is obvious that foreign banks in Laos PDR are keen on lending to state-owned enterprises. State-owned commercial banks in Lao PDR take a key role in lending to private sector. The case of Lao PDR provides a formula to effectively attractive international capitals. Foreign investors entering an emerging market are generally less risk-averse but still inclined to look safer investment opportunities in that market. Lending to state-owned enterprises and governmental organizations can easily match their risk appetite. If state-owned commercial banks do not take care of borrowers from the private sector, it will be hard to believe that foreign banks provide them the loans.

Our regression results reveal that state-owned commercial banks in Lao PDR do have an ability to discriminate good borrowers from bad borrowers in private sector. Foreign banks may find it hard to achieve it given opaque information on new borrowers from this new market. In an emerging economy, state-owned commercial banks generally have better knowledge than foreign banks on their potential borrowers. If this emerging economy wants to solicit capital inflows to support development of their private sector, state-owned commercial banks should be able to play a key role. For instance, they can offer credit insurance on parts of the loans offered by foreign lenders6. This not only reduces the credit risk of the foreign lenders but also motivates them to participate further in this economy because of improved knowledge about its economic settings. The credit insurance can also be in the form of insured bonds to support long-term financing of local enterprises of the economy.

[6] Some governments in developed economies offer loan guarantees to risky loans, such as loans to an emerging business sector and/or loans to small-and-medium-size enterprises. They allow commercial banks to screen out potential borrowers and provide guarantee (i.e. credit insurance) on parts of loan amount. Credit assessment is primarily done by the banks because government officers generally have limited knowledge on credit analysis. These arrangements motivate private funds to support chosen high-risk sectors because their risk is partially shared.

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Investment Behavior of Woman Business Owners in Myanmar

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ABSTRACT

Individuals invest in different types of investment based on their preference and risk taking behavior. Depending on their financial knowledge and awareness, tax and social factors, the personal factors, their investment decisions are different. The study was aimed to identify the investment behavior of woman business owners in Yangon, to examine factors influencing their investment behavior and to analyze the relationship between the influencing factors and the behavior. The population was about 2000 woman business owners, members of Myanmar Women Entrepreneur Association (MWEA) and the sample was selected by using random sampling method with the sample size of 120 respondents. The result shows that respondents mostly invest in the traditional assets such as bank deposit, gold and real estate rather than modern financial assets bonds, stocks and insurance. They mostly used the traditional off-line trading method for the investment except the securities trading with on-line. The regression results show that there is a positive and significant effect of financial attitude, tax factors and the working sectors of the women owners on their behaviors. Financial attitude has the highest contribution followed by tax factors and the women' working sectors.

Keywords: Investment Behavior, Risk, Attitude, Financial Literacy, Influencing Factors

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Introduction

Investment is an outgrowth of economic development and the maturation of modern capitalism. Saving and investment are key ingredients to long run economic growth: when a country saves a large portion of its GDP, more resources are available for investment in capital, and higher capital raises a country's productivity and living standard. It is important to look out the status of the government budget for the country economy. When a government budget deficit crowds out investment, it reduces the growth of productivity and GDP (Mankiw, 2010). For the economy as a whole, from macro-economic point of view, aggregate investment sanctioned in the current period is a major factor in determining aggregate demand and, hence, the level of employment (Narayanna. B, 2012). Savings or investments are powerful tools in the alleviation of poverty.

Investment is important not only for the country as a whole but also for the business and individuals. Businesses need to make the most out of their profits and savings by putting money into investments that will give extra return year by year. Businesses tend to invest in the real estate, government bonds, gold etc. to ensure the money is secure and growing. Normally, people tend to invest if they have money in hand with the purpose of creating wealth and financial security although there is no guarantee that they will make money from their investments, and they may lose value.

There are many different types of investments depending on investors' risk taking behavior. Therefore, investment can be low risk portfolio, moderate risk portfolio and high risk portfolio. Each type of investment has its own advantages and disadvantages. If the investor has enough financial knowledge and awareness, the right financial decision can be made easily and it helps to have an appropriate investment portfolio. Unless the investors have the basic knowledge of portfolio management like "Don't Put All Your Eggs in One Basket", they may face investment failure. There are various factors that affect investors' portfolio: annual income, government policy, natural calamities, economical changes, etc.

In the past, in Myanmar, a common savings mechanism is accumulating tangible assets such as cash, gold and rice at home. Women often purchase gold as a form of savings, knowing that its price is stable since international markets— not local politics or domestic fiscal and monetary policies—dictate gold prices. Peer savings groups are another popular informal financial tool in Myanmar. There are generally only four avenues for investment: gems, gold, cars and property. When investing, the poor often turn to land, livestock, mechanization, education, transportation and migration (Proximity Designs & Studio D Radiodurans, 2014).

However, with the emergence of Yangon Stock Exchange in 2015 and new financial institutions, people started to invest in modern financial products such as insurance, stock, bonds, and Forex trading. Ministry of planning and finance has permitted the foreign insurers to operate the insurance business in the country since January 2019. Because of the liberalization of insurance sector in Myanmar, there are about 24 insurance companies including foreign-owned.

According to the United Nations Capital Development Fund (2018), in the five years since 2013, the number of formal and informal savers has risen from 30 % to 50% and informal savings including non-cash assets, jewelry or cash on hand are the main channels for savings. Myanmar is drafting a National Savings Mobilization Strategy to encourage citizens to save in order to support continued economic growth to reach parity with its regional neighbors. Normally, people consign their savings to investments with the hope to increase their future wealth as investment benefits both economy and society. Their investment behaviors can be different based on their investment motives.

Understanding the factors influencing the investment behavior is important for both the investors itself and financial institutions. In order to find out investors' investment behavior, woman business owners in Myanmar are selected to conduct the survey. Nowadays, the status of women in social and economic sphere has been growing over the past few decades as women started to participate in the labor force, politics and other sectors. To raise the role of women in the economy, the government has drawn up a National Strategic Plan for the Advancement of Women (2013-2022) under which it aims to eliminate all forms of discrimination against women (Myanmar Times, 2017).

Despite the importance of women segment for financial products and services in Myanmar, research on their investment behaviors is very limited. This study will be helpful to find out the ideal investment options for business owners. These findings could be useful to financial institutions to devise appropriate strategies and to market appropriate financial products or offer new financial products to investors in order to satisfy their needs.

The main objectives of the study are as follows:

1. To identify the investment behavior of woman business owners in Yangon
2. To analyze the relationship between the influencing factors and investment behavior of woman business owners

Literature Review

The Effect of Financial Literacy on Investment Behavior

Financial literacy plays an important part in our daily life, such as managing personal finance, investment, etc. Danes & Haberman (2007) defined financial literacy as an individual ability to obtain, understand, and evaluate information which is relevant to the decision making by understanding of the financial consequence that occur as the effect of the development in the complexity of the global finance. Bushan (2014) conducted survey on the relationship between financial literacy and investment behavior which showed that financial literacy level affects awareness regarding financial products as well as investment preferences towards financial products. Also respondents having low financial literacy primarily invest in traditional and safe financial products and do not invest much in those financial products which are comparatively more risky and can give higher returns. This result is in line with the finding of Van Rooij, M.C.J. (2012)which shows that individuals with lower financial literacy are much less likely to invest in stocks which is a modern financial instrument.

The Effect of Financial Attitude on Investment Behavior

In making investment decision, it is important to consider financial attitude as an influencing factor. Financial attitude is defined as a state of mind, opinion, judgment about finance (Pankow, 2003).Theory of Planned Behavior presented by Ajzen (1991) provides model that can predict an individual's intention to engage in a behavior at a specific time and place. The theory was intended to explain all behaviors over which people have the ability to exert self-control. The key component to this model is behavioral intent; behavioral intentions are influenced by the attitude about the likelihood that the behavior will have the expected outcome and the subjective evaluation of the risks and benefits of that outcome. Attitudes refer to the degree to which a person has a favorable or unfavorable evaluation of the behavior of interest. It entails a consideration of the outcomes of performing the behavior (Wayne,W 2018). Sondari &

Sudarsono (2015) tested the applicability of the theory of planned behavior in predicting intention to invest resulting attitudes toward investment and subjective norms have significantly influenced the intention to invest.

The Effect of Social Factors on Investment Behavior

The most popular and essential theory that is needed to be considered is Behavioral Finance Theory. Behavioral finance is the study of the influence of psychology on the behavior of investors or financial analysts. It also includes the subsequent effects on the markets. It focuses on the fact that investors are not always rational, have limits to their self-control, and are influenced by their own biases. Behavioral Finance Theory described that investors make cognitive errors that can lead to wrong decisions. There are some decision making biases and errors in Behavioral Finance such as self-deception, heuristic simplification, social influence and emotion (Corporate Finance Institute, 2019).

Social influence can make the investor to behave irrationally. Venkateshraj, V. (2015) studied the investment pattern of employed women which covers factors influencing the investment pattern, financial literacy level and risk profiling of financial products and the type of financial products preferred by employed women. The study discovered that Internet has replaced newspapers and magazines as preferred source of investment information. It was found that friends and relatives continue to be an important source for investment information. This finding is aligned with the research of Shanmugham & Ramya(2012) .

The Effect of Tax Factors on Investment Behavior

Tax factor and tax efficacy are essential to maximizing investment returns. It is important that the investors understand how to manage their portfolio to minimize the tax burden. Singh & Vanita (2002) studied on mutual fund investor's perception and preference and found that tax exemption significantly affected investor behavior. Venkateshraj, V. (2015) also stated that respondents were aware about the tax benefits available for certain investment products. Majority preferred to invest in provident fund and life insurance product to claim the tax benefit.

The Effect of Demographic Factors on Investment Behavior

There are many studies that proved that demographic profile of investors is an influencing factor among others. Sadiq, M.N. & Ishaq, H. M (2014) analyzed the effect of demographic factors on the behavior of investors during the choice of investment. . It was found that there is an association between demographic characteristics and investors level of risk tolerance. Result showed that demographic factors like investor's age, academic qualification, income level, investment knowledge, and investment experience have significant effect on the behavior of investors. There is positive correlation between investor's academic qualification, income level, and investment knowledge and investment experience with their level of risk tolerance during the choice of investments. Those findings are in line with Venkateshraj, V. (2015) research paper.

Investment Behavior

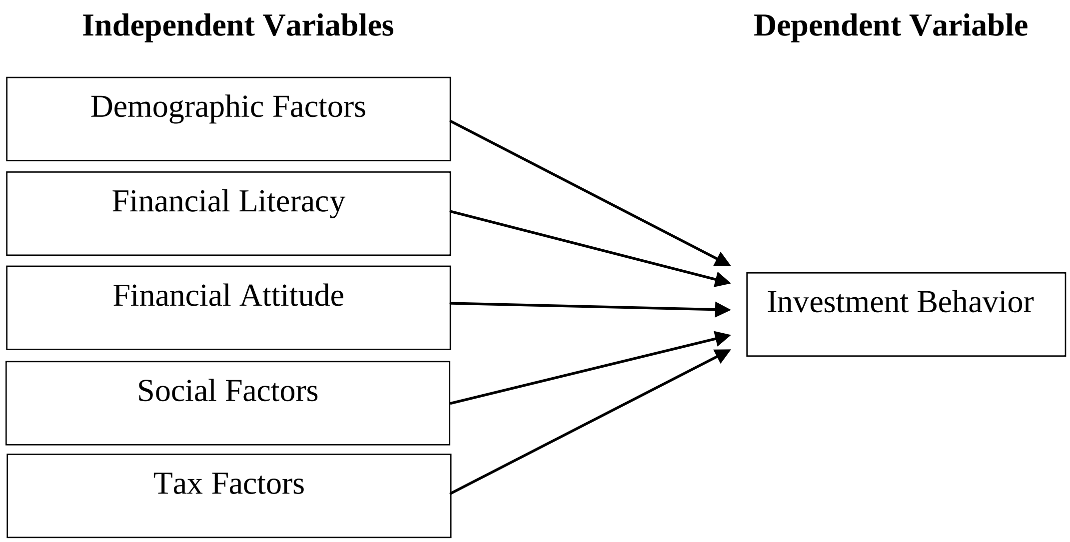
Investment can be viewed as deferred consumption, that is, income earned but not consumed and kept for future consumption. The concept refers to the immediate commitment of resources, money or otherwise, in the expectation of reaping future benefits irrespective of the form it takes, its key attribute is the sacrificing of something of value now for future benefit later (Bodie, Kane and Marcus, 2001).

An investment refers to any money or income not consumed but kept aside, either in financial institution or invested in the capital market, real estate or any other production activity with a view to generating higher future income and/or increasing its innate value in the future (Investment Finance Essay, 2013). Investment behavior is crucial to an investor's future and the decision is dependent on many factors (Ansari & Moid, 2013). Most of the researchers have based on the risk taking behavior of the investors and they mainly focused on the relationship between the risk taking behavior and demographic factors, financial literacy and tax benefits.

Research Methods

As seen in the previous research, variables such as demographic factors, financial literacy, tax benefits and socio economic status were used to analyze the investment behavior of the respondents. This study used both dependent and independent variables as illustrated in

Figure.1. The five variables which are demographic factors, financial literacy, financial attitude, social factors and tax factors are operationalized as independent variables and the dependent variable is investment behavior. This study evaluates how the independent variables influence on investment behavior.



Source: Own Compilation

Figure 1 Conceptual Framework

For demographic factors, age, marital status, education, occupation, working experience, working sector, monthly income and family size were considered in the model. The dummy variables were used for measuring the qualitative variables in the regression analysis. The other variables of financial literacy, financial attitude, social factors, tax factors and investment behavior were measured by the level of agreement on a five-point Likert scale.

Woman financial literacy covered the dimensions of bond, interest rate, stock share, portfolio management and purchasing power. Financial attitude towards investment as regards the respondents’ preference on the investment, confidence to take risk etc. are identified. Social factors covering consultation with family members, friends, and financial adviser etc. for the investment decision are covered in the statement.

Tax factors were used to find out the respondents’ perception of tax on investment. It covered the tax benefits and tax saving investments. Finally the level of woman investment behavior, the dependent variable was identified with the risk perception on investment while taking investment decision.

Based on the findings of the previous studies in the literature, the following Hypotheses are adopted.

Hypothesis 1: Demographic factors of the women owners are likely to influence investment behavior

Hypothesis 2 : Financial literacy of the women owners is likely to influence the risk-taking Investment behavior

Hypothesis 3: Financial attitude of the women owners are likely to influence the risk-taking investment behavior

Hypothesis 4 : Social factors are likely to influence the risk-taking investment behavior

Hypothesis 5 : Tax factors are likely to influence the risk-taking investment behavior

Population and Sample

This study focuses on woman business owners working in different sectors in Yangon Region. Members from Myanmar Women Entrepreneurs Association are selected to conduct the survey. Myanmar Women Entrepreneurs Association was founded in 1995 which is a non-Government, non-profit association. Its aim is to unite and bring into focus the role and capabilities of Myanmar women entrepreneurs. There is a total of about 2,000 active members who are women entrepreneurs and managers in the manufacturing, trading and service businesses. 42 women from the association, who have achieved success in the economic and social sectors, have already received ASEAN awards. About 200 members were targeted to collect the primary data.

Data Collection and Analysis

This study used both primary and secondary data. Primary data was collected from woman business owners in Yangon by using well-structured questionnaires. The questionnaires were adopted from the study of Venkateshraj, V. (2015). Secondary data were collected from website, journals and previous literatures.

To collect the primary data, the researcher conducted personal interviews with the members by attending the association meeting. While attending the meeting, the structured questionnaires were distributed to the members directly. Then, face-to-face interview was conducted after finishing the meeting. About 150 members were asked and 120 members (5% of total members) completely responded the questions. Simple random sampling was used for drawing samples. Before making the personal interview, a pilot study was conducted by contacting 20 woman business owners in order to test the effectiveness of the questionnaires.

The descriptive statistics method and multi-linear regression were used for the analysis. Descriptive statistics gives a picture about the demographic profile, the level of financial literacy, financial attitude, social factors, tax factors and investment behavior which can be seen in terms of mean, standard deviation, and frequency. Multi-linear regression analysis provides the data on the effect of financial literacy, financial attitude, social factors, and tax factors on the investment behavior of woman business owners.

Results and Discussion

The data collected from the survey are summarized by tables and charts and analyzed by using descriptive statistics method and multi-linear regression.

Table 1 Demographic Profile of Respondents

No	Variables	Categories	Number	Percent %
1.	Age	Below 30 years	18	15
		31 – 40	29	24.2
		41 – 50	44	36.7
		51 – 60	23	19.2
		Above 60 years	6	5
2.	Marital Status	Single	40	33.3
		Married	80	66.7
3	Dependent People	< 3	86	71.7
		3 – 6	16	20.7
		7 – 9	9	7.4
4.	Number of Children	≤ 2	113	94.2
		3 – 4	7	5.8
5.	Family Size	1 - 3	26	21.7
		4 - 6	44	38.3
		>6	48	40

6.	Highest Education	Under Graduate	7	5.8
		Graduate	75	62.5
		Post-Graduate and above	38	31.7
7.	Nature of Job	Manufacturing	22	18.3
		Trading / Service	98	81.7
8.	Years of working experience	<5 years	19	15.8
		5 – 10 years	25	20.8
		11 – 15 years	30	25
		16 – 20 years	13	10.8
		>20 years	33	27.5
9.	Monthly income (Kyats)	<30 Lakhs	66	55
		31 – 50 Lakhs	25	20.8
		> 50 Lakhs	29	24.2

Source: Survey Data, 2019

Table 1 shows the summary of demographic profiles of respondents. The majority of respondents (36.7%) were from the age group of 41 – 50 years, followed by those who were from the age group of 51 – 60 years. It was found that the majority of women are married (66.7%). The majority the respondents has the family size of more than six (40%), followed by the family size of four to six (38.3%). It can also be seen that most of the respondents are graduate (62.5%) followed by those who are post graduate and above (31.7%). Majority of respondents (81.7%) are working in the trading and service sector and most of the respondents have over 20 years working experience (27.5%). It can be observed that 55% of the respondents have the monthly income of less the 30 lakhs MMK followed by the income range of above 50 lakhs (24.2%).

Investment Practices of Respondents

In order to find out the respondents' investment behavior, the investment awareness, risk perception on investment, actual investment held, trading method, and investment purpose have been asked and analyzed by using descriptive statistic method.

Table 2 Investment Awareness and Investment Held by Respondents

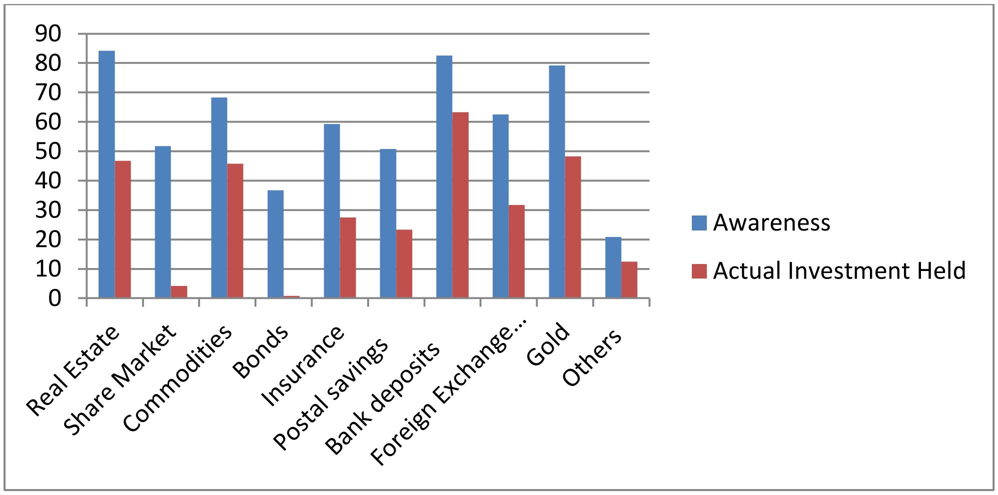
Types of Investment	Awareness		Investments Held	
	Number	Percent (%)	Number	Percent (%)
Real Estate	101	84.2	56	46.7
Bank deposits	99	82.5	76	63.3
Gold	95	79.2	58	48.3
Commodities	82	68.3	55	45.8
Foreign Exchange Market	75	62.5	38	31.7
Insurance	71	59.2	33	27.5
Share Market	62	51.7	5	4.2
Postal savings	61	50.8	28	23.3
Bonds	44	36.7	1	0.8
Others	25	20.8	15	12.5

Source: Survey Data, 2019

It can be seen from the Table 2 that the majority of respondents are aware about real estate (84.2%), followed by bank deposit (82.5%) and gold (79.5%) respectively. Awareness about postal savings and share market is moderate (around 50%) and awareness about bonds is low as can be seen in Figure 2.

Although people aware about most of the investment avenues, it does not directly lead to the actual investment. Although the awareness about real estate is highest, actual investment in real estate is only at moderate level of 46.7%. It can be assumed that people lost interest in the real estate market in Myanmar although the real estate market was active before 2010. Investment in share market (4.2%) is quite low compared to the moderate awareness level of share market.

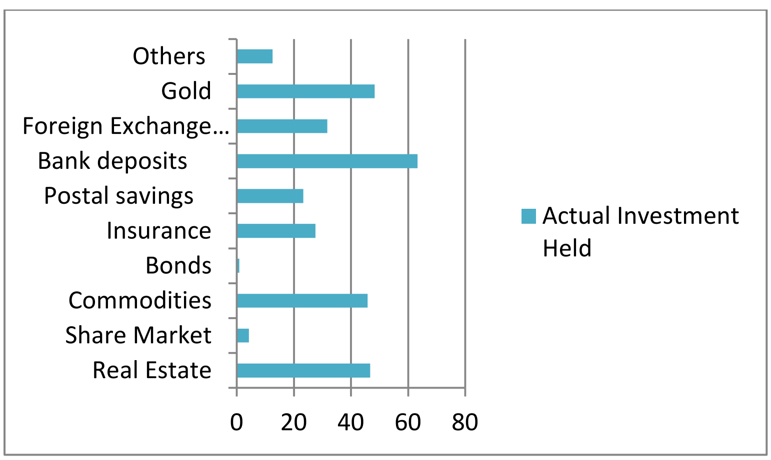
Figure 2 Comparisons of Investment Awareness and Actual Investment Held



Source: Survey Data, 2019

Figure 3 shows that the actual investment held by the respondents. Bank deposit (63.3%) is the most preferred investment held by the women, as the bank deposit is a comparatively risk-free asset followed by Gold (48.3%), Real Estate (46.7%) and Commodities (45.8%). It can also be seen that gold is one of the most preferred investment by women; they buy gold not only for investment but also for fashion. Myanmar women like to wear gold as jewelry in special occasions according to the tradition.

Figure 3 Actual Investment Held by Respondents



Source: Survey Data, 2019

Investments held in the form of insurance and foreign exchange currency are in the range of 27% to 32%. It is followed by postal saving with 23%.The least preferred types of investment are bonds (0.8%) and share (4.2%) respectively. On overall, it indicates that women are interested to invest in traditional investment avenues rather than the modern financial instruments due to the fact that the financial instruments were introduced to Myanmar people in 2010s and people are still unfamiliar with those avenues.

Table 3 Portfolio Diversification Behavior

No. of Portfolio	Number	Percent (%)
1	22	18.3
2	35	29.2
3	31	25.8
4 and above	32	26.7
Total	120	100

Source: Survey Data, 2019

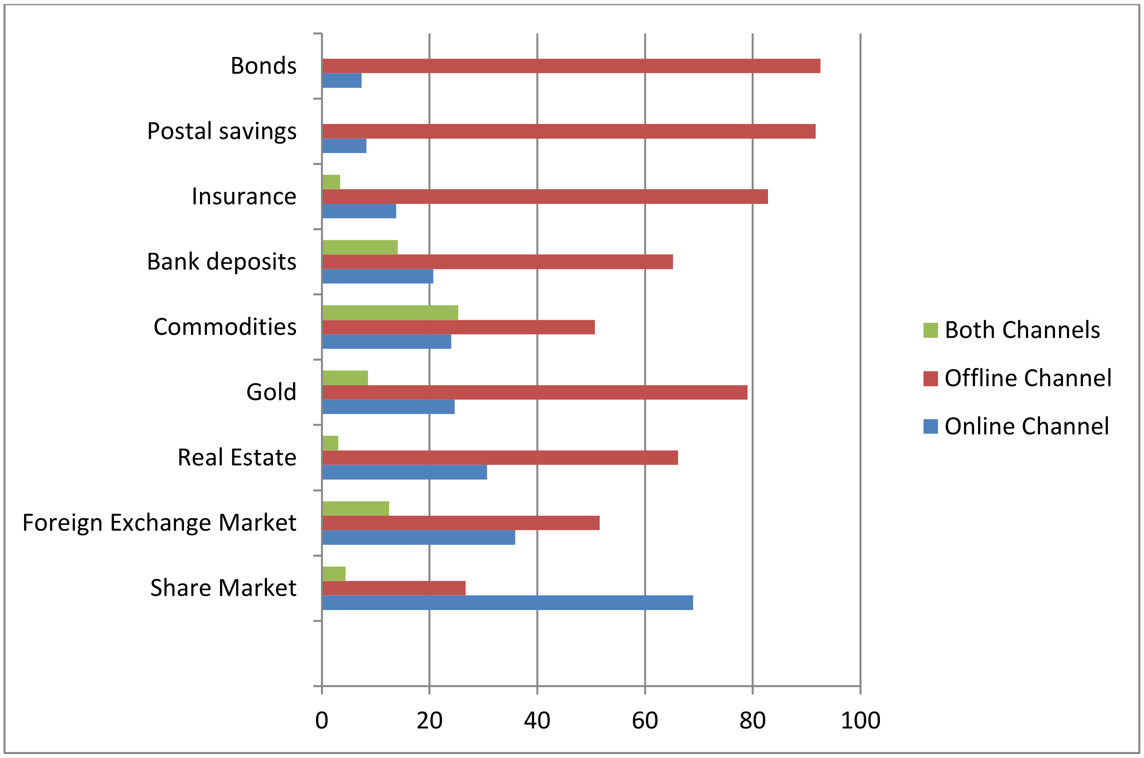
It can be observed from Table 3 that the majority of respondents (29.2%) are investing in at least two assets. Investments in four and above assets are 26.7% followed by investment in three assets (25.8%). Investment in one asset is in low state. It can be considered that Myanmar women are good at diversifying the investment portfolio by investing in more than one investment avenue in order to avoid investment failure.

Table 4 Trading Method used by Women

Type of Investment	Online Channel		Traditional Offline Channel		Both	
	Number	Percent (%)	Number	Percent (%)	Number	Percent (%)
Share Market	31	68.9	12	26.7	2	4.4
FE Market	23	35.9	33	51.6	8	12.5
Real Estate	20	30.7	43	66.15	2	3.07
Gold	20	24.7	54	79.0	7	8.6
Commodities	18	24.0	38	50.7	19	25.3
Bank deposits	19	20.7	60	65.2	13	14.1
Insurance	8	13.8	48	82.8	2	3.4
Postal savings	4	8.3	44	91.7	0	0
Bonds	2	7.4	25	92.6	0	0

Source: Survey Data, 2019

Figure 4 Trading Method used by Women



Source: Survey Data, 2019

Table 4 describes the trading methods used by the participants. The participants prefer traditional offline channel to trade all investment avenues except in share market investment. The respondents mainly used online trading channel for share market (69%). It indicates that women adopted online trading channel as the technology has advanced in Myanmar which are depicted in Figure 4.

Table 5 describes the purpose of investment of the respondents. Women seem to consider regular earning return as the main purpose of investment (50.8%) followed by the purpose of getting high return (35.8%) and just for safety (31.7%). The participants also consider that their children education is one of the main purposes of investment. It thus can be assumed that women mainly consider financial purpose as the major purpose for investment rather than non-financial purpose. Moreover, it can be drawn that for the financial purpose, the regular earning return is the majority concerned by the respondents among others.

Table 5 Main Purpose of Investment

Purpose	Number	Percent (%)
High Return	43	35.8
Regular Earning Return	61	50.8
Just for Safety	38	31.7
For Marriage	7	5.8
For Children Education	34	28.3
Retirement Plan	16	13.3

Source: Survey Data, 2019

To understand the first consideration in decision making of the women, the results of the survey are shown in Table 6. Table 6 indicates that the majority of participants consider firstly safety of capital (40.8%) rather the high return and liquidity needs. 23.4% of the participants think fulfilling personal needs (post retirement need, children education, marriage etc.) as first priority.

Table 6 First Consideration of Respondents in Investment Decision

Factors	Number	Percent (%)
Liquidity	19	15.8
Safety of capital	49	40.8
High return	15	12.5
Convenience to purchase	2	1.7
Trends in financial market	7	5.8
Personal Needs	28	23.4
Total	120	100

Source: Survey Data, 2019

Table 7displays that majority of participants 37.5% held their investment more than one year before earning yield followed by 36.7% of the respondents held their investment less than one year,and25.8% of the respondents state one-year, thus indicating that the investment duration is varied by their type of investment and their urgency.

Table 7 Duration of Investment Period

Investment Period	Number	Percent (%)
Less than one year	44	36.7
One year	31	25.8
More than one year	45	37.5
Total	120	100

Source: Survey Data, 2019

Table 8 Frequency of Investment Review

Frequency	Number	Percent (%)
Occasionally	18	15.0
Monthly	58	48.3
Quarterly	17	14.2
Yearly	18	15.0
Rarely	9	7.5

Source: Survey Data, 2019

Table 8 shows that the frequency of investment reviews by the participants. The majority of respondents review their investment monthly (48.3%) followed by the review period of occasionally and yearly by 15% each respectively. It indicates that Myanmar women tend to check their investment situation in the short period of time as policies and investment conditions can change anytime.

Antecedent Factors influencing Investment Behavior

To analyze the factors influencing the investment behaviors of the respondents, women were asked by their agreement on the statements related to independent factors of financial literacy, financial attitude, social factors and tax factors. Also the woman investment behavior was asked and measured using the statements on their risk taking behavior. The respondents were requested to indicate their agreement with the various statements regarding these variables.

A five point Likert scale was used to interpret the responses whereby the scores of "Strongly disagree" and "Disagree" were represented by mean score, equivalent to 1 to 2.5 on Likert scale (1≤ disagree≥2.5). The scores of 'Neutral' were equivalent to 2.6 to 3.5 on the Likert scale(2.6≤Neutral≥3.5). The scores of "Agree" and "Strongly agree" were equivalent to 3.6 to 5 on the Likert scale (3.6≤Agree≥5). Table 9 shows the summary of respondents' risk taking behavior and antecedents factors influencing on investment behavior. The detail response can be seen in the appendix.

Table 9 Investment Behavior and Antecedent Factors

Description	Mean
Risk Taking Behavior on Investment	3.36
Financial Literacy	3.05
Financial Attitude	4.07
Social Factors	3.39
Tax Factors	3.26

Source: Survey Data, 2019

The results indicate that the respondents are risk-adverse with the average mean score of 3.36 and the respondents are neither literate nor illiterate from the financial aspect with the mean score of 3.05. In addition, the respondents' financial attitude is appropriate for investment by the average mean score of 4.07. It can also be seen that the respondents are neither dependent nor independent on the social factors while taking investment decision by the average mean score of 3.39 and tax factors play neither important nor unimportant roles while they taking investment decision by the average mean score of 3.26.

Relationship between Dependent and Independent Variables

Table 10 states correlation results that there are moderately positive relationship between income level, financial attitude, financial literacy, tax factor and the investment behavior of women at the 1% significant level whereas tax factors and household size have a weak positive relationship with the investment behavior at the 5% significant level and 10% significant level respectively.

Table 10 Correlation Coefficients of the Factors

Variables	Pearson Correlation	Sig. (2 tailed)
Years of Work Experience	.131	.154
Monthly Income	.498***	.000
Household size	.163	.074
Marital Status	-.073	.429
Working Sector	-.044	.631
Social Factor	.032	.729
Financial Attitude	.569***	.000
Financial Literacy	.565***	.000
Tax Factor	.213**	.019

Dependent Variable: Investment Behavior

Level of significance: * = 10%, ** = 5%, *** = 1%

Source: SPSS output

The multiple linear regression method was used to analyze the relationship between the influencing factors and investment behavior of woman business owners. Due to the effect of multi-collinearity between financial literacy and financial attitude, financial literacy variable which is lower coefficient was removed in the linear regression model. Then the next computed results are described as follows.

Table 11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622[a]	.387	.343	.40889

a. Predictors: (Constant), Nature of Work, Monthly Income, Tax Factor, Social Factor, Household size, Marital Status, Years of Experience, Financial Attitude

b. Dependent Variable: Investment Behavior

Table 11 shows that there is 34% variation in the dependent variable due to the contribution of the independent variables which are working sector, monthly income, tax factor, social factor, household size, marital status, years of experience and financial attitude on investment behavior

Table 12 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.709	8	1.464	8.754	.000[b]
	Residual	18.558	111	.167		
	Total	30.267	119			

a. Dependent Variable: Investment Behavior

b. Predictors: (Constant), Working Sector, Monthly Income, Tax Factor, Social Factor, Household size, Marital Status, Years of Experience, Financial Attitude

Table 12 is an ANOVA table showing that the independent variables have a significant effect on investment behavior as shown from the value of Sig. 0.000 < $\alpha = 0.05$. The computed results of the analysis on the independent variables of the investment behavior are shown in Table 13.

Multiple-Linear Regression Model is shown as follows

Investment Behavior = ß0+ $ß_1$ Financial Attitude + $ß_2$ Tax Factor + $ß_3$ Working Sector + E_i

Table 13 Coefficient Value for the Investment Behavior of The Women

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.060	.539		.111	.912		
	Years of Experience	.006	.005	.100	1.221	.225	.817	1.223
	Monthly Income	.009	.007	.145	1.288	.200	.434	2.303
	Household size	022	.016	.106	1.377	.171	.935	1.069
	Social Factor	.023	.074	.024	.314	.754	.922	1.084
	Financial Attitude	.603***	.161	.429	3.753	.000	.423	2.361
	Tax Factor	.115*	.067	.132	1.736	.085	.959	1.043
	Marital Status	-.054	.086	-.051	-.632	.529	.851	1.175
	Working Sector	-.216**	.106	-.166	-2.035	.044	.826	1.210

a. Dependent Variable: Investment Behavior

Level of significance: * = 10%, ** = 5%, *** = 1%

Source: SPSS output

Based on Table 13, it can be seen that financial attitude, tax factor and working sector of business women have significant effect on the women owners' investment behavior. Financial attitude has a positive at 1% significant level. It indicates that if the financial attitude increases 1 point, then the women's risk adverse behavior will also increase 0.603 point. The improvement of financial attitude is the way to improve life quality. Thus, the women set more rightful attitude about the concept of finance and investment, they will be able to make better investment decisions. Tax factor has also a positive at 10% level implying that the 1% increase in the tax factor will increase the women risk adverse behavior by 0.115 points.

Finally, the working sector of the women also has a negative and significant effect on their investment behavior at 5% significant level. It indicates that if the number of women working in manufacturing sector increases 1 point, the risk taking behavior will rise to 0.216 point. It thus can be concluded that the women working in manufacturing sector dare to take more risk rather than the women working in trading and service sectors. Other factors such as monthly income, household size, tax factor, social factor, marital status have no effect on the investment behavior of the women.

Conclusion

The objective of the study was to investigate investment behavior of the MWEA members and the factors influencing their investment behavior. The behavior of the respondents is measured by their degree of risk taking by five point Likert scale.

On the basis of the results and discussion above, it can be concluded that Myanmar women usually prefer to invest in the traditional investment avenues like bank deposits, real estate and gold. They are still unfamiliar with modern investment avenues such as share market and bonds. The respondents also invest in more than one investment i.e., investment portfolio in order to avoid taking risk and they mainly use traditional offline channel for their investment. The women consider getting financial purpose rather than non-financial purpose.

Majority prefer regular earning return than the high return since they first consider safety of investment. Hence, the woman business owners are in likelihood of moderate risk taking in the investment. These results thus, are very supportive for the banks and non-bank organizations to create the innovative but less-risky financial product portfolio or services which could give the regular earning returns from their investment.

The survey results on the financial literacy and attitude of the women indicate that the owners have the moderate level of the financial literacy but with high level of financial attitude. The correlation results describes that both of the variables are moderately and positively related with the investment behavior of the woman owners.

Then, the finding on the regression result shows that the financial attitude and tax factor has the positive and significant relationship with their investment behavior and working sector has the negative and significant relationship with investment behavior. According to these findings, the hypothesis about the high financial attitude of women owners influencing the risk-taking behavior is accepted and also the hypothesis about tax factor affecting the risk-taking behavior is accepted. Although all demographic factors were not significantly related to the investment behavior, their working sector is significantly related. Thus, the hypothesis is not totally rejected.

The study found that there is a positive effect of financial attitude on the investment behavior which supports the earlier researches that attitude toward investment have significantly influenced the intention to invest (Sondari & Sudarsono, 2015). Also the tax factor has the positive effect on the behavior followed by the study of Venkateshraj, V. (2015) stated that tax exemption significantly affected investor behavior. This implies that the policy makers should consider the tax policy of the trading investment. The last variable of the working sector of business has effect on the behavior which agreed with the results of the previous studies presenting that demographic factors also influence the behavior (Ansari & Moid, 2013, Sadiq, M.N. & Ishaq, H. M ,2014, Venkateshraj, V,2015).

Based on these results of the study, the most selected options of the woman business owners are the assets giving financial return without much risk. Thus, this is the opportunity for the investment organization to sell the financial products like fixed deposit and postal saving services and also life and non-life insurance with the new and creative form of return from the insurance policy. On the other hand, there is a little interest of the owner on stock exchange market of Myanmar, thus the stock exchange commission of Myanmar should try to enhance the awareness of the potential group. Finally, the financial attitude and financial literacy/ knowledge are very important in making investment decision of the women, so, the seminars or workshops concerning the financial sector should be held by the financial institutions.

There are some limitations of the study. First, the study only focused the investment behavior of women from the MWEA Association. The data about other business owners who haven't been the members would be very useful to identify their behavior concerning investment and the influential factors. Another constraint is the extent of the effect of the behavior on their income level were not analyzed, otherwise the effect of the behavior can be examined. Third, the cross-sectional data exploring the investment behavior by the demographic characteristics such as the age level, the educational level, the marital status etc., thus causal relationship can be identified. Finally, further research could investigate the additional influencing variable as macro-economic variables like government policy changes and market rate changes as well as how the demographic variables of women (eg. Income level, work experience) moderate the relationship between the financial literacy and the behavior among the women members.

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The CFPB and Prudential Regulation: Unresolved Conflicts

August 20, 2019

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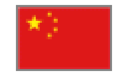
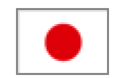
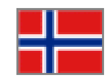
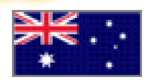
Consumers Korea, Director

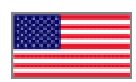
Regulatory Structure: Basic Approaches

The term regulatory structure describes the organization of the agencies that regulate a particular policy sphere.

- Institutional approach: legal entity driven  
  - banking, securities, insurance

- Consolidated or integrated approach    

- **The Regulation By Objectives (Twin Peaks) approach :**   
  - One Agency: prudential regulation
  - Other Agency: consumer protection

- Hybrids: The “exception” 

- after the 2008 crisis: CFPB, FSOC

Regulatory Architecture Debate

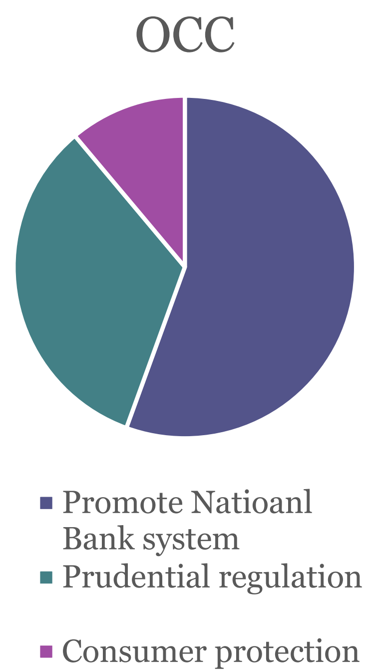
Should Consumer protection functions be separated from prudential regulators?

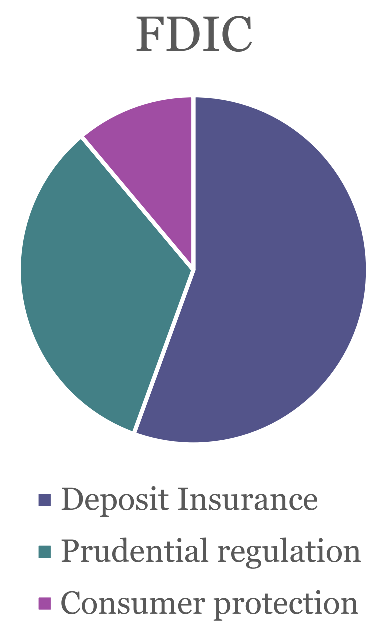
- Consolidated Model
  - efficiency, economies of scale and scope, improves quality and lowers cost of supervision, single point of supervisory contact, avoid duplication and inconsistency, deals with financial conglomerates

- Regulation by Objectives/Twin Peaks
- Pros:
  - Each agency has a focus on a single clear objective
  - Different strategies and skills are required for each objective
- Cons:
  - underlap, overlap, cost of coordination and communication

Case Studies: US and UK made separate consumer protection agencies after 2008 crisis

- United States: Before and After Reorganization
- Before:





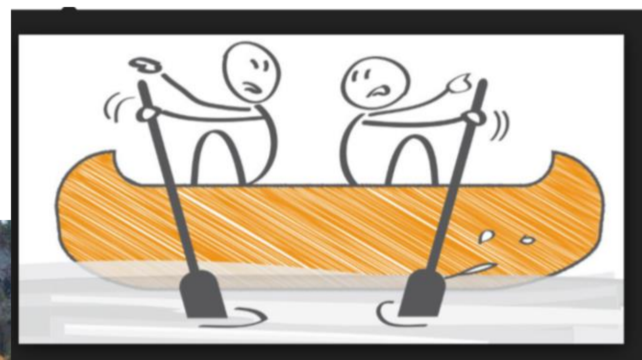
- After

Differences between Prudential Regulation and Consumer Protection

	Prudential Regulation	Consumer Protection
Rationale	Single-minded Keeping banks safe and sound	Neo-classical/Behavioral Social Goals: Really different
Methodology	Bank examination	Enforcement, Education, Complaint Compilation, Public affairs
Styles	Cooperative, amicable	“Tough Cop”

"Type 1 Conflict" Goal Conflict

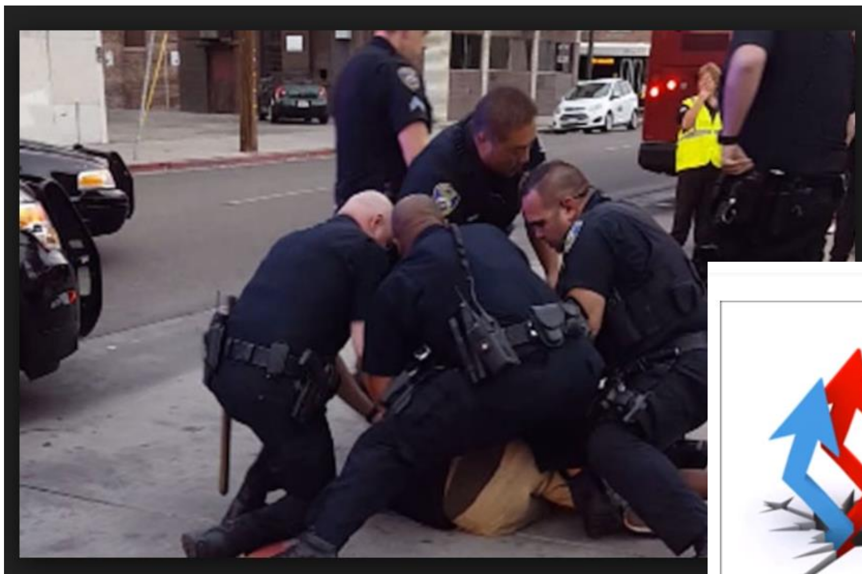
- Conceptual or theoretical conflicts that are related to goals, mission, or incentives of the regulator
- Conflicting goals are perceived to be inversely related: increase one goal leads to deterioration of another
- Forest Service: timber production vs. protect wildlife

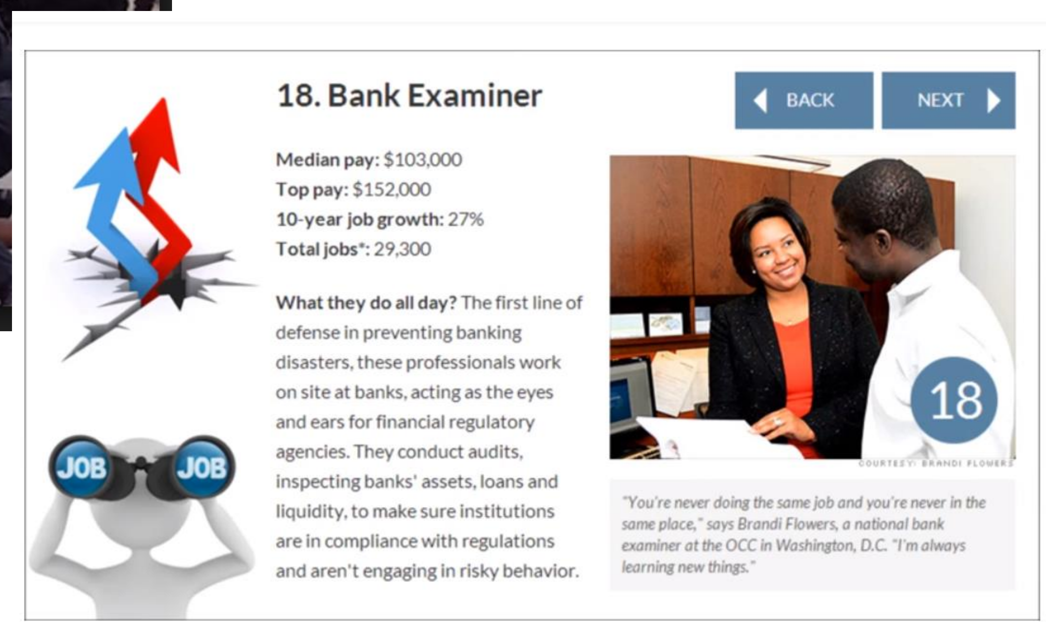


Northern Spotted Owl (*Strix occidentalis caurina*) at the Oregon Zoo, 2006

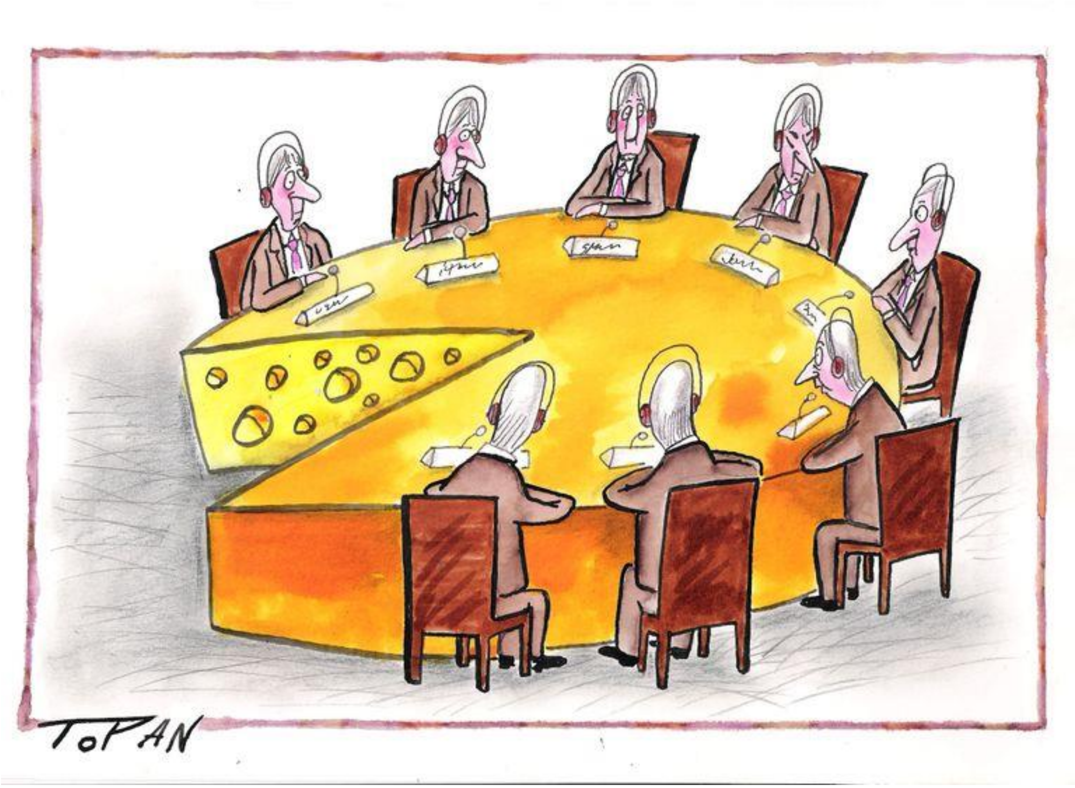
“Type 2 Conflict”

Procedural, Technical, or Methodological Conflicts





“Type 3 Conflict” Resource Conflict



- Resource allocation
- smaller, budget-strained agencies show sharper conflict

- Did the creation of the CFPB reduce conflict between the objectives of financial regulation; or did the reform just ‘alter the dimension’ of the conflict?

Supervision and Enforcement

Statutory Framework: Authority, Coordination and Information Sharing Requirements

-
  - This section investigates statutory framework and agency coordination requirements and arrangements in place between the CFPB and the Prudential Regulators
  - i.e., Dodd Frank Act coordination requirements, Memoranda of Understanding (MOUs) to organize and coordinate affairs between CFPB and the Prudential Regulators

Case Study 1: Clash of Cultures: Supervision vs. Enforcement

- CFPB's jurisdiction is broader when compared to Prudential Regulators (i.e., includes non-banks and non-financial institutions such as payday lenders and auto dealers, etc.)
- The traditional approach to supervision (bank examination) does not work at the CFPB (i.e., consumer-risk based approach, not institution-based approach)
- The CFPB inherited staff from the FTC and the Prudential Regulators- this caused a culture clash within the agency
  - Steven Antonakes, *Prepared Remarks of CFPB Deputy Director Steven Antonakes at The Exchequer Club,* Feb. 18 2015, http://www.consumerfinance.gov/newsroom/prepared-remarks-of-cfpb-deputy-director-steven-antonakes-at-the-exchequer-club/
  - Ronald L. Rubin,*The Identity Crisis at the Consumer Financial Protection Bureau,* Bloomberg, 2013; See also the Office of Inspector General , *The CFPB Should Reassess Its Approach to Integrating Enforcement Attorneys Into Examinations and Enhance Associated Safeguards*, 2013-AE-C-021 December 16, 2013 at 5 ("Many of the CFPB's early hires within the supervision and enforcement functions previously worked at the federal banking agencies of other regulatory agencies. These early hires brought a variety of viewpoints on how supervision and enforcement functions work together in executing the agency's supervision and enforcement mandates.")

Case Study 2: Enforcement: "Tough Cop on the Beat" Mantra

- The first cases of enforcement show an aggressive pattern.
- Agencies that are geared toward retail consumers or retail investor protection will tend to adopt a strategy to lean more heavily on enforcement(i.e., the FTC, the SEC)
- Number and amount of enforcement actions increased in earlier years through 2017 (declined in 2nd quarter of 2017)
- In the earlier stages (during the Obama presidency), the Prudential Regulators do not seem to attack CFPB's enforcement tactics as being too aggressive, but rather, seem to take part in enforcement actions. This might change in Trump presidency.
- Meanwhile, enforcement actions halt in 2018 when Republican appointee takes (interim) office at the CFPB
    - Jon Eisenberg, *We've Only Just Begun- Lessons From the CFPB's First 35 Enforcement Cases* (Mar. 5, 2014).
    - https://www.housingwire.com/articles/36010-cfpb-nearly-doubled-enforcement-actions-in-2015; https://www.enforcementwatch.com/2017/06/12/cfpb-enforcement-continues-to-rise-in-q1-2017-as-other-federal-and-state-enforcement-trend-downwards/ ; https://www.bna.com/cfpb-enforcement-actions-n73014461969/
    - https://www.cbsnews.com/news/consumer-financial-protection-bureau-enforcement-actions-halt-under-mulvaney/

Rulemaking: Lack of Collaboration and Externalized Conflict

- **Statutory Framework: Rulemaking Authority, Mandatory Consultation & the FSOC Veto**
  - This section investigates legislative framework and agency coordination requirements and arrangements in place between the CFPB and the Prudential Regulators
  - CFPB's rulemaking authority and consultation requirements
    - 12 U.S.C. § 5512(a) (Supp.V 2011), 12 U.S.C. § 5531(d); § 5536(a)(1)(B), 12 U.S.C. § 5481(12); 12 U.S.C. § 5481 (6). 12 U.S.C. § 5512 (b) (2) (B).

Case Study 3: The Murky Case of Overdraft Rules

- In 2013-14 the CFPB initiated work for new rules on overdraft programs
- The rules faced stiff resistance from the financial industry
- Seemed to be in dissonance with OCC in a brief misstep in 2015
- Unclear if CFPB did enough coordination with Prudential Regulator
- No indication the rules will move forward (dropped from agenda since Mulvaney)
  - CFPB Study of Overdraft Programs: A White Paper of Initial Findings (June 2013)
  - Financial Services Roundtable, Statement of the Financial Services Roundtable on the Impact of Dodd-Frank, For Submission to the Committee on Financial Services, U.S.House of Representatives, Jul. 19, 2012. At 5.(Available at http://financialservices.house.gov/uploadedfiles/hhrg-112-ba15-wstate-roundtable-20120628.pdf)
  - Rachel Witkowski, *OCC Mistake Sparks Three-Week Panic on Overdraft Rules,* March 13, 2015, American Banker.
  - https://www.cutimes.com/2018/05/11/cfpb-moves-overdraft-rules-to-back-burner/?slreturn=20180906005714

Case Study 4: The OCC's Opposition to the Arbitration Rules

- OCC Comptroller Keith A. Noreika's open dissent to CFPB's arbitration rules
- CFPB concluded that it did not find any statistically significant evidence of increases in the cost of consumer credit associated with banning arbitration clauses in credit card contracts. (Arbitration Rules)
- However, the OCC, reviewing the same data, found "a strong probability of a significant increase in the cost of credit cards as a result of eliminating mandatory arbitration clauses."
  - https://occ.gov/news-issuances/news-releases/2017/nr-occ-2017-86.html;
  - https://www.consumerfinancemonitor.com/2017/09/29/in-a-stunning-rebuke-to-cfpb-occ-finds-arbitration-rule-will-significantly-increase-cost-of-consumer-credit/

Budget and Independence Case Study 5: Budget Cuts and Demotion of the Agency

- The CFPB was designed to be independent, (housed in the Fed, budget from the Fed and not from Congressional appropriations)
- However, the political appointee can diminish independence in terms of funding and political status of the agency

  - https://www.politico.com/story/2018/01/18/mulvaney-funding-consumer-bureau-cordray-345495

Conclusion

- The case studies demonstrate how the different types of conflicts between prudential regulation and consumer protection failed resolve even after the creation of the CFPB
- The conflicts were either externalized (open dissent from the OCC) or were embedded within the culture of the CFPB
- External politics will continue to influence how conflicts are resolved

Questions & Comments
Thank you.

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"The Assessment of Financial Literacy: the Case of Europe"

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Abstract

The study starts from the definition of financial literacy and its components, to identify the criteria that an assessment methodology should have to properly measure it. In the second part an empirical analysis of the degree of financial literacy of the adult population in several European countries (France, Germany, Italy, the UK, Spain, etc.) is used to highlight similarities and to stress differences between different countries. Results show how the availability of 50 items allows to differentiate the financial literacy of individuals addressing different areas of knowledge (e.g. loans, investments, money management). The use of money (e.g. credit cards, debit cards, cash) is the area of knowledge where individuals seem to be more knowledgeable and confident. On the opposite investment and investment products (e.g. stock, bonds) represent a weak points with average scores to different questions that are dramatically low.

Keywords: Financial literacy, Financial knowledge, Consumer Finance.

1. Introduction

The interest on financial literacy and the awareness about its potential in protecting consumers from doing mistakes or taking wrong financial decisions have grown by the time. Several countries developed national strategies to promote financial literacy by financial education, with the aim to assess the current financial literacy and to plan for initiative devoted to develop well-informed and aware financial consumers. Those efforts from Governments, policy makers, and other institutions (e.g. OECD, World Bank, etc) require reliable measures of financial literacy to estimate a baseline about the degree of knowledge of a certain target (e.g. young, adults, workers, etc.), plan for financial education curricula, and assess the effectiveness of such initiatives.

This paper use a review of the literature to summarizes some reference points about the definition and the measurement of financial literacy, with the aim to show how financial literacy's measures based on a reasonable number of items that take into account different areas of knowledge can provide a more clear understanding about the financial literacy of a population than measures based on just few items.

The paper is organized in two parts. The first one is focused on the definition of financial literacy and its measurement. The second part analyzes data from different European countries to assess the financial literacy of the adult populations.

2. A Definition of Financial Literacy: a Literature Review

The assessment of financial literacy requires a clear definition about what financial literacy means. In one of the first studies on financial literacy Noctor, Stoney and Stradling (1992) refer to financial literacy as "*the ability to make informed judgements and to make effective decisions regarding the use and management of money*". This definition starts from the ability (competence) but makes a step forward pointing out how financial literacy should be related to taking financial decisions. If the word knowledge is not mentioned in this definition, it can be argued that it is included by definition. If knowledge and competence are different concepts a hierarchic connection between them can be stated due to the fact that knowledge represents a sort of pre-requisite to develop competence, meaning for competence the ability to apply knowledge on practical issues as to solve a problem or take a decision. Hence, if it is possible to have knowledge and not be able to apply it (competence), the opposite is not, due to the fact that people can not apply knowledge they do not have. It follows that, including competence, the definition of Noctor et al. (1992) assumes the relevance of knowledge too and includes all the three basic elements of financial literacy: knowledge, competence and the use of money.

Similar definitions, based on the concept of 'ability', were used by Mandell (2008) for which "*financial literacy refers to the ability of consumers to make financial decision in their own best short and long term interest*" and Servon and Kaestner (2008) for which "*Financial literacy refers to a person's ability to understand and make use of financial concepts".* Within this first set of definitions, the one of Noctor et al. (1992) is more close to a concept of financial literacy as a decision making process. This definition was used in several other studies such as Schagen and Lines (1996), Beal and Delpachitra (2003), ANZ (2008), Atkinson and Kempson (2008) and Worthington (2013). In their study Schagen and Lines (1996) tried to figure out which are the abilities related to the 'use of money' that have to be considered, arriving to the conclusion that (1) the understanding of key concepts central to money management and (2) a working knowledge of financial institutions, systems and services are the main abilities to develop in order to be financially literate. Even in Bowen (2003) there is an attempt to specify the skills within the "use of money". The author talks about financial knowledge *"as the understanding of key financial terms and concepts needed to function daily in American society*", saying that *"it includes knowledge about items related to banking-checking and savings, auto-life-health and homeowners insurance, using credit, taxes, and investing*".

Financial literacy as "*the ability to read, analyze, manage and communicate about the personal financial conditions that affect material wellbeing*" is the definition from Vitt et al. (2000). Referring to 'reading', 'analysing' and 'managing', the authors develop the concept of 'competence' in specific areas, all related with the use of the information. The key role of information as the input of a financial decision making process is quite evident in Mason and Wilson (2000). For these authors financial literacy is "*an individual's ability to obtain, understand and evaluate the relevant information necessary to make decisions with an awareness of the likely financial consequences*". The words 'ability' and 'understand' recall 'competence' and 'knowledge' even if the need of an access to financial information introduces a new issue and highlight how much knowledge and competences risk to be meaningless in a scenario where information are not available. The same issue is stressed by Johnson and Sherraden (2006) that note how the application of knowledge and competence requires the access to financial information and financial institutions.

The need to analyze financial literacy in a decision making framework - implicit in the definition of Vitt et al. (2000) - is even more clear in Danes and Haberman (2007) where "*financial literacy is the ability to interpret, communicate, compute, develop independent judgment, and take actions resulting from those processes in order to thrive in our complex financial world*".

If financial literacy should be related to both knowledge and competence, some studies paid more attention to 'knowledge', as Kim (2001) did reporting that "*financial literacy is a basic knowledge that people need in order to survive in a modern society*". Similarly the FINRA (2003) adopted a definition of financial literacy as "*the understanding* [knowledge] *ordinary investors have of market principles, instruments, organizations and regulations*". The NCEE (2005) also addresses a pivotal role of knowledge in its definition of financial literacy as "*familiarity with basic economic principles, knowledge about the U.S. economy, and understanding of some key economic terms*". Lusardi and Tufano (2009) defined financial literacy as "*familiarity with the most basic economic concepts needed to make sensible saving and investment decisions*" and Almenberg and Widmark (2011) refer to financial literacy as "*familiarity with basic financial concepts and products*". Again, Lusardi (2008) talks about financial literacy as "*the knowledge of basic financial concepts*".

Definitions of financial literacy merely shaped around financial knowledge and, on a general base, studies that use financial knowledge as a proxy of financial literacy are typically due to the need to fill the gap between available data - usually on financial knowledge - and the information needed, that involve financial skills and competences too. If the need to cope the lack of data by using financial knowledge for measuring financial literacy is reasonable, a rearrangement of the definition of financial literacy itself that ignores financial abilities and refers simply to financial knowledge is not. Reshaping financial literacy to make it fit with data can have positive effects on the consistency of results in empirical analysis, but risks to extend conclusions from knowledge to competence assuming that a broader knowledge involves broader competence, even when people could be confident in answering to a test about knowledge but not as much confident in taking a financial decision. So, a definition of financial literacy should refer to both knowledge and competence (on financial issues), keeping in mind that financial literacy should be assessed within a financial decision process, even if difficulties in measuring all these aspects can request the use of proxies.

The need to stress the different roles of knowledge and ability in financial literacy is evident in different studies. Moore (2003) highlights how individuals can be considered financially literate if they are competent and can demonstrate they used knowledge they have learned. Huston (2010), in a study that reviewed more than 70 studies, arrived to the conclusion that "*financial literacy consists of both knowledge and application* [ability] *of human capital specific to personal finance*". Knowledge and competences are included in a definition as different concepts even by the Jump$tart Coalition (2007) and the US FLEC - Financial Literacy and Education Commission - (2009) that defined financial literacy as "*the ability to use knowledge and skills* [competence] *to manage financial resources* [money] *effectively for a lifetime of financial well-being*"[1]. This last definition clearly includes all the three key elements of financial literacy (knowledge, competence and the use of money), matching with the core meaning of these topics. If financial literacy is related with the achievement of financial goals (the 'use of money'), the awareness that different goals requires different financial knowledge and abilities were included in a definition of financial literacy by Remund (2010) that takes into account both the short-term and the long-term perspective of a the decision making process. In his study "*financial literacy is a measure of the degree to which one understand key financial concepts* [knowledge] *and possesses the ability and confidence to manage personal finances* [money] *through appropriate, short-term decision-making and sound, long-range financial planning, while mindful of life events and changing economic conditions*".

[1] The same definition will be used two years later by Hung, Parker and Yoong (2009) and Murphy (2013).

3. The Assessment of Financial Literacy

The assessment of financial literacy concerns the process by which the degree of knowledge and abilities of an individual (or a group of individuals) on a set of financial issues is estimated by items according to some criteria and by the application of a methodology.

Schmeiser and Seligman (2013), in a study on the measurement of financial literacy, highlighted how the measurement of financial literacy is still in its infancy and there is not yet standardized instruments for this. To understand how to measure financial literacy we need to analyze different issues and provide answers to some questions.

The quality of a measure of financial literacy depends on the aim of the measure and its application. Hence, the first issue to take into account is the reason why the measurement is developed. In order to develop a measure of financial literacy we need to know **why the measure is needed and how it will be applied**. When the aim of a study is to provide an overview of financial literacy, stressing how much people know about finance or analyzing if financial literacy is related with some non-financial outcomes (e.g. education, stress, risky behaviors, etc.), the inclusion in the study of a wide range of financial topics is meaningful. The will to take into account different aspects of the financial preparedness of an individual is coherent with the analysis of very different topics belonging to areas as money management, borrowing, saving and investment, insurance, etc. This is reasonable specially when the target of a study is quite large including people that differ each others in terms of financial needs, previous experiences in finance and different social backgrounds. The same measure of financial literacy is no more reliable if applied in a study with the aim to analyze a single behavior on a specific target of recipients. For instance, the topics to be addressed in a study on the role of financial literacy on the use of credit cards within the youths will differ dramatically from a study which goal is to summarize the big picture about financial knowledge on a large population. If credit cards can be used as a payment instrument and/or a borrowing facility, financial literacy should be referred to money management, and borrowing, but not even to insurance, and planning due to the fact these latter topics do not have a logical connection with the object of the study. So, the same measure of financial literacy, referred to the knowledge of different financial areas, well fits in one case (overview of financial literacy) but does not fit anymore in another case (use of credit cards). Of course the opposite is even true, because a measure developed to analyze a specific financial behavior, as the use of credit cards, should not be used to measure financial literacy in general terms, due to the fact that a measure built only on money management, and borrowing is taking into account only a part of what can be relevant on finance. This approach seems to be coherent with the recommendations provided by the Financial Service Authority in the UK (FSA 2005) about the measuring of financial literacy. In the conclusions of the study it is reported how an overall scale based on knowledge and skills in different financial areas could be inappropriate, supporting the view of measures that should be limited to some selected topics.

About the topics to be taken into account building a measure of financial literacy there is even to think about the **degree of difficulty** tested by the measure, that depends from the aim of the study too. Some studies will request to test more advanced knowledge and abilities, in the meanwhile in other cases just the knowledge of basic financial principles can be enough. On this issue Lusardi (2009), in a study where financial literacy is analysed as a tool for informed consumer choice, highlights how basic concepts are not enough to take a financial decisions. Thinking to a saving and investment decision, it can not be competently made simply applying fundamental financial concepts (that are however essential), but the awareness of the relationship between risk and return, the knowledge about how bonds, stocks, and mutual funds work, and basic asset pricing skills are needed. Again, the need to differentiate within knowledge and abilities is stressed by Huston (2011) that suggests to measure separately knowledge, ability and behaviors and connect the three results by a scoring grid.

If the above mentioned criteria suggest to measure "what is relevant to measure", before thinking about "how to do it", it is useful to set some broad criteria for a scoring system on financial literacy. Results from previous studies[2] agree that a measure of financial literacy should be **relevant**, **simple** and **comprehensible**, with the **ability to differentiate** between different people. A measure of financial literacy is relevant if it is bases on issues that show a connection with the needs of financial knowledge of the recipients. It will be simple and comprehensible if it will be possible to explain the outcomes to a non-technical audience, while the ability to differentiate between different people concerns the need to address different scores to people with different knowledge and abilities, in order to permit comparison across people.

Nicolini (2019) reviewed around 80 studies to show how different measures of financial literacy were developed by the time. Results show how almost all the available options to measure financial literacy have been used: self-assessment questions, answers to single questions as self-standing

[2] FSA (2005), Lusardi and Mitchell (2014), Atkinson and Kempson (2008).

measures of financial literacy, sum of the correct answers to a set of questions or looking at this measures in order to develop indices of financial literacy that discriminate people that correctly answered at least at a certain number of questions or that were able to provide the correct answer to all of them. In the same study there are even evidence about the **topics** taken into account. Almost three on four of the studies (55 on 78) included basic principles as a reference point or as part of a bigger set of topics in the assessment of financial literacy. The **compound interest**, the **risk diversification** and **inflation** are the most frequent topics. The broad areas of application of such general items make them perfectly match with financial literacy measures developed to be applied in studies that try to provide a big picture about financial literacy in a wide population. In most of the cases (41 on 55) these topics represent the only ones used to assess financial literacy, while in the others (14 on 55) they are used with items that can be referred to specific topics (e.g. money management, saving and investment, etc.). When a **specific area of knowledge** has been taken into account, Saving and Investments is the one that received more attention. More than twenty studies included questions on saving and investments (23 on 78). If most of the time this has not been the only area of interest, in some cases (10 on 23) it has been the focus of the analysis or it represented the only topic that has been matched with items on general issues.

4. Financial Literacy in Europe

This section presents the results from an empirical study on the financial literacy in Europe. The first sub-paragraph describes the survey used to collect data of the data and the structure of the questionnaire. The second one presents the results of the survey comparing the degree of financial literacy between different European countries.

4.1 The Data

The data were provided by the Consumer Finance Research Center (CFRC): a research center promoted by a network of academics, wit the aim to do research and develop studies on consumer finance by linking together academics, financial authorities, consumers unions and NGOs[3]. From 2014 to 2018 the CFRC promoted a set of national surveys, targeting the adults population (18+ years old), with the aim to measure the degree of financial literacy in Europe. The survey were replicated in different countries (France, Germany, Italy, Spain, Sweden, the UK) following the same criteria and using the same questionnaire, in order to collect data to be used both for a national

[3] For details about the CFRC visit www.consumer-finance.org.

study and an international comparison. The questionnaire was specifically developed to analyze financial literacy and financial behaviors of financial consumers in European countries. The structure and the contents of the questionnaire were released by the experts of the CFRC taking care of previous studies and customizing the questions to make them fit with the peculiarities of the specific country (e.g. financial products and services available, legal framework, features of the welfare system, etc.).

The questionnaire is organized in three sections.
The first section gathers information about the **socio-demographic characteristics** of the respondents. Questions concern the age, gender, education, marital status, income, and other personal information useful to identify the personal profile of the respondent.

The section number two is made by **50 multiple choice questions on financial literacy**. Questions are organized in ten groups of five questions each. Each group analyzes financial knowledge and financial behaviors on a specific area of contents. The ten areas are the following: Interest rates, Inflation, Mortgages, Investments, Bonds, Bank accounts, Payments, Savings and Investments, Loans and Debts, and Retirement and Planning.
For every area, the five questions have been developed following the same principles. Questions are differentiated by the difficulty of the topic. The first two questions are the most easy ones. Questions 3 and 4 stress more advanced topic, while question 5 is the most difficult. Difficulty is mainly referred to the sophistication of the financial content, while other technical sources of difficulty have been minimized. So, the length of the question (number of words) does not differ so much between questions, the need of mathematical skills has been reduced to the basic operations, and the use of jargon was limited. In that manner the chance that a respondent did not answer right, even being knowledgeable of the content, due to the additional difficulty related to the technicalities of the question should be avoided. The standardization of the test involved even the number of options in each question. With the only exception of the 5 questions frequently used in previous surveys (the so called "Lusardi-Mitchell" questions) - that are part of the questionnaire - all the questions have the same number of options, equal to three. At the same time, two further options are available: the "do not know" and the "prefer not to say" options to avoid the risk to change luck for knowledge. This second section of the questionnaire provides **50 items to be used to build financial literacy measures**. A so generous number of items was intentionally included in the questionnaire in order to have the chance to develop and compare several measures of financial literacy. For instance, (1) a quite comprehensive measure made by the sum of correct answers to all

the 50 questions, (2) a measure that focuses on a specific area of contents and that use only the five questions of a group, or (3) a measure that use only the most difficult questions from each area, are only few of the available options to develop financial literacy scores.

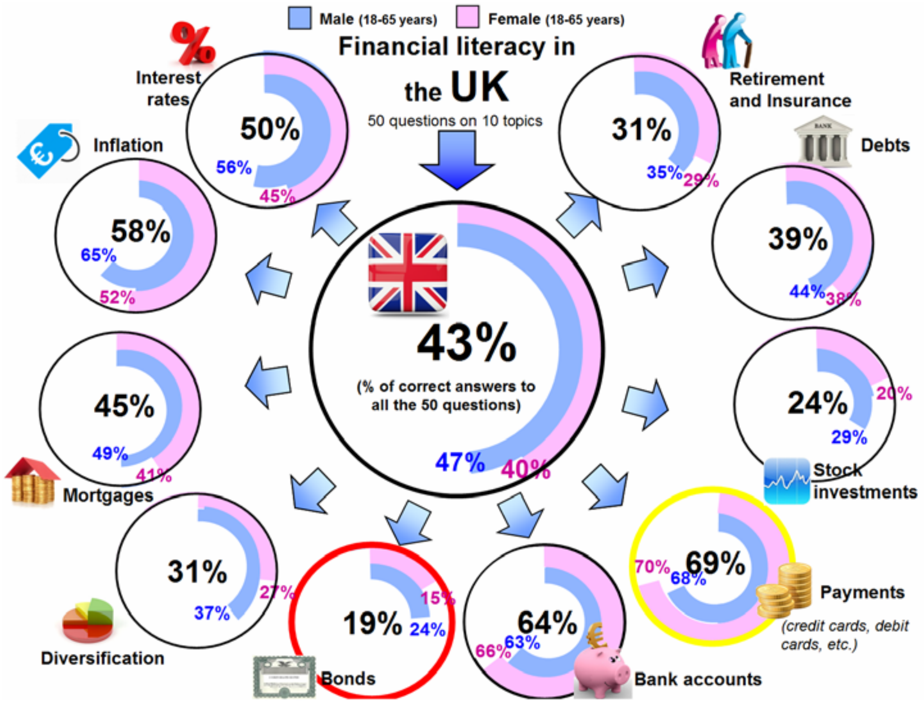
The third section of the questionnaire investigates **financial behaviors and attitudes** on several financial areas. The use of banks accounts, the preferences between difference payments options (e.g. cash, credit cards, etc.) when different options are available, or the preferences for bond or stocks, are few of the financial behaviors discussed in the questionnaire.

4.2 The Degree of Financial Literacy in Europe

The availability of 50 items on financial literacy gives the chance to assess financial literacy much more in details than several previous studies. The 50 items are made by 10 groups of five items each, where the five items differ in term of difficulty. The ten areas of knowledge investigated by those items are Interest rates, Inflation, Mortgages, Diversification, Bonds, Bank accounts, Payments, Stock Investments, Debts, and Retirement and Insurance. The first five areas represent an extension of the so called "big five" questions originally developed by Lusardi and Mitchell and replicated in several surveys. Each of the big five represents the first question of the first five set of questions. In each of them additional four question were added to complete the set. The remaining five sets were chosen to address different areas of knowledge and include both daily decisions (e.g. payments, bank account management) and long term decisions (e.g. Stock investments, Retirement and Insurance). From the 50 items were developed different financial literacy measures. The first one is made by the sum of correct answers to the full set of items, showing a range from zero to fifty. Other ten topic-specific measures counted the number of correct answers to the five questions of each set. In that manner is possible to use a well diversified measure and different specific measures. Moreover is possible to identify for which topic a more severe lack of knowledge exist and which are the areas where individuals are more knowledgeable.

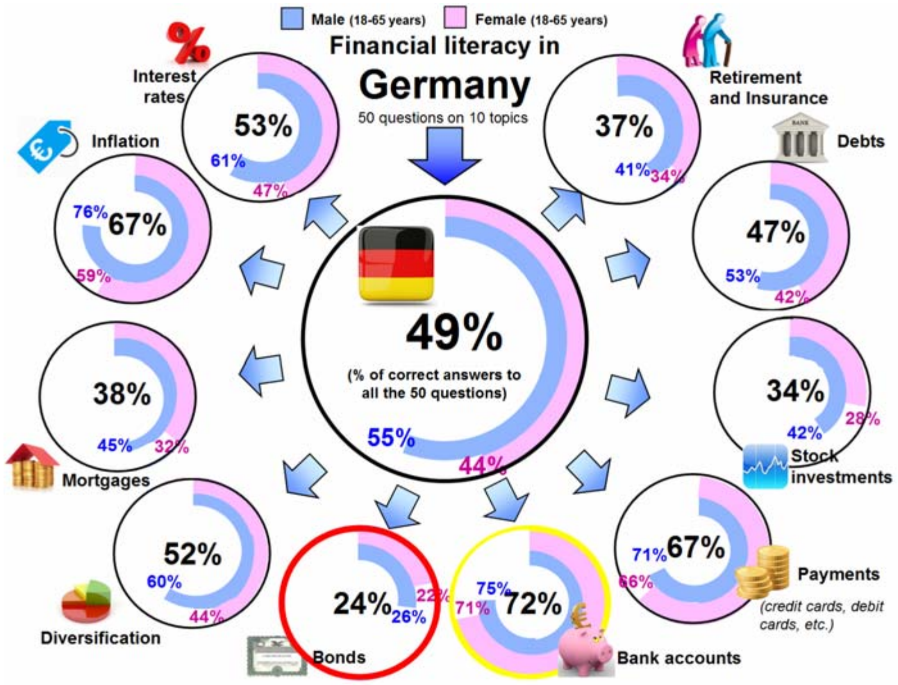
Infographics of the results for the five European countries included in this study (France, Germany, Italy, Spain, Sweden, the UK) are reported in the following pictures.

Figure 1 - Financial literacy in the UK



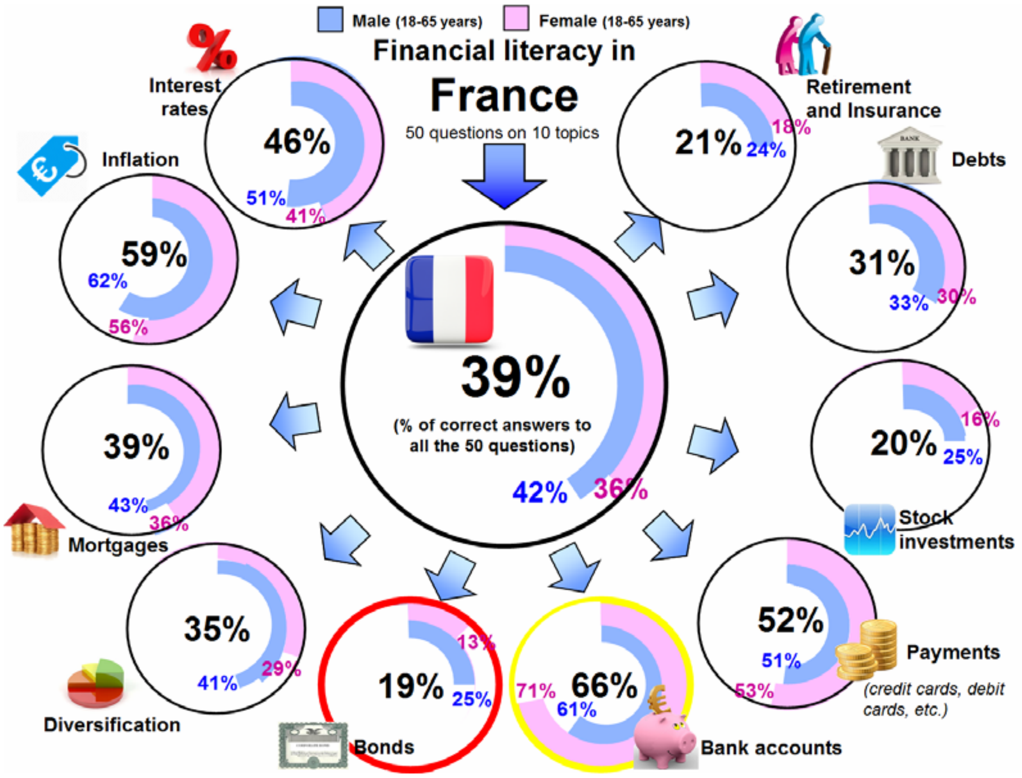
Source: Data from CRFC (2016)

Figure 2 - Financial literacy in Germany



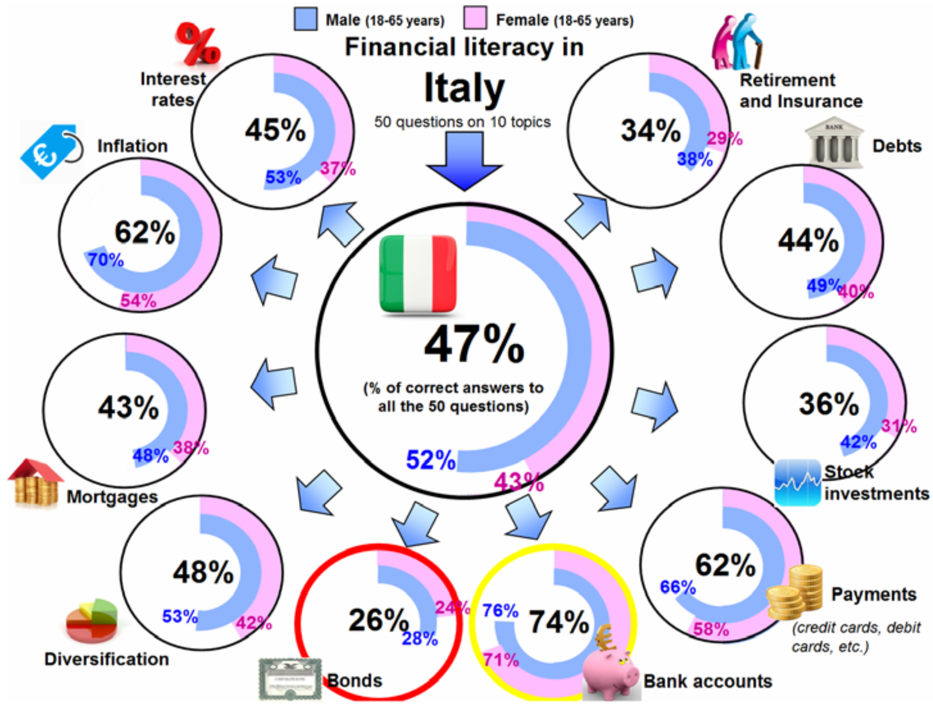
Source: Data from CRFC (2017)

Figure 3 - Financial literacy in France



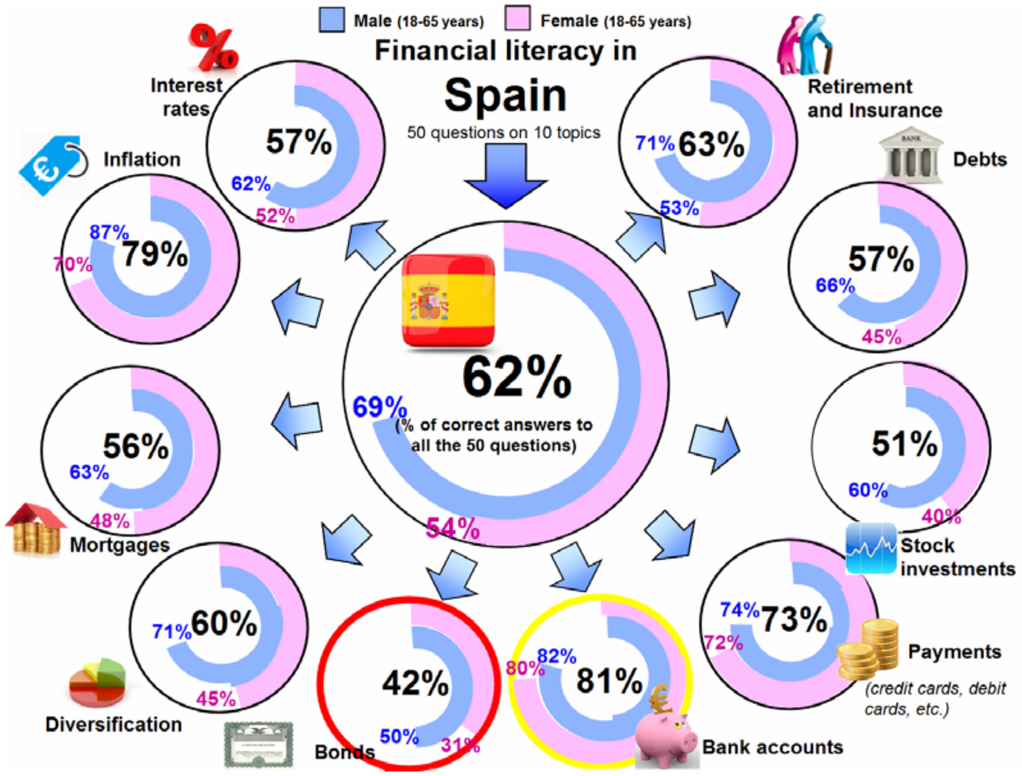
Source: Data from CRFC (2017)

Figure 4 - Financial literacy in Italy



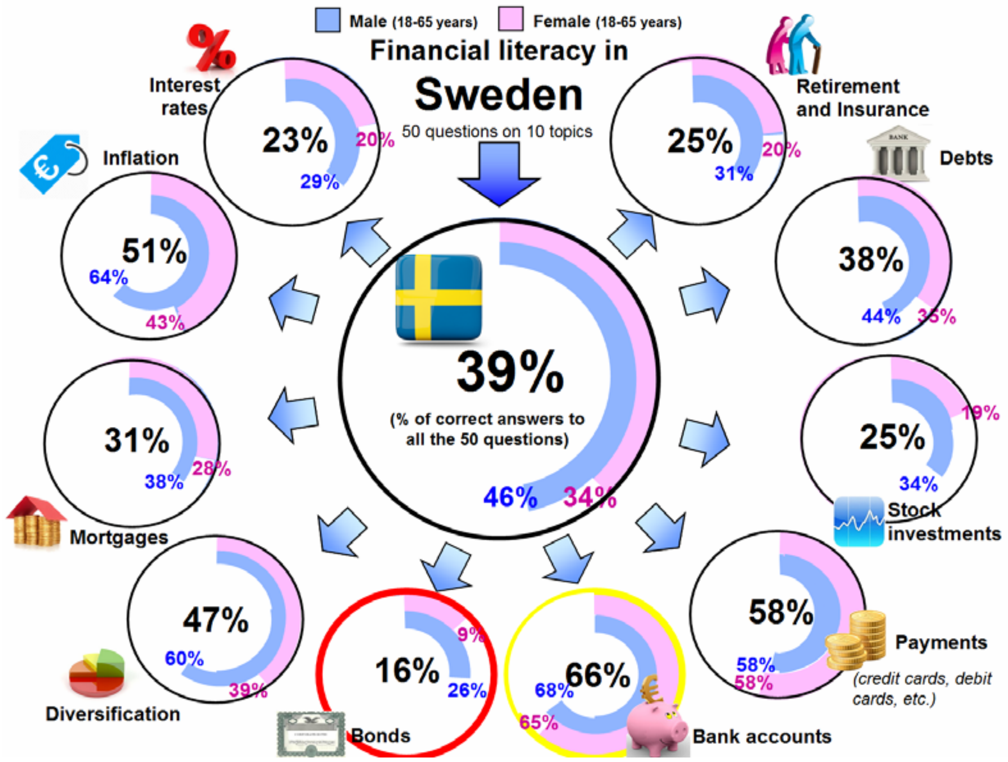
Source: Data from CRFC (2015)

Figure 5 - Financial literacy in Spain



Source: Data from CRFC (2015)

Figure 6 - Financial literacy in Sweden



Source: Data from CRFC (2015)

Looking at the overall score - reported in the centre of each graph and made by the sum of correct answers to all the 50 items - Spain seems to be the most knowledgeable country, but the results form the Spanish sample risk to be misleading due to the small sample size and some other technical issues[4]. Referring to the other five countries Germany is the one with the highest score (49% of correct answers on average) followed by Italy (47%) and the UK (43%). France and Sweden show average scores (39% for both of them) that are 10 points below the German one. Regardless the differences between countries, results are far to be encouraging: on average the European citizen of the sample fail more than half of the questions. However, the hypothesis that each respondents required to be skilled in each of the ten areas of knowledge can not be reasonable. For instance, people without debts should be less knowledgeable about loans just because they have never need to borrow, while people in debt could know less about investments because they do not have saving to be managed. At the same time younger generations can be less informed about pension planning just because they are still dealing with other financial needs and are not planning for future yet. Hence, the breakdown of the overall score into the ten topic-based scores can be more informative and reliable. Looking at the area of knowledge where on average individuals scored the worst, It is clear how knowledge about Bonds is unanimously the most critical area. It represents the area with the lowest score in every country of the sample. In Germany the average percentage of correct answers to the five questions on bonds (24%) is less than 25% (one on four). This result is essentially the same in Italy (26%), while the percentage drops to 19% in France and the UK, reaching a minimum for Sweden (16%). Such a low average score is not limited to bonds, but seems to involve the investment areas generally speaking. Stock investments show results that in some cases are just a bit higher than the knowledge on bonds. The average number of correct answers to the five questions on stocks is 34% in Germany and 36% in Italy, while it is 24% in the UK, 25% in Sweden, and only 20% in France.

On the other side the area of knowledge with the best scores is Bank account on 4 out of the six countries (Italy, France, Spain, and Sweden) and Payments tools for the other two (Germany, and the UK). Such difference between countries is balance by the fact that in countries where knowledge on Bank accounts is the highest, the financial literacy score on knowledge is the second best score, while countries that best perform on Payment tools show the second best result on Bank accounts. The percentages of correct answers to the five questions on Bank accounts or the five

[4] The average sample size for other countries is 500 observation each. The sample for Spain is made by 148 observations. Moreover the sample over-represents respondents from Barcelona. These two potential biases recommend to do not consider the Spanish sample as much reliable than others and to do not compare results from Spain with results from other countries.

question on Payments tools goes beyond 70% more than once (e.g. Italy-Bank accounts 74%; Germany-Bank accounts 72%) and are systematically greater than 60%.

Looking at other topic-based indices, the Diversification index of financial literacy (based on five question on the diversification of investments) Germany (52%) and Italy (48%) still score pretty high, even if in this case the result from Sweden (47%) is quite near. In the meantime this is an area of knowledge quite critical in the UK (31%) and France (35). The need to address financial literacy looking at specific domains of knowledge is evident switching from the Diversification index to the Mortgage index. In this case the Britons are the most knowledgeable on average (45%) scoring better than Italy (43%), France (39%) and Germany (38%).

Knowledge on Retirement and Insurance is another area of knowledge where financial literacy seems to be quite low. Results from Germany are still the best, but the average number of correct answers to the five questions of this areas are below 40% anyway (Germany 37%). The scenario is not positive even in Italy (34%) and the UK (31%) but becomes even more negative in Sweden (25%) and France (21%). For the latter two countries, the presence of a strong and efficient welfare system can (partially) explains why people in Sweden tend to know less than others about retirements, assuming that they do not need to play an active role in planning their retirement age, while the lack of knowledge about retirements and insurance is not explained by similar circumstance for France.

A final comment about the financial literacy in Europe concerns the "**gender gap**". Such phenomenon is not new and there are a lot of studies from different countries around the world that show how on average female tend to be less knowledgeable than male about finance. Unfortunately this result is confirmed by all the cases of this study. On the overall score as in the topic-based score, female score on average less then male in every area of knowledge an in every country. If sometimes the gap is very small (e.g. France-Debt: Male 32% Vs Female 30%; Spain-Payments; Male 74% Vs Female 72%) in other cases can be wider than 10 percentage points (e.g. Sweden-Bonds: Male 26% Vs Female 9%; Italy-Inflation: Male 70% Vs Female 54%). There are few exceptions - that could be referred as a "reverse gender gap"- with female than score on average better than male. It happens in France (Payments: Male 51% Vs Female 53%; Bank accounts: Male 61% Vs Female 71%) and the UK (Payments: Male 68% Vs Female 70%; Bank accounts: Male 63% Vs Female 66%). Such results suggest how female tend to develop comparable degree of financial knowledge when knowledge is related with products and services used in an iterative manners (e.g. credit cards, bank accounts, etc.) where probably a learning by doing effect is possible. Of course further investigation are required to achieve final conclusions. However it is interesting how results from previous studies did not show any example of "reverse gender gap". Such result supports the hypothesis that an assessment of financial literacy based on a small number of items risk to be misleading or not able to provide the right interpretation of a complex phenomenon.

5. Conclusions

This paper investigated the financial literacy in Europe using data from different European countries. The available definitions of financial literacy stress the need to address financial knowledge, financial skills, and financial attitude to measure financial literacy. In the meantime a measure that relies only on financial knowledge is not by definition incomplete. The lack of knowledge risen from the empirical analysis in Europe can be considered the evidence of a lack of financial literacy, due to the fact that financial skills represent the ability to apply financial knowledge in order to take a financial decision. If people can not apply knowledge they do not have, a low degree of financial knowledge can be interpreted as a low degree of financial literacy. Of course, in case of a fully knowledgeable population the assumption that such population is also financial literate could fail if such knowledge is not properly applied in taking a financial decisions (e.g. lack of financial skills or financial attitude).

The availability of rich data from different national surveys allowed to assess the financial literacy much more in details than other studies. If on average people failed more than fifty percent of the questions, the analysis of results focused on single areas of knowledge shows that there are some topics - such payments tools and the management of bank account - where individuals tend to score much better than others, while investments related topics (e.g. bonds, stocks, diversification) are the ones where the average score decrease to minimum levels. Results confirm the existence of a "gender gap", with female respondents that tend to score lower than males in every country. If this result confirms evidence from different previous studies, the analysis of single areas of contents show how that gender gap is much smaller or disappear in certain domains (e.g. payments tools and bank accounts), up to reverse the gap in some cases.

Results from this study strongly support the hypothesis that a reliable measure of financial literacy can not be based on a small number of items. That is particularly true when a financial literacy measure is used to assess the effectiveness of financial education curricula or other initiatives devoted to increase consumers' financial literacy.

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Appendix

CFCR data - Descriptive statistics

UK		
	#	%
Age		
18-24	107	17.70%
25-30	90	14.90%
31-35	71	11.70%
36-40	60	9.90%
41-45	42	6.90%
46-50	48	7.90%
51-55	55	9.10%
56-60	42	6.90%
60-65	32	5.30%
65+	58	9.60%
Gender		
Male	280	46.10%
Female	316	52.10%
n.a.	*11*	*1.80%*
Income (Monthly)		
< £500	94	14.00%
£500 <£750	64	9.50%
£750 <£1,000	57	8.50%
£1,000 < £1,500	103	15.30%
£1,500 < £2,000	74	11.00%
£2,000 <£3,000	86	12.80%
£3,000< £4,000	35	5.20%
> £4,000	28	4.20%
n.a.	66	9.80%
Total	**607**	**100%**

Germany		
	#	%
Age		
18-24	48	9.10%
25-30	74	14.00%
31-35	64	12.10%
36-40	46	8.70%
41-45	30	5.70%
46-50	35	6.60%
51-55	47	8.90%
56-60	31	5.90%
60-65	44	8.30%
65+	110	20.80%
Gender		
Male	244	45.80%
Female	275	51.60%
n.a.	*14*	2.60%
Income (Monthly)		
< €500	47	8.40%
€500 <€750	29	5.20%
€750 <€1,000	84	14.90%
€1,000 < €1,500	104	18.50%
€1,500 < €2,000	70	12.50%
€2,000 <€3,000	28	5.00%
€3,000< €4,000	118	21.00%
> €4,000	24	4.30%
n.a.	*29*	5.20%
Total	**533**	**100%**

France		
	#	%
Age		
18-24	67	13.00%
25-30	64	12.40%
31-35	43	8.30%
36-40	53	10.30%
41-45	50	9.70%
46-50	33	6.40%
51-55	44	8.50%
56-60	33	6.40%
60-65	46	8.90%
65+	84	16.20%
Gender		
Male	243	47.00%
Female	263	50.90%
n.a.	*11*	2.10%
Income (Monthly)		
< €500	48	9.10%
€500 <€750	45	8.50%
€750 <€1,000	67	12.60%
€1,000 < €1,500	126	23.80%
€1,500 < €2,000	86	16.20%
€2,000 <€3,000	74	14.00%
€3,000< €4,000	44	8.30%
> €4,000	18	3.40%
n.a.	11	2.10%
Total	**519**	**100%**

Italy		
	#	**%**
Age		
18-24	49	9.70%
25-30	45	8.90%
31-35	43	8.50%
36-40	49	9.70%
41-45	55	10.90%
46-50	56	11.10%
51-55	51	10.10%
56-60	50	9.90%
60-65	41	8.20%
65+	64	12.70%
Gender		
1 - Male	247	49.20%
0 - Female	255	50.80%
n.a.	*0*	0.00%
Income (Monthly)		
< €500	65	12.90%
€500 <€750	25	5.00%
€750 <€1,000	42	8.30%
€1,000 < €1,500	108	21.50%
€1,500 < €2,000	84	16.70%
€2,000 <€3,000	65	12.90%
€3,000< €4,000	1	0.20%
> €4,000	39	7.80%
n.a.	74	14.70%
Total	**503**	**100%**

Spain		
	#	**%**
Age		
18-24	8	5.40%
25-30	10	6.80%
31-35	23	15.60%
36-40	26	17.70%
41-45	19	12.90%
46-50	8	5.40%
51-55	19	12.90%
56-60	11	7.50%
60-65	11	7.50%
65+	12	8.20%
Gender		
Male	85	57.40%
Female	62	41.90%
n.a.	*1*	0.70%
Income		
< €500	14	9.50%
€500 <€750	4	1.40%
€750 <€1,000	9	3.00%
€1,000 < €1,500	29	9.80%
€1,500 < €2,000	29	9.80%
€2,000 <€3,000	35	11.80%
€3,000< €4,000	16	5.40%
> €4,000	4	1.40%
n.a.	8	2.70%
Total	**148**	**100%**

Sweden		
	#	**%**
Age		
18-24	90	14.80%
25-30	85	14.00%
31-35	71	11.70%
36-40	59	9.70%
41-45	72	11.80%
46-50	68	11.20%
51-55	71	11.70%
56-60	43	7.10%
60-65	45	7.40%
65+	4	0.70%
Gender		
Male	269	44.20%
Female	305	50.10%
n.a.	*35*	5.70%
Income (Monthly)*		
<8.000 SEK	89	14.00%
8,000 <15,000 SEK	68	10.70%
8,000 <15,000 SEK	42	6.60%
15,000 < 22,000 SEK	83	13.10%
22,000 <30,000 SEK	131	20.60%
30,000 <38,000 SEK	84	13.20%
38,000 <45,000 SEK	19	3.00%
>45,000 SEK	25	4.00%
n.a.	*95*	*14.90%*
Total	**636**	**100%**

* 1 SEK ("Swedish Krona") = 0.104876 EUR
(10,000 SEK = 1,048.76 EUR)
Source: http://www.x-rates.com
(Exchange rate on Friday, October 6th 2017)

THE ROLE OF FINTECH DEVELOPMENT IN FINANCIAL INCLUSION IN ASIAN COUNTRIES[1]

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ABSTRACT

Fintech which is abbreviation for financial technology, is an industry that uses technology to provide financial services and make financial systems more efficient. Fintech plays an important role in improving access to financial services for all, at the same time, promoting financial inclusion. Financial inclusion represent for availability of financial system which is straightforward to access to useful financial products and services by everyone at reasonable prices. The study examined the relationship between Fintech development and financial inclusion in 45 Asian countries. Using the GMM regression technique, the paper confirms the correlation between Fintech development and financial inclusion through the enhancement of Fintech infrastructure and Fintech ecosystems to facilitate improve financial inclusion.
Keywords: *Fintech, Fintech development, financial inclusion, Asia*

INTRODUCTION

In the context of the boom of the 4.0 Industrial Revolution with the strong development of high technology, this is a strategic time for banks to apply the digital transformation to improve their performance to serve individual, industries and public services while increasing the chances of financial inclusion for the majority of the population. According to data from the World Bank, estimated from 2011 to 2014, the proportion of people using formal financial services reached nearly 60%. Increasing income per capita requires financial services provided for individuals with better quality and reduce cost. Digital finance has been acknowledged by international as a comprehensive means to promote financial inclusion by reducing the cost of providing financial services (Wyman, 2017). The expansion of digital payment platforms has created opportunities for connecting the poor with financial products suppliers such as savings, credit, and insurance (Radcliffe and Voorhies, 2012). On the basis of financial inclusion, financial inclusion will no longer be universal but also being the connection by affordable devices such as a smartphone, wearable device and through all radio signals to provide financial services as fast as possible (FST Media, 2015). This is challenging and opportunities for financial inclusion through the creation and integration of technology into social networks and cost reduction (Lee and Teo, 2015).

Financial inclusion is an issue promoted by countries all over the world, especially developing countries to promote economic growth. According to Word Bank, financial inclusion means individuals and businesses have access to useful financial products and services at reasonable prices, meeting their needs - transactions, payments, savings, credit, and insurance - done in a responsible and sustainable way. Nowadays, accessing to the financial services is easier and faster by technology, especially, Fintech is the key solution for financial inclusion. The more technology has been developing, the more Fintech becomes important. Fintech has become a top concern of scholars, planners, banks and institutions to exploit the ability to provide new creative solutions for promoting financial inclusion. Fintech is an acronym for financial technology, Fintech is an industry that uses technology to make smart financial systems and provide financial services more efficient. It is estimated that more than 1.7[3] billion adults cannot access financial services. Fintech has played an increasingly important role in reshaping today's financial and

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[3] https://globalfindex.worldbank.org/

banking landscape. This is an initiative to promote financial inclusion for those who are difficult to access financial services or do not use financial services. Therefore, Fintech is considered as a driving force for promoting financial inclusion in many countries. The findings in the study will be of great value to policymakers by development strategies of Fintech and the current importance of Fintech with the promotion of financial inclusion faster and cost savings. Governments and international organizations are pursuing support of Fintech initiatives to promote financial inclusion in recent years, which is given priority to both developed countries and developing countries in particular. Fintech has significantly reduced costs by providing services through innovative but simple ways[4].

LITERATURE REVIEW

Financial inclusion is becoming highly important for a much number of countries worldwide, especially Asia, a growing literature has been evaluating it measurements, determinants, and effects. According to the research of Michelle (2014), the analysis shows that financial inclusion includes financial innovations, access to financial services, intermediary efficiency and financial literacy. Achieving financial inclusion requires narrowing the cash gap and digital payments (Dayadhar, 2015). In addition, connecting customers to the digital payment system through instant money transfer at a low cost (Radcliffe and Voorhies, 2012). The relationship between financial technology and financial popularity begins with a large number of people being denied financial services, who own mobile phones and want to be provided services. Mobile finance and related equipment can improve the main accessibility for this audience (World Bank, 2016). Research by Kim et al (2016) analyzed the acceptance of Fintech's services based on the feasible calculation model of Petty and Cacioppo and the model of TAM technology adoption, concern about information security CFIP. The study investigates the relationship between central and peripheral routes in accepting new technologies and services to determine the acceptance of Fintech for financial inclusion. Research by Ryoji Kashiwagi (2016) suggests that the more you search for information technologies like mobile phones to quickly and widely provide financial services at low cost, in other words, Fintech is a key for financial inclusion. Leong et al (2017) mentioned financial technology, or Fintech, affecting financial institutions, regulatory agencies, customers, and traders across many industries. Innovation especial technology has become potential finance revolution by making it more inclusive, decentralized and egalitarian (Jame Guild, 2017). Ozili's research (2018) discusses digital finance and its implications for financial inclusion and financial stability. Digital finance through Fintech has a positive impact on financial dissemination in emerging and advanced economies, and the convenience that digital finance provides to individuals has low and variable income is often more valuable than higher costs that will pay to get such services from conventional regulated banks than higher costs that will pay to get such services from conventional regulated banks. In digital age, Fintech which is one of player in financial revolution, are taking emergence of “for-profit, mission-driven” to drive through greater financial inclusion (Anju Patwardhan et al, 2018).

Factors affecting financial inclusion include financial innovations, access to financial services, effective intermediaries and financial literacy (Michelle, 2016). Digital finance which has substantial effects to financial inclusion, includes internet banking, mobile banking, wallets, credit card and debit card (Durai and Stella, 2019). A large number of the population has difficulty accessing financial services that own mobile phones and the provision of financial services through mobile phones and related devices can improve access to main financial resources for this object (Sethy, 2016). High costs are one of the reasons that prevent customers from receiving the products or services they need, especially those with poor financial backgrounds, will be excluded from financial services. Fintech has significantly reduced costs by providing services through innovative but simple ways[5]. Digital finance has been viewed internationally as a means of providing adequate opportunities to promote financial dissemination through reduced costs of providing financial services (ADB, 2016). Improve financial inclusion through digital inclusion (ING,

[4] KPMG, Value of Fintech, 2017, https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2017/10/value-of-Fintech.pdf

[5] KPMG, Value of Fintech, 2017, https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2017/10/value-of-Fintech.pdf

2016). The study of Francis Agyekum et al (2016) examined the relationship between increased access to digital financial services (DFS) and financial dissemination in low-income countries. Digital finance through Fintech startup significantly influences to financial inclusion in emerging and advanced economies, the advantage of Fintech when providing financial services to individuals with low and variable income is often more valuable to similar services of traditional bank (Ozili, 2018).

The study results show a positive trend of mobile phone use and negative trends of bank DFS facilities in the period of 2011 to 2014 in Ghana and the enhancement of technology will stimulate linkages positive results in financial inclusion.

Research topic "The impact of Fintech development on financial inclusion: The case of Asian countries" systematizes the theory of Fintech and financial inclusion from 2000s to current, assessing the status now of Fintech and financial inclusion. Since then, the topic analyzes the relationship and influence between Fintech development and financial inclusion by running a quantitative model. Through research results, the article provides recommendations for planners and Fintech companies to facilitate Fintech to develop and promote financial inclusion.

DATA AND METHODOLOGY

As an empirical study, the goal of this research is to find out the role of Fintech in financial inclusion in Asian countries.

Variables

Hypotheticals:

H0_0: The development of Fintech does not impact to financial inclusion.

H1_0: Fintech development impacts to financial inclusion.

Table 1: *Summary of variables and hypotheses*

No.	Factor	Variables	Hypothetical impact (ACC)	Hypothetical impact (ATM)	Hypothetical impact (CRED)
1	The number of bank accounts per 1000 adults	$ACC_{i,t}$			
2	The number of ATMs per 100,000 adults	$ATM_{i,t}$			
3	Total private domestic credit over GDP	$CRED_{i,t}$			
4	Mobile subscriptions density	$MOBI_{i,t}$	Positive	Positive	Positive
5	Internet density	$INT_{i,t}$	Positive	Positive	Positive
6	Electricity coverage	$ELEC_{i,t}$	Positive	Positive	Positive
7	Start-up attractiveness	$STA_{i,t}$	Negative	Negative	Negative
8	Innovation	$INNO_{i,t}$	Negative	Negative	Positive

Source: Summarize by the author

Dependent variables

In the paper, in order to assess the impact of Fintech development on financial inclusion, the study will use financial inclusion indicators based on research by Sarma and Sethy (Sarma, 2008; Sarma, 2012; Sethy, 2016): Number of bank accounts per 1000 adults ($\boldsymbol{ACC_{i,t}}$); The number of ATMs per 100,000 adults ($\boldsymbol{ATM_{i,t}}$) is based on some of the above studies used. In addition, the study will use additional indicators as a dependent variable to clarify the financial inclusion as possible. That is: Total private domestic credit over GDP (%) ($\boldsymbol{CRED_{i,t}}$) (Okoye et al., 2017). The data used in this study includes 40 countries in Asia in period from 2010 to 2017.

Independent variables

With the index given by ING's research, the study selected the variables divided by two sub-indices: Fintech infrastructure and Fintech ecosystem. The Fintech infrastructure indicators reflect prerequisite conditions for Fintech develops. This section consists of 3 representative data variables: Mobile subscription density which reflects subscriptions per 100 inhabitants ($\boldsymbol{MOBI_{i,t}}$), Electricity coverage which reflects share of population connected to the electricity grid ($\boldsymbol{ELEC_{i,t}}$) and the percentage of the population in the internet network ($\boldsymbol{INT_{i,t}}$). Through mobile phone coverage and the Internet is an essential opportunity to promote financial inclusion. Kpodar and Andrianaivo (2011b) also found a correlation between the financial inclusion and the penetration of mobile phones. They found that the penetration of mobile phones strengthens the process of credit allocation, leading to wider financial inclusion in the financial system. The research of Francis Agyekum et al (2016) also shows the positive impact of ICTs including the number of mobile and Internet subscribers to financial inclusion. Therefore, in the Fintech index system, the study selected 3 variables in the sub-index Fintech infrastructure is the density of mobile subscribers, the percentage of internet users and the percentage of the population accessing the electricity network to represent Fintech infrastructure is ready to serve financial technology services. Research of World Bank (2016) implies that mobile phones connected to the Internet are affordable for digital technology finance which is best way for financial exclusion person.

Fintech ecosystem evaluates the business environment of countries for Fintech companies. The Start-up attractiveness represented by the time of starting a business is a representative of a nation's Fintech investment ecosystem ($\boldsymbol{STA_{i,t}}$). At the same time, Innovation index reflect the comprehensive development for a Fintech ecosystem ($\boldsymbol{INNO_{i,t}}$). In the sub-index of Fintech ecosystem, Start-up attractiveness variable is an indication of the ease of setting up a startup company through the start-up time to demonstrate the development base for a Fintech startup. According to experience of Kama and Adigun (2013) on financial inclusion in Nigeria, challenges and experiences of other jurisdictions show that there is a lack and waste of innovative based on related, has limited the completion of an important extension of the level of budget matching in Nigeria. In addition, innovation index is an important platform for Fintech.

Data and Methodology

The dataset includes in this study includes 40 countries in Asia from 2010 to 2017.

Table 2: *Descriptive data*

Variables	Number of observations	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Country					
Year	320	2013.5	2.294876	2010	2017
Independent Variables					
ACC	200	1053.63	1235.626	10.2454	8114.603
ATM	320	50.9127	50.56411	.0913772	288.6319
CRED	312	65.8101	48.48711	4.645404	253.2622
Dependent Variables					
MOBI	320	111.1021	35.70623	1.184307	214.7349
INT	320	45.66378	26.62387	.25	99.4
ELEC	320	92.84814	13.70016	31.1	100
STA	320	25.84716	28.46019	2	187
INNO	320	35.65812	10.52678	4.6	66.42857

Source: Summarize by the author

The research will focus on answering the questions:

Question 1: Does Fintech development affect financial inclusion and how does it affect Asia? How is the level of that impact?

The hypothesis of the study:

Regression analysis model: From the assumption above, the research proposes a 6 variable linear regression model to evaluate the impact of Fintech development to financial inclusion.

The regression equation takes the following form:

$$ACC_{i,t} = \alpha ACC_{i,t-1} + \beta_1 MOBI_{i,t} + \beta_2 INT_{i,t} + \beta_3 ELEC_{i,t} + \beta_4 STA_{i,t} + \beta_5 INNO_{i,t} + e_{i,t} \text{ (1)}$$

$$ATM_{i,t} = \alpha ATM_{i,t-1} + \beta_1 MOBI_{i,t} + \beta_2 INT_{i,t} + \beta_3 ELEC_{i,t} + \beta_4 STA_{i,t} + \beta_5 INNO_{i,t} + e_{i,t} \text{ (2)}$$

$$CRED_{i,t} = \alpha CRED_{i,t-1} + \beta_1 MOBI_{i,t} + \beta_2 INT_{i,t} + \beta_3 ELEC_{i,t} + \beta_4 STA_{i,t} + \beta_5 INNO_{i,t} + e_{i,t} \text{ (3)}$$

(In particular, the index i represents each country, index t represents the year of observation.)

FINDINGS

For dynamic estimation models according to GMM, Sargasn's test results accept the hypothesis H0, the instruments used are reasonable. Testing of correlation also shows that there is no second-order correlation. Therefore, it can be confirmed that the use of GMM is appropriate. Results in dynamic models differ significantly from those in static models. When the study only stops at the static model, the conclusions can be skewed both in terms of impact and significance.

Dynamic and static models only have similar conclusions about the impact of the percentage of Internet users (INT) affecting the number of accounts. Meanwhile, the dynamic model further analyzes the impact of innovation index on number of ATMs and total domestic credit.

GMM method for dynamic panel data using the appropriate delay of instrumented variables. This is a dynamic panel data model with time parameters, country and delay variables. In addition, it also exploits the combined data of the table and does not bind the time series of table units in Panel Data. This allows the use of an appropriate structure to exploit the dynamics of data.

Comparing the results of two static models OLS, REM, FEM, and GMM dynamic model showed the difference in results, combining the analysis of the optimization of each method, this study selected dynamic estimation model GMM is the most optimal model for analyzing experimental results. Preliminary evaluation of the influence of Fintech on the financial inclusion performance is shown in Table 3.

Previous researches showed that the impact of Fintech on financial inclusion within conceptual and micro-based. Results are similar to those of other studies in Africa.

The regression results show that the variables INT is statistically significant only in the model of ACC and STA is statistically significant in the model of ATM and CRED. With 99% reliability, the model obtained is statistically significant, accepting the initial hypothesis that the research is given is the percentage of population accessing internet affects to the number of bank accounts; Start-up attractiveness affects total domestic credit. With 95% reliability, the model accepts the assumption that start-up attractiveness affects ATMs; accept hypothesis: the proportion of population accessing to internet has positive impact to number of bank accounts, start-up attractiveness have negative impact to ATMs and positive impact to total domestic credit. The model demonstrates the impact of Fintech development on financial inclusion by explaining the phenomenon of research.

Table 4: Regression Result for ACC variable

	Static model			**Dynamic model**
	OLS	REM	FEM	GMM
$\boldsymbol{ACC_{i,t-1}}$				-.281488
$\boldsymbol{MOBI_{i,t}}$	-2.477135	-2.477135	-5.295503	-15.8485
$\boldsymbol{INT_{i,t}}$	22.76353***	22.76353***	31.01652***	64.77471***
$\boldsymbol{ELEC_{i,t}}$	8.321913	8.321913	33.39664	-45.77882

$STA_{i,t}$	-1.786465	-1.786465	-.3245158	-11.17941
$INNO_{i,t}$	-15.29103	-15.29103	-4.015273	25.23137
LM		62.06***		
Wald ($\chi 2$)				
Hausman ($\chi 2$)		6.89***		
Sargan				3.09***
AR (1)				-0.77***
AR (2)				-0.84***
				Notes: Confidence Interval * 1%, ** 5%, * 10%**

Source: Summarize by the author

Table 5: Regression Result for ATM variable

	Static model			Dynamic model
	OLS	REM	FEM	GMM
$ATM_{i,t-1}$				.7509137
$MOBI_{i,t}$	.0904459**	.0904459**	.0889689**	.0369453
$INT_{i,t}$	.5422845***	.5422845***	.508058***	.0294385
$ELEC_{i,t}$	.1459694	.1459694	.1031551	.3291749
$STA_{i,t}$	.0969495**	.0969495**	.0976765**	.0911645
$INNO_{i,t}$	.3650869***	.3650869***	.2437693*	-.5530849**
LM		933.17***		
Wald ($\chi 2$)				
Hausman ($\chi 2$)		10.30***		
Sargan				2.28***
AR(1)				-2.87***
AR (2)				0.36***
				Notes: Confidence Interval * 1%, ** 5%, * 10%**

Source: Summarize by the author

Table 6: Regression Result for CRED variable

	Static model			Dynamic model
	OLS	REM	FEM	GMM
$CRED_{i,t-1}$				.8008333
$MOBI_{i,t}$	.0336384	.0336384	.0321176	.1682729
$INT_{i,t}$	.5336962***	.5336962***	.5102129***	-.5495797
$ELEC_{i,t}$	.200124	.200124	.1858849	.3516856
$STA_{i,t}$	.009168	.009168	.0104296	-.0386629
$INNO_{i,t}$	.2648008*	.2648008**	.1543461	2.87411***
LM				
Wald ($\chi 2$)			22314.35***	
Hausman ($\chi 2$)			12.48***	
Sargan				10.19***
AR(1)				-0.70***

AR (2)	0.58***

Notes: Confidence Interval * 1%, ** 5%, * 10%**

Source: Summarize by the author

DISCUSSION

Fintech is a promising solution in Asia and the purpose of this article is to fill the gap of the lack of studies in this particular discipline. In the previous studies, researchers found no evidence of the link between Fintech and financial inclusion with two-year' time lag in Asia. This article results are consistent with previous studies, suggesting that internet density improve financial inclusion. These effects are gradual, becoming significant three years after the adoption of Fintech. Empirical evidence shows that the internet has a substantial positive relationship with financial inclusion, which means that the growth on the internet is related to the increase in finance (Olaniyi Evans, 2018).

The scale of the impact on the number of accounts is significant (64% increase after 3 years adopting internet). This impact is the result of reducing related issues of asymmetric information and transaction costs (Agyekum, 2016). With a unique platform on mobile devices access in the internet, bill payment, charge, money transfer (in and across borders) and other financial services can all be easily implemented (Donovan, 2012). In fact, India with more than 220 million smartphone users, lending is made easier through the application of high technology accessing to the internet, as it helps reach a wider audience when compared to the other approach. In Korea, 4G - LTE networks cover up to 97%, the number of Internet users is nearly 44 million, making it one of the most connected online markets.[6] Due to the advantages of technology - electronics, Korea has a large e-commerce market where payment methods are also diversified and popular with the people, in which credit cards are the majority of Koreans national favorite. According to Findex report 2017, 95% of adults aged 15 and older own bank accounts. Korea has 146.5 million active internet banking accounts recorded as the end of 2018. Empirical evidence also shows that increasing the flow of information through the Internet makes it easy for Fintech to reach customers to improve financial literacy for people, which indirectly promotes financial inclusion. There is no doubt about potential development of Fintech influence to financial inclusion in Asia. This continent is young and hype-connected. It possesses an impressive internet penetration rate along with the nationwide usage of mobile phone.

While some policymakers are still considering the challenges and barriers, Fintech startups are making innovation solution to the benefit of all. The beauty of this new wave of innovation is that the mobile technology is a given and the use of data is front of mind [7]. Innovation in digital channels provide convenience for clients at a lower cost for banks and have been instrumental in helping suppliers overcome challenges related to infrastructure and geography. Meanwhile, financial inclusion also mentioned access to financial services for MSMEs. This is an object that has not been provided credit in the form of organized business, but can only provide credit under a personalized method. "The absence of traditional credit data for financially excluded individuals and MSMEs is a major barrier to accessing financing"[8]. This is an obstacle to financial inclusion for small and super small business entities. The model results also stated that innovation is a key of Fintech to enhance financial inclusion.

CONCLUSION AND POLICY IMPLICATION

Conclusion

Research confirms the important role of Fintech in promoting financial inclusion. When financial access to those who are difficult to access finance or do not use financial services with the participation of

[6] https://www.statista.com

[7] https://www.bbva.com/en/fintech-innovation-financial-inclusion/

[8] EY, 2017, Innovation in financial inclusion, Link: https://www.ey.com/Publication/vwLUAssets/EY-innovation-in-financial-inclusion/%24FILE/EY-innovation-in-financial-inclusion.pdf

Fintech through mobile expansion and Internet use reduces both transaction costs and symmetric information, even for the poor. The benefit of lowering the cost of providing services through the expansion of Fintech for financial service providers and people who use financial services. Industry policymakers and sponsors need to Fintech to develop to achieve a wider financial system and financial inclusion.

Policy Implication

The important role of governments in developing Fintech is undeniable. Legislators play the role of the guarantees in the development of Fintech, keeping its related risks under control as important as securing the appropriate ecosystem infrastructure to promote financial inclusion. Through research results, a complete financial system and better financial inclusion when policymakers create a technology environment for Fintech. Investing in mobile infrastructure and the Internet is the cornerstone of Fintech's digital development. From the experience of China and Singapore, Fintech's infrastructure needs to focus on international technology and networks. For example, most Fintech services require customers to have smartphones connected to the internet. However, the limits of traditional banking infrastructure create an opportunity that Fintech can partner with banks to innovate digital banking services. China proved by the growth of online banking customers and increased online payments. These platforms are the driving force for online banking services such as Mobile banking and Internet Banking as one of the positive drivers of financial inclusion. The government needs to promote and manage commercial banks to collaborate with telecommunications providers to enhance the use of mobile banking. Online banking will not have a positive impact on financial inclusion if the government's investment in international internet connection to increase financial inclusion.

- Promote a digital approach for financial inclusion such as commit to effective coordination between policy makers, central banks, financial institutions, maintain active dialogue among key stakeholders, encourage industry and work with other national authorities to remove barriers.
- Expand the digital financial infrastructure: Improve and modernize the current financial systems, ensure the basic infrastructure. Enhance the internet penetration and its quality.
- Strengthen digital and financial literacy: Raise awareness among SME businesses about the advantages of using Fintech, encourage the consumers to choose the new technology, aid them to understand the benefit and risk of Fintech

In addition to simplifying business procedures, Fintech startups will be easier to develop, to provide services that are subject to financial exclusion without the current financial system providing service for this object.

Recommendations for Fintech companies in developing countries

From the experience of Singapore, Hong Kong, and China, it can be seen that it is necessary for Fintech to understand the digital infrastructure, development, and research of the Fintech industry in developing countries. The application of technology and its use regularly will open online financial products, especially mobile payments through mobile and Internet platforms. Experience from China, mobile payments tend to be popular for small transactions, so e-wallets have grown with a number of big companies like Alipay, Penpay, etc. Besides, SME's capital needs or MSME leads to credit trends of businesses without having to apply strict regulations of traditional banks and institutions.

In addition, from analyzing the status of Asian countries, it can be seen that Asian Fintech companies in general and developing countries in Asia in particular need to consider the following factors before joining Fintech industry.

- Understand the market limits: In these case studies, not all aspects of Fintech are attractive to users due to a number of reasons from artificial intelligence to local technology limitations in the country. Startups in developing countries need to investigate and allocate resources to research on aspects of Fintech that can be developed.
- Understand demographics: Every country has a prominent demographic. Because Fintech is digital-based and access to it exceeds the boundaries. Fintech startups in developing counties need to

understand the potential development of each country based on population, digital indigenous ratio and the effectiveness of digital technology in people like time for equipment digital.

- Investigation of human tendency: Depending on the needs of people, Fintech invests its resources. For example, while China uses India's priority payment and insurance, payment and loan services. Trends in each country are not the same as other trends.
- Select attractive industry: One of the most important factors related to starting a business is capital. As can be seen from the paper, while venture capital investment went into operation, the hot field in the world is retail lending. Startups should consider to operate in this area is also an attractive belief for investors.

With active Fintech, providing digital financial services to people needs to reduce costs when using the service. According to Michelle's study (2016), the provision of digital financial services will not promote financial inclusion when those services charge only for the sake of simplifying operations and reducing operating costs for banks. This is an opportunity for Fintech to dominate the digital financial technology market or to work with banks to provide efficient financial services and reduce costs.

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Role of Financial Education in Consumer Protection

Paul Selva Raj

Introduction

There has been increasing agreement by policy makers that financial literacy is a key pillar of financial market stability. As financial markets become more sophisticated and consumers assume growing share of the responsibility and risk of financial decisions, financial education is necessary to ensure sufficient levels of consumer protection as well as smooth functioning of the financial markets as well as the economy in general.

Strengthening Financial Markets

The past financial crises has taught us many lessons in relation to consumer welfare. The OECD has suggested two primary responses to address the capacity to strengthen financial markets – a stronger consumer protection regulatory framework and financial education tools that are aimed at protecting and better informing financial consumers in their interactions with financial services providers.

Effective financial education and awareness campaigns would help consumers better understand financial risks and products and thus make better decisions according to their personal needs and circumstances.

This would certainly assist the Central Bank's prudential supervision, as it would be more difficult to mislead informed and well-educated consumer. Financial literacy is a necessary condition for financial market efficiency. It is suggested that sound financial management by households contributes to lower social public spending, development of sound, efficient and competitive markets and encourages economic growth.

Sufficient awareness, education and skills regarding financial matter are essential to adopt both financial responsible behaviours as well as access short-term and long-term financial products and services to enhance their financial well-being.

Pressure and Risks on Current Financial Consumers

The growing complexity of financial products over the past decade, coupled with financial innovations and the increasing transfer of risks to households have put enormous pressure and responsibilities on the shoulders of financial consumers. For example consumers need to play a bigger role in preparing for their retirement, preparing for the children's education and having insurance to pay for medical and health needs. Much too often, financial consumers are ill-equipped to face their ever-increasing responsibilities. Worse still, the OECD study in OECD countries found not only low financial knowledge among consumers but often they over-estimate their financial skills, knowledge and awareness resulting in poor decision making that has a negative effect on their financial well-being.

Consumer Protection and Financial Education are Complimentary

It is crucial to note however, that financial knowledge by itself is not a replacement to financial protection to consumers. It does not substitute for financial consumer protection and regulatory frameworks. A strong financial protection regulatory framework is the key. The World Bank would suggest three main components of a financial consumer protection regime:

1. Consumers should receive accurate, simple, comparable information of a financial service or product before and after buying the product;

2. Consumers should have access to expedient, inexpensive and efficient mechanisms for dispute resolution with financial institutions;

3. Consumers should be able to receive financial education when and how they want it.

What is the difference between financial education and consumer protection? The provision of information on financial issues is common to both. Financial education supplements this information with the provision of information and advice. Consumer protection, on the other hand, emphasises regulation and legislation designed to enforce minimum standards, require financial institutions provide consumers with appropriate information, strengthen the legal protection of consumers when something goes wrong, and provides for systems of redress.

Financial education and consumer protection are not substitutes but rather complements. Consumer protection provides a safety net for financial consumers.

Financial education is thus a key complement to consumer protection in the financial services sector. In fact, it can be considered an essential life skill for households.

Factors making financial education increasingly important:

<u>The complexity of financial products</u>

Consumers today face a wide variety of financial products – savings and investment accounts, various forms of debts, complex insurance products and capital markets. Today we have even newer products and services – crypto currency, e-wallets and online services. Sometimes, even relatively straight forward products can appear quite complex to the average consumers, as often they require an understanding of risks versus benefits, time value of money, maturity, pay-out options and various other features.

FOMCA recently undertook a study on the how well consumers understood their insurance policies. We found that most consumers had not read nor did they fully understand what they had signed up for. Unfortunately, when the time for making a claim arrived, they then realised that the policy had many restrictions and limitations that the agent who had sold them the policy had conveniently neglected to inform.

Deregulation of financial markets

Deregulation of financial markets and the reduction in costs brought about by developments in information technology have resulted in a proliferation of new products tailored to meet very specific new markets. These innovations have enabled consumers to gain access to a greater variety of financial products. The diversity of new financial products provide consumers with more choices but also more challenges.

In Malaysia recently, the Central Bank, has de-regulated the sale of motor insurance. Through this liberalisation, the Central Bank indicated that consumers could expect fairer pricing, greater innovation and sustainable protection for consumers. And to get the best value of money in this deregulated markets consumers were expected to manage their own risk, determine clearly their own protection needs and shop around for best coverage value. The issue really then is do consumers have the knowledge and skills to choose the best product?

Pensions are another example of de-regulation. In Malaysia for example, there is mandatory savings by both employees and employers to the Employee Provident Fund as preparation for retirement. However due to low incomes and thus low savings rate, the amount saved after maybe 30 years of working life is too low for sustainable retirement life. Consumers/workers are thus expected to make their own arrangements to supplement their savings for retirement. While there is a Private Pension Administrators Scheme, in which workers can contribute, there still has to be an understanding of the risks and returns as well as commitment to save to ensure sufficient funds for retirement.

The risk is thus being shifted in part by governments and financial institutions to households. Households thus need to be empowered to make the right decisions for their well-being.

Increase in Life expectancy

Life expectancy has generally increased in most countries due to prosperity and better health and healthcare development. This would lead to an aging population whereby a large cohort of retirees might be spending more time in retirement then previous generations and might therefore need to be supported for a longer time. The challenge is that as the issue becomes more serious, the working population may not be large enough to support the ever growing number of retirees without changes to the support programmes.

Cost of Living Issues

In most countries, as in Malaysia, consumers are facing low as well as stagnating incomes coupled with an increasing of cost of living. Financial education is crucial to empower consumers to manage their finances to face these stressful times.

Definition of Financial Education

OECD defines financial education as a process by which financial consumers improve their understanding of financial products and concepts, and through information, instruction and/or advice, develop the skills and confidence to become more aware if financial risks and opportunities, to make informed choices, to know where to go for help and to take other effective actions to improve their financial wellbeing. The three components of the definition are:

Outcome: Financial wellbeing

Purpose:

- To develop knowledge, skills and confidence
    - ❖ to become more aware of risks and opportunities
    - ❖ to make informed choices
    - ❖ to know where to go for help

Method:

- information
- instruction
- advice

Financial Literacy is the understanding of financial concepts, such as interest rates and financial risk, the understanding of financial products, such as insurance and mortgages, and the skills to use this knowledge for **better financial behaviour** (Raaij, 2016).

Financial Capability is defined by World Bank as “the capacity of a consumer to make informed decisions and act in one’s best financial interest, given socio-economic and environmental conditions”. Financial capability is the knowledge, skills, attitude and confidence that lead people to make financial decisions that are appropriate to their circumstances. Financial education is the tool to increase financial capability.

There is widespread recognition that strengthening people’s financial capability is increasingly necessary as financial products become more complex and people obtain financial products for the first time as a result of wide range of distribution channels, including non-bank providers. New products and services and the use of new delivery channels such as mobile phones, e-wallets, smart cards operated by new service providers can provide opportunities to reach large sections of populations that were previously under-served.

Role of Financial Education

Financial education is need to empower consumers to better manage their savings, debts, purchase of assets at their various life stages.

Consumers also need financial education to evaluate and compare the increasingly voluminous and complex information available on different financial products.

Financial education can contribute to consumer well-being by helping them better informed about financial products and services. Becoming financially better informed, involves acquiring information, processing that information and using the information to make better informed decisions.

It has become increasingly important that people are able to manage their personal finances well in order to be financially capable. However, survey in many countries indicate that many people lack the knowledge, skills and motivations to do so.

Conclusion

In order to take advantage of the many opportunities in the financial sector, people need to be equipped with the knowledge, skills, motivations and confidence to make informed decisions on how to manage their personal finances. The need to have a basic understanding of products and services and how to take advantage of them. They need to take actions to implement these decisions and to understand and manage risks, such as over-indebtedness and fraud. People who make good financial decisions and then implement these decisions are more likely to achieve their financial goals, improve their welfare and protect themselves against financial risks and negative shocks. For countries as a whole, strengthening the financial capability of population can strengthen the economy and improve financial stability.

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Consumer Protection Concerns Pertaining to Home Owner’s Safety in Light of Bank’s Asset Securitization Motives

By

Shanuka Senarath, *Ph.D*

Capital & Interest (for e.g. 20 years)

*'Homeownership lies at the heart of the American Dream. Anchor for families and a **source of stability** for communities. It serves as the **foundation of many people's financial security**. And it is a **source of pride** for people who have worked hard to provide for their families.'*

- George W Bush

Radio Address by the President to the Nation - 12 June 2001

‘Originate-to-hold’ (Traditional) Model

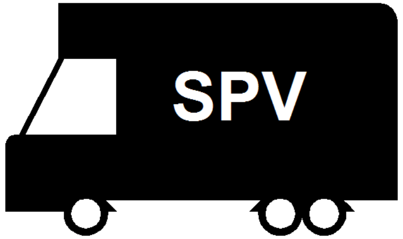
‘Originate-to-distribute’ (New) Model

- Interest & Capital
- On Bank’s Balance Sheet
- Holding Long-term Mortgages
- Regulatory Capital Requirements

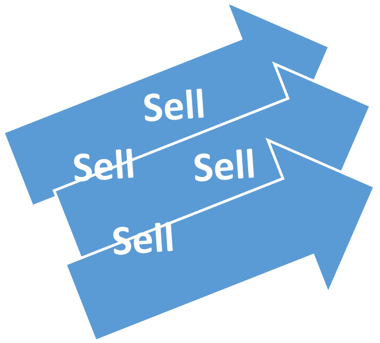
What if the bank can sell the mortgage?

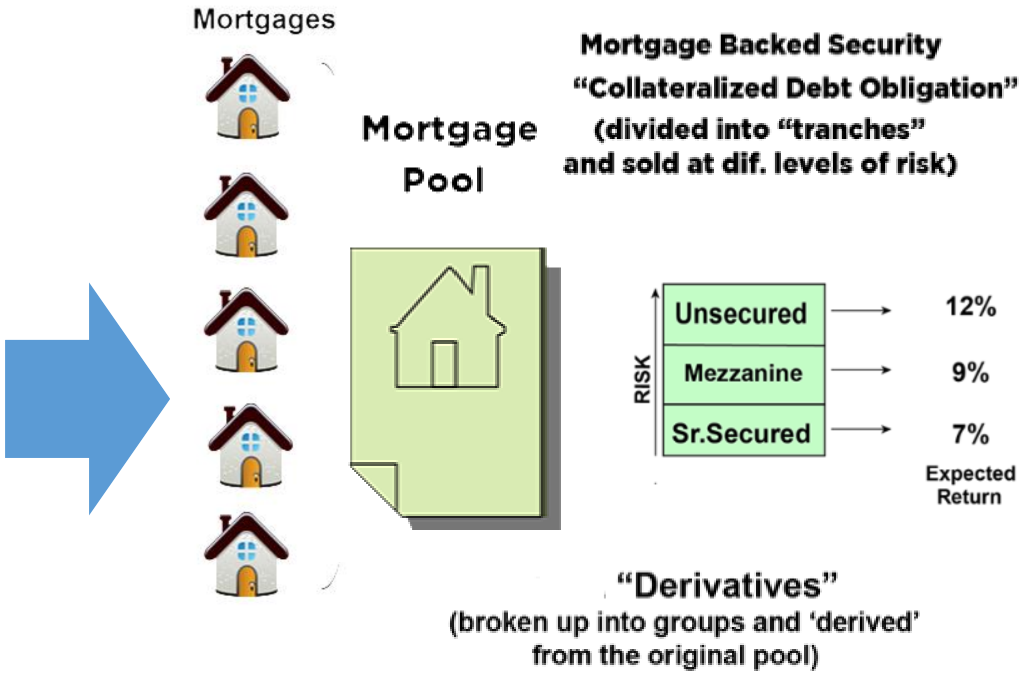
- Quick Cash
- Off – Balance Sheet
- Can Grant More Mortgages
- No Regulatory Capital Requirements

More of 'Originate-to-distribute' (New) Model

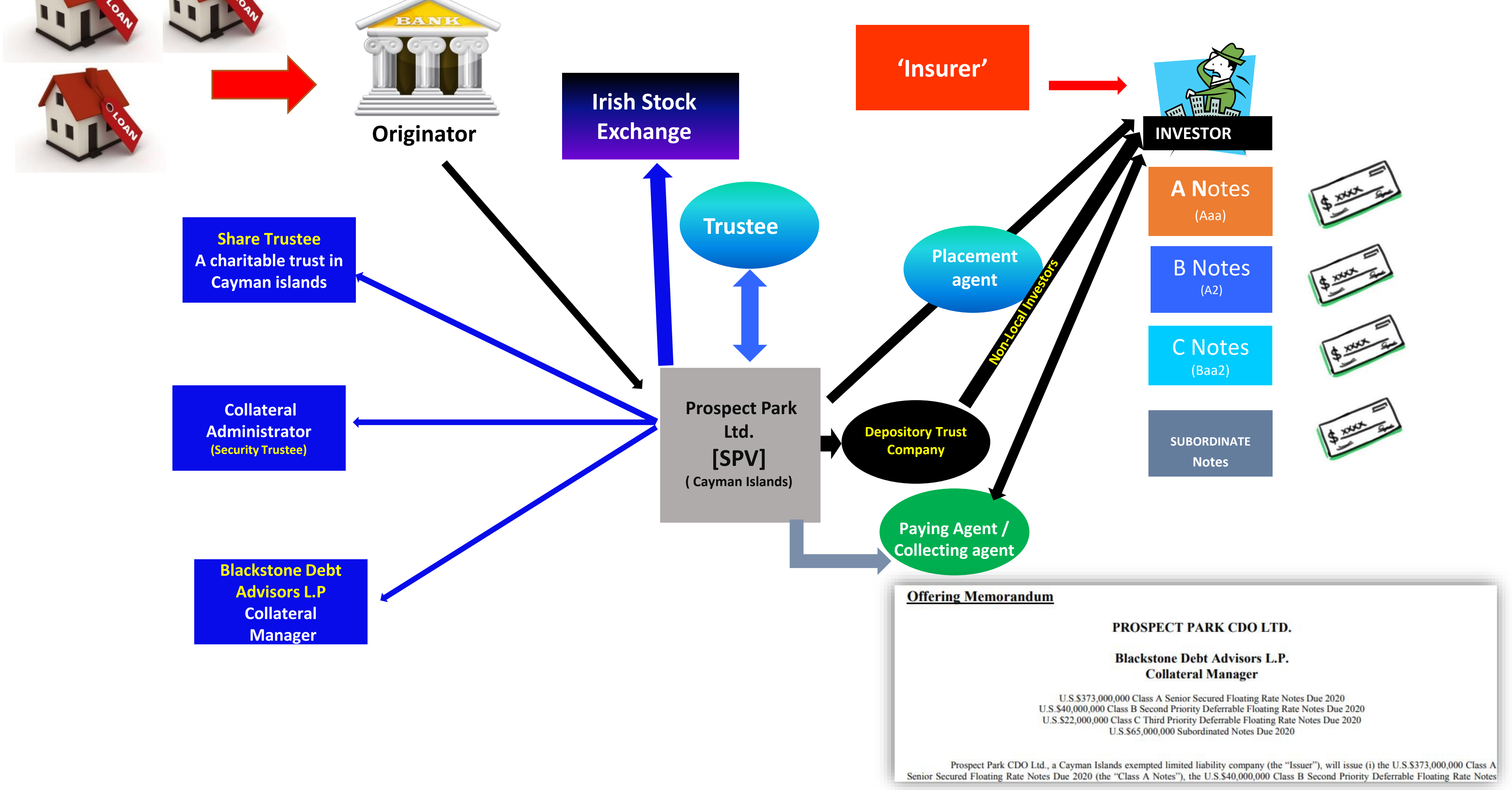


Special Purpose Vehicle is a company setup (most likely) in a tax haven

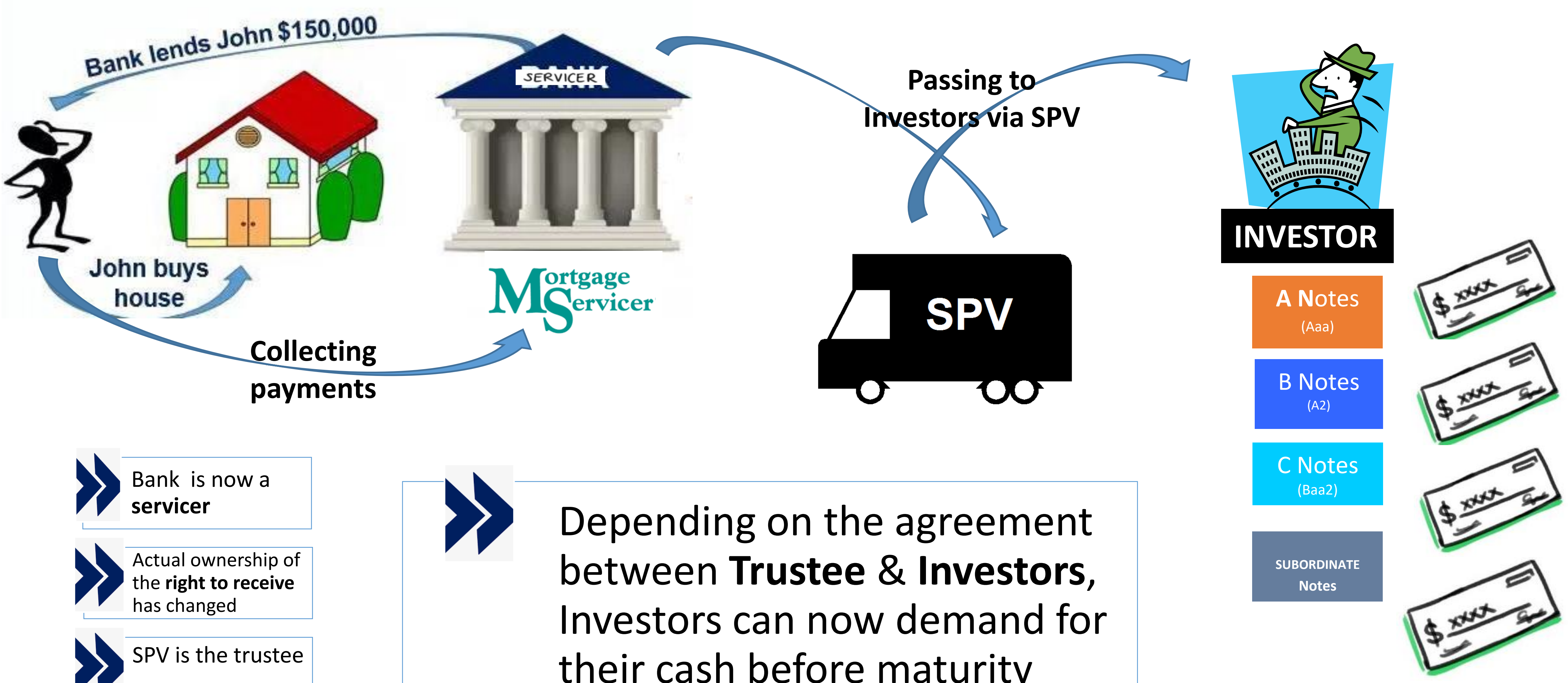




Prospect Park Ltd. : RMBS Programme



Going Back to Basics !!



- Bank is now a **servicer**
- Actual ownership of the **right to receive** has changed
- SPV is the trustee

Depending on the agreement between **Trustee** & **Investors**, Investors can now demand for their cash before maturity

What Could Make You Lose Your Home ?

Redemption:

- **Optional Redemption -** (if) 2/3 of note holders give written direction to the trustee
- **Mandatory Redemption-** (if) coverage test [proceeds from notes sufficient to pay note classes] not met
- **Special Redemption -** When collateral manager decides that notes should be redeemed

Economic downturn – Recession – Without any default of the borrower

If the servicer (perhaps by mistake) fail to pass payments

Provided RMBS schemes stretch across international boundaries currency fluctuations can lead pre-mature termination of the RMBS program (at least partially)

- Trustee is obligated to pay Investors
- May have to sell (some) underlying assets to find cash
- Likely to sell few (selected) houses via servicer to raise funds
- Well-functioning mortgage(s) will be subjected to foreclosure

Is the Mortgagor Aware of the Assignment ?

- They Should… But (mostly) they are not
- In the Australian Context, most Banks /IMP include a clause (among other clauses) that may read as "may assign or otherwise deal with [its] rights under this mortgage or any secured agreement in any way [it] considers appropriate"
- But never explain the actual risk behind such assignment
- Banks / IMPs would rely on such clauses to avoid liability for loss of their homes
- Economic or ethical perspective – informed decisions

  Surely not a basis for an informed choice on the part of the borrower

What Does the Law Says ?

Common Law Tradition

- "Some clauses, would need to be printed in red ink, with a red hand pointing to it before the notice could be held to be sufficient"

  - **Spurling Ltd v Bradshaw [1956]**

- Clause must be presented clearly and unambiguously in such a way that a reasonable person would become aware of it - **Thompson v Scottish Railway Co [1930]**

Civil Law Tradition

- Contractual rights can be freely transferred via *Cession* (cession in Roman Dutch Law (RDL) is the equivalent of assignment)

  - **Lee (1915)**

- Rights and obligations of a contracting party can be transferred to another by cession (assignment)

  - **Weeramanthry (1998)**

In Australia

Duty on the bank to take reasonable care to explain all the technical aspects of the loan

-Catering Ltd v National Australia Bank Ltd [1989]

- "Disclosure… will help to ensure honesty and integrity in the relationship; promote informed choices by consumers; and allow the market form financial services to operate effectively"

  ***-Canham v Australian Guarantee Corporation Ltd* [1993]**

Unconscionable Conduct ?

***Australian Securities and Investments Commission Act* 2001 (Cth)**

Sc. 12CA(1): 'A person must not, in trade or commerce, engage in conduct in relation to financial services if the conduct is unconscionable within the meaning of the unwritten law'

Sc. 12CC lists matters to be considered when determining unconscionable

(a) The relative strengths of the **<u>bargaining positions</u>** of the supplier and the consumer
(c) Whether the consumer was able to **<u>understand any documents</u>**
(d) Whether any **<u>undue influence or pressure</u>** was exerted

Summary

- RMBS is a financial instrument that may derive a number of benefits to the financer / financial system
- In practice the mortgagor may not know whether his mortgage has been "sold" to a third party
- Mortgagor may find his home "sold" without any failure to pay from his / her side
  - Due to a Financial / Economic down turn
  - Currency fluctuations
  - Just because the investor wishes to have his money back
- The legal status (both Common Law & Civil Law) is quite unclear in terms of mortgagor's rights

What Can be Done ?

- Mandatory Disclosure of "Assignment" and its consequences at the initial stage of loan application
- Constitute unconscionable conduct / misleading & deceptive conduct for financers who do not comply with disclosure requirements
- Heavy penalties for financers not complying with disclosure requirements
- Different loan products
  - For Mortgagors willing to take the risk of assignment – Lower interest rates – passing benefits of securitization to consumers willing to assume more risk
  - For those who are not willing to take more risk – retain the loan with the bank – (probably) with higher interest rates

BORROWERS' PERSPECTIVE OF MICRO FINANCING INSTITUTIONS (MFI) AND TRADITIONAL MONEY LENDING (TML) IN BANGLADESH: A COMPARATIVE ANALYSIS

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June 2019

BORROWERS' PERSPECTIVE OF MICRO FINANCING INSTITUTIONS (MFI) AND TRADITIONAL MONEY LENDING (TML) IN BANGLADESH: A COMPARATIVE ANALYSIS

Abstract

The comparative analysis between services of TML and MFIs in Bangladesh noted that the MFIs are positively contributing to employment generation, living standard, household income and education. The limited collateral free MFI loans are not as easily available as TML. Mortgage of wealth and its forfeiting is more common in TML. The MFI loan taking has started under the influence of its mass promotion, but still the clients follow the suit of their ancestors' TML loan taking. The initial screening procedures for MFI loans are strict, objective and stringent. Clients take TML loans for the sake of continuity and procedural lenience even if those are linked with stern collaterals. In terms of repayment policies MFI and TML are not much different; but regarding alternative repayment and loan security TML is more apathetic, harsh, inconsiderate and on occasion cruel on default clients. Regarding sustainability it is found that MFI clients are comparatively doing better in business.

An Overview of Peer to Peer Lending in Indonesia

IRWAN ADI EKAPUTRA
IAFICO
19 August 2019
UGM, Yogyakarta

Financial Inclusion

The process of:

- ✓ promoting affordable, timely and adequate access to regulated financial products and services
- ✓ broadening their use by all segments of society

Through the implementation of :

- o tailored existing and innovative approaches
- o including financial awareness and education

With a view to promote :

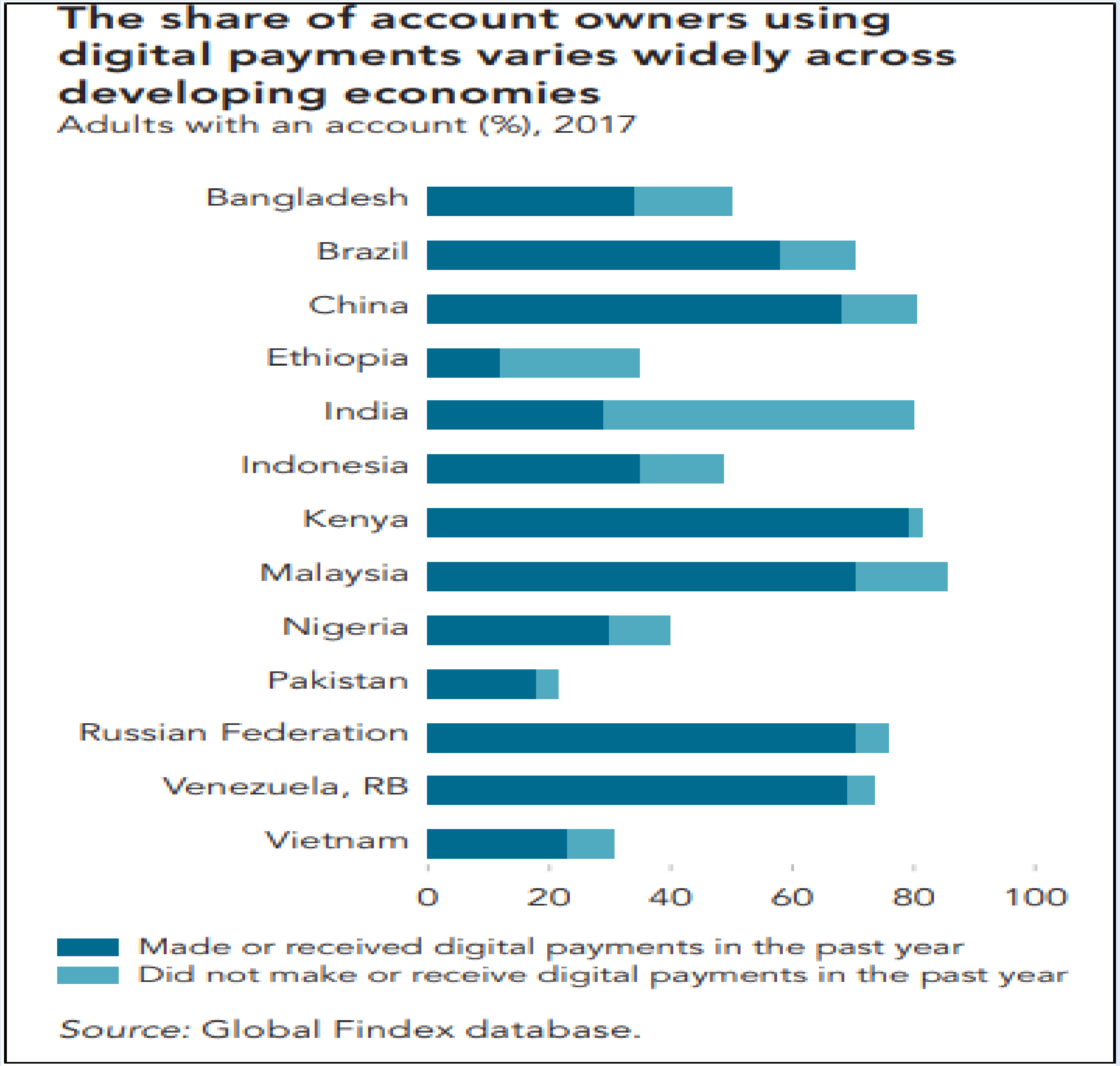
- ➢ financial wellbeing
- ➢ as well as economic and social inclusion

Source: OECD (2018). Financial inclusion and consumer empowerment in Southeast Asia.

Indonesia Financial Inclusion

- In 2014-2017, Indonesia has made the most progress across East Asia and the Pacific (World Bank)
- Adults bank account ownership proportion:
    - 48.9% (2017)
    - 36% (2014)
    - 20% (2011)
- Approximately 60 million unbanked adults use mobile phones.

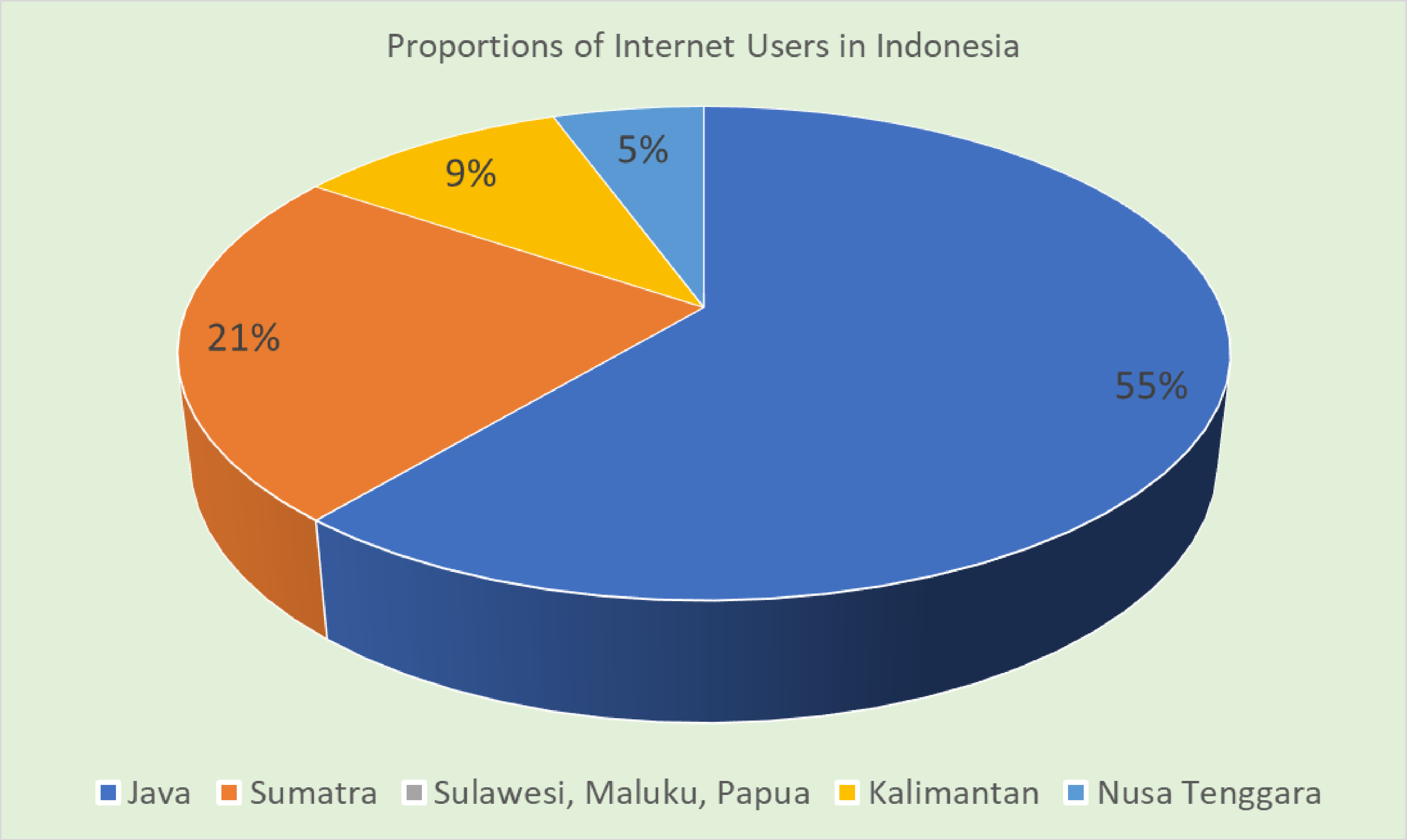
Global Findex (2017)



Indonesian Internet Users

171.17 million users

(64.8% of the population)



Source: Association of Internet Service Providers in Indonesia (June 2019)

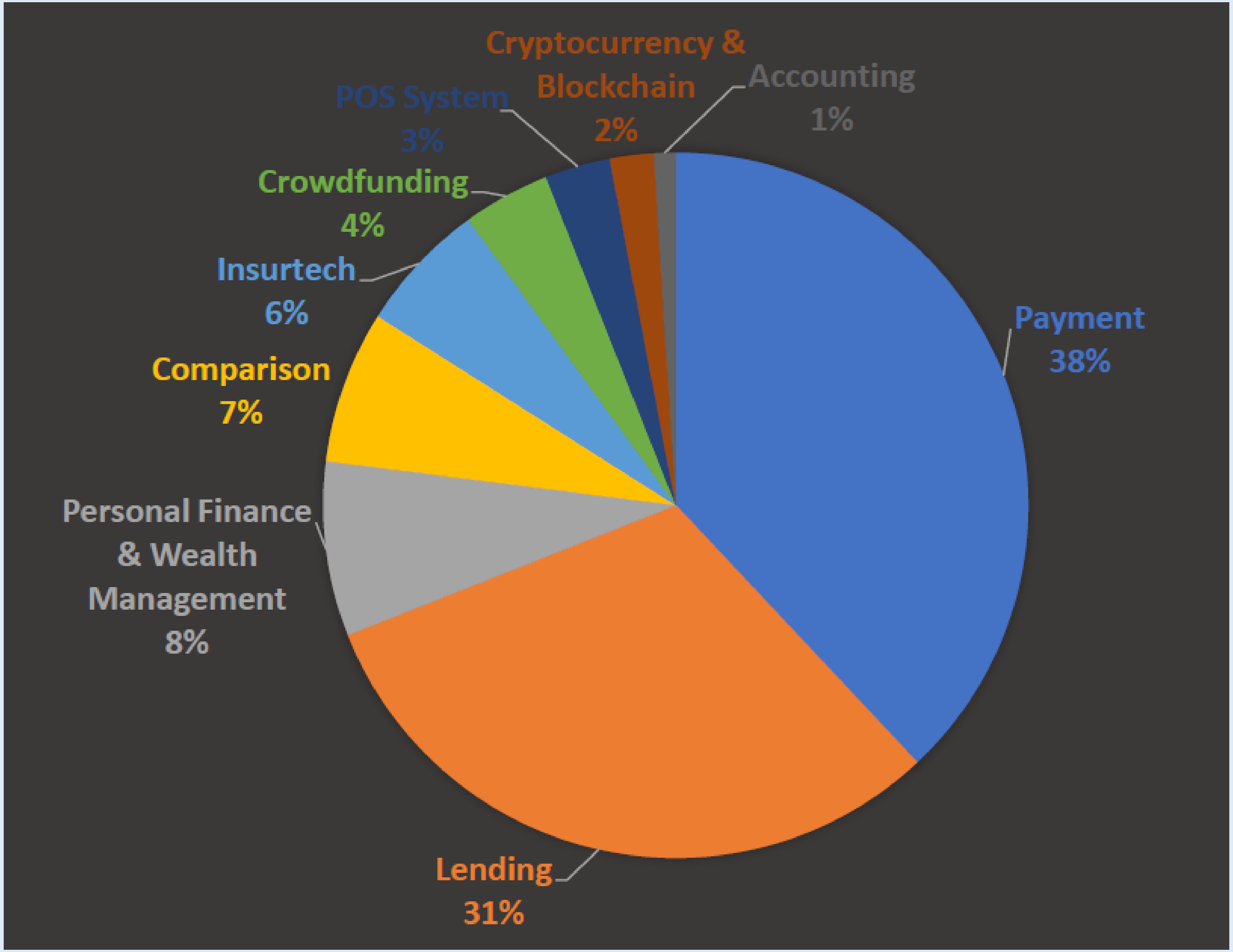
Fintech

1. Payment
2. P2P Lending
3. Personal Finance and Wealth Management
4. Comparison
5. Insurtech
6. Crowdfunding
7. POS System
8. Cryptocurrency & Blockchain
9. Accounting

1. Can P2P lending increase financial inclusion?

2. What are the opportunities and challenges of P2P lending?

Indonesia Fintech Ecosystem (May, 2018)



Source: Fintechnews.sg

Fintech Regulatory Bodies

BANK INDONESIA
BANK SENTRAL REPUBLIK INDONESIA

- eWallets
- eMoney
- Payment gateways
- Principals
- Switching companies
- Card issuers and acquirers
- Clearing houses
- Settlement agencies
- Cryptocurrency and Blockchain
- National payment gateway
- Payment Support, e.g. ATM, EDC and data centers

OJK OTORITAS JASA KEUANGAN

Indonesia Financial Service Authority

- Peer-2-peer lending
- Crowdfunding
- Digital banking
- Insurtech
- Fintech in capital markets
- Venture capital
- Online financing
- Data security
- Consumer protection

KEMKOMINFO

Ministry of Communication and Information Technology

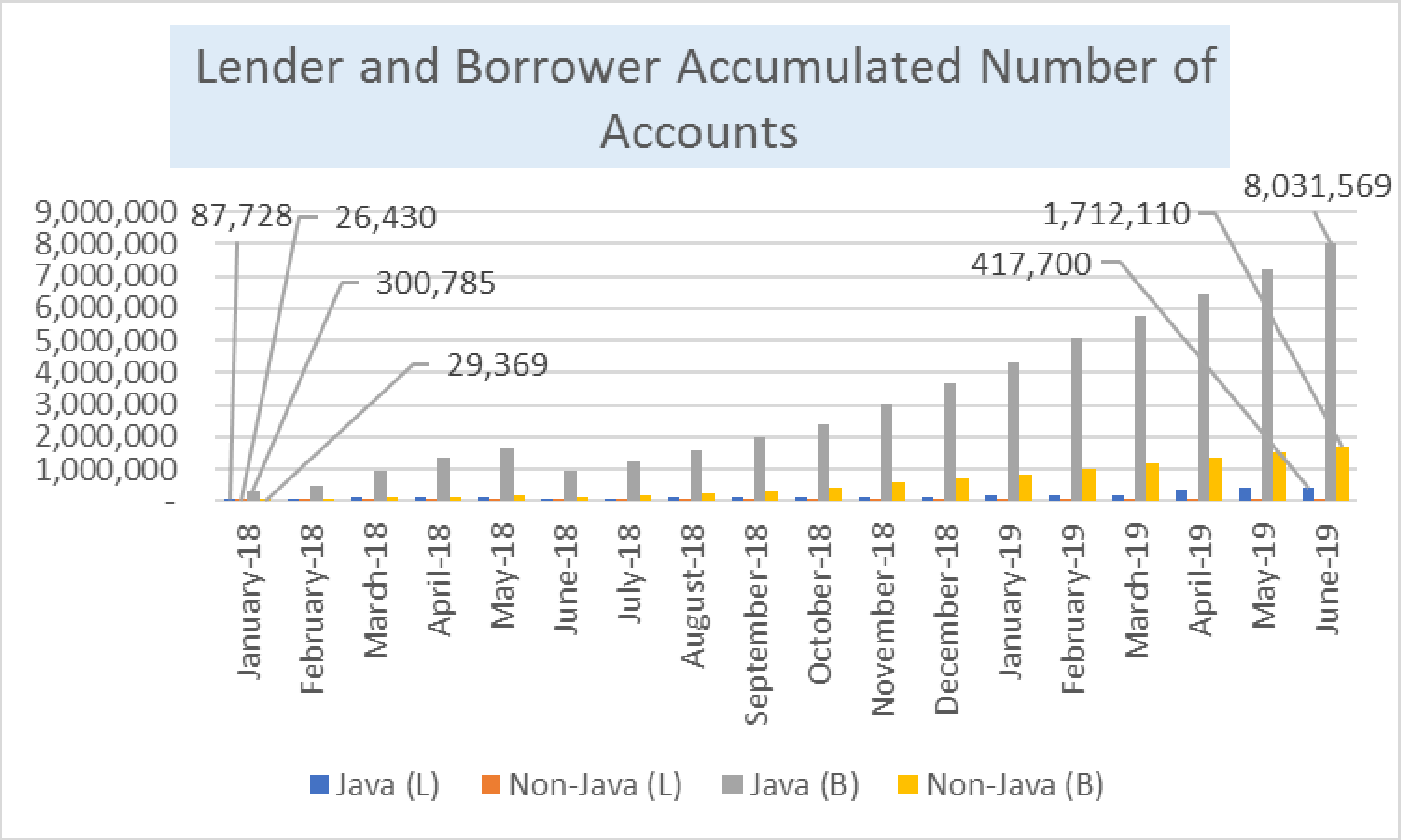
- Telecommunications
- Information technology related

Sources: Bank Indonesia, Fintechnews.sg

Peer to Peer Lending in Indonesia (June 2019)

- 10,242,504 lender and borrower accounts
- More than IDR44.8 trillion loan disbursements
- P2P lending entities
  - 113 registered
  - 7 licensed

Source: https://www.ojk.go.id/id/kanal/iknb/data-dan-statistik/fintech/default.aspx


Lender and Borrower Accumulated Number of Accounts
9,000,000
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
-
87,728
26,430
300,785
29,369
8,031,569
1,712,110
417,700
January-18
February-18
March-18
April-18
May-18
June-18
July-18
August-18
September-18
October-18
November-18
December-18
January-19
February-19
March-19
April-19
May-19
June-19
Java (L)
Non-Java (L)
Java (B)
Non-Java (B)

Accumulated Number of Accounts

LENDER

Jan 2018 vs Jun 2019

- Java: 87,728 vs 417,700 accounts
- Non-Java: 26,430 vs 78,143 accounts

Growth (Jan 2018-Jun 2019):

- Java: 376.13%
- Non-Java: 195.66%

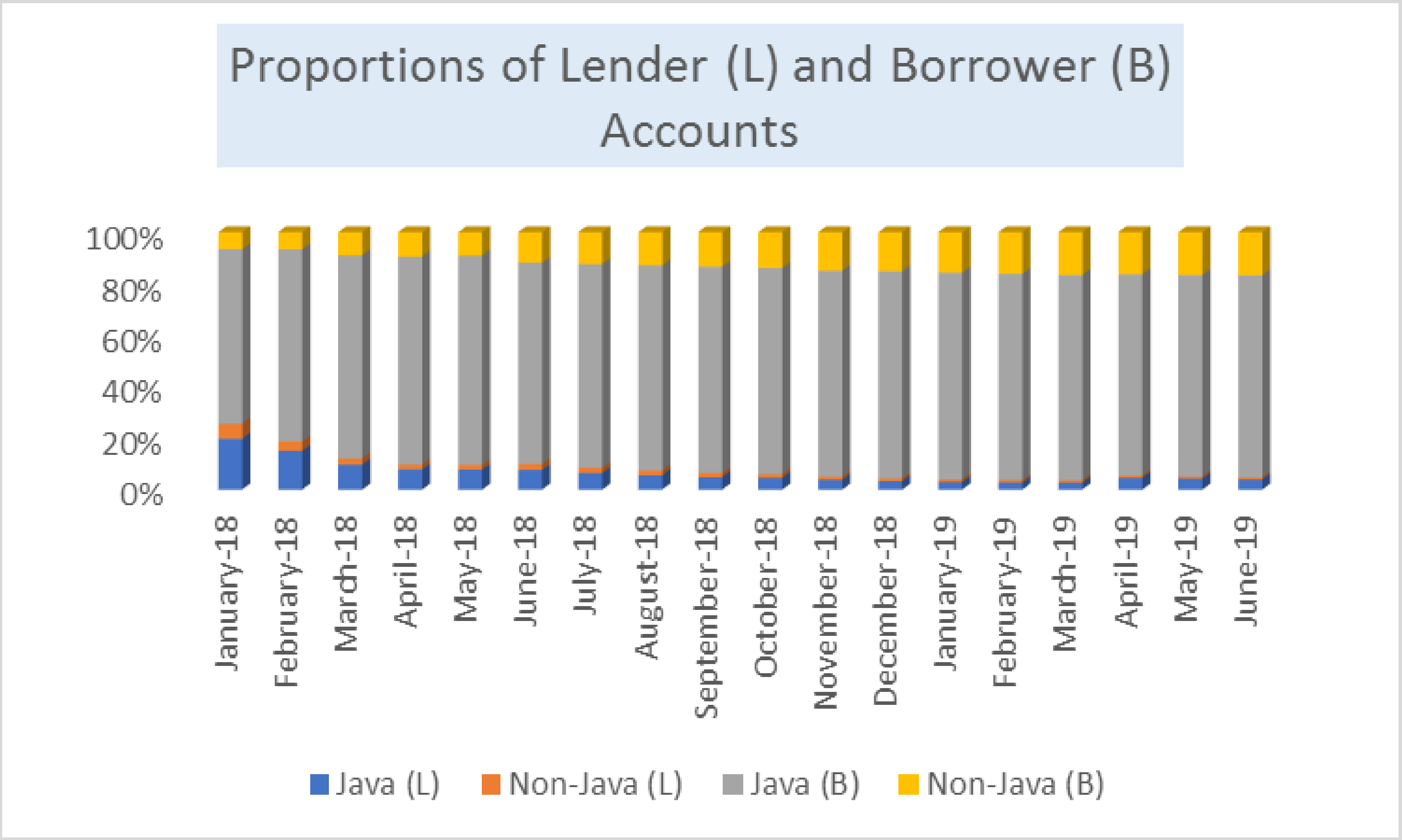
BORROWER

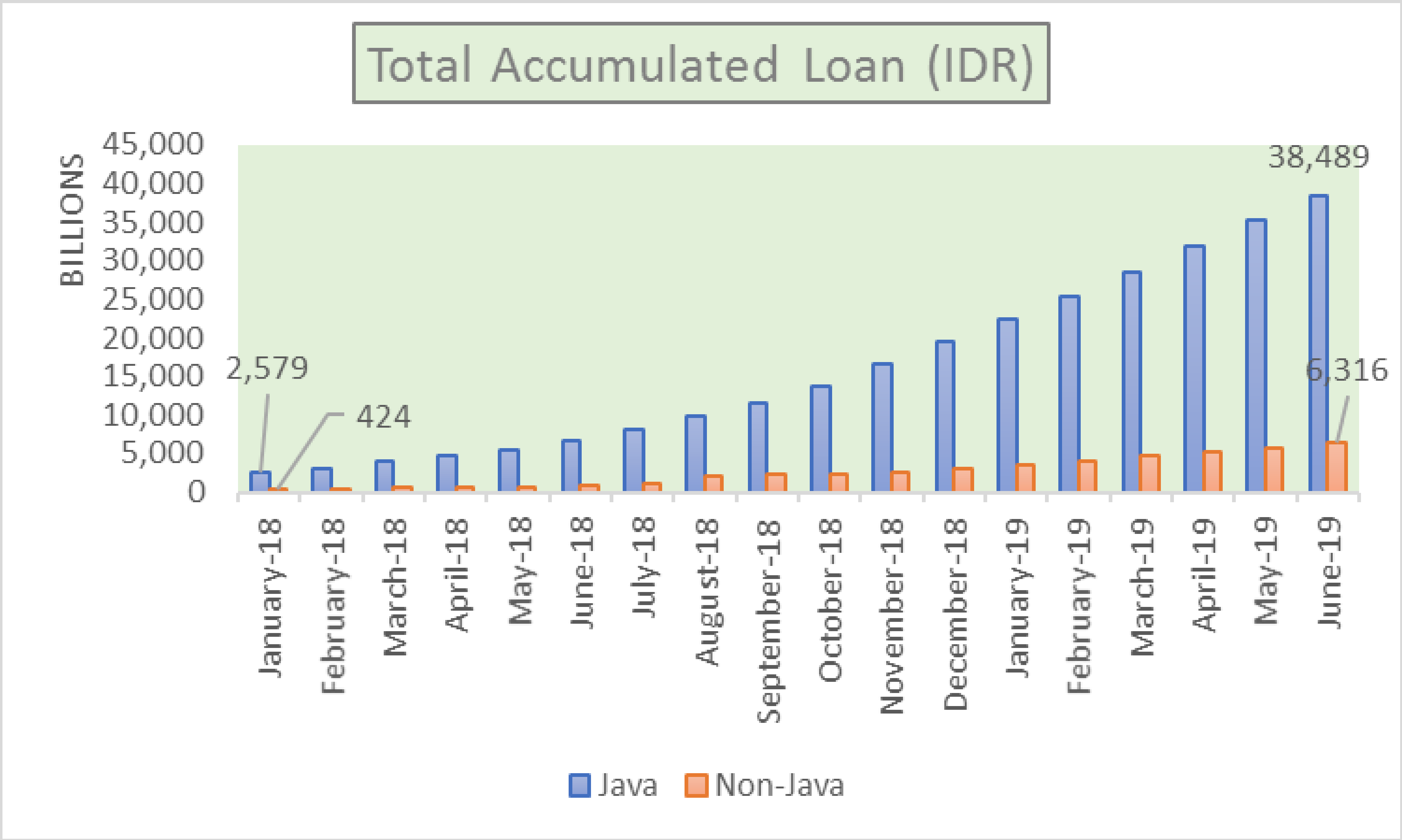
Jan 2018 vs Jun 2019

- Java: 300,785 vs 8,031,569 accounts
- Non-Java: 29,639 vs 1,712,110 accounts

Growth (Jan 2018-Jun 2019):

- Java: 2,570.20%
- Non-Java: 5,729.65%


Proportions of Lender (L) and Borrower (B) Accounts
100%
80%
60%
40%
20%
0%
January-18
February-18
March-18
April-18
May-18
June-18
July-18
August-18
September-18
October-18
November-18
December-18
January-19
February-19
March-19
April-19
May-19
June-19
Java (L)
Non-Java (L)
Java (B)
Non-Java (B)



Total Accumulated Loan (IDR)
BILLIONS
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
2,579
424
38,489
6,316
January-18
February-18
March-18
April-18
May-18
June-18
July-18
August-18
September-18
October-18
November-18
December-18
January-19
February-19
March-19
April-19
May-19
June-19
Java
Non-Java

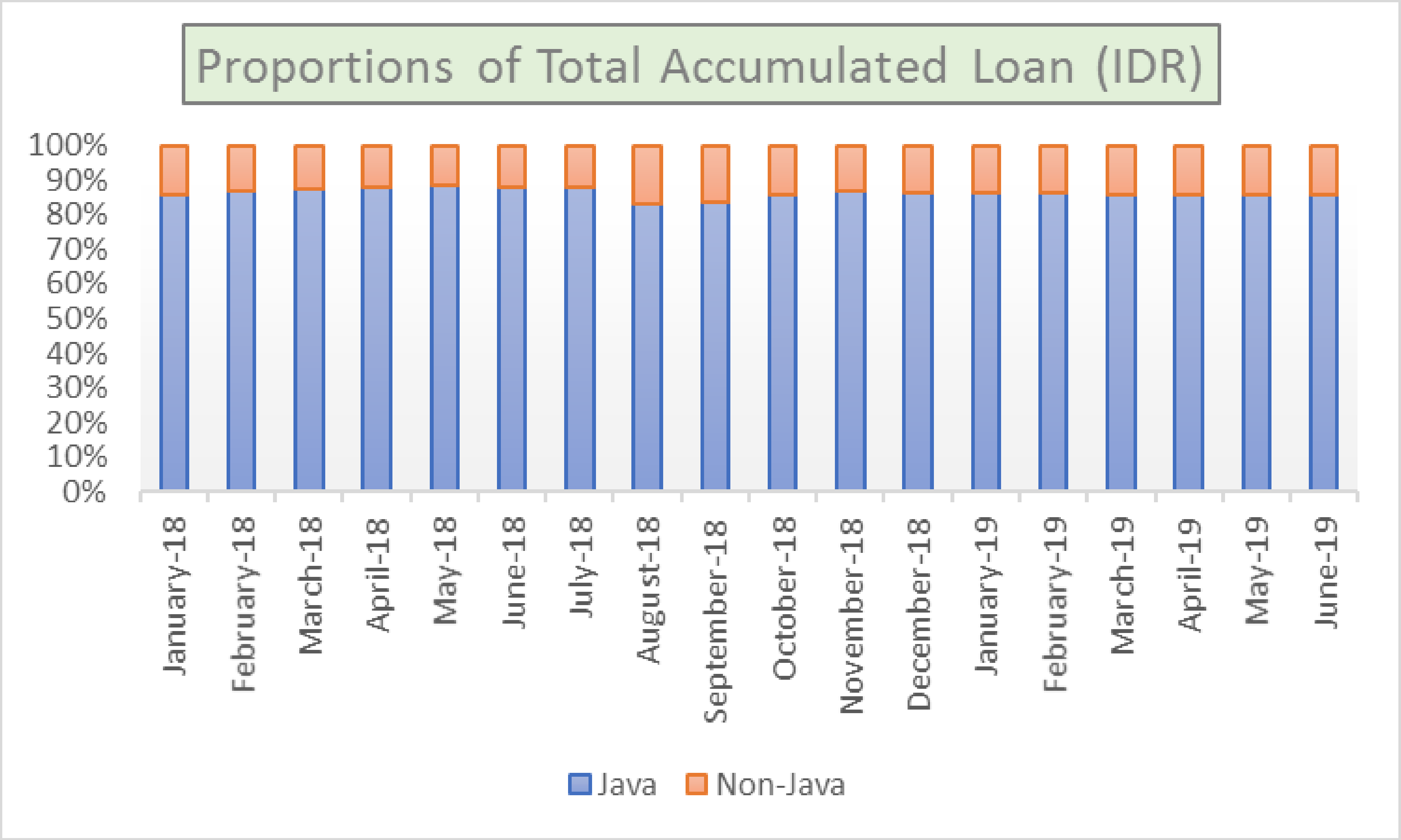
Total Accumulated Loan

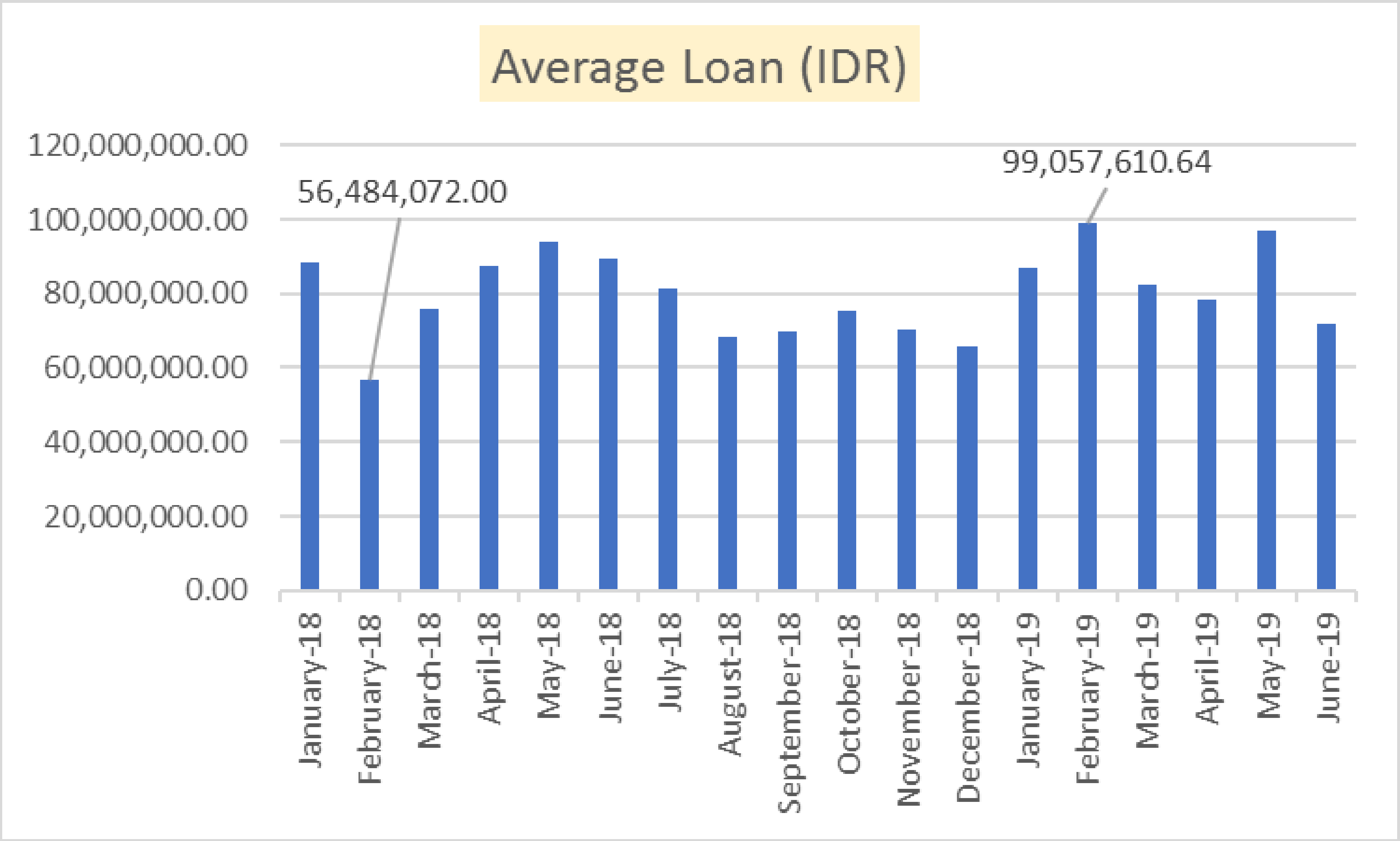
Java

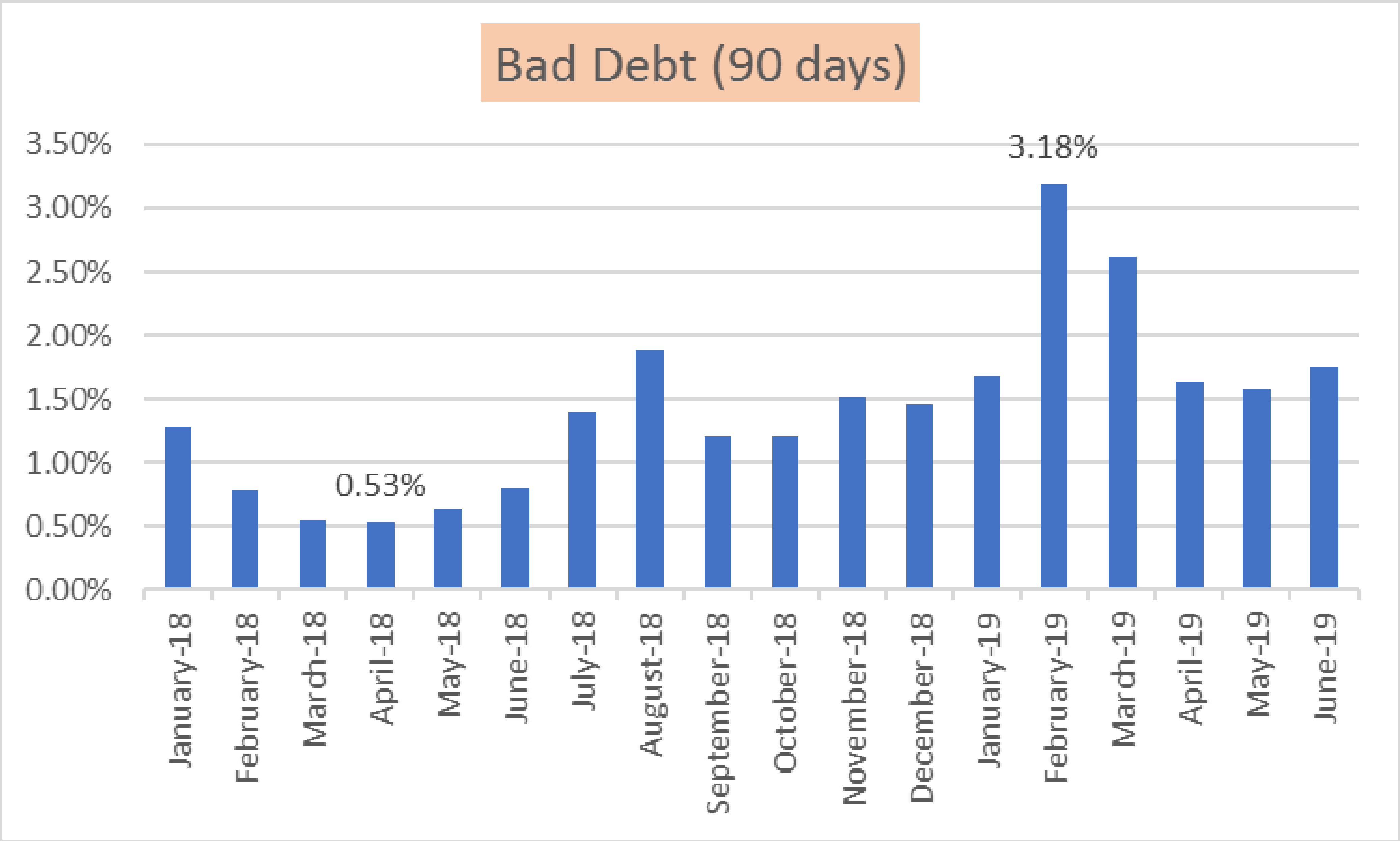
- IDR2,58 trillion (Jan 2018)
- IDR38,49 trillion (Jun 2019)
- Growth rate: 1393%

Non-Java:

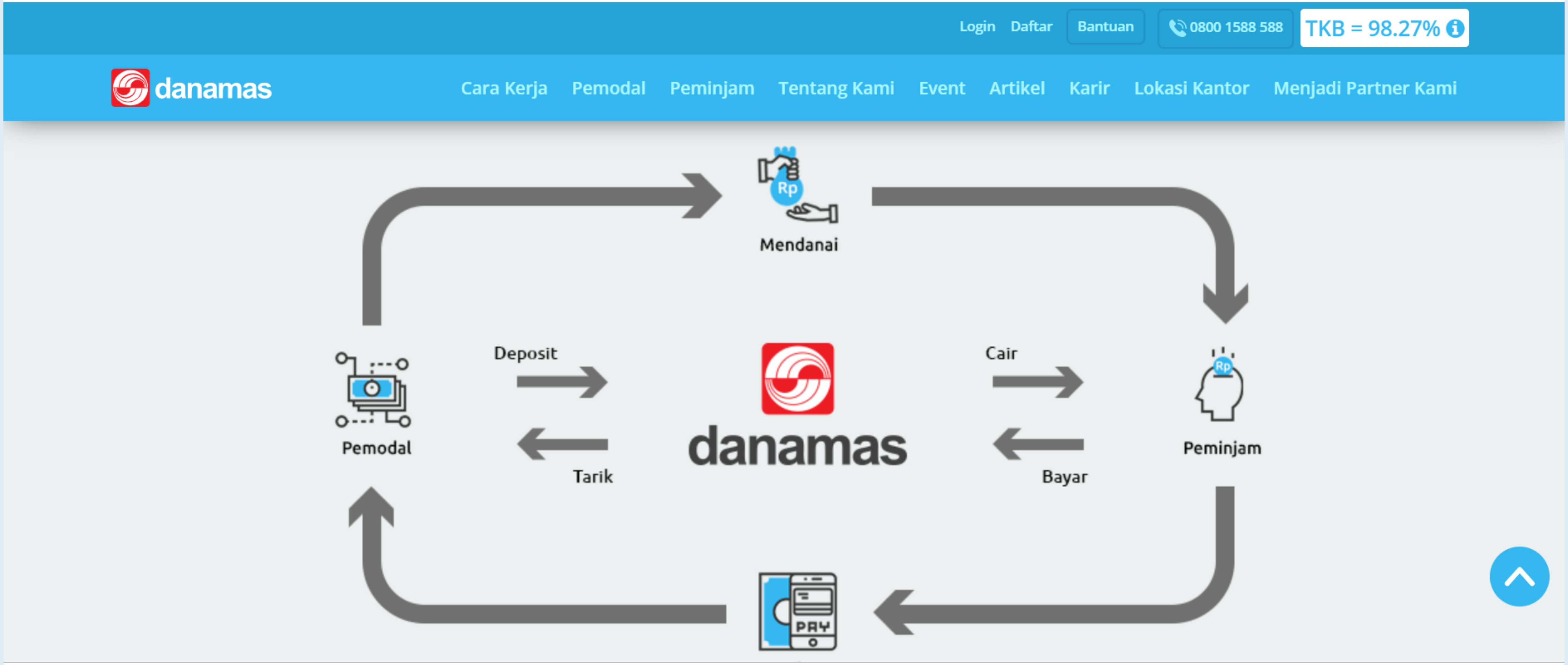
- IDR423 billion (Jan 2018)
- IDR6.32 trillion (Jun 2019)
- Growth rate: 1390%


Proportions of Total Accumulated Loan (IDR)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
January-18
February-18
March-18
April-18
May-18
June-18
July-18
August-18
September-18
October-18
November-18
December-18
January-19
February-19
March-19
April-19
May-19
June-19
Java
Non-Java


Average Loan (IDR)
120,000,000.00
100,000,000.00
80,000,000.00
60,000,000.00
40,000,000.00
20,000,000.00
0.00
56,484,072.00
99,057,610.64
January-18
February-18
March-18
April-18
May-18
June-18
July-18
August-18
September-18
October-18
November-18
December-18
January-19
February-19
March-19
April-19
May-19
June-19


Bad Debt (90 days)
3.50%
3.00%
2.50%
2.00%
1.50%
1.00%
0.50%
0.00%
0.53%
3.18%
January-18
February-18
March-18
April-18
May-18
June-18
July-18
August-18
September-18
October-18
November-18
December-18
January-19
February-19
March-19
April-19
May-19
June-19

Danamas (Conventional)



Investree (Conventional and Syariah)

Peer to Peer Lending Opportunities in Indonesia

- 183.3 Million Productive citizens in Indonesia
- 60 Million unbanked citizens
- 58.97 million SMEs → Government aims to reach up to IDR1,600 Trillion SME Credits
- As of June 2019: there are only 113 registered P2P lending
- FDI is up to 85% in P2P lending (POJK No. 77/POJK.01/2016)

Source: BPS, FinDex 2018

Peer to Peer Lending Challenges in Indonesia

- EY Fintech adoption survey (2017):
  - Indonesia < 10%
  - India > 50%
  - China > 69%
- Borrowers and lenders mostly reside in Java
- There are much more borrowers than lenders
- As of March 2019 → 600 illegal P2P lending that have been shutdown by the FSA (OJK)
- Bottlenecks (Indonesia Fintech Association, 2018):
  - Access to citizen digital ID (the civil registration office)
  - Credit scoring

Some useful links

- https://kr-asia.com/year-end-interview-what-to-watch-out-for-in-indonesias-fintech-landscape-2019
- https://www.digitalnewsasia.com/digital-economy/indonesia-leads-financial-inclusion-progress-global-findex-2017
- https://globalfindex.worldbank.org/
- https://www.cnbcindonesia.com/tech/20190309180739-37-59685/ditemukan-lagi-168-fintech-ilegal-total-ada-803
- https://www.indonesia-investments.com/news/todays-headlines/number-of-internet-users-in-indonesia-rises-to-171-million/item9144
- https://www.ojk.go.id/id/kanal/iknb/data-dan-statistik/fintech/default.aspx
- http://fintechnews.sg/
- https://danamas.co.id/web/HomeAction_home.action
- https://www.investree.id/

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Assessing the Effectiveness of Indonesia Health Insurance Scheme: A Client's Perspective

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Abstract

In 2014, a Mandatory National Health Insurance Scheme (JKN—Jaminan Kesehatan Nasional), managed by Indonesia's Social Security Organising Body (known as BPJS--Badan Penyelenggara Jaminan Sosial) was introduced. Participation towards the program is mandatory for all Indonesian residents. By the end of 2018, JKN has 205.07 million participants, or 78.8% from a total of Indonesian residents, and targeted an increase of the participation of up to 95% of total Indonesia population in 2019. This study aims to evaluate the performance of BPJS from perspective of its customers, in this case Indonesia citizens, using perception surveys. Specifically, this study looks at the level of awareness, perceptions of, and support the Mandatory Health Insurance Scheme (JKN) among the citizens. It is important to conduct this survey in order to identify areas of improvement for the program and subsequently, the feedback could be used to inform further regulatory reforms specifically looking from the perspective of its clients. This paper will be organized as follows; first, we briefly review the implementation of Mandatory National Health Insurance Scheme (JKN) thus far and identify potential problems within customers' context. This will help to assess the current situation in the market and provide direction for the survey development. We will explain the implementation of the methodology used and follow this with the results of data analysis. Finally, the findings of the survey will be presented with emphasis on the implications for government to improve health insurance scheme in Indonesia.

Keywords: insurance; health insurance; perception survey

1. Introduction

Initially, National Health Insurance program in Indonesia (JKN) was given in a variety of ways to several communities according to staffing status or financial condition. However, since January 1, 2014, national health insurance products were merged and managed by one organization called BPJS Kesehatan. The participation towards the program is mandatory for all Indonesian residents, including foreigners who work for a minimum of six months in Indonesia. By the end of 2018, JKN has 205.7 million participants, or 78.8% from a total of Indonesian residents. In 2019, the program targeted an increase of the participation of up to 95% of total Indonesia population. The biggest proportion (43.4%) of a total of JKN participants comes from category of PBI – The Recipient of State Budget Contribution Assistance, mainly the poor and the needy residents who receive Indonesian Health Cards (KIS—Kartu Indonesia Sehat) as the extension of the National Health Insurance program and whose fees are fully subsidized by the government.

Since its implementation, the national health insurance program (JKN) has benefited many people. In 2018, utilization of health services has reached 233.8 million, or an average of 640,765 people per day. Thus, it is undeniable that the JKN Program has opened wider access for the public to health services. However, there are some groups of people within the community that are not yet registered with JKN, mainly middle-income group. Previous research reported that this middle-income group is actually able to pay for the premium, but they do not have desire to become participants of JKN due to some underlying factors such as trust, the absence of urgency, and the bureaucracy that is perceived as complicated. In this study, we aim to evaluate customers' perception towards the national health insurance and test whether their perception influence their decision to participate with JKN.

2. Literature Review

2.1. National Health Insurance Scheme in Indonesia

As a form of service improvement for the community, BPJS Kesehatan opened up wider opportunity for participants to get more benefits (especially in terms of non-medical benefits) through a Coordination of Benefit (CoB) scheme with commercial insurance companies. Besides being stated in Article 28 of Presidential Regulation Number 111 of 2013, this CoB scheme is expected to improve services for participants who are able to pay more.

The principle of CoB involves the coordination of benefits imposed when participant of BPJS Kesehatan buys additional health insurance from the organizer of the additional health insurance program or the other agency which works in collaboration with BPJS Kesehatan. BPJS Kesehatan will later guarantee fees according to the applicable rates in the National Health Insurance (JKN) program, while the rest of the fees will be the responsibility of commercial insurance as long as it complies with the applicable provisions and procedures. On the first launch of CoB scheme in 2014, BPJS Kesehatan started working in collaboration with 30 private insurance companies. Until 2018, there were 26,938 health facilities where patients can get treatment under the BPJS. The number includes 9,863 community health centers (Puskesmas and private clinics), 2,139 hospitals, 1,194 dentists and 1,058 opticians. At present, BPJS Kesehatan has synergized with dozens of private health insurance companies or better known as Additional Health Insurance (AKT) in implementing CoB.

Coordination in providing benefits for participants in JKN is carried out by BPJS Kesehatan with Additional Health Insurance Providers (AKT) who sell indemnity products, cash plans and managed care. BPJS Kesehatan takes role as the first guarantor; and Provider of Additional Health Insurance (AKT) as the first payer.

According to the new regulation regarding CoB scheme as stated in BPJS Kesehatan Regulation No. 4/2016, it has some differences with the previous regulation, which is more beneficial for AKT participants and companies.

First, in terms of participation, if previously the business entity directly registered JKN-KIS membership to BPJS Kesehatan, now with the issuance of new CoB rules, the business entity can register JKN-KIS membership through the AKT company.

Secondly, in terms of payment of contributions, if in the past the payment of contributions was made separately between JKN-KIS contributions and AKT premiums, now JKN-KIS contribution payments can be made together with AKT premium payments.

Third, in terms of health services, if the old CoB rules limit referrals only from first-level health facilities (FKTP) in collaboration with BPJS Health, then in the new CoB rules, CoB JKN-KIS participants can use referrals from non-BPJS Health FKTP partners with companies AKT, with the reference note for specialistic cases.

2.2. National Health Insurance Practices in ASEAN

2.2.1. Singapore

Healthcare in Singapore is overseen by the Singapore Ministry of Health. This largely consists of a universal health care system managed by the government with a significant private health sector. In addition, financing health care costs is carried out through a mixture of direct government subsidies, mandatory savings, national health insurance, and cost sharing.

Singapore generally has an efficient and widespread system of healthcare as it was ranked 6th in the World Health Organization's ranking of the world's health systems in 2000. Also, The Economist Intelligence Unit (2014) ranks Singapore health system as the second best (after Japan) of 166 in the world. Similarly, Bloomberg 2017 Health Care Efficiency Index ranks it second best among 55 countries.

Ramesh & Bali (2017) stated that Singapore government intervenes heavily and comprehensively in the health sector. Although health services are not free in Singapore, the government pays a lot of costs associated with the medical system, such as paying for most hospitals, making them public, and paying attention to most doctors in the city.

According to the publication of InterNations (2019), it is mandatory for Singaporean citizens and permanent residents to have some kind of health protection. The Ministry of Health provides a national savings scheme named MediSave, which helps members of the Central Provident Fund (CPF) pay for hospitalization, surgery, and certain outpatient costs for themselves or close family members. Established in 1984, MediSave is the oldest component of public health services in Singapore. Every Singaporean employee and Permanent Resident needs to set aside 8 to 10.5% of their annual income. The money is collected in a special savings account, where it is subject to tax-free interest. The exact percentage depends on the person's age. The lowest contribution for those under the age of 35 and the highest for the 50+ age group.

Regarding Health Insurance, all Singaporeans and permanent residents get basic health insurance named MediShield Life which covers basic public hospital treatments. For further coverage, they can purchase Integrated Shield Plan (IP) which gives them the option to get treated in better class wards and private hospitals. They can also add on by paying higher premiums for added insurance coverage through IP Riders. As for, MediSave can only be used to pay MediShield Life and Integrated Shield Plan (IP).

CIMB Research shows that around two-thirds of Singapore's population currently have IP, up from 43% in 2006. According to the Ministry of Health (MOH), IP coverage grew at a steady 6% CAGR during 2006 -15, that might be driven by the increasing prosperity and an the aging population. In 2014, the percentage of those who remained without insurance reached 6% and that number disappeared in 2015.

2.2.2. Malaysia

Regarding national health insurance in Malaysia, The Malaysian government has announced a free national health insurance scheme for low-income people, with an initial fee of RM2 billion (US $ 481 million) in December 2018.

The B40 National Protection Scheme (Below 40 percent), which has begun on January 1, 2019 provides protection against 36 critical illnesses. Payments up to RM 8.000 during the period to be announced on time. Under the scheme, there is a reimbursement payment of RM 50 per day up to 14 days, or RM 700 a year for hospitalization.

This scheme is a significant step taken by the Government of Pakatan Harapan (PH) to build a comprehensive social safety net from aspects of inclusive health insurance and takaful coverage (according to sharia) for low income groups for free.

The insurance scheme is guided by the manifesto PH to increase access to health services that are urgently needed, alleviate the cost of living and improve people's welfare. Targeted recipients between the ages of 18 and 55 will be covered for a period of five years. More than four million households are expected to benefit from this scheme.

According to Bank Negara Malaysia Report (2017), the insurance and takaful industries in Malaysia had healthy annual rates of 10.47 percent in the 20 years before 2016, and it accounted for 6% of the Malaysian financial system assets in 2016. As for, the ratio of life insurance policies and family takaful contracts to total population increased from 25.3% in 1996 to 56% in 2016. Responding to this situation, Bank Negara Malaysia (BNM) has targeted the national insurance penetration rate to achieve 75% in 2020 from the current 56%.

2.3.Customer Perceptions

Popular studies featured in services marketing literature show that customers form perceptions about service providers, based on how the service providers deliver the services, physical evidence provided in the service offering, response to emergencies, service performance, trustworthy behavior, accuracy, honesty and consistency, and good manners of service providers (Agarwal & Kumar, 2016; Parasuraman, Zeithaml, & Berry, 1985).

According to Gronroos (1982), there are two dimensions of customer perceptions of a service, namely technical quality (what is provided) and functional quality (how services are provided). Sasser et al. (1978) proposed three different attributes (level of material, facilities, and personnel) which are all related to the process of service delivery. Furthermore, Gronroos (1990) identified six specific dimensions, namely, professionalism and skills, reliability and trust, attitudes and behavior, accessibility and flexibility, recovery, and reputation and credibility.

2.3.1. Perceptions Towards National Insurance Health Scheme

A research study about perceptions of NHIS in Ghana found that price is considered to be a barrier to the enrollment (Jehu-Appiah, et al., 2011). Prices (including premium fees and registration), convenience and benefits of national health insurance scheme (NHIS) are all factors that are significantly associated with enrolment and retention. To overcome this, a possible solution might be to implement better premiums or waivers for the poor in order to provide fair and equitable participation (Jakab & Krishnan, 2004; Aryeetey et al., 2010; Jehu-Appiah et al., 2010).

Second, at convenience, the scheme's administrative arrangements might be a potential barrier. To improve overall community satisfaction, scheme administrators must be responsive to people's preferences (Carrin et al., 2005) by overcoming operational difficulties that appear to inhibit registration (De Allegri et al., 2009).

Third, both the insured and the uninsured have a positive perception about the benefits of NHIS regarding the benefits of economic, psychological and social insurance (Arhinful 2003). However, those who have not been insured and previously insured are somewhat less positive about the benefits of the scheme, and this may be related to their decision not to register and renew membership.

2.3.2. Perceptions towards Providers

The credibility of the health care system in relation to quality care factors is a determining factor in how people perceive health insurance (Arhinful 2003). Growing dissatisfaction from insured clients who feel that they are given poorer quality care and wait longer than cost-paying clients need to be addressed immediately to maintain and attract new members (Bruce et al., 2008).

The mechanism to reimburse provider costs is a powerful instrument that forms incentives for facility managers and individual providers (Yazbeck, 2009). Thus provider payment reforms may be needed to regulate financial incentives to influence provider behavior towards insured clients.

In addition, from the patient's perspective, constant supply of essential medicines is a prerequisite for the credibility of the scheme and for the quality of health care provided (Mamadani & Bangser, 2004). Frequent delays in reimbursing service providers affect the availability of drugs in public facilities.

With the frequent outages, insured clients must buy medicines on the open market, reduce

In contrast to the attitude of providers, previous research shows that the technical quality of care and service delivery is perceived positively (Jehu-Appiah et al., 2010). It is also proven that there is effect of quality care on enrollment (Criel et al., 1998; Haddad et al., 1998; Atim & Sock, 2000; Chee et al., 2002; Criel & Waelkens, 2003; Musau, 2004; Baltussen & Ye, 2006; De Allegri et al., 2006; Kamuzora & Gilson, 2007; Ndiaye et al., 2007; Basaza et al., 2008).

2.3.3. Perceptions towards Community Attributes

Community attributes have significant role towards health insurance enrolment as those were proven by the previous research that factors which influence positive perceptions in the public health sector involve personal experiences in health services, family experiences, media reports, and experiences of close friends (Setswe et al., 2016).

A research conducted by Jehu-Appiah et al. (2010) highlights the fact that household decisions to register are influenced by community attributes such as health beliefs, attitudes and peer pressure. Besides, the other researches also expose the importance of peer contexts on individual differences (Daddis, 2010), which in turn is influenced by factors such as prevailing ideas about insurance, members' past experience, credibility of scheme management and applicable health service contexts (Arhinful, 2003). Peer pressure is found to be negatively related to enrolment. Information spreads quickly in the community, people listen to each other and perceptions of individuals can have a cumulative effect in a community.

Community beliefs and attitudes, the values and knowledge people have about the concept of health insurance and risk sharing, are considered to be influencing household perceptions towards the need and participation in health insurance (Lee et al., 2010). Trust and public health attitudes are considered positive, in the sense that households show a good understanding of the principles and concepts of sharing insurance and health risks, in line with findings from previous studies in Ghana (Akazili, 2010). Those who are not insured are more positive in their understanding, suggesting that low participation rates are not necessarily the result of failure to understand the concept of health insurance, but are more likely to be the result of other factors, such as household preferences.

3. Methodology

The data was collected using online questionnaire and distributed via Amazon MTurk. Questionnaire was used to measure perception towards hospital/providers, perception towards BPJS Kesehatan, and perception towards community attributes among three categories of people which are people with private health insurance, people with only public health insurance (BPJS Kesehatan), and people with no insurance.

A Likert scale was used to measure (1 = strongly disagree to 5 = strongly agree) 23 item statements on perceptions based on previous research conducted in Ghana by Jehu-Appiah et al., (2010). Data were analyzed using IBM SPSS Statistics. First, we checked the validity and reliability of construct then drop selected items which are not valid or reliable (from 23 items, there are 2 items which are not reliable). Second, we used one-way ANOVA to see whether there are differences in perception between three groups of people. Third, logistic regression was run to determine the association of perception on BJPS Kesehatan enrollment.

4. Results

4.1. Descriptive summary characteristic

Majority of respondents are female (65.3%) as compared with male (34.7%) and most of them are in age category above 36 years (33.8%) which are adult population. Respondents' profile also reveal that majority of them are employed (75.2%) mostly as private employee (38.8%). Most of the respondents have monthly expenditure within range IDR1,000.001 – IDR3,000,000 (37.7%) and most of them also married (53.3%) and possess a bachelor's degree (54.2%). About 93.3% respondents are considered having a good health condition (not unwell) and most of the do not have any children (64.7%) (see Table 1).

Table 1. Descriptive statistics

Item	Option	Percentage (%)
Gender	Female	65.3
	Male	34.7
Age	< 16-20	6.2
	21-25	19.2
	26-30	26.9
	31-35	13.8
	above 36	33.8
Monthly expenditure	<IDR1.000.000	9.9
	IDR1.000.001 - IDR3.000.000	37.7
	IDR3.000.001 - IDR5.000.000	22.8
	IDR5.000.001 - IDR7.000.000	11.1
	IDR7.000.001 - IDR9.000.000	6.8
	IDR9,000.001 - IDR11,000,000	6.2
	IDR11,000,001 - IDR13,000,000	2.5
	>IDR13,000,000	3.1
Education	Elementary	1.2
	Junior high school	0.0
	Senior high school	22.9
	Bachelor's degree	54.2
	Master's degree	16.9
	Doctoral degree	4.8
Marriage Status	Single	46.7
	Married	53.3
	Widow	0.0
	Divorce	0.0
Number of Children	0	64.7
	1	12.6
	2	13.8
	3	7.8
	4	1.2
	5	0.0
	>5	0.0
Employment	Unemployed	3.0
	Student	21.8
	Government employed	7.3
	Private employee	38.8
	Others	29.1
Health status	very well	22.0
	well	52.4
	neutral	18.9
	unwell	6.7
	very unwell	0.0
Freq. of using BPJS Kesehatan	Never	40.7
	1	16.8
	2	9.6
	3	7.8
	4	4.8
	>4	20.4
Freq. of accompanying family using BPJS Kesehatan	Never	30.5
	1	18.6
	2	16.2
	3	4.8
	4	3.0
	>4	26.9

4.2. Level of Awareness towards BPJS Kesehatan Services and Reasons for (Not) Enrolling with BPJS Kesehatan

The level of awareness towards BPJS Kesehatan was measured by answering several statements about BPJS Kesehatan. Respondents were asked to give a "correct", “incorrect”, or “not sure” answer for each statement. The results show that people with only public insurance mostly has better awareness of BPJS Kesehatan services compared with people with private insurance and uninsured. Only for the third statement “customers can go directly to BPJS Kesehatan providers to get treatment”, people with public insurance has better understanding than the other categories. For the statement that states “Indonesian residents have option for not having BPJS Kesehatan”, people who are uninsured have better understanding than the other group with 56% of them correctly answer that statement. The detail of proportion of respondents who have given correct answers is shown in Table 2 below.

Tabel 2. Understanding of BPJS Kesehatan

Understanding of BPJS Kesehatan	**People with only Public Insurance (%)**	**People with private insurance (%)**	**People with no Insurance (%)**
BPJS Kesehatan providers have free health services	80.00	79.70	81.30
BPJS Kesehatan has the same health services with private insurance	31.60	20.30	13.50
Customers can go directly to BPJS Kesehatan providers to get treatment	52.70	57.60	37.50
Indonesia Residents have option for not having BPJS Kesehatan	40.00	39.00	56.00
BPJS Kesehatan monthly fee is depend on the class of facilities wanted	96.80	93.20	81.30

For people with only public insurance and people with private insurance, the biggest reason of enrolling for BPJS kesehatan is because they aware that they need financial protection against illness. The second reason is because BPJS Kesehatan is more affordable than private insurance. For both categories, most of them responded that BPJS Kesehatan has no better service than private insurance. The following Table 3 show the detail proportion of reasons people enroll with BPJS Kesehatan.

Table 3. Reasons for Enrolling

Reasons	People with only Public Insurance (%)	People with private insurance (%)
Financial protection against illness	87.20	100.00
BPJS Kesehatan is more affordable	82.00	84.20
BPJS Kesehatan has better service than private insurance	21.30	7.90
Community opinion leader ask me to join	44.70	34.20
Relative asked me to join	72.40	42.10

The main reason people not enrolling with BPJS Kesehatan (Table 4) is because they think the registration process is too complicated (57.10% agree with the statement). The second reason is because they already have employer who paid for the costs of their healthcare insurance (37.60%) and the third one is because they are not confidence with BPJS Kesehatan service scheme. This finding is aligned with pervious study by Arthinful (2013) which found that the scheme itself, such as the administrative arrangement and the benefit received, perceived as somewhat less positive by people with no insurance and may relate to their decision not to register.

Table 4. Reasons for Not Enrolling

Reasons	People with no Insurance (%)
Cannot afford premium	25.00
Mostly healthy do not need to insure	18.80
No close facility in the area	31.30
Have private health insurance	25.00
No confidence in the scheme	37.50
Registration is too complicated	57.10
Employers pays my costs of health care	37.60

4.3.Perceptions

This study adopt perception statements from previous study by Jehu-Appiah, et al., (2011) and grouped 23 statements related to perceptions towards healthcare providers (technical quality of care, service delivery adequacy, provider attitude), perceptions towards scheme (benefit of BPJS Kesehatan, price, and convenience of BPJS Kesehatan), and perceptions towards community attributes (peer pressure and health belief and attitude). However, convenience of BPJS Kesehatan, one of the dimensions of perceptions towards scheme construct, has Cronbach's alpha off 0.397 (less than cut-off value of 0.6). Thus, it will not be included in further analysis. All other dimensions will be analyzed further as we consider its value as valid (factor loading and KMO > 0.5 and sig. <0.05) and reliable (cronbach's alpha > 0.6)[1]. Table 5 show the detail for factor loading and cronbach's alpha for each construct and measurement.

Table 5. Perception factors and alpha score

Dimension	No	Items	Factor Loading	KMO and Bartlett's Test	Cronbach's Alpha
Technical quality of care	1	Treatment is effective for recovery and cure	0.632	7.80 Sig. 0.000	0.739
	2	The quality of drugs is good	0.611		
	3	The provider makes a good diagnosis	0.629		
	4	The doctors do a good clinical examination	0.702		
	5	I can get immediate care if I need it	0.703		
	6	The quality of Indonesia insurance will be better with BPJS Kesehatan	0.694		
Service delivery adequacy	7	There are sufficient number of good doctors	0.812	0.761 Sig. 0.000	0.748
	8	The doctors for women are adequate	0.762		
	9	The medical equipment is adequate	0.754		
	10	The rooms are adequate	0.695		
Benefit of BPJS	11	Will save money from paying hospital bills	0.805	0.642 Sig. 0.000	0.65
	12	Will not need to borrow money to pay for hospital care	0.709		
	13	Joining the scheme will benefit me	0.797		
Convenience of BPJS	14	The district scheme office location is convenient	0.790	0.500 Sig. 0.001	0.397
	15	The collection of insurance cards is convenient	0.790		

[1] although peer pressure and price have cronbach's alpha less than 0.6, we decided to include it in further analysis since its value is close to 0.6.

Dimension	No	Items	Factor Loading	KMO and Bartlett's Test	Cronbach's Alpha
Providers' attitude	16	Attitude of health staff should be improved (R*)	0.866	0.500 Sig. 0.000	0.665
	17	Availability of drugs should be improved (R*)	0.866		
Peer pressure	18	Opinion leaders in my community affect my decision to enroll	0.830	0.500 Sig. 0.000	0.544
	19	Experience of others with health insurance affects my decision to enroll	0.830		
Health beliefs and attitude	20	Health is a matter of fate (in the hands of God) and insurance cannot help me deal with its consequences (R*)	0.885	0.500 Sig. 0.000	0.721
	21	Buying insurance may bring bad luck and illness (R*)	0.885		
Price	22	The additional fee is too high to get treatment in providers is too high (R*)	0.836	0.500 Sig. 0.000	0.567
	23	The registration fee is too high (R*)	0.836		

4.3.1. Perception Differences between Insured and Uninsured People

We analyzed the results with one-way ANOVA method to test whether there is any differences between perception towards providers, perception towards scheme and perception towards community attitude among three categories of people (people with private health insurance, people with only public health insurance, and people with no insurance) (Table 6). The results show that there are differences between groups in technical quality service (dimension of perception towards providers) and price (dimension of perception towards scheme) with p-value < 0.001 and p-value < 0.005, respectively. Furthermore, based on multiple comparison result, we can conclude that there is different perception of technical quality service for people with no insurance and people in the other categories (people with only public insurance and people with private insurance). For price perception which explain affordability, significant different shows in people with only public insurance and people with private insurance with value of sig. 0.003 (sig < 0.05).

Table 6. Results of One-way ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
MEAN_TECHNICALQUAL	Between Groups	4.047	2	2.024	6.809	.001
	Within Groups	48.442	163	.297		
	Total	52.489	165			
MEAN_SERVICEDLVRY	Between Groups	1.976	2	.988	1.752	.177
	Within Groups	90.808	161	.564		
	Total	92.785	163			
MEAN_BENEFIT	Between Groups	.139	2	.070	.204	.816
	Within Groups	56.239	165	.341		
	Total	56.378	167			
MEAN_ATTITUDE	Between Groups	.886	2	.443	.978	.378
	Within Groups	75.651	167	.453		
	Total	76.537	169			
MEAN_PEER	Between Groups	3.131	2	1.565	2.314	.102
	Within Groups	112.313	166	.677		
	Total	115.444	168			
MEAN_HEALTHBELIEF	Between Groups	2.344	2	1.172	1.621	.201
	Within Groups	118.572	164	.723		
	Total	120.916	166			
MEAN_PRICE	Between Groups	7.358	2	3.679	5.612	.004
	Within Groups	106.861	163	.656		
	Total	114.218	165			

Table 7. Results of Multiple Comparisons (Post-hoc test)

Dependent Variable	(I) INSURANCE	(J) INSURANCE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
MEAN_TECHNICALQUAL	People with only public insurance	People with private insurance	.17889	.09093	.153	-.0411	.3988
		People with no insurance	.53068*	.15180	.002	.1635	.8979
	People with private insurance	People with only public insurance	-.17889	.09093	.153	-.3988	.0411
		People with no insurance	.35179	.15764	.081	-.0295	.7331
	People with no insurance	People with only public insurance	-.53068*	.15180	.002	-.8979	-.1635
		People with private insurance	-.35179	.15764	.081	-.7331	.0295
MEAN_SERVICEDLVRY	People with only public insurance	People with private insurance	.16991	.12659	.544	-.1364	.4762
		People with no insurance	.33043	.20912	.348	-.1755	.8364
	People with private insurance	People with only public insurance	-.16991	.12659	.544	-.4762	.1364
		People with no insurance	.16053	.21794	1.000	-.3667	.6878
	People with no insurance	People with only public insurance	-.33043	.20912	.348	-.8364	.1755
		People with private insurance	-.16053	.21794	1.000	-.6878	.3667
MEAN_BENEFIT	People with only public insurance	People with private insurance	.06184	.09717	1.000	-.1732	.2969
		People with no insurance	.01523	.15801	1,000	-.3669	.3974
	People with private insurance	People with only public insurance	-.06184	.09717	1.000	-.2969	.1732
		People with no insurance	-.04661	.16456	1.000	-.4446	.3514

Dependent Variable	(I) INSURANCE	(J) INSURANCE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	People with no insurance	People with only public insurance	-.01523	.15801	1.000	-.3974	.3669
		People with private insurance	.04661	.16456	1.000	-.3514	.4446
MEAN_ATTITUDE	People with only public insurance	People with private insurance	-.11418	.11156	.923	-.3840	.1556
		People with no insurance	-.21217	.18188	.735	-.6520	.2277
	People with private insurance	People with only public insurance	.11418	.11156	.923	-.1556	.3840
		People with no insurance	-.09799	.18971	1.000	-.5568	.3608
	People with no insurance	People with only public insurance	.21217	.18188	.735	-.2277	.6520
		People with private insurance	.09799	.18971	1.000	-.3608	.5568
MEAN_PEER	People with only public insurance	People with private insurance	.16084	.13634	.719	-.1689	.4906
		People with no insurance	-.33860	.22853	.421	-.8913	.2141
	People with private insurance	People with only public insurance	-.16084	.13634	.719	-.4906	.1689
		People with no insurance	-.49944	.23785	.112	-1.0747	.0758
	People with no insurance	People with only public insurance	.33860	.22853	.421	-.2141	.8913
		People with private insurance	.49944	.23785	.112	-.0758	1.0747
MEAN_HEALTHBELIEF	People with only public insurance	People with private insurance	-.25603	.14227	.221	-.6001	.0881

Dependent Variable	(I) INSURANCE	(J) INSURANCE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
		People with no insurance	-.11055	.23013	1.000	-.6672	.4461
	People with private insurance	People with only public insurance	.25603	.14227	.221	-.0881	.6001
		People with no insurance	.14547	.24011	1.000	-.4353	.7263
	People with no insurance	People with only public insurance	.11055	.23013	1.000	-.4461	.6672
		People with private insurance	-.14547	.24011	1.000	-.7263	.4353
MEAN_PRICE	People with only public insurance	People with private insurance	-.45356*	.13547	.003	-.7813	-.1259
		People with no insurance	-.14839	.22529	1.000	-.6933	.3966
	People with private insurance	People with only public insurance	.45356*	.13547	.003	.1259	.7813
		People with no insurance	.30517	.23454	.585	-.2622	.8725
	People with no insurance	People with only public insurance	.14839	.22529	1.000	-.3966	.6933
		People with private insurance	-.30517	,23454	.585	-.8725	.2622

4.3.2. Association of perceptions with BPJS enrollment

In this study, logistic regression results (Table 7) show that there is only one dimension of perceptions associated with people's decision to enroll with BPJS Kesehatan, which is peer pressure with value of sig. 0.021 (sig. <0.05). Peer pressure dimension is part of perception towards community attitude. Previous study by Jehu-Appiah, et al., (2011) also found that peer pressure is one of the factors associated with public insurance enrollment though other factors such as benefit, convenience and price which part of perception towards scheme was also mentioned.

Table 7. Effects of perception on BPJS Kesehatan enrollment

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	MEAN_TECHNICALQUAL	.667	.441	2.287	1	.130	1.949
	MEAN_SERVICEDLVRY	.324	.323	1.009	1	.315	1.383
	MEAN_BENEFIT	-.060	.430	.019	1	.889	.942
	MEAN_ATTITUDE	.058	.316	.034	1	.854	1.060
	MEAN_PEER	-.677	.292	5.364	1	.021	.508
	MEAN_HEALTHBELIEF	-.005	.288	.000	1	.988	.996
	MEAN_PRICE	-.043	.291	.022	1	.883	.958
	Constant	.517	2.221	.054	1	.816	1.677

a. Variable(s) entered on step 1: MEAN_TECHNICALQUAL, MEAN_SERVICEDLVRY, MEAN_BENEFIT, MEAN_ATTITUDE, MEAN_PEER, MEAN_HEALTHBELIEF, MEAN_PRICE.

5. Conclusion and Discussion

Perception towards hospital/providers (technical service quality factor) is different between insured (people with only public health insurance (BPJS Kesehatan) and people with private health insurance) and uninsured people. Perception towards BPJS Kesehatan scheme, particularly in price factor, is different between people with only public insurance and people with private insurance.

Specifically, our findings show that there is significant difference in technical service quality between people with no insurance, people with public insurance, and people with only private insurance. This result indicates that people with no insurance have perception that BPJS Kesehatan has no satisfactory quality in terms of service, drug, and medical staff. Peer pressure may have influence towards people's decision to enroll since Indonesian population is often believe what other people say and it also may lead to their resistant for BPJS Kesehatan enrollment. Moreover, there is different perception towards price of BPJS Kesehatan between people with only public insurance and people with private insurance. People with only public insurance perceived the premium and additional service price of BPJS Kesehatan as high, while people with private insurance perceived the price of BPJS Kesehatan as lower.

There is an association between perception and people's decision to enroll in BPJS Kesehatan. This study shows that community attitude is the only perception attribute associated with people's decision to enroll with BPJS Kesehatan. This finding is important as it suggest to focusing effort in this area in order to improve enrollment and achieve BPJS target to increase the participation of up to 95% of total Indonesia population. However, the findings are different than previous study which shows that scheme factors is the strongest factors associated with public insurance enrollment (Jehu-Appiah, et al., 2011). This difference may be related to different characteristics of Indonesia population. Consumers' decision making in Indonesia is often influenced by others recommendation and they tend to believe about others past experiences while using certain service or product, including insurance. According to Jehu-Appiah, et al., (2011) intervention should be done to meet people expectation of public insurance in order to make them satisfied, minimized dropouts, and finally attract new members.

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Financial Inclusion in Indonesia: A Province Level Analysis on People Engagement in Banking Services and Human Development Index

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Abstract

Financial inclusion is a well-received goal of countries around the world since it is expected to support economic development. Because it reflects effective and efficient access to banking services, people can maximize the utilization of financial services to helps them cope with life strategies and emergencies. Easy access to financial services is making them able to have a more financial choice for better decision making in life. Nevertheless, research providing the real proof of its positive externalities is still limited. With province-level data, this paper is aimed to (1) capture the brief profile of financial inclusion in Indonesia, (2) examine its direct effect towards people's engagement in banking services, and (3) examine its positive correlation to human development index. This article is using publicly available data from the Indonesian Financial Authority, Central Bureau of Statistics, and The World Bank Global Financial Index Data. By using correlation analysis, financial inclusion index has positive correlation towards both total credits and total savings in each province. It also shows positive correlation towards province-level human development index. This research is providing empirical evidence on how financial inclusion brings positive impacts to the country.

Keywords: *financial inclusion; savings; credits; human development index; life expectancy; financial services*

JEL: A13, B26, D23, G21, O16

Introduction

The financial inclusion towards financial development and economic growth is quite essential. Therefore, it has included in one of the Global Policy Agenda. Financial inclusion is on the supply side of financial services availability and accessibility. Inclusion pushing is in order to improve people's engagement in financial services. Thus, the evidence on how it improves people real engagement in bank services is limited. First, the article portraits the current condition of financial inclusion in Indonesia. Second, by analyzing province-level data, it shed light on how financial inclusion index of each province bring significant correlation to province's total credit and total third-party funds of commercial banks and rural banks in Indonesia. The data used in this research is sourced from Global Findex Data and Indonesian Banking Statistical Report issued by The Indonesian Financial Authority (Otoritas Jasa Keuangan). The result indicates that province level financial inclusion data correlated positively with total credit and total third-party funds on the current period. Nevertheless, the correlation between inclusion and the non-performing loan is still unclear. These findings support the importance of financial inclusion towards financial services utilization.

Governments around the world emphasize the importance of financial inclusion and put it on global policy agenda (Arun & Kamath, 2015; Bhatia & Arnav Chatterjee, 2010; Ergun, 2017). It refers to the delivery of banking services at an affordable cost to the vast sections of the disadvantaged and low-income group (Bhatia & Arnav Chatterjee, 2010). Financial services should be easily accessed effectively and affordably at excellent and sustainable quality (Queralt, Fu, & Romano, 2017). When all citizens can access financial products, they will be able to utilize it to improve their life quality (for education purposes, house ownership, and business capital. Thus, economic activities are improved and supported. Therefore, it is undoubted that financial development has a positive correlation toward economic growth (Liu, Lee, & He, 2016). Much research has mentioned the importance of financial inclusion towards economic development (Fungáčová & Weill, 2014).

This research is aimed to contribute more understanding on the current condition of financial inclusion in Indonesia, developing country with highest potential market among ASEAN Economic Communit~~t~~y Countries. After understanding the full map of it, this research shed light on the correlation between financial inclusion index and real people engagement on banking products? The difference~~t~~ of this research from others is that the data using province level took from Indonesian Financial Authority, in which Indonesia is has 33 provinces managing by the same Central Bank. All provinces banking and financial policies is managed by The Central Bank of Indonesia *(Bank Indonesia)* and Indonesia Financial Authority *(Otoritas Jasa Keuangan)*. Rather than seeking the correlation among different countries with each owned financial directions, drawing correlation analysis in province level units enable us to get sharper evidence on the externalities of financial inclusion towards real total credit and total third-party funds.

People engagement in banking support country’s growth. For example, based on the research done by Loayza, Schmidt-hebbel, & Serven (2000), ac~~e~~ross the countries, higher saving rates is going to end up with higher economic growth. Their statement was also confirmed by (Habibullah & Hidthiir, 2004). It also influences gross domestic product growth positively (Masson, Bayoumi, & Samiei, 2016). The ability to save money to bank reflects the ability to manage money and maintain economic survival. People who save more in the bank is less probably to suffer from the financial crisis (Ergun, 2017). In Africa, household saving positively influences economic growth (Mongale, Mashamaite, & Khoza, 2018). Not only saving, people access on credit facilities also improves their opportunities to grow up their welfare. People might use it for expanding the business, investing in~~on~~ property, and funding education. Nevertheless, on the demand side, the people willing to maximize financial products if the products can be easily accessed. Therefore, inclusion and product utilization are~~is~~ interrelated.

Literature Review on Financial Inclusion

Many definitions on financial inclusion stated in the researches, the main idea is that, it is the adequate access to affordable, quality, and sustainable essential financial services (Queralt et al., 2017), so that both privileged and disadva~~e~~ntaged people have the same chance to access it (Bhatia & Arnav Chatterjee, 2010; Iqbal & Sami, 2017). In details, people could access secure transaction to receive and store money, get access to both short term and long term credit, utilize long-term saving and investments, and to have~~-~~insurance products (Arun & Kamath, 2015). In a disruptive era, banks are getting more creative to provide numer~~u~~ous products. Not only common services like savings, credit, and payments, banks also cooperated with insurance companies to provide a bundling insurance package. Banks, together with Asset Management Companies, offer~~s~~ mutual funds. People’s access towards banking products are getting limitless; they can do transactions from home (*e-banking and SMS banking).*

Financial inclusion has significant role in driving economic growth and alleviating p~~r~~overty (Iqbal & Sami, 2017). Although it has been me~~a~~ntioned by many researchers, for example, Liu et al. (2016), Fungáčová & Weill (2014). Not many of them provide~~s~~ in-depth analysis of~~on~~ real data of inclusion and economic indicator. Iqbal and Sami (2017) provide~~s~~ seven years of macro data analysis on how its impact towards economic growths in India. They found the positive and significant impact of a number of bank and credit deposit ratio on GDP of the country. Higher financial inclusion for a nation means higher probability to improve welfare, especially for the poor (Queralt et al., 2017). Higher inclusion helps the poor to access best suit financial products and prevent them from informal borrowing with the unexpected high-interest rate. It also assists the poor to save and plan the money for obtaining particular life goals.

Brief Portrait of Financial Inclusion in Indonesia

Indonesian Financial Authority has~~ve~~ conducted 2 times financial inclusion and literacy survey in~~on~~ 2013 and 2016. Only survey report done in the year 2016 is available for public access in OJK website (Otoritas Jasa Keuangan, 2016b). Based on the report, financial inclusion index increased from 59.74% (in the year 2013) to 67.82% (in the year 2016). People access banking facilities by representation office and ATM. Besides bank, they also aware on services provided by insurance, pension fund, stock exchanges, and fund agencies. Financial decision is mostly influenced by media (TV advertisement), not by precise-information from banks.

Based on the Global Findex Data, Bank accounts ownership of Indonesian middle and low-income people shows an increased pattern from 2011, 2014, to 2017. Average individual account ownership is 18% during the year 2011, 35% during the year 2014, and 48% during the year 2017. Meaning to say, in~~on~~ the year 2017, 48% percent of respondents are having a bank account. Those data covers respondents from all genders, all economic levels, and with a minimum age of 15 years old. For business account ownership, the average percentage is 18% (for 2011), 34% (for 2014), and 47% for (2017). It showed an increasing trend. Nevertheless, compared to Malaysia and Singapore (other ASEAN countries), Indonesia is still far away behind. I~~O~~n 2017, account ownership in Malaysia is around 83% on average, while in Singapore, the account owner is 100% already. The increasing pattern of account ownership in Indonesia is relatively good, but there~~a~~ are still lots of homework to do

Surprisingly, although this country is cate~~a~~gorized as a developing country, none of the people reporting difficult access to financial services due to unaffordable price, far away distance, religious reason, and insufficient fund. The Indonesian government, through the Central Bank, has launched several programs that the Government made to improve people engagement in Banking Services. For example, to improve people's saving the Indonesian government created *Gerakan Indonesia Menabung* (Indonesian Saving Program) on February 10, 2010. The Central Bank of Indonesia launched *Tabunganku* program, in which, people can open a free-cost saving account. People can save their money, withdraw money from automated teller machine (ATM), transfer money, and doing financial transactions with Rp. 0,- administrative cost. Based on the data gotten from the Indonesian Financial Authority, in the year 2016, there are 79.401 bank representation offices spread of around 33 provinces in Indonesia (Otoritas Jasa Keuangan, 2016a). The numbers of ATM spread ~~of~~ are more than the number of representation offices. Bank cooperated with supermarkets (example: Indomaret and Alfamart) for providing financial services like money withdrawals, money transfers, and payments.

Different form savings, credit products is less utilized by people in Indonesia. The most common way to obtain credit is by borrowing money to families or neighbours. That phenomena is also commonly happened in China, Brazil, Rusia, India, and South Africa (Fungáčová & Weill, 2014). To promote microcredit, The Government created microcredit product, named, *Kredit Usaha Rakyat (KUR).* KUR offers low-interest credit for small, micro, and medium enterprise to expand their capital. KUR is expected to support micro-business in Indonesia.

According to Iqbal & Sami (2017), many factors affect financial inclusion, such as place of living, the absence of legal identity, gender bias~~ness~~, level of income and bank charges, rigid terms and conditions, and type of business. Related to the place of living, based on the secondary data from the Central Bank of Indonesia and OJK, the numbers representatives office of commercial banks in Indonesia is increasing from year to year. In Indonesia, the level of income and bank charges barrier is minimum--free-admin cost bank account, named, TabunganKu program. This type of account does not require~~d~~ any minimum balance in the account. Type of business barrier refers to limited access for small business and unorganized enterprise for the credit loan. To overcome this barrier, Central Bank of Indonesia implemented simple administration proc~~s~~edures for microcredit program *(Kredit Usaha Rakyat)* within a certain minimum ceiling. The entities should only submit the recommendation letter from the district office.

From Table 1, total banks from the year 2012 until 2016 ~~is~~have decrease, but the bigger banks merged to the bankrupt banks. Nevertheless, the total numbers of representation offices are~~is~~ increasing. The increased number of representation offices followed by an addition in ATM and virtual ATM (collaboration with minimarkets such as Indomaret and Alfamart).

Table 1. Total Banks and Banks' Representation Offices in Indonesia

Year	2012	2013	2014	2015	2016
Total Banks	120	120	119	118	116

Total Bank Representation Offices	29.945	31.847	32.739	32.963	32.730

Source: *Statistick of ~~Perbankan~~ Indonesian Banking Desember 2016*
*) Excluding Rural banks

From the supply side, big banks are consistent with wider~~broad~~ financial inclusion as long as the market remains contestable (Owen & Pereira, 2018). Thus, they mentioned that portfolio diversification is a must to scale up economic of scale. They also stated that the diversification is only for big banks, not for small banks. The findings of their research might not be applicable for Indonesian Banking. In Indonesia, the populations of rural banks are a lot.

Financial Inclusion to People's Engagement in Bank Services

Although the trend in account ownership of Indonesian people is increasing, based on the Global Findex data, there are still several account ownership boundaries. For example, in the year 2017, 33% of respondents reports (age 15+) are having no account because the financial institutions location are too far away from home, 19% of them do not have account because of inability to access expensive services, and few of them do not have account because of other reasons (religiosity, lack of trust in financial institutions, etc). Significant reasons for saving are for educational purposes. Nevertheless, the percentage of savings is still far less than 50%. They save the money, but in emergency cases, the source of money comes up from borrowing. It reflects insufficiency in saving.

People were still borrowing money to cover their related needs. Surprisingly, primary reason for borrowing money is for health and medical purposes. A minority of them borrow money for expanding the business. Percentage of people's borrowing on the financial institution is much less than on family or friends. In 2017, on average, the highest percentage on the source of borrowing money is borrowing from family and friends. Less than 20% of them borrowed money from the financial institution. It reflects the current demand on financial help~~s~~, but people still have boundaries in accessing the services. Besides, they also have limited access to credit card facilities. In conclusion, the dema~~i~~nd is available, so the supplies need to be more accessible.

Data from Global Findex reflects the actual demand on financial services, but also limited access to~~on~~ it. By increasing financial inclusion, the gap between demand and supply could be minimal. Thus, people are~~is~~ going to be able to access it more. Automatically, financial inclusion will support increasing pattern on savings and credits. As the score of financial inclusion index higher, it reflects the province's capability to supply financial products. As the score higher, it also reflects effortless, more effective, and more qualify access towards financial services. Thus, the total number of savings and credit will be higher.

On the other hand, as the score of province-level financial inclusion lower, people in that province have more boundaries to access financial services. It makes them challenging to maximize the services. Then, people's saving and credit are lower than province with higher inclusion score.

H1 – Province-level financial inclusion index positively correlates with province total savings.

H2 – Province-level financial inclusion index is positively correlates with province total credits.

Financial Inclusion to Human Development Index (Index Pembangunan Manusia/IPM)

The previous studies about the association between financial inclusion and human development is limited. We found few studies such as Raichoudhury (2016), he states that levels of human development and financial inclusion in a country move closely with each other, although a few exceptions exist He found that the states with relatively high level of financial inclusion are also the states with high level of human development and vice versa. The countries like Switzerland, Japan, Italy, Spain and South Korea which rank high in financial inclusion are also found to have high development index. Furthermore, the countries like Congo Democratic Republic, Central African Republic, Guinea, Burundi, and Afghanistan which rank lowest on index of financial inclusion perform poorly on human development index as well. Besides, countries such Austria, Netherlands and Ireland have relatively higher levels of human development as compared to their levels of financial inclusion. Similarly, countries like Portugal, Malta, Malaysia, and Turkey perform relatively better in financial inclusion than in human development. The analysis indicates that the level of human development and that of financial inclusion are positively correlated. Therefore, there is a need for coordinated effort towards encouraging financial inclusion. His study compared the index financial inclusion (IFI) developed by Sarma (2012) to measure financial inclusion across countries and analyzed the relationship between financial inclusion and human development. According to Beck, et al. (2007) financial inclusion reduces income inequality and alleviates poverty. Naturally, the lower the level of poverty, the higher is the level of human development.

Based on Human Development Report (2016) published by the United Nations Development Program (UNDP) since 1990 as independent, analytically, and empirically grounded discussions of major development issues, trends and policies. Human development is all about human freedoms: freedom to realize the full potential of human life, not just a few, nor of most, but of all lives in every corner of the world−now and in the future.

Arora (2012) stated that the existing literature on financial inclusion also treats the issue as mainly supply-centric and does not take cognisance of the fact that poor human development and high illiteracy levels in developing economies may prevent a large section of the population from benefitting from financial inclusion efforts, because of low awareness and comprehension of the financial services available.

Laha (2015) who studied the association between financial inclusion and human development in south Asia states that the process of financial inclusion reinforces the process of human development. The process of financial inclusion be an effective instrumental mechanism in order to enlarge people's choice in respect of some basic indicators of human development. In the context of Indian economy, the level of human development and that of financial inclusion are positively correlated in the sense that states having high level of human development are also the states with a relatively high level of financial inclusion. Human development is a process of enlarging people's choice. The first human development report of United Nations Development in 1990 identified three important indicators reflecting reasonable choices of people for sustaining a life with dignity. The most important choices are a long and healthy life, to be educated and to enjoy a decent standard of living. Furthermore, Nanda and Kaur (2016) found a strong and significant correlation between financial inclusion and human development. By ensuring easy and affordable access to formal financial services, it helps to augment the pace of human development. Based on those explanations above, we composed the third hypothesis as follows:

Hypothesis 3: The financial inclusion has a positive relationship with the human development in Indonesia.

Data and Methodology

This research is driven by literature and proven by secondary data. Secondary data used sourced from publicly available data in the website of Indonesian Financial Authority (Otoritas Jasa Keuangan, 2016a, 2016b) for province-level inclusion index and banking services data, Central

Buereau of Statistics (http://ipm.bps.go.id/data/nasional) for province-level human development index data, and Global Financial Inclusion Data issued by the World Bank (http://microdata.worldbank.org) for general information of Indonesian Inclusion. As the banking data is in billion rupiahs, the researcher uses Ln function to reduce the data size and make it comparable with the inclusion and human development index (HDI) scale. Financial inclusion and HDI data are ratio data stated from 0 to 100. We analyzed all data through correlation analysis, in order to find the possible relationship between financial inclusion and two others externalities (engagement in banking services and human development index)

People Engagements in Bank Services cover both third party funds and credit. Demand deposits, saving deposits, and time deposits are the components of third party funds. The third party funds numbers is the total of the fund collected both by commercial banks and rural banks. Total amount of credit is the summary of all purposes credit, either for business capital or for others purposes (consumption, and investment). Human development index in is defined as a composite index representing the social and economic achievement of the particular area. The components of HDI as mentioned in UNDP human development reports are longevity, education, and income (United Nations Development Programme, 2016). Financial inclusion definition is almost the same as significant researches, it is understandable as the sufficient access to affordable, quality, and sustainable essential-financial services (Queralt et al., 2017).

Raichoudhury (2016) followed a multidimensional approach for construction of the index of financial inclusion (IFI), although it is like the UNDP approach for computation of Human Development Index (HDI) and Gender-related Development Index (GDI) it differs in the way dimensions indexes are constructed. Instead of using an average of the dimension indexes as in UNDP's methodology, our index is like that of Sarma (2012) i.e. distance from the worst and ideal situation. We follow Raichoudhury (2016) in which IFI is designed by calculating a dimension index for each dimension of financial inclusion. The dimension indexes d_i is calculated by the following formula:

$$d_i = w_i * ((A_i-m_i)/(M_i-m_i)) \quad (1)$$

where:

Wi = weight attached to the dimension I, $0 \leq Wi \leq 1$

Ai = actual value of dimension i

Mi = upper limit of the value of dimension i, fixed by pre-specified rule

m_i = lower limit of the value of dimension I, fixed by pre-specified rule

The upper and lower limits used in this paper are discussed in section 3.1 The above formula ensures that $0 < d_i < 1$. The country's achievement in dimension i will be higher if the value of d_i is higher. If n dimensions of financial inclusion are considered, then a country's achievement in these dimensions will be given by a point $X = (d_1, d_2, d_3, \ldots., d_x)$ on the n-dimensional space. In the n-dimensional space, the point O = (0, 0, 0,…, 0) represents the point of worst situation while the point W = $(w_1, w_2, \ldots., w_n)$ represents an ideal situation indicating the highest achievement in all dimensions.

Larger distance between X and O indicates higher financial inclusion. And smaller distance between X and W also indicates higher financial inclusion. In this paper, we use a simple average of the Euclidian distance between X and O and the inverse Euclidian distance between X and W. Both the distances are normalized by the distance between O and W, to make them lie between 0 and 1. The inverse distance between D and W is considered for computing the simple average between the

distances. This makes IFI a number that lies between 0 and 1 and is monotonically increasing. Thus for computation of IFI, first we calculate X_1 (distance between X and O) and X_2 (inverse distance between X and W) and then take a simple average of X_1 and X_2 to compute IFI. The formulae are given below:

X_1=Sqrt $(((d_1)^2 + (d_2)^2 +..+ (d_n)^2)/((w_1)^2+(w_2)^2+..+(w_n)^2))$

X_2 = 1 – (Sqrt $(((w_1-d_1)^2 +(w_2-d_2)^2+..+ (w_3-d_n)^2)/ ((w_1)^2+(w_2)^2+..+(w_n)^2)))$

IFI= ½ (X_1+X_2)

X_1 gives the normalized Euclidean distance of X from the worst point O, normalized by the distance between the worst point O and the ideal point W. This is done to make the value of X_1 lie between 0 and 1. Higher value of X_1 implies more financial inclusion.

X_2 gives the inverse normalizedEuclidean distance of X from the ideal point W. The numerator gives the Euclidean distance of X from the ideal point W, normalizing it by the denominator and subtracting by 1 gives the inverse normalized distance. This is done to make the value of X_2lie between 0 and 1. The higher distance is considered because higher value of X_2 implies higher financial inclusion. IFI is the simple average of X_1 and X_2 indicating the distance from both the worst point and the ideal point. Since, we consider all dimensions to be equally important in measuring the inclusiveness of a financial system, then w_i = 1 for all i. Thus, the ideal situation will be W = (1,1,1,…,1) in the n-dimensional space. The formula will be:

A_1 =Sqrt ((d_1)^2 + (d_2)^2 +..+ (d_n)^2)/n

A_2 = 1 – Sqrt (((1-d_1)^2 +(1-d_2)^2+..+ (1-d_n)^2)/n)

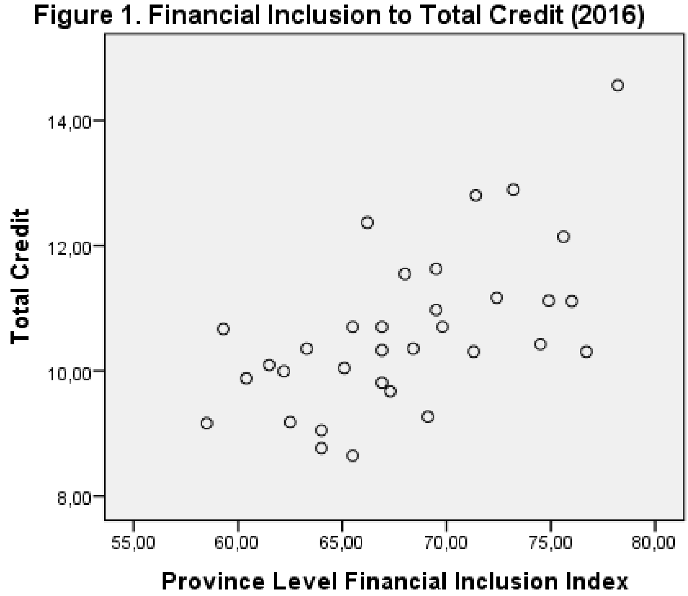
IFI = ½ (A_1+A_2)

In this study, we have identified three dimensions for evaluating the extent of financial inclusion: banking penetration to measure depth, availability of banking services and usage of banking services. Arora (2012) follower methodology used by UNDP in the construction of the Human Development Index, further the Ordinary Least Square (OLS) regression method is performed to examine the relationship.

Results and Discussions

We did the correlation testing between the province level financial inclusion index and the total credit in Indonesia 2016.

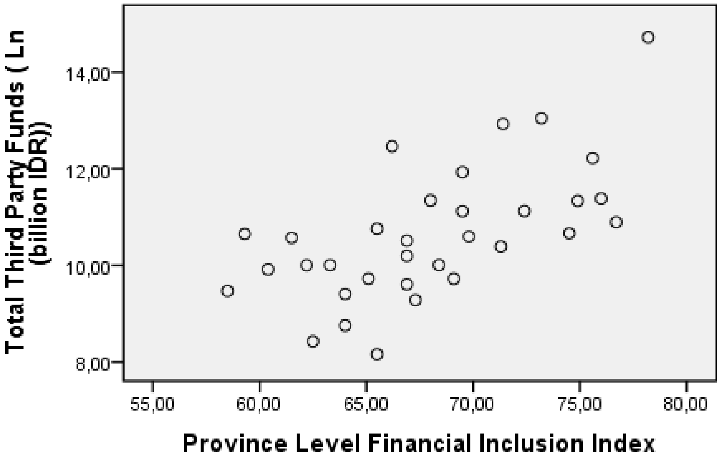
Figure 1. Financial Inclusion to Total Credit (2016)



Based on Figure 1, we found that the financial inclusion has a positive relationship toward total credit. Iqbal and Sami (2017) supports our findings where they found the positive and significant impact of a number of bank and credit deposit ratio on GDP. The details are presented below.

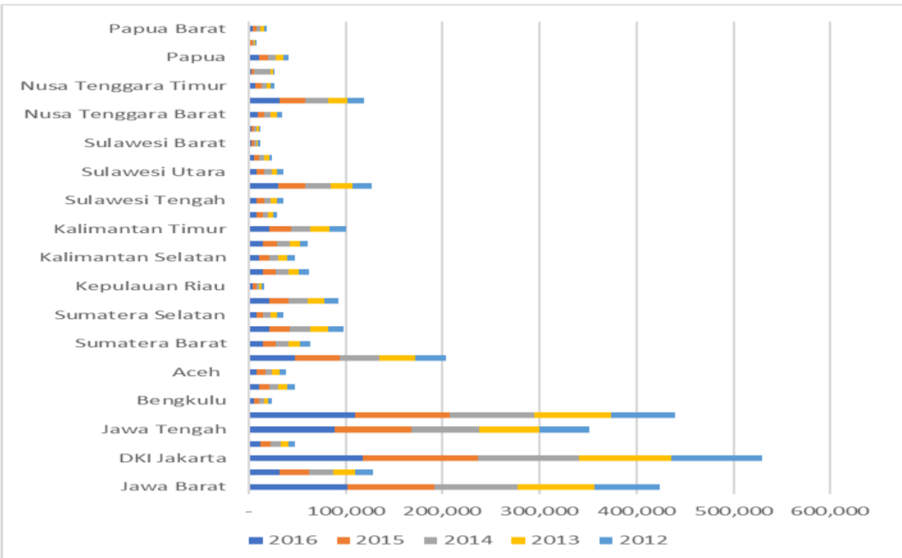
Furthermore, we also examined the impact of province level financial inclusion to the total third-party funds. Interestingly, we also find the linear correlation where the higher financial inclusion, the larger total funds from third party. Financial inclusion related to the availability of financial services in a country, therefore when the inclusion is more available, the more people save their money in the financial institution like banks.

Figure 2. Financial Inclusion to Total Third Party Funds (2016)



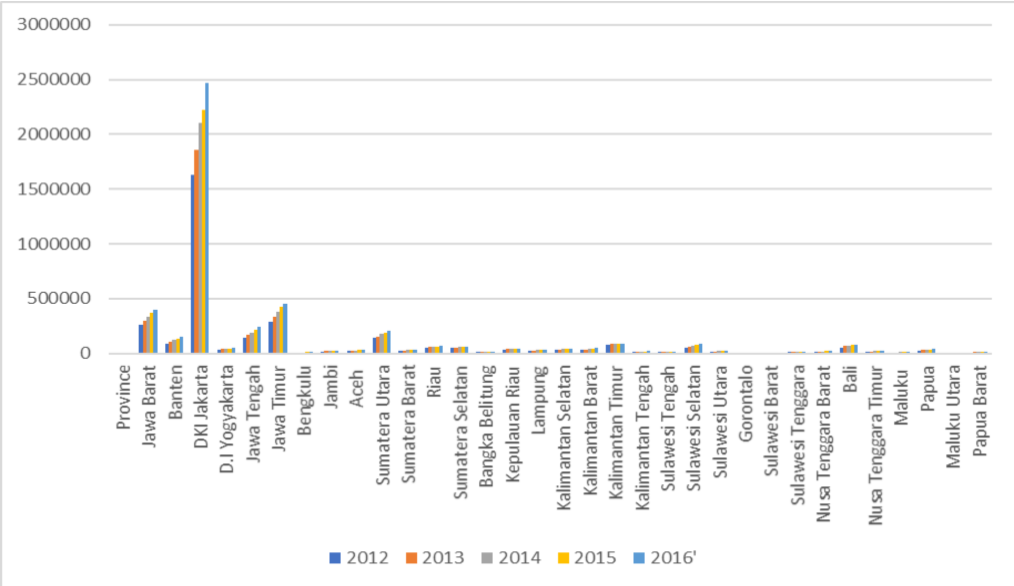
Then, based on those data, in detail we found on Jakarta Province-A capital city of Indonesia was the highest credit by Small Medium Enterprise's (SME's) compared than other provinces in Indonesia as presented in Figure 3 below.

Figure 3. SME's Credit based on the Project Location



We also found the similar findings in total saving, where Jakarta is a province with the most significant saving up to 2,500,000 (in Billion IDR) in 2016. In addition, by the year the saving total for all provinces become larger as presented in Figure 4.

Figure 4. Total Saving and Clearing from third party in the General Bank(in Billion IDR)



Based on Global Findex Database from World Bank 2018, we found that Indonesia's saving and credit was lower than East Asia & Pacific countries, nevertheless higher than Lower Middle-Income countries. The details are in Figure 5 below:

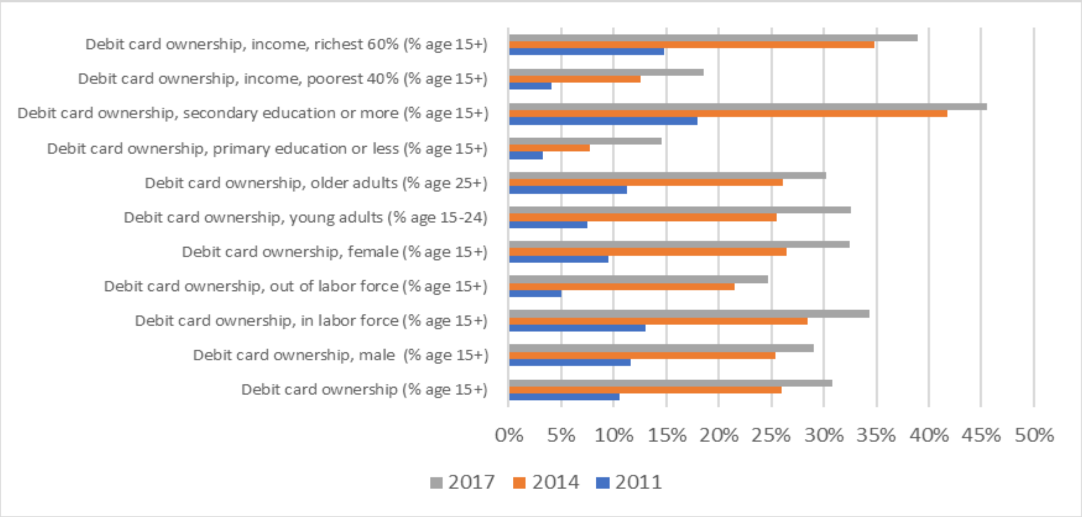
Figure 5. Saving and Credit in The Past Year (% age 15+) in Indonesia (Source: Global Findex Database – World Bank 2018).

East Asia & Pacific			**Lower middle income**
Population, age 15+ (millions)	**188.9**	GNI per capita ($)	**3,400**

	Country data	**East Asia & Pacific**	**Lower middle income**
Saving in the past year (% age 15+)			
Saved at a financial institution	21.5	30.6	15.9
Saved at a financial institution, 2014	26.6	36.7	14.4
Saved using a savings club or person outside the family	29.9	8.6	13.0
Saved any money	61.8	53.1	39.7
Saved for old age	27.4	23.2	13.2
Credit in the past year (% age 15+)			
Borrowed from a financial institution or used a credit card	18.4	21.5	9.8
Borrowed from a financial institution or used a credit card, 2014	13.7	19.5	10.0
Borrowed from family or friends	35.7	29.6	30.4
Borrowed any money	54.8	46.8	42.9
Outstanding housing loan	6.0	10.8	5.0

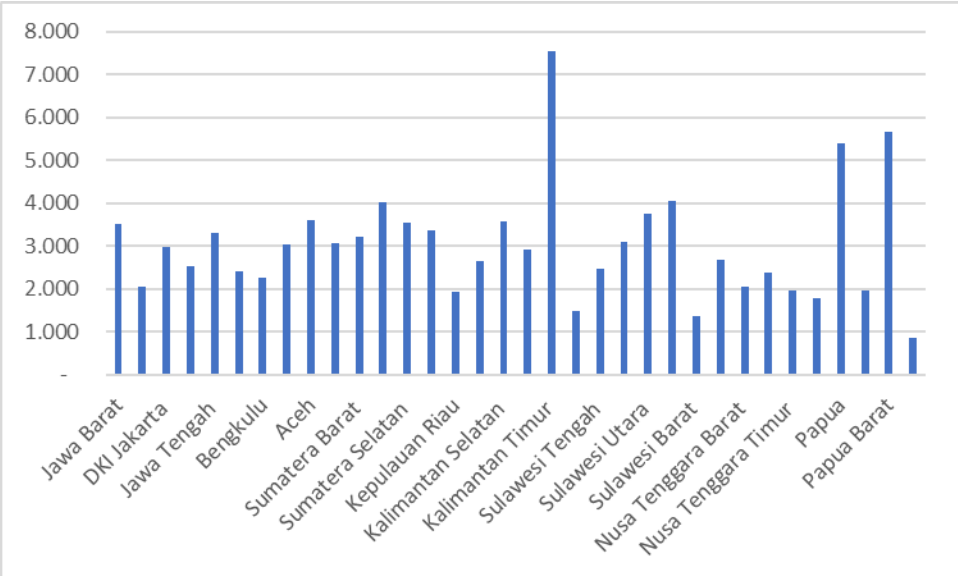
Then, the debit card ownership based on the demography factors such income, education, and age. We found that the highest debit card ownership was the people who aged 15+ in the secondary education or more rather than others. By the year, that percentage keeps growing fro 2011 to 2017 as presented in Figure 6.

Figure 6. Debit Card Ownership from Global Findex Data



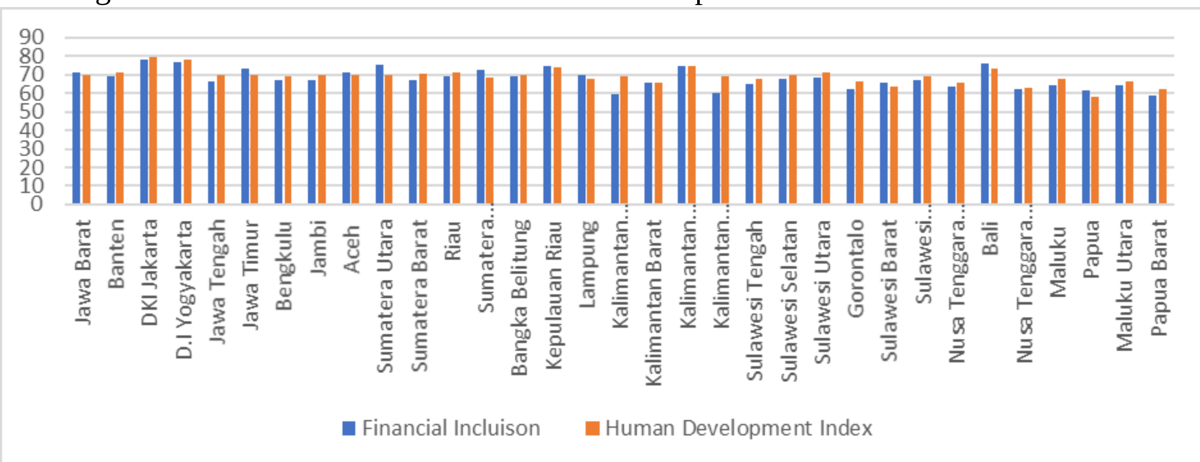
Unfortunately, in Indonesia, the net performing loan (NPL) ratio was also high among the provinces in 2016. It is a ratio of NPL compared to the total loan. East Kalimantan was the largest province with NPL ratio compared to other provinces, while West Papua was the lowest. The details are presented in Figure 7.

Figure 7. Indonesia NPL Ratio in 2016



In the last, we attempted to relate the financial inclusion and human development then we found that the province with the high financial inclusion was also the province with the high human development as presented in Figure 8 below.

Figure 8. Financial Inclusion and Human Development Index in Indonesia 2016



In regression analysis, the financial inclusion has positive relationship significantly at 1% level ($p<0.001$) toward the human development by the coefficient 0.62. It supports Nanda and Kaur (2016), Laha (2015), Arora (2012), and Raichoudhury (2016) who found the positive correlation between financial inclusion and the human development.

Conclusion

In conclusion, financial inclusion in Indonesia is quite essential. We found that financial inclusion index has positive correlation towards both total credits and total savings in each province. It also shows positive correlation towards province-level human development index.

This research is providing empirical evidence on how financial inclusion brings positive impacts to the country. The significances of our research are the financial inclusion brings many benefits to the country up to the province level. Therefore, the implication of our study is to enhance the financial inclusion in Indonesia. Research in financial inclusion is very limited in the province level analysis in the emerging market like Indonesia, this paper aims to extend the literature in this field and to fill that gap.

Nevertheless, we aware that our research contains many limitations such as data level, methods, and the variables. We suggest to further research to improve the data level up to the district level, various methods to robust the testing and to make sure the results are consistent and unbiased, then extending some other variables which may correlate to the financial inclusion in Indonesia.

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REGULATION OF TIME TAKEN BY FINANCIAL CUSTOMER CARE SERVICES AND CONSUMER REDRESS: CASE LAW OF THE BRAZILIAN SUPERIOR COURT OF JUSTICE

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ABSTRACT: Time exerts multiple influences on consumer relations, since it is a triggering factor for several legal obligations. The valuation of time as an essential and limited resource has emerged in the context of post-modernity with the formation of a new consciousness about the effects that its passage exerts on people. In Brazil, since 2009 several judicial decisions recognized the time lost by consumers trying to solve conflicts with suppliers as a special kind of moral damage and guaranteed the right to redress. Nowadays several states have laws limiting the time consumers are required to spend in bank lines. Therefore, the financial institutions must provide efficient customer care services in order to meet the legal requirements. The Brazilian Superior Court of Justice also recognizes that the financial institution that does not observe the legal obligation to preserve consumer's time must compensate the time lost with a cash indemnity. The research proposes a dual-criterion to pursue the adequate compensation for the time lost by consumer through the evaluation of suppliers conduct. The study makes a distinction of consumer time and supplier's time and defines the "*planned disregard*" as the abusive devaluation of time and the efforts made by consumers to achieve a successful conclusion to consumer contracts, mostly due to the lack of investments in efficient customer care services. The paper presents the legal duties of effective prevention and full redress of damages in Brazilian consumer law, which are the legal tools to compensate the damage due to the loss of time suffered by consumers. Finally, it suggests a new business ethics for financial institutions and proposes how the members of the national consumer protection system, such as the regulatory agencies, civil entities and the Judiciary, may contribute with structural processes to the prevention of undue loss of consumer time and to the improvement of financial consumer's services.

KEYWORDS: Consumer time; planned disregard; damage due to time lost; full redress; structural processes.

1. INTRODUCTION

Time exerts multiple influences on consumer relations, since it is a triggering factor for several legal obligations, especially in long-term contractual binds. The valuation of time as an essential and limited resource has emerged in the context of post-modernity with the formation of a new consciousness about the effects that its passage exerts on people.

In Brazilian Courts, the compensation for time lost by consumers trying to resolve problems caused by suppliers is very controversial. Especially since 2009, several judicial decisions recognized the time lost by consumers trying to solve conflicts with suppliers as a special kind of moral damage and guaranteed the right to redress. On the other hand, many consumers in similar situations had the same right denied in Courts, mostly due to the lack of criteria for compensation for the time lost due to acts attributable to suppliers.

In this context, the present research proposes a *double criterion* to pursue the adequate compensation for the time lost by consumer through the evaluation of supplier´s conduct. The study makes a distinction of consumer time and supplier's time and defines the "*Planned Disregard*" as the abusive devaluation of time and the efforts made by consumers to achieve a successful conclusion to consumer contracts, usually caused by the lack of investments in efficient customer care services. This commercial practice – planned disregard – exceeds the limits of good faith and represents an excessive advantage for the supplier, breaking the legal balance that the law establishes in consumer relations.

The paper approaches the legal duties of effective prevention and full redress of damages in Brazilian consumer law, which are the legal tools to compensate the damage due to the loss of time suffered by consumers. Finally, it suggests how the members of the national consumer protection system, such as the regulatory agencies, civil entities and the Judiciary, may contribute with structural processes to the prevention of undue loss of consumer time.

2. THE LEGAL VALUE OF CONSUMER'S TIME

Aristotle and Newton believed in absolute time. They believed that one can measure the time interval between two events in such a way that the result will be the same in any measurement, if a precise clock is used. Their belief is the common sense today, that time is independent and completely separated from space.[1]

However, the science, with the technological support, made significant progress in the knowledge on this subject. The idea that there was a universal quantity called time that all clocks would measure equally has long been abandoned. Several experiments have already confirmed that the time measured by two people will only coincide if they are at rest in relation to each other, but not in accelerated motion. It is exactly what Albert Einstein demonstrated in his revolutionary theory of relativity.[2]

Distance and time gained new contours due to the technological advances. The railroad constructions, for example, were large historical landmarks. In the decades leading up to the completion of the Central Pacific Railroad, linking California to Utah (USA), the time of travel on this route was six to seven strenuous weeks, permeated by crashes and many other challenges. With the completion of the transcontinental railroad, the three thousand kilometers were comfortably trafficked in less than a week. [3]

At some point, horses were the fastest mean of transport, just as pigeons were the fastest mean of communication. Technology changed our relation with *time*. Now, as David Frisch points out, "our personal time is the ultimate scarce resource and should not be squandered without receiving something of value (such as money or enjoyment) in return."[4]

Time, in general, is not the object of constant concern or reflection of human beings. Charles Lamb once said "nothing puzzles me more than time and space; and yet nothing puzzles me less, for I never think about them."[5] This is a common paradox. Time is human being's most valuable possession; it is actually one's life. Frequently, however, the concern with time lost only arises from the forced perception of its scarcity, as the result of a dramatic event, such as illness or even the death of a loved one. Time then becomes the protagonist of the life affected, the person concentrates on how much of it is still left and how not to waste it. As these doubts gain focus, the value that the person ascends to his own time gradually increases.

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[1] Stephen W Hawking, *Uma breve história do tempo: do big bang aos buracos negros.* Rio de Janeiro: Rocco, 1992. p. 39.

[2] Stephen W Hawking, *O universo numa casca de noz.* 5. ed. São Paulo: Arx, 2002. p. 8-9.

[3] Rebecca Solnit, *River of Shadows*: Eadweard Muybridge and the Technological Wild West. New York: Penguin Books, 2004. p. 6-12.

[4] David Frisch. It's about time. Tennessee Law Review. v. 79. Thomson Reuters, 2012. p. 757-801.

[5] Charles Lamb, *The Life, Letters and Writings of Charles Lamb.* (1897). v. II. *Correspondence with Manning.* New York: Cosimo Classics, 2008. p. 240.

In consumer relations, the passage of time should be favorable to the consumer, but mass society often brings out the fact that the time lost by the other is ignored, considered an annoyance that must be tolerated. Certainly not. Time has the utmost importance for the human being, its loss is legally valuable and economically quantifiable[6], consumer time composes the damages reportable in the legal relations of consumption[7], as well as the psychological damages and (totally avoidable) setbacks of our contemporary society.[8]

To redress consumer lost time means to compensate financially for the loss of the "opportunity to engage in an alternative activity; it is in this opportunistic sense that time has been lost", in the perspective of "individuals who, for one reason or another, are forced to spend their personal or leisure time in undesirable ways, and for which no lost economic opportunity can be readily identified. Claims of this sort can be described as 'lost personal time.'"[9]

On the other hand, supplier's time relates to investments. As Claudia Lima Marques notes, "the 'loss' or deviation of the supplier's time is valued as a cost or economic burden: to inform the consumer in detail is 'cost';, to cooperate with the consumer during the execution of the contracts is 'professional burden', to develop a post-contractual system that avoids damages to the consumer, by organizing an effective customer care service and a network of capillary technical assistance, is 'cost'."[10]

In this context, an important distinction is made: the time of the human being has an existential value, corresponds to one's life, while the time of the legal entity (supplier) represents, as a rule, the capital invested in the productive activity. Both sides are undeniably relevant, but in consumer relations, the consumer's time, the time of the vulnerable contractor, is the one that invokes and deserves legal guardianship.

Consequently, it is not possible to qualify in the same way or to attribute the same legal value to the time lost by the natural person and the time lost by the supplier in the direct exercise of its professional activity. Nowadays, it is unthinkable to wait the

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[6] Claudia Lima Marques & Laís Bergstein, A valorização e a tutela do tempo do consumidor: a nova posição do STJ sobre responsabilidade do comerciante por vícios, in *Revista dos Tribunais*, v. 997/2018, p. 211-226, Nov., 2018, p. 211 et seq.

[7] Claudia Lima Marques & Bruno Miragem, *O novo direito privado e a proteção dos vulneráveis.* 2. ed. São Paulo: Revista dos Tribunais, 2014. p. 219.

[8] Carlos Alberto Ghersi, *Valuación económica del dano moral y psicológico – Dano à la psiquis.* Buenos Aires: Astrea, 2000. p. 128 et seq.

[9] David Frisch. It's about time. Tennessee Law Review. v. 79. Thomson Reuters, 2012. p. 757-801.

[10] Claudia Lima Marques. Prefácio. p. 11-12. *In:* Marcos Dessaune. *Desvio Produtivo do Consumidor*: o prejuízo do tempo desperdiçado. São Paulo: Revista dos Tribunais, 2011.

length of a horseback trip for a product or to trust a message to a pigeon. The technology gave us a new perspective of reasonable time for the performance of the daily tasks and that is one of reasons suppliers must be encouraged and compelled to respect and protect consumer's time by investing in effective prevention for damages and customer care services.

3. THE CONSUMER RIGHT TO REDRESS FOR LOST TIME: THE BANK LINE CASES

The Brazilian Consumer Defense and Protection Code (Law no. 8.078/1990 - CDC) establishes as a principle of the National Consumer Policy to incentive suppliers to create efficient ways to control the quality and the safety of products and services (article 4, V, CDC). It seeks to ensure consumers respect, health and safety, protection of their economic interests, improvement of their quality of life, as well as transparency and harmony of consumer relations. In addition, article 6th, VI, of the CDC, establishes as basic consumer rights the effective prevention and reparation for pecuniary, moral, individual, collective and diffused damages.

By establishing in Brazil adequate standards of quality, safety, durability and performance of products and services (article 4, II, d, CDC), the Consumer Defense Code stipulated clear criteria for the resolution of consumption problems. For example, it grands the suppliers a 30-day period to remedy the defect (Article 18, § 1, CDC), applicable when it is not an essential product and where replacement of the defective parts does not affect quality and characteristics of the product or do not diminish the value.

The National Consumer Relations Policy seeks to harmonize the interests of the participants in the relations based on good faith and equilibrium and assigns the consumer the basic rights to effective prevention and compensation of damages. Therefore, the equilibrium between parties in consumer relations also includes the regard to the fair distribution of "time investments".

The nature and role of mass culture ignores the individual as they seek to mold him into a preformatted role, disregarding its particular characteristics. The mass offer of products and services, although apparently personalized, actually follows the same itinerary. As Edgar Morin teaches, "technology transforms relationships between men and relations between man and the world; it objectifies, rationalizes, depersonalizes."[11] In this context predominates a culture of disregard of personal interests in favor of increasing profits and market results (sometimes even against the law), and consumer disregard is observed when suppliers ignore the complaints or do not provide adequate, clear and timely information, either by excessive standardization of the service model or by the lack of investments in the expansion and qualification of the Consumer Services.

The Brazilian Superior Court of Justice (STJ) has already shown clear signs of its concern with consumer’s time when deciding, for example, that "it constitutes moral damages, susceptible to compensation, when the consumer of a new vehicle needs to return to the concessionaire several times for repair of defects presented on the vehicle purchased."[12] Also, in February 2018, when revisiting the subject of the responsibility of the merchant to provide technical assistance services, the same Court recognized his duty to "actively participate in the repair process, mediating the relationship between consumer and manufacturer"[13]. The reason is that the merchant, unlike the consumer, usually has a direct relationship with the manufacturer or his legal representative.

The Court weighed the time lost by the consumer to "locate the technical assistance close to his residence or place of work or even from where they purchased the product; and also the effort to schedule a 'visit', as well as it’s part of the risk of the merchant's activity to use of "faster and more efficient solutions." It was pointed out in the judgment that in a large city, such as Rio de Janeiro, it is possible for a consumer to travel more than 30 (thirty) kilometers to take a defective product to its technical assistance, a commercial practice that is regrettably repeated in large urban centers. It recognizes that it is unreasonable to add to the frustration of the consumer who has acquired a defective product all the annoyance and the time lost trying to solve, himself, the problem caused by the supplier. The merchant, therefore, must actively participate in the repair process by contacting the manufacturer or his legal representative.

In February 2019, it was published the first collegiate decision of the Superior Court of Justice expressly referring to the “theory of lost time”. It recognized that “the duty of quality, safety, durability and performance that is attributed to suppliers of products and services by art. 4, II, d, of the CDC, has an implicit collective content, a social function,

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[11] Edgar Morin, *Cultura de massas no Século XX:* espírito do tempo 1 – neurose. 9. ed. Tradução: Maria Ribeiro Sardinha. Rio de Janeiro: Forense Universitária, 1997. p. 171.

[12] BRAZIL. Superior Court of Justice. Case AgInt no AREsp 821.945/PI, Justice Marco Aurélio Bellizze, 23/06/2016, published in 01/07/2016.

[13] BRAZIL. Superior Court of Justice. Case REsp 1634851/RJ, Justice Nancy Andrighi, 12/09/2017, published in 15/02/2018.

related to the optimization and maximum utilization of productive resources available in society, including *time*." It establishes that "voluntary disrespect of legal guarantees, with the clear intention of optimizing profit in detriment of quality of service, reveals an offense to the duties attached to the principle of good-faith and configures an unfair and intolerable injury to the social function of productive activity and protection of consumer time."[14]

Recently, a financial institution payed 50,000 dollars to redress consumer's lost time in lines, considering that: the "voluntary disrespect of legal guarantees, with the clear intention of optimizing profit to the detriment of quality of service, reveals offense to the duties attached to the objective good faith principle and configures unfair and intolerable injury to the social function of productive activity and protection of consumer time."

The case concerned the violation of the municipal and state laws that stipulates a limit of time a consumer should be kept waiting in bank lines (usually around 20 minutes). Justice Nancy Andrighi recognized in her written arguments that the "maximum use of time" is a collective interest protected by the legal system and that "unfair and intolerable loss of consumer time", which occurs "for the voluntary disregard of legal guarantees...with the clear intention of optimizing profit to the detriment of the quality of the service."

The Superior Court members recognized it constitutes an "offense to the duties annexed to the principle of good faith" and determined the payment of collective moral damages. In this case, it was also considered that the violation of the quality of service obligations imposed by the law "infringes essential values of society and has ... the attributes of gravity and intolerability, and does not constitute mere violation of law or contract." This is the first collegial decision of a Superior Court '*Turma*' expressly acknowledging the appropriateness of the "Theory of Lost Time"[15], which means consumers have a right to redress due to abusive loss of time caused by suppliers' misconducts.

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[14] BRAZIL. Superior Court of Justice. Case. REsp 1737412/SE, Justice Nancy Andrighi, 05/02/2019, published in 08/02/2019.

[15] The São Paulo State Court of Justice, among others, admits the configuration of moral damage due to the time lost by the citizen in the search, without success, for the resolution of a consumption conflict. It is by them called "Theory of Lost Time". It considers that "cannot seem reasonable, in a minimally organized society, which lives in the incessant search for the optimization of its precious time, that a company can, with impunity, perform an undue charge and not solve the question of administrative way, causing the citizen to be compelled to move the Judiciary to get rid of something that he did not hire." (BRAZIL. São Paulo State Court of Justice. Case nº 1043696-86.2017.8.26.0224. L. G. Costa Wagner. Guarulhos. 34ª Câmara de Direito Privado. 17/09/2018. Published in: 17/09/2018.)

It should also be noted that damage due to lost time may imply patrimonial repercussions (for example, a professional who fails to provide remunerated assistance to a client because he is diverted from his productive activity to solve a consumption problem[16]) or moral damages, when the consumer is deprived of the freedom to enjoy his life as he might prefer. It is also admitted that the same situation of lost time may configure these two modes of damages cumulatively. It is the case of the liberal professional who, in addition to losing the commitment of work, not receiving its income, has its image blurred with the client that was not attended to.

It is natural and expected that problems arise in a few consumer relations, but in such cases the consumer cannot be compelled to bear alone - at the expense of his lifetime - all negative contingencies. Suppliers must find ways to resolve possible problems and conflicts in an agile and effective manner and, if this is not the case, it is their duty to redress the damages caused to the consumer whose time was improperly wasted. On the other hand, since compensation for moral damages is not meant to comfort the mishaps of common life, the suppliers conduct must be properly analyzed by reasonable criteria.

4. PLANNED DISREGARD: ANALYSING SUPPLIER’S CONDUCT REGARDING CONSUMER’S TIME

For the characterization of the obligation to indemnify consumers’ lost time, it is necessary to make a weighing judgment, analyzing the current legislation, the actual circumstances and, mainly, the conduct of the supplier.

Some suppliers impose to consumers a *via crucis* to solve problems regarding defective products or services, which we call “planned disregard”. In spite of the high standards established by the legislation, what is observed in numerous situations, it is an abuse of the supplier’s right, who seeks to fully transfer to the consumer the burden of his economic activity. For example, in a daily basis, numerous infractions to the Decree that establishes standards for costumer services (Decree no. 6.523/2008) occur in Brazil and many of them are related to the resolution of consumer problems in a reasonable time. Planned disregard for legal safeguards also appears when the time taken by the supplier to present a solution is disproportionate in relation to its complexity.

[16] In Brazil, a professional may also be considered a consumer. Also, the definition of consumer contemplates natural persons and legal entities. (Article 2nd, Consumer Defense Code).

The effect of this practice is perverse in the markets. Frequently, consumers simply give up claiming rights resulting from unsuccessful hires in the face of huge barriers to contacting suppliers.[17] By weighing the costs and the benefit of the time and effort required to solve the problem faced, the consumer sometimes gives up the unmet demand. And in making the choice of valuing its own time, the consumer assumes a property loss that would compete with the supplier, that is a risk inherent to his own economic activity. At some point the “comings and goings” of the consumer go beyond the limit of reasonable, justifying the deferral of the indemnity payment for lost time. This evaluation is necessarily casuistic and should be based on the rules of experience.

In order to measure the damage caused by lost time in consumer relations, particularly the non-financial damages resulting from consumer’s lost time, we propose the application of a double criterion.

First, it is proposed to identify in the particular case the *disregard*: the consumer or his demand were disrespected or disregarded by the supplier? Consumer disregard is observed in the cases of suppliers who ignore consumer requests and complaints or do not provide adequate, clear and timely information. Disregard is disrespect, devaluation of the importance of one’s request.

The second criterion is *planning*: could the supplier of products or services have spared consumer time by the implementation of mechanisms to increase contract security? There are damages that cannot be avoided. However, the conduct of the contractor who is responsible for them should influence the limits of the duty to repair. The second factor for the characterization of the duty to compensate for consumer lost time - planning - is characterized by the absence of adequate, agile, effective and efficient mechanisms to solve consumer demands. Investments in the production chain are always planned, controlled by the supplier. And the lack of investment is also planned.[18]

If the answer is affirmative to both questions, therefore, if the consumer was disregarded, had his legitimate expectation frustrated, and the supplier could have avoided the loss of consumer time by implementing mechanisms to increase security or the agility

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[17] “The realistic alternative to a class action is not 17 million individual suits, but zero individual suits, as only a lunatic or a fanatic sues for $30.” (Carnegie v. Household Intl. Inc., 376 F.3d 656, 661 (CA7 2004), http://caselaw.findlaw.com/us-7th-circuit/1296172.html, 4 mar. 2019.)

[18] As we noted before, among the differences between consumer time and supplier time is the finding that “the 'loss' or time deviation of the supplier is valued as an economic cost or burden”. (Claudia Lima Marques, *Prefácio*. p. 11-12- *In:* Marcos Dessaune, *Desvio Produtivo do Consumidor: o prejuízo do tempo desperdiçado.* São Paulo: Revista dos Tribunais, 2011.)

of contracting, the supplier is charged with responsibility for the time unduly lost by the consumer waiting for a resolution to his demand.

In order to assess, in the specific case, if the supplier fulfills the legal duties of adequate service to consumers, it is recommended to observe, among other actual circumstances: *a)* the prior implementation of concrete measures for the prevention of damages to consumers, compatible with the size of the company; *b)* the existence of channels and means to receive and register the complaint that are appropriate to the target public of the supplier in question and the voluntary adherence to alternative dispute resolution programs; *c)* the investments made in structure and employees training in order to meet the demands of consumers, in proportion compatible with the performance of the company; *d)* the waiting time for customer service that has a claim or complaint, as well as whether or not there has been a violation of the criteria established by law or by the regulatory agencies; *e)* the response time of the supplier in the specific case, analyzing mainly the proportionality between the degree of difficulty of the diligence and the time used by the supplier until the definitive resolution of the problem; *f)* the occurrence of extreme situations, natural disasters or other disasters, which are not confused with the risks of the activity, but made the delivery or response delay inevitable.

The disregard for consumer's time is not a tolerable nuisance, the application for compensation for wrongfully lost time is not “frivolous litigation” but rather a reaction to abusive and planned commercial strategy of disobedience to quality standards imposed by legislation to maximize profit and results. It operates with the system failures, such as the lack of supervision and the enormous difficulties imposed on consumers to seek the effectiveness of their rights. Planned disregard makes small damages to consumers become great gains for suppliers. And with this type of strategy, the Judiciary cannot be conniving.

The attitude of suppliers causing excessive delay in customer services and problems solving cannot be awarded with the conclusion it generates merely a discomfort or an annoyance that does not motivate the duty to compensate consumer individually. Compensation for moral damages in this case – considering the legal barriers to punitive damages in Brazil – is not a distortion of the purpose of the institute, nor generates unjust enrichment to the consumer (since he was indeed a victim of poor service delivery), but serve as remedy for breach of statutory warranty obligations and quality standards imposed by the CDC.

Disregard lies in devaluation, disrespect, lack of consideration, disproportional time-consuming efforts within a consumer legal relationship at any stage, whether to resolve a product or service defect, or to understand inadequately presented technical instructions, for example. If the consumer was disregarded, disrespected, if he had his legitimate expectation of good service unattended, and the supplier could have avoided the damage by implementing mechanisms to increase security or agility in service, but incurred in “voluntary disrespect of legal guarantees”, the supplier’s liability must be recognized.

On the other hand, this will not be the case if the supplier is able to prove the impact of one of the exclusions of responsibility set forth in articles 12, § 3, and 14, § 3, of CDC. For example, although there may have been an unexpected delay in fulfilling the consumer’s request, there was no lack of diligence or attention by the supplier to the timely demand. If there was not another possible conduct for the supplier in the specific case, due to the proven lack of mechanisms to improve service in that circumstance, the supplier failure to fulfill his legal obligations will not be characterized. Examples include natural or other disasters, massive landslides or major floods with damage to residential and commercial units – in such situations the delay is inevitable and gives rise to the exclusion of responsibility for unreliable conduct of the supplier. It is clear in these situations that the delay was not caused by any abusive commercial practice or strategy.

The focus of this methodology lays not only in the value and quantification of “consumer time”, but in the scheduling, planning, and the control exercised by suppliers that allows them not to perform, in good faith, their duties to prevent and fully redress damages to consumers (grounds for the obligation to redress, “*Haftungsgrundlage*”[19]). It is necessary to overcome the culture of disregard for “the time of the other”, to initiate a new cycle of respect for the essential and existential interests of vulnerable agents in the markets through the evolution of commercial practices.

It must be remembered that the “rules of the game are not to end it, but to allow it to develop, considering the movement of all those involved”[20] and that investments in quality and proper services reverts in good standing and customer loyalty, something that the best companies in the markets realized a long time ago. The case law formed in favor of guaranteeing products and services with adequate standards of quality,

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[19] Claudia Lima Marques, *Presentation*. In: Laís Bergstein, *O tempo do consumidor e o menosprezo planejado:* o tratamento jurídico do tempo perdido e a superação das suas causas. São Paulo: Revista dos Tribunais, 2019.

[20] José Luis Bolzan de Morais, *A subjetividade do tempo: uma perspectiva transdisciplinar do Direito e da Democracia*. Porto Alegre: Livraria do Advogado, 1998. p. 83.

safety, durability and performance - as provided in art. 4, II, d of the CDC - contributes to the incorporation of the role of Consumer Law in business behavior.

6. CONCLUSION

Consumer relations are constantly affected by our societies' transformations and our periodical technological revolutions. The law makers cannot keep up with it, at least not as fast as we would like them to do. However, innovation in consumer law also means to be aware of those changes and to rethink the way we interpret and apply the existing law, especially if Congress doesn't change a single word of it.

In a society that values time immensely, consumer's right to full redress must also contemplate the time unfairly lost. The right to products and services of quality must also consider the guarantee of proper and timely response in case of defect. And the denial of a fair treatment by the supplier, forcing the consumer to seek judicial interference, must be replied with the guarantee of compensation for the lost time, at least.

It cannot be worth to injure several people and responding only to the few who have access to the Judiciary. It is fundamental avoid mass damages and avoid litigation with exemplary sanctions from those who seek to preserve this unbearable system of repeated non-compliance with the legal duties of conduct. At the end of the day, it must not be more profitable for suppliers to ignore consumer rights than to fulfill them.

It is necessary to construct a new and equitable distribution of time in consumer relations, to restore to consumer the control of his own time, to make him the protagonist of his own history. Above all, we must not surrender to the "tyranny of quantifiable". We shall overcome this obstacle, the wrong perception that compensation should be denied because it is not possible to establish, with reasonable accuracy, the (economic-financial) value of lost time.

The recognition of consumers' right to redress due to lost time related to suppliers' violations of good faith is an evolution (or even a revolution) of consumer law. However, the case law shows some welcome concern regarding individual litigation. At the end of the day, the results of too many fines regarding the violation of the law that limits the waiting time might be the end of face-to-face customer service in banks. Several Bank agencies were already closed, especially in small cities, and the customer services is now available only online.

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PROTECTION OF FINANCIAL CONSUMERS IN CHILE

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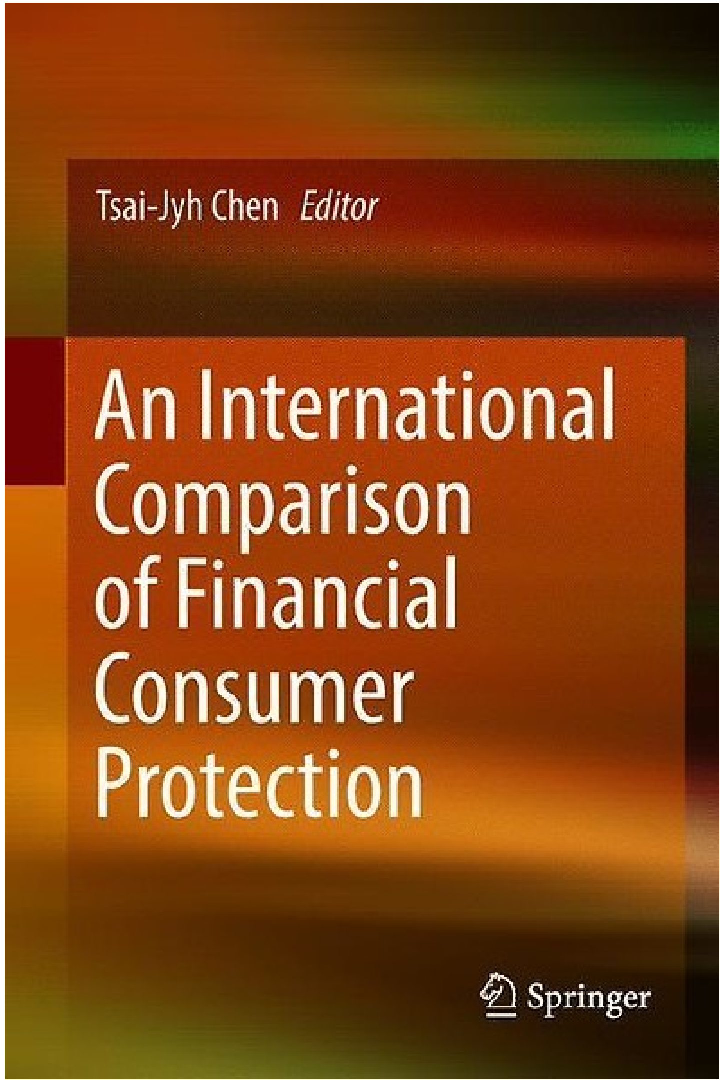
August 20th, 2019

"AN INTERNATIONAL COMPARISON OF FINANCIAL CONSUMER PROTECTION"

Chen + 21 scholars, 2018

- 13 Economies:
  - Australia
  - Bangladesh
  - Canada
  - China
  - France
  - Indonesia
  - Italy
  - Japan
  - Korea
  - Malaysia
  - Spain
  - Taiwan
  - United States

¿Latin America?



PROTECTION OF FINANCIAL CONSUMERS IN CHILE

Framework/Structure:

Section	Items	
(1) Financial Consumer	a. Legal meaning of financial consumer b. Economic situation of financial consumer	
(2) FCP System (software)	a. Relevant laws and rules b. Rationale and direction of FCP c. Ex-ante protection d. Ex-post protection	
(3) FCP Institution (hardware)	a. Financial Supervision Organization b. Deposit insurance corporation c. Dispute settlement organisation	
(4) Special FCP systems	a. For the elderly group b. For the poor group c. For the young group	a. Female group b. Students group
(5) Market Issues	a. Product complexity b. Price dispersion c. Governance	

1. FINANCIAL CONSUMER

1.1 Legal Meaning

No Legal Meaning, but since 2011 five rights:

1. Total Cost + APR + Rejection
2. Conditions
3. Releasement of guarantees
4. Choose appraiser
5. Settlement of the debt

¿Oversight? = Consumer Protection Agency

("SERNAC" o Servicio Nacional del Consumidor)

Unit of Financial Consumer Protection

("SERNAC Financiero" o Subdirección de Consumo Financiero)

1. FINANCIAL CONSUMER

1.1 Legal Meaning

Estrategia Nacional de
Educación Financiera

2018 National Strategy of Financial Education defined "financial education":

"The process by which people, throughout their life circle, improve their understanding of the financial world, concepts and risks, and with information, training and advice develop skills, attitudes and trust to gain more awareness of the financial risk and opportunities, take informed decisions, know where to ask help or protection of their rights, and take any effective action to improve their personal and society welfare."

2018 - 2019 Roundtables for new National Strategy of Financial Inclusion

The Consumer Protection Agency is proposing two definitions:

- Financial consumer:

"An individual or legal entity that uses financial products or services with the intention of increasing his welfare"

- Financial protection:

"Ex ante and ex post actions to guarantee that financial consumers increase their welfare when they use financial products or services"

1. FINANCIAL CONSUMER

1.2. Economic situation of financial consumer

American Continent 2018 Human Development Index

6 countries with “very high human development”:

N°12 Canada

N°13 United States

N°44 Chile

N°47 Argentina

N°54 Bahamas

N°55 Uruguay

N°58 Barbados

1.2. Economic situation of financial consumer

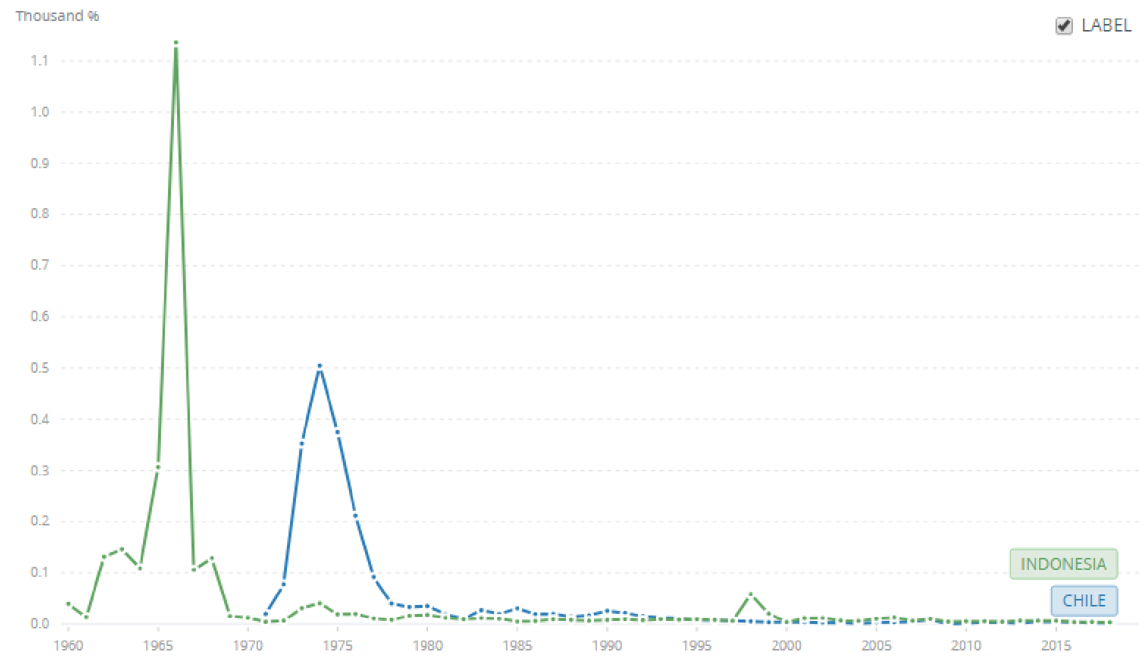
1. FINANCIAL CONSUMER

Source: World Bank Database

Inflation, consumer prices (annual %)

International Monetary Fund, International Financial Statistics and data files.

Line Bar Map Also Show Share Details

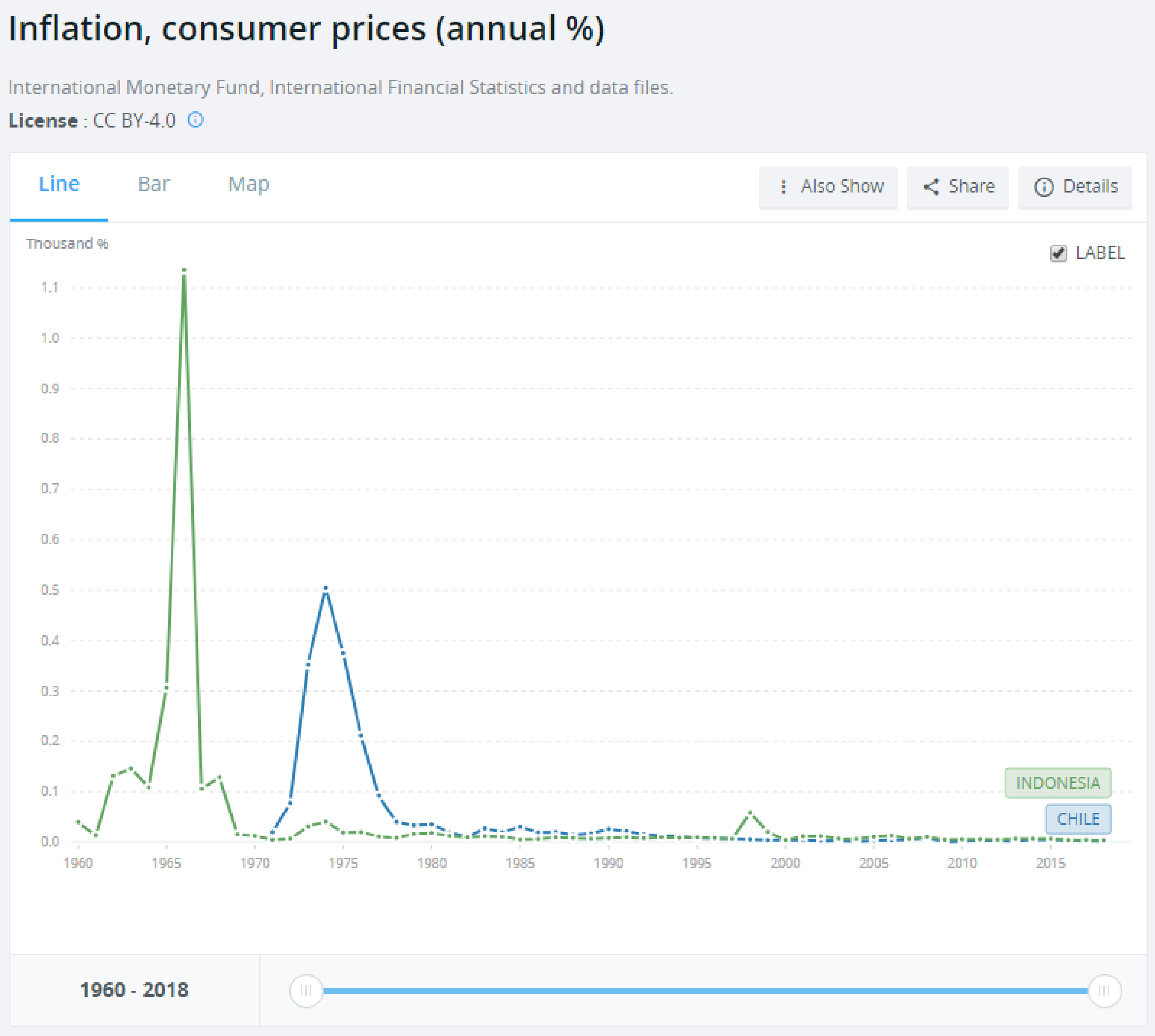


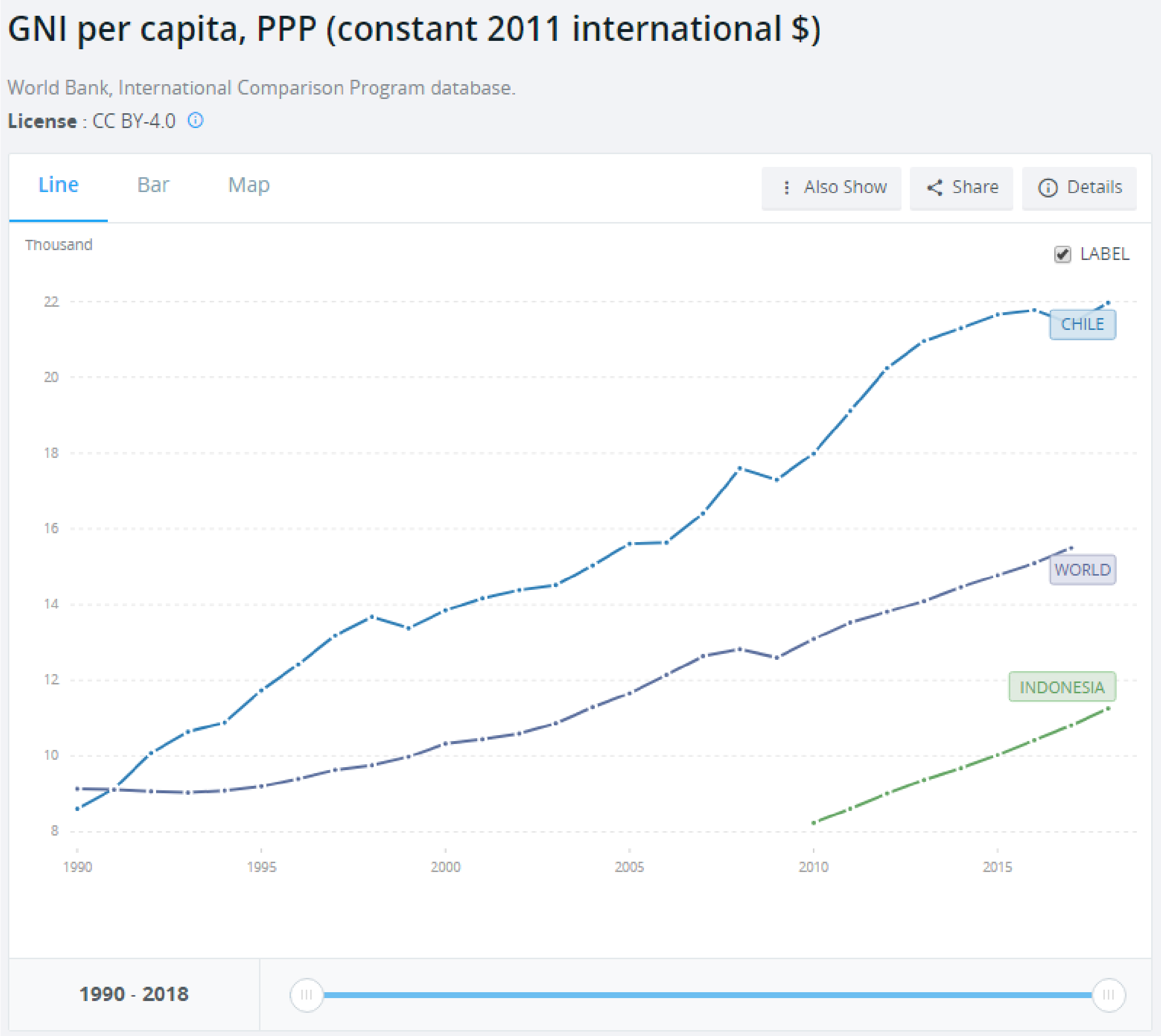
1960 - 2018

1.2. Economic situation of financial consumer

1. FINANCIAL CONSUMER

Source: World Bank Database





1. FINANCIAL CONSUMER

1.2. Economic situation of financial consumer

Financial inclusion = 97% of the adult population has access to at least one financial product

1/3 has access simultaneously to products of credit, saving and cash management

	June 2015	June 2016	June 2017	June 2018
Debt US$ median	3,213,231,429	3,784,841,429	4,101,384,286	4,514,535,714
Financial Burden	21,8%	24,0%	23,7%	25,7%
Leverage	4,4	5,0	5,2	5,7

Debt = Loans to people (capital + interest)

Financial Burden = Monthly financial obligations / Monthly income

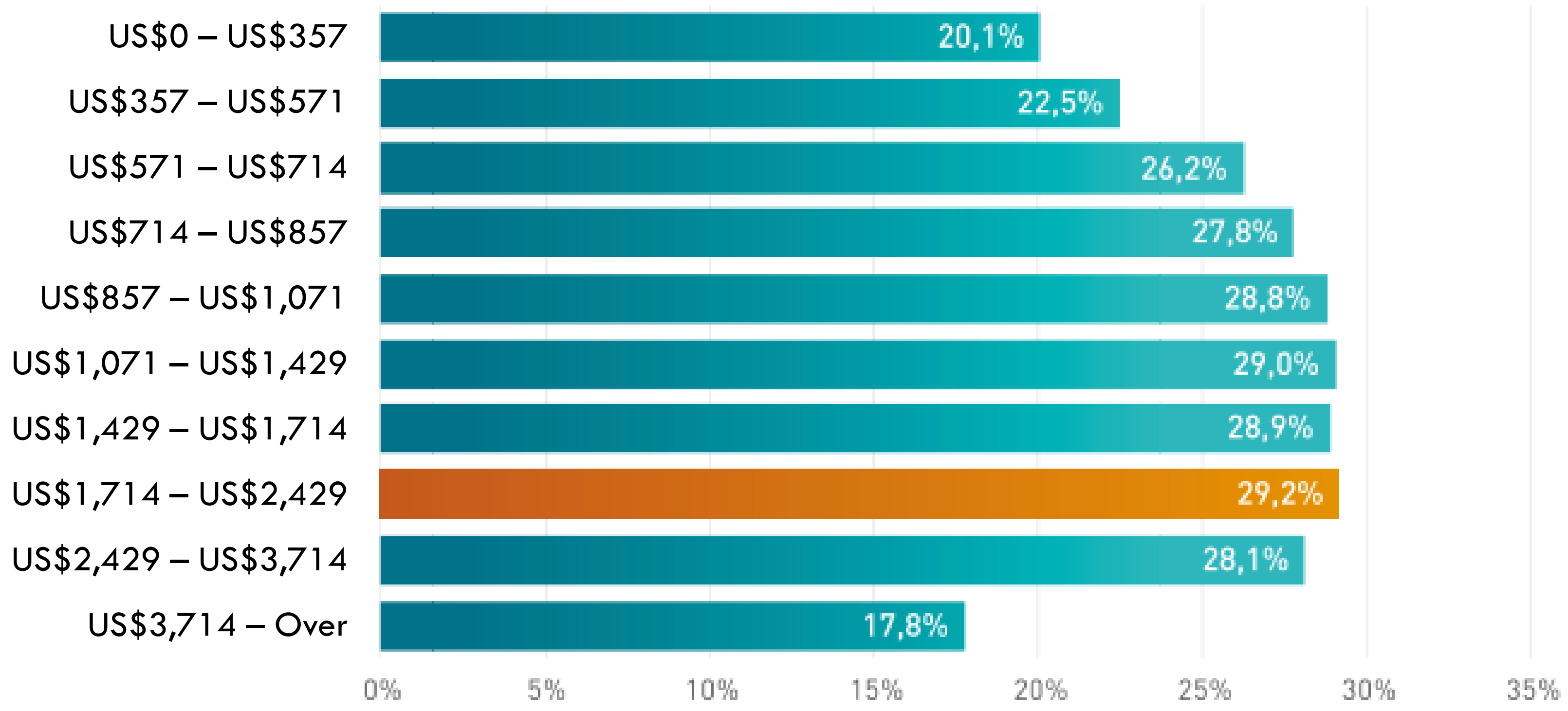
Leverage = ∑Financial obligations / Monthly income

Source: Banks and Financial Institutions regulator

1. FINANCIAL CONSUMER

1.2. Economic situation of financial consumer

Financial burden by monthly income segment



Source: Banks and Financial Institutions regulator

1. FINANCIAL CONSUMER

1.2. Economic situation of financial consumer

Unpaid debt as % of debt by monthly income segment

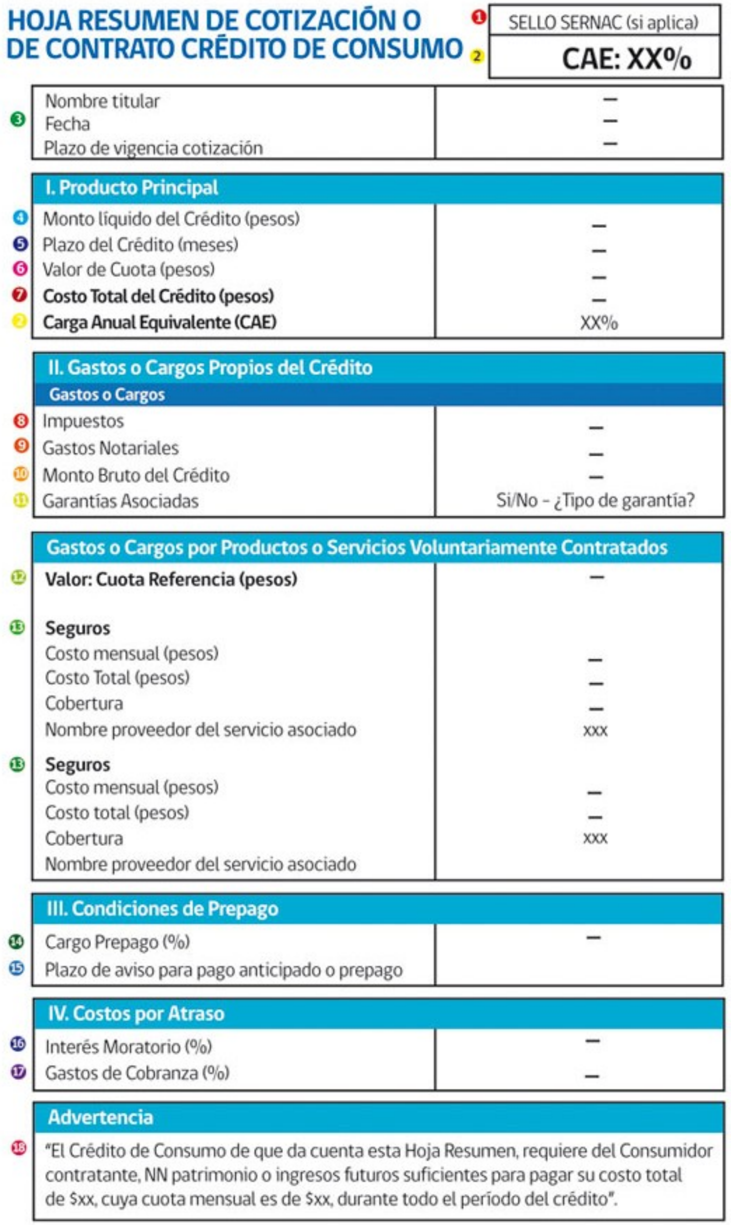
Source: Banks and Financial Institutions regulator

2. FCP SYSTEM (SOFTWARE)

2.1. Relevant laws and rules (consumer protection)

Law N°21,555 (2011) strengthens Law N°19,496 (1997) of consumer protection in financial issues:

- Total Cost + APR in credit simulations and advertisement
- Summary sheet
- Trustmark
- Basic commercial information
- Dedicated Unit for Financial Consumer Protection



HOJA RESUMEN DE COTIZACIÓN O DE CONTRATO CRÉDITO DE CONSUMO

1 SELLO SERNAC (si aplica)	
2 CAE: XX%	
3 Nombre titular	–
Fecha	–
Plazo de vigencia cotización	–
I. Producto Principal	
4 Monto líquido del Crédito (pesos)	–
5 Plazo del Crédito (meses)	–
6 Valor de Cuota (pesos)	–
7 **Costo Total del Crédito (pesos)**	–
Carga Anual Equivalente (CAE)	XX%
II. Gastos o Cargos Propios del Crédito	
Gastos o Cargos	
8 Impuestos	–
9 Gastos Notariales	–
10 Monto Bruto del Crédito	–
11 Garantías Asociadas	Si/No - ¿Tipo de garantía?
Gastos o Cargos por Productos o Servicios Voluntariamente Contratados	
12 **Valor: Cuota Referencia (pesos)**	–
13 **Seguros**	
Costo mensual (pesos)	–
Costo Total (pesos)	–
Cobertura	–
Nombre proveedor del servicio asociado	xxx
13 **Seguros**	
Costo mensual (pesos)	–
Costo total (pesos)	–
Cobertura	xxx
Nombre proveedor del servicio asociado	
III. Condiciones de Prepago	
14 Cargo Prepago (%)	–
15 Plazo de aviso para pago anticipado o prepago	
IV. Costos por Atraso	
16 Interés Moratorio (%)	–
17 Gastos de Cobranza (%)	–
Advertencia	
18 "El Crédito de Consumo de que da cuenta esta Hoja Resumen, requiere del Consumidor contratante, NN patrimonio o ingresos futuros suficientes para pagar su costo total de $xx, cuya cuota mensual es de $xx, durante todo el período del crédito".	

2. FCP SYSTEM (SOFTWARE)

2.1. Relevant laws and rules (all regulators)

	Social Security regulator	Insolvency regulator	Consumer Protection Agency	Financial Market Commission (since 2018)	Securities regulator (until 2018)	Banks and Financial Institutions regulator (until 2019)
Complaints handling	X	X	X	X	x	x
Sanctions	X	X		X	x	x
Inspections	X	X	X	X	x	
Regulation	X	X	X	X	x	x
Mediation	X	X	X			
Market monitoring (advertisement, sales materials, websites, etc.)			X	X	x	x
Mystery shopping						

Source: Draft Survey, Consumer Protection Agency (SERNAC)

2. FCP SYSTEM (SOFTWARE)

2.2. Rationale and direction of FCP

1. Informational Asymmetries
2. Effective compensations

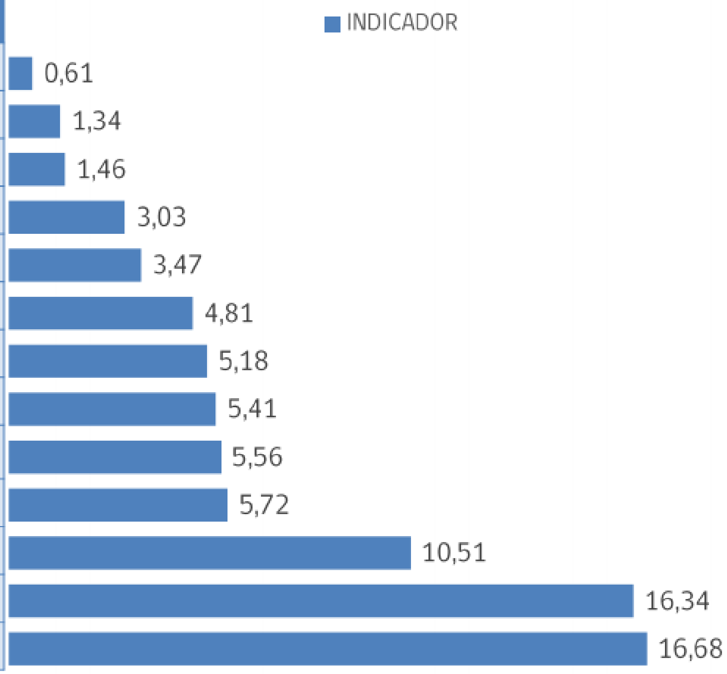
Consumer Protection Agency (SERNAC) vs Banks and Financial Institutions regulator (SBIF)

2. FCP SYSTEM (SOFTWARE)

2.3. Ex-ante protection

1. 10 years “naming and shaming”

POSICIÓN	TARJETA DE CRÉDITO RELACIONADA AL RETAIL
1	FASHIONS PARK
2	SALCOBRAND/PREUNIC
3	TRICOT VISA
4	CRUZ VERDE
5	CORONA MI SOLUCIÓN
6	CMR CLÁSICA/VISA/MASTERCARD
7	UNIMARC
8	HITES
9	CENCOSUD/VISA/MASTERCARD/MÁS
10	RIPLEY/MASTERCARD
11	LÍDER MASTERCARD/PRESTO
12	ABCDIN/VISA
13	LA POLAR PLUS/BLANC/VISA



Source: Consumer Protection Agency (SERNAC)

2. Inspections

Law N°21,081 (2018) strengthens Law N°19,496 (1997) of consumer protection adding inspections, among others.

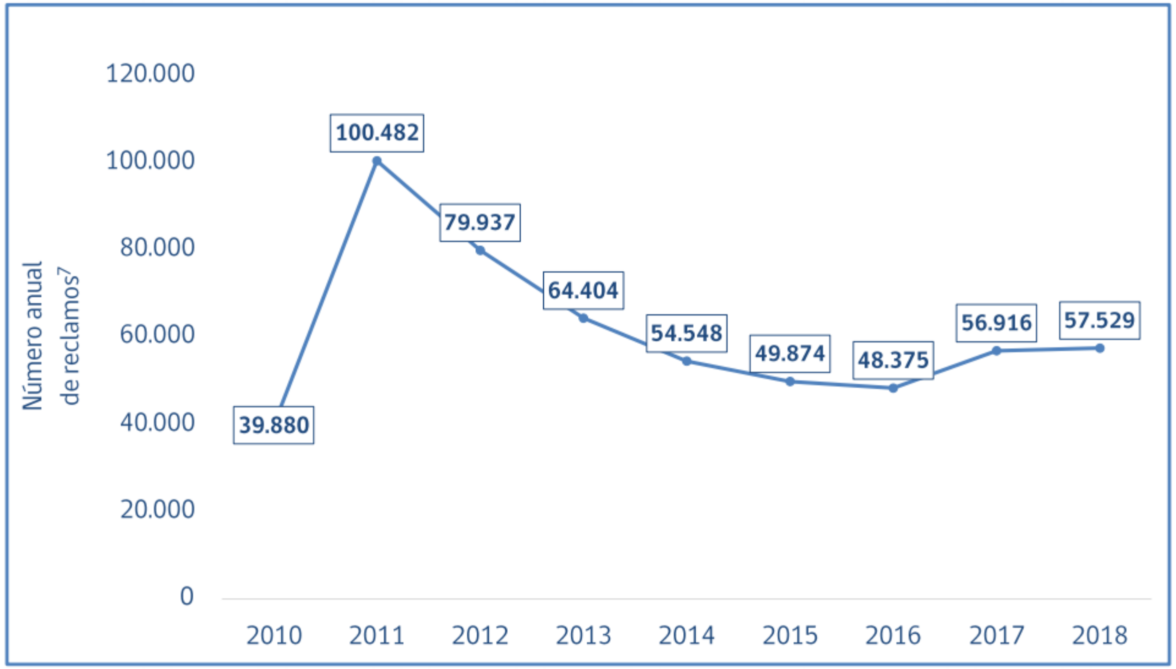
2. FCP SYSTEM (SOFTWARE)

2.4. Ex-post protection

1. Mediation

- 320,241 complaints in total
- All forwarded
- 57,529 financial providers

www.sernac.cl



Source: Consumer Protection Agency (SERNAC)

2. FCP SYSTEM (SOFTWARE)

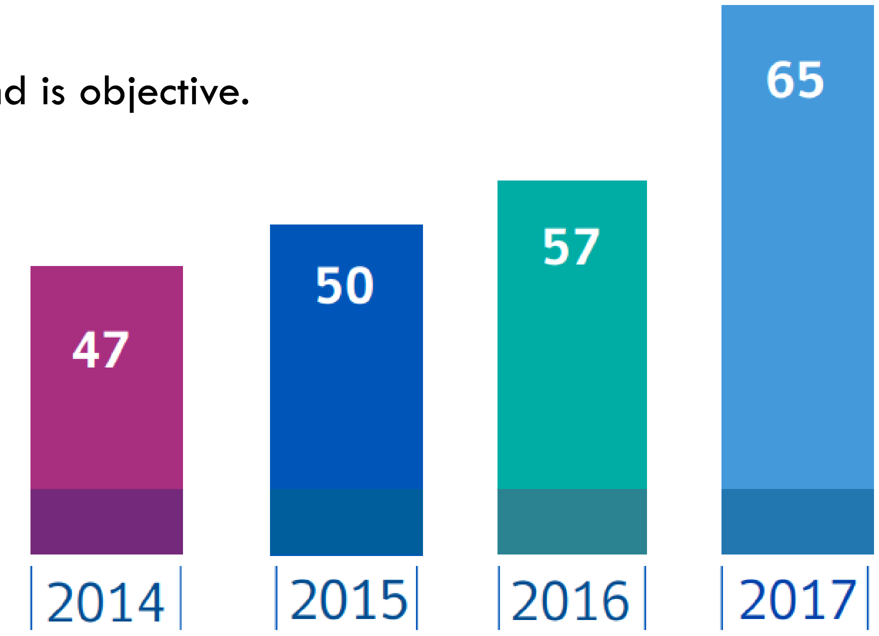
2.4. Ex-post protection

1.1 Collective mediation / Law N°19,496 (1997) changed by Law N°21,081 (2018)

- Corporations have cease their wrongful behaviour.
- Compensations or reimbursement have been calculated, if applicable.
- The solution is proportional to the harm, is to every concerned consumer and is objective.
- The mechanism and procedures to execute the agreement are clear.
- The procedures to oversee compliance is clear.

¿What is sought?

- Compensation, change of behaviour or both.
- E.g.: Between 2018 and 2019 four banks (Scotiabank, Security, BICE and Consorcio) changed their contracts -> Arbitrary responsibility limitation



Source: Consumer Protection Agency (SERNAC)

2. FCP SYSTEM (SOFTWARE)

2.4. Ex-post protection

2. Class actions

- The Consumer Protection Agency looks into deviations in its complaints database, research and decide to fill in a class action.
- E.g.: In 2015 sued Banco de Chile -> double overdraft lines with different fees.
- Before the court sentence an agreement was reached = US$30,000,000
- 2010 OECD Consumer Policy Toolkit was used.
- OECD invited us to present the case in Paris.

Chile OECD @ChileOECD Follow

SERNAC presenta en la OCDE caso Banco de Chile, como ejemplo de éxito en el uso de la recomendación OECD Consumer Policy Decision Making 2014

Tras acuerdo conciliatorio el banco debió compensar a más de 140 mil consumidores por US$ 30 millones ➡ bit.ly/2uYYWlQ

7:18 AM - 10 Apr 2019

3. FCP INSTITUTION (HARDWARE)

"…Chile is an interesting case: although, is the first [Latin-American] country to consolidate regulatory frameworks as a governance system in several sectors, regulatory agencies lack of autonomy" Jordana & Levi-Faur (2005).

Few changes since then…

- Central Bank is autonomous since 1989
- The Financial Market Commission is a "brand new" exception –> More autonomous (and acquired the Securities regulator in 2018 and the Banks and Financial Institutions in 2019).

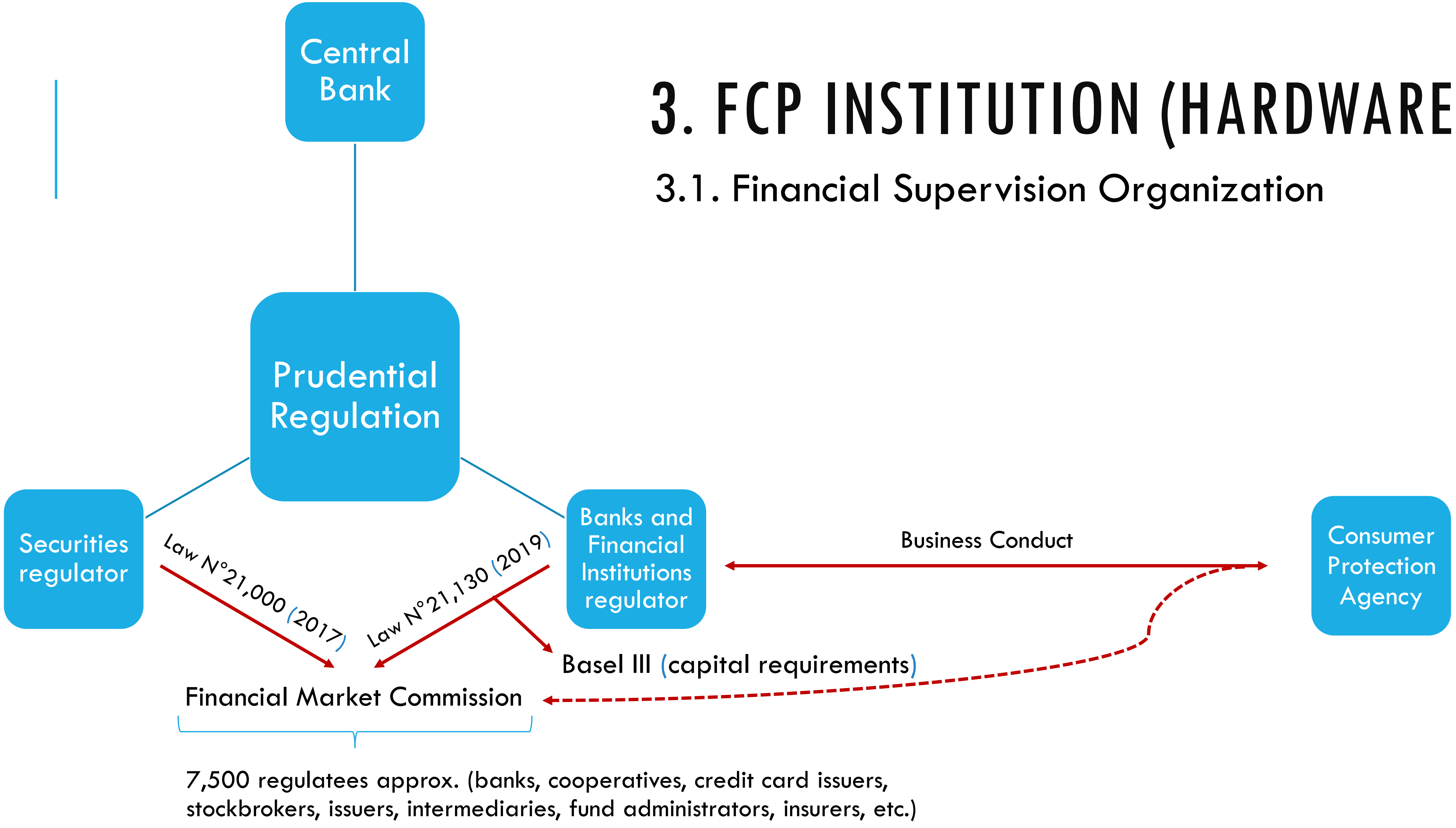
3. FCP INSTITUTION (HARDWARE)

	Central Bank	Social Security regulator	Insolvency regulator	Consumer Protection Agency	Financial Market Commission (since 2018)	Securities regulator (until 2018)	Banks and Financial Institutions regulator (until 2019)
Commercial banks			X	X	X		X
Other banks			X		X		X
Financial cooperatives			X	X	X		x
Endorsable mortgage loans administrators			X	X	X	x	
Insurers				X	X	x	
Allowance funds		X	X	X			
Financial retail			X	X			
Firms that support banks				X	X		x
Stockbrokers					X		
Others			X	X	X	x	

Source: Draft Survey, Consumer Protection Agency (SERNAC)

3. FCP INSTITUTION (HARDWARE)

3.1. Financial Supervision Organization



3. FCP INSTITUTION (HARDWARE)

3.2. Deposit insurance corporation

- No permanent fund, but…
- Deposit insurance scheme since 1986
- Seeks to reduce the impact of a bank run
- US$16,000 approx. (US$8,000 max. approx. per institution)
- Have not been used

3. FCP INSTITUTION (HARDWARE)

3.3. Dispute settlement organization

¿Ombudsman?

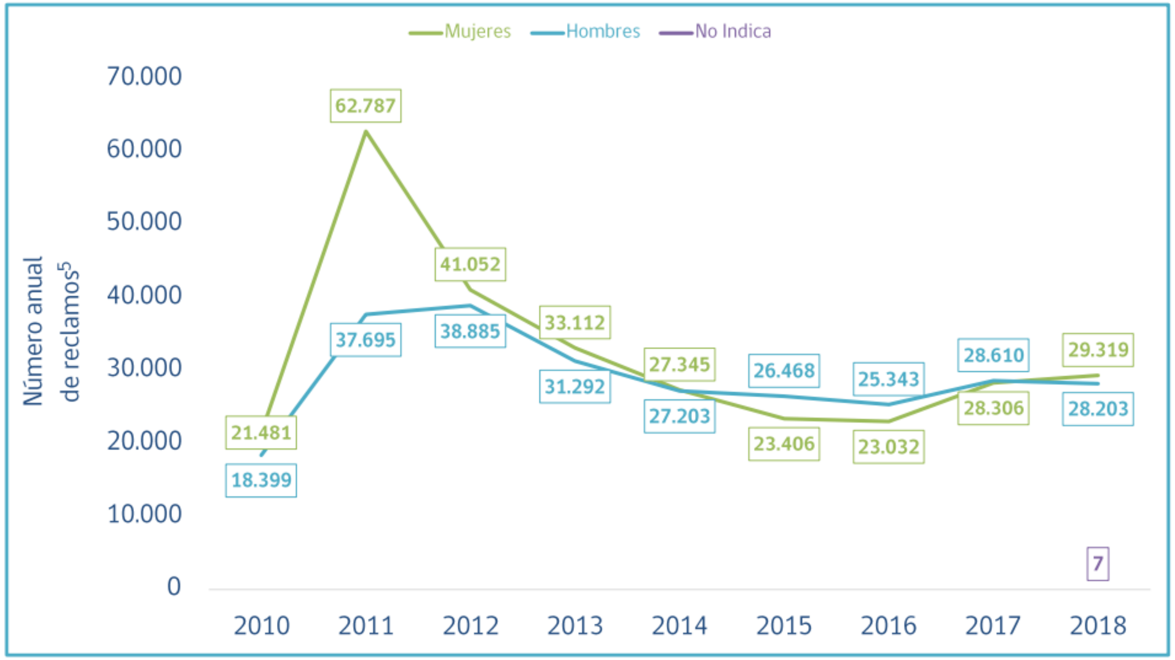
No, but…

Consumer Protection Agency (SERNAC)

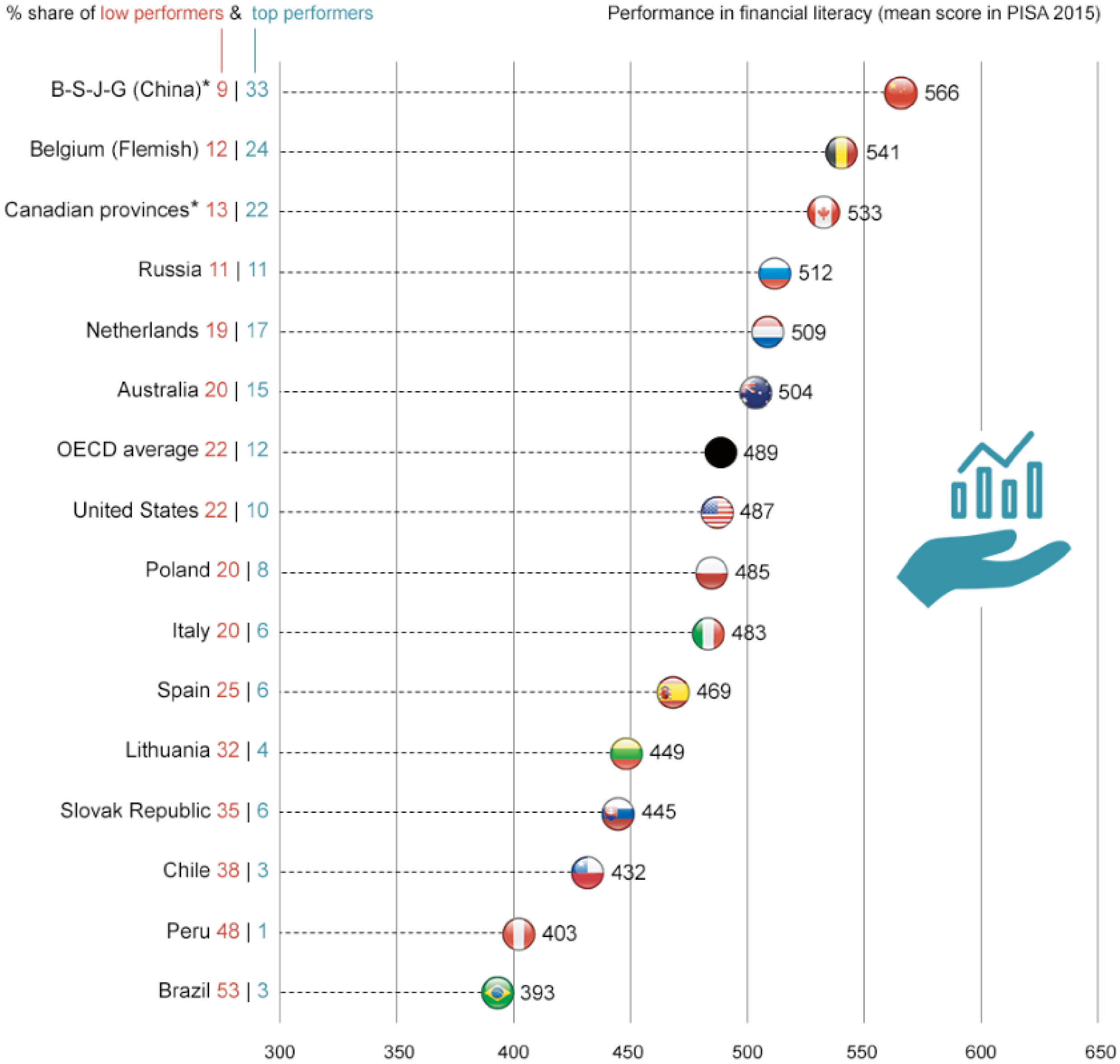
Consumer Associations

4. SPECIAL FCP SYSTEMS

4.1. Female group



4.2. Students group



5. MARKET ISSUES

5.1. Product complexity

Chile is not a sophisticated market, however financial literacy is low!

SELLO SERNAC

HOJA RESUMEN DE COTIZACIÓN O DE CONTRATO CRÉDITO DE CONSUMO ❶ SELLO SERNAC (si aplica) ❷ CAE: XX%

❸	Nombre titular Fecha Plazo de vigencia cotización	– – –
	I. Producto Principal	
❹	Monto líquido del Crédito (pesos)	–
❺	Plazo del Crédito (meses)	–
❻	Valor de Cuota (pesos)	–
❼	**Costo Total del Crédito (pesos)**	–
❷	**Carga Anual Equivalente (CAE)**	XX%
	II. Gastos o Cargos Propios del Crédito	
	Gastos o Cargos	
❽	Impuestos	–
❾	Gastos Notariales	–
❿	Monto Bruto del Crédito	–
⓫	Garantías Asociadas	Si/No - ¿Tipo de garantía?
	Gastos o Cargos por Productos o Servicios Voluntariamente Contratados	
⓬	**Valor: Cuota Referencia (pesos)**	–
⓭	**Seguros** Costo mensual (pesos) Costo Total (pesos) Cobertura Nombre proveedor del servicio asociado	 – – – xxx
⓭	**Seguros** Costo mensual (pesos) Costo total (pesos) Cobertura Nombre proveedor del servicio asociado	 – – xxx
	III. Condiciones de Prepago	
⓮	Cargo Prepago (%)	–
⓯	Plazo de aviso para pago anticipado o prepago	
	IV. Costos por Atraso	
⓰	Interés Moratorio (%)	–
⓱	Gastos de Cobranza (%)	–
	Advertencia	
⓲	"El Crédito de Consumo de que da cuenta esta Hoja Resumen, requiere del Consumidor contratante, NN patrimonio o ingresos futuros suficientes para pagar su costo total de $xx, cuya cuota mensual es de $xx, durante todo el período del crédito".	

5. MARKET ISSUES

5.2. Price dispersion

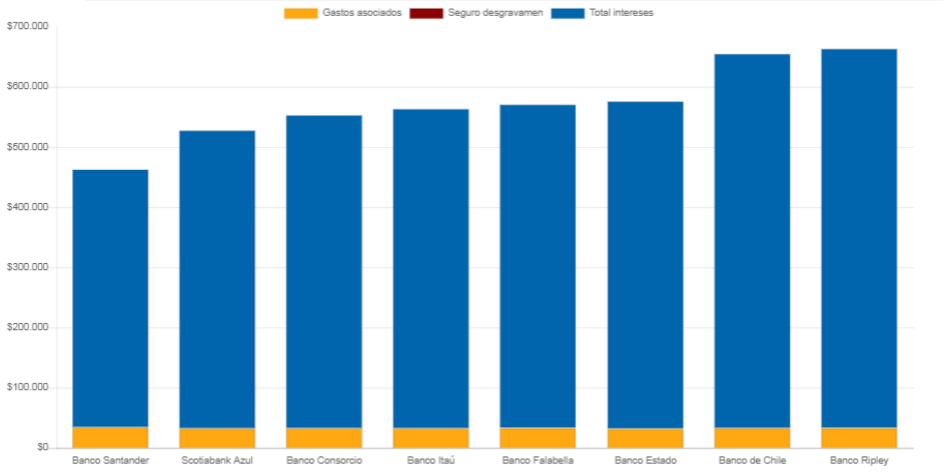
Monto del crédito: $4.000.000

Periodo: 12 meses

Seguro desgravamen

Num	Institución	Valor cuota	CAE	Tasa de interés mensual	Gastos asociados	Seguro desgravamen	Total intereses	Monto bruto crédito	Costo total
1	Banco Santander	$371.957	20,74%	1,56%	$34.957	$0	$428.527	$4.034.957	$4.463.484
2	Scotiabank Azul	$377.356	23,54%	1,80%	$33.053	$0	$495.219	$4.033.053	$4.528.272
3	Banco Consorcio	$379.465	27,61%	1,93%	$33.263	$0	$520.317	$4.033.263	$4.553.580
4	Banco Itaú	$380.330	25,08%	1,93%	$33.142	$0	$530.818	$4.033.142	$4.563.960
5	Banco Falabella	$380.938	25,02%	1,95%	$33.967	$0	$537.289	$4.033.967	$4.571.256
6	Banco Estado	$381.383	20,59%	1,96%	$32.638	$0	$543.958	$4.032.638	$4.576.596
7	Banco de Chile	$387.958	28,98%	2,24%	$33.501	$0	$621.995	$4.033.501	$4.655.496
8	Banco Ripley	$388.660	29,34%	2,28%	$33.770	$0	$630.150	$4.033.770	$4.663.920

Costo Total | Valor Cuota | Valor CAE | Tasa de Interés

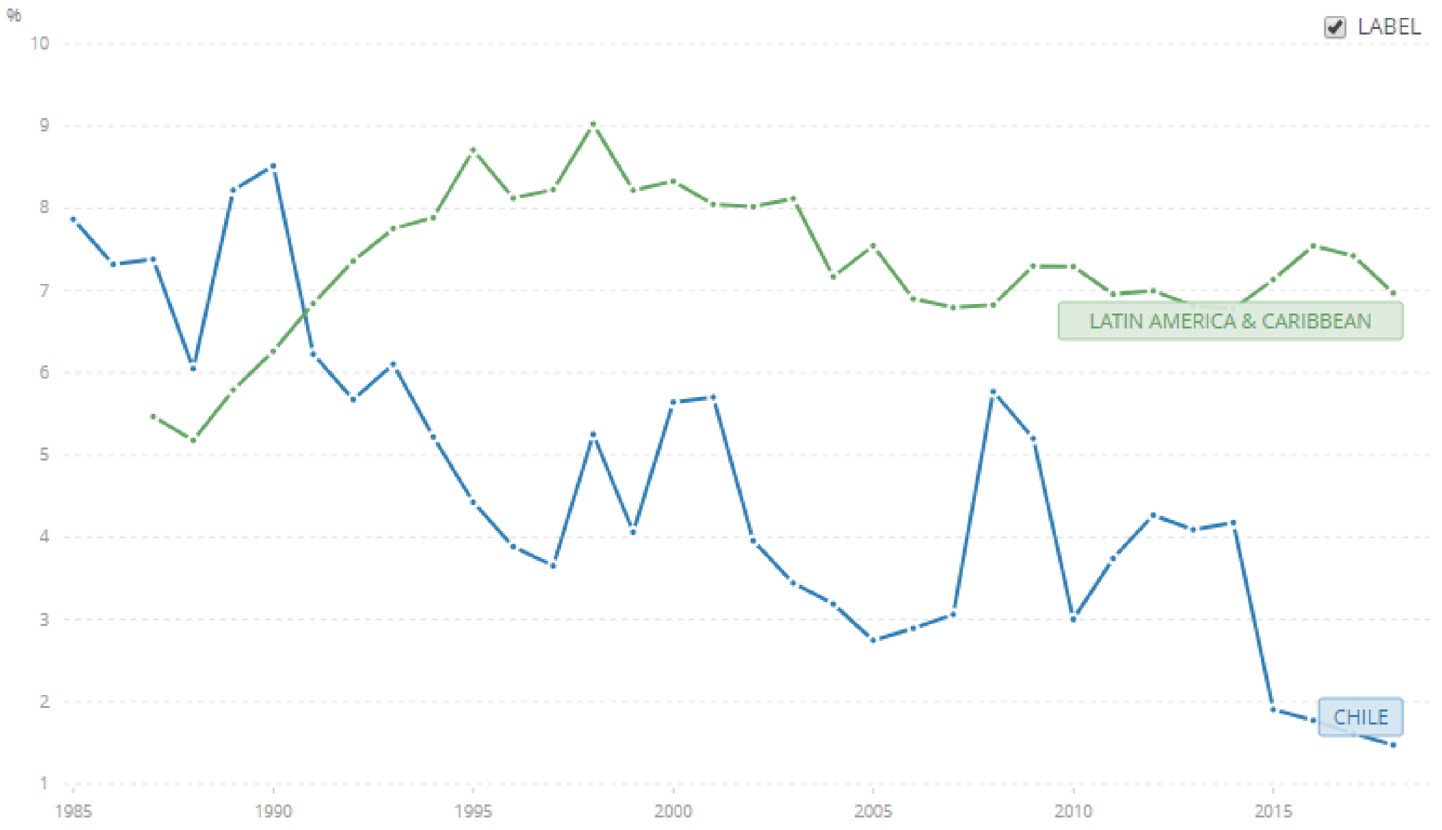


Source: Consumer Protection Agency (SERNAC)

Interest rate spread (lending rate minus deposit rate, %)

International Monetary Fund, International Financial Statistics and data files.

Line | Bar | Map | Also Show | Share | Details



1985 - 2018

Source: World Bank Database

5. MARKET ISSUES

5.3. Governance

Lack of coordination!

E.g.: Regulators are legally obligated to send their sanctions to the Consumer Protection Agency => not happening.

¿Does Chile need a

Consumer Financial Protection Bureau (United States)

Consumer Financial Protection Bureau

Financial Consumer Agency of Canada or

Financial Consumer Agency of Canada
IT PAYS TO KNOW.

Comisión Nacional Protección y Defensa Usuarios de Servicios Financieros?

CONDUSEF
COMISIÓN NACIONAL PARA LA PROTECCIÓN Y DEFENSA DE LOS USUARIOS DE SERVICIOS FINANCIEROS

PROTECTION OF FINANCIAL CONSUMERS IN CHILE

Cristobal Caorsi
Chief of Modernization, Ministry of the Interior
Former Chief of Financial Consumer Protection, Consumer Protection Agency
Professor Universidad Adolfo Ibanez
CHILE

August 20th, 2019

THE IMPLICATIONS OF THE USE OF PERSONAL DATA FOR FINANCIAL SERVICES CONSUMERS

WORK IN PROGRESS

Dr. Adele Atkinson, Head of Financial Education, OECD

August 2019

Yogyakarta, Indonesia

OECD
BETTER POLICIES FOR BETTER LIVES

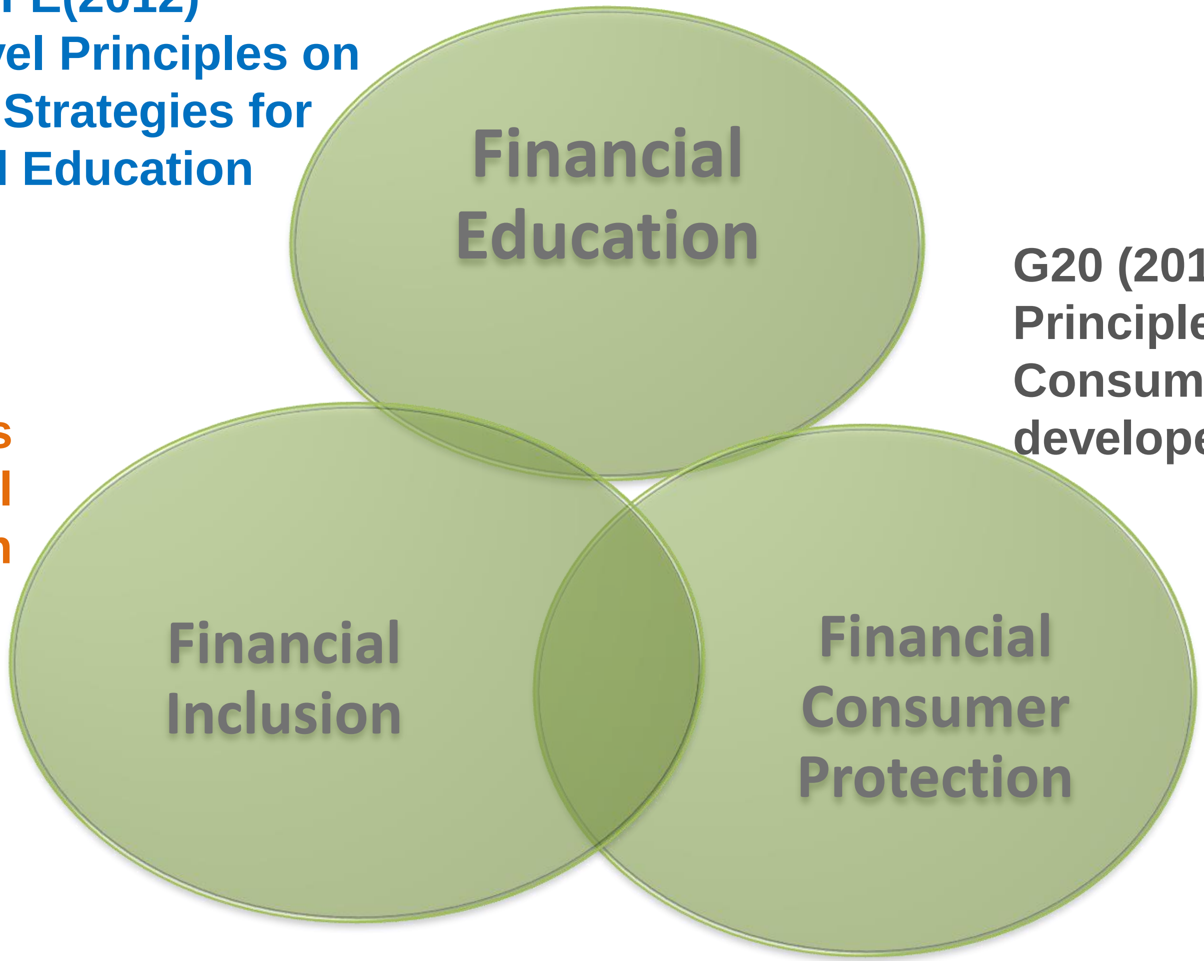
BACKGROUND

Consumer empowerment in the face of digitalisation requires a comprehensive approach

OECD/INFE(2012) High-Level Principles on National Strategies for Financial Education

G20 (2011) High-Level Principles on Financial Consumer Protection developed by the OECD

G20 (2010) Principles for Innovative Financial Inclusion



G20 (2016) High-level Principles on Digital Financial Inclusion

Policy principles and guidance recognise the importance of considering data protection and use

- Ensure regulatory responses apply regardless of the distribution channel, i.e. technological neutrality
- Ensure regulatory responses reflect the business model, size, systemic significance as well as complexity i.e. proportionality
- **Use insights gained form data analysis to ensure evidence-based approached, including understanding of the behaviour of consumers**
- **Strike the right balance between potential benefits of innovation and maintaining appropriate degree of FCP**
- Maintain flexibility, adaptability and continuous learning
- Cooperate with other policy makers and oversight bodies

Principle 8

"Consumers' financial and personal information should be protected through appropriate control and protection mechanisms.

These mechanisms should define the purposes for which the data may be collected, processed, held, used and disclosed (especially to third parties).

The mechanisms should also acknowledge the rights of consumers to be informed about data-sharing, to access data and to obtain the prompt correction and/or deletion of inaccurate, or unlawfully collected or processed data".

G20/OECD Digitalisation and financial literacy The policy guidance recommends 5 actions:

Develop a national diagnosis of the impact of digital finance on individuals and entrepreneurs

Ensure coordination between public authorities and private and not-for-profit stakeholders to support coordinated messages and approach

Develop core competencies on digital financial literacy of consumers and entrepreneurs to:

- Build trust and promote beneficial use of DFS and related technological innovation
- Protect consumers and small businesses from vulnerability to digital crime
- **Empower consumers to counter new types of exclusion due to the misuse of data sources, including data analytics and digital profiling**
- Support consumers at risk of over-reliance on easy access to online sources of credit

Deliver financial education through digital and traditional means and address the needs of target audience through tailored approaches

Facilitate and disseminate evaluation of financial education programmes addressing DFS

PERSONAL DATA IN THE CONTEXT OF INCREASED DIGITALISATION

What is personal data ?

OECD definition (1980 Principles – reviewed in 2013):

- “any information relating to an identified or identifiable individual (data subject)”
- However, data analytics has made it easier to relate seemingly non-personal data to an identified or identifiable individual, thus blurring the boundaries between non-personal and personal data.

European Union General Data Protection Regulation (GDPR), defines personal data as:

- “any information that relates to an identified or identifiable living individual”
- “different pieces of information, which collected together can lead to the identification of a particular person, also constitute personal data”

Personal data and digitalisation

The generation of new personal data

- Almost universal access to mobile telephones and the Internet (but with regional and socio-economic differences)
- Internet of Things (IoT)
- Biometrics

Big data relates to the huge amount of data generated from activities that are carried out electronically and from machine-to-machine communications (e.g. data produced from social media activities, from production processes, etc.). Big data have characteristics summarised as "3V" (volume, variety and velocity):

- volume, referring to vast amounts of data generated over time;
- variety, referring to the different formats of complex data, either structured or unstructured (e.g. text, video, images, voice, documents, sensor data, activity logs, click streams, co-ordinates, etc.);
- and velocity, referring to the high speed at which data are generated, become available and change over time

The role of data processing and advances in analytics

Data mining:

- The set of techniques used to extract information patterns from data sets.

Profiling

- The use of data analytics for the construction of profiles and the classification of individual consumers in specific profiles; credit scoring, price discrimination and targeted advertisement are typical examples of activities involving profiling.

Machine learning

- A subfield in computer science, and more specifically in artificial intelligence. Machine learning involves activities such as pattern classification, cluster analysis, and regression

Personal data collection from a consumer-centric perspective in financial services

Consumer awareness	Data collection channels
Consumer is aware	Data provided by the customer as part of the KYC process Data given by the customer in order to support a specific product purchase Data given by the consumer in order to use a specific service such as data aggregation tools
Consumer is not aware	Data collected by the provider during customer interactions Data collected by the provider on publicly available information (social media) Data provided to the provider by a third party such as credit reference bureau

This is increasing dramatically

How is this wealth of data used by financial services providers (both incumbents and FinTechs)

- **Customer profiling**: data stemming from on-line behaviour, geolocation tools, electronic payments and wearables can provide financial service providers with valuable insights on the financial lives of their customers and deliver more detailed customer segmentation.
- **Risk assessment**: data contributes to an assessment of risks based on multiple sources.
  - Credit: in jurisdictions with positive credit scoring systems (i.e. in which not only negative credit marks are reported by a central authority), big data and augmented analytics determined the emergence of credit scoring tools that integrate thousands of data points about individuals.
  - Insurance (see IPPFM papers)
- **Robo-advice** applied to develop a personal financial plan with a view to saving, saving for retirement, or investing.
- **Account aggregation**, i.e. the compilation of information from different accounts (checking, investments, savings accounts) in one single place to facilitate personal financial management

There are benefits for consumers, some already widespread

This has already brought benefits for consumers:

- **Extended reach,** eg using big data to create a credit score for previously 'unscorable' clients
- **Lower costs,** through increased competition and the emergence of FinTech companies in particular in the payments and lending segments.
- **Aggregator services** that use financial and payment data from bank accounts of consumers for dashboard and accounting products.
- The possibility of creating **personalised built-in nudges** in the personal financial management tools used by consumers.
- **Robo-advice,** which has made financial advice available to consumers that could not afford to receive financial advice through human interaction

.. But also risks:

Role of big data in determining insurance or credit decisions:

- Big data can be used to determine the risk profile of consumers with much greater detail– (e.g. for credit and insurance).
- Wider set of data about the individual consumer and – depending on the algorithm - information inferred on the based on consumers in similar data sets
- Depends on the applicable regulatory framework in each jurisdiction
- Greater risk discrimination can lead to better rates for some customers but also worse rates or exclusion for others

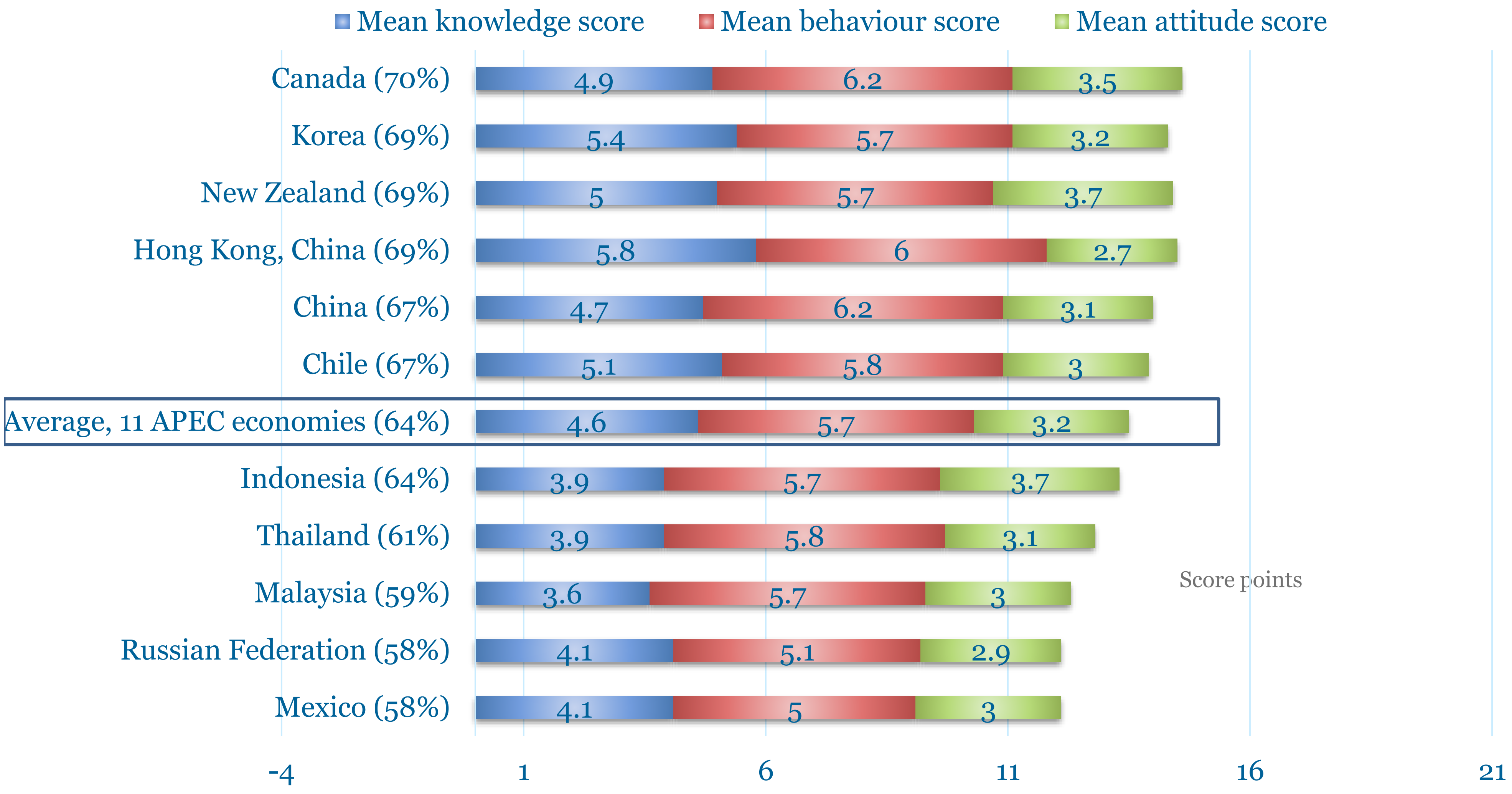
Cyber-security risks:

- Financial institutions hold valuable information and are a profitable target for cyber criminals.
- Data intensity (measured as the average volume of data stored per organisation) is highest in financial services (including securities and investment services and banking)

Mixed consumers' response

Strong awareness of cybercrime risks and importance given to data privacy	Despite these concerns, not all consumers apply the necessary steps to safeguard their personal data online
	Differences in risk perception and in response by target audience (above 65, no formal qualifications: more worried, but also less steps to increase security)
Willingness to trade personal data for added benefits	Some consumers (notably young, digitally skilled) would trade more personal data in exchange for lower costs or personalised services
	Some would go as far as banking with GAFAs
Consent it NOT informed	Even among consumers with high academic and socio-economic background
	This raises questions as consumers are being given more control over their data in some jurisdictions (EU GDPR)

Consistent with low levels of financial literacy



Sources G20/OECD INFE Report on Adult Financial Literacy in G20 Countries OECD/INFE International Survey of Adult Financial Literacy Competencies and SBIF (2016) Encuesta de medición de capacidades financieras en los países andinos: Chile 2016

What can be done to better protect and empower consumers?

Develop a national diagnosis	*Supply side*: • How financial services providers use consumers' personal data, in the framework of the applicable national legislation *Demand side*: • Attitudes towards privacy and personal data use • Consumers' understanding of digital footprint • Online security awareness
Ensure coordination	*Among public authorities*: • Coordinate with, or at a minima consult, the national data protection authority, if existing, or the public authorities with a legal mandate and effective means in the field of privacy and data regulation. *With the private and not-for-profit sector*: • Public authorities should seek to harness the knowledge of the private sector, and in particular of FinTech actors, to understand new developments in the field of personal data sharing.

New core competencies may be beneficial

Empowering consumers, including the most vulnerable, to counter new types of exclusion due to the misuse of various data sources, including big data, and digital profiling	
appropriately manage their digital footprint to the extent possible:	• *consumers should be aware of the analytical possibilities offered by big data, and that any online activity can be used by financial services providers to customise offers and define cost and range of product offer;* • *in countries with positive credit scoring systems in particular, consumers should understand that credit scoring decisions can be influenced by personal information that is not related to their personal credit history.*
avoid engaging in risky behaviours involving their personal data, and understand the consequences of sharing or disclosing personal identification numbers, account information, or other identifying information such as address, birth date or government-issued numbers whether digitally or through other channels:	• *target groups that display the lowest familiarity with online transactions and lowest levels of digital literacy should be prompted to take effective measures to safeguard their personal data and privacy.*
assess the kind of information that is requested by (financial) service providers to decide whether it is relevant and understand how it may be stored and used:	• *target groups that are willing to share more personal information with financial services providers in exchange for benefits, notably younger generations and the more technologically savvy, should be aware of the consequences to their privacy and should share non-essential additional information based on informed consent.*
Increase awareness of consumer rights with respect to personal data, and on the applicable regulatory framework, especially if this gives consumers new rights and discretionary control	• *In jurisdictions where changes to personal data regulations have assigned new rights to consumers, they should be informed through awareness campaigns.*

..core competencies (cont'd).

Protecting consumers and small businesses from increased vulnerability to digital crimes such as phishing scams, account hacking and data theft	
the existence of online fraud and of cyber security risks when choosing and using digital financial services for personal and business purposes and making financial transactions online, including when using account aggregation tools ("screen scraping");	• *Consumers - and the most vulnerable target groups in particular - should be alerted to the need of using strong passwords to protect their personal data and financial transactions online.*
the possibilities offered by account aggregation tools where these exist, and how to use and stop using such tools safely given that they are providing access to their account information to third parties;	• *Consumers understand data sharing revocation terms and when to revoke authorizations to access, use, or store data* • *Consumers understand that through screen-scraping, the passwords and login information remains with the third-party provider also when they stop using the service, increasing the likelihood of the password being stolen or misused.*

Digitalisation of financial services: cross OECD work to understand impact, spur dialogue, and provide policy solutions

Blockchain Policy Centre

Pensions
- Use of technology to enhance interactions with pension members
- Impact of technology on business models
- Regulatory approaches to Fintech

Insurance
- The sharing economy and insurance
- AI applications
- InsurTech

Robo-Advice
- Benefits and challenges
- Robo-advice platforms and role in promoting savings for retirement

- **Initial Coin Offerings** (ICOs) for inclusive SME financing
- (Digital) **Short-term consumer credit** and inclusiveness

OECD *Going Digital* project
www.oecd.org/going-digital

Global events

OECD Summit on Going Digital
11-12 March 2019

OECD Global Blockchain Policy Forum 2019
12-13 September 2019

THANK YOU

FEEDBACK AND COMMENTS WELCOME

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DIGITAL AGE AND CONSUMER PROTECTION OF FINANCIAL SERVICES IN INDONESIA
(The Role of Financial Services Authority amid the Growth of Fintech Industry)

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Abstract

Digitalization has penetrated various industrial sectors including financial services which have brought various changes in the production, distribution and consumption patterns. Like all new developments, there is potential for both increased opportunities and risks for consumers. It was broadly known that consumers of financial services were frequently damaged because of various unfair trade practices conducted by financial service providers, their low level of financial literacy, and the weakness of consumer protection policy. Making sure the foundations of a connected system are designed to benefit consumers will be essential. This article aims to explore the problems and challenges faced by policy makers, especially Financial Services Authority / *Otoritas Jasa Keuangan* (OJK) in protecting the interests of consumers of financial services in the digital era. One of the challenges faced by the OJK is running a dual role i.e. on the one hand should ensure financial services providers operate correctly and responsibly, and on the other hand also must empower and protect consumers' interests. This article respectively describes the rationality of consumer protection in the financial services, the dynamics of fintech growth and its problems, and concludes with an analysis of the role of OJK in the era of fintech industry.

Keywords: fintech, consumer protection, financial services, OJK

A. Introduction

Access to financial services that is stable, secure, and fair is strongly important for consumers around the world. In fact consumers often buy financial services products that are not suitable for their needs. Besides, the contract and the charge fees are also unfair and often detrimental for consumers. This is because the bargaining power of consumers is very weak in front of financial services providers. Consumers are facing more complicated problems because of the use of technology by the financial services industry and it had long been predicted. According to Moore’s law, the computing speed will grow exponentially the communication cost will continue to drop quickly. Without any doubt, the advance in IT will continue to play an important role in the development of the financial industry.[1]

The emergence of fintech industry actually aims to make financial services, banking and non-banking industries, more efficient. Access to financial services providers become

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[1] Steven Li, “Future Trends and Challenges of Financial Risk Management in the Digital Economy”, *Managerial Finance*, Volume 29 Number 5/6 2003, p. 115.

easier and faster as well. But unfortunately, the arrangements and the supervision of the OJK is still weak and has not been effective. On the other hand, consumers are still at a low level of financial literacy. There has been a growing recognition that limited consumer understanding of financial services, or a lack of financial literacy as it is often called, means that consumers of financial services are vulnerable to exploitation.[2] This is the condition which causes occurrence of cases in the field of financial services.

The development of fintech industry essentially already anticipated by OJK with OJK Regulation No. 77/POJK. 01/2016 concerning on Informational Technology Based Lending Services. OJK, which was established under the Law No. 21 year 2011, has been regulating the liability of the Financial Services Providers (FSP) to provide consumer protection. OJK has also set up a procedure of registration, licensing, lending to the rules about the billing. Then every fintech provider is obliged to register at OJK. However, the status listed at OJK is not a guarantee that they will not violate the rules and/or detrimental to consumers. Moreover, the data show an increasing number of fintech providers are not listed. For registered, OJK should remain punish them, such as revoke their permission, if fintech industry violated consumer rights.

Thus, without good and comprehensive arrangements as well as strict supervision, it is certain that business growth fintech may bring losses to consumers. Indonesia Consumer Organization Foundation (YLKI) for example, during the year 2018 has received more than 50 complaints online borrowing money (one of the type of fintech). Most of the complaints are related to unethical way in collecting debt, even calculation system of interest and fines that is not obvious and detrimental to the consumers.

According to Article 4 of Law No. 21 of 2011 about Financial Services Authority, states that one of the tasks of OJK is to give protection to consumers and/or the community. Therefore in order to provide consumer protection, OJK has issued OJK's regulation (POJK) No. 01/POJK. 07/2013 about the Protection of Consumers of Financial Services Sectors. The research question is how OJK Regulation provides consumer protection on one side and also delivers regulation to mitigate risk for the companies or related parties mainly in the context of the growth of fintech industry.

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[2] James F. Devlin, "Monitoring the Success of Policy Initiatives to Increase Consumer Understanding of Financial Services", *Journal of Financial Regulation and Compliance,* Vol. 11 Issue: 2, 2003, pp.151-163, https://doi.org/10.1108/13581980310810471

Therefore, this article analyzes the importance of consumer protection in the the middle of fintech industries and examines the role of OJK through their related policies. This article respectively describes the rationality of consumer protection in the financial services, the dynamics of fintech growth and its problems, and concludes with an analysis of the role of OJK in the era of fintech industry.

B. Research Method

This was normative legal research based on the secondary data involving both primary and secondary legal material. The primary legal material consists of Law No. 21 of 2011 and OJK's Regulations concerning its role in the era of fintech industry. This research was enriched by an interview with some of OJK's staff and also by doing Focus Group Discussion (FGD) with financial industry representatives. The approach used was the normative juridical approach. Whereas analysis was carried out by using a qualitative approach.

C. Discussion and Analysis

1. Rationality of Consumer Protection in the Financial Services Sector

Consumer protection actually includes a variety of topics, but not limited to product liability, privacy rights, unfair business practices, fraud, misrepresentation, other business/consumer interaction. In the perspective of consumer protection, the Financial Service Providers (FSP) has the bargaining power that is relatively better and more dominant rather than consumers. Their bargaining position is more powerful in the middle of digital financial industry growth, among others, are characterized by the use of a standard agreement followed by unbalance provisions and tend to harm consumers. The consumer that was already in a very weak position, even will be more exacerbated by vague and misleading information given by FSP. Unfortunately most consumers rely solely on information about financial services products that will be bought from FSP only. Furthermore according to Angelo Capuano and Iain Ramsay[3] the weakness of the consumer of financial services include :

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[3] Angelo Capuano and Iain Ramsay, "What Causes Suboptimal Financial Behaviour? An Exploration of Financial Literacy, Social Influences and Behavioural Economics, *Legal Studies Research Paper* No. 540: 2011, Melbourne Law School.

1. Consumers may not consider the key features of financial products before making a decision to purchase a product. This includes not considering risk and return, being over optimistic about return and having price insensitivity such that consumers are unaware of the actual cost of the products they hold;
2. Consumers may not read the terms and conditions of financial products;
3. Consumers may not compare the price and quality of different financial products from different providers;
4. Consumers may not evaluate financial products they already own to determine whether they are still needed;
5. Consumers may purchase financial products they do not need;
6. Consumers may not consider that the fees and charges attached to financial products contribute to the overall cost of owning those products;
7. Consumers may ignore their investment objectives and needs when purchasing financial products;
8. Consumers may be "short sighted", or look at initial short-term cost without fully considering long term benefit and cost;
9. A number of consumers rigidly "compartmentalize" money. This means that some consumers may allocate particular funds or a percentage of income to saving, and despite having accumulating credit card debt, continue to save and not repay that credit card debt.

One of the problems faced by financial services consumers is about the transparency of the product. The Consumers International[4] asserts that financial information should at least meet the criteria: clear, sufficient, reliable, comparable, and timely. Law No. 8 of 1999 concerning Consumer Protection also regulates the obligation of the businessmen to provide information that is clear, correct and fair. Meanwhile, in order to protect the interests of consumers and the public, Article 28 Law No. 21 of 2011 concerning Financial Services Authority allow to OJK to provide information and education to the public regarding the characteristics of the financial services sector, services, and products. But in practice, at least by examining the cases of financial services occurred, there are still many FSP violates their obligations and have an impact on consumer losses. It was shown at least by the amount of consumer complaints lodged to OJK.[5]

Then it is reasonable if OJK issued Circular Letter No. 12/SEOJK.07/2014 concerning Provision of Information for Marketing of Financial Products and/or Services. The essential principles in this letter requires FSP to:

1. deliver information regarding products and/or services that are accurate;
2. deliver information regarding products and/or services that are fair based on actual information about the benefits, costs, and risks of each product and/or service;

[4] Consumers International, "Safe, Fair and Competitive Markets in Financial Services: Recommendations for the G20 on the Enhancement of Consumer Protection in Financial Services" CI: March 2011.

[5] Total number of consumer complaint lodged to OJK since 2013 until July 2018 was 3.968 cases. The data was obtained from Adam Novriansyah, staff of Education and Consumer Protection Unit – OJK, 27 July 2018.

3. convey information regarding products and/or services that are clear and complete;
4. convey information regarding products and/or services that are not misleading;
5. pass information as mentioned in No. 1 - 4 along with information summary of products and/or services, marketing activities and advertising as well as other things that can be equated with it;
6. deliver concerning the realization of the issuing and/or change product features and/or financial services that require approval from OJK.

Access to obtain information that is correct and accurate as the basis of consumers to choose products, is one of the important things to be realized and guaranteed by the Government. Despite it being an obligation of FSP but OJK must ensure that FSP meet its obligations through effective and ongoing supervision. Various efforts to embody protection of financial services' consumer must be realized. In addition to encouraging products transparency, in consumer protection perspective there are few things that should be regulated such as: (1) standard mechanisms of consumer complaints; (2) the existence of the institution of an independent consumer dispute resolution; and (3) consumer education and empowerment programs.

Concerning with consumer education in financial services sector it ought to be noted ideas of Tim Kaiser and Lukas Menkhoff[6] that affirm several things: (1) effects of financial education depend on the target group: teaching low-income participants (relative to the country mean) and target groups in low-and lower-middle income economies have less impact; (2) the success of financial education depends on the type of financial behavior targeted. There is evidence that borrowing behavior may be more difficult to impact than saving behavior by conventional financial education; (3) increasing intensity supports the effect of financial education. Then Government and OJK whose have responsibility to do it, must be seriously prepare and develop consumer education programs effectively.[7] In its implementation, the involvement of Consumer Organizations, Association of FSP, and other related parties should be optimized.

Thus, consumer's access to justice should be enhanced and improved, not only through formal juridical approach but also using of sociological approaches. In this

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[6] Tim Kaiser and Lukas Menkhoff, "Does Financial Education Impact Financial Literacy and Financial Behavior, and if so, When?", *DIW Discussion Papers*, No. 1562, 2017. *Deutsches Institut für Wirtschaftsforschung* (DIW), Berlin.

[7] Nowadays, OJK is preparing a draft of OJK Regulation concerning Consumer and Community Services to the Financial Services Sector in Financial Services Authority

case Iain Ramsay[8] argues that: "the question of access to justice has been an important theme in consumer protection. Redress institutions can effectively continue the goal of awarding compensation, settlement of disputes, behavior modification, and the development of norms, as well as give confidence to consumers and businesses in the market". In the meantime Klaus Viitanen[9] argues that consumers' access to justice can be divided into two groups: (1) the protection of the collective interests of consumers; such as through the regulation and supervision of the marketing as well as regulation and oversight of product safety; (2) the protection of the individual rights; where consumer rights are met in individual cases after a contract is completed or when a consumer is not satisfied with the product that they bought.

Furthermore Michell Lyttle[10] states that consumers' access to justice includes: (1) the ability to claim and succeed in obtaining compensation; (2) the ability to retain insufficient claims of evidence; (3) proportional costs; (4) effective and simple procedures; (5) rapid process from beginning to conclusion; and (6) the effective enforcement of a decision. Meanwhile Mary Donnelly[11] argues that financial services have particular features which make the issue of consumer access to justice/redress especially relevant. *First*, financial services often involve highly complex products. This gives rise to inevitable information asymmetry, where financial service providers know a great deal more about their products than even cautious and careful consumers. *Secondly*, many financial services are purchased on a "credence" basis whereby their value to the consumer becomes apparent only with the passing of time. For example, the determination of whether an insurance contract meets a particular consumer's needs typically becomes apparent to the consumer only when s/he makes a claim on the insurance policy.

In this context the great hope was also placed to OJK to realize consumers' access to justice in financial services sector through a variety of rules, policies and

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[8] Iain Ramsay, "Consumer Law, Regulatory Capitalism and the 'New Learning' in Regulation", *28 Sydney L. Rev. 9*, 2006.

[9] Klaus Viitanen, "Consumer Law: Especially from the Viewpoint of Consumer´s Access to Justice", *Lecture Material*, University of Helsinki, October 2008.

[10] Michell Lyttle, "Consumer Access to Justice", *paper* on the Conference on Litigation Costs and Funding, University of Oxford Faculty of Law, 6-7 July 2009.

[11] Mary Donnelly, The Financial Services Ombudsman: Asking the 'Existential Question' (September 13). Dublin University Law Journal, Vol 35, pp 229-260, 2012. Available at SSRN: https://ssrn.com/abstract=2188845

programs. In the context of information, OJK should be able to make itself as the center of information for consumers of financial services at any time they requires information related products and other financial services. In this case OJK held its function as "financial adviser" (as in the United Kingdom there is The Money Advice Service) that play a role in providing information and advice to consumers with regard to financial services for free and independent. The independence of the institution who provides financial advice is strongly important according to Gerard Lemos[12] because: (1) consumer needs to be clear that a particular product is the one that he or she wants and will do the job expected of it; (2) after making a purchase, the consumer needs to know that if something does go wrong they have someone they can trust to turn for redress; and (3) the consumer wants to know that the government is on their side.

OJK should be more active and able to “equal” with FSP in influencing consumer decision making process, so that consumer decisions is taken consciously and appropriately and not just based on the advertising/promotion given by FSP. In this case Toni Williams[13] argues that: "Proponents of financial literacy education may assume that if firms can influence consumer decision-making processes so powerfully then financial educators also should be able to do so with well-designed interventions that are effectively delivered ". Moreover, with the use of technology in the field of financial services, market penetration on financial services sector has been going on with the massif, fast, and difficult to be controlled. The centrality of finance and financial markets to economic change has been dramatically reinforced by technological change, and this is leading to a new hegemony of financial markets in a more open and interdependent world. This new global transformation has gravely challenged the capacity of the state to provide effective governance of financial markets are not only themselves, but also of economic affairs generally.[14]

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[12] Gerard Lemos, ‘Towards a National Strategy on Financial Education”, *Presentation Paper* on Bank of Indonesia-OECD Regional Asian Seminar on Financial Literacy, Jakarta 27 June 2011.

[13] Toni Williams, “Empowerment of Whom and for What? Financial Literacy Education and the New Regulation of Consumer Financial Services*”*, *Law & Policy*, 29 (2) April 2007, pp.226 – 256.

[14] Philip G. Cerny, “The Dynamics of Financial Globalization: Technology, Market Structure, and Policy Response”, *Policy Sciences* 27, Netherlands: Kluwer Academic Publishers, 1994. p. 320

2. Dynamics of Fintech Growth and Its Problems

Article 4 of Law No. 21 of 2011 about Financial Services Authority states that one of the tasks of OJK is to give protection to consumers and/or the community. Therefore in order to provide consumer protection, OJK has issued OJK's regulation (POJK) No. 01/POJK. 07/2013 about the Protection of Consumers of Financial Services Sectors. This regulation is intended to apply the principle of balance, i.e. between the developing of financial services sector continuously and simultaneously provide protection to consumers and/or the community as a user of financial services. This rule contains 3 main aspects, namely: (1) improvement of transparency and disclosure of the benefits, risks and costs over the product and/or service of FSP; (2) the responsibility of the FSP to perform a conformity assessment of products and/or services to the risk faced by the consumer; (3) the simpler procedure and ease of consumer to lodge a complaint and dispute resolution over the products and/or services of FSP.

The growth of fintech industry, including peer to peer lending, became a challenges of OJK to further regulate it. The Non-Performing Loan (NPL) risk according to the data of OJK per December 2017 is 0.99% which is means that 0.99% of the disbursed loan stalled or failed to be returned by the borrower although the ratio of the loan stalled as of the end of May 2018 according to OJK has already dropped to 0.64%.[15] While the loans were distributed through the service of lending and borrowing is IDR 6.16 billion. Therefore approximately IDR 39,424 billion which are jammed.[16]

Relating to the efforts of pressing the NPL, some fintech service providers use: (1) collect loans from borrowers who have the NPL of 0.49%; (2) select a business segment services and creative industries because both have a relatively low risk; (3) in collaboration with the underwriting insurance to anticipate the NPL; (4) strict selection of partners for lenders and borrowers, among others, they have no record of debt loans and loans to productive effort; (5) using of artificial intelligence to evaluate the feasibility of loans, prevent, and detect fraud, as well as the guarantee of a loan.[17]

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[15] *Kompas* Daily Newspaper, June 19, 2018

[16] *Kompas* Daily Newspaper, July 7, 2018

[17] *Kompas* Daily Newspaper, June 19, 2018

The cooperation conducted by PT Asuransi Kredit Indonesia (Askrindo) and fintech service providers which in line with the trend of the financing which leads to digitally base, will be a challenge and at the same time opportunities for the company. The company's premium income was not the target, but the number of new clients from small and micro enterprise of financing technology-based. Askrindo targeting 10,000 new customers of small and micro enterprises of financing technology-based. More and more clients of fintech guaranteed, then more small and micro enterprises got the ease to develop their business.[18]

OJK also requires Fintech service providers to protection their consumer data security. Regarding this Krishnan Dandapani[19] asserts that "as the electronic modes of finance evolves rapidly across the globe, security and integrity concerns become acute." OJK has issued POJK No. 77/POJK. 01/2016 concerning on IT Based Lending Services or peer to peer lending to support it. Fintech platform in Indonesia is now obliged to sign up to OJK as proof of a commitment to consumer protection. Up to December 21, 2018, the total number of registered and licensed fintech providers is as much as 88 companies. Indeed OJK encourages people to use the services of fintech which is already registered/licensed in OJK. However, OJK does not able to control the illegal practices of fintech which are potentially harming consumers. Hundreds of illegal fintech service providers still operate and offer their products in the community.

Fintech service or peer to peer lending between interest parties becomes a means of encounter between investors and micro-enterprises who need additional funds. This service more favored because its business process more efficient as well as the regulation is more lenient especially regarding the procedures and requirements (compared with procedures and requirements that must be met by the prospective debtor if borrowing at the bank). However, this service risk is quite high due to the absence of the agreement of guarantee/collateral (special guarantee) either in the form of a guarantee over the moving objects or fixed objects as well as individual or corporate guarantee. In the process of peer to peer lending business which are

[18] *Business Indonesia* Daily Newspaper, June 28, 2018

[19] Krishnan Dandapani, "Growth of e-Financial Services: Introduction to the Special Issue", *Managerial Finance*, Vol. 34 Issue: 6, pp.361-364, https://doi.org/10.1108/03074350810872769

mediated by fintech companies, at least there are three parties involved in it i.e., the owner of the funds, the borrower of funds and fintech providers. The legal construction between them is not simple because it can be occurred: (1) between the owner of funds and the borrower of funds upon the intercession of fintech providers; (2) between the owners of funds with the fintech providers which is entrust their funds to the borrower. Various possibilities of legal construction over the triangle relationship bring each responsibilities consequence. The responsibility here is also has begun when the risk will be transferred to the insurance companies; who will be burdened to pay insurance premiums; and which property can be saddled by surety for the debt arising from the relationship of loan and borrowing money.

On the other hand if the debtor is not able to meet its obligations and then its status become gridlocked lending, it surely would be detrimental to the owner of the funds that put their money on the fintech companies. In this context consumer protection should be embodied, one of them is by involving insurance company (as risk guarantor). This cooperation will positively impact i.e. existence of users' convenience and increasing of public trust. In addition this mutual cooperation will raise trust of fund owners, retail, or institution being higher then can increase the on-time rate of return. After all, the development of platform fintech is something that is natural and attract the people who looking for a higher profit potential than conventional services while getting a simple, fast and easy service.

As the complement of POJK No. 77 of 2016 concerning IT Based Lending Services, OJK has also issued OJK's regulation No. 13/POJK.02/2018 about the Digital Financial Innovation (DFI) to further strengthen the consumer protection towards the risks that might be occurred in the era of DFI. Regulation about DFI is not regulating Fintech Company institutionally, but rather set of products, processes, and business models. This new regulation also does not regulate the prudential issues; all such matters are directly submitted to FSP.

Policy making of OJK based upon market-discipline approach. In this case there are three principles that must be met by fintech service providers i.e. (1) disclosure of information, (2) the creation of a code of conduct by fintech community, and (3) consumer protection. In the DFI's regulation there is fintech health program through the limited test space of fintech (called "regulatory sandbox"). Evaluator do not only come from OJK, but also from Central bank (Bank Indonesia) as well as the Ministry of Communication and Information Technology. The elected fintech providers will be allowed to follow regulatory sandbox. As for the criteria of fintech providers that would follow such program is based upon their new financial service innovation and their efforts to provide benefits to the public.

Actually fintech industries have been growing rapidly. Based on a survey conducted by OJK in collaboration with the Association of Fintech Service Providers, there are more than 187 start-up companies in the financial services sector operating in Indonesia and there are more than 500,000 conventional companies such as banks, capital market, insurance, financing institute and other who did the digital transformation in their services and products. Unfortunately, not all of them registered and fulfill requirements that have been defined by OJK. It means that OJK cannot reach fintech industries that operate illegally. In this case, OJK just declares public warning by issuing information concerning licensed fintech industries. OJK cannot use its authority to force and provide punishment to unlicensed fintech industries. The public must be aware to avoid damage caused by those industries.

In order to protect the interests of consumers (either a lender or borrower), OJK issued a press release No. SP-05/VII/SWI/2018 about "Task Force on Investment Vigilant" that encourage people to beware towards unlicensed Fintech Peer to Peer Lending. The core of the press release is warning the public to always check the legality of fintech service providers (fintech peer to peer lending) to OJK because based on OJK Regulation No. 77/POJK. 01/2016 nor OJK Regulation No. 13/POJK.02/2018, fintech service providers are mandatory filing of registration and licensing into OJK. OJK's Task Force on Investment Alert have found that over 200 entities who perform business activities of peer to peer lending are not registered or do not have a business license. OJK's Task Force also asks the public not to establish business relations with them because they are not under supervision of OJK and potentially detrimental to society.

On the other hand, the growth of start-up business in financial services sector will improve financial services to the public and could be speed up the realization of the digital economy. Thus, it can encourage the acceleration of the financial inclusion especially for those who are not able to reach banking services. The phenomenon of the fintech growth has certainly encouraged OJK to strengthen market discipline-based approach (market conduct) as already stated in OJK Regulation No.13/POJK.02/2018. The steps taken by the OJK aims to strengthen the structure of financial services, protect consumers and safeguard the stability of the financial system.

OJK argues that the market discipline approach is taken because the pattern of development of fintech industry follows the market's demand. For example, in the financing of trade in fintech sector peer to peer lending affected investors in determining the magnitude of interest rate. It could not be approached with prudence principle as concerns third party funder. However, OJK will remain monitor its progress by not immediately determining the upper limit of interest rates on fintech peer to peer lending. OJK also encourage the association of fintech providers to supervise the growth of startup business so as not grow into the new "moneylender" model. These are in OJK Regulation No. 13/POJK.02/2018 referred to as the principle of independent monitoring. OJK opens an opportunity in fintech sector innovation, but it must be done responsibly with upholding consumer protection and maintain the stability of the financial system. By paying attention to their responsibility, the growth in fintech industries is expected to increase the level of financial inclusion in Indonesia. In this case, Messy-Anne Flore[20] argues that in order to improve financial inclusion qualitatively, supply-side approaches should be combined with demand-side strategies which includes financial education and consumer protection. Improved financial literacy in particular can help ensure consumers are aware and make savvy use of financial services available to them for all stakeholders' benefits.

As it known financial inclusion in Indonesia is still growing slowly. Slow growth in financial inclusion can be caused due to non-price barriers (e.g. because of the absence of financial institutions in this area - the supply curve is vertical at zero for them) and the issue of cost (price) charged to the consumer for any service. Lack of access because banks do not serve a particular area or charge too much may arise because of a low level of competitiveness in the banking system.[21] Fintech industry therefore needs to contribute to improve and accelerate the growth of financial

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[20] Anne Messy Flore, "Role of Coordinated Financial Education Strategies to Improve Financial Inclusion: an International Perspective", *Presentation Paper* on Bank Indonesia - OECD Regional Asian Seminar on Financial Literacy, 27 June 2011.

[21] Stijn Claessens, "Access to Financial Services: A Review of the Issues and Public Policy Objectives", *the World Bank Research Observer*, vol. 21, no. 2 (Fall 2006).

inclusion. They can collaborate with the banking industry to provide better financial access to the community. Banking is geared towards supporting the platform fintech providers, including peer to peer lending which is based upon information technology. During this time the banking and the platform fintech providers is still running alone. By using of technology and innovation, they can fill the gap and eliminate dependence on bank in various economic financing. Fintech has to take their role in strengthening the structure of financial services. During this time, the structure of the financial services was still superficial; 74% of national financial services are still dominated by the banking. Of that total, about two thirds were dominated by huge banks owned by the Government. OJK notes that inclusive financial ratios in Indonesia has reached 63 percent of the total population by the end of 2017. At the end of 2018 OJK's target in inclusive financial ratio could reach 70 percent and 75 percent being in 2019. Is it optimistic figures? Of course it could be debatable.

3. The Role of OJK in Fintech Industrial Era

As mentioned above, trend of the growth of fintech industry is already happening and its existence becomes a phenomenon that "rip off" and disrupt the practices of conventional financial institutions. The Asian Development Bank[22] also noted that fintech industry has greater scope for reducing costs and improving service quality. For example, by utilizing Big Data, machine learning and alternate data. Fintech companies can also develop innovative risk assessment model to generate credit score for consumers with a limited credit history. In addition its challenge is the company's need to build stable fintech ecosystem and costly effective in Indonesia.

Therefore OJK in accordance with the tasks and functions should keep paying attention to the growth of fintech business and regulates them properly. Although OJK is already attempting to regulate the fintech service providers in order to protect the interests of consumers, for example by obliging fintech industry to register to OJK, but in fact only a small part of fintech industry listed at OJK. As mentioned above, up to December 21, 2018 total number of registered and licensed fintech business as much as 88 companies and hundreds of other did not registered. Their existence is

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[22] See: ADB, "How fintech can accelerate financial inclusion in Indonesia", https://blogs.adb.org/blog/how-fintech-can-accelerate-financial-inclusion-indonesia accessed at Oktober 5, 2018

potentially harming consumer. Even many consumers have been already complain their losses to some consumer organizations. In this case, OJK should take more serious steps to prevent consumer losses and not enough just by a public warning

Indeed OJK should strengthen the fintech industry in Indonesia through its arrangements and oversight, to control its risk and to ensure that their growth bring benefit to the public and there is no legal vacuum on it. This is called by Folarin Akinbami[23] as an interventionist approach. Akinbami identifies the interventionist approaches to consumers protection are characterized by the greater involvement of government or regulators in the monitoring of suppliers and sellers of goods and services in a bid to protect the interests of the consumers. Typical interventionist approaches include bans and regulation, altering the default rules and risk-sharing. Interventionist approaches in financial services include conduct of business regulation and product regulation.

Therefore the existence of OJK Regulation No.13/POJK.02/2018 should be followed with law enforcement both by preventive or repressive ways. In this case OJK (and supported by other government institutions) should take steps that are already recommended by the ADB[24] as follows: (1) creating a national digital identification system will ensure that every Indonesian has a unique demographic number. This will help address the root of the problem, namely the know-your-customer verification; (2) expanding access to financial services. The government's push for digitization of government-to-person payments is an important initiative; and (3) leveraging the near-universal penetration of mobile phones, which have become the primary medium through which consumers get their information. They also facilitate new types of information including extremely precise, real-time, geo-location information in the form of transactions, inquiries, and SMS. Use of mobile phones for financial services provision might facilitate access in developing countries, where mobile phones are often more widespread than fixed lines and can have a lower threshold for many users than banks do.[25]

[23] Folarin Akinbami, "Financial services and consumer protection after the crisis", *International Journal of Bank Marketing*, Vol. 29 Issue: 2, 2011, pp.134-147, https://doi.org/10.1108/02652321111107620
[24] ADB, *op.cit*.

[25] Stijn Claessens, *op.cit*., p. 229.

The success of the future of fintech in Indonesia also relies on effective regulation. It means that the risks associated with the providers and products that are driven by new technology should be well understood and managed efficiently. Regulation increases transparency, decrease of the risk of fraud, data usage violation, and increase market confidence that can accelerate the acceptance of fintech. The existence of effective regulation is very important because basically, the start-up is a disruptive innovation that is innovations that help create new markets, disturbing or damaging the existing markets. They are looking for opportunities where the regulations do not exist or are not clear. Fintech companies trying to do various things in a way that is cheaper, more efficient, and transparent compared to the traditional financial institutions.

Besides OJK should continue to optimizing the existence and role of the "OJK Innovation Centre for Digital Financial Technology/OJK INFINITY" to protect the interests of consumers. Things related to the consumer data protection must be well-ordered by OJK in such manner in order to the fintech industries implement good corporate governance principles such as risk management to push transparency, accountability, responsibility, independence and justice. Transparency is the key factor of success of fintech development through clear reporting systems to consumers and OJK. To improve transparency, there should be a standard about the types of information that must be owned by fintech industry and how more detail information should be provided. These things should be better regulated by OJK, clearer and detail, including in establishing of the loan transactions, electronic applications (with authentication and fraud detection in the online application), web sites, and privacy concerns.

Similarly with the transparency of information concerning with the rights and obligations of each parties, such as investors, borrowers, fintech platform, bank correspondent regarding potential income, potential risks, costs, results, risk management and mitigation if failure occurred, then it must be opened widely. Another important thing is establishing effective communication with consumers, either through the phone, texting, chatting, sending emails, and encouraging the fintech to do that through clear regulations and standards.

OJK also should ask the fintech industry to provide financial education to consumers so that they have better understanding regarding fintech service. All that is needed by the consumer of financial services as mentioned Gerard Lemos above.

However expectation to the fintech company to educate consumers should not be separated from the intervention of OJK to ensure that all of fintech industry assignments will be well implemented. With adequate financial literacy at consumer level, the expected market conditions would be more efficient because consumers will be more critical and have enough capability in responding to the various offers come from FSP. Angelo Capuano and Ian Ramsay[26] said that: "financially literate consumers are more financially efficient. Seeking and purchasing 'better, cheaper and more appropriate products and services can drive efficiencies in the financial industry'. This leads to increased competition, better quality products and greater innovation and diversity in the market. Knowledge of consumer rights and contracts also allows consumers to evaluate products more carefully and as a result demand more from suppliers."

D. Conclusion

OJK are still face a lot of challenges and obstacles in implementing its policies especially in the growing of fintech industry. One of OJK challenges in this case is its capability to control and regulate the growing of fintech in one side and provide consumer protection in other side. Besides that support of the Government policy in terms of consumer data management system or secure digital nationwide identification system is absolutely needed. One of them is immediately stipulate the Law of Personal Data Protection as a legal basis for OJK Regulation on consumer data protection.

OJK must continue to improve their internal systems in order to make them more effective in building an integrated surveillance system. OJK also should optimizing their role in preventing harm of consumers through various preventive actions and increase consumer education in financial services issues. Development of fintech supporting infrastructure should be conducted including the existence of comprehensive and effective rules. Last but not least, improving of consumer financial literacy through various programs that involving related stakeholders such as Universities, Fintech Industry Association, Local Governments, and Consumer Organizations, should be strengthened. In this case OJK must aware that they have limited capacity to implement its tasks and responsibilities.

[26] Angelo Capuano and Iain Ramsay, *op.cit.*

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<for 2019 IAFICO>

Culture & Cultural Difference in Global Financial Regulation

August 20, 2019

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Motivation

- Culture Matters in General.

  : Max Weber (1905), Francis Fukuyama (1995), Samuel Huntington (1997), …
- How do Financial Cultures Differ across countries ?

  : Chen, Chun Hua (2013), Jung, Hongjoo (2016),…
- What has been being done w.r.t. culture in Financial markets ?

: KPMG (2016), Evolving Banking Regulation Part Five: Culture and Conduct.

: Power, Michael, Simon Ashby, Tomaso Palermo (2013), Risk Culture in Financial organization, Research Report, LSE and so on.

: De Nederlandsche Bank (2015), Supervision of Behavior and Culture: Foundation, Practice & Future Developments.

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- What is to be done or explored w.r.t. culture ?

1. Concept of Culture

Definition

Culture

- Value System
- Behavioral Pattern
- Symbol System

Classification of Culture

- Religion
- Region
- Languag
  e
- Life
  Style

2. Culture Comparison

1 Cultural Dimension

1 Hofstede(1980)

Dimensio		Meaning
Power Distance		• Fear of Subordinates against Superior • Top down decision making
Uncertainty Aversion		• Conservative, Pessimistic, Passive
vs	Masculinity	• Highlighting income, promotion, competition
	Feminism	• Emphasizing relationship, cooperation, security, environment
vs	Individualism	• Independence
	Groupism	• Group or family protection
Future Orientation		Saving or education for future

02. Culture Comparison

1 Culture Dimenson

2 Minkov(2011)

Industry	vs	Indulgence
Hard working		Enjoying life

Pride	vs	Modesty
Consistency and intolerance		tolerance

Instinct	vs	Reason
Competitiveness and short sightedness		opposite

Exclusion	vs	Inclusion
Xenophobia		Open-minded

2. Characteristics of national Culture

2 Some Examples

[1/2]

USA	Horizontal, Individualistic, Pragmatism, Indulgence
Korea, Japan, Indonesia	Masculine, Uncertainty Averse, Pragmatism
U.K.	Horizontal, Individualistic, Uncertainty loving, Indulgence
France	Vertical, Individualistic, Uncertainty Averse,
Germany	Uncertainty Averse, Pragmatism, Indulgence
Italy	Masculine, Uncertainty averse, Individualistic
China	Industry, long-term orientation

03. Research on Global Insurance Culture

1 Survey Questions

Source : Jung, Hongjoo (2016), Insurance Culture in the World, Pubple

stakeholder	Survey Questions
consumer	1.How much Uncertainty Averse ? (Uncertainty Aversion)
	2.Goal of insurance contracts ? Risk management or Relationship management? (Individualism)
	3.Decision making ? Short-term or Long-term ? (Future Orientation))
Salesperson	4.Highlighting sales performance or customer relationship ? (Masculinity)
	5.Preferring retention of existing customer or new business ? (future orientation)
	6.Fearing insurance company ? (power distance)
Insurance company	7.Focusing on survival and business risk ? (uncertainty aversion)
	8.Emphasizing market share or industry ranking ? (individualism)
	9.Loving differentiation? (individualism)
	10.Promoting performance ? (pride vs. modest)
	11.Fearing supervision agent ? (power distance)
	12.Revenue or profit over customer interest ? (masculinity)
Supervision Agent	13.Public interest over private interest ? (individualism)
	14.Openness among banking, capital market and insurance ? (exclusiveness vs. inclusiveness)
	15.Protection of consumers over protection of both companies and consumers
	(sharing responsibility of company default) ? (conservativeness vs. innovativeness)
	16.Impartial against foreign or new companies ? (uncertainty aversion or conservativeness)

3. Research on Global Insurance Culture

2 Summary of Replies

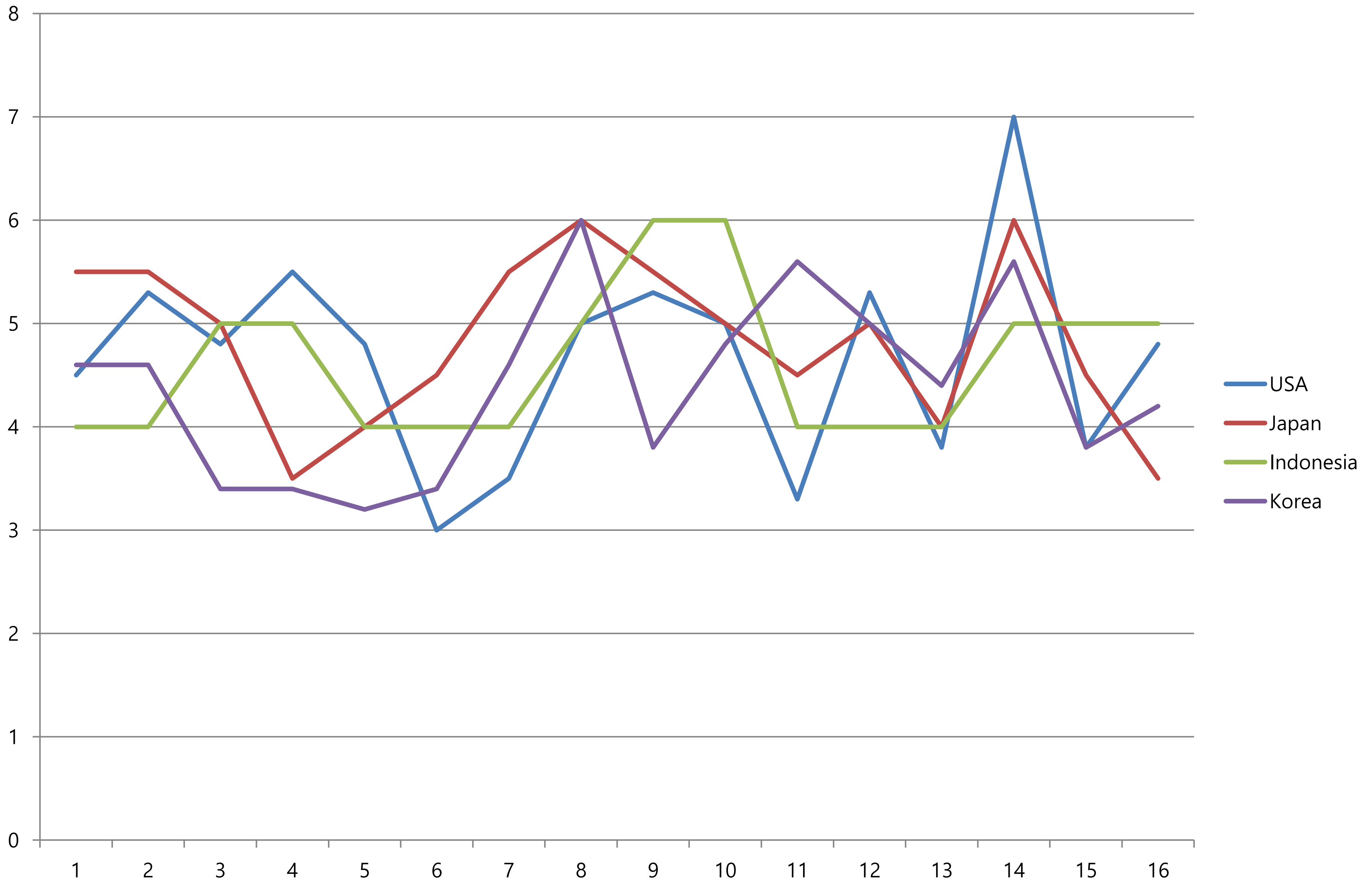
Source : Jung, Hongjoo (2016), Insurance Culture in the World, Pubple

stakeholders	usa	japan	uk	france	germany	italy	chna	india	indonesia	brazil	russia	taiwan	iran	*kore*
consumer	4.5	5.5	6.0	4.0	5.5	5.0	4.0	5.0	4.0	3.0	4.0	6.0	4.0	*4.6*
	5.3	5.5	6.0	5.0	3.5	6.0	3.0	4.0	4.0	2.0	6.5	6.0	3.5	*4.6*
	4.8	5.0	7.0	3.0	3.0	1.0	3.5	6.0	5.0	2.0	2.0	6.0	2.5	*3.4*
salespersons	5.5	3.5	5.0	4.5	3.5	2.0	3.0	3.0	5.0	4.0	2.5	5.0	2.0	*3.4*
	4.8	4.0	4.0	3.5	3.0	1.0	4.0	4.0	4.0	3.0	3.5	5.0	2.0	*3.2*
	3.0	4.5	2.5	4.0	5.0	5.0	5.0	3.0	4.0	2.0	2.5	4.0	2.0	*3.4*
Insurance companies	3.5	5.5	5.0	5.0	3.0	6.0	4.5	4.0	4.0	6.0	4.0	4.0	6.0	*4.6*
	5.0	6.0	6.0	5.5	6.0	3.0	4.0	6.0	5.0	6.0	6.5	7.0	6.0	*6.0*
	5.3	5.5	5.0	5.5	6.0	4.0	4.0	4.0	6.0	4.0	5.5	5.0	4.0	*3.8*
	5.0	5.0	4.5	4.0	5.5	7.0	4.0	5.0	6.0	7.0	5.5	6.0	7.0	*4.8*
	3.3	4.5	4.5	5.0	4.5	3.0	4.0	6.0	4.0	5.0	6.5	5.0	5.5	*5.6*
	5.3	5.0	5.5	5.0	4.5	7.0	2.5	6.0	4.0	5.0	6.0	5.0	6.5	*5.0*
Supervision agents	3.8	4.0	5.5	4.5	4.0	6.0	3.5	6.0	4.0	7.0	3.0	5.0	6.0	*4.4*
	7.0	6.0	1.5	6.5	5.5	2.0	4.5	7.0	5.0	7.0	5.5	6.0	4.0	*5.6*
	3.8	4.5	4.0	5.0	5.0	2.0	3.0	4.0	5.0	4.0	4.0	5.0	3.5	*3.8*
	4.8	3.5	7.0	5.5	5.0	5.0	4.0	5.0	5.0	6.0	3.0	5.0	2.0	*4.2*

3. Research on Global Insurance Culture

3 How is Korean Culture in Insurance Market?

stakeholder	Survey Questions	Korea Situation
consumer	1. How much Uncertainty Averse ? (Uncertainty Aversion)	4.6
	2. Goal of insurance contracts ? Risk management or Relationship management? (Individualism)	4.6 low
	3. Decision making ? Short-term or Long-term ? (Future Orientation))	3.4
Salesperson	4. Highlighting sales performance or customer relationship ? (Masculinity)	3.4 low
	5.Preferring retention of existing customer or new business ? (future orientation)	3.2
	6.Fearing insurance company ? (power distance)	3.4
Insurance company	7.Focusing on survival and business risk ? (uncertainty aversion)	4.6
	8.Emphasizing market share or industry ranking ? (individualism)	6.0
	9.Loving differentiation? (individualism)	3.8 very low
	10.Promoting performance ? (pride vs. modest)	4.8
	11.Fearing supervision agent ? (power distance)	5.6 very high
	12.Revenue or profit over customer interest ? (masculinity)	5.0
Supervision Agent	13.Public interest over private interest ? (individualism)	4.4
	14.Openness among banking, capital market and insurance ? (exclusiveness vs. inclusiveness)	5.6
	15.Protection of consumers over protection of both companies and consumers	3.8
	(sharing responsibility of company default) ? (conservativeness vs. innovativeness)	
	16.Impartial against foreign or new companies ? (uncertainty aversion or conservativeness)	4.2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USA
Japan
Indonesia
Korea

	USA	Japan	Indonesia	
1	-0.37	0.46	-0.83	
2	0.43	0.46	-0.83	
3	1.13	1.16	1.38	consumer long term orientation
4	1.83	-0.34	1.38	
5	1.33	0.36	0.58	new business orientation
6	-0.67	0.66	0.38	
7	-1.37	0.46	-0.83	
8	-1.27	-0.44	-1.23	
9	1.23	1.26	1.98	differentiation strategy
10	-0.07	-0.24	0.98	
11	-2.57	-1.54	-1.83	power distance
12	0.03	-0.44	-1.23	
13	-0.87	-0.84	-0.63	open mind
14	1.13	-0.04	-0.83	
15	-0.27	0.26	0.98	
16	0.33	-1.14	0.58	

4. Recent Policy Research on Culture

1 Research on Culture in Financial Regulation/Supervision

: Power, Michael, Simon Ashby, Tomaso Palermo (2013), Risk Culture in Financial organization, Research Report, LSE and so on.
: De Nederlandsche Bank (2015), Supervision of Behavior and Culture: Foundation, Practice & Future Developments.
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: Deloitte (2018), Culture in Financial Services: Scrutiny by Regulator, in Principle and in Practice.

4. Recent Policy Research on Culture

2 Research Outcomes

: Importance of Culture in behavior, conduct and performance of financial institutions
: Most of financial failures are related to corporate culture (including ethics)
: Trying to influence the culture by supervision agents without finding optimal universal culture yet (relating to goal of financial institutions)
* What is the optimal Risk Culture?

5. What is to be done from now on?

Academic Research

Value of Culture

- Ideal Financial Market Structure & Outcome
- Relationship between Culture and Performance
- Cultural Variation across countries

Policy Research

Consumer

Industry

Regulator

Global world

Summary

- Culture, the value system determining behavioral pattern of people or human organization, is getting more attention in financial supervision system, particularly in some European countries.
- This paper reviews some policy and academic research on the relationship between culture and financial regulation after showing cultural difference among countries.
- Although financial regulators pay attention to industry culture, we need also to look at regulators' culture and their difference as well as consumers' difference in culture.
- Behavioral economics or finance needs to shed light on financial regulation or on financial consumer protection for development of financial system.

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Thanks for your attention

A Study on Changes of the Korean Financial Consumer Protection Regulation

Yun, Min Seop / Ph.D in Law

KCA, Head Reseacher

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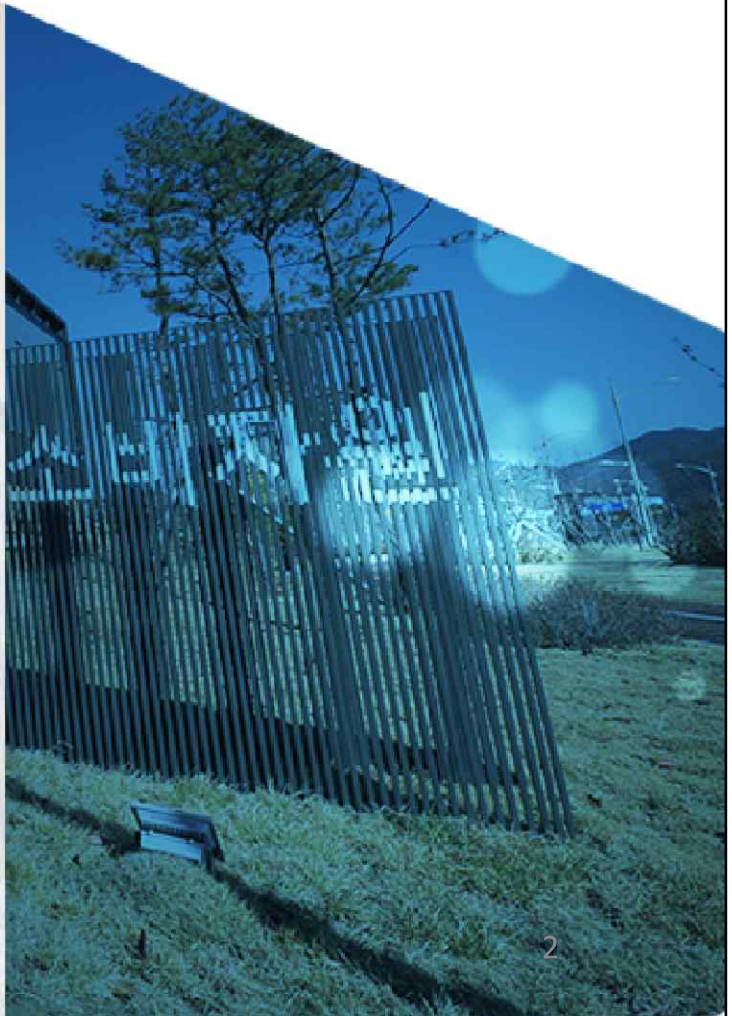


1. Characteristics of the Financial Regulation(1)

A. Regulations by financial industry

- Dividing finance into bank, insurance, financial investment, credit, and other financial businesses, etc., limiting the scope of business and the types of financial products and services in each financial industry
- **Bank** : business lending funds raised by bearing debts owed to many and unspecified persons, by the receipt of deposits or the issuance of securities and other bonds
  - Permission to sell insurance and funds in addition to essential business such as deposits and loans
- **Insurance** : business of underwriting insurance, receiving premiums, paying insurance proceeds, etc. which arise in selling insurance products, and refers to a life insurance business, a non-life insurance business and a Type 3 insurance business

1. Characteristics of the Financial Regulation(2)

- Financial investment business : A business that classifies financial instruments with potential loss, such as securities, as financial investment products, and conducts business related to those products

  - Classified into 6 categories such as Investment trading business, Investment brokerage business, Collective investment business, Investment advisory business, Discretionary investment business, Trust business

- Specialized Credit Finance business : credit card business, facility leasing business, installment financing business, and new technology venture capital business

- Other financial business : electronic financial business(payment gateway system business, electronic payment business etc.)

1. Characteristics of the Financial Regulation(3)

- There are separate laws for each financial industry, and each law regulates the entry requirements and actions of the financial industry.

  - Therefore, in order to run a specific financial business, it is necessary to satisfy the requirements stipulated by applicable laws. There is a case of prohibition of combining the management of another business.

  - For example, an electronic finance company cannot run a loan product brokerage business

- Maintaining a regulatory system by financial industry, other regulations are applied to the same function, causing problems such as regulatory imbalances

  - For example, the Bank Act prohibits soliciting contracts for borrower's savings products, while the Specialized Credit Finance business Act does not prohibit borrower's credit card solicitation

1. Characteristics of the Financial Regulation(4)

B. Positive System

- Financial laws stipulate that the contents of operations that each financial business can perform are listed as examples.
  - According to the current regulatory system, only banks can handle deposit products
  - However, in practice there are financial products similar in function to deposits such as CMA accounts and savings insurance, but are not regulated by the Bank Act
- This means that financial products cannot be created, and the sale of financial products is possible if permitted by individual Acts
  - For example, banks do not have an insurance contract argument(underwriting insurance), but the sale of insurance products(bancassurance) is allowed

2. Current Status of the Protection Regulation (1)

A. Concentrate on regulations governing the conduct of financial services

- Legislations protect financial consumers by regulating the unhealthy business conduct of financial operators

  - For example, prohibiting the act of forcing a person who wants to obtain a loan to join a deposit or insurance

- Except for the capital market Act, the Bank Act, Insurance Business Act, etc. do not stipulate general principles for protecting financial consumers (for example, KYC rule, Suitability Principle, etc.)

  * The Capital Markets Law, which was enforced in 2009, prepared general principles and detailed provisions for investor protection while changing the system of regulations in the form of comprehensiveism at the time of enactment.

2. Current Status of the Protection Regulation (2)

B. Administrative guidance system for financial consumer protection

- There were insufficient provisions in the law to protect financial consumers. Therefore, the Financial Consumer Protection Model Standard, which is an administrative guidance, was established in September 2006 and is now in operation.

- Key content of model standards
  - appointment of CCO(chief customer officer), Build Consumer Protection Organization
  - It categorizes the work into three stages, such as planning, sales, and post-management, and stipulates matters to be observed at each stage.

Stage	Compliance
planning	Conducts consultation between the consumer protection department and the planning department before product development
sales	The principles of faithfulness, conformity, obligation of explanation, protection of the underprivileged (aged and disabled, etc.) shall be observed
post-management	Construction of complaint management system, Development of evaluation tool for consumer protection

2. Current Status of the Protection Regulation (3)

<모범규준상 민원관리 시스템 필수 사항>

가. 모니터링 기능

금융회사는 민원의 다발성, 변동추이 등을 모니터링할 수 있어야 하며, 이를 활용하여 조기경보 등을 통하여 민원 예방이 실현될 수 있는 시스템을 구축하여야 한다. 또한 신상품 출시후 상품별 고객불만 및 민원 발생 모니터링을 수행할 수 있어야 한다.

나. 신속성, 투명성 확보

금융회사는 금융소비자의 불만을 다양한 접수채널(방문, 전화, 서신, 팩스, e-mail, 인터넷 등)을 통해 접수하고, 금융소비자불만이 접수되는 즉시 민원 접수사실, 민원처리 담당자 성명, 전화번호 등을 민원인에게 문서, 팩스, e-mail, 문자메세지, 전화 등의 방법으로 통지하여야 한다.

민원의 접수, 처리 과정은 총괄부서 및 유관부서(영업점 포함)에서 실시간 조회가 가능하도록 운영하여야 한다.

금융소비자불만의 처리기한은 접수시간부터 처리결과에 대한 안내시점까지 관리하여야 하며, 상품별 금융소비자불만의 유형에 따라 구분・처리하여야 한다.

다. 전과정 전산화

금융회사는 민원의 접수단계에서 종결까지 전 과정에 대하여 전산시스템(음성녹취, 이미지 스캐닝, E-mail, SMS서비스등)을 개발, 운영함으로써 업무처리의 효율성을 높여야 한다. (단, 민원건수가 적어 수작업 분석이 가능한 경우에는 제외가능)

라. 모든 처리결과 Data Base화

민원처리 시스템내에는 유형별, 원인별, 상품별, 부서별, 영업조직별 통계 Data를 제공할 수 있어야 하며, 문제영역에 대해서는 조기대응 및 분석이 가능하여야 한다.

3. Trends in regulatory changes

A. Strengthening principle-based regulations

- Financial regulators, including the Financial Services Commission, have continuously announced their determination to change the regulatory system into a principle-based regulation to financial companies.
- Switching from positive to negative
  - The Capital Market Act defines financial instruments with investment potential as financial investment instruments and regulates funds and variable insurance equally.
- Preparing to legislate the Financial Consumer Protection Act to establish a comprehensive regulatory system for protecting financial consumers

3. Trends in regulatory changes

B. From Protection to Enhancement

- As the current regulations stipulate the operation of financial companies in a positive manner, there was some efficiency in protecting financial consumers.
- However, there were limitations, such as limiting the appearance of new financial services and limiting financial consumers' options.
- Recently, financial consumer protection has been shifted to the promotion of rights and interests, which is consistent with Korea's Consumer Basic Act.
- For example, regulatory sandboxes recently introduced in the financial sector are exempt from the application of financial regulations under certain conditions.
  - Conditions for approval of regulatory sandboxes in the financial sector include measures to protect financial consumers, such as preparation of dispute settlement procedures and insurance for damages

4. Contents of the FCPA Bill

- The Financial Consumer Protection Act Bill regulates the behavior of financial companies, but it also strengthens the rights and interests of financial consumers by stipulating the rights of financial consumers

A. Regulations by function

- Categorize financial consumers and financial products so that the same regulations are applied to the same type of financial transactions
- Regulations by function can reduce regulatory non-uniformity and regulatory gaps that can occur with existing industry-specific regulations. As a result, the effect of strengthening financial consumer protection appears.

4. Contents of the FCPA Bill

B. Definition of financial consumers

- First legislation that uses the term "consumer" in financial law

  - The banking act uses 'depositor', the capital market law uses 'investors', the insurance business law uses 'insurance contractors', etc.

- The Financial Consumer Protection Bill does not define a "financial consumer" as a "financial instrument contractor", but rather as a "financial company counterparty"

- Financial consumers are categorized as general financial consumers and professional financial consumers, and the general financial consumers are protected.

  - Specifies the requirements (characteristics, expertise, etc.) of professional financial consumers, and defines those who do not fall under the category of professional financial consumers as general financial consumers

4. Contents of the FCPA Bill

C. Financial products

- Financial contracts are referred to as financial products and are divided into four types:

Division	Concept	example
Deposit-type products	Products whose principal is guaranteed as financial products that generate interest income, such as deposits	deposits
Investment products	Non-guaranteed products as investable financial products	Fund
Insurance products	Financial products for which insurance money is paid in the event of a future insurance accident after payment of insurance premiums	Life insurance
Loan products	Financial products that repay principal and interest after borrowing money at a financial company, etc.	Loans, credit cards, etc.

4. Contents of the FCPA Bill

D. Classification of financial companies according to function

- Financial companies are classified into production, sales, advisor, etc. according to their functions.
- Distribution and advisor that act directly on financial consumers in the course of financial product transactions are subject to regulation.
- In the case of financial product sales, it is divided into direct sales and brokerage.

Division	Concept	example
direct sales	Selling financial products directly to financial consumers	Bank, Insurance company, etc.
brokerage	Between financial companies and financial consumers, mediate sales of financial products or act on behalf of financial companies.	insurance planner, loan broker, etc

4. Contents of the FCPA Bill

E. Principles for selling financial products

- The Financial Consumer Protection Act stipulates six sales principles as follows: Financial products sellers must comply with all six principles.

division	contents	
1. Suitability Principle	Recommend only financial products suitable for financial consumers	Bill §17
2. Appropriateness rule	If the financial products that a financial consumer desires to purchase are not appropriate, let them know the facts.	Bill §18
3. Duty of Explanation	Explain the main contents of products that financial consumers should know	Bill §19
4. Prohibition of unfair business conduct	Prohibiting contracts for other products against consumers' intentions, prohibiting unreasonable collateral requirements, unreasonable convenience requests, etc.	Bill §20
5. Prohibition of Unjust Solicitation	Prohibition of assertion or provision of false facts	Bill §21
6. Advertising regulations	Including necessary contents in financial product advertisements	Bill §22

4. Contents of the FCPA Bill

F. Other characteristic regulations

- Right to cancel illegal contract (Bill §51) : If a financial product seller violates the six major principles described above, the financial consumer can cancel the contract within five years
- Sales restriction command(Bill §53) : The Financial Committee may order sales restrictions if it is clearly acknowledged that a financial product could cause significant property damage to financial consumers
  - System similar to a ban order of ESMA(European Securities and Markets Authority)
- Prohibit leaving adjustment(Bill §45) : In the case of a small dispute (about 20 million won), the financial company cannot file a lawsuit until the dispute adjustment procedure is completed.

4. Contents of the FCPA Bill

F. Anticipation

- The Financial Consumer Protection Act bill is expected to be enacted in 2019.
- Specific scope of application is delegated to subordinate laws.The scope of application and effectiveness of the act are expected to be more closely watched.
- It is hoped that the financial consumer protection system in Korea will be further developed by enacting the Financial Consumer Protection Act.

Thank You

2019 IAFICO Global Forum for Financial Consumers

Financial Consumer Dispute Mediation and Resolution in Korea

Mi Soo Choi(Seoul Digital University)

INDEX

1. Overview

- The Financial Supervisory Service works to protect financial consumers in collaboration with various government consumer protection agencies such as the Korea Consumer Agency, the Korea Deposit Insurance Corporation, and the Fair Trade Commission.
- Consumer protection activities that the Financial Supervisory Service performs can be broadly divided into ex-ante and ex-post measures.
- Whereas ex-ante measures include activities such as enforcing proper contract provisions for financial products and due disclosures and providing counseling and financial education to consumers, ex-post measures refer to actions that are intended to rectify abuses and malpractices of financial institutions and bring remedy to consumers who have been harmed.

1. Overview

- In May 2012, the Financial Supervisory Service consolidated its consumer protection functions and established the Financial Consumer Protection Bureau (FCPB) for enhanced financial consumer protection.
- The FCPB's main responsibilities and functions are to administer consumer complaints, provide consumer counseling and dispute mediation services, and take supervisory actions on improper business practices of financial institutions.
- In addition, the FCPB conducts wide-ranging financial education programs to help improve consumer financial literacy.
- As part of its consumer protection mandate, the FCPB also evaluates financial institutions' consumer protection practices and consumer complaint administration systems.

1. Overview

- When deemed necessary, the FCPB reviews complaints filed against financial institutions and conducts on-site inspections.
- In respect of product and service disclosures, the FCPB works to improve disclosures standards to help consumers make informed decisions.
- It also provides personal finance counseling services to help consumers exercise responsible and sound personal finance, management debt, and understand financial products.
- The FCPB also works to expand financial education by fostering partnerships between schools and financial institutions so that students can develop sound personal finance habits and skills.

2. Consumer Complaint Mediation

- The Financial Disputes Settlement Committee (FDSC) is a committee that has been created within the FSS specifically to help mediate and resolve financial disputes between consumers and financial service firms.
- Upon a consumer petition or in response to a consumer complaint, the FSS verifies the relevant facts and makes impartial recommendations so that both the consumer and the financial institution can mutually come to a resolution with resorting to often time-consuming and costly litigation through the court.
- The FDSC is staffed by 30 specialists that include independent outside experts.

2. Consumer Complaint Mediation

- Each FDSC mediation meeting is attended by seven to eleven members who are selected by the FDSC chairperson on the basis of the specific areas of consumer complaints, which may vary from banking, nonbanking, and financial investments to insurance.
- Consumer complaint is referred to the FDSC when the parties involved are unable to reach an agreement within 30 days from the day the request for mediation was submitted.
- The FDSC then deliberates on the case and proposes a resolution within 60 days with due consideration given to the applicable rules and regulations and information provide by both parties.

2. Consumer Complaint Mediation

- The FDSC may dismiss a complaint if it does not merit a mediated resolution from the FDSC or if the facts and information provided by the parties involved cannot be substantiated.
- The FSDC decides on a resolution proposal with the majority vote. Once an FDSC resolution proposal is accepted by the parties involved, no further recourse is available.
- Unlike arbitration, the FDSC recommendation is not legally binding, and adjudication through the court is still available to consumers and financial institutions.
- The FSS may provide litigation support to a consumer if the FSS deems the action of a financial institution improper.

3. Consumer Complaint Administration

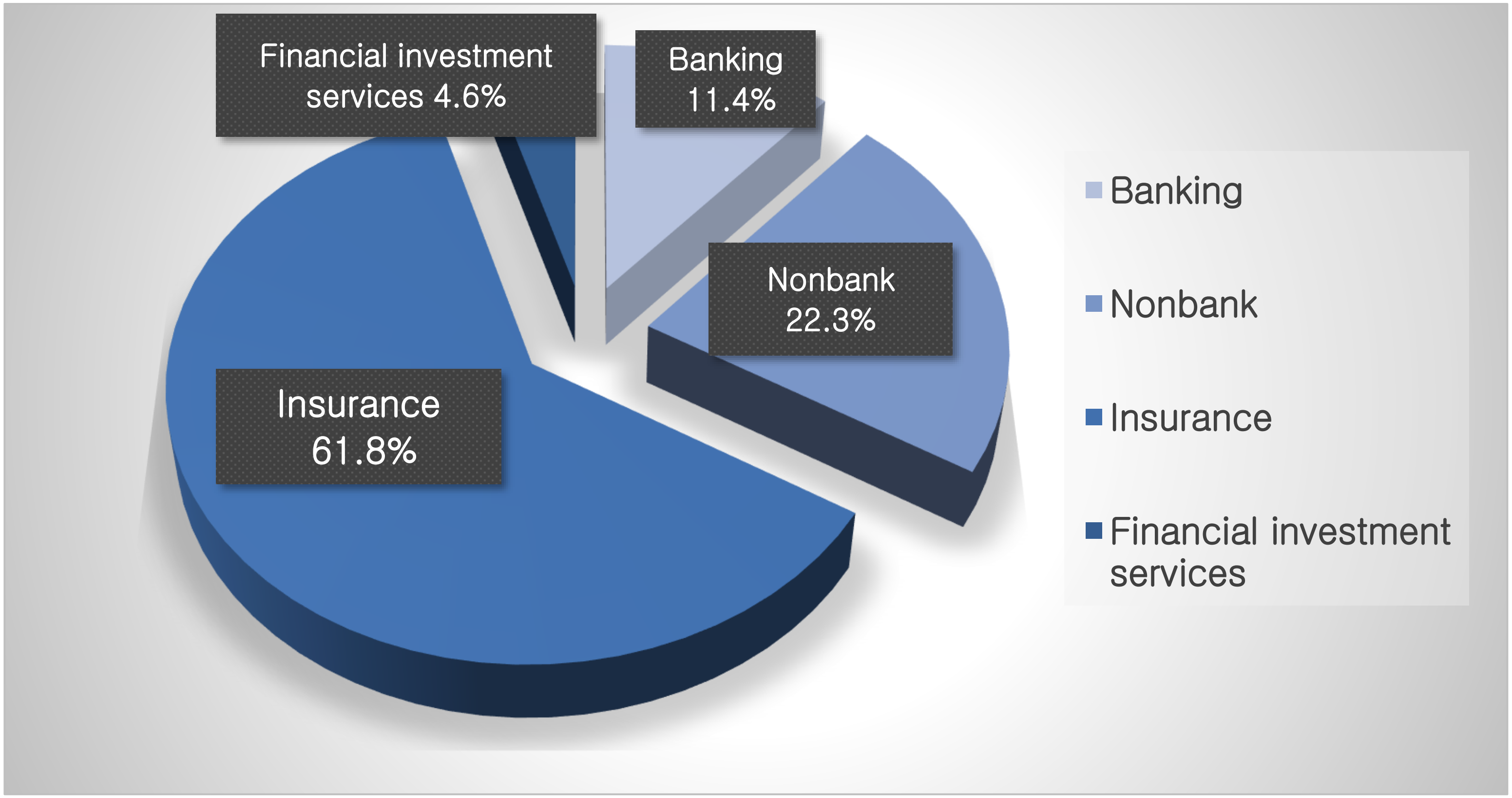
- The number of complaints consumers filed with the FSS against financial services firms totaled 83,097 in 2018, a 8.8 percent rise from the previous year.

<Table 1> Number of Consumer Complaints

	2018	2017	2016
Banking	9,447	8,927	8,843
Nonbank	18,501	16,813	15,674
Insurance	51,323	47,742	48,573
Financial investment services	3,826	2,875	3,147
Total	83,097	76,357	76,237

3. Consumer Complaint Administration

<Figure 1> Rate of consumer complaints



3. Consumer Complaint Administration

- The overall number of complaints moderated in the life insurance sector. For nonlife insurance solicitor-related complaints decreased.
- However, complaints related to the calculation and payment of claim and the effect and lapse of a policy increased overall.
- For the financial investment services sector, complaints about derivatives trading and beneficiary certificates went down, while complaints about internal controls, computer systems, and stock trading went up.

4. Consumer Dispute Mediation and Resolution

- A total of 28,118 consumer dispute cases were resolved before reaching the Financial Dispute Settlement Committee (FDSC) in 2018, a increase of 3,074 (12.3 percent) from a year earlier.
- Dispute resolutions involving banking and nonbanking financial firms increased by 157 (8.7 percent).
- For financial investment services providers, the total figure fell by 18 (3.2percent).
- Resolutions involving life insurance and nonlife insurance firms increased by 2,935 (12.9 percent).
- Of the mutually agreed resolutions reached, the initiating party's claims were accepted in 46.1 percent of the cases, an increase of 1.4 percent points.

4. Consumer Dispute Mediation and Resolution

<Table 2> Number of FDSC Dispute Mediation and Settlement

	2018	2017	2016
Banking/nonbank	1,960	1,803	3,001
Financial investment services	544	562	861
Life insurance	7,413	6,884	8,252
Nonlife insurance	18,201	15,795	14,494
Total	28,118	25,044	26,608
Complaints accepted		9,829	10,592
Complaints rejected		11,491	13,110
Complaints withdrawn		21,320	23,702
Others		3,724	2,906
Total	28,118	25,044	26,608

4. Consumer Dispute Mediation and Resolution

- This paper suggested six ideas to protect financial consumers in light of financial consumer dispute resolution system.

✓ First, Alternative Dispute Resolution (ADR) decision should be legally binding only for the financial institutions. At least, it is necessary to accept the first suggestion on the small amount of money related to financial dispute between consumers and financial institutions.

✓ Second, the entities with an authority to settle financial disputes, such as Korea Consumer Agency, Financial Supervisory Service, and Korea Financial Investment Association, should be integrated into a single channel, and if the integration appears to be impossible, it is urgent that at least, the entities should work together.

4. Consumer Dispute Mediation and Resolution

- ✓ Third, an independent and consumer–friendly entity should be established, in order to guarantee rapid dispute resolution and transparency of the resolution process, and to facilitate accessibility for financial consumers.
- ✓ Forth, it is necessary to adopt a collective alternative dispute resolution system to protect financial consumers.
- ✓ Fifth, it is necessary to encourage financial institutions to employ a self–resolution system such as conciliation–prepositive principle.
- ✓ Finally, the institutions for financial dispute resolution institutions should be reinforced and the experts in the relevant sector should be educated.

Thank You！

Fintech Development and Financial Inclusion

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Abstract

This paper represents an early attempt to investigate whether Fintech development reduces disparity and contributes to financial inclusion and inclusive growth in China. Over the past decade, with the rapid expansion of Fintech, China has seen a transformation in the accessibility and affordability of financial services, particularly for formerly financially excluded populations. Linking the index of digital financial inclusion with China Family Panel Studies (CFPS) data, we initially find that Fintech development has a positive effect on household income, and the positive effect comes from rural households, suggesting that Fintech development helps narrow urban-rural income gap in China. We further analyze the mechanism underlying the Fintech-disparity relation and find that Fintech has significantly increased the probability that rural residents become entrepreneurs, while the effect on urban households is not significant. A decomposition of Fintech development shows that financial depth, which measures the development of the paying, lending, insurance, and investing sectors, and digital service provision, which measures the accessibility of financial services, are the two factors that contribute to entrepreneurship. Additionally, households with lower incomes or social capital have a higher probability of becoming entrepreneurs with the help of Fintech, which is also consistent with inclusiveness.

Keywords: Fintech; Disparity; Inclusiveness; Entrepreneurship; China

JEL Classification: D14, L20, R58

1. Introduction

While the development of financial technology (Fintech) has been a global phenomenon, it has particularly thrived in China. Over the past ten years, although traditional financial institutions have improved the access channels to households and significantly reduced their budget constraints, with the rapid expansion of Fintech, China has seen an even dramatic transformation in the accessibility and affordability of financial services, particularly for formerly financially excluded populations. Fintech has offered low-cost services to hundreds of millions of underserved people and thus is beneficial to China's development of financial inclusion and inclusive growth.

How does Fintech development contribute to China's inclusiveness? In this paper, we argue that Fintech makes it easier for households to borrow and significantly reduces the financing barrier faced by innovative residents. In this way, Fintech increases the probability that households are enrolled in entrepreneurship activity, especially for formally lagging groups. Previous studies show that entrepreneurship is essential to job creation (De Mel et al, 2008) and economic growth (Baumol, 1968; King and Levine, 1993; Samila and Sorenson, 2011). Factors that affect entrepreneurial activity can largely be categorized into micro factors and macro factors. Micro factors refer to entrepreneurs' individual and family characteristics, such as income and gender (Rosenthal and Strange, 2012), age (Ress and Shah, 1986), human capital (Lazear, 2005), social capital (Evan and Leighton, 1989), and risk preference (Parker, 1996). Macro factors mainly refer to the political and economic conditions, or culture and social environment where entrepreneurs are located (Djankov, 2002; Glaeser and Kerr, 2009; Han and Hare, 2013; Ghani et al, 2014). For example, Glaeser and Kerr (2009) find that entrepreneurial activities happen more frequently in areas with many small suppliers and abundant workers in relevant occupations.

Among these factors of entrepreneurship, funding available is the most important element. Because entrepreneurs need funds to start the firms, financial constraints will significantly reduce the ability to become entrepreneurs. Studies have shown that financial constraints have a negative impact on entrepreneurship (Evans and Jovanovic, 1989; Nykvist, 2008; Karaivanov, 2012). Therefore, it is widely accepted that financial development can promote entrepreneurial activity by mitigating the liquidity constraints of potential entrepreneurs (Bianchi, 2010).

However, although traditional financial institutions have improved the access channels to start-up funds that allow innovative residents to borrow and become entrepreneurs, Fintech development is still more helpful to formally lagging groups regarding their entrepreneurship activity in China. Let us suppose a case without Fintech. In this case, in order to borrow from traditional financial institutions, entrepreneurs usually must have their credit investigated by banks to determine whether they have good credit records. However, most residents in developing economies still do not have any credit record at all, due to lack of opportunity. The easiest way to establish a good credit record is to apply and use a credit card. But this is not always feasible. In China, for example, the urbanization rate passed 50% in 2011 and reached 56.1% in 2015, leaving a population of 603.5 million in lagging rural areas. According to the China Banking Association (2016), the total number of credit cards issued in China through 2015 was 530 million— even smaller than China's urban population. In other words, per capita credit card ownership in China is less than 0.5 apiece, which is only one-tenth of that in the United States. It can then be inferred that, more than half of the population in China, especially residents in rural areas where economic conditions lag, do not even have the opportunity to apply for a credit card to establish a credit record. Therefore, traditional finance methods often cannot solve the start-up funding problem for all innovative residents, especially in developing economies.

The needed solution lies in the emergence of Fintech. A simple example can help illustrate how Fintech has solved the start-up funding problem for formerly financially excluded populations and thus contributed to inclusiveness. In modern China, residents can use mobile phones to pay for most transactions, including shopping in local commercial markets or online (e.g. Alibaba, Taobao), dining in restaurants, and utilities bills, even if they do not have credit cards. More important, most mobile phone transactions could help residents gain a Fintech-defined credit record and thus facilitate residents' borrowing through Fintech channels. Therefore, Fintech can increase the probability that residents will become entrepreneurs.

This paper represents an early attempt to formally and empirically analyze whether Fintech development reduces disparity and contributes to financial inclusion and inclusive growth in China. In fact, few studies have yet investigated the impact of Fintech on income disparity, but Fintech development which relies on information, big data, cloud computing, and other innovative technologies, can further expand the scope of traditional financial services (Guo et al, 2016). Therefore, we should expect a beneficial distributive impact from Fintech.

To investigate, we link the regional index of digital financial inclusion which measures Fintech development in China, with data of the China Family Panel Studies (CFPS), which provide representative household survey data in China. The index of digital financial inclusion is a joint project by the Institute of Digital Finance, Peking University, and Ant Financial, which is one of the largest global Fintech enterprises. The index is constructed using user data from Ant Financial and shows that China's financial inclusion has been progressing rapidly with the help of Fintech and has enabled regions lagging behind in overall levels of economic development to outperform economically advanced regions. Linking the data of digital financial inclusion index with the CFPS data, and after controlling for confounding factors, we initially find that Fintech development has a positive effect on household income, and the positive effect comes from rural households, suggesting that Fintech development helps narrow urban-rural income gap in China.

We further analyze the mechanism underlying the Fintech-disparity relation and find that Fintech has significantly increased the probability that rural residents become entrepreneurs, while the effect on urban households is not significant. In fact, Fintech can only provide innovative residents with funds to start their businesses. Urban residents already have convenient financial services and thus do not benefit much from Fintech. This finding is in accord with our argument above that most residents in rural areas do not have a credit record, while urban residents can more easily establish one.

We further decompose the index of digital financial inclusion into three components to understand how Fintech development promotes entrepreneurial activity and brings in inclusiveness. We find that the two factors that contribute to entrepreneurship in rural China are financial depth, which measures the development of the paying, lending, insurance, and investing sectors, and digital service provision, which measures the accessibility of financial services. Finally, to gain a better understanding of Fintech's role in inclusiveness, we also assess which group benefits more from Fintech in rural China. We find that households with lower incomes or social capitals have a higher probability of becoming entrepreneurs with the help of Fintech, which is also consistent with inclusiveness.

This paper sheds light on the important role that Fintech plays in modern life. Based on our findings, the recent development of Fintech mostly aids the goals of inclusiveness. The rest of the paper is organized as follows. Section 2 discusses China's recent Fintech development. This is followed by providing the analytical framework, model specification, and data in Section 3. Section 4 reports baseline estimation results of Fintech development and income disparity. Section 5 explores possible transmission channels from Fintech to inclusiveness from the perspective of entrepreneurship. Finally, Section 6 concludes.

2. Fintech Development in China

Modern information technology, particularly internet-enabled technology such as mobile transactions, cloud computing, social networks, and search engines, has led to fundamental changes in the ways finance is shaped. To characterize the development of financial inclusion generated by Fintech in China, the Institute of Digital Finance, Peking University, and Ant Financial launched a joint project, which uses user data from Ant Financial to construct an index of Digital Financial inclusion.[1] Table 1 describes the measures used to construct the index. Specifically, the index covers three first-level indices: financial breadth, finance depth, and digital service provision. Financial breadth measures the number of Alipay accounts and Alipay accounts with credit cards. Financial depth measures the development of paying, lending, insurance, and investing sectors through Ant Finance. Digital service provision measures the accessibility of financial services. In other words, each first-level index is comprised of several indicators.

[Insert Table 1 approximately here]

To calculate the index of digital financial inclusion, each second-level indicator is adjusted by the dimensionless method. Then, the second-level indicators are combined into the first-level index using the variation coefficient empowerment and exponential synthesis methods. The index of digital financial inclusion is then constructed using the two methods.[2]

In Table 2, we report the constructed province indices of digital financial inclusion across provinces in 2011 and 2015. An increasing trend is easily observed in all provinces, suggesting that China's development of financial inclusion has been progressing rapidly with the help of digital finance. The data are further visualized in Figure 1, in which Panel A presents the value distribution of the index across provinces in 2011, and Panel B presents the growth rate distribution from 2011-2015. It is obvious that, although eastern China is the most advanced area in Fintech development, middle and western China are on their way to catching up, which is in accord with the principle of financial inclusion in a national perspective.

[Insert Table 2 and Figure 1 approximately here]

We further investigate the development of the three components of Fintech. Figure

[1] It is noteworthy that Ant Financial is only one of China's large digital finance firms. To better characterize China's Fintech development, Tencent with Wechat Pay should be considered. However, only data from Ant Financial are available to us. Therefore, a roughly reasonable assumption is that the index of digital financial inclusion calculated using both Alipay accounts and Wechat Pay accounts is synchronizing and has the same trend.

[2] For detailed calculations, see Guo et al. (2016).

2 reports the three indices across provinces in 2011 and 2015. We find that the indices of financial breadth and financial depth have largely the same distributions with the index of digital financial inclusion, while the index of digital service provision is significantly different and its value is largely negatively correlated with economic development. It indicates that digital service provision may play a more important role in promoting inclusive growth.

[Insert Figure 2 approximately here]

3. Specifications and Data

3.1 Specification: Fintech Development and Income Disparity

One of the conventional methods to estimate Fintech development on income to is through production function modeling, where the variable of Fintech development is included in addition to the usual input variables such as capital and labor. This is clearly inapplicable when household data are used either because of the unavailability of capital observations or due to the fact that labor input is difficult to measure at the household level. An alternative specification is to directly investigate the income impact of Fintech development by estimating the following regression model:

$$ln(Inc_{ijt}) = \gamma_0 + \gamma_1 Fintech_{j,t-1} + \gamma_2' X_{ijt} + \phi_i + \varphi_t + u_{it} \qquad (3.1)$$

In model (3.1), *i* index households, *j* index regions, and *t* index years. Moreover, Inc_{ijt} denotes household i's disposable income in region *j*, and $Fintech_{j,t-1}$ denotes the development of Fintech in region *j* where household *i* is located. To alleviate reversed causality problem, we lag the variable of Fintech development by one period. *X* denotes control variables, ϕ_i denotes household fixed effect which helps solve omitted variable bias, φ_t denotes year fixed effect, and u_{it} denotes the usual random error term. Therefore, γ_1 measures the impact of Fintech development on household income.

To precisely estimate the income impact of Fintech development, we need to control for confounding factors which will affect household income in addition to Fintech development. These covariates are classified into three categories. The first category is householder's characteristics, including gender, age, schooling years, political status, marriage status, and health condition. It is noteworthy that, since we will control household fixed effect as suggested by (3.1), the effects of time-invariant characteristics, such as gender, schooling years (as we focus on household with an adult as householder), and political status, cannot be estimated. Moreover, the age effect is also captured by the linear combination of household fixed effect and year fixed effect. To further alleviate the omitted variable bias, we control for the quadratic term of age (age^2). Another concern is that the income effect of Fintech may come from the accessibility of internet, which may bring in information that is beneficial to economic activity. Therefore, we further control the accessibility of internet and mobile, to separate the effect of information and digital finance on household income.

The second category refers to household's characteristics. Following conventional wisdom, these include family size and young dependency ratio and old dependency ratio in the family. Family size brings in economics of scale and increases household income, while a higher level of young dependency ratio or old dependency ratio lays more burden to the family and reduces household income. Whether the family has bank loan is also controlled to separate the effect of traditional finance from digital finance on household income. Finally, we control for indicators of regional economic development, including county population and economic condition.

Model (3.1) can be used to estimate the impact of Fintech on household income in general. To investigate whether Fintech development has distributive impacts, we further conduct subsample analysis. It is noteworthy that Fintech development may have heterogeneous impacts on household income. In fact, urban residents already have convenient financial services and thus may not benefit much from Fintech, while rural residents in China who are still in lack of financial services due to the *hukou* system[3]

[3] *Hukou* is a household registration system that was introduced in 1958 to control rural-to-urban migration in China. At that time, a Chinese citizen was given a rural or urban *hukou*. Newborn children inherit their *hukou* status from their mothers. The urban hukou is associated with certain privileges and entitlements (social security and public

are more likely to benefit from Fintech development. Therefore, we divide the samples into urban households and rural households to assess the distributive impacts of Fintech development. If rural households benefit more from Fintech development, the Fintech development is then considered as inclusive and contributes to financial inclusion and inclusive growth. We will also conduct quantile regression to check the robustness of the subsample empirical results.

3.2 Specification: Fintech Development and Entrepreneurship

Further, to understand the mechanism underlying the distributive impacts of Fintech development, we investigate whether Fintech development has been promoting entrepreneurship activity and whether the effect displays any heterogeneity. This impact can be examined by estimating the following discrete-choice model:

$$Entrepre_{ijt}^{*} = \beta_0 + \beta_1 Fintech_{j,t-1} + \beta_2' X_{ijt} + \theta_i + \delta_t + \mu_{ijt}$$

$$\begin{aligned} Prob\big(Entrepre_{ijt} = 1\big) &= Prob\big(Entrepre_{ijt}^{*} > 0\big) \\ &= \Phi(\beta_0 + \beta_1 Fintech_{j,t-1} + \beta_2' X_{ijt} + \theta_i + \delta_t) \end{aligned} \tag{3.2}$$

$Entrepre_{ijt}^{*}$ is the continuous latent random variable measuring the willingness of entrepreneurship, but we can only observe the entrepreneurship decision $Entrepre_{ijt}$. Other notations of (3.2) are similar to those of (3.1). Model (3.2) is estimated using Probit model. To incorporate household fixed effect, linear probability model and conditional logit model are also used for robustness check. The sign of β_1 informs if Fintech development increases or reduces the probability of becoming an entrepreneur.

Other factors that may affect entrepreneurship also come from characteristics of the householder, household and the corresponding region. Besides the determinants in (3.1), we further incorporates household income as additional determinant of household

services) that the rural citizens cannot enjoy, even today. It has been very difficult to alter one's *hukou* status. Before the early 1990s, rural citizens could not migrate to cities and towns. More recently, migration has been allowed, but the *hukou* system still discriminates against migrants in terms of educational, medical, and other welfare assistance.

entrepreneurship behavior.

3.3 Data

To estimate the models (3.1) and (3.2), we use two datasets. The first dataset is the regional index of digital financial inclusion in China as introduced in Section 3. As stated, the regional index is a joint project by the Institute of Digital Finance, Peking University, and Ant Financial and is constructed using user data from Ant Financial.

The second dataset comes from the China Family Panel Studies (CFPS), a nationally representative survey of China's communities, families, and individuals conducted in 2010, 2012, and 2014. The CFPS is funded by Peking University and carried out by the Institute of Social Science Survey of Peking University. The CFPS covers a wide range of domains for families and individuals from 162 counties in 25 provinces of China, including their economic activities, education outcomes, family dynamics and relationships, and health. Combining the two datasets and using models (3.1) and (3.2), we can estimate the effect of Fintech development on household income, income disparity, and entrepreneurship probability. It is also noteworthy that, due to availability of the data, we use the regional index of digital financial inclusion in 2011 and 2013 to predict the income and entrepreneurship in 2012 and 2014, respectively. Table 3 tabulates the summary statistics.

[Insert Table 3 approximately here]

Household Income

The data of household income are directly from the family questionnaire of CFPS database. In general, household income contains wage income, operational income, property income, transfer payment, and other income. We take the logarithm of household income as the dependent variable.

Entrepreneurship

As stated, to investigate the mechanism underlying the Fintech-disparity relation, we explore whether Fintech development has promoted entrepreneurship. We define the entrepreneurship decision at the family level, as in general, the decision is a family-based decision. The family questionnaire provides a family response on the question "Are any of your family members in charge of self-employed or private enterprises?" Whether the family is engaged in entrepreneurial activity is determined by the answer to this question. To answer the question of whether the Fintech development promotes (or increases the probability of) entrepreneurship, we define the core dependent variable in model (3.2), $Entrepre_{ijt}$, to be a binary variable, which takes the value of 1 if the family was not engaged in entrepreneurial activity in the previous surveying period but is engaged in the current period, and takes the value of 0 if otherwise. Table 3 shows that the proportion of residents who are engaged in entrepreneurial activity increased from 9.22% in 2012 to 9.27% in 2014, although the incremental proportion of entrepreneurial activity ($Entrepre_{ijt}$) decreased. We are interested in whether Fintech development is beneficial to this incremental proportion of entrepreneurial activity.

Fintech Development

The degree of Fintech development is directly measured by the index of digital financial inclusion developed by Peking University and Ant Financial. To investigate the transmission channels underlying the Fintech-entrepreneurship relation, we also use the sub-index of Fintech development: financial breadth, financial depth, and digital service provision. It is hypothesized that compared to financial breadth, financial depth and digital service provision are the two indices that are more related to entrepreneurship, as financial depth measures the development of the paying, lending, insurance, and investing sectors, and digital service provision measures the accessibility of financial services, both of which make it easier for residents to borrow and significantly reduce the financing barrier faced by innovative residents.

4. Fintech Development and Income Disparity

In the next two sections, we present the empirical results on the Fintech-disparity relation. This is by investigating the heterogeneity of Fintech on household income and exploring mechanism underlying the heterogeneity from the perspective of entrepreneurship.

4.1 Fintech's Role in Household Income

Firstly, we explore whether Fintech development has an effect on household income. Table 4 presents the estimation results of baseline model (3.1). In all regressions, we control for household and year fixed effects. Since income at the household level is regressed on Fintech development at the province level, the error term is likely to be serially correlated across households within a province. To address this problem, we cluster the standard error at the province level.

[Insert Table 4 approximately here]

In column (1) of Table 4, we only include the variable of Fintech development, the coefficient of which is shown to be significant. In subsequent columns, controlled variables of householder's characteristics, household's factors, regional population, and regional economic condition are added. The coefficients are consistently significant, suggesting that in general, Fintech development has contributed to the increase of household income in China. Economically, if the index of digital financial inclusion increases by one unit of its standard error, household income will increase by 3-0-3.2 percentage points.

Turning to control variables, the coefficients of householder's characteristics are mostly insignificant. Possible explanation is that the effects are almost time invariant and have largely been captured by household fixed effect. Family size is positively correlated with household income, while young and old dependency ratios play the opposite roles, as expected. It is also noteworthy that the effect of traditional finance (measured by bank loan) is insignificant, suggesting that Fintech's role in household economic activity may not be replaced by traditional finance.

4.2 Fintech Development and Income Disparity

Next, we explore the effect of Fintech development on income disparity. As stated, the role of Fintech development on household income may display heterogeneity. In fact, urban household have already enjoyed convenient financial services and thus may not benefit much from Fintech. However, rural households who are in lack of financial services are more likely to benefit from Fintech. Therefore, we expect that the positive relationship between Fintech development and household income mostly comes from Fintech's effect on rural households.

In Table 5, we divide the samples into urban and rural households and separately analyze whether Fintech development has contributed to income increase in urban and rural households. To avoid selection bias, we further limit the samples to residents who do not migrate to other areas. This reduces the sample by 11%.

[Insert Table 5 approximately here]

Columns (1)-(3) of Table 5 are the results of rural samples, and columns (4)-(6) are those of urban sample. Interestingly, Fintech only has significantly increased the household income of rural households, while the effect on urban households is not significant. On one hand, the finding indicates that the positive relationship between Fintech development on household income comes from its effect on rural households. On the other hand, the results confirm that Fintech development contributes to financial inclusion and inclusive growth by narrowing the opportunity gap and income disparity between urban and rural households. Economically, if the index of digital financial inclusion increases by one unit of its standard error, rural household income will increase by 5.5-5.8 percentage points.

To check the robustness of the empirical results, we conduct quantile regression regarding Fintech development and household income. Considering the insignificant results of urban sample, we limit the analysis within rural sample. Similar argument is expected to apply within rural households: rural households with higher income may be more capable to enjoy convenient financial services and are thus less likely to benefit much from Fintech.

In Table 6, we study the effect of Fintech development on income of household in the 25th, 50th, and 75th percentile of the income distribution. Columns (1)-(3) of Table 6 are the results of cross-sectional quantile regression model, in which we only include year fixed effect, and columns (4)-(6) are those of panel quantile regression model, which incorporates the effect of household fixed effect. However, panel quantile technique on the one hand is very sensitive to data and may not achieve converged empirical results, on the other hand changes the interpretation of the estimates (Power 2012). Therefore, we simultaneously present the estimates of cross-sectional quantile regression and panel quantile regression results for robustness check. Since we do not incorporate household fixed effect in the cross-sectional quantile regression, we further introduce the variables of householder's characteristics, including gender, age, schooling years, and political status to alleviate omitted variable bias.

[Insert Table 6 approximately here]

In columns (1)-(3), the cross-sectional evidence suggest that although Fintech increases household income for the three percentiles of households, households with lower income still benefit more from Fintech, as the coefficient of Fintech development for households in the 25th percentile is the largest, and is also significantly larger than the coefficients of Fintech development of those households in the 50th and 75th percentiles (with p-value=0.00120). In columns (4)-(6) of panel quantile regression, only the coefficient in the 25th percentile is positive and significant, confirming that Fintech development in China has been contributing to narrowing income disparity and thus contributing to financial inclusion and inclusive growth.

5. Mechanism: Fintech Development and Entrepreneurship

As we have mentioned in the introduction, Fintech has offered low-cost services to hundreds of millions of underserved people and specially makes it easier for households to borrow, significantly reduces the financing barrier faced by innovative residents, and may contribute the entrepreneurship activity, which would serve to narrow income disparity. Therefore, one mechanism underlying the Fintech-income relation may lie in

Fintech's role in entrepreneurship. In this section, we formally investigate this hypothesis.

5.1 Baseline Results

Firstly, we investigate the Fintech-entrepreneurship relation. Table 7 presents the estimation results of model (3.2) using Probit model. Province fixed effect is incorporated and therefore, we further control for householder's gender, age, schooling years, and political status to alleviate omitted variable bias. In column (1) of Table 7, we only include the variable of Fintech development, the coefficient of which is shown to be insignificant. In subsequent columns, controlled variables of householder's characteristics, household's factors, regional population, and regional economic condition are added. Different from the results of Table 4, the coefficients of Fintech development in the entrepreneurship determinant function are mostly insignificant, suggesting that in general, Fintech development does not significantly contribute to the entrepreneurial activity. The insignificant result of Fintech on entrepreneurship may also be caused by the samples of urban households, as urban households do not need Fintech to borrow and start their businesses. Thus, the Fintech-entrepreneurship relation may also display heterogeneity.

[Insert Table 7 approximately here]

To further investigate, we conduct sub-sample analysis and analyze whether Fintech development has contributed to financial inclusion and inclusive growth from the perspective of entrepreneurship. Columns (1)-(3) of Table 8 are the results of rural samples, and columns (4)-(6) are those of urban samples. As expected, Fintech has significantly increased the probability that rural residents will become entrepreneurs, while the effect on urban residents is not significant. The finding is consistent with the results of Table 5, suggesting that Fintech has contributed to China's financial inclusion and inclusive growth by narrowing the opportunity gap between urban and rural residents. Economically, if the index of financial inclusion increases by one unit of its standard error, the probability rural residents becoming entrepreneurs will increase by

4.6-4.8 percentage points[4].

[Insert Table 8 approximately here]

Turning to control variables, we find that human capital (measured by schooling years) has a significant and positive effect on entrepreneurship, which is very intuitive since human capital is the fundamental for innovative minds. The use of internet helps achieve outside information and opportunities and contributes to entrepreneurship activity.

Regarding household's factors, family size has a significant and positive effect on entrepreneurship, which is also intuitive as family often has a scale effect. A high old dependency ratio depresses the probability of entrepreneurship due to high family living burden. Different from the results of household income determinants, we find that traditional finance (measured by bank loan) also contributes to entrepreneurship activity, but given that the coefficient of Fintech development is also positive and significant, the results suggest that both Fintech and traditional finance are important for residents to start their businesses. Family income is negatively correlated with entrepreneurship activity. Intuitively, a high level of family income may reduce the incentive of the family to take on high-risk entrepreneurial activity, leaving a negative relation between them. The coefficients of county population and county economic conditions are positive and significant, as expected.

To ensure the robustness of the empirical results, we take advantage of the panel data and conduct linear probability estimation[5], as shown in columns (1)-(3) of Table 9. We also use conditional logit model to estimate (3.2) in columns (4)-(6). Conditional logit model incorporates household fixed effect and alleviates the incidental parameter problem at the same time. It is noteworthy that conditional logit model only focuses on households who change their entrepreneurship behavior in the two periods, which significantly reduces the sample size. The results using both models which incorporate household fixed effect are consistent with those in Table 8, confirming the role of

[4] The marginal effect of Fintech development is 0.00208.

[5] As Fintech is only found to benefit rural households, in what follows, we mainly focus on the rural samples.

Fintech development in financial inclusion and inclusive growth.

[Insert Table 9 approximately here]

5.2 Which Components of Financial inclusion Drive Entrepreneurship?

We have confirmed that Fintech development has contributed to inclusiveness by promoting entrepreneurial activity for rural households. However, Fintech development can be in different directions. For example, the increase of payment accounts, the development of paying, lending, insurance, and investing sectors generated by Fintech, and the accessibility of financial services, are different aspects of Fintech development, while they will not equally contribute to entrepreneurial activity and financial inclusion. Therefore, it is still essential to look into the index of digital financial inclusion to uncover why and how it drives entrepreneurship.

In this section, we analyze the relationship between the three components of digital financial inclusion—financial breadth, financial depth, and digital service provision—and entrepreneurial activity. As stated, financial breadth only measures the number of accounts that have been created at Ant Finance in the corresponding region and may not have a high relevance to entrepreneurship. Financial depth measures the development of the paying, lending, insurance, and investing sectors, and thus directly helps innovative residents with start-up funding. Digital service provision measures the accessibility of financial services and may facilitate entrepreneurs borrowing start-up funds.

In Table 10, we present the empirical results of the impacts from the three components of digital financial inclusion on entrepreneurship. In column (1)-(3), the whole sample, including urban and rural households, is analyzed and again, the coefficients of the three components are all insignificant. In column (4)-(6) where we limit the sample to rural households, as expected, we find that the coefficients of financial depth and digital service provision are positive and significant, while that of financial breadth is insignificant.

[Insert Table 10 approximately here]

5.3 Which Groups of Rural Households Benefit from Fintech?

To further investigate whether Fintech development in China brings in financial inclusion and inclusive growth, we assess which groups benefit more. This is realized by dividing the rural samples by three kinds of capital that closely correlate to entrepreneurial activity, namely, physical capital (measured by family income), human capital (measured by householder's schooling years), and social capital (measured by whether the family receives private transfer payments). The three kinds of capital are all core determinants of the entrepreneurship decision: the more capital a family has, the higher probability the family will be engaged in entrepreneurial activity (Hurst and Lusardi, 2004; Lazear, 2005). However, it is noteworthy that difference in the amount of capital has brought in inequality. Therefore, it is essential to investigate whether Fintech development can lead to inclusiveness among rural residents by alleviating the impact of these capital factors. Table 11 reports the estimation results.

[Insert Table 11 approximately here]

Physical Capital

To begin with, we investigate whether Fintech development performs differently in families with different levels of physical capital (or income). We divide the rural samples into two groups based on the median level of household income and evaluate the impact of Fintech development on entrepreneurial activity in the two samples (column 1-2). We find that households with lower incomes have a higher a probability of becoming entrepreneurs with the help of Fintech, which alleviates the negative effect from lacking start-up funds on entrepreneurial activity and is thus consistent with the principle of financial inclusion.[6]

Human Capital

Next, we turn to human capital. Human capital provides residents with knowledge and innovative minds for entrepreneurship. However, when we divide the sample based

[6] We also try dividing the samples into 5 groups based on income, the results (not reported here) remain unchanged.

on schooling years, we find that all other things remaining constant, householders with more schooling years (or equivalently, with at least a junior-school degree) benefit more from Fintech (see column 3-4), which does not accord with the principle of financial inclusion. There are two possible explanations. The first is that knowledge is the prerequisite for entrepreneurial activity, which obviously cannot be alleviated by Fintech. The second is that the use of Fintech also requires human capital and the group with low human capital is not able to grasp the benefits of Fintech.

Social Capital

Finally, we examine the role of social capital on entrepreneurship in the presence of Fintech. A family with more social capital can borrow from persons in its social network, thus reducing the financing barrier for entrepreneurial activity. Fintech, as stated, also helps residents to overcome financing barriers and thus may reduce residents' dependence on social networks. In column (5)-(6), we measure social capital by using the criteria of whether the family receives private transfer payments. If a family does, we categorize it into the group with social capital, otherwise it is categorized into the group without social capital. We find that, although marginally significant, families without social capital benefit more from Fintech. Given that social capital is an essential factor of entrepreneurship, Fintech may play a role in alleviating the effect.

6. Concluding Remarks

Whether Fintech development is inclusive remains debatable. On the one hand, financial development always benefits only residents with more physical, human, and social capitals, on the other hand, Fintech development enables China to experience transformation in the accessibility and affordability of financial services, particularly for formerly financially excluded populations.

This paper represents an early attempt to investigate whether Fintech development reduces disparity and contributes to financial inclusion and inclusive growth in China. Linking the index of digital financial inclusion with China Family Panel Studies (CFPS) data, we initially find that Fintech development has a positive effect on household income, and the positive effect comes from rural households, suggesting that Fintech development helps narrow urban-rural income gap in China. We further analyze the mechanism underlying the Fintech-disparity relation and find that Fintech has significantly increased the probability that rural residents become entrepreneurs, while the effect on urban households is not significant. A decomposition of Fintech development shows that financial depth, which measures the development of the paying, lending, insurance, and investing sectors, and digital service provision, which measures the accessibility of financial services, are the two factors that contribute to entrepreneurship. Additionally, households with lower incomes or social capital have a higher probability of becoming entrepreneurs with the help of Fintech, which is also consistent with inclusiveness.

Three policy options, based on our findings, can further promote inclusive growth with the help of Fintech. First, Fintech development should be further advocated, especially in the lagging areas such as rural China or West China. Second, special attention should be paid to the development of financial depth and digital service provision, as they could significantly alleviate financial constraints and promote entrepreneurship. Finally, public spending on education should be continued given that Fintech is more beneficial for residents with higher educational degrees.

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Table 1. Construction of Index of Digital Financial inclusion

First Level Indicators	Second Level Indicators		Measures
Financial Breadth	Account Coverage		No. of Accounts per 10,000 persons
			Ratio of Accounts with Credit Card
			No. of Debit and Credit Cards per Alipay Account
Financial Depth	Payment		Frequency of Payment per capita
			Amount of Payment per capita
			Ratio of High Frequency Users
	Lending	Individuals	No. of Accounts with Consumer Credit per 10,000 Accounts
			Frequency of Loans per capita
			Amount of Loans per capita
		Micro Entrepreneurs	No. of Accounts with Micro Enterprise Credit per 10,000 Accounts
			Frequency of Loans per Micro Entrepreneurs
			Amount of Loans per Micro Entrepreneurs
	Insurance		No. of Accounts with Insurance per 10,000 Accounts
			Frequency of Insurance per capita
			Amount of Insurance per capita
	Investment		No. of Accounts with Investment per 10,000 Accounts
			Frequency of Investment per capita
			Amount of Investment per capita
	Credit Investigation		No. of Accounts using credit investigation per 10,000 Accounts
			Frequency of Accounts using credit investigation
	Financial Convenience		Ratio of Payment Frequency with Mobile
Digital Service Provision			Ratio of Payment Amount with Mobile over Total Payment Amount
	Cost of Financial Service		Average Loan Interest Rate of Micro Enterprise
			Average Loan Interest Rate of Consumer Credit

Note: See Guo et al. (2016).

Table 2. Development of Financial inclusion Generated by Fintech in China

Province	Index of Digital Financial inclusion		Province	Index of Digital Financial inclusion	
	2011	2015		2011	2015
China (average)	40.00	220.01	Henan	28.4	205.34
Beijing	79.41	276.38	Hubei	39.82	226.75
Tianjin	60.58	237.53	Hunan	32.68	206.38
Hebei	32.42	199.53	Guangdong	69.48	240.95
Shanxi	33.41	206.3	Guangxi	33.89	207.23
Inner Mongolia	28.89	214.55	Hainan	45.56	230.33
Liaoning	43.29	226.4	Chongqing	41.89	221.84
Jilin	24.51	208.2	Sichuan	40.16	215.48
Heilongjiang	33.58	209.93	Guizhou	18.47	193.29
Shanghai	80.19	278.11	Yunnan	24.91	203.76
Jiangsu	62.08	244.01	Tibet	16.22	186.38
Zhejiang	77.39	264.85	Shaanxi	40.96	216.12
Anhui	33.07	211.28	Gansu	18.84	199.78
Fujian	61.76	245.21	Qinghai	18.33	195.15
Jiangxi	29.74	208.35	Ningxia	31.31	214.7
Shandong	38.55	220.66	Xinjiang	20.34	205.49

Note: Data are from the Institute of Digital Finance, Peking University.

Table 3. Summary Statistics

Variable	2012			2014		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
ln (Household Income)	10964	10.0241	1.3515	10610	10.1597	1.3069
Entrepreneurship Proportion	11237	0.0922	0.2893	11577	0.0927	0.2900
Entrepreneurship	10430	0.0552	0.2284	9685	0.0386	0.1927
Fintech Development	11011	100.8067	22.0308	11338	181.1761	23.0990
Financial Breadth	11011	81.7760	28.1885	11338	171.1787	26.6921
Financial Depth	11011	117.8444	31.0368	11338	155.0006	36.0785
Digital Service Provision	11011	132.6938	15.4467	11338	261.7514	15.8017
Gender (Male=1)	11253	0.7413	0.4379	11615	0.7304	0.4438
Age	11257	51.6006	12.8531	11615	52.0503	13.6832
Schooling Years	11226	6.5500	4.7629	11321	6.6797	4.7336
Political Status (CPC Member=1)	11227	0.1195	0.3244	11584	0.1064	0.3083
Marriage Status (Married =1)	11264	0.8832	0.3212	11631	0.8655	0.3412
Health Condition (Healthy=1)	11228	0.0755	0.2642	11584	0.1180	0.3226
Internet User	10150	0.1023	0.3030	11226	0.1843	0.3877
Phone User	10150	0.7393	0.4390	11226	0.8560	0.3511
Family Size	11264	3.8561	1.7801	11631	3.7519	1.8426
Young Dependency Ratio	11264	0.1686	0.1984	11631	0.1784	0.2129
Old Dependency Ratio	11264	0.2220	0.3326	11631	0.2430	0.3478
Bank Loan (Yes=1)	11236	0.0619	0.2411	11575	0.1272	0.3332
ln (County Population)	11089	7.9134	0.9330	11180	7.9139	0.9414
ln (County Economic Condition)	11090	4.3662	1.1704	11182	4.6846	1.3597

Note: Household data are from CFPS database. Data of Fintech development are from Institute of Digital Finance, Peking University.

Table 4. Baseline Results: Fintech and Household Income

ln (Household Income)	(1)	(2)	(3)	(4)
Fintech Development	0.0017***	0.0020***	0.0014**	0.0014**
	(0.0003)	(0.0006)	(0.0006)	(0.0006)
Age^2		-0.0001	0.0003	0.0002
		(0.0003)	(0.0002)	(0.0002)
Marriage Status		-0.0585	-0.1784	-0.1759
		(0.1341)	(0.1288)	(0.1269)
Health Condition		0.0149	0.0186	0.0231
		(0.0459)	(0.0473)	(0.0482)
Internet User		0.0062	-0.0020	-0.0020
		(0.0448)	(0.0448)	(0.0456)
Mobile User		0.0113	0.0149	0.0139
		(0.0473)	(0.0447)	(0.0448)
Family Size			0.2336***	0.2347***
			(0.0253)	(0.0253)
Young Dependency Ratio			-0.4953***	-0.4932***
			(0.0820)	(0.0798)
Old Dependency Ratio			-0.2340*	-0.2307*
			(0.1218)	(0.1239)
Bank Loan			-0.0325	-0.0323
			(0.0544)	(0.0543)
ln (County Population)				-0.0723
				(0.1541)
ln (County Economic Condition)				0.0207
				(0.0203)
Household Fixed Effect	Y	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y
N	21,083	19,961	19,959	19,604
R^2	0.0101	0.0107	0.0544	0.0548

Note: 1) Dependent variable is the logarithm of household income and is estimated using fixed-effect model. Independent variables include householder's characteristics (age, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition).

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 5. Fintech and Urban-Rural Household Income Disparity

ln (Household Income)	Rural Household			Urban Household		
	(1)	(2)	(3)	(4)	(5)	(6)
Fintech Development	0.0012***	0.0031***	0.0025***	0.0013***	0.0013*	0.0006
	(0.0003)	(0.0008)	(0.0008)	(0.0002)	(0.0006)	(0.0006)
Age^2		-0.0009**	-0.0005		-0.0001	0.0003
		(0.0004)	(0.0004)		(0.0004)	(0.0003)
Marriage Status		0.1104	-0.0086		-0.2002	-0.3035
		(0.1493)	(0.1627)		(0.2085)	(0.2014)
Health Condition		-0.0017	0.0053		0.0731	0.0709
		(0.0539)	(0.0563)		(0.0809)	(0.0806)
Internet User		0.0187	-0.0104		-0.0057	-0.0021
		(0.0665)	(0.0665)		(0.0700)	(0.0716)
Mobile User		-0.0212	-0.0058		0.0917	0.0656
		(0.0545)	(0.0521)		(0.0616)	(0.0572)
Family Size			0.2362***			0.2335***
			(0.0292)			(0.0247)
Young Dependency Ratio			-0.3832***			-0.6843***
			(0.0908)			(0.1575)
Old Dependency Ratio			-0.3679**			-0.0150
			(0.1497)			(0.1707)
Bank Loan			-0.0985*			0.0693
			(0.0550)			(0.0888)
ln (County Population)			0.3874			-0.2347*
			(0.2712)			(0.1358)
ln (County Economic Condition)			-0.0016			0.0488
			(0.0297)			(0.0348)
Household Fixed Effect	Y	Y	Y	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y	Y	Y
N	11,245	10,603	10,502	9,675	9,238	8,997
R^2	0.0086	0.0114	0.0622	0.0144	0.0145	0.0512

Note: 1) Dependent variable is the logarithm of household income and is estimated using fixed-effect model. Independent variables include householder's characteristics (age, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition).

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6. Fintech and Rural Household Income: Quantile Regression

ln (Household Income)	Cross-sectional Quantile Regression			Panel Quantile Regression		
	Q25	Q50	Q75	Q25	Q50	Q75
Fintech Development	0.0099***	0.0082***	0.0064***	10.0001**	-1.1405	9.7023
	(0.0011)	(0.0007)	(0.0006)	(4.4916)	(33.5937)	(68.7552)
Gender	-0.1373**	-0.1274***	-0.0915***			
	(0.0542)	(0.0267)	(0.0250)			
Age (or Age^2)	0.0029	0.0039**	0.0064***	-0.0007	8.7963	0.0151
	(0.0021)	(0.0015)	(0.0012)	(0.0165)	(115.5363)	(0.1473)
Schooling Years	0.0427***	0.0293***	0.0229***			
	(0.0047)	(0.0026)	(0.0025)			
Political Status	0.0743	0.0674*	0.1316***			
	(0.0701)	(0.0366)	(0.0387)			
Marriage Status	0.4214***	0.3200***	0.1685***	0.4230	4.1391	0.5662
	(0.0697)	(0.0479)	(0.0370)	(11.1545)	(0.0000)	(0.0000)
Health Condition	0.0374	0.0809**	0.0888***	-0.0061	-3.1431	0.2616
	(0.0569)	(0.0355)	(0.0287)	(4.9536)	(275.1719)	(13.7207)
Internet User	0.2362***	0.1663***	0.1861***	0.4123	2.6657	0.3552
	(0.0750)	(0.0473)	(0.0413)	(8.1469)	(327.2494)	(7.3715)
Mobile User	0.2777***	0.2038***	0.1606***	0.3135	-6.9602	-0.7227
	(0.0519)	(0.0354)	(0.0265)	(4.1740)	(218.7759)	(20.4667)
Family Size	0.2422***	0.2236***	0.1827***	0.2412	-0.2602	0.0376
	(0.0105)	(0.0081)	(0.0070)	(4.1540)	(67.6564)	(3.9837)
Young Dependency Ratio	-0.9519***	-0.8378***	-0.5764***	-1.0699	1.0391	-0.2634
	(0.0997)	(0.0791)	(0.0834)	(33.2225)	(652.7527)	(15.2894)
Old Dependency Ratio	-1.1288***	-1.0629***	-0.8044***	-1.1307	2.9012	-0.0025
	(0.0794)	(0.0543)	(0.0429)	(8.2867)	(1,638.2559)	(2.9065)
Bank Loan	-0.1188*	0.0468	0.0424	-0.1612	-0.1766	-0.4662
	(0.0678)	(0.0436)	(0.0335)	(4.1492)	(252.9450)	(5.0805)
ln (County Population)	0.0647***	0.0717***	0.0464***	0.0919	5.2224	0.5206
	(0.0238)	(0.0136)	(0.0139)	(23.2171)	(421.1306)	(48.0102)
ln (County Economic Condition)	0.0739***	0.0512***	0.0285***	0.0813	-8.4814	-0.5444
	(0.0167)	(0.0091)	(0.0087)	(9.2248)	(98.7638)	(6.2569)
Household Fixed Effect	N	N	N	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y	Y	Y
N	10,434	10,434	10,434	10,502	10,502	10,502

Note: 1) Dependent variable is the logarithm of household income and is estimated using quantile regression model. Independent variables include householder's characteristics (gender, age, schooling years, political status, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition). The test of equality between coefficients of Fintech development in columns (1)-(3) is with a p-value of 0.00120.

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 7. Fintech and Entrepreneurship

Entrepreneurship	(1)	(2)	(3)	(4)
Fintech Development	0.0066	0.0055	0.0042	0.0042
	(0.0064)	(0.0066)	(0.0069)	(0.0070)
Gender		-0.0237	-0.0484	-0.0157
		(0.0395)	(0.0419)	(0.0425)
Age		-0.0068***	0.0027	0.0021
		(0.0016)	(0.0021)	(0.0021)
Schooling Years		0.0157***	0.0207***	0.0170***
		(0.0041)	(0.0044)	(0.0044)
Political Status		-0.0775	-0.0618	-0.0626
		(0.0538)	(0.0556)	(0.0562)
Marriage Status		0.1346**	0.0468	0.0290
		(0.0591)	(0.0635)	(0.0642)
Health Condition		0.0763	0.0463	0.0297
		(0.0540)	(0.0569)	(0.0585)
Internet User		0.1786***	0.2422***	0.1867***
		(0.0499)	(0.0526)	(0.0539)
Mobile User		0.1441***	0.1489***	0.1387***
		(0.0504)	(0.0526)	(0.0528)
Family Size			0.0803***	0.0879***
			(0.0105)	(0.0107)
Young Dependency Ratio			-0.0200	-0.0286
			(0.1006)	(0.1035)
Old Dependency Ratio			-0.5223***	-0.5231***
			(0.0797)	(0.0807)
Bank Loan			0.3726***	0.3787***
			(0.0509)	(0.0516)
ln (Household Income)			-0.0800***	-0.0848***
			(0.0134)	(0.0136)
ln (County Population)				0.1003***
				(0.0225)
ln (County Economic Condition)				0.0424***
				(0.0156)
Province Fixed Effect	Y	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y
N	19,710	18,885	18,154	18,008
Pseudo R^2	0.0197	0.0423	0.0693	0.0743

Note: 1) Dependent variable is entrepreneurship, which is a binary variable and takes the value of 1 if the family was not engaged in entrepreneurial activity in the previous surveying period but is engaged in the current period, and is estimated using probit model. Independent variables include householder's characteristics (gender, age, schooling years, political status, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition).

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 8. Fintech and Entrepreneurship: Urban-Rural Disparity

Entrepreneurship	Rural Household			Urban Household		
	(1)	(2)	(3)	(4)	(5)	(6)
Fintech Development	0.0267***	0.0270***	0.0266**	-0.0083	-0.0122	-0.0152
	(0.0097)	(0.0100)	(0.0104)	(0.0087)	(0.0091)	(0.0098)
Gender		-0.0749	-0.0742		0.0382	0.0350
		(0.0636)	(0.0675)		(0.0517)	(0.0557)
Age		-0.0049**	0.0025		-0.0105***	0.0002
		(0.0023)	(0.0030)		(0.0022)	(0.0030)
Schooling Years		0.0282***	0.0284***		-0.0015	0.0052
		(0.0061)	(0.0064)		(0.0058)	(0.0064)
Political Status		0.0825	0.0800		-0.1887**	-0.1539**
		(0.0781)	(0.0813)		(0.0735)	(0.0776)
Marriage Status		0.0520	-0.0841		0.2020**	0.1216
		(0.0870)	(0.0929)		(0.0809)	(0.0885)
Health Condition		0.1500**	0.1180		-0.0385	-0.1166
		(0.0705)	(0.0747)		(0.0860)	(0.0933)
Internet User		0.2409***	0.2375**		0.1497**	0.2122***
		(0.0912)	(0.0972)		(0.0618)	(0.0664)
Mobile User		0.0792	0.0585		0.1689**	0.1855**
		(0.0687)	(0.0713)		(0.0772)	(0.0819)
Family Size			0.0630***			0.1206***
			(0.0145)			(0.0164)
Young Dependency Ratio			0.0599			-0.1110
			(0.1290)			(0.1517)
Old Dependency Ratio			-0.4600***			-0.5618***
			(0.1170)			(0.1128)
Bank Loan			0.3972***			0.3805***
			(0.0686)			(0.0807)
ln (Household Income)			-0.0515***			-0.1145***
			(0.0190)			(0.0195)
ln (County Population)			0.0804*			0.0885**
			(0.0429)			(0.0345)
ln (County Economic Condition)			0.0522**			0.0246
			(0.0220)			(0.0241)
Province Fixed Effect	Y	Y	Y	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y	Y	Y
N	10,679	10,161	9,733	8,942	8,637	8,203
Pseudo R^2	0.0205	0.0430	0.0697	0.0295	0.0562	0.0945

Note: 1) Dependent variable is entrepreneurship, which is a binary variable and takes the value of 1 if the family was not engaged in entrepreneurial activity in the previous surveying period but is engaged in the current period, and is estimated using probit model. Independent variables include householder's characteristics (gender, age, schooling years, political status, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition).

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 9. Linear Probability and Conditional Logit Model

Entrepreneurship	Linear Probability Model			Conditional Logit Model		
	(1)	(2)	(3)	(4)	(5)	(6)
Fintech Development	0.0012**	0.0017***	0.0017***	0.0524*	0.0671**	0.0725**
	(0.0004)	(0.0003)	(0.0003)	(0.0282)	(0.0302)	(0.0338)
Age^2		0.0001	0.0001*		0.0078**	0.0078**
		(0.0001)	(0.0001)		(0.0035)	(0.0037)
Marriage Status		-0.0075	-0.0071		-0.2532	-0.1161
		(0.0315)	(0.0355)		(0.8550)	(0.9050)
Health Condition		0.0065	0.0014		0.2367	0.0164
		(0.0086)	(0.0086)		(0.3237)	(0.3365)
Internet User		-0.0100	-0.0080		-0.1382	-0.1457
		(0.0246)	(0.0223)		(0.4488)	(0.5148)
Mobile User		-0.0041	-0.0046		-0.2209	-0.2533
		(0.0072)	(0.0073)		(0.4003)	(0.4205)
Family Size			-0.0024			-0.0829
			(0.0029)			(0.1632)
Young Dependency Ratio			-0.0064			-0.4499
			(0.0097)			(0.9247)
Old Dependency Ratio			-0.0117			0.2391
			(0.0190)			(1.0771)
Bank Loan			0.0113			0.1072
			(0.0161)			(0.3423)
ln (Household Income)			0.0002			0.0059
			(0.0034)			(0.0935)
ln (County Population)			-0.0109			-0.3817
			(0.0189)			(1.5334)
ln (County Economic Condition)			0.0008			-0.0805
			(0.0037)			(0.2099)
Household Fixed Effect	Y	Y	Y	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y	Y	Y
N	10,679	10,174	9,741	446	416	378
R^2	0.0013	0.0029	0.0039	0.0220	0.0481	0.0632

Note: 1) Dependent variable is entrepreneurship, which is a binary variable and takes the value of 1 if the family was not engaged in entrepreneurial activity in the previous surveying period but is engaged in the current period, and is estimated using linear probability model and conditional logit model. Independent variables include householder's characteristics (age, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition).

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 10. Which Components of Fintech Drive Entrepreneurship?

Entrepreneurship	Whole Sample			Rural Household		
	Financial Breadth	Financial Depth	Digital Service Provision	Financial Breadth	Financial Depth	Digital Service Provision
Component of Fintech Development	-0.0169*	0.0035	0.0029	-0.0002	0.0176***	0.0065*
	(0.0096)	(0.0032)	(0.0024)	(0.0131)	(0.0059)	(0.0034)
Gender	-0.0162	-0.0159	-0.0155	-0.0752	-0.0777	-0.0744
	(0.0426)	(0.0425)	(0.0425)	(0.0674)	(0.0675)	(0.0675)
Age	0.0022	0.0022	0.0021	0.0025	0.0026	0.0025
	(0.0021)	(0.0021)	(0.0021)	(0.0030)	(0.0030)	(0.0030)
Schooling Years	0.0171***	0.0170***	0.0170***	0.0287***	0.0286***	0.0286***
	(0.0044)	(0.0044)	(0.0044)	(0.0064)	(0.0064)	(0.0064)
Political Status	-0.0632	-0.0623	-0.0626	0.0802	0.0813	0.0798
	(0.0562)	(0.0562)	(0.0562)	(0.0812)	(0.0813)	(0.0813)
Marriage Status	0.0295	0.0297	0.0277	-0.0849	-0.0806	-0.0863
	(0.0642)	(0.0641)	(0.0641)	(0.0927)	(0.0929)	(0.0928)
Health Condition	0.0318	0.0291	0.0309	0.1225	0.1163	0.1225
	(0.0585)	(0.0584)	(0.0585)	(0.0747)	(0.0747)	(0.0749)
Internet User	0.1876***	0.1862***	0.1867***	0.2316**	0.2430**	0.2307**
	(0.0538)	(0.0539)	(0.0539)	(0.0972)	(0.0971)	(0.0972)
Mobile User	0.1373***	0.1397***	0.1386***	0.0542	0.0594	0.0546
	(0.0529)	(0.0528)	(0.0529)	(0.0711)	(0.0714)	(0.0713)
Family Size	0.0878***	0.0878***	0.0881***	0.0627***	0.0623***	0.0633***
	(0.0108)	(0.0107)	(0.0107)	(0.0145)	(0.0146)	(0.0145)
Young Dependency Ratio	-0.0226	-0.0269	-0.0285	0.0555	0.0694	0.0581
	(0.1031)	(0.1036)	(0.1035)	(0.1288)	(0.1281)	(0.1288)
Old Dependency Ratio	-0.5245***	-0.5236***	-0.5230***	-0.4610***	-0.4604***	-0.4611***
	(0.0806)	(0.0807)	(0.0807)	(0.1167)	(0.1170)	(0.1168)
Bank Loan	0.3782***	0.3775***	0.3786***	0.3977***	0.3923***	0.3990***
	(0.0517)	(0.0517)	(0.0516)	(0.0687)	(0.0685)	(0.0687)
ln (Household Income)	-0.0852***	-0.0850***	-0.0847***	-0.0522***	-0.0523***	-0.0516***
	(0.0136)	(0.0136)	(0.0136)	(0.0191)	(0.0191)	(0.0191)
ln (County Population)	0.0987***	0.1000***	0.1006***	0.0787*	0.0788*	0.0795*
	(0.0224)	(0.0225)	(0.0225)	(0.0426)	(0.0430)	(0.0428)
ln (County Economic Condition)	0.0441***	0.0429***	0.0420***	0.0551**	0.0557**	0.0529**
	(0.0155)	(0.0156)	(0.0156)	(0.0218)	(0.0220)	(0.0219)
Province Fixed Effect	Y	Y	Y	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y	Y	Y
N	18,008	18,008	18,008	9,733	9,733	9,733
Pseudo R^2	0.0747	0.0745	0.0745	0.0677	0.0705	0.0689

Note: 1) Dependent variable is entrepreneurship, which is a binary variable and takes the value of 1 if the family was not engaged in entrepreneurial activity in the previous surveying period but is engaged in the current period, and is estimated using probit model. Independent variables include householder's characteristics (gender, age, schooling years, political status, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition).

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 11. Who Gains More from Fintech?

Entrepreneurship	Physical Capital		Human Capital		Social Capital	
	Low	High	Low	High	Low	High
Fintech Development	0.0756***	-0.0002	0.0056	0.0562***	0.0233**	0.0357
	(0.0192)	(0.0133)	(0.0141)	(0.0159)	(0.0117)	(0.0245)
Gender	0.1471	-0.2204**	0.0723	-0.3399***	-0.1134	0.1364
	(0.1152)	(0.0865)	(0.0836)	(0.1147)	(0.0745)	(0.1596)
Age	-0.0012	0.0051	0.0013	0.0075	0.0048	-0.0080
	(0.0046)	(0.0042)	(0.0038)	(0.0051)	(0.0034)	(0.0067)
Schooling Years	0.0266***	0.0318***	0.0339***	0.0481**	0.0280***	0.0314**
	(0.0102)	(0.0085)	(0.0115)	(0.0224)	(0.0072)	(0.0139)
Political Status	0.2306*	-0.0001	-0.0711	0.1401	0.0104	0.3134*
	(0.1275)	(0.1069)	(0.1543)	(0.1030)	(0.0953)	(0.1668)
Marriage Status	-0.1709	0.0109	-0.1199	-0.0923	-0.0536	-0.2390
	(0.1230)	(0.1480)	(0.1080)	(0.1799)	(0.1059)	(0.1918)
Health Condition	0.0445	0.1583*	0.2123**	0.0070	0.0624	0.3810**
	(0.1283)	(0.0947)	(0.0935)	(0.1240)	(0.0833)	(0.1735)
Internet User	0.7038***	0.0115	0.2103	0.2615**	0.3007***	-0.0663
	(0.1607)	(0.1263)	(0.1810)	(0.1263)	(0.1053)	(0.2665)
Mobile User	-0.1572	0.2488**	0.0339	0.1580	0.0618	0.0555
	(0.1052)	(0.1022)	(0.0840)	(0.1373)	(0.0804)	(0.1575)
Family Size	0.1007***	0.0497***	0.0800***	0.0425*	0.0581***	0.1011***
	(0.0264)	(0.0188)	(0.0190)	(0.0240)	(0.0164)	(0.0321)
Young Dependency Ratio	-0.3786	0.4262**	-0.1253	0.4237*	0.1670	-0.4145
	(0.2526)	(0.1794)	(0.1903)	(0.2250)	(0.1508)	(0.3041)
Old Dependency Ratio	-0.4482***	-0.5633***	-0.3974***	-0.6492***	-0.4691***	-0.4703*
	(0.1587)	(0.2071)	(0.1427)	(0.2206)	(0.1360)	(0.2472)
Bank Loan	0.3585***	0.4353***	0.2531**	0.5657***	0.3986***	0.3500**
	(0.1195)	(0.0856)	(0.0996)	(0.1005)	(0.0766)	(0.1621)
ln (Household Income)	-0.0564*	-0.0405	-0.0502**	-0.0581*	-0.0537**	-0.0708
	(0.0310)	(0.0678)	(0.0245)	(0.0302)	(0.0209)	(0.0492)
ln (County Population)	0.2214***	-0.0039	0.0335	0.1800***	0.0585	0.1753*
	(0.0680)	(0.0574)	(0.0577)	(0.0689)	(0.0477)	(0.1007)
ln (County Economic	0.0482	0.0542*	0.0438	0.0735**	0.0472*	0.0623
Condition)	(0.0356)	(0.0292)	(0.0274)	(0.0368)	(0.0246)	(0.0490)
Province Fixed Effect	Y	Y	Y	Y	Y	Y
Year Fixed Effect	Y	Y	Y	Y	Y	Y
N	4,232	5,337	6,267	3,370	7,854	1,779
Pseudo R^2	0.130	0.0667	0.0586	0.105	0.0690	0.133

Note: 1) Dependent variable is entrepreneurship, which is a binary variable and takes the value of 1 if the family was not engaged in entrepreneurial activity in the previous surveying period but is engaged in the current period, and is estimated using probit model. Independent variables include householder's characteristics (gender, age, schooling years, political status, marriage status, health condition, and usage of internet and mobile), household's factors (family size, young dependency ratio, old dependency ratio, and whether the family has bank loan), and indicators of regional development (county population and county economic condition).

2) Robust cluster standard errors are in parentheses.

3) *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

How does the Quantity of Disclosed Information Provided by Insurers Affect Entity Behaviors in Internet Insurance Market?

——A Study Based on Tripartite Evolutionary Game Analysis between Government, Insurance Companies and Consumers

Shao Jie[1]

Abstract: In the first quarter of 2018, InsurTech deals reached $724 million[2], which is a record of this industry, and a 155% increase from first quarter of 2017. The emergence of internet insurance provides a new consumption pattern for insurance consumers in e-commerce era. However, without agents fulfilling duty of disclosure, many consumers realize that their own interests sometimes cannot be guaranteed. This paper will analyze the costs and benefits of three parties (i.e. government, insurance companies and consumers) and their strategies regarding information disclosure of insurance products on internet. By using evolutionary game model under bounded rationality assumption, the Nash Equilibrium (NE) and evolutionary stability strategy (ESS) of the system are explored. Then this article will analyze how entities affects each other's strategies in internet insurance market, and explain the different current situation in China and Japan. The results show that (Disclosing, not Regulating, Satisfied) is bound to be the best ESS and it is consumers' buying decision not regulation that ultimately compel insurers to disclose enough information. Finally, this article will suggest some measurements to promote the development of internet insurance market in both Japan and China.

Keywords: internet insurance; information asymmetry; information disclosure; tripartite evolutionary game analysis

1. Introduction

Since the third revolution of science and technology, digitalization has gradually transformed many industries. However, industry commentators believe that the transformation of the insurance industry has come rather late[3]. It was until 1990s, insurance products were first sold online in America. Since then, the global internet insurance market has been developing by leaps and bounds. Broadly speaking, internet insurance or digital insurance refers to when business activities that traditional insurance firms or other qualified financial institutions develop insurance products and services based on internet terminals or digital technologies[4]. Internet insurance can enhance the customer experience, improve the efficiency of insurance business process, offer new products and make insurance companies more prepared for the competition with other industries[5]. According to McKinsey's report in 2018, 43% of commercial lines of InsurTechs are about distribution and sales[6]. Therefore, some researchers

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hold that internet insurance, in a narrow sense, mainly refers to insurance products and services that are provided through internet channel[7]. Although insurance provided through internet channel is usually simpler than traditional methods, it is still not easy for consumers to understand products or services provided by insurance firms without face-to-face communication. Concurrently, information disclosed online is much less than traditional ways. Theoretically, internet insurance firms should disclose the following information: rights and obligations of both parties in insurance contract; premium and its cost; coverage of insurance products; financial information of the firm; prediction of future situation and social responsibility[8]. However, many internet insurance firms may choose not to disclose all information, because disclosure means increasing the cost and may lead to a loss of advantages over competitors. The government may regulate the information disclosure to protect consumers, but strict mandated disclosure may inhibit innovation and enthusiasm of internet insurance firms, which in turn reduce consumers' welfare. Hence, this leads to a challenging decision problem for internet insurance market about information disclosure and its regulation.

Generally, internet insurance market has three participants, that is, insurance companies, the government and consumers. Traditional game theory solve the above three-parties decision making problem based on hypothesis that the players are intelligent rational. However, in the real world, individual rationality was restricted by the available information, cognitive limitations, and time available to make decisions[9]. Evolutionary game theory can solve this problem by relaxing assumption that each player is bounded rational, and players can learn from opposite parties to change strategies. Therefore, this paper will introduce a tripartite evolutionary game model into this information disclosure problem in internet insurance market, then build its replicated dynamic equation and analyze each player's strategy. Next, this paper will study the interaction among three parties and factors affecting their behavior. By analyzing different situations of internet insurance market in Japan and China, we will suggest some measures to promote the healthy development of internet insurance market.

The rest of this paper is organized as follows. Section 2 contains a literature review on information disclosure of internet insurance and tripartite evolutionary game theory. In Section 3, the detailed problem will be described. Also, assumptions and parameter setting will be done in this section. Then, this paper will establish and solve the evolutionary model in Section 4. Section 5 will analyze the equilibrium and discuss the stability of every entity under different circumstances. Finally, in Section 6, conclusions and suggestions will be given based on different current situation in Japan and China.

2. Literature review

2.1 Internet insurance and information disclosure

So far, there isn't any widely accepted universal definition of internet insurance. According to China Insurance Regulatory Commission (CIRC), "Internet insurance business" means the

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McKinsey & Company.

[7] Koduka Jun. "The factors that Inhibit the Spread of Internet Life Insurance." In Proceedings of the Japan Marketing Academy Conference, Tokyo, 2016, 5. Tokyo: Waseda University.

[8] Chen Chu, "Study on the legal issues of the information disclosure obligation of Internet Insurance Subjects" (master's thesis, Nanchang University, 2017)

[9] Jiang, Zhong-Zhong, et al. "Evolutionary game analysis and regulatory strategies for online group-buying based on system dynamics." *Enterprise Information Systems* 12.6 (2018): 695-713.

business under which insurance institutions conclude insurance contracts and provide insurance services via self-operated network platforms, and third-party network platforms, among others, by relying on the Internet, mobile communications, and other technologies[10]. Internet insurance is different from traditional insurance which lack of face-to-face discussion with agents, which means the information insurers disclosed online is the only source for consumers (Chen, 2017). Meanwhile, insurance buyers cannot easily tell the value of their purchases because it depends on actuarial estimates that they do not know and cannot analyze. Nor can the quality of the insurance be ascertained until a loss materializes (B. Shahar, 2011). Therefore, two major problems of internet insurance information disclosure are: how much information is enough for consumers and how to make sure the buyers understand the products. B. Shahar (2011) held that insurers must not only disclose policy terms, they must also highlight terms that are especially important or may cause unexpected agonies. Qu (2018) also pointed out that the "I have read and understood the Terms and Conditions" button is unreasonable because consumers have to click "yes" otherwise cannot move to the next step. In addition, D. Patten (2002) examined the use of the internet for information disclosure with a sample of property and casualty insurance firms, results of the analysis indicate that financial information disclosed by the insurance firm sample is only moderate and the leaders in terms of developing web for financial gain are not balancing that leadership with respect to information disclosure. Thus, it is of great importance to study the information disclosure problem in internet insurance market. However, most of the papers are studying this problem from legal or normative perspective, few researches are about economic analysis, especially behavior strategy study based on game theory.

2.2 Evolutionary game model

Evolutionary game model was originally developed by biologists and mathematicians to address substantive questions in evolutionary biology (Maynard Smith and Price, 1973; Taylor and Jonker, 1978). D. Friedman (1991) firstly introduced evolutionary game into economics. At present, it has been widely used in industrial organization, law, economic development, international trade and policy analysis, etc. Güth (2007) analyzed buyer insurance and seller reputation in online market applying an evolutionary framework. N. Ma (2015) explored complex and dynamic game relationship among participants in forest insurance market based on tripartite evolutionary game model. Y. Gao (2017) applied the evolutionary game theory to discuss and analyze selection behavior of trans-regional hospitals and patients in Telemedicine System. Y. Yang (2019) constructed an Evolutionary Game Model under incomplete information to research what kind of role whistleblowing is playing in air pollution control campaign in China. Compared to traditional game theory, evolutionary game theory pays more attention on long term interaction process which each party can learn to acquire knowledge from the opposite parties to change their strategies (Z. Jiang, 2018), and it is also very useful for investigating the foundations of game-theoretic solution concepts, especially Nash Equilibrium (NE) and selection among multiple NE (D. Friedman, 1998). Recently, evolutionary game is widely used to analyze internet financial industry development and regulation boundary (Y. Su, 2015; Y. Zhao, 2015; H. Zhang, 2016; S. Zhou, 2016). Therefore, this article will also apply an evolutionary game model to analyze the information disclosure problem in internet insurance market, and hopefully provides some constructive suggestions

[10] CIRC, *Notice of the China Insurance Regulatory Commission on Issuing the Interim Measures for the Supervision of the Internet Insurance Business.*

for the market.

3. Problem statement and assumptions

There are three direct stakeholders in internet insurance market, each of them has two kinds of strategies when it comes to information disclosure.

Internet insurance firms provide insurance products and services online, usually they have two kinds of strategies about information disclosure. One is disclosing enough effective information for consumers to buy suitable insurance (“disclosing” strategy in brief). This may cause some direct cost like labor cost and indirect cost like giving important information away to competitors. Together, let the total cost be C_1 when insurers choose “disclosing” strategy. The other strategy is to disclose information not enough for consumers to buy suitable insurance (“not disclosing” strategy in brief). This may reduce the cost (let it be C_2, and $C_1 > C_2$), but it may jeopardize consumers’ trust and reduce the sales volume, let the revenue loss be S. For convenience sake, let the extra cost of disclosing extra information be C_i ($C_i = C_1 - C_2$). Let η, where $0 \le \eta \le 1$, represents the probability of internet insurers disclosing enough information.

The government acts as the supervisor of internet insurance market, and accordingly has two strategies: “regulating” and “not regulating” information disclosure of insurers. When government regulate the information disclosure of internet insurance firms, there is some direct cost like labor cost, and if the mandated disclosure requirement is too much, it may jeopardize the competition in this market (indirect cost). Together, let the total cost be C_g. Also, government can impose a penalty on insurers if they fail to fulfil government’s requirement (let it be F_c). When insurers disclose enough information, the market is perfect with welfare V_g. Meanwhile, if insurers don’t disclose enough information, the government may suffer from a market efficiency loss L_1, and a loss of reputation and trust from consumers (L_2) when government choose “not regulating” strategy. Let μ, where $0 \le \mu \le 1$, represents the probability of government choosing “regulating” strategy.

Let V_m represents the consumers’ welfare when insurance companies disclose enough information, and V'_m be the consumers’ welfare when insurance companies do not disclose enough information. Consumers might buy the unsuitable insurance because of lack of information, therefore V'_m is smaller than V_m ($V_m > V'_m$). Consumers can express their dissatisfaction by complaining about insurers. This may cause consumers cost of complaining (C_m), but may also bring them compensation (F_m) if the insurers don’t disclose enough information. Let σ, where $0 \le \sigma \le 1$, represents the probability of consumers choosing “satisfied” strategy.

Based on the statement above, the game strategies of three parties and corresponding parameters are shown in Table 1.

Table 1. Variables setting and meaning

Variables	Meaning of the variables
V_g	Public welfare of government when insurers disclose enough information
C_g	Cost of government regulating the disclosure of internet insurance products
L_1	Market efficiency loss of government when insurers don't disclose enough information
L_2	Reputation and trust loss when government choose not-regulating and insurers choose not-disclosing enough information

V_c	Revenue of internet insurers
C_i	Cost of internet insurers when they disclose extra information
S	Revenue loss of reduced sale volume when internet insurance firms don't disclose enough information
F_c	Penalty on internet insurers if the government thinks they don't disclose enough information
F_m	Compensation to the consumers by the internet insurers if they are sued by consumers because of not disclosing enough information
V_m	Welfare of consumers when insurers disclose enough information
V_m'	Welfare of consumers when insurers do not disclose enough information
C_m	Cost of complaining when the consumers are not satisfied with products
μ	Probability of government regulating the disclosure of internet insurance products
η	Probability of internet insurers disclosing enough information
σ	Probability of consumers being satisfied and don't complain internet insurance firms

For the sake of convenience, some other assumptions are made as below.

(1) Each player is bounded rational to decide whether to change their strategies, and they are all self-interest when entering the system.

(2) Each player can adjust their behavior in the long-term equilibrium.

(3) Government has the motivation to regulate the market when insurance companies don't disclose enough information ($F_c - C_g > 0$).

(4) Consumers can get compensation from insurance companies only if government regulate the market.

And then the payoff matrix is shown as in Table 2.

Table 2. Payoff matrix of three parties

		Government			
		Regulating		Not regulating	
		Insurance company		Insurance company	
		Disclosing	Not disclosing	Disclosing	Not disclosing
Consumer	Satisfied	$\begin{pmatrix} V_g - C_g \\ V_c - C_i \\ V_m \end{pmatrix}$	$\begin{pmatrix} V_g - C_g - L_1 + F_c \\ V_c - F_c - S \\ V_m' \end{pmatrix}$	$\begin{pmatrix} V_g \\ V_c - C_i \\ V_m \end{pmatrix}$	$\begin{pmatrix} V_g - L_1 \\ V_c - S \\ V_m' \end{pmatrix}$
	Complaining	$\begin{pmatrix} V_g - C_g \\ V_c - C_i \\ V_m - C_m \end{pmatrix}$	$\begin{pmatrix} V_g - C_g - L_1 + F_c \\ V_c - F_c - F_m - S \\ V_m' + F_m - C_m \end{pmatrix}$	$\begin{pmatrix} V_g \\ V_c - C_i \\ V_m - C_m \end{pmatrix}$	$\begin{pmatrix} V_g - L_1 - L_2 \\ V_c - S \\ V_m' - C_m \end{pmatrix}$

Noting: each combination is shown as $(\text{government}, \text{insurers}, \text{consumers})^T$

4. Evolutionary game model and solution

Based on payoffs matrix above, the expected payoff of each parties can be expressed as below:

4.1 Internet insurance firms

The payoff equation of internet insurance firms choosing "disclosing" strategy is:

$$U_\eta = V_c - C_i \tag{1}$$

The equation of internet insurance firms choosing "not disclosing" strategy is:

$$
\begin{aligned}
U_{1-\eta} &= \mu\sigma(V_c - S - F_c) + \mu(1-\sigma)(V_c - S - F_c - F_m) \\
&+ (1-\mu)\sigma(V_c - S) + (1-\mu)(1-\sigma)(V_c - S) \\
&= V_c - S - \mu(F_c + F_m - \sigma F_m)
\end{aligned} \tag{2}
$$

The equation of average expected payoff of internet insurance firms is:

$$U_{\eta,1-\eta} = \eta U_\eta + (1-\eta)U_{1-\eta} \tag{3}$$

According to the method raised by Taylor and Jonker (1978)[11], replicator dynamics equation is used to represent the learning and evolution mechanism, that is, the change rate of η is:

$$
\begin{aligned}
F(\eta) = \frac{d\eta}{dt} &= \eta\left(U_\eta - U_{\eta,1-\eta}\right) \\
&= \eta(1-\eta)[S - C_i + \mu F_c + \mu(1-\sigma)F_m]
\end{aligned} \tag{4}
$$

4.2 Government

Likewise, the equations of government choosing “regulating” and “not regulating” strategies are:

$$
\begin{aligned}
U_\mu &= \eta\left(V_g - C_g\right) + (1-\eta)\left(V_g - L_1 + F_c - C_g\right) \\
&= V_g - C_g + (1-\eta)(F_c - L_1)
\end{aligned} \tag{5}
$$

$$
\begin{aligned}
U_{1-\mu} &= \eta V_g + (1-\eta)\left[\sigma\left(V_g - L_1\right) + (1-\sigma)\left(V_g - L_1 - L_2\right)\right] \\
&= V_g - (1-\eta)(L_1 + L_2 - \sigma L_2)
\end{aligned} \tag{6}
$$

The equation of average expected payoff and corresponding replicator dynamics equation are:

$$U_{\mu,1-\mu} = \mu U_\mu + (1-\mu)U_{1-\mu} \tag{7}$$

$$
\begin{aligned}
F(\mu) = \frac{d\mu}{dt} &= \mu\left(U_\mu - U_{\mu,1-\mu}\right) \\
&= \mu(1-\mu)[(1-\eta)(L_2 - \sigma L_2 + F_c) - C_g]
\end{aligned} \tag{8}
$$

4.3 Consumers

The equations of consumers choosing “satisfied” and “complaining” strategies are:

$$U_\sigma = \eta V_m + (1-\eta)V_m' \tag{9}$$

$$
\begin{aligned}
U_{1-\sigma} &= \mu\eta(V_m - C_m) + \mu(1-\eta)\left(V_m' + F_m - C_m\right) \\
&+ (1-\mu)\eta(V_m - C_m) + (1-\mu)(1-\eta)\left(V_m' - C_m\right) \\
&= \eta V_m + (1-\eta)V_m' + \mu(1-\eta)F_m - C_m
\end{aligned} \tag{10}
$$

Average expected payoff and replicator dynamics equations are:

$$U_{\sigma,1-\sigma} = \sigma U_\sigma + (1-\sigma)U_{1-\sigma} \tag{11}$$

$$
\begin{aligned}
F(\sigma) = \frac{d\sigma}{dt} &= \sigma\left(U_\sigma - U_{\sigma,1-\sigma}\right) \\
&= \sigma(1-\sigma)[C_m - \mu(1-\eta)F_m]
\end{aligned} \tag{12}
$$

Ultimately, the population dynamic of the evolutionary game can be represented as:

[11] Taylor, Peter D., and Leo B. Jonker. "Evolutionary stable strategies and game dynamics." *Mathematical biosciences* 40.1-2 (1978): 145-156.

$$\begin{cases} F(\eta) = \eta(1-\eta)(S - C_i + \mu F_c + \mu F_m - \mu\sigma F_m) \\ F(\mu) = \mu(1-\mu)\{(1-\eta)[(1-\sigma)L_2 + F_c] - C_g\} \\ F(\sigma) = \sigma(1-\sigma)[C_m - \mu(1-\eta)F_m] \end{cases} \tag{13}$$

Now, set equations in (13) equal to zero, then we can get 11 equilibrium solutions in system as follows $X_1 \sim X_{12}$:

$X_1(0,0,0), X_2(1,0,0), X_3(0,1,0), X_4(0,0,1), X_5(0,1,1), X_6(1,0,1), X_7(1,1,0), X_8(1,1,1),$

$X_9\left(1-\frac{C_m}{F_m}, 1, \frac{S - C_i + F_c + F_m}{F_m}\right), X_{10}\left(1-\frac{C_g}{F_c}, \frac{C_i - S}{F_c}, 1\right),$

$X_{11}\left(1-\frac{C_g}{L_2 + F_c}, \frac{C_i - S}{F_c + F_m}, 0\right)$

5. Equilibrium analysis and discussion

5.1 Stability analysis

The stability of equilibrium points can be derived by analyzing the part stability of Jacobian matrix (Friedman 1991). Jacobian matrix can be presented as following $\mathbb{J}$:

$$\mathbb{J} = \begin{bmatrix} a_1 & a_2 & a_3 \\ b_1 & b_2 & b_3 \\ c_1 & c_2 & c_3 \end{bmatrix} = \begin{bmatrix} \frac{\partial F(\eta)}{\partial \eta} & \frac{\partial F(\eta)}{\partial \mu} & \frac{\partial F(\eta)}{\partial \sigma} \\ \frac{\partial F(\mu)}{\partial \eta} & \frac{\partial F(\mu)}{\partial \mu} & \frac{\partial F(\mu)}{\partial \sigma} \\ \frac{\partial F(\sigma)}{\partial \eta} & \frac{\partial F(\sigma)}{\partial \mu} & \frac{\partial F(\sigma)}{\partial \sigma} \end{bmatrix} \tag{14}$$

Where, $a_1 = \frac{\partial F(\eta)}{\partial \eta} = (1-2\eta)(S - C_i + \mu F_c + \mu F_m - \mu\sigma F_m)$

$a_2 = \frac{\partial F(\eta)}{\partial \mu} = \eta(1-\eta)(F_c + F_m - \sigma F_m)$

$a_3 = \frac{\partial F(\eta)}{\partial \sigma} = -\mu\eta(1-\eta)F_m$

$b_1 = \frac{\partial F(\mu)}{\partial \eta} = \mu(1-\mu)(\sigma L_2 - F_c - L_2)$

$b_2 = \frac{\partial F(\mu)}{\partial \mu} = (1-2\mu)\{(1-\eta)[(1-\sigma)L_2 + F_c] - C_g\}$

$b_3 = \frac{\partial F(\mu)}{\partial \sigma} = -\mu(1-\mu)(1-\eta)L_2$

$c_1 = \frac{\partial F(\sigma)}{\partial \eta} = \sigma(1-\sigma)\mu\eta F_m$

$c_2 = \frac{\partial F(\sigma)}{\partial \mu} = \sigma(1-\sigma)(\eta-1)F_m$

$c_3 = \frac{\partial F(\sigma)}{\partial \sigma} = (1-2\sigma)[C_m - \mu(1-\eta)F_m]$

According to Lyapunov's indirect method, when all eigenvalues (λ) of Jacobian matrix are real and have the same sign, the equilibrium point is called Node. The node is stable (unstable) when the eigenvalues are negative (positive). Otherwise, when all eigenvalues are real and at least one of them is positive and at least one is negative, the equilibrium point is called Saddle. Saddles are always unstable.[12]

For equilibrium point $X_1(0,0,0)$,

[12] Eugene M. Izhikevich. "Equilibrium." Scholarpedia, 2(10):2014. http://www.scholarpedia.org/article/Equilibrium#fig:Equilibria_nonhyperbolic.gif

$$\mathbb{J}_1 = \begin{bmatrix} S - C_i & 0 & 0 \\ 0 & L_2 + F_c - C_g & 0 \\ 0 & 0 & C_m \end{bmatrix}$$

$\lambda_1 = S - C_i$

$\lambda_2 = L_2 + F_c - C_g$

$\lambda_3 = C_m$

According to the parameter setting and model assumptions, $\lambda_2 > 0$ and $\lambda_3 > 0$. Therefore, X_1 is unstable.

Similarly, the stability of rest 10 equilibrium points are analyzed using the same method. The stabilities of eight pure strategy equilibriums are shown in Table 3.

Table 3. Result of analyses of stabilities of pure strategy equilibriums

Balancing point	λ_1	λ_2	λ_3	Stability
X_1	$S - C_i$	$L_2 + F_c - C_g > 0$	$C_m>0$	If $S < C_i$, saddle; otherwise unstable node
X_2	$C_i - S$	$-C_g<0$	$C_m>0$	Saddle
X_3	$S - C_i + F_c + F_m$	$C_g - L_2 - F_c$	$C_m - F_m$	If $C_g - L_2 < F_c$, $C_m < F_m$, $F_c + F_m < C_i - S$, stable; otherwise unstable
X_4	$S - C_i$	$F_c - C_g>0$	$-C_m < 0$	Saddle
X_5	$S - C_i + F_c$	$C_g - F_c<0$	F_m-C_m	If $F_m < C_m$, $F_c < C_i - S$, stable; otherwise unstable
X_6	$C_i - S$	$-C_g<0$	$-C_m < 0$	If $C_i < S$, stable; otherwise saddle
X_7	$C_i - S - F_c - F_m$	$C_g>0$	$C_m>0$	If $F_c + F_m < C_i - S$, unstable node; otherwise saddle
X_8	$C_i - S - F_c$	$C_g>0$	$-C_m < 0$	Saddle

As for the mixed strategy equilibriums ($X_9 \sim X_{12}$), their existence ($\eta, \mu, \sigma \in [0,1]$) relies on the model variables.

For X_9: $L_m + C_m < F_m$ and $F_c < C_i - S < F_c + F_m$;

for X_{10}: $C_i > S$, $C_i - S < F_c$;

for X_{11}: $C_i > S$, $C_i - S < F_c + F_m$.

Then, their stabilities are discussed as below.

Table 4. Eigenvalues of Jacobian matrix of mixed strategy equilibriums

	$\lvert\lambda E - A\rvert$	λ
X_9	$\begin{bmatrix} \lambda & a_2 & a_3 \\ 0 & \lambda - b_2 & 0 \\ c_1 & c_2 & \lambda \end{bmatrix}$	$\lambda_1 = b_2 = C_g - \frac{C_m}{F_m}(\frac{C_i - S - F_c}{F_m} L_2 + F_c)$ $\lambda_2 = \pm\sqrt{a_3 c_1} = \frac{F_m - C_m}{F_m}\sqrt{\frac{(S - C_i + F_c + F_m)(C_i - S - F_c)}{F_m}}$ $\lambda_3 = -\sqrt{a_3 c_1} = -\frac{F_m - C_m}{F_m}\sqrt{\frac{(S - C_i + F_c + F_m)(C_i - S - F_c)}{F_m}}$

X_{10}	$\begin{bmatrix} \lambda & a_2 & a_3 \\ b_1 & \lambda & b_3 \\ 0 & 0 & \lambda - c_3 \end{bmatrix}$	$\lambda_1 = \sqrt{a_2 b_1} = \frac{\sqrt{(F_c - C_g) C_g (C_i - S)(C_i - S - F_c)}}{F_c}$ $\lambda_2 = -\sqrt{a_2 b_1} = -\frac{\sqrt{(F_c - C_g) C_g (C_i - S)(C_i - S - F_c)}}{F_c}$ $\lambda_3 = c_3 = \frac{(C_i - S)}{F_c} * \frac{C_g}{F_c} * F_m - C_m$
X_{11}	$\begin{bmatrix} \lambda & a_2 & a_3 \\ b_1 & \lambda & b_3 \\ 0 & 0 & \lambda - c_3 \end{bmatrix}$	$\lambda_1 = \sqrt{a_2 b_1} = \sqrt{\frac{(L_2 + F_c - C_g)(C_i - S)(C_i - S - F_c - F_m) C_g}{(L_2 + F_c)(F_m + F_c)}}$ $\lambda_2 = -\sqrt{a_2 b_1} = -\sqrt{\frac{(L_2 + F_c - C_g)(C_i - S)(C_i - S - F_c - F_m) C_g}{(L_2 + F_c)(F_m + F_c)}}$ $\lambda_3 = c_3 = C_m - \frac{C_i - S}{F_c + F_m} * \frac{C_g}{L_2 + F_c} * F_m$

As shown in Table 4, each of three equilibriums has one real eigenvalue and a pair of complex-conjugate eigenvalues with zero real part. That means these mixed strategy equilibriums are not stable.

5.2 ESS discussion

The evolutionary stability can be analyzed to conclude an evolutionarily stable strategy (ESS) justification under different circumstances, as detailed below. In each scenario, no party would have the motivation to change current behavior, the system will stay stable.

Scenario 1: $C_m < F_m$, $F_c + F_m + S < C_i$

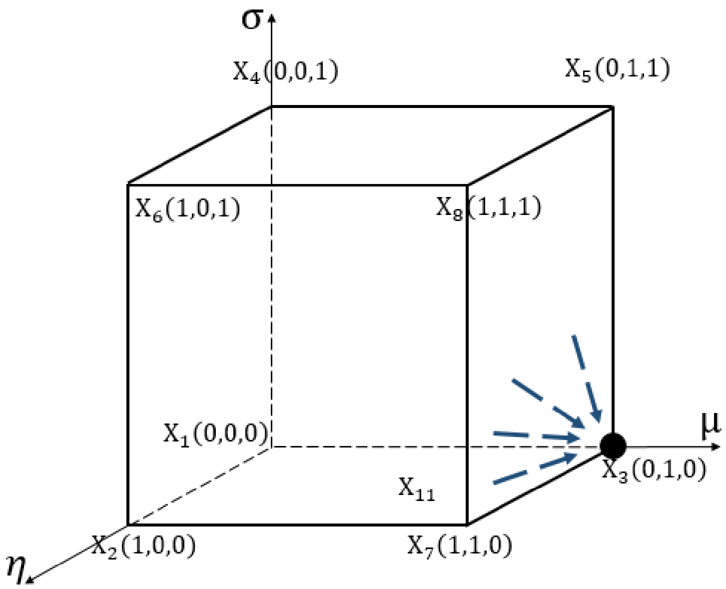

Figure 1 Phase diagram of scenario 1

In this case, based on Table 3 and Table 4, $X_3(0,1,0)$ is the only asymptotic stable point. The phase diagram is shown as Figure 1. This means, internet insurance firms would choose not to disclose enough information to the consumers, while even though government choose to regulate information disclosure of insurers, consumers are still not satisfied and choose to complain about it. This situation occurs because even if the penalty government charges from internet insurers is more than its regulating cost ($C_g < F_c$), and the compensation consumers get from insurers is more than complaining cost ($C_m < F_m$), but the summation of total amercement paid by the insurers and revenue loss is less than the cost of disclosing enough information ($F_c + F_m + S < C_i$). That is to say, this situation is caused by insufficiency of regulation or low information sensitivity of consumers or information disclosure cost being too high.

Scenario 2: $F_m < C_m$, $F_c < C_i - S < F_c + F_m$

Scenario 3: $F_m < C_m$, $F_c + F_m < C_i - S$

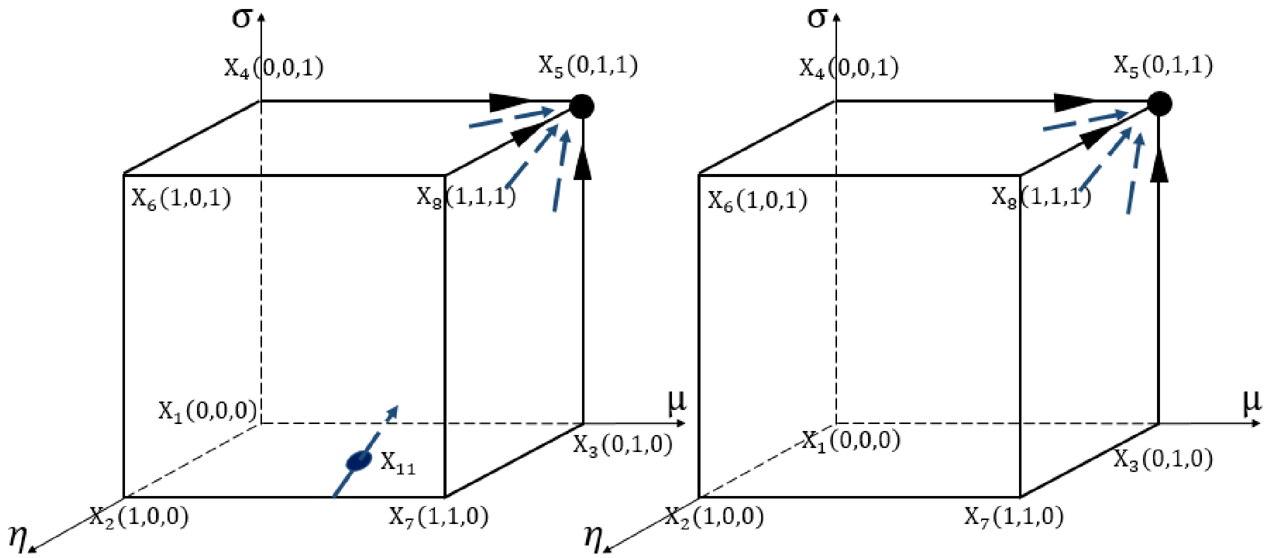

Figure 2 Phase diagram of scenario 2 (left) and scenario 3 (right)

In both scenario 2 and scenario 3, $X_5(0,1,1)$ is the only asymptotic stable point. The phase diagram is shown as Figure 2. That means, the system will be stable with (not Disclosing, Regulating, Satisfied) strategy under these circumstances. The insurers choose not to disclose enough information because the cost of disclosing enough information is larger than the summation of penalty paid to government and revenue loss caused by reduced sales volume ($C_i > F_c + S$). The government has the motivation to regulate the market because the penalty government charges from internet insurers is more than its regulating cost ($C_g < F_c$). However, consumers would choose "satisfied" strategy because the compensation they can get is less than their complaining cost ($F_m < C_m$). That is to say, even though the government is regulating the market, but the supervision is not enough to push insurers to disclose enough information. Meanwhile, the supervision from consumers is not enough either (S is not big enough), and it might also be the case that the consumers are easily satisfied under these circumstances. Therefore, it is not a good stable state because insurers tend to not disclose enough information and consumers' rights are not well protected.

Scenario 4: $C_i < S$

$X_6(1,0,1)$ is the only asymptotic stable point in this scenario. The system would be stable with (Disclosing, not Regulating, Satisfied) strategy. The phase diagram is shown as Figure 3. In this case, the insurers would choose to disclose enough information to the consumers, because the revenue loss caused by sales volume decreasing is larger than the cost of disclosing enough information ($C_i < S$). And if the insurers choose not to disclose enough information, they might even have to pay other penalty, the loss will become unbearable. Considering insurers are initiatively disclosing enough information, the government don't have the motivation to regulate anymore, thus the government would choose "not regulating" strategy. On the other hand, the consumers perform as the supervisor by not buying insurance product without enough information. Once the insurers choose to disclose enough information, the consumers would tend to be satisfied. This is a relatively good stable state because the market is regulating itself, the government doesn't need to spend extra money on supervising the information disclosure.

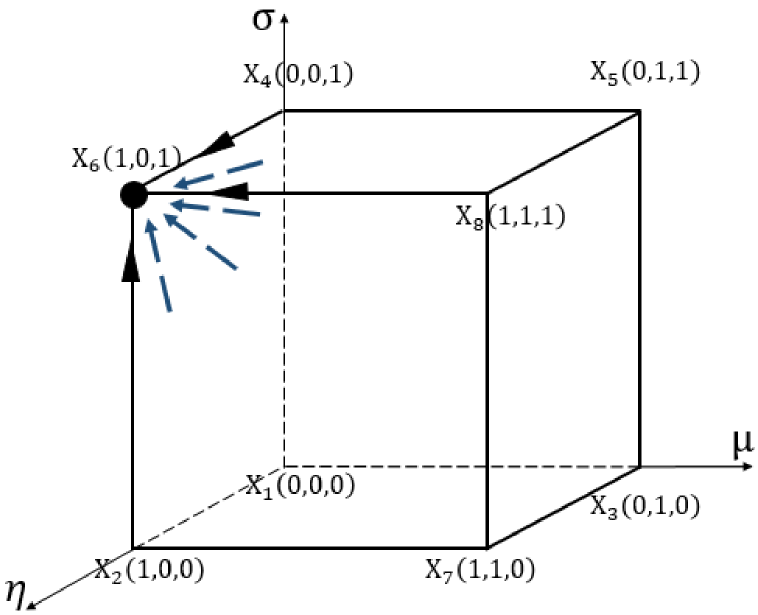

Figure 3 Phase diagram of scenario 4

5.3 Entity behavior discussion

In this section, we will analyze how the variables affect the equilibrium of the proposed three parties in this model.

The internet insurance firms can choose to disclose enough information or not. There are five variables that may affect their behavior: the amercement paid to the government or consumers (F_c, F_m), consumers' complaining cost (C_m), revenue loss caused by sales volume decreasing (S), and the cost of disclosing extra information (C_i). Of which, C_i is the only variable that can be controlled by insurers. As shown in Table 5, if $C_i > F_c + F_m + S$, insurers always tend to choose not to disclose enough information in spite of the size of F_m. While if $F_c + S < C_i < F_c + F_m + S$, insurers would choose not to disclose enough information when $F_m < C_m$; if $F_m > C_m$ or $S < C_i < F_c + S$, there is no stable point in this system, every equilibrium is a saddle point, the system will become chaotic and insurers would choose to disclose enough information with a random possibility. However, if $C_i < S$, insurers would choose to disclose enough information.

Table 5. Stabilities of equilibriums with C_i of different size

Balancing point	Numeric size of C_i			
	$(-\infty, S)$	$[S, F_c+S)$	$[F_c+S, F_c+F_m+S)$	$[F_c+F_m+S, +\infty)$
X_1	Unstable	Saddle	Saddle	Saddle
X_2	Saddle	Saddle	Saddle	Saddle
X_3	Saddle	Saddle	Saddle	$C_m<F_m$, stable; $C_m>F_m$, saddle
X_4	Saddle	Saddle	Saddle	Saddle
X_5	Saddle	Saddle	$C_m>F_m$, stable; $C_m<F_m$, saddle	$C_m>F_m$, stable; $C_m<F_m$, saddle
X_6	Stable	Saddle	Saddle	Saddle

X_7	Saddle	Saddle	Saddle	Unstable
X_8	Saddle	Saddle	Saddle	Saddle
X_9	Not exist	Saddle	Saddle	Not exist
X_{10}	Not exist	Saddle	Not exist	Not exist
X_{11}	Not exist	Saddle	Saddle	Not exist

The government can control three variables to affect other parties' behavior: the amercement paid by insurers (F_c, F_m) and cost of consumer complaining (C_m). As stated above, if F_c and F_m are too small compare to C_i, insurers would choose not to disclose enough information in the long run. But when $F_c+S<C_i<F_c+F_m+S$, if government makes $F_m>C_m$, although the system would be chaotic, there is a possibility that the insurers will choose to disclose enough information. Besides, C_m and F_m can also affect consumers' behavior: if $C_m>F_m$, there is no benefit of complaining, so the consumers would choose "satisfied" strategy. On the other hand, there are also three variables that may affect government's decision: penalty on internet insurers (F_c), cost of government regulating the market (C_g) and reputation and trust loss from consumers (L_2). The government only has the motivation to regulate the market when the penalty government charges from internet insurers is more than its regulating cost ($C_g<F_c$). C_g might be too big to bear when there is a serious information asymmetry problem between supervision department and insurers. L_2 functions similarly with F_c, it guarantees that the government has motivation to regulate the market.

Consumers' strategy is affected by C_m and F_m. If $C_m>F_m$, there is no benefit of complaining, so the consumers would prefer "satisfied" strategy. On the other hand, consumers can affect other parties' behavior by changing their confidence level in government (L_2) and buying decision online (S). That means, if insurers don't disclose enough information, the consumers can choose not to buy insurance products and services on internet. It will push insurers to disclose enough information (like Scenario 4) when S is too large for insurers. L_2 functions similarly to S, when the penalty charged by government F_c is not good enough to motivate the government regulating the market, L_2 can work as a supplement and push government to regulate (like Scenario 1).

6. Conclusions and suggestions

This paper focuses on information asymmetry problem in internet insurance market. Compared to traditional insurance, insurance provided through internet channel is usually simpler and modularized. That means, different with traditional insurance, it is the insurers instead of consumers who have the information advantage. Without agents fulfilling information duty, consumer protection could be more difficult than traditional insurance. Therefore, this paper employs three-party evolutionary game theory to study how the quantity of disclosed information provided by insurers affects the behaviors of the government and consumers, and how insurers react to their strategies. On the basis of research above, conclusions are given as follows.

(1) There are only three possible stable strategy combination from long-term perspective (as shown in Figure 4). That is, X_6 (Disclosing, not Regulating, Satisfied), X_3 (not Disclosing, Regulating, Complaining) and X_5 (not Disclosing, Regulating, Satisfied). That means, under these three circumstances, nobody would have motivation to change their strategies, new comers of this market would also follow these strategies. Amongst, X_6 (Disclosing, not

Regulating, Satisfied) would be the best for healthy development of internet insurance industry.

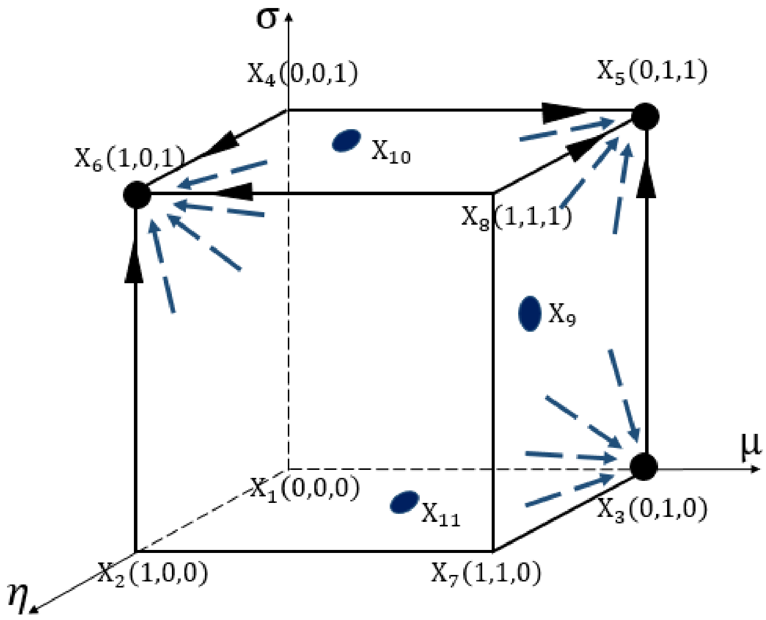

Figure 4 Phase diagram of all stable points

(2) When insurers do not disclose enough information, the government always tends to choose to regulate the market. However, when the government regulates insurers' disclosure, no matter how strictly the government regulates, there would always be occasions that insurers choosing "not disclosing" strategy.

(3) The quantity of information insurers disclose mainly depends on the cost (or profit) of disclosing. The penalty from the government would motivate insurers to disclose more information. But it is consumers' buying decision (S) that ultimately compel insurers to disclose enough information to consumers.

These conclusions may be adopted to explain different situations in different countries. For instance, China has become one of the most advanced internet insurance market because of its developed mobile payment, and it is still developing very rapidly. According to INZURER's report[13], 10 of the top 100 InsurTech firms in 2018 are located in China, while that number of Japan is zero. However, in the year of 2017, dispute number of every billion dollar premium in China was 175.61, while that number of Japan was 18.83,[14] which may indicate that consumers in Japan are more easily satisfied than in China. Governments in both Japan and China tend to regulate the market due to their East Asia culture background. But in China, because of the rather short history of insurance industry and its overgrowth of internet insurance industry, regulation is less sufficient than Japan, and the internet insurers are inclined to not disclose enough information. However, Japan's insurance industry has a very long history, and FSA (Financial Services Agency) of Japan is one of the strictest supervisor in the world, the internet insurers are inclined to disclose enough information. Therefore, the current situation in China is more similar to X_3 (not Disclosing, Regulating, Complaining) and situation in Japan is more similar to X_8 (Disclosing, Regulating, Satisfied).

According to the previous research, the current situation in China is stable in the long run,

[13] INZURER (2008) *top 100 InsurTech firms 2018*, Hong Kong, HK: INZURER.

[14] Dispute numbers are from website of CIRC (http://bxjg.circ.gov.cn/web/site0/tab5175/info4104507.htm) and FSA (https://www.fsa.go.jp/soudan/2017soudan10-12/2017_10-12.html); premiums derive from Swiss Re (2018) Sigma No 3/2018.

as shown in Figure 4. That means, the participants in the current market do not have the motivation to change their behavior, and the new comers do not have the ability to change the situation but to follow others' strategy (e.g. new internet insurers would choose not to disclose enough information). The reason of this situation is mainly because of the insufficient regulation under overgrowth of internet insurance market. The regulator in China cannot change policies in such rapidly changing industry, and also unwilling to regulate too harshly in order to protect the vitality in this industry. Besides, consumers in China do not trust agents as much as themselves [15], and they are more high-tech savvy, price sensitive and brand independent. Both insurers and consumers are more willing to take risks.

Although the situation in China is stable, with insurers not disclosing and consumers being unsatisfied, it is not a good occasion for future development of internet insurance market. Therefore changes from each party are necessary. This paper proposes the following suggestions.

(1) Lower cost of disclosing information would make insurers more willing to disclose enough information to consumers. Insurers could lower the cost by simplifying and modularizing services and products.

(2) Although the government is regulating the market, the supervision of information disclosure is still insufficient. The government can enhance the regulation by raising the standard of "enough" information and increasing the penalty of insurers violating.

(3) Enhance the consumers' education. The consumers should make their buying decisions not based on price only, but also their needs. The consumers need to be able to interpret information provided by insurers and lean to only buy those with enough information.

On the other hand, in Japan, the current situation is unstable, as shown in Figure 4. Any disturbance would change the situation into unpredictable direction. The market might stop developing and shrink until it disappears. There are two main possible reasons that lead to this situation. One is that the regulation is too strict. The standard of "enough" disclosure is too high, and the amercement is unbearable. The other reason might be consumers being too conservative. In Japan, agents have a long history and high acceptance. According to Lifenet's investigation[16], 52.3% of the interviewees believe that buying insurance without talking with agents is the biggest demerit of internet insurance. Compared to cheap price, consumers care more about companies' brand. They are also risk averters, 51.7% of the interviewees are worried about their personal information security online, and 51.5% of the interviewees are worried that their insurance knowledge is not enough to make decision by themselves. Therefore, proper guidance of this market is necessary. For the healthier development of internet insurance market in Japan, this paper proposes the following suggestions.

(1) The government should appropriately loose regulation and encourage innovation of internet insurance. For example, lowering the standard of traditional insurance companies entering internet insurance market, or giving internet companies more access to insurance market.

(2) The regulation of information disclosure should not only focus on the quantity, but also the quality. The information of internet insurance and traditional insurance should be

[15] According to China Internet Insurance Development Report 2017, 28.9% of the interviewees believe that buying insurance without agents is actually the merit of internet insurance.

[16] Lifenet (2011) *Investigation of Life Insurance through Internet Channel in 2011*, Tokyo: Lifenet. https://www.lifenet-seimei.co.jp/shared/pdf/2011-3601.pdf

comparable. The insurance companies should also try to simplify and modularize their products, make it easy to understand. That will also lower the cost of disclosing information and make internet insurance business more appealing.

(3) Enhance the consumers' education. That will give consumers more confidence of making their own decisions. Their rational decisions would benefit the development of this market.

However, this paper still has two limitations. Firstly, this paper puts more consideration on the information advantage of insurers, the information advantage of consumers or moral hazard is not involved. Another limitation is that this study only considers the effect of quantity of information. The quality of information is not involved. Future extensions of this research could be developed to several directions. Firstly, the effect of quality of information might be incorporated into this model. Furthermore, some empirical analysis could be done on the basis of this model.

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Efficient Balanced contract plan between Social Insurance and Personal Insurance

- Focusing on the Sales Capacity of Personal Health Insurance by Insurance planner -

contents

General Issues relating to National Health Insurance

1. financial problems
2. frequent conflicts of interest on health insurance
3. the spread of moral hazard
4. resistance of subscribers to higher insurance premiums

Background of research

- **an issue alternative**

In addition to the national health insurance, the medical expenses of the people are reduced while health and need specific alternatives that maximize the efficiency and assurance of care

- **Revitalization of private health insurance (personal health insurance) is an improvement of the national health insurance system.**
Contribute to the efficiency of the entire NHS system with efficiency (Kim Won-shik 2002)

Background of research

an issue alternative

Realistically, the supply of private health insurance (personal health insurance) in Korea depends on insurance planners

The Problem of Private Health Insurance Supply by Insurance planner

1. lack of understanding social insurance
2. Lack of consulting skills to balance social and private health insurance
3. The insurance plan itself rather than the customer, and the interests of the insurance company to which you belong, are encouraged to purchase private medical insurance

National Health Insurance and Personal Health Insurance

The current public benefits of national health insurance only partially cover medical expenses.
Because it is resolved, most patients will receive additional personal health insurance.
We have no choice but to pay my own expenses.

National Health Insurance and Personal Health Insurance

The demand of the public among the benefits currently not provided by the National Health Insurance.
High areas include legal personnel burden, difference in senior ward, and nursing costs.
designated care, diet, state-of-the-art medical services, long-term care, etc.

But most of these areas are not covered by national health insurance.
There are also areas where the principle of general insurance is difficult to apply.

National Health Insurance and Personal Health Insurance

	National Health Service	public health insurance	Private Health Insurance
Insurance Subscription and Target	whole nation	whole or part of a people (enforced form)	Part of the premium (arbitrary)
right of supply and demand	legal right of supply and demand	legal right of supply and demand	contractual (arbitrary) right to supply and demand
Medical finance	general tax	Health insurance premium + some treasury support	personal insurance premium
income redistribution effect	o	o	x
Operating entity/responsibility	state/public agency	state/public agency	Market (private insurance company)
major state	England, Sweden	Korea, France, Germany, Canada, etc	the United States, Switzerland, etc

Source; Federation of Korean Trade Unions (2006)

Personal Health Insurance Type

		Application of the Public Health Guarantee System	
		yes	no
guaranteed content	Same service as public health insurance	1 Redundant (United Kingdom, Australia, Spain)	2 Alternative (Germany, USA, Chile)
	personal allowance for public health insurance	3 Supplementary model (France, Brazil, USA)	
	Supplementary services	4 Supplement to fringe benefits (Chile, Netherlands, Canada, Ireland)	

Source ; OECD. Private health insurance in OECD countries: The benefits and costs for individuals and health systems. 2004

Personal Health Insurance Type

Supplemental punishment is a method to supplement the self-responsibility of the care sector, which is not guaranteed by the public health insurance.

Alternative types are excluded from public health insurance for some classes and allowed to subscribe to private insurance.

The competition type is similar to the alternative type, but it allows the choice of subscription among private or public insurance, and allows competition between public and private insurance.

Personal Health Insurance Type

The supplemental private medical insurance policy has 'the main burden supplement' and 'the additional benefit supplement' according to the scope of the guarantee.
Complementary: A method to guarantee legal basis for public health insurance
Supplemental: Types of Advanced Additional Services, Innovative Medical Service Costs Not Guaranteed by Public Health Insurance

Most private health insurance companies in Korea are more like a "main burden supplement" to compensate for part of the cost of nursing care and income loss, along with their own expenses.

Definition of insurance planner

An insurance planner is subordinate to a particular insurance company and is responsible for introducing insurance policies to the public for the insurance company and encouraging the public to sign insurance contracts and delivering them to the insurance company.(Kim Young-kyu 2015)

Article 2 Clause 9 of the Insurance Business Act defines an insurance planner as a broker of insurance contracts belonging to an insurance company, an insurance agent, or an insurance broker.

Consultation of insurance planners in relation to national health insurance and personal health insurance

Current status of insurance planners

Units; 10,000 person, trillion, %

	2015			2016			2017		
	insurance agent	Insurance company	Banquassurance and broker	insurance agent	Insurance company	Banquassurance and broker	insurance agent	Insurance company	Banquassurance and broker
Number of insurance planner belonging to the company (weight)	**20.4 (34.6)**	20.3 (34.5)	18.2 (30.9)	**21.4 (36.4)**	19.7 (33.5)	17.7 (30.1)	**22.3 (37.8)**	18.9 (32.0)	17.8 (30.2)
insurance collection (weight)	**35.2 (44.1)**	25.4 (31.8)	19.2 (24.1)	**37.5 (47.1)**	24.6 (30.8)	17.7 (22.1)	**38.4 (49.4)**	25.3 (32.5)	14.1 (18.1)

Source; Financial Supervisory Service (2018)

Pay structure for insurance planners

Insurance planner and insurance company are contractually appointed, and insurance company receives benefits according to the performance of insurance product sold by insurance planner

According to an article by Chosun Biz, half of the planners at the local insurance company had a monthly income of less than 2 million won (Jin Kwang-sung, 2018)

Health Insurance Consultation for Insurance Architects

Insurance planners' incentives to engage in the insurance industry are divided into livelihood-oriented, business-oriented and participatory(Jeong Jung-young · Ahn Cheol-kyung, 2009)

'Survival insurance planner' based on economic motivation (livelihood-oriented) 53.3~69.5% of cases are the highest (An Cheol-kyung, Hwang Jin-tae, Seo Sung-min, 2011)

Consultation of insurance planners in relation to national health insurance and personal health insurance

Health Insurance Consultation for Insurance Architects

Prior to working for an insurance designer who selected an insurance planner, the number of households or no jobs (27.1 percent) was the highest (An Cheol-gyeong, Cheonggye, Hwangjin, Seo Seong-min, 2011)

In particular, most female designers don't have previous work experience (labor, household) or engage in simple sales regardless of the financial industry

Cause of incomplete sales by insurance planner

Insurance products vary depending on the type of insurance they subscribe to and when they are subscribed
Subscribing to an insurance policy will result in an insurance policy with insurance-related terms that are not accessible to the public.
In this case, the insurance consumer will understand the insurance policy and receive important information
according to the insurance designer's ability.
In contrast, if the policyholder has no understanding of the terms and conditions of the insurance product sold by the insurance planner, he or she will have to rely on the information
of the insurance planner (Lee Ho-seung 2014).

Need for Enhancing the Capabilities of Insurance planner

Kim Jeong-ju (2015) studied the ability of insurance planners to effectively perform their duties in a capacity model development study by insurance planners, i.e., professionalism and analytical skills.

First, highlight your professional skills
'Property' to have a product's product history and knowledge of various financial and sales regulations;
The Expertise Capabilities Group includes the ability of the goods to understand, to provide regulatory knowledge,
and to provide financial information.

The Need for Enhancing the Capabilities of Insurance planner

Second, emphasize analytical skills

Means the preparation of the call, financial design and the ability to provide services based on the customer's propensity

Includes four capabilities: design capability, description, customer orientation, and readiness

Need to strengthen the expertise of insurance planners

1. Product history; shifting product education focused on selling point to education focused on interpreting terms and conditions; and also focusing on social insurance, etc.

2.Regulatory knowledge; training on insurance business laws, etc., which are not currently implemented by an insurance company or by an educational institution.

3. Financial financial knowledge; need to further develop basic knowledge of finance and economy from insurance-oriented knowledge;

Suggestions for Balancing National and Personal Health Insurance

- **Need to strengthen the analysis capability of insurance planners**

1. Design ability; need to acquire a qualified financial certificate that includes all aspects of financial consulting ability, social insurance, etc.

2. Descriptive power; RP training and script memorization to upgrade the explanatory power.

3. Customer-oriented; need to strengthen ethical training for insurance recruiters

4. Readiness; Need to increase the role of Sales Manager to train and manage insurance planners

A Suggestion for the Vitalization of Takaful Insurance in Indonesia

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Abstract

Stock company model and mutual company model have been conventional ways of delivering insurance. Both types of insurance companies have common features and differences. Due to its nature, mutual insurance company sell participating policies more than stock company. Participating policy use more conservative assumption for determining the premium but has dividend for policyholder.

Indonesia has large muslims population, about 87% of the population choose Islam as their religion. Muslims claim that conventional insurance concept is unlawful based on Islamic law (*shari'ah*) since it contains *riba* (interest), *gharar* (uncertainty), and *maysir* (gambling). Takaful, Islamic insurance, has been developed as an alternative for muslims. It is based on the philosophy of cooperativeness and mutuality. It is quite challenging for takaful to expand its business since it has some issues to overcome. Takaful and participating policies have similar concept. However, both of Takaful and participating policies have small market shares in Indonesian insurance market. This paper aims to suggest a modification of current participating policy for the actual expansion of the concept of Takaful in Indonesia. In this paper, the authors will compare following four types of policies based on simulation study: non-participating whole life policy, participating whole life policy, whole life Takaful, and modified participating whole life policy. Indonesian data will be used for the analysis.

Keywords: Takaful insurance (Islamic life insurance), Participating policy, Modified participating policy, *tabarru*, *ibaha.*

Introduction

Insurance contract has been being purchased for the financial protection from unexpected future losses. Stock company model and mutual company model have been conventional ways of delivering insurance. Mutual model has a cooperative concept. Policyholders share their risks among themselves unlike the stock company model. Policyholders of stock company transfer their risks to the insurer. In mutual company policyholders own the profits and losses, meanwhile the profit and losses belong to shareholders in stock company. Therefore, there exists implicit conflict of interest between policyholders and shareholders in the stock company. Although mutual insurance company has advantages, it also has disadvantages. One of the difficulties is raising sufficient capital. It is hard for start-up mutual insurance company to meet capital requirements. Due to its nature mutual companies sell participating policies more than stock companies. Participating policy or par product is a type of insurance contract that pays dividends to the policyholders. The dividends are determined by share of surplus earnings. In Indonesia, par products are typically sold as medium to long-term endowment policy and whole life policy.

Among Muslims conventional insurance concept has become a controversial issue. They claim that conventional insurance is unlawful from the viewpoint of Islam since it contains *riba* (interest), *gharar* (uncertainty), and *maysir* (gambling) components. Takaful, Islamic insurance, has been developed as an alternative for muslims. Takaful is a modern form of mutual financial protection under Islamic law and has similar concept with par product. Indonesia has large Muslim population, about 87% of the population choose Islam as their religion. According to an analysis of Milliman Family Takaful Insurance, Islamic life insurance, only has 4% portion in terms of gross written contributions in 2015. Although it is still far less than conventional insurance, it is steadily growing from 3.6% in 2011 to 5% in 2015 (General and Family Takaful). It is quite challenging for Takaful to expand its business since it has some issues to overcome. Takaful company has to provide qard (interest-free loan) in case of deficit. As a consequence, many Takaful companies are burning up capital. Moreover there is little hope for imminent recovery. Challenges in distribution arise due to large geographical spread of Indonesian insurance market and there are still few Takaful companies in Indonesia. Lower return of Takaful gives Takaful companies more challenges in expanding their business. In Indonesia conventional insurance company is allowed to open shari'ah unit, called Takaful window. But the problem is, there are requirements not easy to be satisfied for Takaful window. Moreover, according to the regulation made by Financial Services Authority (OJK; Indonesian regulator), conventional insurance company which has Takaful window needs to spin-off their Takaful window by year 2024. If conventional insurance companies want to do it, they need to meet separation condition immediately. Another challenge for Takaful to expand its business is some muslims think that *tabarru'* (treating premium as a donation) concept, which is used in current Takaful scheme, still not acceptable since it is unlawful for the donor to expect a return from the donated property. Although there are difficulties for Takaful to expand its business, Takaful is fundamentally good for the people since it has characteristics of transparency and risk-sharing. More importantly it is compliant with *shari'ah*.

Participating policies or par products have been sold by multinational and domestic insurance companies with varying degrees of popularity in Indonesia. In general, par product typically form much smaller part of insurance company's overall portfolio. Though both of Takaful and par product have smaller portion in Indonesia insurance market, they share similar good concept. One of the relative advantages of par product compared to Takaful is the fact that these products are sold by conventional insurance companies which have large portion in Indonesia insurance market, which are more financially stable, and which are better known by consumers since they dominate the market. But currently sold par product is not *shari'ah* compliant. The intention of the authors of this paper is to contribute to the practical expansion of sales of insurance policy compliant with Takaful concept by proposing a modified participating policy.

Methodology

This study employed quantitative analysis using the data from Indonesia insurance market and statistics from the population of Indonesia. Projections of future Indonesian mortality rates will be made by estimated Lee-Carter model. Lee-Carter model stated as follows

$$\ln\left(m_{x,t}\right) = a_x + b_x k_t + \epsilon_{x,t}$$

where $m_{x,t}$ denotes central death rate at the age x and year t, a_x denotes average value of the logarithm of the central death rate for age x, b_x denotes the sensitivity of the log of mortality at age x to changes the mortality index k_t, k_t denotes an index of the level of mortality; how fast mortality improvement over time, $\epsilon_{x,t}$ reflects particular age-specific historical influences not captured by the model. The model is constrained by $\sum_x b_x = 1$ and $\sum_t k_t = 0$. The estimator for a_x is

$$\hat{a}_x = \frac{1}{T}\sum_{t=1}^{T} \ln(m_{x,t})$$

For the estimation of b_x and k_t, Singular Value Decomposition (SVD) is used for the first stage estimation. Having developed and fitted the demographic model, forecasting of mortality index will be made using an appropriate ARIMA model.

Indonesian government bond yield rate and sukuk yield rate will be used in this study. Non-participating and participating policy will use government bond, takaful and modified participating policy will use sukuk as risk-free rate. These data will be fitted using Black-Karasinski model and 10,000 scenarios will be generated using resulted model. For government bond, Black-Karasinski model with estimated parameter is

$$\ln(r_{t+1}) = \ln(r_t) + 0.08509324(2.001181 - \ln(r_t)) + 0.04851858\epsilon_{t+1} \quad (1)$$

and for sukuk, Black-Karasinski model with estimated parameter is

$$\ln(r_{t+1}) = \ln(r_t) + 0.08509324(2.001181 - \ln(r_t)) + 0.04851858\epsilon_{t+1} \quad (2)$$

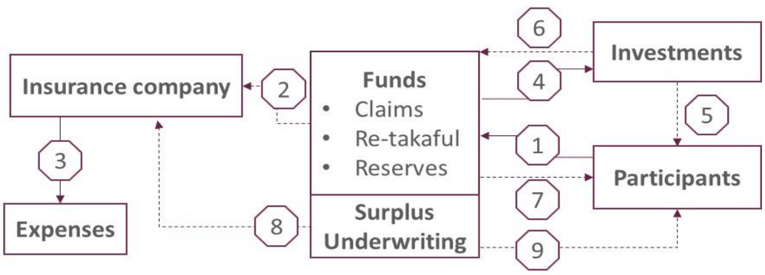
where $\epsilon_t \sim N(0,1)$, r_t denotes local interest rate.

The result from generating 10,000 scenarios of mortality rate and yield rate will be used for cash flow simulation for whole life non-participating policy, whole life participating policy, whole life takaful, and whole life modified participating policy.

Proposed New Scheme

Instead of using *tabarru* concept, *ibaha* concept will be used in this study. *Ibaha* cannot be regarded as donation, it does not transfer the ownership. With *ibaha*, one puts at the disposal of others something consumable and allows them to consume it; however, it still belongs to the owner so the leftover, if any, belongs to the owner [2]. Surplus underwriting is treated as reversionary bonus. It will be declared at the end of every year during the term of insurance contract and guaranteed to be paid at claim is made. The scenario of this proposed new scheme, called modified participating policy, can be illustrated through the following figure,

<Modified Participating Policy Scheme>



where

1. Policyholder pays the premium
2. Insurance company gets the fixed fee
3. Expenses are borne by insurance company
4. Money in the fund is invested in lawful investment
5. 90% of profit from investment to the policyholder as reversionary bonus
6. 10% of profit from investment to the fund
7. Claims are paid to the policyholder
8. 20% of surplus underwriting to the insurance company
9. 40% of surplus underwriting to the policyholder as reversionary bonus

The key point of takaful is the transparency, profit (loss) sharing, and the fairness between policyholder and insurance company. For the participating policy, insurance company assume lower interest rate so the interest risk is reduced. Although premium charged will be higher than non-participating policy, if there is any profit from investment the policyholder has the right of receiving the dividend. This modified participating policy adopt both concept. Thus it has transparency, profit (loss) sharing, fairness, and also dividend for policyholder.

Result and Discussion

For the simulation study, 10,000 cash flows for four types of policies was built by using the result of generating yield rates and mortality rates. Four types of policies are whole life non-participating policy, whole life participating policy, whole life takaful, and whole life modified participating policy. Assume that 100,000 people aged 40 buy whole life insurance contract with sum assured (SA) of Rp.100,000,000. Cash flows for each type of policies was built and comparison of the benefit and the risk from the viewpoint of insurance company and policyholder was made. The assumption for each type of policies are listed in the assumption table.

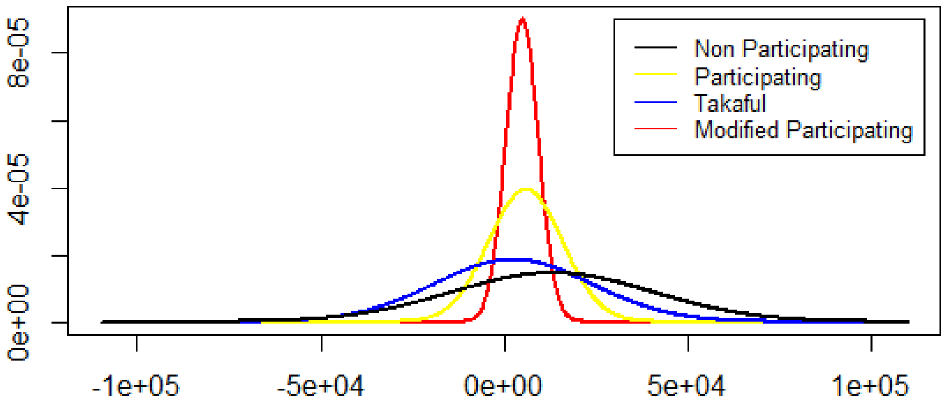
For participating policy, 90% of the profit from investment will be given to policyholder as dividend or reversionary bonus. In takaful, surplus underwriting will be shared in the proportion of 40% for policyholder, 40% for insurance company, and 20% remains in the fund. For modified participating policy, policyholder will receive 40% of surplus underwriting and 90% of profit from investment, insurance company will receive 40% of surplus underwriting. The rest will remain in the fund.

<Assumption Table>

	Non-Participating	Participating	Takaful	Modified Participating
Interest rate	7.725%	6.85%	7.725%	6.85%
Mortality Factor	100%	101%	100%	101%
Initial Expense	0.5% SA	0.5% SA	0.5% SA	0.5% SA
Renewal Expense (Including 1st year)	• 5% Prem • 0.1% SA	• 5% Prem • 0.1% SA	• 5% Prem • 0.1% SA	• 5% Prem • 0.1% SA
Premium	Rp. 1,028,598	Rp. 1,135,948	Rp. 1,028,598	Rp. 1,135,948

Net present value (NPV) of profit for insurance company is fitted to Normal distribution and shown in the figure below and the statistics for NPV profit for insurance company are listed in the table below. The distribution of NPV profit insurance company for modified participating policy is less spread out and has lower standard deviation than other policies. That means, modified participating policy is the least risky and beneficial for insurance company.

<Distribution of NPV Profit for Insurance Company (in million rupiah)>



<Statistics of NPV Profit for Insurance Company (in million rupiah)>

	Non Participating	Participating	Takaful	Modified Participating
Pr(Loss)	31.82%	26.90%	43.94%	13.34%
VaR at level 99.5% for Loss	57,743.95	20,153.25	53,247.78	6,427.60
E(NPV)	13,037.28	5,870.39	2,304.13	4,965.96
Std Dev (NPV)	27,481.75	10,104.02	21,568.77	4,423.70
Min	(79,634.04)	(35,333.28)	(96,829.97)	(19,247.21)
Median	13,438.96	6,441.10	3,351.12	5,108.77
Max	100,293.20	36,201.21	71,869.91	21,050.04
Range	179,927.24	71,534.49	168,699.88	40,297.25

The probability of experiencing loss for modified participating policy is the smallest. Thus, insurance company tends to get the profit by selling modified participating policy. Based on the value at risk at level 99.5% shown in the table, modified participating policy is the smallest. That means modified participating policy has the least required capital.

According to Solvency II, in a simply way, solvency ratio equals to own fund divided by solvency capital requirement. Assume that insurance company set solvency ratio to 150% and cost of capital (CoC) for 10%. The own fund insurance company should held and the cost of capital are shown in the table,

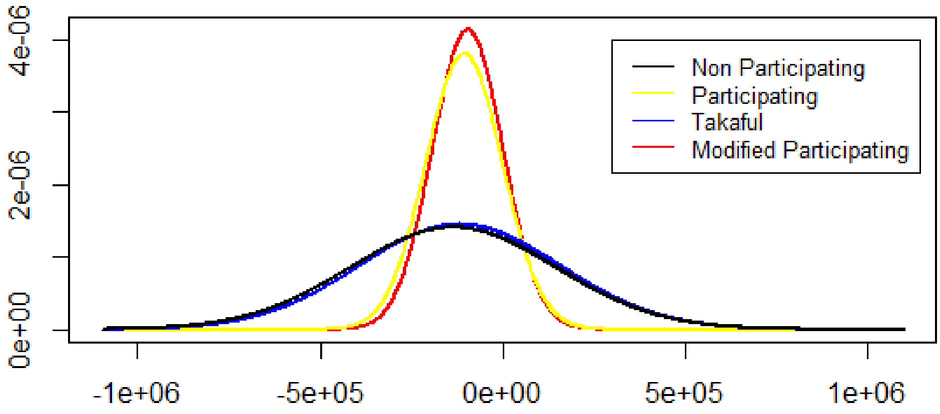
<Own Fund and Cost of Capital (in million rupiah)>

	Non Participating	Participating	Takaful	Modified Participating
Own Fund	86,615.93	30,229.88	79,871.67	9,641.40
CoC	8,661.59	3,022.99	7,987.17	964.14

Cost of capital for modified participating policy is very small compared to other policies. Consequently, insurance company can save the deviation and utilize it for expanding their business or giving additional benefit for policyholders.

From the view point of policyholders, NPV of the profit received by policyholders is shown on the figure and statistics based on the distribution of NPV of profit for policyholder is shown in the table below.

<NPV Profit for Policyholder>



<Statistics of NPV Profit for Policyholder>

	Non Participating	Participating	Takaful	Modified Participating
E(NPV)	(135,688.47)	(104,515.70)	(118,334.73)	(94,524.03)
Std Dev (NPV)	283,451.46	104,909.29	275,139.64	96,530.04
Min	(1,033,353.49)	(416,419.58)	(1,065,268.84)	(447,268.21)
Median	(141,245.90)	(111,580.00)	(122,567.00)	(99,976.03)
Max	820,332.62	320,969.72	978,556.64	355,784.21
Range	1,853,686.11	737,389.30	2,043,825.48	803,052.42

The expected net present value profit for policyholder of modified participating might be smaller than non-participating policy and takaful, but it has smaller standard deviation. That means modified participating policy is the least risky for policyholder. Policyholder can maximize the risk transferring to the pooled fund. Thus, policyholder who buy modified participating policy can reduce their risk more than policyholder who buy other policies. Since the insurance company which sells modified participating policy can save their cost of capital, the saved cost of capital can be given to policyholder as additional benefit. Assumed that 40% of saved cost of capital will be regarded as additional bonus if policyholder survive at age 60. NPV profit for policyholder will increase and the distribution of NPV profit for policyholder will be shifted to the right.

<Statistics of NPV Profit for Policyholder after Receiving Additional Bonus>

	Non Participating	Participating	Takaful	Modified Participating
E(NPV)	(135,688.47)	(104,515.70)	(118,334.73)	(63,734.22)
Std Dev (NPV)	283,451.46	104,909.29	275,139.64	96,530.04
Min	(1,033,353.49)	(416,419.58)	(1,065,268.84)	(416,478.40)
Median	(141,245.90)	(111,580.00)	(122,567.00)	(69,186.22)
Max	820,332.62	320,969.72	978,556.64	386,574.02
Range	1,853,686.11	737,389.30	2,043,825.48	803,052.42

As a result of receiving additional benefit, the distribution of NPV of profit for policyholder is shifted to the right. Thus, it is very beneficial for policyholder since the risk of experiencing loss will decrease and it is the least risky for policyholder since it has smaller standard deviation.

Conclusion

Modified participating policy is a modification of participating policy using Takaful concept. Instead of using *tabarru* concept, *ibaha* concept will be used for this modified participating policy. It is a modification of participating policy to realize spirit of takaful and Islamic law. Modified participating policy follows Islamic rule about fairness, transparency, profit sharing concept, and lawful investment. Modified participating policy with other insurance policy was compared to be able to see its advantages. Whole life non-participating policy, whole life participating policy, and takaful are used as comparison. Starting with fitting Indonesian mortality rate with Lee-Carter model and fitting Indonesia government bond and sukuk yield rate with Black-Karasinski model, then generated 10,000 scenarios of future cash flow using the result of forecasting mortality rate and yield rate.

From the generated cash flow, benefit and risk for insurance company and policyholder from each policies was compared. Based on net present value profit for both insurance company and policyholder, modified participating policy gives the best result since the probability of loss and standard deviation of the net present value is smaller than other policies. Modified participating policy is the least risky for both insurance company and policyholder based on its small standard deviation. This advantage is very crucial for doing business. Another advantages of modified participating policy is the need of capital which smaller than other policy. By selling modified participating policy, it is expected that takaful company can expand its business since one of their difficulties is raising sufficient capital.

Indonesia has the largest muslims population in the world. Muslim people prefer to keep Islamic law in insurance area. It has very big market share but unfortunately Islamic insurance market in Indonesia form much smaller part of insurance industry. Modified participating policy is sharia compliant and mutually beneficial for both insurance company and policyholder. We expect suggestion of modified participating policy may contribute to the expansion of takaful market in Indonesia ultimately.

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Awareness of consumer protection in the moneylending system in Klang Valley, Malaysia.

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ABSTRACT

This study was undertaken with the primary objective of understanding the consumers' awareness on their rights in the licensed moneylending industry in Klang Valley, Malaysia. The Moneylenders Act 1951 in Malaysia directly provides two rights to the consumers which is the right to information and right to receive a copy of the moneylending agreement. However, there is a gap on whether these consumers who borrow money from licensed moneylenders obtain these basic rights. This ongoing research focusses on the perspective of consumers who have experience borrowing money from licensed moneylenders in Klang Valley, Malaysia. Observation and interview were the main primary data collection method supported by NVivo 12 software as the data management tool. The Moneylenders Act 1951 is the law that regulates the formal moneylending industry, which was the main secondary source. Six areas on consumer rights from The United Nations Guidelines were adapted for this study, consisting of right to consumer education, right to be informed, right to choose, right to safety, right to satisfaction of basic needs and right to complain. Through phenomenology inquiry themes relating to the chosen rights were generated. Preliminary findings indicate consumers have a low level of engagements in most of the six rights, raising concern on the protection afforded by the moneylending system.

Keywords: consumer protection, consumer rights, moneylending, Moneylenders Act 1951.

I. Introduction

On 15th March 1962, the former United States President John F. Kennedy in his Congressional speech aptly concluded, "They (consumers) are the largest economic group, affecting and affected by almost every public and private economic decision. Yet they are the only important group... whose views are often not heard." Fifty-seven years later, today this statement is still valid, where consumers are embroiled with weaker bargaining power and inequal position with traders as evident with increasing consumer complaints in the general media.

Licensed moneylending in Malaysia have originated since 1951 and is still actively thriving until today. In terms of awareness of protection among consumers that borrow funds from this industry very little is known, thus opening new insight into this unexplored section of industry. Several moneylenders were discovered not to be fully assisting the borrowers in ensuring that their rights are being materialised by charging exorbitant interest rates (The Malaysian Times, 2015). Poor awareness on licensed moneylending is partly due to lack of educational programs among the general Malaysian public (Adelene, 2013). Some borrowers perceived that moneylenders run their business operations same as banks (Adelene, 2016). This misconception may deprive borrowers from exercising their rights in choosing the most suitable financing option.

II. Literature Review

a) Consumer rights in alternative financial services

Very little has been mentioned in literatures on consumers' rights in the alternative financial services such as licensed moneylending. Learnings from present literatures that can be adapted were sourced. One notable statement by Stace (2010) is that "Consumers must stop accepting second best". It is a reminder that consumer dealing with any type of services including borrowing money from licensed moneylender, should demand for the execution of his or her fundamental rights as per Moneylenders Act 1951 from the moneylenders as well as the governing body. An interesting study by Henry (2010) within the context of credit card setting centred on how consumers think were shaped by "individual autonomy, social equality, consumer sovereignty and corporate dominance". Consumers' moral judgements on their rights and responsibilities were affected by these four areas. In addition, it is a basic human right not to be imposed to undertake a service out of fear.

b) Understanding consumer awareness

What constitutes awareness depends on many factors such as the context which is being studied. In arriving at a purchase decision, consumers go through three shopping process stages, namely awareness, consideration and choice (Winer & Dhar, 2011). Consumer awareness is enhanced through advertising as consumers learn new information which encourages them to reconsider in their next purchase decision (Honka, Hortaçsu & Vitorino, 2017). Past studies originating from banking sector places awareness as a function of advertisement, business presence and demographic factors. Honka et al. (2017) found that consumers usually search for a bank that he is already aware of, as sourcing for new information is time consuming and costly. Within the study context, it means the moneylenders' advertisements should not be misleading, easily understood and fair so that borrowers are aware of their potential commitments (Muhammad Arif, 2008).

c) Consumer awareness in the context of Moneylenders Act 1951

The main purpose of having Moneylenders Act 1951 with its revisions in 2003 and 2011 was to ensure people who borrow money from moneylenders that are governed by the law are protected (Muhammad Arif, 2009). Prior to critiquing the implementation of consumer rights within regulated moneylending, it is vital to understand the scope of consumer protection within the Act. The consumer as a borrower must be aware of their rights and the role of moneylender in ensuring that these rights are executed during the process of lending money. Consumer awareness can come from many sources including formal and informal sources. Formal sources may include from the regulator who is Ministry of Housing and Local

Government’s initiatives such as electronic as well as traditional advertising media informing borrowers of their rights. Informal sources like sharing of information among friends, colleagues and family members who have experience borrowing money from licensed moneylenders. Consumers who deal with moneylenders are not protected under Malaysian Central Bank purview or under the Financial Services Act 2013 (Ilias & Amin, 2015). How much this information is available to the general public is not known and many people have the misconception that licensing of moneylenders are via Malaysian Central bank.

d) The purpose of consumer awareness in financial products

A timely question was raised by Hong (2017) on why financial consumers need protection in the wake of technology advancement. Unfortunately, the consumers of one of the oldest financial services which are the moneylenders are excluded in this line of questioning. Consumers who resort to borrowing money from licensed moneylender are usually those who were turned away by the banking and financial sectors. Thus, making these group of consumers prone to accepting whatever terms and conditions imparted by the moneylenders without scrutinising their rights (The Malaysian Times, 2015). This is substandard, when in fact these are the consumers who need to take more effort, supported by the moneylenders and regulator to uphold their entitled rights. To add to their burden, the pressing need of seeking money overshadows whatever rational thinking consumers may have, thus opening to exploitation of their rights.

There are other studies that looks at the position of gender in relation to financial awareness. As an example, Hung, Yoong & Brown (2012) took to the view that in Malaysia, the survey conducted on gender differences in understanding interest rates, women outweighed men in terms of correctly answering interest rates questions. However, financial education programmes were predominantly lacking among the women during the same period of study, thus raising questions what contributed to the women's higher financial awareness. In the present study the emphasis is on borrowers' awareness, thus gender information is solely for demographic profile purpose.

e) Regulator and business influence in shaping consumers financial awareness

Financial regulations have been tightened in many countries, however very little progress was found in consumers' knowledge of financial matters (Sharon, 2016). Credit regulation, which is a subset of financial protection, whose purpose is to enforce lenders to provide information on interest rates and charges to their customers. By doing so, the consumers are protected upfront from unknowingly entering into contract terms that they may disagree (Xiao, 2015). The enabled consumers have more say in their execution of rights. The United Nations Conference on Trade and Development (2013) report, mentioned that the main worldwide concern for consumer protection legislation is the safety and quality of services. Another point made in the same report was that academic research should be considered when consumers protection policies are being developed. A notion suggested by Schmulow (2018) is the idea of "a regulator for the regulator" to curtail misdeeds among those entrusted to ensure consumers protection materialises as intended by the policymakers.

III. Methodology

Due to the nature of the topic, which is under researched, the research methodology most suitable was through Heideggerian phenomenology (Heidegger, 1927). The study phenomena which is consumer experiencing their rights are derived by participants experiences towards the shared meanings of awareness of their rights (Daher, Carré, Jaramillo, Olivares, & Tomicic, 2017). The data in this study are contained within the experience of consumers who have borrowed money from licenced moneylenders, which is in line with what Creswell (2013) mentioned that the data embodies through the participants own first-hand experience.

The participants comprising of borrowers were selected based on purposive sampling on criteria of above the age of 18, Malaysian and having experience of taking a personal loan from licensed moneylender within the Klang Valley. The Klang Valley comprises of Selangor, Federal Territory of Kuala Lumpur and Federal Territory of Putrajaya. The research concentrated on moneylenders' clients in Klang Valley as it is the highest number of practising licensed moneylenders in Peninsula Malaysia based on Ministry of Housing and Local Government, 2018 report. The total population of 8.4 million and 1,205 total number of licensed moneylenders represent a ratio of 1 licensed moneylender for 6,970 people living within the Klang Valley.

Table 1: Population and concentration of licensed moneylenders' statistics in Klang Valley.

Location	**Population estimates***	**Licensed moneylenders****
Selangor	6.5 million	715
Federal Territory of Kuala Lumpur	1.8 million	488
Federal Territory of Putrajaya	0.09 million	2
Total	**8.4 million**	**1,205**

* Department of Statistics Malaysia, 2019
** Ministry of Housing and Local Government Malaysia, 2019

Observation, interviews and document analysis provided the basis for data collections method. Semi-structured interviews involving the informants from borrowers of licensed moneylenders were administered. Interview protocol and observation protocols for each informant were prepared in dual languages of English and Bahasa Malaysia. The informant has a recourse to be interviewed in either of the two languages. The interviews were transcribed in the original interview language and in the case of Malay interview, translation to English was done before open coding in NVivo. The basis of preparing the interview protocols and observation protocols was in line with the three areas of consumer protection which are moneylending information, pre-moneylending transaction and the process of moneylending. The Moneylenders Act 1951 was referred during the interviews to observe on the knowledge each informant has on borrower's protection with reference to the six consumer rights.

Written consent was obtained, each willing participant interviewed, was followed up with a second interview together with members check on the validity of the transcribed contents. To ensure researcher's bracketing from the phenomena, throughout the data collections phase a memo file and reflexivity journal was written upon. The coding procedure adapted for the study is based on Saldana (2015) where the transcripts were read few times to generate first level and second level coding. Emerging patterns such as similarities, differences, frequencies, sequences, correspondences and causation were analysed (Hatch, 2002). Thematic analysis was conducted by interpreting the borrowers' interview transcripts (Morse, 2015). Then, the derived themes were examined and re-examined to increase validity of the study.

IV. Findings and Discussion

The true shared meaning of consumer protection lies in the perspective of those who are directly affected by it, which are the consumers. However, in deciding whether the consumer fully gains the protection they are entitled to lies on those who provide the services, which are the licensed moneylenders.

Overall, the findings were that consumers are not aware that they have rights and that they can do something about it or disallow moneylenders to breach their rights. What was deduced from the interviews were significant problems appeared in the manner consumers themselves perceive their ability to experience their rights as presented in the following themes.

a) Lack of consumer education on moneylending.

It was found early on during data collection phase that borrowers interviewed were ignorant of many aspects of licensed moneylending. Some borrowers were hearing the term Moneylenders Act 1951 for the first time during the interview session. Similarly, the term borrower's rights were unheard of to some of them and that it existed for consumers in Malaysia. Borrowers were not informed that there are two rights under the said Act that is the right to information and right to receive a copy of the moneylending agreement.

b) Inadequate consumer advertisement channels.

Except for the menace of illegal moneylenders or known as "Ah long" on-line advertisements by non-governmental organizations, not much awareness on the licensed moneylending could be found. Borrowers were oblivious that Ministry of Housing and Local Government is the regulator responsible to provide the legitimate information on the proper conduct of licensed moneylending. Pamphlets with information on borrowers' rights were not easily available at the customer service area located at the regulator's sole office in Putrajaya.

c) Option to select the most suitable moneylender is lacking due poor information.

It is observed that borrowers were literally lost on the steps to select a moneylender that is best fit to their requirements. Majority of borrowers think that they have obtain the best choice available to them since the moneylender was recommended by someone they know, like through a close friend. The current channels to source and compare information on licensed moneylenders were inadequate. It was found that information on the regulator's website does not provide clue on how to rank the credibility of a moneylender.

d) Absence of information in the moneylending transaction.

Section 16 of the Moneylenders Act states that a copy of the moneylending agreement to be given to the borrower. Section 17 explains on the prohibition of compounded interest whilst Section 17A reads the interest rates for secured loans at 12% per annum and unsecured loan at 18% per annum. Section 18 covers the moneylender's role in maintaining original copy of the borrower's agreement and accounts in permanent books. This is important for Section 19 to materialise, as it states that in the upon borrower's request, the moneylender has the obligation to supply information on the loan and related documents of the transactions. Information consists of the principal amount, date of the loan, rate per annum, amounts repaid, repayment date, amount of arrears and sums not yet due (First Schedule A, MLA, p.62-63). Consumers don't spend time reading the moneylending contract terms as the process of signing is hurried by the moneylenders. Consumers have no awareness on the legible interest rates, repayment amount and duration information contained in the contract as well as what implications may arise if defaults were to occur.

e) Safety deprivation.

Large part of the borrowers interviewed felt threatened and helpless during the moneylending transactions. The Regulation 15 under Moneylender's Act provides that the moneylending transaction must be conducted at the registered address. Since the moneylending contract is signed closed door in the moneylender's office, the moneylenders seem to control the entire signing procedure with the borrower having to adhere. Moreover, the presence of bodyguards entails fear among the borrowers. This is an example where the regulation has failed in ensuring the protecting of the borrowers. A neutral place such as the attestor's office would have been a better alternative for the moneylending transaction between moneylender and borrower. Each area where the moneylenders are concentrated, nearby attestors may be assigned with the borrower having an equal say as the moneylender in deciding whom to select.

f) Insufficient complaint mechanism.

Alarming to disclose that most of the borrowers were resigned to their fate that no one will help them as they chose to borrow from moneylenders, albeit it is licensed. This situation could have been eliminated if borrowers were made to be aware of their rights under the Moneylenders Act 1951, Section 10B (1), where complaint can be made in oral or writing to an Inspector or police officer. Furthermore, section 10M provides protection to informers and details on information provided. Not known to many, a reward to informer is also granted under Section 29I of the same Act. Nevertheless, by having the provision under the Act alone is insufficient as currently the complaints avenues and mechanisms are limited. Lack of proactive advertising from the regulator has made it almost unknown to many borrowers that there is an official website for them to lodge a complaint against licensed moneylenders. To lodge a complaint by walking in, however only one office in the Federal Territory of Putrajaya is available at present which is cumbersome to borrowers.

V. Conclusions

There is a considerable gap between what is known to the borrower on his rights under the Moneylenders Act 1951 and how to exercise them in the actual process of moneylending transactions. Consumer protection is achieved if the borrowers, licensed moneylenders and regulator each contribute towards it by fully meeting their responsibilities in a consistent manner. If one party fails, then the whole purpose of protecting the consumer is unachievable, thus defeats the main objective of formulating the Moneylenders Act 1951.

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Demonitisation and its Impact on Indian Consumers - Is it a bone or bane for the economy?

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Demonitisation and its Impact on Indian Consumers - Is it a bone or bane for the economy?

Abstract

The Demonitisation notification by the India Government on 8th November 2016 had serious impact on many sections of the population whose major source of the study examines, trade and livelihood dependent on cash. The middle and below poverty line people are the one who were affected by this action. To reduce corruption or black money this is not the only tool, the policies which Government suggests must be for the people's welfare and should not be a disaster. Hence the current paper attempts to reveal the impact of demonetization on consumer and producer who are the main players of the economy. The opinion of common people and bank employees are regarding demonetization is collected with the help of a questioner. Required data are sourced from RBI and Economic survey, for which percentage methods, data visualization technique, and qualitative analysis is used and the policy suggestions are drawn based on the findings.

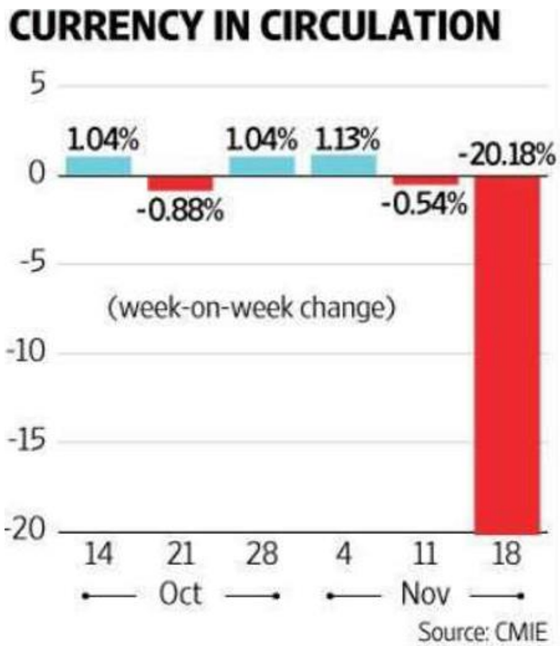
Key words:

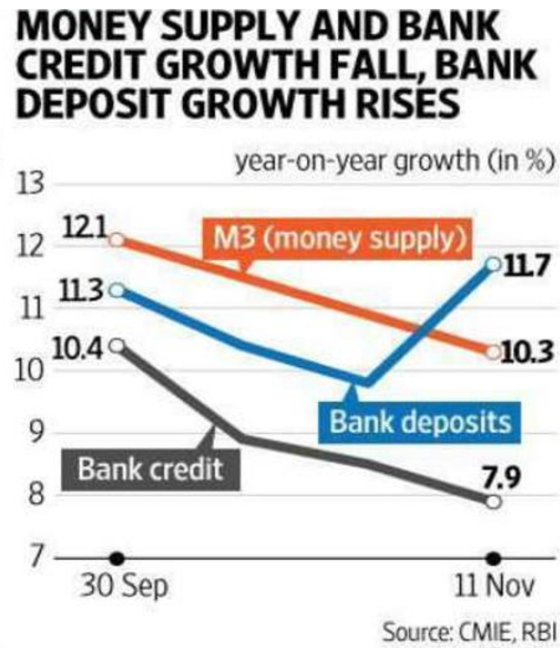
Costumer protection, data visualization technique, Demonitisation, Government policy, India, qualitative analysis.

Introduction:

The Demonitisation decision by the Indian Government on 8th November 2016, declared that its key objectives was to abolish fake currency and to address the problem of "unaccounted money" in the economy. Earlier, Demonitisation was carried out lawfully in 1946 and 1978, with the same goal of addressing unaccounted money, but neither the RBI Act, nor the Banking Regulation Act, 1949, has empowered the government to impose restrictions on cash withdrawals or deposits in the manner it has been done in 2016. one percent of currency held in 1978 Demonitisation and the 2016 Demonitisation was believed that about 86 percent of cash transaction was in circulation with old Rs.500 and Rs.1,000 currency notes, such actions requires an authorizing legislation, either an Act of Parliament (RBI Act), or an Ordinance. According to the present Governor of RBI Shaktikanta Das "this is only a short-term negative impact of Demonitisation on Indian economy and observed that this move will not have any material impact on tackling black money" (Is the Current Demonitisation Legal? Many sections of the population like daily wage earners were brutally affected due to this measure. Prolonged cash shortage and the lengthy queues to exchange their banknotes during the week created a substantial disturbance throughout the economy, where nearly 100 people died due to this demonetization (India's Demonetization Kills 100 People Apparently - This is Not An Important Number, Contibutor,Tim Worstall,www.Forbes.com, Dec 8, 2016).

The impact of Demonitisation during those few weeks of October and November ,regaring money supply, bank deposit and currency in circulation is clearly revealed from the chart below.





Several case studies, paper articles and review have been on this demonetization, studies of Kadalarasane and Sundari (2017), Krishnan and Siegel (2017), RBI (2017b),Agrawal (2018), Ashwani and Geethanjali (2019) ,Himanshu et.al (2018), Crouzetey al., (2019), and Gabriel et al.,(2019) are few selected reviews worked on Demonitization and its impact on Indian Economy

Motivation of the study:

As per the report, the National Council of Applied Economic Research (NCAER) study "unaccounted wealth accumulated outside India is estimated to exist between USD 384 billion and USD 490 billion during the 1980-2010 period". The National Institute of Financial Management (NIFM) suggest that "total illegal outfow at the India's current value (1990-2008) stands at Rs 9,41,837 crore (USD 216.48 billion)". The National Institute of Public Policy and Finance (NIPFP) said that" the Black money stored outside India during 1997-2009, ranges from

0.2 per cent to 7.4 per cent of Gross Domestic Product.(The Hindu, 2011).And the "Government refuses to share details on such cases received from Switzerland, citing confidentiality",(PTI, March 17,2019)

Scope of the study:

The negative impact of demonetization was felt across the all segments of economy, especially agriculture and industry. Kavita Chacko, senior economist with Care ratings agency, says: "Demonetization led to disruptions in economic and industrial activity. The lower domestic GDP growth in the past two years is largely on account of demonetization and GST implementation led turbulence." To reduce corruption or black money this is not the only tool, the policies which Government suggests must be for the people's welfare and should not be a disaster. The middle and below poverty line people are the one who were affected by this policy.

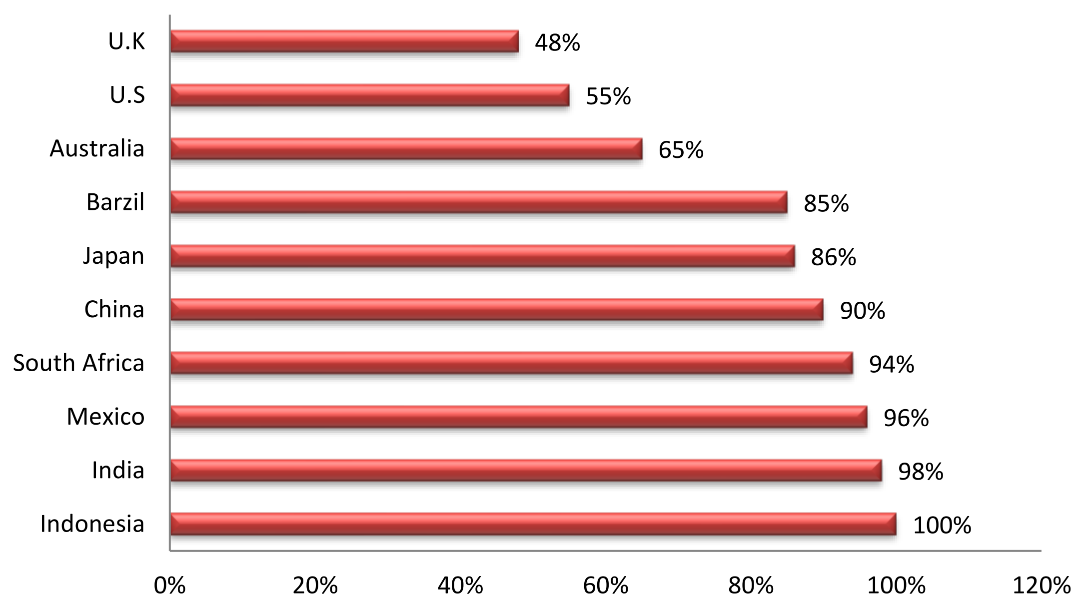
Objective and Methodology:

Based on the above theory it is apparent that the effect of Demonitisation on common people (public) must be accountable. Hence the current paper attempts to measure the impact of demonetization on consumer (public) and producer who are the main players of the economy. Therefore, the following objective is framed: (i) to cross check the reason of Demonitisation (ii) to get the opinion of common people regarding Demonitisation (iii) bank employees view regarding demonetization. Secondary data from RBI and Economic survey is used to provide empirical evidence to verify the first objective and Primary data is used to check the objectives 2 and 3, for which data visualization technique, qualitative analysis and percentage methods is used and based on the above analysis policy suggestions are provided. The flow paper is as follows, section I deals with the introduction, motivation and scope of the study. Section 2 deals with detailed analysis on Demonitisation and the analysis of the objectives 2 and 3 are presented in section 3. Finally the conclusion and policy suggestions are presented in section 4.

Section II

A detailed analysis on Demonitisation, the currency, India's real GDP growth, currency in circulation to GDP growth, bank fraud, ATM transaction, and distribution of national income in India, corruption index, and democracy index of India is presented in this section. The main objective of Demonitisation was to stop illegal circulation of money (corruption or black money). India is known as cash based economy, where 98% of the transaction is done only by cash (Chart 1, the share of cash in volume of consumers from different part of the world).

Chart 1: Share of Currency usage-Major countries (In volumes)

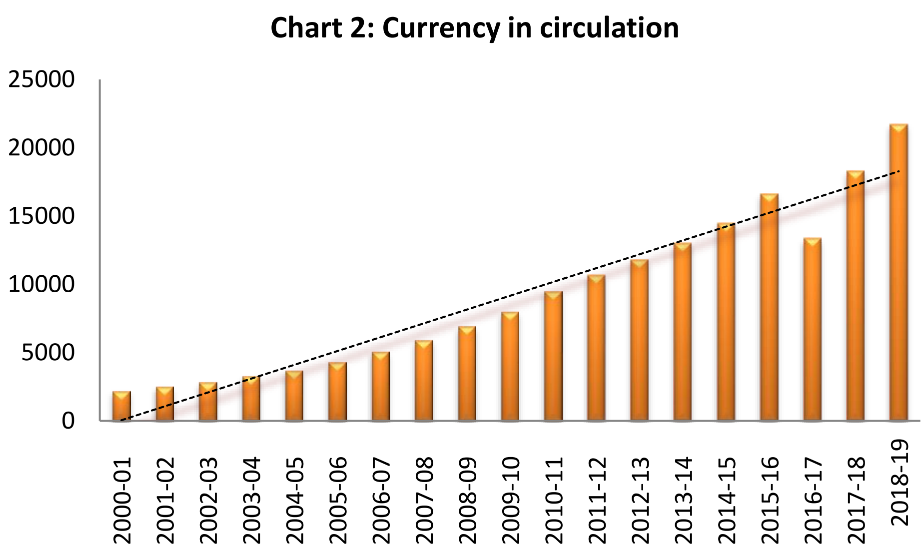


Source: computed from Bloombeg, PWC 2015, U.S.Global Investors'

Table 1 presents the distribution of national income in India, 2014. India is famous for its wealth inequality. According to the World Inequality Report 2018 "India emerged as the second most unequal region in the world after the Middle East" .The surprising fact from table 1 is that the 10 per cent of the rich population in India share 54.20 per cent of the national income of the country. It is also clear from the table that the top 1 percent richest individuals of India captured twice as much growth as the bottom 50 percent individuals. It is also interesting to note Rich people pay just 0.5 per cent extra tax on their wealth which in turn will raise money to increase government spending on heath by 50 per cent.

Table 1: The distribution of national income in India, 2014					
Income group	**number of adults**	**Income threshold**	**Average income**	**Comparison to average income (ratio)**	**Income share**
Full Population	794 306 000	–	6 200	1	100%
bottom 50%	397 153 000	–	1 900	0.3	15.30%
middle 40%	317 722 000	3 100	4 700	0.8	30.50%
top 10%	79 431 000	9 200	33 600	5	54.20%
top 1%	7 943 000	57 600	134 600	22	21.70%
top 0.1%	794 000	202 000	533 700	86	8.60%
top 0.01%	79 400	800 100	2 377 000	384	3.80%
top 0.001%	7 900	3 301 900	11 589 000	1871	1.90%
Source: Chancel & Pikkety (2017).World Inequality Report 2018					

Chart 2 provides the column chart along with the trend line that reveals the growth of currency in circulation since 2000. “Currency in circulation” is a significant measure in that can explain the success of demonetization (black money). The chart clearly reveals that the currency in circulation has undergone a drastic increase since 2000 has dropped in 2016-17 as a result of Demonitisation and then there is an increase in 2018 and 2019. (Two years after demonitisation)

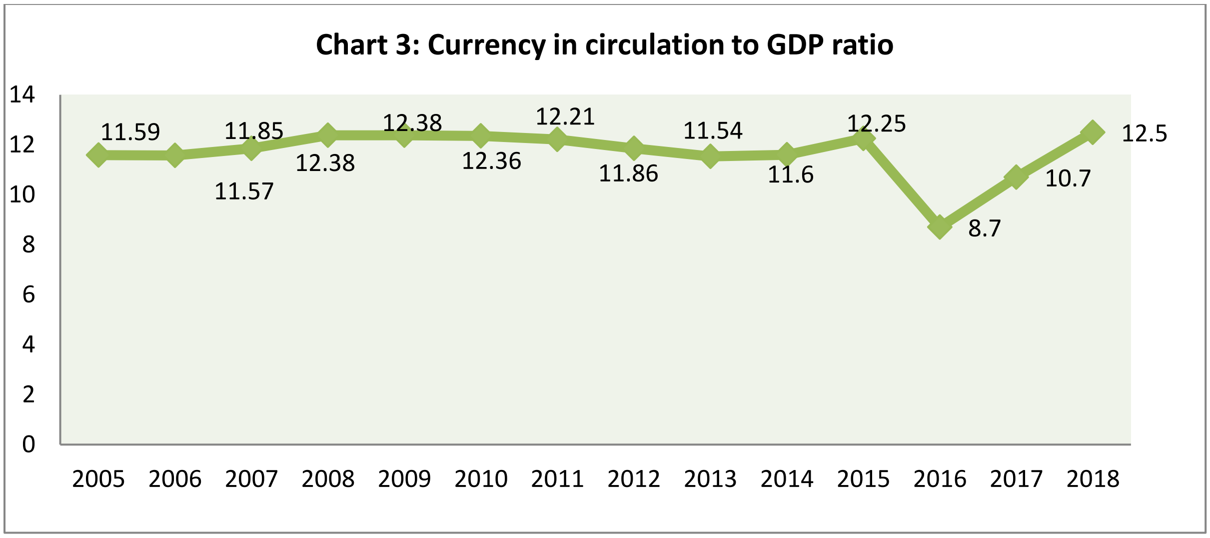


Source: Computed from RBI

As the economy grows, the total amount of currency used in it economy also grows in absolute terms. So the size of the Indian economy is taken into account while calculating the currency in circulation to Gross Domestic Product (GDP[1]) ratio (chart 3). The currency-to-GDP ratio in 2005 was 11.59 percent and it gradually grew and increased till 2015.Then there was a drastic fall to

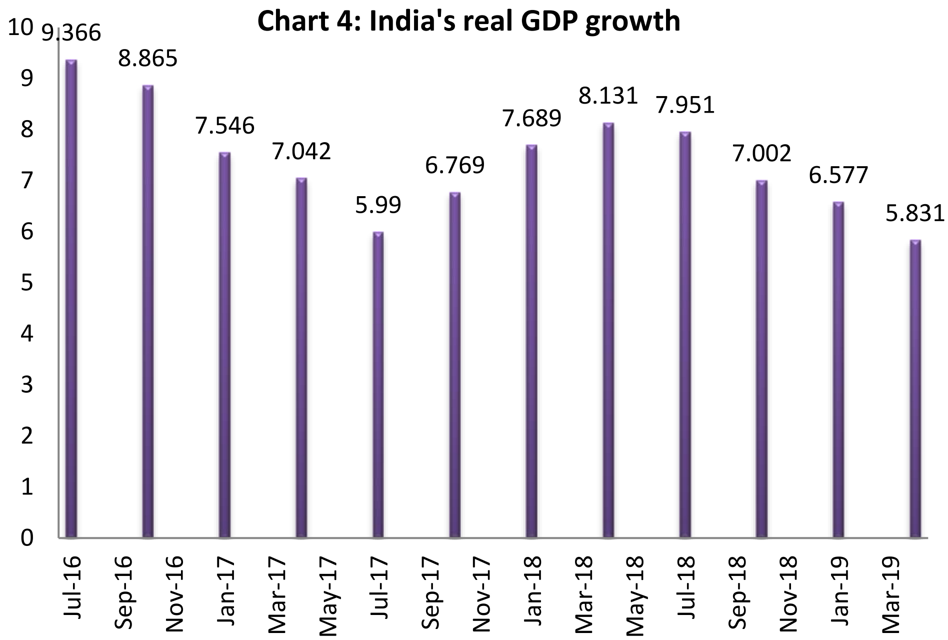
[1]Arvind Subramanian the chief economic advisor (CEA) to the Government of India summarizes his findings on the econometric work on India’s gross domestic product (GDP) growth estimates. His results suggest that,” India’s GDP could have been exaggerated by a magnitude of about 2.5 percentage points every year since 2011, amounting to a cumulative 19-21% during the whole period (2011-18)” .

the extent of 8.7 percent (due to Demonitisation notification)in 2016 and later it increased to 12.5 percent in 2018, which again proves the cash power of the economy.



Source:committee on payments and market infrastructures,bank of international,bloomber.RBI

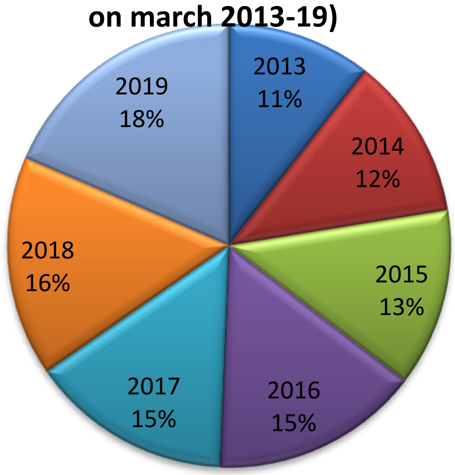
Chart 4 reveals India's real GDP growth since July 2016. It is clear from the quarterly data that the growth of gross domestic product, has declined three quarters after Demonitisation This Midnight notification had a negative effect on the consumers, people were to stand in a long queue to get their hard earned money ATM / banks. It was not only physical torture but psychologically they were affected. Dowry system is exclusive in India it has reported that where during the Demonitisation period people were not able to get money for marriage and other functions at home which psychologically affected most of the people.



Source: computed from CEICDATA.COM

According to a research note by Tata Communications Payment Solutions Ltd (TCPSL) "there is a need for at least 4 lakh ATMs in the next two years, from the present 2.22 lakh", Access to basic financial services including ATMs has become most vital after Prime Minister Narendra Modi added 355 million people to the banking system since taking once in 2014. Chart 5 presents the Cash transactions through ATMs from March 2013 to 2019. It is clear from the chart that, from 11 percent in March 2013, debit card transactions through ATMs and point of sale (PoS) terminals gradually increased to 15 percent in March 2016 and remained the same in March 2017 due to demonetization, later has increased in the next two years after demonetization to a larger extent.

Chart 5 : Debit and credit card transactions at ATMs(As on march 2013-19)



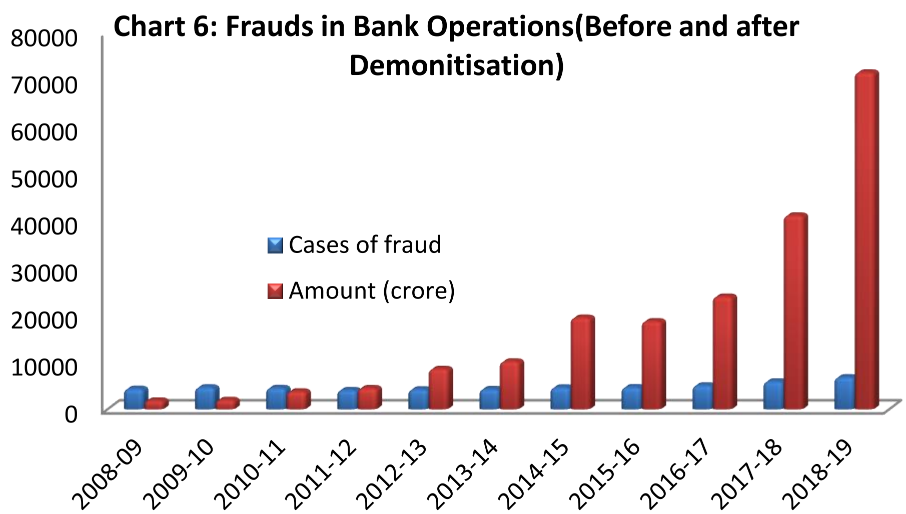
Source: computed from International Monetary Fund

Table 2 presents the Country wise (CorruptionPerception Index: The index, which ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and businesspeople, uses a scale of 0 to 100, where 0 is highly corrupt and 100 is very clean. More than two-thirds of countries score below 50 on this year's CPI, with an average score of just 43:https://www.transparency.org/cpi2018) CPI for 2017 and 2018, in spite of demonetization in 2016, the table reveals that the corruption in India is high. For 17th rank in 2017 it has increased to 22nd rank in 2018.

Table 2: Corruption Perception Index Score(2017-18) and in rank, country wise.

Country	CPI Score 2018	Rank	CPI Score 2017	Rank
Denmark	**88**	1	**88**	2
New Zealand	**87**	2	**89**	1
Finland	**85**	3	**85**	3
Singapore	**85**	3	**84**	6
Sweden	**85**	3	**84**	6
Switzerland	**85**	3	**85**	3
Norway	**84**	7	**85**	3
Japan	**73**	18	**73**	20
France	**72**	21	**70**	23
United States of America	**71**	22	**75**	16
India	**41**	78	**40**	81
Source :www.transparency.org				

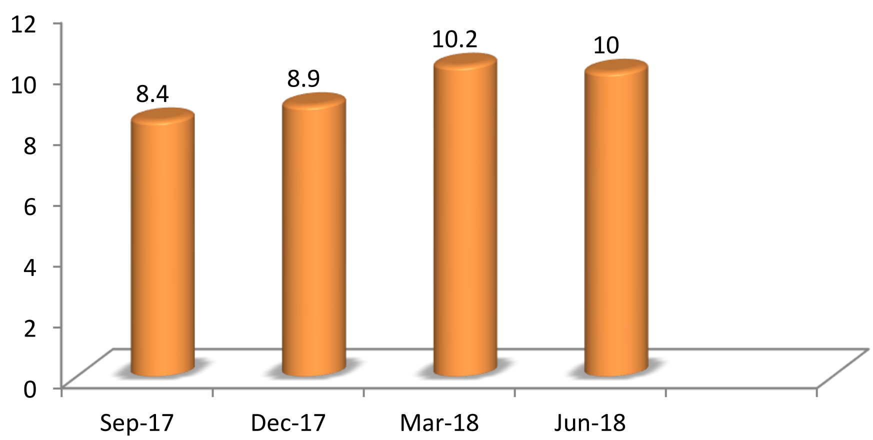
It is reported that during Demonitisation period many bank frauds are reported by individuals in collision with bank employees. The Reserve Bank of India report 2018-19 said that, "Over 6,800 cases of bank fraud involving Rs. 71,500 crore have been reported, 93 per cent of fraud cases worth more than Rs 1 lakh occurred in PSU banks while private banks accounted for six per cent.”.The instances of fraud have been rising over the last four years — by four times from Rs 10,170 crore in 2013-14 (Chart 6). 2017-18, frauds (was due to the over Rs 13,000crorePunjab National Bank (PNB) case)are related to off-balance sheet operations, foreign exchange transactions, deposit accounts and cyber-activities. Banks reported more cyber frauds during the year, losing Rs 109.6 crore in 2,059 cases in 2017-18 as against Rs 42.3 crore with 1,372 cases the previous year, and in 2018-19, Rs 71,500Crore Bank Frauds Reported In 2018-19(RBI report).



Source: computed from RBI

Chart 7 clearly reveals the rising bad loans in public sector banks According to the Indian Express “even as public sector banks lent about 37 per cent of their total credit to the industry sector, the corporate and industry loans accounted for over 73 per cent of the total Non-Performing Assets (NPAs) of the banking sector in 2016-17 and Rs 71,500Crore Bank Frauds Reported in 2018-19”.

Chart 7: Gross NPAs of the Banks Rupees in Lakh crore



Source: Computed from RBI

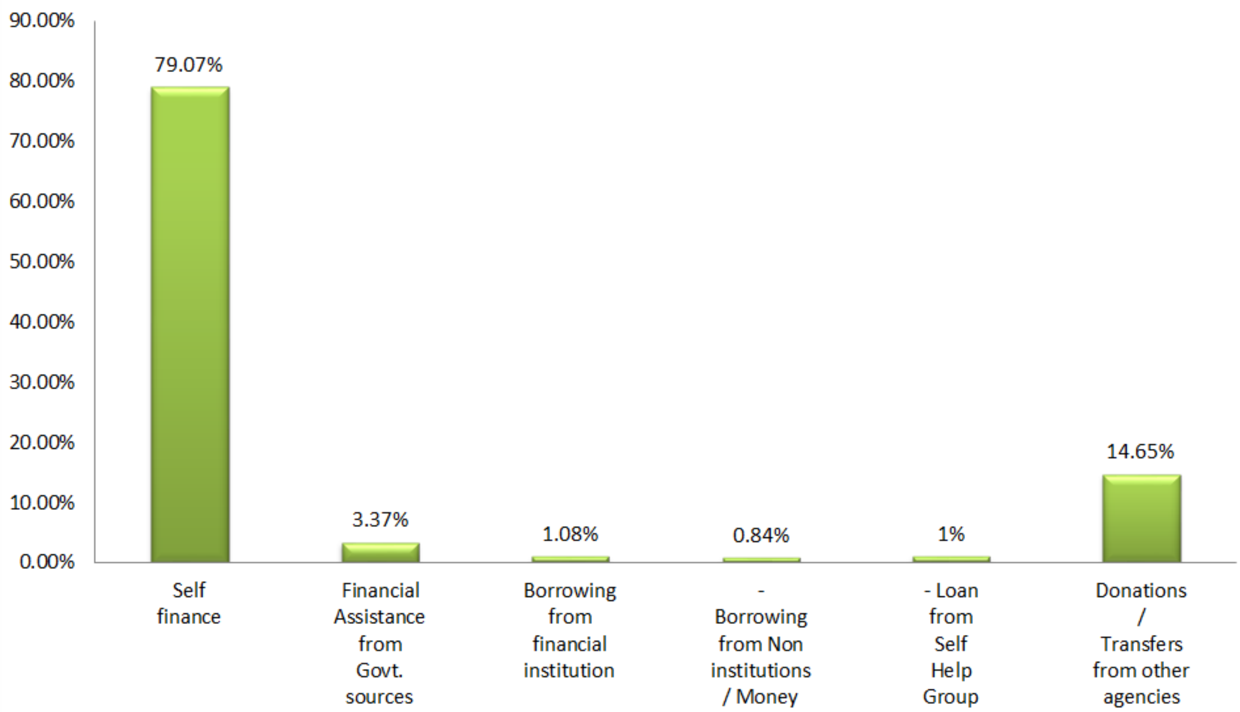
According to many reports & studies it was reported that Demonitisation severely affected industries and business particularly small and medium enterprises leading to job loss. Business Standard reported that " India's unemployment rate jumped to a record 6.1% in 2017-18, where it was at 2.2% in 2011-12, (Jan 31, 2019). From table 3 it is clear that unemployment is high in (2017-18) rural an urban, comparatively urban female are found to have lost the jobs as a result of demonetization.

Table 3: Unemployment rates (in the labour force) according to usual status

Round (Year)	Rural				Urban			
	Male		Female		Male		Female	
	Usual status (ps+ss)	CWS	Usual status (ps+ss)	CWS	Usual status (ps+ss)	CWS	Usual status (ps+ss)	CWS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PLFS (2017-18)	5.8	8.8	3.8	7.7	7.1	8.8	10.8	12.8
68th (2011-12)	1.7	3.3	1.7	3.5	3.0	3.8	5.2	6.7
66th (2009-10)	1.6	3.8	1.8	4.2	3.8	5.2	6.9	9.0
55th (1999-00)	1.7	3.9	1.0	3.7	4.5	5.6	5.7	7.3
50th (1993-94)	1.4	3.1	0.9	2.9	4.1	5.2	6.1	7.9
43rd (1987-88)	1.8	4.2	2.4	4.4	5.2	6.6	6.2	9.2
38th (1983)	1.4	3.7	0.7	4.3	5.1	6.7	4.9	7.5
32nd (1977-78)	1.3	3.6	2.0	4.1	5.4	7.1	12.4	10.9
27th (1971-73)	1.2	3.0	0.5	5.5	4.8	6.0	6.0	9.2
Note: The figures are to be read along with the explanatory note for comparability.								
Source: Annual Report: PLFS,2017-18								

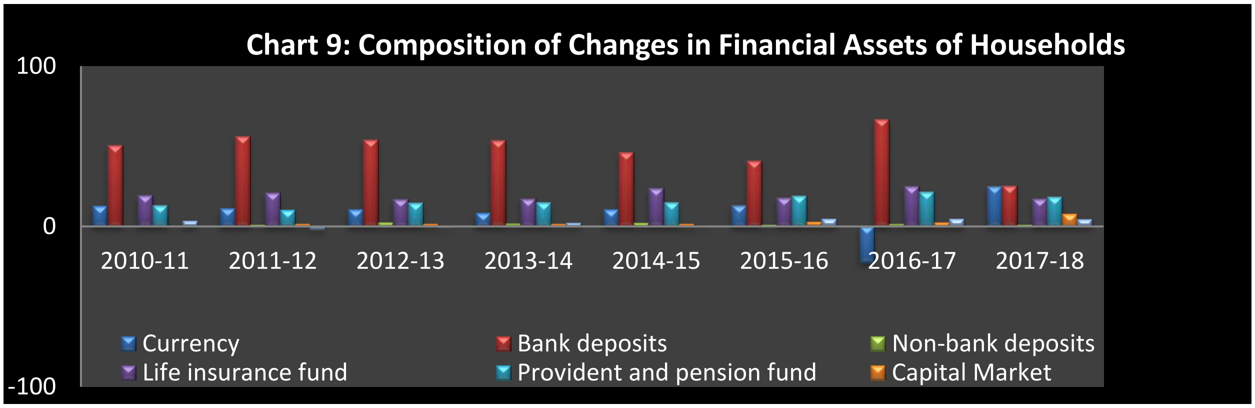
Another important dimension of Demonitisation is with regard to small business and enterprises particularly Women Entrepreneur since most of their activities are cash based .This category of business people and Women Entrepreneur also got affected seriously. Chart 8 reveals the Percentage of Establishments under women entrepreneur by major Source of Finance like, loan, borrowing, self-finance etc. It is clear from the table that almost 79% of the women establishments were self-financed. The second important source which is 14.5 % is from donation or transfer from other agencies. The next important sources were Assistance from Government and Borrowing from financial institutions which is 3.4% and 1.1 % respectively.

Chart 8: Total number of Establishments under women entrepreneur by Major Source of Finance



Source: computed from All India Report on 6th Economic Census, 2016.

Demonitisation has led to a shift in the composition or slowdown in the growth of households' financial assets, the total amount of households' gross financial assets fell. Indian economy is a saving economy and most of the savings is from households. At end-September 2016, this growth was higher, at 17.1% year-on-year. The RBI report says, "Indian households are generally net savers and suppliers of financial resources for the rest of the economy. However, net financial assets of the households turned negative the third quarter of 2016-17, there is currency and drop in the and bank deposit increases in 2016-17 reflecting the transitory effects of Demonitisation (chart 9).



Source: computed from Data Base on Indian Economy, RBI.

India is a democratic country, Democracy implies “Power of common people”. The Democracy Index by countries is provided in table 4. The indicators which are used to calculate the poor of Indian people is very low when compared to other countries. It is termed as Flawed democracy, with a global rank of 41.

Table 4: Democracy Index Asia and Australia 2018

Country	Overall score	Global Rank	Regional rank	I Electoral process and pluralism	II Functioning of government	III Political participation	IV Political culture	V Civil liberties	Regime type
New Zealand	9.26	4	1	10	9.29	8.89	8.13	10	Full democracy
Australia	9.09	9	2	10	8.93	7.78	8.75	10	Full democracy
South Korea	8	21	3	9.17	7.86	7.22	7.5	8.24	Flawed democracy
Japan	7.99	22	4	8.75	8.21	6.67	7.5	8.82	Flawed democracy
Taiwan	7.73	32	5	9.58	8.21	6.11	5.63	9.12	Flawed democracy
India	7.23	41	6	9.17	6.79	7.22	5.63	7.35	Flawed democracy

Source: A report by The Economist Intelligencewww.eiu.com

Section III

Primary data analysis:

Primary analysis was collected with the help of a questioner. Total sample size of 100 respondents werefrom general public and about 25 were questioned regarding demonetization.

The current section deals with the objective 2 and 3 which is based on the information collected from the respondent with the help of a structured questionnaire. Data from 125 (100 are general public and 25 bank official) respondents were collected and analyzed. Enough number of Urban and Rural respondents is included in the sample. Most of the questions were of YES or NO type which is used to measure the response to each statement. The following are the result of the questionnaires which were collected from for common and bankers.

Findings:

(i) General Public (100 Respondents)

- there were about 61.5% of male and 38.5% of female in the sample size
- here age group ranging from 18 to 60, and about 41.7% respondents belong to 28 to 36 age group of the sample size.
- Around 69% of the respondents have done the graduation and post graduation.
- They belong to the income group of 50000 to 5 lakh and above, and about 24% of the respondent belong to age group 1 lakh to 2 lakes income group.
- 60% of the respondents belong to urban population
- 93.8 %of the respondents owe a smart phone
- 98 %of the respondents owe a Debit card
- 82.3 %of the respondents owe a Credit card
- 52% of the public do not support demonitization , 50% feel that this is not a good step to the economyand 49% feel this measure is mainly because of political pressure
- 55% feel that black money will not be reduced due to this.74% feel that the economy is effected by demonitisation
- about 49% of the respondents feel this this demonetisation has affected all the group of people and middle class people and people who are working on daily wages earn the money for their livelihood are the most affected people

- agriculture, manufacture, organised manufacture and services organised and servicesun organisedsector, transport and real estate business was affected due to demonitization
- about 51% of the respondents feel that it is not a good step to the economy it is not a good step to the business and it is not a success till date.

(ii) Perception of bankers regarding demontization (25 respondents)

- there were about 68% of male and 32% of female in the sample size
- here age group ranging from 18 to 60, and about 52% respondents belong to 28 to 36 age group of the sample size.
- Around 88% of the respondents have done the graduation and post graduation.
- They belong to the income group of 50000 to 5 lakh and above, and about 40% of the respondent belong to age group 3 lakh to 5 lakes income group.
- 64% of the respondents belong to urban population
- 24% of the respondents are managers, 20% officers and 44% are clerks
- About 28% of the respondents work in pubic and private organization respectively
- years of experience; about 64% of the respondents have lesson five work experience, and 60% of the respondents have no idea about demonetisation
- inconvenience during demonetisation period :about 40% of the respondents feel that the time was terrible and about 52% of their respondent felt that it was a part of profession and 8% of the respondent did not face any difficulty
- all the repondednts feel that demonetisation did not help the bank employee
- about 88% feel that demonetisation had an impact on the work load.
- 44% of banking sector , 48% of money lenders, 44% online banking , 48% of plastic cards, 52% of new acount holder and 52% of ATM functioning wasaffected due to demonitization.
- 50% of banking job market is shrinked,

- 64% opine that demonetisation will not cut the black money
- About 48% of the bankers are unaware about demonetisation prior to November 8th
- 52% believe that the digital transaction has increased after demonetisation

The above primary analysis reveals that neither public nor the bankers are happy with the Demonitisation and that it can never reduce the corruption. Due to demonetization the bank employees were made to work 24*7 for many days. They were stressed a lot and some of them even suffered serious health problems and death has also caused in one or two cases. Also, the public expressed that abolishing a lower denomination currency and introducing a higher denomination currency is not a correct move to abolish black money. India is an agriculture based economy. Due to the cash crunch, the farmers especially small and marginal who largely depend on cash to buy seeds, fertilizers and to pay for sowing, borrowing water for irrigation and for other related agriculture equipments remained worst affected and could not complete the crop related activity.

Section IV

Conclusion

India was not affected much from the Global recession 2008 due to RBI's regulations and monetary policy, which always helps helping India to overcome these problems. The monetary policy of RBI is best for a developing country like India. In spite of the warning given by the then Governors that this is not a tool for black money, the implementation of this demonetization has caused many distress in the economy because Demonitisation had an adverse effects (like: reduction in Economic growth, increase in corruption and fraud , it caused short term financial and less cash was in circulation) on many sections of the population, daily wage earners, those without bank accounts, those dependent on the informal cash economy for the major source of their trade and livelihood.

Hence the following policy suggestions are provided:

- Indian politicians and bureaucrats must take a decisions to resolve public problems.
- Abolishing a lower denomination currency and introducing a higher denomination currency is not a correct move to abolish black money.
- Corruption can be cut through many ways, by torturing the public this is not the solution, Government must work be for people's welfare.

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Consumer Analysis in FinTech Overseas Remittance

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Contents

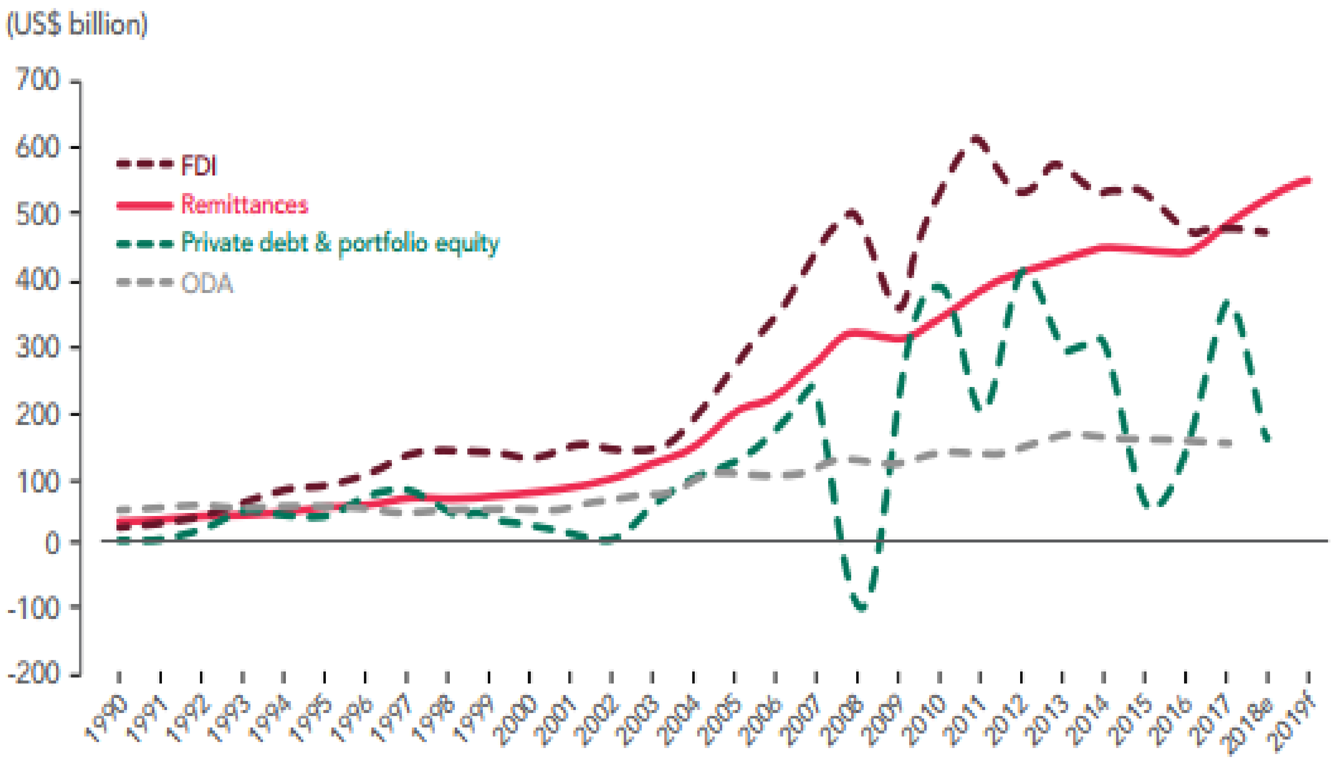
Introduction

- ✓ According to the World Bank, more money goes into developing countries through remittance than with government aid. Despite the international economic recession and tight labor market, the volume of overseas remittances has remained steady at a certain rate. (Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*. The World Bank p.2)

- ✓ In particular, the amount of money sent by migrant workers from developing countries to their home countries is the main determinant of the size of individual overseas remittances

Introduction

<Figure 1> Remittance Flows to Low-and Middle-Income Countries Are Larger than Official Development Assistance and More Stable than Private Capital Flows, 1990-2019



Sources ; Migration and Remittances, World Bank, Dec 2018

Introduction

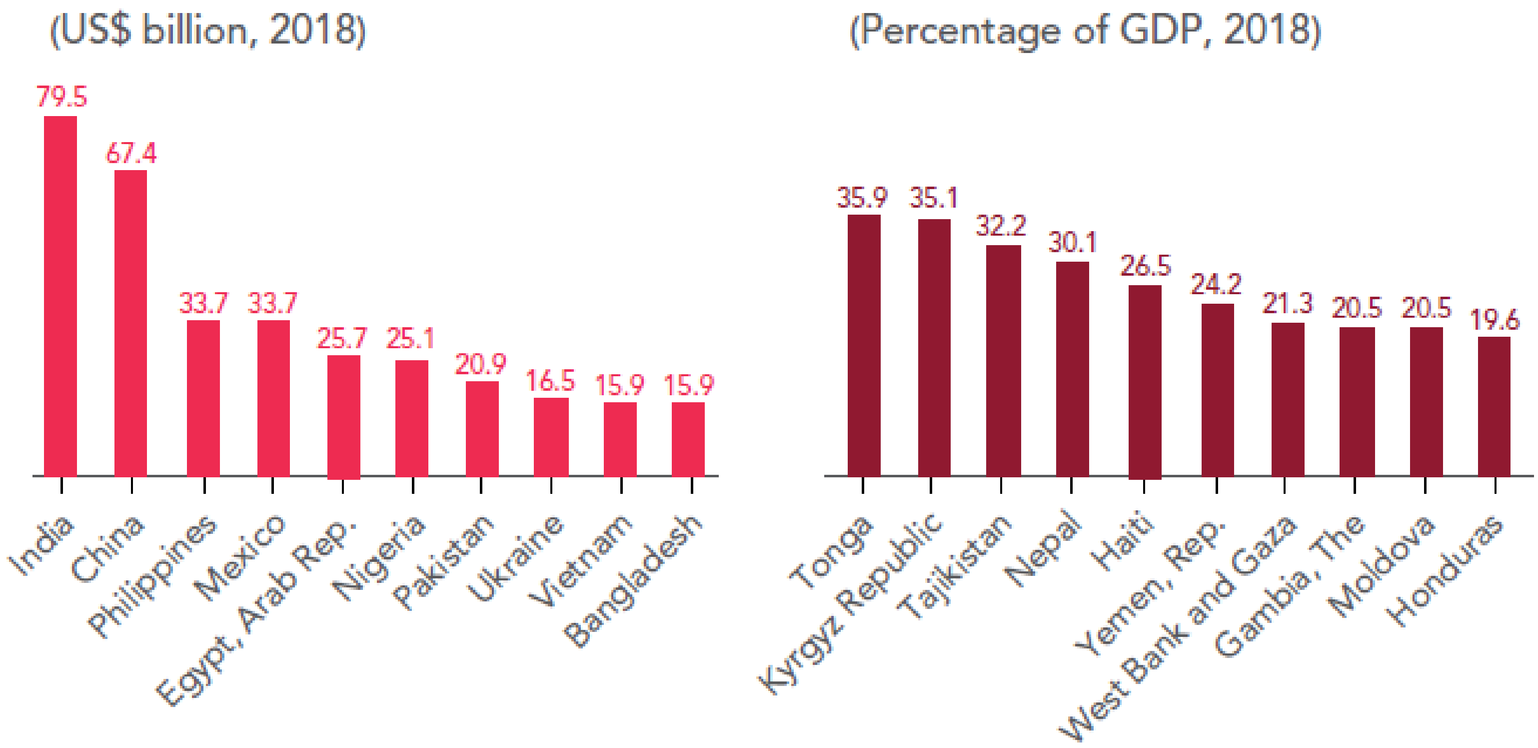
<Table 1> Estimates and Projections of Remittance Flows to Low-and Middle-Income Regions

	2010	2015	2016	2017	2018e	2019f	2020f
	($ billions)						
Low and Middle Income	**343**	**449**	**442**	**477**	**528**	**549**	**573**
East Asia and Pacific	96	127	127	133	142	148	155
Europe and Central Asia	38	43	43	52	63	65	68
Latin America and Caribbean	57	68	74	79	87	90	93
Middle-East and North Africa	39	51	51	54	59	61	63
South Asia	82	118	110	117	132	138	144
Sub-Saharan Africa	32	41	37	41	45	47	50
World	**469**	**592**	**586**	**625**	**689**	**715**	**747**
Memo Item:							
Developing countries (FY 2016 income classification) *	337	441	435	468	518	538	561
(Growth rate, percent)							
Low and Middle Income	**11.4**	**0.2**	**-1.5**	**7.8**	**10.8**	**4.0**	**4.3**
East Asia and Pacific	19.4	3.7	-0.5	5.1	6.6	4.2	4.7
Europe and Central Asia	4.9	-16.6	-0.6	20.9	20.0	4.0	4.6
Latin America and Caribbean	2.6	6.1	7.4	7.9	9.3	3.8	3.9
Middle-East and North Africa	18.2	-5.3	-0.4	6.0	9.1	2.7	3.5
South Asia	9.5	1.5	-6.1	5.7	13.5	4.3	4.1
Sub-Saharan Africa	11.1	5.8	-8.8	10.3	9.8	4.2	5.6
World	**8.5**	**-1.5**	**-1.0**	**6.6**	**10.3**	**3.7**	**4.5**

Sources ; Migration and Remittances, World Bank, Dec 2018

Introduction

<Figure 2> Top Remittance Receivers in 2018



Sources ; Migration and Remittances, World Bank, Dec 2018
Note ; The top recipient counties include several high-income countries such as France and Germany (not shown in the figure), but as a share of GDP, remittance flows to these countries are negligible. GDP = gross domestic product.

Introduction

- ✓ Remittances from migrants have positive impacts on poverty reduction and development in originating countries, mostly developing ones, substantially contributing to the achievement of the Millennium Development Goals such financial inclusion, reduction of poverty, health and education.
- ✓ While the size of global overseas remittances is continuously increasing, FinTech business, which provides low-cost overseas remittance services using the Internet and smart phones, is also growing.
- ✓ This study attempts to analyze consumers who are using FinTech for overseas remittances.

Theoretical Background

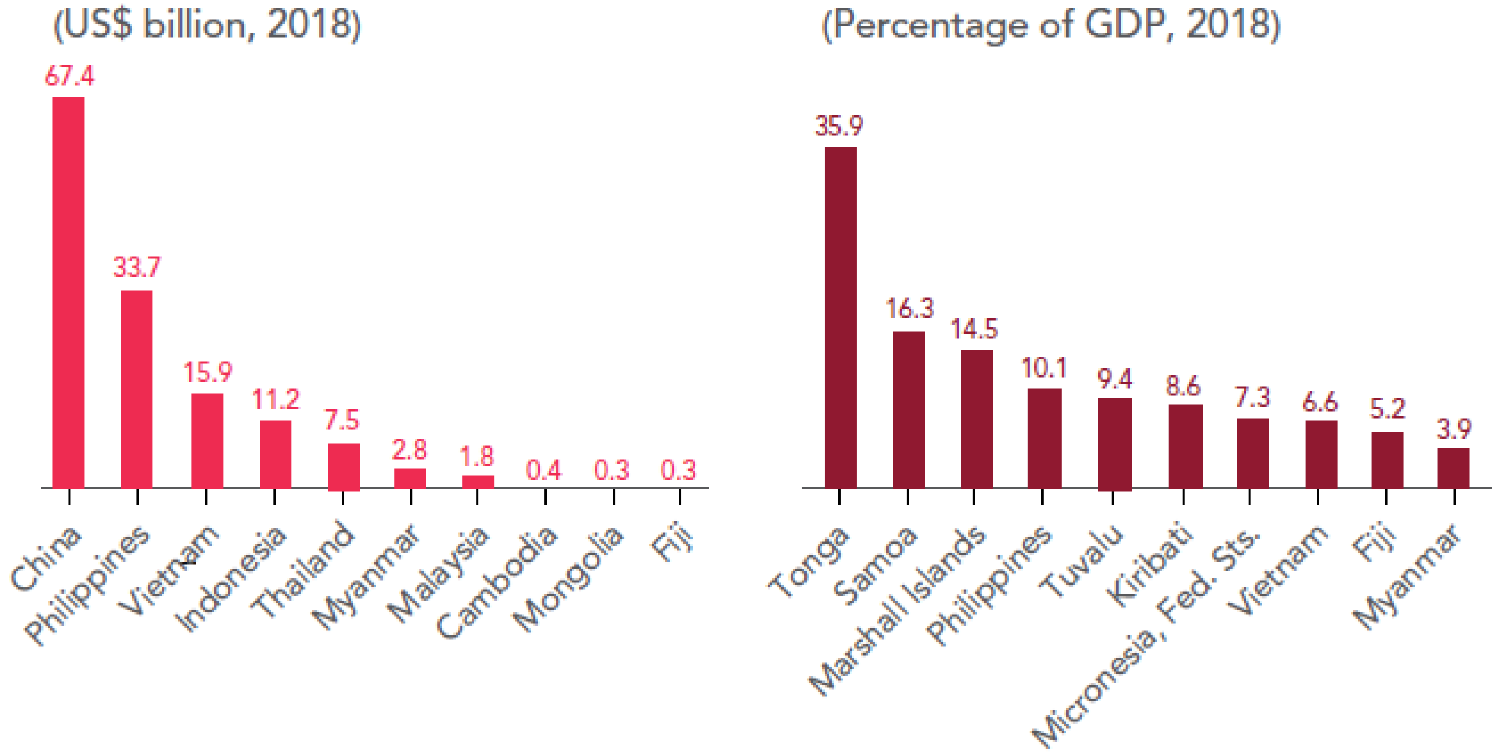
(1) Remittance

✓ Remittance means that individuals who originally work in a particular country send money to their family members or friends in a foreign country through wireless transfer. However, a wide definition of remittance means that encompassing private monetary transfers that a migrant makes to the country of origin, and including investments made by migrants in their home countries, as such funds significantly contribute to development and poverty reduction(Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*. The World Bank p.2)

✓ Since the late 1990s, remittances sent home by international migrants have exceeded official development assistance and portfolio investment, and in several years have approached the magnitudes of foreign direct investment flows(Yang, D. (2011). Migrant remittances. *Journal of Economic perspectives*, *25*(3), 129-52.)

Theoretical Background

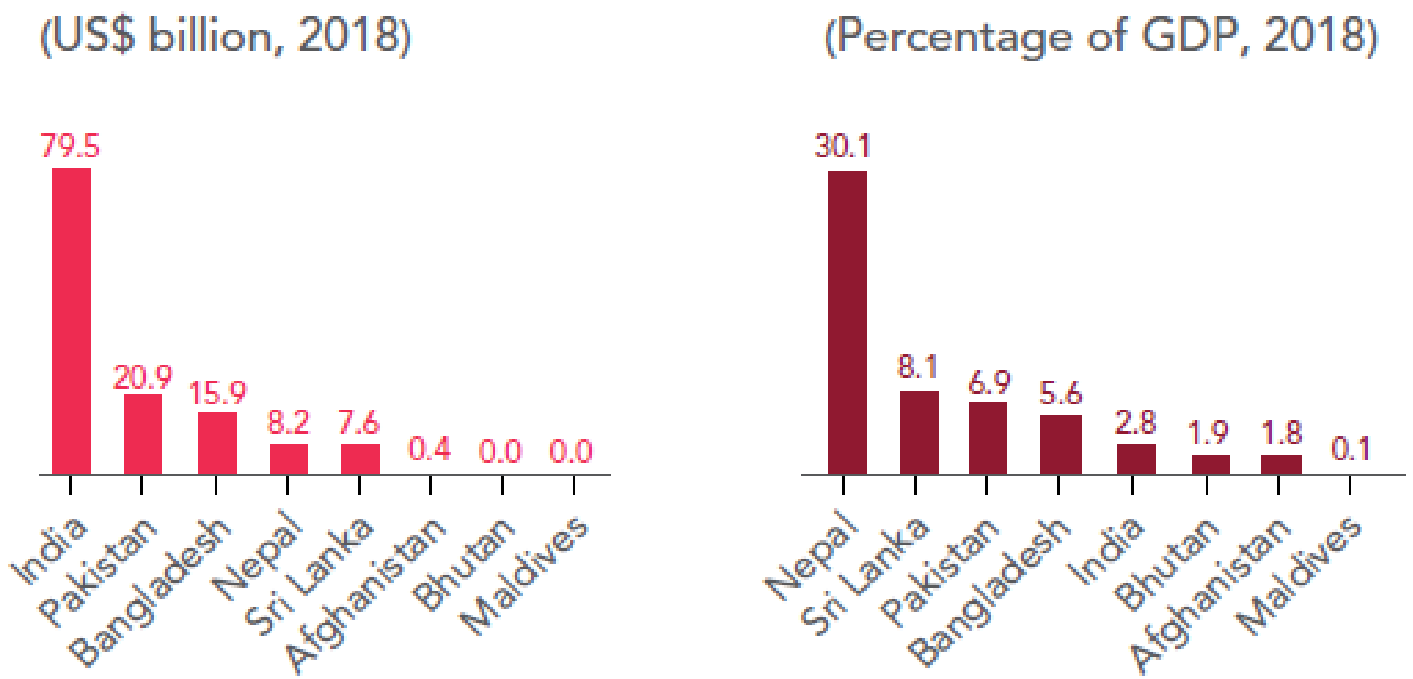
<Figure 3> Top Remittance Recipients in the East Asia and Pacific Region, 2018



Sources ; Migration and Remittances, World Bank, Dec 2018

Theoretical Background

<Figure 4> Remittance Inflows to South Asia Grew in 2018



Sources ; Migration and Remittances, World Bank, Dec 2018

Theoretical Background

(2) Fintech(Lee, T. H., & Kim, H. W. (2015)., Kim, Y., Park, Y. J., Choi, J., & Yeon, J. (2015). Arner et al.,(2015))

- ✓ "Fintech" as a term is a compound of "finance" and "technology", and collectively refers to industrial changes forged from the convergence of financial services and IT
- ✓ Fintech is conceptually defined as a new type of financial service based on IT companies' broad types of users, which is combined with IT technology and other financial services like remittance, payment, asset management and so on
- ✓ Fintech has an enormous influence on consumer finance and finance market
- ✓ The positive impact of fintech is that the volume of whole financial market would increase because of changes in perception of consumers and increase in service usage

Theoretical Background

(2) Fintech(Lee, T. H., & Kim, H. W. (2015)., Kim, Y., Park, Y. J., Choi, J., & Yeon, J. (2015). Arner et al.,(2015))

- ✓ As the size of overseas remittances continues to increase, FinTech, which provides low-cost overseas remittance services using the Internet and smart phones, is growing in the United Kingdom and the United States.
- ✓ FinTech companies offer services at lower commissions than existing financial institutions and large remittance institutions(ex ; Western Union).
- ✓ FinTech provides services through the Internet and smart phones, mainly without off-line locations. They offer services at up to a tenth of the cost of existing banks, shorten the time to complete remittances, and improve user convenience with simple online processes.

Theoretical Background

<Table 2> Major overseas remittance Fintech companies in Korea

Name	Time of Foundation	Characteristic
Sentbe	2015. September	Service to 18 countries(especially Japan, Philippines)
Finshot	2014. April	Based on Block-chain technology Can be transferred in 24h
Paygate	1999. August	Established branches in London, Luxembourg, Cambodia and so on
Coinpug	2013. October	Begin with an open bit coin exchange
Moneytec	2015. August	Focus on overseas remittance services in developing countries in Southeast Asia
Transfer	2010. December	Borrowing the transferwise business model, Licensing process in progress

* Source ; Korean Overseas Remittance Fintech company(http://www.ebn.co.kr/news/view/884253)

Research Plan

(1) Survey Method

✓ Survey Target ; Foreign Workers in Korea

✓ Sample Size ; 1,379 respondents in 28 countries

✓ Method of Data Collecting ; Questionnaire Survey Method

(2) Method of Analysis

✓ Crosstabulation

✓ Chi-square

Research Plan

<Table 2> Questionnaire Configuration

	Question	Number of Questions
I. Bank	I1 ~ I16	16
II. Overseas Remittance	II1 ~ II13	13
III. Credit	III1 ~III5	5
Iv. Loan	IV1 ~ IV10	10

Analysis Results

<Table 3> The difference in the remittance method and the remittance service satisfaction

		Satisfaction					Total	
		Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied		
Remittance Method	Bank	16(2.9%)	12(2.1%)	182(32.5%)	243(43.4%)	107(19.1%)	560(100.0%)	χ^2=126.729* df=16
	Remittance Service	53(6.9%)	4(0.5%)	126(16.5%)	347(45.4%)	234(30.6%)	764(100.0%)	
	Broker/Friend /Family	5(4.1%)	12(9.8%)	58(47.2%)	40(32.5%)	8(6.5%)	123(100.0%)	
	e-wallet/ electronic payment system	2(4.3%)	2(4.3%)	7(15.2%)	20(43.5%)	15(32.6%)	46(100.0%)	
	Many method without preference	2(2.8%)	1(1.4%)	21(29.2%)	36(50.0%)	12(17.3%)	72(100.0%)	
Total		78(5.0%)	31(2.0%)	394(25.2%)	686(43.8%)	376(24.0%)	1,565(100.0%)	

* p<.05

Analysis Results

3) Results

<Table 4> The difference in age and remittance service satisfaction

		Satisfaction					Total	
		Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied		
Age	20-25	13(4.9%)	6(2.3%)	66(25.1%)	113(43.0%)	65(24.7%)	263(100.0%)	χ^2=39.601* df=24
	26-30	27(4.8%)	10(1.8%)	147(26.1%)	237(42.0%)	143(25.4%)	564(100.0%)	
	31-35	27(5.9%)	5(1.1%)	113(24.9%)	214(47.1%)	95(49.7%)	454(100.0%)	
	36-40	8(3.9%)	6(2.9%)	50(24.2%)	86(41.5%)	57(27.5%)	207(100.0%)	
	41-45	1(1.6%)	2(16.7%)	17(27.4%)	26(41.9%)	9(25.8%)	62(100.0%)	
	46-50	1(8.3%)	2(16.7%)	0(0.0%)	9(75.0%)	0(0.0%)	12(100.0%)	
	Over 51	1(33.3%)	0(0.0%)	1(33.3%)	1(33.3%)	0(0.0%)	3(100.0%)	
Total		78(5.0%)	31(2.0%)	394(25.2%)	686(43.8%)	376(24.0%)	1565(100.0%)	

* p<.05

Analysis Results

3) Results

<Table 5> The difference in age and remittance method

		Remittance Method					Total	
		Bank	Remittance Service	Broker/Friend /Family	e-wallet/ electronic payment system	Many method wit hout preference		
Age	20-25	75(28.5%)	133(50.6%)	39(14.8%)	7(2.7%)	9(3.4%)	263(100.0%)	χ^2=54.786* df=24
	26-30	196(34.8%)	277(49.1%)	47(8.3%)	25(4.4%)	19(25.9%)	564(100.0%)	
	31-35	176(38.8%)	219(48.2%)	20(4.4%)	11(2.4%)	28(6.2%)	454(100.0%)	
	36-40	77(37,2%)	101(48.8%)	14(6.8%)	3(1.4%)	12(5.8%)	207(100.0%)	
	41-45	28(45.2%)	29(46.8%)	1(1.6%)	0(0.0%)	4(6.5%)	62(100.0%)	
	46-50	6(50.05%)	5(41.7%)	1(8.3%)	0(0.0%)	0(0.0%)	12(100.0%)	
	Over 51	2(66.7%)	0(0.0%)	1(33.3%)	0(0.0%)	0(0.0%)	3(100.0%)	
Total		560	764	123(7.9%)	46(2.9%)	72(4.6%)	1565(100.0%)	

* p<.05

Conclusion

- ✓ Remittance method are related to Remittance service satisfaction
- ✓ Age are related to Remittance service satisfaction
- ✓ Age are related to Remittance method
- ✓ Globally, FinTech companies are rapidly growing through innovative and creative service delivery(ex; TransferWise, Azimo – UK, peerTransfer – USA)
- ✓ With the emergence of new Fintech services in Korea, the overseas remittance market is expected to expand.

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Thank you.

ADBI Working Paper Series

HOW TO AVOID HOUSEHOLD DEBT OVERHANG? AN ANALYTICAL FRAMEWORK AND ANALYSIS FOR INDIA

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Abstract

In this paper we develop an analytical framework using the household utility maximization approach to model stability conditions to avoid household debt overhang. Our theoretical framework suggests that household debt stability is a function of five factors, namely the rate of interest, period of lending, income growth, loan-to-income ratio, and households' disutility from borrowing parameter. Further, we apply our analytical model to the case of India and estimate household debt stability conditions for Indian households under various scenarios to estimate the ceiling borrowing ratios borrowing below which households can avoid the risk of running into a debt overhang problem.

Keywords: debt overhang, household finance, household borrowing

JEL Classification: C13, C15, C62, D10, H31

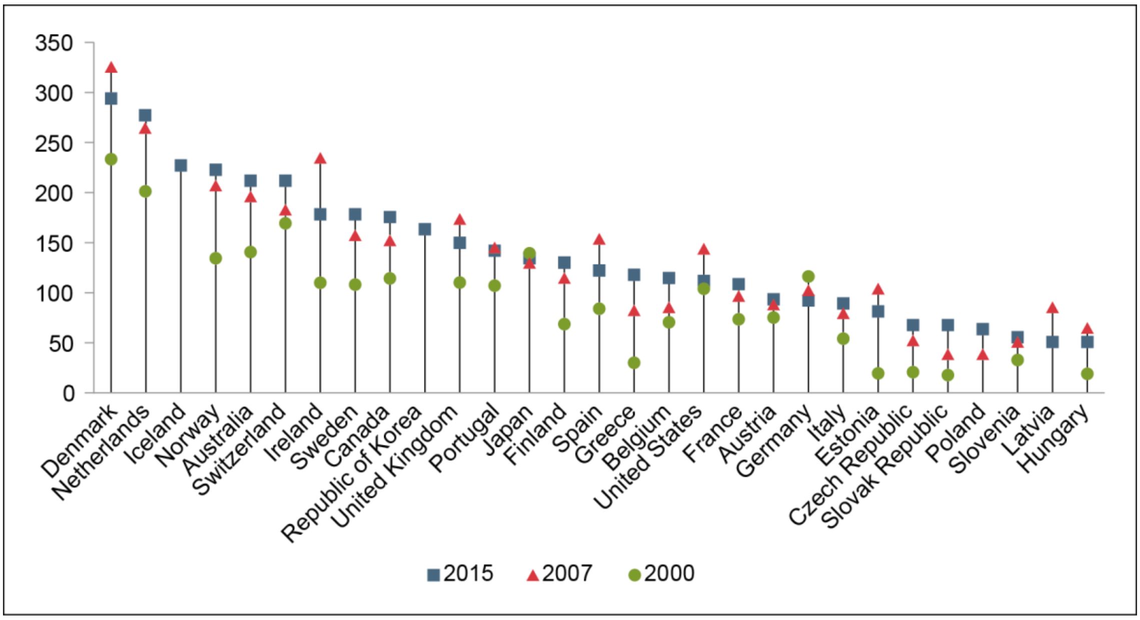
Contents

1. INTRODUCTION

Household debt has been on the rise across countries since the early 2000s (see Figure 1). Estimates from the IMF suggest that household debt as a percentage of GDP rose from 35% in 1996 to more than 60% in 2016 (Figure 2). The proportion of household debt to disposable income in the Republic of Korea increased from a high of 120% in 2006 to a whopping 170% in 2016 (Figure 3). In the case of the United States, the rate stood at 96% in 1997, peaked at 128% in 2007, and stood at 100% in 2016 (Figure 3). Household indebtedness has also increased very rapidly in emerging market economies. In the People's Republic of China (PRC), household indebtedness doubled from 29.6% of GDP in 2012 to 44.3% in 2017.[1] Overall for emerging market economies, household debt as a percentage of GDP rose from 2% in 1996 to 20% in 2016.

Why is rising household debt an economic problem? Literature suggests that excessive levels of household debt can lead to situations of debt overhang, thereby curbing consumption, investment, and economic growth. Schularick and Taylor (2012) show that high levels of household debt are not only good predictors of financial crises but also an important determinant of the intensity of the ensuing recession. Another study, by Drehmann and Juselius (2014), demonstrates that household debt levels could predict future banking system crises. Using data from 54 countries for the period 1990–2015, Lombardi, Mohanty, and Shim (2017) show that in the long run a 1% increase in the household debt-to-GDP ratio leads to a 0.1 percentage point lower growth.

Figure 1: Trends in Household Indebtedness



Note: For Iceland and Rep. of Korea, the square points refer to data from 2014 instead of 2015. For Ireland and Slovenia, the dot point refers to data from 2001 instead of 2000.

Source: OECD statistical insights[2].

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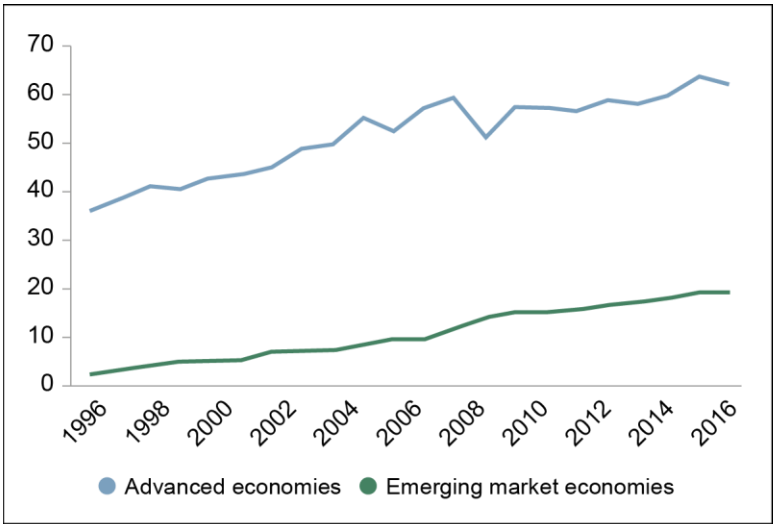
1 Estimates have been obtained from the CEIC database.

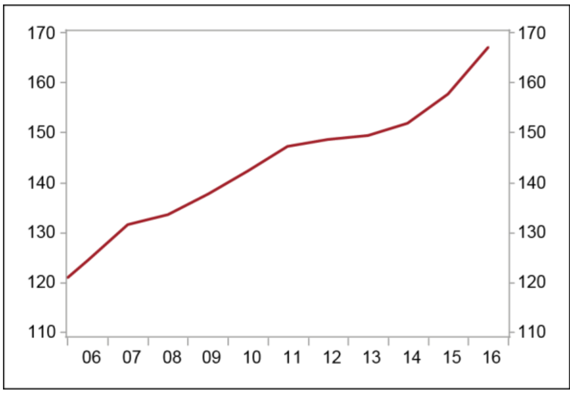
2 See https://www.oecd.org/sdd/na/statisticalinsightswhatdoeshouseholddebtsayaboutfinancialresilience.htm.

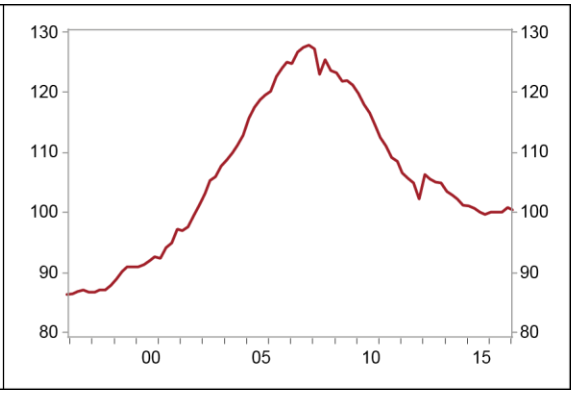
Figure 2: Household Debt as a Percentage of GDP



Source: IMF[3].

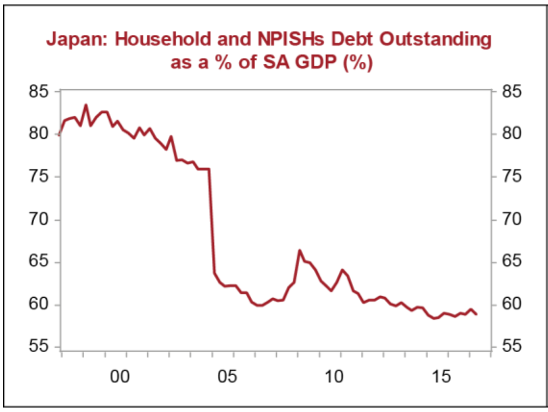
Figure 3: Ratio of Household Debt to Disposable Income in the Republic of Korea (left) and the US (right)

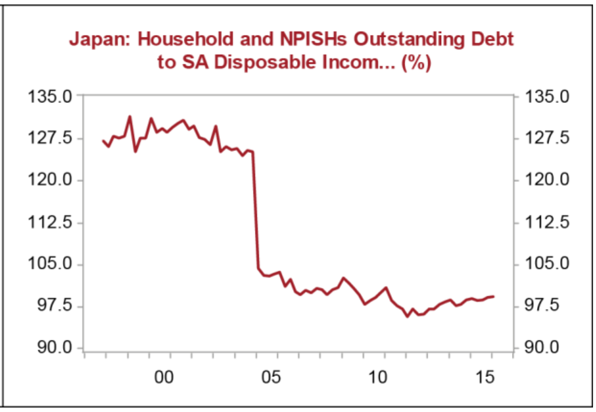




Source: Haver Analytics.

Figure 4: Ratio of Household Debt to Disposable Income (Japan)





3 See https://blogs.imf.org/2017/10/03/rising-household-debt-what-it-means-for-growth-and-stability/.

Source: Haver Analytics.

Mian, Sufi, and Trebbi (2014) analyzed US household-level data and found that the great financial crisis of 2007–08 was aggravated by the fact that US households that had a higher marginal propensity to consume and were highly indebted rapidly reduced spending following the negative house price shock. In the case of recourse loans, wherein the lender can confiscate other assets to recover the value of the loan, poorer households with limited assets may have an automatic limited liability as they have nothing more to offer against the loan repayment (Basu 2011).

The question that arises next is: How can lending quality be improved to avoid the risk of default on debt? In this paper, we address this issue in the context of borrowings undertaken by households. We derive stability conditions for lending to households to avoid debt overhang. We start with a simple utility function with two components, consumption and debt. With a given condition that consumption equals income (and debt), households maximize their utility. Solving the Lagrangian condition, we obtain the theoretical stability conditions for household debt. This estimation can also be applied to the case of borrowing by small businesses, which has been discussed later in the paper.

For our empirical analysis, we use data from India to model stability conditions using different interest rates, periods of lending, and parameters of household utility function and obtain the ceiling loan-to-income ratio below which households' borrowing should fall in order to avoid debt overhang. We focus on India for three main reasons. Firstly, there has been a steady rise in household indebtedness in India. The GDP growth in India has been primarily consumption led, more so during the periods 2013–14 and 2016–17 (RBI 2017). Results from the 70th round of the National Sample Survey suggest rises in household indebtedness in India from 26.5% in rural households and 17.8% in urban households in 2002 to 31.4% and 22.4%, respectively, in 2013. In the case of rural households, 35% of cultivator households reported being in debt compared to 25.9% in 1991. And in the case of urban households, nearly one in five households were reported to be in debt in 2013.

Secondly, in recent years, India's banking sector has also seen a steep rise in its gross nonperforming assets (NPAs) due to bad loans, which stood at Rs7.29 lakh crore, or about 5% of GDP, in March 2017 and accounted for 9.6% of banking assets. As a result, India ranks second in terms of its ratio of NPAs among the major economies of the world after Italy, whose NPA stood at 16.4%. While household loans are not the biggest contributor to these NPAs, their contribution remains significant. In the case of housing loans below Rs.2 lakh, gross NPAs for all public sector banks stood at 12% in 2015–16. The reported NPA levels for some banks were reported to be as high as 40%–50%. Rising indebtedness and high NPAs suggest a potential crisis in the financial sector that needs to be urgently resolved.

Lastly, with the balance sheets of leading banks being badly affected by bad loans, alternate sources of credit have been seen to have increased their contribution to credit funding in India. The 2017 financial year marked a watershed in this regard, with banks' share in new credit slumping from a historical 50% to 35%, while funding from nonbank sources rose to 65% (RBI). Assessing creditworthiness has been an uphill task for lenders given that sources of income such as income tax returns are not considered particularly reliable. In the case of lending to rural households, institutional lending is limited and almost a quarter of all debt is still owed to moneylenders for short- or medium-term loans with compound interest rates as high as 40%. Further, institutional borrowing by young households is very low in India, and rises for older households. The predominant reasons for borrowing include buying real estate, funding medical emergencies, and purchasing gold for children's marriages. A lack of retirement pension and health coverage often leaves these older households at risk of debt overhang.

Our theoretical and empirical findings suggest that with a given income growth, interest rate period of lending, and utility function, if the lending was restricted below our ceiling estimates, this could avoid situations of debt default or debt overhang for households and small businesses. Our paper provides estimates for various lending conditions and the estimated ceiling borrowing ratio. While these calculations have been undertaken for interest rates, lending periods, and economic growth rates relevant to India, the model can be easily replicated for any economy by altering the parameters of the stability conditions.

The major finding of this paper is that household debt stability is a function of five factors: (1) interest rate, (2) period of lending, (3) income growth, (4) household disutility from borrowing parameter, and (5) loan-to-income ratio. And the chances of debt overhang increase with rises in interest rate, as expected, and fall with increases in lending period, income growth, loan-to-income ratio, and household disutility from borrowing.

The rest of the paper is organized as follows. Section 2 discusses the case of Japan. In Section 3 we derive the stability conditions, while Section 4 covers the empirical analysis with respect to India, and Section 5 concludes.

2. CASE OF JAPAN

Our estimation strategy draws inspiration from the nonbank moneylending regulation in Japan. In the postwar period, the moneylending industry remained largely deregulated in Japan. Lending to small-scale and medium-sized enterprises in Japan is covered under the Small and Medium Enterprise Basic Law of 1963 (revised in 1999). This law covers microbusinesses such as restaurants, shops etc. that are operated by only one or two persons or by the owners themselves. Household debt, until the early 2000s, as a percentage of disposable income stood as high as 130%. In 2007, the FSA council passed a new regulation to amend the moneylending industry laws and prevent borrowers from becoming heavily indebted. The key features of the law are briefly outlined below[4]:

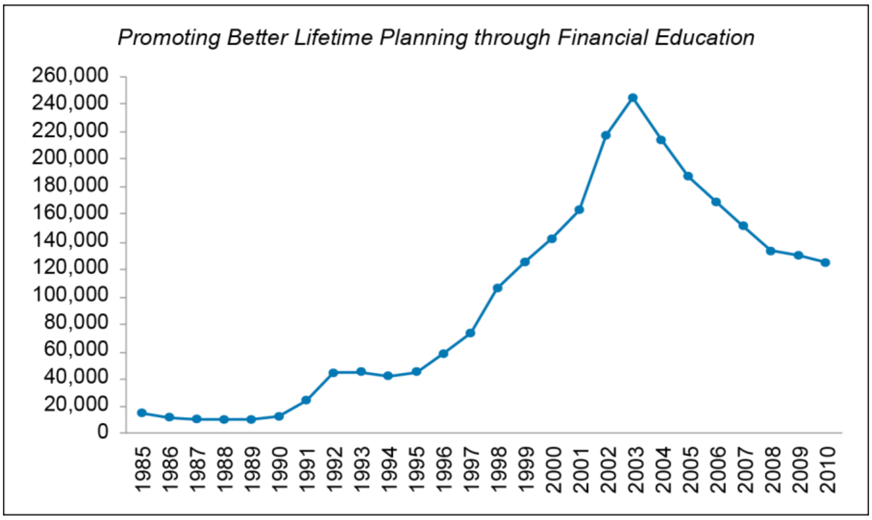
a. Ceiling on borrowing ratio: Under the new law, the total amount of borrowing available to a household was capped at one-third of household income. This ceiling was established to ensure that households do not borrow beyond their repayment capacity and hence avoid heavy indebtedness.
b. Interest rate ceiling: Prior to the law, interest rates in the Japanese moneylending industry stood above 100%. This was first reduced to 29% and further to 20% under the new law.
c. Borrowers' information: The law required all individual borrowing within a household to be aggregated to obtain the total household borrowing, which was regulated by law.
d. Self-regulatory association of moneylenders: A self-regulatory association of moneylenders was established to supervise the functioning of the moneylending industry.

[4] The information has been drawn from the FSA council report chaired by Naoyuki Yoshino (see Yoshino 2006).

e. Consumer care hotline: A consumer care hotline was established to empower consumers to report complaints with respect to disputed/unfair moneylending conditions.

Following this, as the regulation fixed a ceiling on borrowing ratios, interest rates, and other regulatory processes discussed above, a sharp decline was seen in the household default rate, with the number falling from 240,000 in 2002 to around 120,000 in 2010 (see Figure 5). This suggests that fixing a ceiling on the loan-to-income ratio along with other regulatory checks and balances reduced the defaults on household borrowings in the case of Japan. Drawing from the above, we proceed to building a simple theoretical model for lending to households and small businesses and we obtain the stability conditions required to avoid the situation of debt overhang. Our model can be easily applied to any economy, and in this paper we derive the conditions using data from India.

Figure 5: Household Default in Japan



Source: FSA.

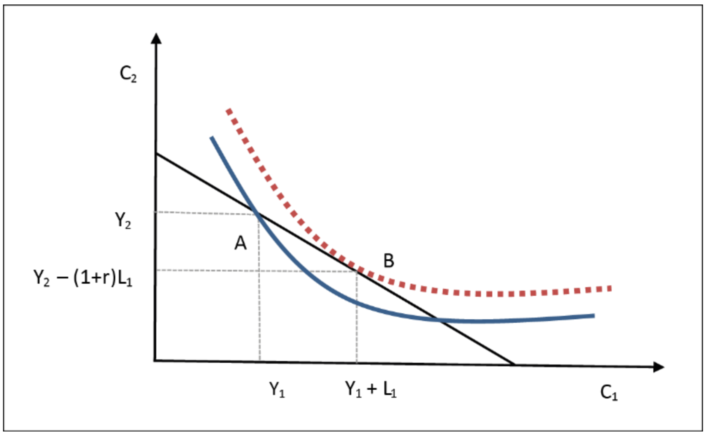
3. MODELING STABILITY CONDITIONS FOR HOUSEHOLD DEBT

3.1 Household Borrowing and Utility Function

We start with a two-period model. Suppose in case I there is no loan such that household consumption is equal to its income, that is, $C_1 = Y_1$ and $C_2 = Y_2$. In this case (see Figure 6), the household utility level will stand at suboptimal point B. However, in case II, we assume that the household is able to borrow L_1, say for the purpose of buying a house, such that it increases its consumption in period 1 and repays the loan in period 2, which is $C_1 = Y_1 + L_1$ and $C_2 = Y_2 - (1+r)*L_1$. In this case, the utility of the household will move from A to a higher level at optimal point B.[5] This figure thus explains how borrowing in one period may help a household move to a higher utility curve.

5 This is a simple case where we assume that the household repays the loan in period 2. The model can also be easily extended to the case where the household borrows in period 1 and repays it over n periods.

Figure 6: Household Borrowing and Utility Function



In the next section of this paper, we move on to deriving the stability conditions for borrowing.

3.1.1 Household Utility Maximization

We begin by assuming a simple utility function for households:

$$U(C,L) = \ logC_t - \beta \ logL_t \tag{1}$$

Here, C_t is the household consumption at time t, L_t is the amount of loan outstanding at time t, and β is the coefficient that measures the disutility of indebtedness.

3.1.2 Household Budget Constraint

We assume that households borrow in each period and hence their consumption C_t in time period t equals income Y_t in time period t, plus a loan taken in time period t minus a loan taken in time period t-1 along with interest at the rate of r%.[6]

$$C_t = \ Y_t + (L_t - \ L_{t-1}) - \ rL_{t-1} \tag{2}$$

The household utility maximization problem can hence be written as follows:

$$\text{Max U(C,L) } logC_t - \beta \ logL_t$$

$$\text{s.t } rL_{t-1} + \ C_t = \ Y_t + (L_t - \ L_{t-1}) \tag{3}$$

We obtain the Lagrangian equation as follows:

$$\mathcal{L} = \ logC_t - \beta \ logL_t - \lambda(rL_{t-1} + \ C_t - \ Y_t - (L_t - \ L_{t-1}) \tag{4}$$

Differentiating the above with respect to $C_t, L_{t,}$ and λ, respectively

$$\frac{\partial \mathcal{L}}{\partial C_t} = \frac{1}{C_t} - \lambda = 0 \tag{5}$$

[6] In this paper we assume static maximization, however this utility maximization problem can also be extended to dynamic optimization.

$$\frac{\partial \mathcal{L}}{\partial L_t} = -\frac{\beta}{L_t} + \lambda = 0 \tag{6}$$

$$\frac{\partial \mathcal{L}}{\partial \lambda} = rL_{t-1} + C_t - Y_t - (L_t - L_{t-1}) = 0 \tag{7}$$

From (2) and (3), we obtain the optimal C_t as follows:

$$C_t = \frac{L_t}{\beta} \tag{8}$$

Substituting C_t from (8) into (7):

$$rL_{t-1} + \frac{L_t}{\beta} - Y_t - (L_t - L_{t-1}) = 0,$$

$$L_t \left(\frac{1}{\beta} - 1\right) + (1+r)\, L_{t-1} = Y_t$$

we obtain the optimal amount of L_t as follows:

$$L_t = -\frac{(1+r)}{\frac{1-\beta}{\beta}} L_{t-1} + \frac{Y_t}{\frac{1-\beta}{\beta}} \tag{9}$$

Next, we assume that income grows at a constant rate "*a*" such that Y_t can be written as:

$$Y_t = (1+a)Y_{t-1}$$

$$=> Y_t = (1+a)^t Y_0 \tag{10}$$

Substituting Y_t from (10) into equation (9) we obtain:

$$L_t + \frac{(1+r)\beta}{1-\beta} L_{t-1} = \frac{\beta\,(1+a)^t\, Y_0}{1-\beta} \tag{11}$$

Solving the above first-order difference equation we can rewrite (11) as follows[7]:

$$L_t = \left(\frac{-(1+r)\beta}{1-\beta}\right)^t L_0 + \frac{\frac{\beta\,(1+a)^t\, Y_0}{1-\beta}}{1+\frac{(1+r)\beta}{1-\beta}} \left(1 - \left(\frac{-(1+r)\beta}{1-\beta}\right)^t\right) Y_0 < 0$$

$$\frac{L_0}{Y_0} < \frac{-\beta\,(1+a)^t}{(1+r\beta)} \left(\frac{(1-\beta)}{-(1+r)\beta}\right)^t \left(1 - \left(\frac{-(1+r)\beta}{1-\beta}\right)^t\right) \tag{12}$$

We use the condition in equation (12) to model stability conditions for household debt.

3.1.3 Estimating Consumption Function and Marginal Propensity to Consume

We obtained from equations (8) and (9), $C_t = \frac{L_t}{\beta}$ and $L_t = -\frac{(1+r)}{\frac{1-\beta}{\beta}} L_{t-1} + \frac{Y_t}{\frac{1-\beta}{\beta}}$

[7] See Chiang (1984).

Let $\Phi = \frac{1-\beta}{\beta}$, then equation (9) can be rewritten as follows:

$$L_t = -\frac{(1+r)}{\Phi} L_{t-1} + \frac{Y_t}{\Phi} \tag{13}$$

Substituting L_t in equation (8), we obtain C_t as follows:

$$C_t = \frac{1}{\beta}\left(-\frac{(1+r)}{\Phi} L_{t-1} + \frac{Y_t}{\Phi}\right) = \frac{Y_t}{\beta\Phi} - \frac{1}{\beta}\frac{(1+r)}{\Phi} L_{t-1} = \frac{Y_t}{1-\beta} - \frac{(1+r)}{1-\beta} L_{t-1} \tag{14}$$

Using the above equation, we next proceed to estimate the marginal propensity to consume (MPC). Substituting (13) in (14), we get the following:

$$C_t = \frac{Y_t}{1-\beta} - \frac{(1+r)}{1-\beta}\left[-\frac{(1+r)}{\frac{1-\beta}{\beta}} L_{t-2} + \frac{Y_{t-1}}{\frac{1-\beta}{\beta}}\right] \tag{15}$$

$$=> C_t = \frac{Y_t}{1-\beta} - \frac{(1+r)\beta}{(1-\beta)^2} Y_{t-1} + (-1)^2 \left[\frac{(1+r)}{1-\beta}\right]^2 \beta\, L_{t-2}$$

$$=> C_t = \frac{Y_t}{1-\beta} - \frac{(1+r)\beta}{(1-\beta)^2} Y_{t-1} + (-1)^2 \left[\frac{(1+r)}{1-\beta}\right]^2 \beta \left[\frac{-(1+r)}{\frac{1-\beta}{\beta}} L_{t-3} + \frac{Y_{t-2}}{\frac{1-\beta}{\beta}}\right]$$

$$=> C_t = \frac{Y_t}{1-\beta} - \frac{(1+r)\beta}{(1-\beta)^2} Y_{t-1} + (-1)^2 \frac{(1+r)^2\beta^2}{(1-\beta)^3} Y_{t-2} + (-1)^3 \left[\frac{(1+r)}{1-\beta}\right]^3 \beta^2 L_{t-3}$$

Assuming that in the long run $Y_t = \bar{Y}$

$$C_t = \frac{\bar{Y}}{1-\beta} - \frac{(1+r)\beta}{(1-\beta)^2} \bar{Y} + (-1)^2 \frac{(1+r)^2\beta^2}{(1-\beta)^3} \bar{Y} + (-1)^3 \frac{(1+r)^3\beta^3}{(1-\beta)^4} \bar{Y}$$
$$+ \cdots \ldots (-1)^n \left[\frac{(1+r)}{1-\beta}\right]^n \beta^{n-1} L_{t-n} \tag{16}$$

The sum of the series can be expressed as

$$C_t = \frac{\bar{Y}}{1-\beta}\left[1 + \frac{(-1)(1+r)\beta}{1-\beta} + \left(\frac{(-1)(1+r)\beta}{1-\beta}\right)^2 + \left(\frac{(-1)(1+r)\beta}{1-\beta}\right)^3 + \cdots \left(\frac{(-1)(1+r)\beta}{1-\beta}\right)^n\right]$$
$$+ (-1)^n \left[\frac{(1+r)}{1-\beta}\right]^n \beta^{n-1} L_{t-n}$$

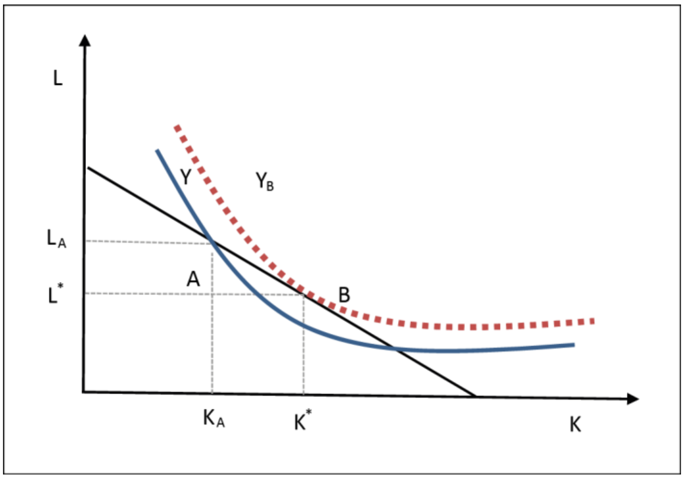
$$=> C_t = \frac{\frac{1}{1-\beta}\left[1 - \left(\frac{(-1)(1+r)\beta}{1-\beta}\right)^n\right]}{1 - \frac{(-1)(1+r)\beta}{1-\beta}} \bar{Y} + (-1)^n \left[\frac{(1+r)}{1-\beta}\right]^n \beta^{n-1} L_{t-n} \tag{17}$$

For large n, $\left(\frac{(-1)(1+r)\beta}{1-\beta}\right)^n \to 0$ (18)

Then the coefficient of $\bar{Y}$ reduces to $\frac{1}{1+r\beta}$, which equals the long-run MPC. Hence we obtain the following equation:

$$\bar{C} = \frac{1}{1+r\beta} \bar{Y} \tag{19}$$

Figure 7: SME Borrowing and Production Function



The above model can also be applied to the case of small and medium-scale businesses (see Figure 7). In this case, we start with a two-period model, where in case I there is no loan and the production happens at an inefficient point "A" on the isoquant Y_A, with L_A labor and K_A capital. However, if the SME is able to borrow money to buy additional capital, the production can move to optimal point B on Y^* with L^* labor and K^* capital. This move is feasible if gains in output are higher than the repayment of the loan, that is:

$$Y^* - Y_A > (1+r)\, L_1 \text{ given } K^* = K_A + L_1$$

4. EMPIRICAL ANALYSIS FOR INDIA

4.1 Estimating Marginal Propensity to Consume

We begin our analysis by estimating the marginal propensity to consume using the simple econometric technique of regressing final consumption expenditure on real GDP and lagged consumption expenditure for the period 1967–2017. The data for the same have been obtained from the RBI's DBIE database. The regression results are displayed in Appendix Table A1. We estimate two models with one-year and two-year lagged consumption expenditure on the right-hand side; both the models yield MPC of around 0.81. For the condition in (18) $\left(\frac{(-1)(1+r)\beta}{1-\beta}\right)^n \to 0$ to hold, we require that $\frac{(-1)(1+r)\beta}{1-\beta} < 0$. Hence for a given r, this condition gives us the plausible values of β. For example, if r = 0.05, $\beta > 0.49$, or for r = 0.15, $\beta > 0.46$.

Assuming r = 0.05 and $\beta = 0.4$, MPC, which is estimated as $\frac{1}{1+r\beta}$, stands at 0.98. Similarly, if r = 0.15 and $\beta = 0.4$, MPC equals 0.93. This is expected to be higher than the estimated national average MPC that covers people from all income levels. However, the MPC of households who face the risk of debt default is expected to be higher than the national average MPC. In the case of India, our estimated MPC using aggregate data equals 0.81; in this case, to obtain a value of β such that $0 < \beta < 1$ the value of r must be very high, i.e. of a magnitude greater than 0.24.

Table 1: Estimated Values of β and MPC for Given r

r (given)	*β > (estimated)*	*MPC (estimated)*
0.05	0.49	0.98
0.08	0.48	0.96
0.1	0.48	0.95
0.12	0.47	0.95
0.14	0.47	0.94
0.16	0.46	0.93
0.2	0.45	0.92
0.3	0.43	0.88

4.2 Calculating Stability Conditions to Avoid Household Debt Overhang

We use equation (12) to obtain the stability conditions for household borrowing in the case of India. To start with, we assume *a*, the rate of growth of income equal to the GDP growth rate of the economy for the past decade, however this assumption can be easily relaxed.[8] The rate of interest r varies between 5% and 30% in our simulations while the period of lending varies from one to 15 years.

4.2.1 Results Based on Simulations

A. Maximum interest rate (r)

For our simulation, we use the range of lending rates prevalent in India. Lending rates (or bank lending rates) in India vary across a wide range based on the purpose of the loan. Housing loans have the lowest interest rates, which ranged between 7.5% and 13% in the period 1991–1992 to 2007–2008.[9] Based on the latest available data from the website of a leading public sector bank, namely the State Bank of India, the rate of interest on housing loans stands at around 8.3%. For other loan categories such as for the purchase of consumer durables such as automobiles or gold and other personal loans, the interest rates lie in the range of 14% and above.[10] We use the wide range of interest rates commonly applicable in India for the purpose of our estimation, and in Table 2 we provide estimates of ceiling ratios for varying r (5%, 8%, 10%, 12%, 14%, 16%, 20%, and 30%, respectively) assuming $a = 7\%$, $n = 15$ years, and $\beta = 0.5$. Hence, when the interest rate is 8%, the loan should be less than 1.76 times the household income at the time of lending. If the interest rate is increased to 20%, then the ceiling ratio falls to 1.35 times the household income.

In Figure 8, we simulate the results with varying values of r (5%, 12%, 15%, 18%, 20%, 25%, and 30%, respectively) as well as varying n (1–15 years), *a* is assumed to be 0.07, and β is fixed at 0.5.

8 Fixing *a*, which is the expected rate of growth of income of the household, can be a challenging task that will vary from case to case and will require judgement on the part of the loan provider. In our paper, we provide simulation estimates for various ranges of income growth.

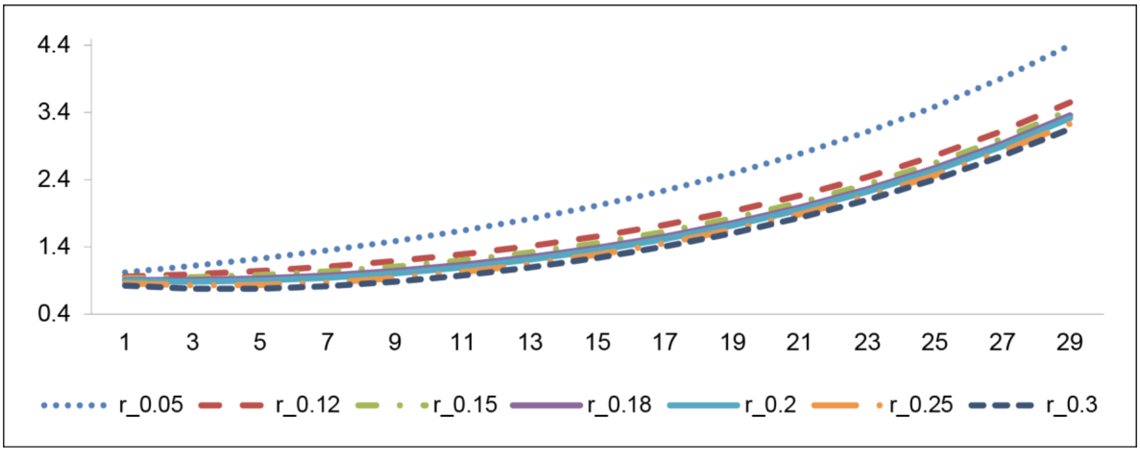
9 Source: https://www.bis.org/review/r100617d.pdf.

10 Source: https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=565.

Table 2: Estimated Borrowing Ratio for Different Values of *r*

r	*β*	*a*	*n*	*L0/Y0*
0.05	0.5	0.07	15	2.01
0.08	0.5	0.07	15	1.76
0.1	0.5	0.07	15	1.64
0.12	0.5	0.07	15	1.55
0.14	0.5	0.07	15	1.48
0.16	0.5	0.07	15	1.43
0.2	0.5	0.07	15	1.35
0.3	0.5	0.07	15	1.23

Figure 8: Borrowing Ratio for Varying *r* (*β* = 0.5, *a* = 7%)



B. Disutility from Borrowing (β)

In Table 3, we provide ceiling ratio estimates for varying values of β (0.5, 0.51, 0.52, 0.55, 0.6, 0.7, and 0.8, respectively) given that *a = 7%*, *n = 15* years, and r *= 0.15*. Further, in Figure 9 we estimate the borrowing ratio ceiling for varying values of β (0.50, 0.51, 0.52, 0.55, 0.6, 0.7, and 0.8, respectively), and varying t (1–30 years) for each simulation *a* is assumed to be 7%.

Figure 9: Borrowing Ratio for Varying *β* (*r* = 15%)

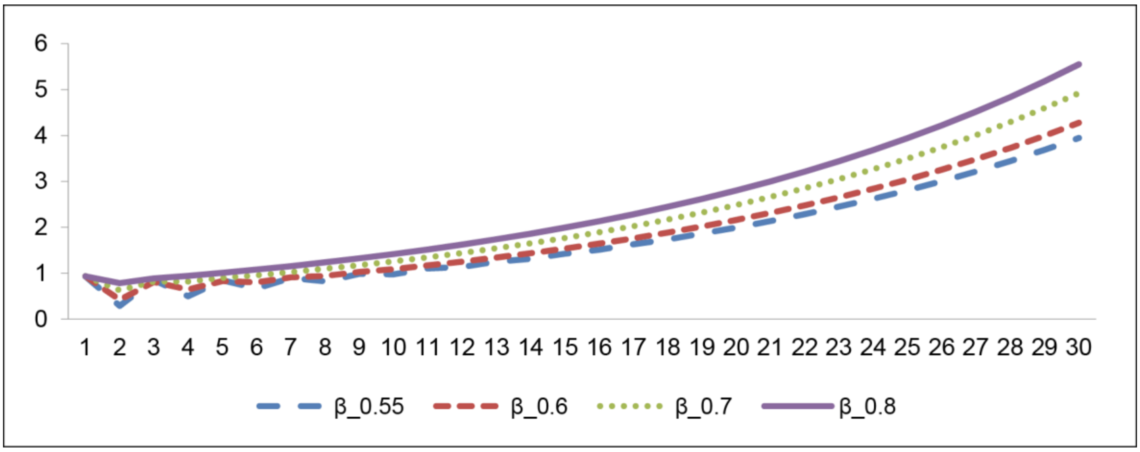


Table 3: Estimated Borrowing Ratio for Varying *β*

β	*a*	*n*	*r*	L_0/Y_0
0.50	0.07	15	0.15	1.46
0.51	0.07	15	0.15	1.41
0.52	0.07	15	0.15	1.39
0.55	0.07	15	0.15	1.42
0.6	0.07	15	0.15	1.53
0.7	0.07	15	0.15	1.77
0.8	0.07	15	0.15	1.97

C. Period of Lending (n)

In Table 4, we provide estimates of the ceiling ratio for varying values of n (1, 3, 5, 7, 9, 11, 13, and 15, respectively) given that a = *7%*, β = *0.5*, and r = *15%.* For n = 3 years, the ceiling ratio estimate is 0.95; when n is increased to 15 the ceiling ratio rises to 1.45. In Figure 10, we plot the borrowing ratio estimates for varying values of t (5, 7, 9, and 15 years, respectively) and r (5% to 65%) for each assuming a = 0.07.

Figure 10: Borrowing Ratio for Varying *n (a* = 7%, *β* = 0.45)

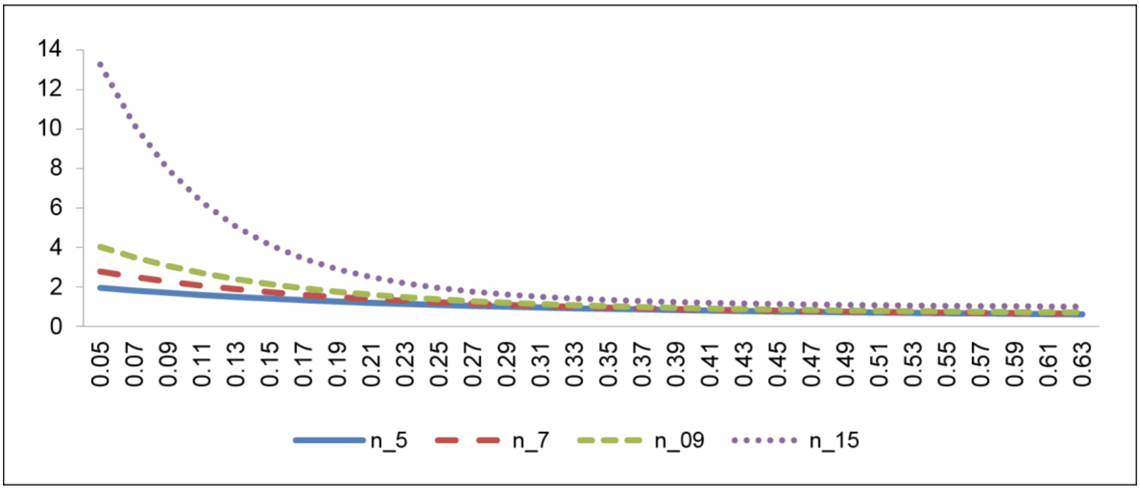


Table 4: Estimated Borrowing Ratio for Varying *n*

n	*r*	*β*	*a*	L_0/Y_0
1	0.15	0.5	0.07	0.93
3	0.15	0.5	0.07	0.95
5	0.15	0.5	0.07	0.98
7	0.15	0.5	0.07	1.03
9	0.15	0.5	0.07	1.10
11	0.15	0.5	0.07	1.20
13	0.15	0.5	0.07	1.31
15	0.15	0.5	0.07	1.45

In Appendix Tables A2–A3, we provide ceiling borrowing ratio estimates for different combinations of interest rate, period of lending, income growth, and *β.* For example, in Table A2, when r is assumed to be 15%, income growth 7%, and β 0.5, a loan with a repayment period of 3 years should have a loan-to-income ratio or borrowing ratio of less than 0.95. This implies that if the loan value is less than 0.95 times the income of the household/enterprise, it is highly likely that the household/enterprise will be able to repay the same without defaulting. Similarly, if, with the same conditions, the period of lending is 15 years, the borrowing ratio should be less than 1.46. In Table A3, we alter the interest rate to 10%, and the borrowing ratio for the 15-year period is estimated at 1.64.

In terms of policy recommendation, this paper serves a dual purpose. Firstly, it may be useful for households and small enterprises to know their borrowing limit beyond which they can run into the risk of debt overhang. Secondly, it may be helpful for banking and nonbanking lending institutions to fix lending limits within the range as estimated from the stability conditions in this paper, wherein we use the household utility function to analyze the stability conditions from the household side. Understanding the stability conditions from the lender's side is a topic for future research.

5. CONCLUSION

In this paper, we derive stability conditions for households and small enterprises so that they can borrow from the market without running into debt overhang. We use data from India to derive the empirical estimates. We develop a model that can be easily replicated for other economies for estimating lending conditions to avoid the risk of debt overhang. Our theoretical framework suggests that simply fixing a maximum rate of interest and hence "one size fits all" is not the approach for handling household debt overhang. The stability condition for borrowing such that borrowers do not go into debt overhang is a function of five parameters, namely the (1) rate of interest, (2) income growth, (3) coefficient of disutility from borrowing, (4) loan-to-income ratio, and (5) period of borrowing. Further, using data from India we simulate the ceiling loan-to-income ratios for varying values of the other parameters.

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APPENDIX

Table 1A: Estimation of Marginal Propensity to Consume

Variable	Model 1	Model 2
Y	0.308*** (0.0369)	0.438*** (0.0357)
C_1 (one-year lagged consumption)	0.619*** (0.0548)	
C_2 (two-year lagged)		0.458*** (0.0573)
Constant	526.9*** (108.8)	753.6*** (127.6)
Observations	49	49
R-squared	0.99	0.99

Standard errors in parentheses, *** p < 0.01, ** p < 0.05, * p < 0.1.
Dependent variable is final consumption, Y = income, C_1 is one-year lagged consumption, C_2 is two-year lagged consumption.
Note: Calculation of MPC from the above table (Model 1).

$$C_t = 526.9 + 0.308\ Y_t + 0.619\ C_{t-1} + \epsilon_t \tag{1a}$$

In the long run if we assume $C_t = C_{t-1} = C$, then equation 1a can be rewritten as:

$$C = 526.9 + 0.308\ Y_t + 0.619\ C + \epsilon_t$$

$$C = 1382.94 + 0.808\ Y_t + \epsilon_t \tag{1b}$$

Table A2: Ceiling Borrowing Ratio for *r = 15%, a = 7%, β = 0.5*

Year	r	a	β	Borrowing Ratio
1	15%	7%	0.5	0.93
3	15%	7%	0.5	0.95
5	15%	7%	0.5	0.98
7	15%	7%	0.5	1.03
9	15%	7%	0.5	1.10
11	15%	7%	0.5	1.20
13	15%	7%	0.5	1.31
15	15%	7%	0.5	1.46

Table A3: Ceiling Borrowing Ratio for *r = 10%, a = 7%, β = 0.5*

Year	r	a	β	Borrowing Ratio
1	10%	7%	0.5	0.97
3	10%	7%	0.5	1.02
5	10%	7%	0.5	1.09
7	10%	7%	0.5	1.16
9	10%	7%	0.5	1.25
11	10%	7%	0.5	1.36
13	10%	7%	0.5	1.49
15	10%	7%	0.5	1.64

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DETERMINANTS AND IMPACTS OF FINANCIAL LITERACY IN THE LAO PDR

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This study is an extension of our previous study of the determinants and impacts of financial literacy in Cambodia and Viet Nam (Morgan and Trinh 2017). Furthermore, in this study, we have updated our calculation of financial literacy score for Viet Nam and Cambodia documented in the previous study (Morgan and Trinh 2017).

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Abstract

Financial literacy is gaining increasing importance as a policy objective in many countries. However, internationally comparable information on financial literacy is still scarce. The Organisation for Economic Cooperation and Development International Network on Financial Education (OECD/INFE) survey of adult financial literacy is a standardized survey instrument, but so far has mainly been implemented in higher-income countries outside of Asia. Our paper extends the literature by conducting the survey in a relatively low-income Asian economy—the Lao PDR—and analyzing the determinants of financial literacy and the effects of financial literacy on other behaviors. We also compare these results with those of our earlier study of financial literacy in Cambodia and Viet Nam. This study of the Lao PDR extends our research in the Cambodia-Lao PDR-Myanmar-Viet Nam (CLMV) region, and the survey was broadened to include more variables that could be used as effective instrumental variables for financial literacy to deal with possible endogeneity problems. This increases our confidence in our findings that financial literacy positively affects both savings and financial inclusion.

Generally, our study corroborates the findings of studies of other countries, but uncovers some differences as well. The average financial literacy score in the Lao PDR is found to be 12.5, slightly below that of Viet Nam (12.7) and higher than that of Cambodia (11.8). These scores are at the lower end of the range seen in a sample of 30 economies that have implemented the OECD/INFE survey, but they can be considered normal in view of the low levels of per capita income in these economies. The main determinants of financial literacy are found to be educational level, income, age, and occupational status. Both financial literacy and general education levels are found to be positively and significantly related to savings behavior and financial inclusion, and these results hold even when correcting for possible endogeneity of financial literacy.

Keywords: financial literacy, financial behavior, financial inclusion, household saving, Cambodia, Lao PDR, Viet Nam

JEL Classification: D14, G11, J26

Contents

1. INTRODUCTION

In the literature, there are several widely used definitions of financial literacy. In their review article, Lusardi and Mitchell (2014:6) define financial literacy as …peoples' ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions." Organization for Economic Cooperation and Development International Network on Financial Education (OECD/INFE) (2016:47) defines financial literacy as "… [a] combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing." Thus, this concept of financial literacy is multidimensional, reflecting not only knowledge but also skills, attitudes and actual behavior.

Financial literacy has gained an important position in the policy agenda of many countries and the importance of collecting informative, reliable data on the levels of financial literacy across the adult population has been widely recognized (OECD/INFE 2015b). At their summit in Los Cabos in 2012, G20 leaders endorsed the High-Level Principles on National Strategies for Financial Education, developed by OECD/INFE, thereby acknowledging the importance of co-ordinated policy approaches to financial education (G20 2012)). At the same time, surveys consistently show that the level of financial literacy is relatively low even in advanced economies (OECD/INFE 2016). Given the increasing need for individuals to manage their own retirement savings and pensions, resulting mainly from the trend of switching to defined-contribution from defined-benefit pension plans, this indicates that the need for high levels of financial literacy is rising.

Data on financial literacy provide information on the need for financial education or other supportive policies, and indicates which groups have the greatest needs. Preferably, the survey should be repeated to identify where improvements have been made and what more needs to be done. Use of a standardized survey instrument provides the additional benefit of being able to make cross-country comparisons on key measures of financial literacy and related variables to help identify those countries with successful financial education policies and their applicability to other countries.

To this end, OECD/INFE developed a standard survey instrument for gathering information on financial literacy and financial inclusion.[1] OECD/INFE (2016) provides a summary of the results of these surveys for 30 economies, including four Asian economies—Hong Kong, China; Republic of Korea; Malaysia and Thailand. Additional survey results for the People's Republic of China, India, Indonesia, and Japan are reported in OECD (2017) and OECD (2018a). Our earlier study of adult financial literacy in Cambodia and Viet Nam (Morgan and Trinh 2017) broke new ground in two ways: (i) It marked the first implementation of the OECD/INFE survey in the so-called CLMV economies (Cambodia, Lao PDR, Myanmar and Viet Nam); and (ii) Cambodia and Viet Nam have considerably lower levels of per capita income than did the other economies in OECD/INFE (2016) although data for India was obtained later.[2] This study of the Lao PDR extends our research in the CLMV region, and the survey was broadened to include more variables that could be used as effective instruments for financial literacy to deal with possible endogeneity. This increases our

1 While a new version of questionnaire has been developed (OECD 2018b), to ensure consistency with our surveys in Cambodia and in Viet Nam we used the 2015 questionnaire (OECD/INFE 2015c).

2 In 2015, nominal per capita GDP in Cambodia was $1,144, in the Lao PDR it was $2,059 and in Viet Nam it was $2,088, compared with $3,754 for Georgia and $3,954 for Albania, the lowest among economies previously sampled (IMF World Economic Outlook database).

confidence in our findings that financial literacy positively affects both savings and financial inclusion.

In the survey, financial literacy is divided into three related aspects: financial knowledge; financial behavior; and attitudes to longer-term financial planning.

Financial knowledge helps individuals to compare financial products and services and make appropriate, well-informed financial decisions. A basic knowledge of financial concepts and the ability to apply numeracy skills in a financial context ensure that consumers can manage their financial affairs independently and respond appropriately to news and events that may have implications for their financial well-being. Financial literacy can be measured both objectively (through survey questions) and subjectively, i.e., by asking respondents to rate their own literacy compared with that of their peers.

Financial behavior (or financial "savvy") means taking (or not taking) financial actions. Some types of behavior, such as putting off bill payments, failing to plan future expenditures or choosing financial products without shopping around, may have an adverse effect on an individual's financial situation and well-being. Financial behavior may thus differ from financial knowledge, and it is important to identify their relationship.

Attitudes regarding longer-term financial planning include aspects such as individuals' time preference and willingness to make planned savings. For example, one question asks about preferences for the short term through "living for today" and spending money. Such preferences are likely to hinder behaviors that could lead to improved financial resilience and well-being.

This paper is organized as follows. Section 2 briefly discusses the literature on determinants of financial literacy and its effects. The data collection and empirical approach is presented in Section 3. Sections 4 and 5 present the descriptive analyses and empirical results, followed by conclusions and policy implications in Section 6.

2. LITERATURE SURVEY

The literature on financial literacy focuses on two main areas: (i) the determinants of financial literacy, including age, gender, level of education, occupation; and (ii) the effects of financial knowledge on financial behavior, including saving, use of credit, and preparation for retirement.

There is already a long history of efforts to develop quantifiable measures of financial literacy based on surveys that can be subjected to empirical testing. One of the earliest examples was that of the Jump$tart Coalition for Personal Financial Literacy program for high school and college students in the US in 1997, described in Mandell (2009). Lusardi and Mitchell (2006) added a set of financial literacy questions to the 2004 Health and Retirement Study (HRS), a survey of US households aged 50 and older, which have served as a model for later surveys. The three core questions in the original survey were designed to assess understanding of some key financial concepts: compound interest, real rates of return, and risk diversification. Later surveys, including the OECD/INFE survey, have built on this base, but also added questions about financial attitudes, financial behavior and financial experience. The methodology for calculating scores from the survey responses is described below in section 3.2.

Lusardi and Mitchell (2014) provide an extensive review of the literature on factors related to financial literacy. Financial literacy tends to follow a hump-shaped pattern with respect to age, first rising and then declining in old age. Interestingly, elderly persons' confidence in their financial literacy shows no similar decline. Women generally score lower than men in financial literacy, and the reasons for this are still debated. However, women tend to be more willing to admit that they do not know an answer than men are. Higher levels of education and higher levels of parents' education are positively correlated with financial literacy. These findings were generally confirmed in the analysis of the results of the OECD/INFE survey in the above-mentioned sample of 30 economies in OECD/INFE (2016).

A key question is whether financial education programs can improve financial literacy. A large number of studies have been conducted, but the results are inconclusive, and are affected by many specific aspects of the programs studied, including course content, knowledge of the teachers, target groups, etc. Fernandes, Lynch and Netemeyer (2014) perform a meta-analysis of 188 studies and find that financial education has a significant but very small effect of only 0.1% on downstream economic behaviors. Lusardi and Mitchell (2014) cite one study by Walstad, Rebeck, and MacDonald (2010) as an example of a careful piece of research that found significant impacts of a study program on financial literacy. However, they recognize that much further research is needed in this area. Hastings, Madrian and Skimmyhorn (2013:359) argue that the evidence on the effectiveness of financial education programs on financial literacy, not to mention their cost-effectiveness, is "…at best contradictory." They suggest other kinds of interventions such as designing pension plan or savings plan default enrolment options to address observed behavioral biases; strict regulation; simplified disclosure about product fees, terms, or characteristics; and incentives to take action. Kaiser and Menkhoff (2017) carried out a meta-analysis of 126 impact evaluation studies and found that financial education significantly impacts financial behavior and, to an even larger extent, financial literacy. But the results also suggest the intervention effects vary by income level. Financial education seems ineffective (in improving financial literacy) among lower-income groups and residents in low and lower-middle income economies. They also find that some specific components of financial literacy are easier to improve through intervention than others. Amagir et al. (2018) suggest in their meta-analysis of financial literacy education programs and interventions for children and adolescents that school-based financial-education programs can improve children's and adolescents' financial knowledge and attitudes, but do not have any effects on financial behavior.

There is a well-developed literature trying to link measures of financial literacy with other economic and financial behaviors, going back to Bernheim (1995, 1998) in the US, in response to the increasing shift toward defined-contribution pension plans. This area of research got a further boost after the global financial crisis of 2008−2009, which drew attention to numerous scams inflicted on individual borrowers and investors in the US and other economies. Hilgert, Hogarth, and Beverly (2003) found a strong correlation between financial literacy and daily financial management skills, while other studies found that the more numerate and financially literate are more likely to participate in financial markets and invest in stocks and make precautionary savings (Christelis, Jappelli, and Padula 2010; van Rooij, Lusardi, and Alessie 2011; and de Bassa Scheresberg 2013). The more financially savvy are also more likely to undertake retirement planning, and those who plan also accumulate more wealth (Lusardi and Mitchell 2011). These results have been corroborated in a number of economies. Mahdzan and Tabiani (2013) is an example of this kind of research in Malaysia.

On the liability side of the household balance sheet, Moore (2003) found that the least financially literate are more likely to have more expensive mortgages. Campbell (2006) showed that those with lower income and less education were less likely to refinance their mortgages during periods of falling interest rates. Stango and Zinman (2009) found that those unable to correctly calculate interest rates generally borrowed more and accumulated less wealth.

3. DATA AND METHODOLOGY

3.1 Data Collection

We used the harmonized OECD/INFE questionnaire of adult financial literacy (OECD 2015c) to ensure comparability with studies of other economies. The questionnaire includes questions about individual information (such as gender, age, income, occupation, and other sociodemographic information) and questions about financial literacy as well as financial inclusion. Financial literacy questions are designed to capture financial behavior, attitudes, and knowledge of adult people in a wide range of finance including making ends meet, long-term financial planning, and financial product selection. In addition, we included a number of questions related to the respondent's parents' education, school performance, distance from the nearest bank, household experience of financial shocks, and use of financial technology (fintech) products. We had the questionnaire translated into Lao, and the translation was checked by the Bank of Lao PDR (BoL).

The survey was conducted by Indochina Research Ltd under the direction of the Asian Development Bank Institute. Data collection was conducted from June to August 2018. Multilevel stratification was used. Eight provinces out of 18 were selected, namely Vientiane Capital, Oudomxay, Luangprabang, Bolikhamxay, Khammuane, Savannakhet, Sekong, and Champasack. In each province, we selected districts, and communes in each district to ensure that the sample reflected the actual distribution of the rural and urban population. In each commune, 10 households were randomly selected. Overall, there were 1,000 respondents from 100 communes in 29 districts of 8 cities/provinces (Please refer to Appendix 1 for sample distribution).[3]

3.2 Construction of Financial Literacy and Financial Inclusion Scores

In this paper, we follow the methodology in OECD/INFE (2015a) to calculate scores for the various indicators of financial literacy and financial inclusion.

The score for **financial knowledge** is calculated from responses to survey questions reflecting the subject's understanding of basic knowledge (or awareness) of relating to finance such as calculating interest rates, compound interest rates, risk and return evaluation, and understanding of inflation and financial diversification. This indicator ranges between 0 and 7.

Financial behavior captures "financially savvy" behavior. The score is calculated from eight questions relating to household budgeting, saving, considered purchases, bill payments, care about financial affairs, long-term financial goals, and borrowing, and ranges between 0 and 9.

[3] 1,000 is the minimum sample size recommended by the OECD (OECD 2015). Because 11 respondents did not report their income and/or education level, our sample for empirical analysis comprises only 989 observations.

The score for **financial attitude** measures the respondent's perceptions about money, saving, and spending, and ranges from 1 to 5. A higher score represents more conservative and considered behavior.

The **overall score for financial literacy** is the sum of three scores, and hence takes values between 1 and 21.

The score for **financial inclusion** is calculated from 7 indicators, including holdings of payment products, savings, insurance, credit products, product choice, and family financial support in case of emergency. This indicator ranges from 0 to 7.

3.3 Methodology

3.3.1 Determinants of Financial Literacy

To identify the determinants of financial literacy, we estimate the following equation for indices related to financial literacy:

$$FL_i = \alpha_0 + \alpha_1 Income_i + X_i \alpha_2 + \epsilon_i \tag{1}$$

where FL_i alternatively indicates the score for financial literacy, financial knowledge, financial behavior, or financial attitude of individual i; $Income_i$ is the natural logarithm of individual i's household income; X_i is a vector of control variables and ϵ_i is the identically and independently distributed (i.i.d.) error term. The control variables include individual age, education level, gender, occupation, rural versus urban residence, and province. With regards to individual age, we divide the sample into three age groups: those under 30 years old, those between 30 years and 60 years old, and those over 60 years old. We use the group of over 60 years old individuals as the base group. For educational level, we combine the categories into three groups: (i) those with some primary education or completed primary school (called "some primary education" group)[4]; (ii) those with some secondary education or completed secondary school (called "some secondary education" group); and (iii) those with at least some technical education beyond secondary education or university-level education (called "tertiary education" group). The last group is used as the base group. With regards to occupations, we combine those who are homemakers, retired and disabled people, and voluntarily unemployed persons into one group and use this as the base group in this study. The remaining groups are self-employed people; salaried employees, and apprentices/students.[5]

For ease of interpretation, in our empirical analyses we converted all indicator scores into z-score values:

$$score_z = \frac{(score - \overline{score})}{score_{sd}} \tag{2}$$

where $score_z$ is the converted z-score; $\overline{score}$ is the mean score and $score_{sd}$ is the standard deviation of the score.

4 None of the respondents had no primary education.

5 We were not able to adopt the same occupation categorizations we used in the case of Cambodia and Viet Nam (Morgan and Trinh 2017) due to the small number of observations for several occupations.

3.3.2 Effect of Financial Literacy on Saving Behavior

To quantify the effect of financial literacy on saving behavior, the following equation is estimated:

$$Save_i = \beta_0 + \beta_1 FL_i + \beta_2 Income_i + X_i\beta_3 + \eta_i \tag{3}$$

where $Save_i$ is a dummy variable, taking the value of one if the individual has any types of saving products and zero otherwise, [6] FL_i is the financial literacy score, and β_1 measures the effects of financial literacy on saving behavior. Other variables are defined the same as in equation (1) and η_i is the i.i.d. error term.

3.3.3 Effect of Financial Literacy on Financial Inclusion

To quantify the effect of financial literacy on financial inclusion, the following equation is estimated:

$$FI_i = \gamma_0 + \gamma_1 FL_i + \gamma_2 Income_i + X_i\gamma_3 + \omega_i \tag{4}$$

where FI_i is the financial inclusion score, FL_i is financial literacy score, and γ_1 measures the effects of financial literacy on financial inclusion. Other variables are defined the same as in equation (1) and ω_i is the i.i.d. error term.

4. DESCRIPTIVE STATISTICS[7,8]

4.1 Financial Literacy and Financial Inclusion in Cambodia, Lao PDR and Viet Nam: Stylized Facts

Table 1 presents the average values of the scores of financial literacy and financial inclusion in Cambodia, the Lao PDR and Viet Nam, including breakdowns by various categories.[9] The financial literacy scores are 11.8 for Cambodia, 12.5 for the Lao PDR and 12.7 for Viet Nam, out of a total possible score of 21. These scores are lower than the 30-economy average score of 13.3 and those of some other developing Asian economies, such as the People's Republic of China (PRC) (14.1), Indonesia (13.4) and Thailand (12.8). On the other hand, the financial literacy scores in the Lao PDR and

6 The score for savings behavior in this section is identified through questions on whether the respondents hold any types of saving accounts or participate in saving clubs or not (so-called formal way to save). Savings, however, could take many other forms, such as holding cash at home or in wallet, building up a balance in a bank account, giving money to a family member to save, buying gold, property or livestock, etc.

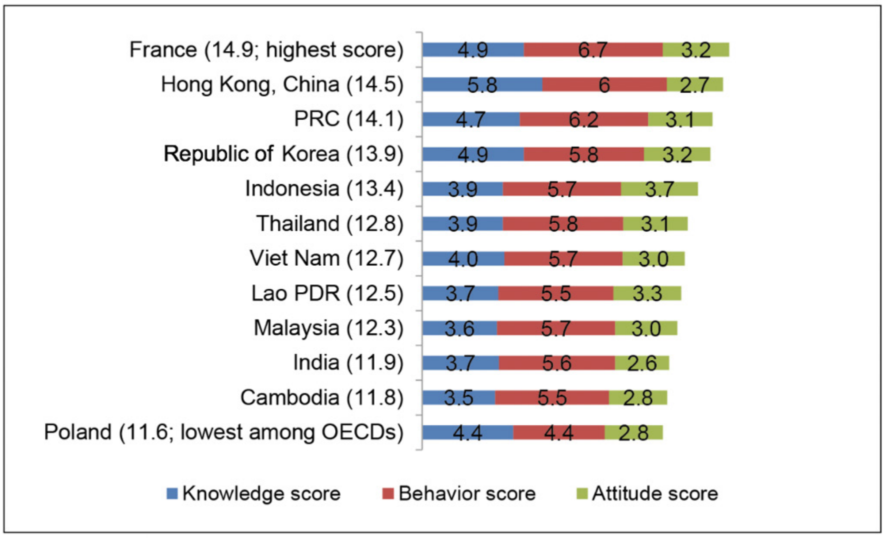
7 This section is updated from Morgan and Trinh (2017). We not only included data collected from Lao Financial Literacy Survey, but also revised our calculations of financial literacy and its components, financial savings and financial inclusion for Cambodia and Viet Nam. In Morgan and Trinh (2017), a variable used to calculate financial knowledge and a variable used to calculate financial behavior were miscoded. After revising our calculations, the score of financial knowledge, financial behavior and financial literacy were revised up somewhat.

8 In this section, for the case of Cambodia and Viet Nam, we use a weighted sample to adjust our samples to reflect the true population distribution, especially the distribution of rural and urban populations. While using the weighted sample had some effects on our calculations and estimations for Viet Nam, the calculation and estimation results for Cambodia using a weighted sample were only slightly changed. (Please refer to Appendix 2 in Morgan and Trinh (2017) for further explanation.) For the case of the Lao PDR, we do not use a weighted sample because the sample in this survey reflects the population distribution across the provinces and between rural and urban areas quite well.

9 We use the original scores, i.e., they have not been standardized, in this section.

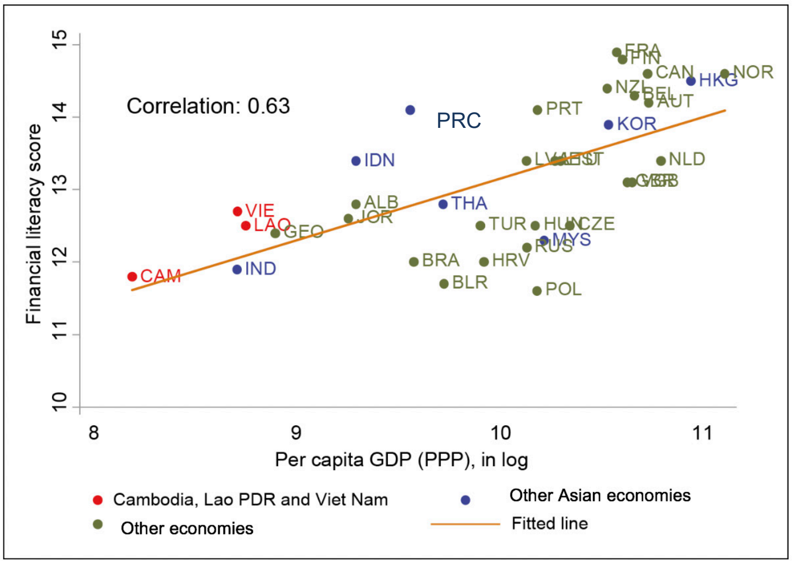
Viet Nam are slightly higher than those of Malaysia (12.3) and India (11.9) (see Figure 1). These results may be taken as neutral to positive, given that the levels of per capita income in Cambodia, the Lao PDR and Viet Nam are considerably lower than any of the other 30 economies in OECD/INFE (2016). Figure 2 shows there is a fairly high correlation between the average financial literacy score and per capita GDP (0.63), although there is still wide variation relative to the trend line. The scores of the Lao PDR and Viet Nam lie above the trend line while that of Cambodia lies slightly below the trend line. Except for Malaysia, the scores of all other Asian economies (including the PRC; Hong Kong, China; India; Indonesia; Republic of Korea, and Thailand) lie either above or close to the trend line.

Figure 1: Financial Literacy Scores in Selected Economies



Note: Highest and lowest scores relative to the sample of 30 economies in OECD/INFE (2016).
Source: OECD (2016) and authors' compilation from survey data.

Figure 2: Financial Literacy Score vs. GDP Per Capita



Source: OECD/INFE (2016), World Bank World Development Indicator database (http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD), authors' calculation.

Table 1: Financial Literacy and Financial Inclusion Scores in the Lao PDR, Cambodia and Viet Nam

	All	Urban Residents	Rural Residents	Women	Men	Age Under 30	Age from 30−60
Lao PDR							
Financial knowledge	3.68	3.82	3.63	3.58	3.79	3.67	3.70
% knowledgeable people	30%	34%	28%	28%	32%	29%	30%
Financial "savvy" behavior	5.55	5.67	5.51	5.58	5.50	5.33	5.75
Financial attitude	3.26	3.34	3.24	3.25	3.28	3.38	3.26
Financial literacy	12.49	12.83	12.37	12.42	12.57	12.38	12.71
Financial inclusion	2.59	2.97	2.46	2.56	2.63	2.48	2.66
Formal savings (last 2 years)	24.0%	33.1%	20.8%	24.1%	23.9%	24.7%	22.0%
Cambodia							
Financial knowledge	3.52	3.52	3.52	3.57	3.47	3.61	3.50
% knowledgeable people	17%	23%	15%	19%	16%	18%	18%
Financial "savvy" behavior	5.49	5.57	5.45	5.35	5.61	5.39	5.66
Financial attitude	2.80	2.95	2.74	2.83	2.76	2.84	2.77
Financial literacy	11.80	12.03	11.71	11.74	11.85	11.84	11.93
Financial inclusion	1.85	2.05	1.77	1.88	1.88	1.78	2.03
Formal savings (last 2 years)	11.5%	13.5%	10.8%	11.5%	11.5%	10.9%	12.7%
Viet Nam							
Financial knowledge	3.96	4.35	3.73	3.89	4.05	4.06	3.94
% knowledgeable people	36%	47%	29%	35%	36%	39%	34%
Financial "savvy" behavior	5.70	6.22	5.38	5.88	5.50	5.44	5.83
Financial attitude	3.00	3.03	2.98	3.04	2.95	2.91	3.04
Financial literacy	12.67	13.60	12.08	12.80	12.50	12.42	12.81
Financial inclusion	2.55	2.82	2.38	2.42	2.70	2.50	2.58
Formal savings (last 2 years)	23.4%	30.1%	19.1%	23.9%	22.7%	16.5%	25.8%

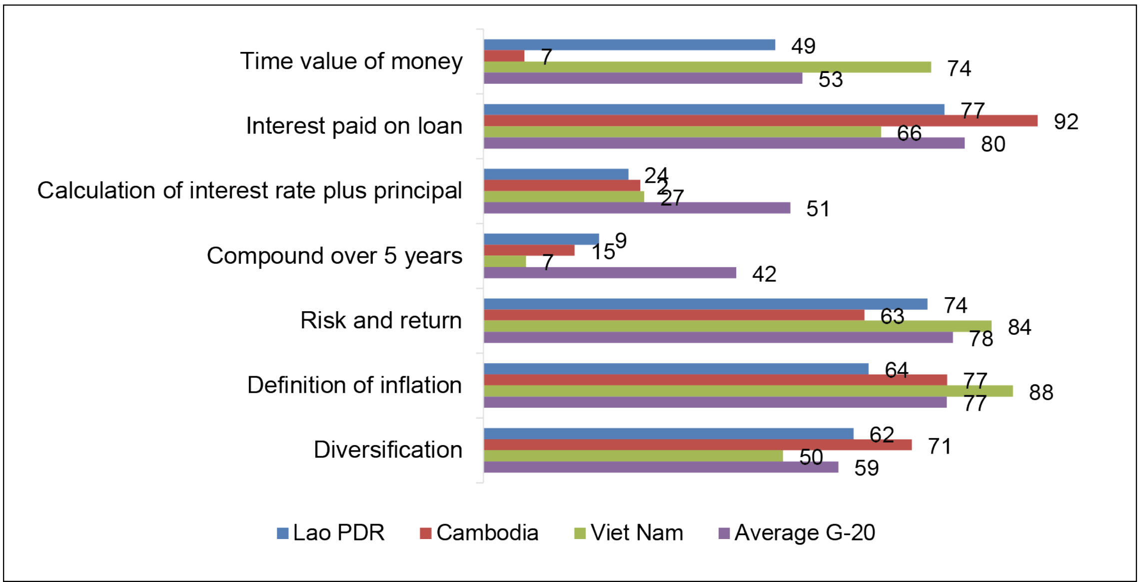
	Age Over 60	Some Tertiary Education	Some Secondary Education	Some Primary Education and Lower	Below Median Income	Above Median Income
Lao PDR						
Financial knowledge	3.58	4.20	3.90	3.45	3.46	3.96
% knowledgeable people	29%	44%	34%	25%	25%	36%
Financial "savvy" behavior	5.07	5.94	5.69	5.41	5.32	5.84
Financial attitude	3.04	3.53	3.31	3.18	3.17	3.39
Financial literacy	11.69	13.67	12.90	12.04	11.94	13.19
Financial inclusion	2.52	3.35	2.89	2.28	2.25	3.04
Formal savings (last 2 years)	32.0%	41.8%	31.5%	16.2%	15.5%	35.0%
Cambodia						
Financial knowledge	3.24	4.62	3.64	3.35	3.37	3.68
% knowledgeable people	13%	57%	21%	11%	13%	22%
Financial "savvy" behavior	5.05	5.50	5.61	5.40	5.31	5.67
Financial attitude	2.75	2.92	2.81	2.77	2.71	2.88
Financial literacy	11.03	13.04	12.06	11.52	11.40	12.24
Financial inclusion	1.26	2.51	2.04	1.63	1.63	2.1
Formal savings (last 2 years)	8.6%	30.2%	14.7%	7.5%	7.9%	15.8%
Viet Nam						
Financial knowledge	3.52	4.15	4.15	3.66	3.90	3.99
% knowledgeable people	26%	43%	40%	27%	34%	36%
Financial "savvy" behavior	5.64	6.39	5.68	5.27	4.93	5.96
Financial attitude	2.90	3.06	3.00	2.96	2.97	3.01
Financial literacy	12.06	13.60	12.82	11.88	11.80	12.95
Financial inclusion	2.41	3.43	2.45	2.02	2.21	2.66
Formal savings (last 2 years)	40.3%	35.7%	21.0%	17.0%	13.9%	26.5%

Note: Knowledgeable people refers to those answering at least 5 out of 7 questions on financial knowledge correctly. Weighted samples (for Cambodia and Viet Nam) are used for these figures. Please refer to Appendix 2 in Morgan and Trinh (2017) for statistics using unweighted samples.

Source: Authors' compilation from survey data.

Figure 3 compares the percentage of correct responses to the seven financial knowledge questions in Lao PDR, Cambodia and Viet Nam with the average score for G-20 economies. There are significant variations in the share of correct responses by question. For example, while the share of people in Lao PDR and Viet Nam who understand the time value of money is rather comparable with that of the G-20 average, only 7% of Cambodians gave the correct answer. The proportion of people who could correctly calculate simple interest rate on savings in all three economies is much lower than the G-20 average (24−27% vs. 51%), and the number of correct answers on interest compounding was also low. Most respondents understood the basic relationship between risk and return and the definition of inflation, but understanding of the concept of asset diversification was a bit weaker.

Figure 3: Financial Knowledge Questions: Share of Correct Responses
(%)



Source: Authors' calculations, OECD (2017).

The proportion of respondents that could correctly answer at least 5 out of 7 of the knowledge questions, which is our definition of being "financially knowledgeable," was rather low in Cambodia (17%), the Lao PDR (30%) and Viet Nam (36%). Table 1 presents the share of financially knowledgeable respondents for various subgroups of respondents in Cambodia, Lao PDR and Viet Nam.

There are some differences according to the subcategories of the financial literacy score. The scores for **financial knowledge** (Cambodia, 3.5; the Lao PDR: 3.7 and Viet Nam: 4.0) are at the lower end of those for the previous sample. Of greater concern perhaps is the fact that the share of respondents who answered correctly 5 out of 7 financial knowledge questions, which is considered to be the minimum target level, was rather low. Based on our sample, only 30% of people in the Lao PDR answered correctly 5 or more questions. This is significantly better than in Cambodia (17%) but slightly less than in Viet Nam (36%). On average, this figure is 62% for OECD economies surveyed, and 56% for the full sample of 30 economies surveyed (OECD, 2016). Again, however, this relatively low score can be attributed to the low level of income in these economies.

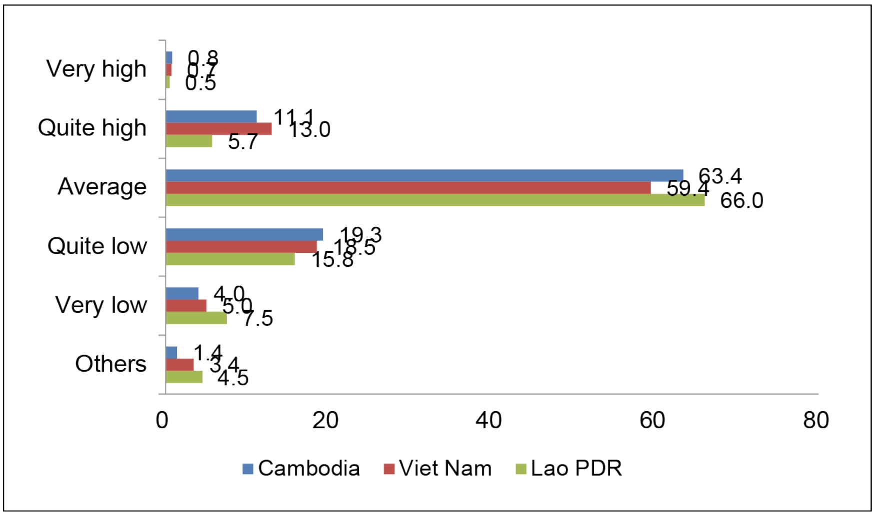
Similarly, the **financial** “savvy” or **behavior scores** (Cambodia and the Lao PDR 5.5; Viet Nam: 5.7) are slightly lower than those of Thailand (5.8), and the PRC (6.2) but slightly higher than that of India (5.0).

The **financial attitude scores** of Viet Nam and the Lao PDR are quite comparable to those of other economies (the Lao PDR, 3.3; Viet Nam, 3.0), while that of Cambodia (2.8) is at the lower end.

These average financial literacy scores are quite consistent with individuals’ self-assessment of overall knowledge about financial matters compared with other adults in each economy (Figure 4). Only about 6.2−14% of Cambodian, Lao PDR and Vietnamese respondents considered themselves to have a better understanding of overall knowledge about financial matters than other adults. This is consistent with the results for other economies with relatively low financial literacy scores. About 66% of Lao PDR respondents, 63% of Cambodian respondents and 59% of Vietnamese respondents self-assessed that they have the same level as other adults.

Figure 4: Self-assessment of Overall Knowledge about Financial Matters in the Lao PDR, Cambodia and Viet Nam

(%)



Note: For the cases of Viet Nam and Cambodia, we use weighted samples to draw this figure.

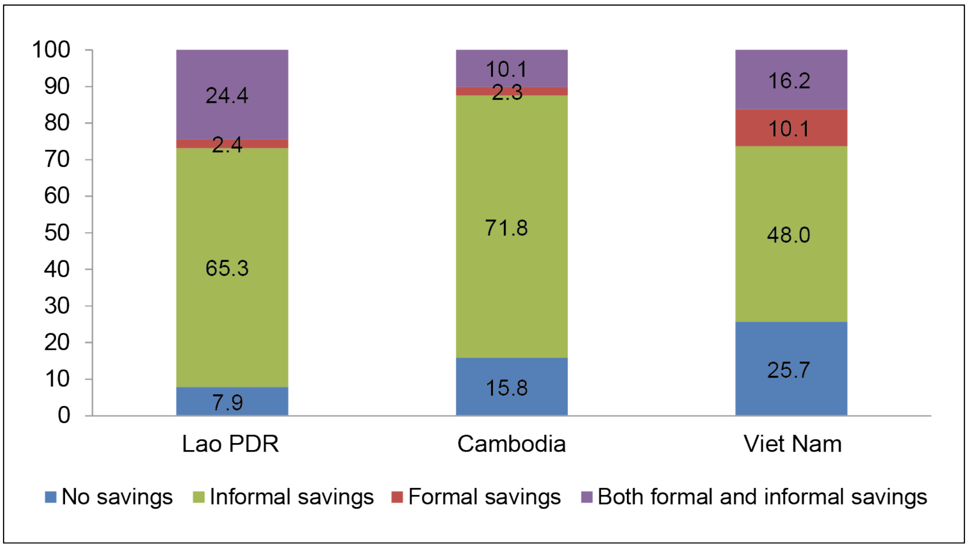
Source: Authors’ compilation from survey data.

Table 1 also shows some differences among population groups in Cambodia, the Lao PDR and Viet Nam. With regards to urban−rural gaps, in all three economies urban residents have higher financial scores than do their rural counterparts. The gaps are 0.32, 0.46 and 1.52 in Cambodia, the Lao PDR and Viet Nam, respectively. The sources of difference also vary by economy. In Cambodia, gaps in financial behavior and financial attitudes mainly contribute to the overall gap in financial literacy. However, the main sources of the gap in financial literacy in Viet Nam are differences in financial knowledge and financial behavior. In the Lao PDR, rural residents' scores for all three sub-indices of financial literacy are lower than those of urban residents.

The financial literacy scores of men are slightly higher than those of women in Cambodia and the Lao PDR, but lower in Viet Nam. Men have higher financial knowledge scores than women in the Lao PDR and Viet Nam, while women have higher financial knowledge scores in Cambodia. This pattern is also reflected in the share of those who can answer correctly 5 out of 7 financial knowledge questions. However, the differences are not large, and in most cases the regression results described below do not show significant differences by gender when other factors are controlled for. In all three economies, younger, more highly educated and higher-income respondents have higher financial literacy and financial knowledge scores. However, financial behavior and financial attitude scores do not show a consistent pattern across different groups of respondents.

With regards to savings behavior, only 11.5% of Cambodian respondents reported having savings products, while the figures are 24% and 23.4% in the Lao PDR and Viet Nam, respectively. In all three economies, the percentages of richer, more educated and urban residents who have saving products are higher than those of poorer, less educated, and rural residents, respectively. However, there are some differences in the savings behavior by age group. While 40.3% and 32% of respondents over 60 years old in Viet Nam and the Lao PDR have a savings product, respectively, this figure is only 8.6% in Cambodia. Women tend to save more than men, although the difference is rather small.

Figure 5: Proportion of Individuals Using Different Saving Forms (%)



Note: Weighted samples are used to draw this figure (see Appendix 2 in Morgan and Trinh (2017)).

Source: Authors' compilation from survey data.

While the proportion of respondents who have formal savings products is rather low, the percentage of respondents who save in some form is much higher. In fact, people have many ways to save, ranging from keeping money at home, asking friends, relatives or other family member to keep money for them (so-called informal saving), and keeping current accounts in banks or buying savings products (so-called formal savings). Figure 5 shows that only 15.8% of respondents in Cambodia and 25.7% of respondents in Viet Nam do not save in any form. This figure is much lower in the Lao PDR, where only 7.9% of respondents do not save in any form. The largest group of respondents in all three economies uses only informal ways to save (71.8% in Cambodia, 65.3% in the Lao PDR and 48% in Viet Nam), while very few of them use only formal ways of saving (2.3% in Cambodia, 2.4% in the Lao PDR and 10.1% in Viet Nam). The share of respondents who save in both formal and informal ways is 24.4% in the Lao PDR, 16.2% in Viet Nam and only 10.1% in Cambodia.

4.2 Descriptive Statistics for Empirical Analyses

Table 2 presents the descriptive statistics of explanatory variables included in the econometric models for the Lao PDR. In our sample, 56.5% of respondents have an income of less than 2 million kip per month, 29.5% have an income of 2 million to 3.5 million kip and 14% have an income of more than 3.5 million kip. Just over half (56%) of respondents have only some primary education, 32.9% have some secondary education, and 11.1% have some tertiary education. Most of the respondents (60%) are 30−60 years old. The respondents younger than 30 (or over 60) account for 27.1% (12.8%). With regards to occupation, most of the respondents are self-employed (67.6%) while paid employees make up just 15.3%. About 74% of respondents live in rural areas and only 45.2% respondents are male.

Table 2: Descriptive Statistics for Lao PDR

	Mean	SD
Income less than 2M kip	0.565	0.496
Income from 2M to 3.5M Kip	0.295	0.456
Income more than 3.5M Kip	0.140	0.347
Some tertiary education	0.111	0.314
Some secondary education	0.329	0.470
Some primary education	0.560	0.497
Under age 30	0.271	0.445
Age 30−60	0.601	0.490
Age over 60	0.128	0.334
Males	0.452	0.498
Self-employed	0.676	0.468
Paid employee	0.153	0.360
Cannot work/student/retired	0.059	0.236
Others	0.112	0.316
Rural resident	0.740	0.439
As good as friends in mathematics	0.655	0.476
Experienced household shocks	0.449	0.498

Source: Authors' estimates.

5. ECONOMETRIC RESULTS

In this section, we estimate the determinants of financial literacy, and the effects of financial literacy on the savings decision and financial inclusion in the Lao PDR, using the equations described in section 3.

5.1 Determinants of Financial Literacy

Table 3 shows ordinary least squares (OLS) regression results for the determinants of the overall financial literacy score and scores of three sub-indices of financial literacy (i.e., financial knowledge, financial behavior, and financial attitude). In columns (4) and (6), we also control for financial knowledge as a determinant of financial behavior and financial attitude. The results indicate that, in the Lao PDR, people with lower education have lower financial literacy scores. For example, those with only some primary education (some secondary education) have financial literacy scores 0.45 (0.24) points lower than those with some tertiary education, and the difference is significant at the 1% level. This corroborates the results of many other studies, including Bucher-Koenen and Lusardi (2011), OECD/INFE (2016) and Murendo and Mutsonziwa (2017). Morgan and Trinh (2017) find a similar pattern in Cambodia and Viet Nam.

Table 3: Determinants of Financial Literacy Scores in the Lao PDR

	(1) Financial Literacy	(2) Financial Knowledge	(3) Financial Behavior	(4) Financial Behavior	(5) Financial Attitude	(6) Financial Attitude
Financial knowledge				0.140***		–0.013
				[0.032]		[0.033]
Financial behavior						0.020
						[0.034]
Financial attitude				0.019		
				[0.033]		
Income from 2M to 3.5M Kip	0.305***	0.240***	0.192***	0.156**	0.134*	0.133*
	[0.072]	[0.074]	[0.073]	[0.072]	[0.073]	[0.074]
Income more than 3.5M Kip	0.301***	0.088	0.340***	0.326***	0.123	0.118
	[0.093]	[0.103]	[0.089]	[0.089]	[0.096]	[0.098]
Some secondary education	–0.239**	–0.141	–0.129	–0.105	–0.226**	–0.226**
	[0.101]	[0.113]	[0.097]	[0.097]	[0.106]	[0.107]
Some primary education	–0.446***	–0.324***	–0.258**	–0.208**	–0.285**	–0.284**
	[0.110]	[0.123]	[0.104]	[0.105]	[0.115]	[0.116]
Age 30−60	0.245***	0.118	0.330***	0.315***	–0.079	–0.083
	[0.074]	[0.077]	[0.076]	[0.075]	[0.079]	[0.080]
Age over 60	–0.022	0.132	0.026	0.014	–0.344***	–0.343***
	[0.124]	[0.120]	[0.124]	[0.121]	[0.119]	[0.119]
Male	–0.048	0.027	–0.116*	–0.120*	0.021	0.023
	[0.062]	[0.064]	[0.064]	[0.064]	[0.064]	[0.064]
Self-employed	0.237**	0.259**	0.194*	0.160	–0.105	–0.106
	[0.104]	[0.104]	[0.110]	[0.110]	[0.123]	[0.122]
Paid employees	0.135	0.262*	0.135	0.104	–0.303**	–0.302**
	[0.134]	[0.134]	[0.129]	[0.128]	[0.153]	[0.152]
Cannot work/Students/Retired	0.252	0.371**	0.125	0.075	–0.129	–0.126
	[0.178]	[0.172]	[0.190]	[0.186]	[0.189]	[0.188]
Rural area	0.006	0.018	0.055	0.055	–0.112	–0.113
	[0.090]	[0.099]	[0.086]	[0.084]	[0.090]	[0.090]
Distance from banks (mins)	–0.002	–0.002*	0.000	0.001	–0.002	–0.002
	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.001]
Family experienced shocks	0.137**	0.087	0.161**	0.150**	–0.040	–0.042
	[0.061]	[0.064]	[0.063]	[0.063]	[0.065]	[0.065]
At least as good in math as friends	0.337***	0.267***	0.279***	0.241***	0.026	0.024
	[0.074]	[0.075]	[0.075]	[0.075]	[0.073]	[0.074]
Intercept	–0.481***	–0.434**	–0.548***	–0.493**	0.328	0.334*
	[0.184]	[0.185]	[0.197]	[0.197]	[0.202]	[0.200]
R-squared	0.156	0.105	0.106	0.123	0.084	0.084
Number of observations	989	989	989	989	989	989

Note: Figures in brackets are standard deviations. ***, **, and * denote coefficients significant at 1%, 5%, and 10% statistical levels, respectively. The dependent variables are: financial literacy (column 1), financial knowledge (column 2), financial behavior (columns 3 and 4) and financial attitude (columns 5 and 6). We converted all financial scores into z-scores for ease of interpretation. Province dummies are included in all estimates.

Source: Authors' estimates.

The coefficients on income are statistically significant at the 1% level, suggesting that higher income is associated with a higher financial literacy score. This relationship holds even when some indicators that determine individual income, such as education and occupation, have been controlled for. It should be noted that differences in the estimates between those with an income of more than 3.5 million kip and those with an income higher than 2 million kip and less than 3.5 million kip are not statistically significant. This implies that those with income of at least 2 million kip have a financial literacy score higher than those with income lower than 2 million kip by about 0.32 standard deviations (or 0.82 points.)

Individual age is also associated with financial literacy scores. The estimation results show that individuals of age 30 to 60 have a higher financial literacy score than those under age 30 while the financial literacy score of individuals over age 60 is not statistically significantly different from that of those under 30. This result is different from some previous literature, such as Jappelli and Padula (2013) and OECD (2016). This, however, is consistent with the results found for Cambodia, where Morgan and Trinh (2017) show that the 30−60 age group has higher financial scores than other age groups. This pattern could be explained by the fact that financial issues may be more critical for people in this age group since their financial responsibility is heavier than that of the other groups. They may have to decide on buying a house, how to finance their children's education, and carry out various family responsibilities, including taking care of their parents. We also find that there is not much difference in financial literacy between women and men in the Lao PDR. This result is consistent with the results for Cambodia and Viet Nam (Morgan and Trinh, 2017) but different from results in other studies, where men typically score higher (Lusardi and Mitchell 2014).

The results also indicate that occupational status correlates with financial literacy. Similar to the case of Viet Nam, as documented in Morgan and Trinh (2017), self-employed workers have higher financial literacy scores than does the base group (those who do not want to work and those who did not report their occupation), while the scores of salaried workers, those who cannot work, students and retired people are not statistically significantly different from that of the base group.[10] We also find that Lao PDR rural residents' average financial literacy score is not significantly different from their urban counterparts. This result is also found in Cambodia, but not in Viet Nam, where rural residents have a lower financial literacy score. Our results also indicate that financial literacy is not associated with the distance from one's house to the nearest bank branch.

Columns 2−6 present the regression results for the determinants of the three subcomponents of the financial literacy score: financial knowledge, financial behavior, and financial attitude. In general, the estimation results show varying correlations between the covariates and each of the financial literacy subcomponents. The results show that individuals with an income of 2 million kip to 3.5 million kip have higher financial knowledge, financial behavior, and financial attitude scores than those with an income below 2 million kip. While the financial behavior score of those with an income of more than 3.5 million kip is higher than those who have an income lower than 2 million kip, the difference is not statistically significant. We also find that financial knowledge, financial behavior and financial attitude scores of individuals with some tertiary education are higher than the scores of those with some primary education but not statistically significantly higher than the scores of those with some secondary

[10] For the case of Cambodia, self-employed, salaried workers, and housewives have significantly higher financial literacy scores than the base group (unemployed, retired people, students).

education (except for financial attitude). This result is consistent with the results reported in Morgan and Trinh (2017) for Cambodia.

With regards to age groups, we find that people aged 30 to 60 have higher financial behavior scores than those under the age of 30. But for the other scores (financial knowledge and financial attitude) the difference with those under the age of 30 is not statistically significant. This result may explain the estimated coefficient on the variable for people age 30 to 60 in column 1. The financial burden of those aged 30 to 60 may be heavier than for those under 30, so their financial behavior is more likely to be "savvier" than that of those under 30. This is also confirmed by the fact that the financial behavior of those aged over 60 is not different from those under 30, since the financial burden of the former has lessened. However, it is interesting to note that the financial attitude score of those over the age of 60 is lower than that of people aged under 30, although both seem to have lighter financial burdens than those aged 30−60.

The results also indicate that occupational status correlates with different subscores differently. We find that self-employed individuals, paid employees, and those who cannot work, students and retired people have higher financial knowledge than people who do not want to work. However, an individual's occupation is not related to financial behavior. The coefficient for self-employed loses its significance when we control for financial knowledge. This result is different from the cases of Cambodia and Viet Nam. In Cambodia, those who are either self-employed, salaried employees or housewives are savvier than those in the base group (unemployed, retired, and students).[11] Meanwhile, Vietnamese self-employed are more likely to be savvier in their financial behavior than individuals in other occupations (Morgan and Trinh 2017). For financial attitude, paid employees have a lower score than the reference group while other groups are not statistically different from the reference group.

Our estimation results also suggest that there is no difference in the financial literacy score and its subscores between rural and urban residents, except for the case of financial attitude, and this relationship is rather weak, only statistically significant at the 10% level. Distance from bank branches also had no significant relation with financial behavior or financial attitude, although it is weakly and negatively associated with financial knowledge. We also find that individuals with parents and siblings that experienced financial shocks in the previous 12 months have higher financial literacy and financial behavior scores than those whose parents and siblings did not experience such shocks. This suggests that financial shocks to their parents or siblings might provide him/her a learning opportunity about the importance of financial literacy. Those who self-reported that they were at least as good as their friends in mathematics in the last year of education have higher financial literacy scores, are more financially knowledgeable, and behave with more savvy. Financial knowledge is also positively related to financial behavior, but not financial attitude. This result is consistent with results in Morgan and Trinh (2017), which found that for both Cambodian and Vietnamese samples, higher financial knowledge is positively associated with savvier financial behavior, but not financial attitude.

[11] Due to differences in the distribution of professions in Cambodia, the Lao PDR and Viet Nam, the reference group used in this study is different from that used in the study of Cambodia and Viet Nam (Morgan and Trinh 2017). For the case of the Lao PDR, except for self-employed and salaried workers, other professions have a small number of observations. Therefore we categorized professions into four groups: self-employed, salaried employees, disabled people (i.e., cannot work), students and retired people, and, finally, voluntarily and involuntarily unemployed people. The last group also includes those who did not answer questions about their profession. We use the last group as the reference group in this study.

5.2 Effect of Financial Literacy on Savings Behavior

Table 4 presents the regression results for the relation between financial literacy and savings behavior, using the probit estimator (columns 1−3) and the linear probability estimator (columns 4−6).[12] All three dependent variables in our estimations are binary variables indicating different types of savings. The dependent variables in columns 1 and 4 take the value of one if an individual has saved, either in the form of informal savings or formal savings, in the last 12 months. The dependent variables in columns 2 (and 5) and 3 (and 6) indicate whether an individual has saved formally in the last year, or in the last two years (regardless of whether they still saved or not), respectively. The estimation results show that financial literacy is positively correlated with the decision to save, regardless of the saving form and saving period. A one-standard deviation increase in the financial literacy score (or an increase in the score by 2.56 points) is associated with an increased probability of any savings by around 5.5 (or 6.8 for the linear probability estimator) percentage points and of formal savings in the previous year and in the previous two years by 7.9 (or 7.5) and 5.3 (5.1) percentage points, respectively. This result is consistent with the results in Cambodia and Viet Nam, where the figures are about 7−10 percentage points (Morgan and Trinh 2017). Although income is not related to the decision to save, it has a positive and statistically significant effect on the decision to save formally. For example, the probability of having savings in a formal institution in the previous year among those with an income of 2 million kip to 3.5 million kip (more than 3.5 million kip) is 10.2 (16.3) percentage points higher than those who have an income that is less than 2 million kip. The same pattern is also observed for the case of having formal savings in the previous two years (column 3).

While we do not find a correlation between the education level and the decision to save (either formal or informal savings), those with some primary education tend to have a lower probability of saving than those with some tertiary education (the reference group), although the difference is not significant. The correlation between education level and saving decision is also observed in Cambodia and, to some extent, Viet Nam (Morgan and Trinh 2017).

The estimation results also suggest that people over the age of 60 tend to save formally more than those under age 30. For example, individuals over 60 have a higher probability of having formal savings than those under 30 by about 15 to 18 percentage points. This result is similar to the case of Viet Nam, but not Cambodia, where age is not correlated with the savings decision. We also find that there is no difference in savings probability between men and women, while rural residents seem to have a higher probability to save (in either formal or informal forms), but not in formal saving forms only. We also did not find any correlation between the distance from the bank branch and decisions to save, even formal savings.

Occupation has a significant impact on the decision to save. While those who cannot work, students, or retired people tend to save less than those who do not want to work (the reference group), self-employed and paid employees tend to have a higher probability of having formal savings.

[12] In Appendices 2 and 3, we further examine the role of each component of financial literacy (e.g. financial knowledge, financial behavior and financial attitude) on an individual's saving behavior.

Table 4: Financial Literacy and Saving Behavior in the Lao PDR

	Probit Estimation (Marginal Effects)			Linear Probability (OLS)		
	(1)	(2)	(3)	(4)	(5)	(6)
	Save (Both Formal and Informal)	Formal Save in Previous Year	Formal Save in Previous Two Years	Save (Both Formal and Informal)	Formal Save in Previous Year	Formal Save in Previous Two Years
Financial literacy	0.055***	0.079***	0.053***	0.068***	0.075***	0.051***
	[0.008]	[0.014]	[0.014]	[0.010]	[0.014]	[0.013]
Income from 2M to 3.5M Kip	0.027	0.101***	0.112***	0.025	0.108***	0.118***
	[0.018]	[0.032]	[0.032]	[0.018]	[0.035]	[0.034]
Income more than 3.5M Kip	0.031	0.162***	0.206***	0.012	0.175***	0.214***
	[0.022]	[0.045]	[0.046]	[0.023]	[0.047]	[0.047]
Some secondary education	–0.007	–0.056	–0.033	–0.016	–0.065	–0.042
	[0.025]	[0.054]	[0.052]	[0.025]	[0.057]	[0.056]
Some primary education	–0.029	–0.168***	–0.147***	–0.033	–0.176***	–0.157***
	[0.027]	[0.056]	[0.054]	[0.027]	[0.059]	[0.058]
Age 30−60	0.007	0.086***	–0.006	0.005	0.084***	–0.009
	[0.019]	[0.030]	[0.030]	[0.020]	[0.032]	[0.031]
Age over 60	0.015	0.146***	0.177***	0.015	0.144***	0.166***
	[0.025]	[0.051]	[0.051]	[0.029]	[0.050]	[0.050]
Male	–0.02	–0.039	–0.03	–0.022	–0.037	–0.028
	[0.016]	[0.027]	[0.026]	[0.017]	[0.027]	[0.027]
Self-employed	0.015	0.100**	0.008	0.008	0.105***	0.023
	[0.024]	[0.041]	[0.044]	[0.030]	[0.041]	[0.045]
Paid employee	0.029	0.096*	0.043	0.024	0.106*	0.063
	[0.028]	[0.053]	[0.055]	[0.033]	[0.056]	[0.058]
Cannot work/Students/Retired	–0.179***	0.036	0.001	–0.159***	0.025	–0.001
	[0.061]	[0.065]	[0.065]	[0.057]	[0.068]	[0.072]
Rural area	0.063***	–0.036	–0.012	0.062**	–0.033	–0.006
	[0.023]	[0.037]	[0.037]	[0.027]	[0.040]	[0.040]
Distance from banks (mins)	0.004	0.000	0.000	0.000*	0.000	–0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
R-squared (pseudo R-square for probit)	0.2599	0.1548	0.1322	0.1481	0.1645	0.1383
Number of observations	989	989	989	989	989	989

Note: Figures in brackets are standard deviations. ***, **, and * denote coefficients significant at the 1%, 5% and 10% statistical levels, respectively. The dependent variable in columns 1 and 4 is whether the respondent has any types of savings, that in columns 2 and 5 is whether the respondent has saved formally in the previous year or not, and in columns 3 and 6 whether he/she had savings in the previous two years or not. Province dummies are included in all estimates.

Source: Authors' estimates.

However, the above estimates may be biased due to endogeneity problems (including reverse causality or the existence of unobservable factors that affect both the savings decision and financial literacy). In order to address these potential endogeneity problems, we use an instrumental variable (IV) approach. Following Fernandes, Lynch and Netemeyer (2014) and Murendo and Mutsonziwa (2017), we use the mean financial literacy score at the district level as the first instrument for individual financial literacy. One may argue that areas with a higher level of economic development may also have better financial development and thus the average financial literacy will tend to be higher in such areas. To address this issue, we control for the development of the district by the share of people who have an income higher than the economy's median income. We also follow Grohmann (2018) and Grohmann, Klühs, and Menkhoff (2016) to use respondents' numerical skills when they were in school as an additional instrumental variable. This variable takes the value of one if the respondent was as good as other friends at mathematics in their last year of education and zero otherwise. The third indicator is whether their parents and siblings experienced any financial shocks in the last year or not. This type of instrumental variable is used in van Rooji, Lusardi and Alessi (2011).[13] We expect that these instrumental variables did not directly affect the respondents' saving decision but only indirectly through their financial literacy level.

Table 5 reports our estimation results. We use instrumental variable probit estimators (columns 1−3) and instrumental variable linear probability regressions (columns 4−6) for our three indicators of savings. Column 7 presents the first-stage regression.[14] The first-stage regression suggests that the three instrumental variables are statistically significantly associated with financial literacy at the 5% level (whether parents/siblings experienced shocks) and the 1% level for the other two variables. Tests show that our instrumental variables do not suffer from weak identification or weak instrument issues. The Hansen J-statistics (p-value) indicate that our set of instrumental variables satisfies the exclusion conditions. With regards to the impact of financial literacy on individual savings behavior, the results show a positive and significant impact of financial literacy on saving behaviors, regardless of the indicators we used, although significance levels are only 5% or 10%. Also, when we control for endogeneity of financial literacy, the coefficient estimates of financial literacy are slightly higher. For example, as reported in column 5, a one-standard-deviation increase in financial literacy score (i.e., 2.56 points) raises the likelihood of having a formal saving product by 9.3 percentage points (versus an increase of 7.5 percentage points if endogeneity is not controlled for). The estimated impact for the variable indicating having savings in the last two years also increased from 5.1 to 7.2 percentage points (column 6). However, controlling for endogeneity, the coefficient of the variable indicating the likelihood of having any types of savings is reduced to 4.2 from 6.8 percentage points. Also, when controlling for endogeneity, the effect of financial literacy on the saving decision (either informal or formal) and formal saving decision in the previous two years are only statistically significant at the 10% level. The results for other variables are not qualitatively different from the results presented in Table 4.

[13] One may argue that if other adult household members experienced a negative financial shock, they may ask the respondents to save more to offset this. This may violate the exogeneity condition of the instrumental variables (i.e., the instrumental variable may directly affect the outcome of the dependent variable). To test whether there is any correlation between financial shocks experienced by parents and/or siblings and the saving decision, we re-estimated Equation 2 and controlled for our three instrumental variables. We find that, as long as the financial literacy score is controlled for, these three instrumental variables do not have any statistically significant association with the saving decision. (The results are available upon request.) Moreover, our financial literacy score is constructed from three subscores, including financial knowledge, financial behavior and financial attitude. Therefore. it is more plausible to argue that financial shocks experienced by other household members may not directly affect the saving decision, but indirectly through changes in financial attitude and financial behavior of respondents (i.e., through a learning process).

[14] The first-stage regression is the same for all estimations since we use the same instrumental variables and control variables to estimate the financial literacy.

Table 5: Effects of Financial Literacy on Decision to Save in the Lao PDR (IV)

	IV Probit Method (Marginal Effect)			IV Linear Probability Method			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Save (Both Formal and Informal)	Formal Save in Previous Year	Formal Save in Previous Two Years	Save (Both Formal and Informal)	Formal Save in Previous Year	Formal Save in Previous Two Years	First Stage
Financial literacy	0.048*	0.094***	0.069*	0.042*	0.093**	0.072*	
	[0.026]	[0.036]	[0.037]	[0.022]	[0.041]	[0.039]	
From 2M to 3.5M Kip	0.033	0.061*	0.074**	0.036*	0.071*	0.080**	0.308***
	[0.020]	[0.035]	[0.034]	[0.020]	[0.039]	[0.038]	[0.070]
More than 3.5M Kip	0.036	0.104**	0.149***	0.023	0.128**	0.166***	0.286***
	[0.025]	[0.047]	[0.049]	[0.026]	[0.050]	[0.050]	[0.094]
Some secondary education	–0.009	–0.038	–0.017	–0.027	–0.053	–0.026	–0.174*
	[0.025]	[0.051]	[0.050]	[0.025]	[0.057]	[0.056]	[0.093]
Some primary education	–0.034	–0.140**	–0.121**	–0.052*	– 0.154**	–0.132**	–0.354***
	[0.029]	[0.057]	[0.056]	[0.027]	[0.062]	[0.061]	[0.102]
Age 30−60	0.009	0.075**	–0.017	0.017	0.071**	–0.021	0.196***
	[0.021]	[0.032]	[0.032]	[0.020]	[0.033]	[0.032]	[0.072]
Age over 60	0.017	0.135***	0.163***	0.018	0.132***	0.154***	–0.025
	[0.027]	[0.049]	[0.051]	[0.029]	[0.050]	[0.049]	[0.116]
Male	–0.020	–0.033	–0.023	–0.022	–0.027	–0.019	–0.032
	[0.016]	[0.027]	[0.027]	[0.017]	[0.027]	[0.026]	[0.059]
Self–employed	0.018	0.088**	–0.005	0.011	0.093**	0.014	0.215**
	[0.027]	[0.043]	[0.044]	[0.029]	[0.041]	[0.045]	[0.099]
Paid employees	0.032	0.091*	0.035	0.020	0.099*	0.059	0.089
	[0.033]	[0.054]	[0.056]	[0.031]	[0.055]	[0.058]	[0.125]
Cannot work/Students/Retired	–0.173**	0.019	–0.019	–0.153***	0.008	–0.017	0.223
	[0.069]	[0.065]	[0.066]	[0.058]	[0.067]	[0.071]	[0.168]
Rural area	0.058**	–0.016	0.008	0.051**	–0.011	0.014	0.078
	[0.023]	[0.037]	[0.037]	[0.026]	[0.041]	[0.040]	[0.086]
% people with income at least 2M, dist-level	–0.025	0.224***	0.221***	–0.040	0.196***	0.193***	–0.504***
	[0.045]	[0.073]	[0.071]	[0.043]	[0.072]	[0.072]	[0.166]
Distance from banks (mins)	0.000	0.000	–0.000	0.000	0.000	0.000	–0.002
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.001]
Average literacy at district level							0.898***
							[0.086]
Whether as good at maths as friends							0.287***
							[0.069]
Parents/siblings experienced shocks							0.131**
							[0.057]
Intercept				0.866***	0.153*	0.069	–0.002
				[0.051]	[0.081]	[0.079]	[0.001]
Ward test of exogeneity (p-value)	0.8069	0.6248	0.6073				
Anderson canon. corr. LM statistic				99.532	99.532	99.532	
Cragg−Donald Wald F statistic				46.349	46.349	46.349	
Sargan statistics (p-value)				0.5421	0.6245	0.3587	
R-squared				0.14	0.1427	0.1696	0.2422
Number of observations	989	989	989	989	989	989	989

Note: Figures in brackets are standard deviations. ***, **, and * denote coefficients significant at the 1%, 5%, and 10% statistical levels, respectively. We use province dummies in all specifications. The dependent variables are whether the respondent holds: any saving products (columns 1 and 4); formal savings product in previous year (columns 2 and 5); and formal savings in previous two years (column 3 and 6). The first stage result is reported in column 7.

Source: Authors' estimates.

Table 6: Effect of Financial Literacy on Types of Savings in the Lao PDR (Marginal Effects)

	Ordered Probit			Multinomial Probit		
	(1)	(2)	(3)	(4)	(5)	(6)
	No Saving	Either Formal or Informal	Both Formal and Informal	No Saving	Informal Saving	Both Formal and Informal Saving
Financial literacy	–0.046***	–0.056***	0.103***	–0.059***	–0.026	0.084***
	[0.006]	[0.007]	[0.011]	[0.008]	[0.016]	[0.014]
Income from 2M to 3.5M Kip	–0.039***	–0.051***	0.090***	–0.027	–0.074**	0.101***
	[0.011]	[0.018]	[0.028]	[0.019]	[0.036]	[0.032]
Income more than 3.5M Kip	–0.050***	–0.079***	0.129***	–0.030	–0.136***	0.166***
	[0.013]	[0.029]	[0.041]	[0.022]	[0.048]	[0.044]
Some secondary education	0.011	0.025	–0.036	–0.003	0.037	–0.035
	[0.014]	[0.034]	[0.048]	[0.028]	[0.058]	[0.053]
Some primary education	0.046***	0.069**	–0.115**	0.017	0.122**	–0.139**
	[0.015]	[0.034]	[0.048]	[0.031]	[0.060]	[0.055]
Age 30−60	–0.035**	–0.032***	0.067***	–0.011	–0.087**	0.098***
	[0.014]	[0.011]	[0.024]	[0.019]	[0.034]	[0.030]
Age over 60	–0.050***	–0.058**	0.108***	–0.017	–0.127**	0.143***
	[0.017]	[0.025]	[0.041]	[0.025]	[0.055]	[0.050]
Male	0.020*	0.024*	–0.044**	0.021	0.024	–0.045*
	[0.010]	[0.012]	[0.022]	[0.016]	[0.030]	[0.027]
Self-employed	–0.039**	–0.037***	0.077**	–0.017	–0.093**	0.110***
	[0.019]	[0.013]	[0.031]	[0.024]	[0.045]	[0.039]
Paid employee	–0.037*	–0.034	0.071*	–0.030	–0.062	0.092*
	[0.022]	[0.021]	[0.042]	[0.029]	[0.058]	[0.052]
Cannot work/Student/Retired	0.054	0.007	–0.061	0.163***	–0.211***	0.048
	[0.045]	[0.010]	[0.045]	[0.059]	[0.079]	[0.061]
Rural area	–0.013	–0.015	0.028	–0.066***	0.096**	–0.030
	[0.015]	[0.018]	[0.034]	[0.024]	[0.041]	[0.036]
Distance from bank (min.)	–0.000	–0.000	0.000	–0.000	0.001	–0.000
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Number of observations		989			966	

Note: Figures in brackets are standard deviations. ***, **, and * denote statistically significant at the 1%, 5%, and 10% levels, respectively. We use provinces dummies in all specifications. Marginal effects are presented. The dependent variables in columns 1−3 are: (i) no savings; (ii) one type of savings (either formal or informal savings); and (iii) two types of savings. Ordered probit is used to estimate (with group of no saving as the reference group). The dependent variables in columns 4−6 are: (i) no savings; (ii) only informal savings; and (iii) both formal and informal savings. We do not use the group of only formal savings because it has only 24 observations (versus 19 covariates in our model). The multinomial probit estimator is used. The weighted sample is used in all estimations.

Source: Authors' estimates.

Individuals may adopt different types of savings to mitigate risks or maximize returns. To further examine the role of financial literacy on the saving decision, we estimate how financial literacy affects individuals' choice of saving types (Table 6). Columns 1−3 present the results in which the dependent variable is the number of savings types a respondent holds. A respondent may have no savings, one type of saving (either formal or informal) or two types of savings (i.e., both formal and informal savings). We used the ordered probit estimator due to the nature of the dependent variable. The results show that a higher financial literacy score tends to be associated with having both forms of savings. However, surprisingly, the (absolute) magnitude of the effect of the financial literacy score on having either formal or informal saving is higher than that on having no savings. Our estimation results also indicate that those with higher income tend to save in both forms than those with lower income. Education is also positively correlated with the number of saving forms. People over age 30 are more likely to have both formal and informal savings than those under 30. Male respondents are more likely than female respondents to either not save or to save in either formal or informal forms. We also find that respondents' occupation determines their saving forms. Self-employed and paid employees tend to save more in both formal and informal forms than those in the reference group.

Columns 4−6 present the estimation results (marginal effects) obtained from the multinomial probit regression. The dependent variables include four mutually exclusive groups of individuals. The first group is those who do not have any savings. We use this group as the reference group in our estimation. The other groups include: those holding only informal savings; and those who hold both informal and formal savings. (We exclude individuals who hold only formal savings because there are only 24 people in this group.) Column (4) reports the marginal effects of financial literacy on having no saving; column (5) presents the marginal effects of financial literacy on using only informal savings, respectively; and column (6) presents the marginal effects on having saved in both formal and informal forms. The results in column (4) show a negative relationship between the financial literacy score and the probability of not to save. A one-standard-deviation increase in the financial literacy score reduces the likelihood of not saving by 5.8 percentage points. This figure is much lower than those for Cambodia (12.4 percentage points) and Viet Nam (16.8 percentage points). The results also indicate that a higher financial literacy score is negatively correlated with the probability of having only informal savings. However, as expected, the negative effect of the financial literacy score on having only informal savings is lower than that on having no savings. The financial literacy score has a strong positive effect on having both formal and informal savings. If the financial literacy score increases by one standard deviation, the likelihood of having saved in both formal and informal forms increases by 8.4 percentage points, higher than that of Cambodia (7.1 percentage points) but lower than for Viet Nam (10.5 percentage points). However, similarly to the results from the OLS and IV estimations presented above, the distance from home to the nearest bank is not statistically correlated with the types and number of savings products that an individual holds.

5.3 Effect of Financial Literacy on Financial Inclusion

Table 7 reports our estimation results on the relation between financial literacy and financial inclusion.[15] The first column reports the result from the OLS estimator while columns 2 and 3 show the results using instrumental variables for the financial literacy variable. The results in column 1 show that financial literacy is positively associated with financial inclusion and this relationship is statistically significant at the 1% level. A one-standard-deviation increase in the financial literacy score is associated with a rise of 0.25 standard deviations of the financial inclusion score. This result is consistent with the results of Morgan and Trinh (2017) for Cambodia and Viet Nam, although the magnitude of the association is somewhat larger in Cambodia and in Viet Nam (0.34 and 0.42 standard deviations, respectively). Higher income is also positively associated with financial inclusion and this relationship is statistically significant at the 1% level. Even when financial literacy and income are controlled for, higher education levels are significantly associated with higher financial inclusion. This result is similar to the case of Viet Nam, while in Cambodia, there is no association between education and financial inclusion when income and financial literacy are controlled for. Being over the age of 30 is significantly related to financial inclusion. The occupation of respondents is

[15] See section 3.2 for the definition of the financial inclusion score.

not statistically associated with financial inclusion, which is consistent with the case of Viet Nam as reported in Morgan and Trinh (2017). The results also indicate that people living in rural areas have lower financial inclusion scores and those who live closer to commercial banks have higher financial inclusion scores. This latter result highlights the importance of supply-side access for financial inclusion.

Table 7: Financial Literacy and Financial Inclusion in the Lao PDR

	(1) OLS	(2) IV (2nd Stage)	(3) IV (1st Stage)
Financial literacy	0.245***	0.392***	
	[0.029]	[0.084]	
Income from 2M to 3.5M Kip	0.293***	0.135*	0.308***
	[0.070]	[0.077]	[0.073]
Income more than 3.5M Kip	0.549***	0.360***	0.286***
	[0.095]	[0.100]	[0.098]
Some secondary education	–0.221**	–0.154	–0.174*
	[0.102]	[0.106]	[0.106]
Some primary education	–0.581***	–0.448***	–0.354***
	[0.112]	[0.118]	[0.112]
Age 30−60	0.211***	0.153**	0.196***
	[0.071]	[0.073]	[0.072]
Age over 60	0.307***	0.265**	–0.025
	[0.107]	[0.104]	[0.106]
Male	–0.050	–0.034	–0.032
	[0.059]	[0.059]	[0.060]
Self–employed	0.123	0.078	0.215**
	[0.097]	[0.099]	[0.098]
Paid employees	0.031	0.001	0.089
	[0.117]	[0.123]	[0.124]
Cannot work/Students/Retired	0.105	0.033	0.223
	[0.149]	[0.154]	[0.154]
Rural area	–0.162**	–0.033	0.078
	[0.081]	[0.085]	[0.086]
Distance from banks (mins)	–0.003***	–0.002*	–0.002
	[0.001]	[0.001]	[0.001]
% people with income at least 2M, dist-level		0.540***	–0.504***
		[0.160]	[0.173]
Average literacy at district level			0.816***
			[0.081]
Whether as good at maths as friends			0.282***
			[0.067]
Parents/siblings experienced shocks			0.146**
			[0.058]
Intercept	0.138	0.187	–0.438**
	[0.164]	[0.172]	[0.178]
Anderson canon. corr. LM statistic			119.883
Cragg−Donald Wald F statistic			44.461
Sargan statistics (p-value)			0.105
R-squared	0.253	0.2417	0.2422
N	989	989	989

Note: Figures in bracket are standard deviations. ***, **, and * denote coefficient is statistically significant at the 1%, 5%, and 10% levels, respectively. The dependent variable is the financial inclusion z-score. The weighted sample is used all estimations.

Source: Authors' estimates.

Similarly to the relationship between financial literacy and the savings decision, the OLS estimates may suffer from endogeneity problems. To address this, we also use the average financial literacy score at the district level, mathematical ability and financial shocks experienced by parents and/or siblings as instrumental variables for the financial literacy score. The test statistics indicate that our set of instrumental variables do not suffer from underidentification or weak instrument problems. The Sargan test also suggests that our instrumental variables satisfy the exclusion condition. The estimation results show a positive and significant impact of financial literacy on financial inclusion, actually larger than the OLS estimate. This result is consistent with other studies that use IV's for financial literacy such as Bucher-Koenen and Lusardi (2011), Agnew, Bateman, and Thorp (2013), and Morgan and Trinh (2017). According to Lusardi and Mitchell (2014), the true effect of financial literacy seems to be biased downward, although the larger magnitude of the IV coefficient may be attributed to either measurement errors or a greater response from those who are affected by the instruments. The estimation results also show that the correlations between financial inclusion and other covariates are not qualitatively different from the OLS results, except for the variable indicating whether an individual has some secondary education or not. The result also indicates that, when we control for endogeneity of financial literacy, the relationship between distance to the bank and financial inclusion is still statistically significant, although only at the 10% level.

6. CONCLUSION

Our study of adult financial literacy in the Lao PDR produced findings that are very consistent with our earlier study of Cambodia and Viet Nam (Morgan and Trinh 2017). It also breaks new ground by introducing new instrumental variables for financial literacy in order to correct for endogeneity, and introducing a supply-side variable, the distance from the nearest bank. This increases our confidence in our findings that financial literacy positively affects both savings and financial inclusion, and thus provides supporting evidence for our earlier findings in this regard on Cambodia and Viet Nam.

Generally, our study corroborates the findings of studies of other economies but uncovers some differences as well. The overall scores of financial literacy in Cambodia (11.5), the Lao PDR (12.5), and Viet Nam (12.7) are at the low end of the range seen in the other 30 economies cited in OECD (2016). However, these results are, if anything, positive, given the relative low levels of per capita income in those two economies.

One of the most robust findings is that higher levels of education were generally found to be highly significant and positively correlated with financial literacy. This holds for both the overall measure of financial literacy and the subscores for financial knowledge, financial behavior and savings. The results for the overall financial literacy score were consistent with the findings for the other 30 economies reported in OECD (2016) and the findings of Morgan and Trinh (2017) for Viet Nam and Cambodia. However, in contrast to the results for Cambodia and Viet Nam, having at least some secondary education was significant for improving all three sub-indices of financial literacy.

Respondents aged 30−60 years old had significantly higher overall financial literacy scores, but the effects of age on individual subscores were not consistent. In particular, there was no significant effect of age on financial knowledge while the aged 30−60 group has higher financial behavior scores and people over age 60 have lower financial attitude scores. Gender seemed to have little effect on financial literacy, financial knowledge, or financial attitude scores while males have lower financial behavior scores. These results are consistent with Morgan and Trinh (2017), who find that the gender coefficient was generally not significant for Cambodia and Viet Nam.

Financial literacy has statistically significant effects on savings and financial inclusion. Individuals with higher financial literacy scores tend to save more in both formal and informal ways than those who have lower financial literacy scores, even when we control for income and education. People with higher financial literacy also have higher financial inclusion. The results suggest that richer and more educated people tend to hold both formal and informal savings while people with some primary education are more likely to hold only informal savings. Furthermore, younger people (age less than 30) do not hold formal savings but they usually save informally. People in rural areas are more likely to save in the form of informal savings than people in urban areas. This may be because of a lower level of financial development and access to financial services in rural areas. Although the results did not suggest a correlation between the time from an individual's house to nearest banks and savings decision, the former has an effect on one's financial inclusion. The results generally showed that self-employed workers had higher levels of financial literacy than did people in other employment categories, but this relationship is relatively weak. This result is somewhat similar to the case of Cambodia and Viet Nam. However, in Cambodia and Viet Nam, paid employees also tend to have higher financial scores.

Perhaps most importantly from a macroeconomic perspective, both financial literacy and general education levels are positively and significantly related to formal and informal savings activity, and financial literacy has an independent effect even when the general education level is corrected for. This result holds even when the possible endogeneity of financial literacy is corrected for by using three instrumental variables. Thus, improving general education levels is important, but additional gains can be obtained by developing policies such as financial education programs that directly affect financial literacy. These could have important potential impacts in terms of increasing savings in those economies. This result also supports similar findings for Cambodia and Viet Nam, where only one instrumental variable was used.

Also importantly, both financial literacy and general education levels are positively and significantly related to the measure of financial inclusion. This result also holds even when the possible endogeneity of financial literacy is corrected for by using three instrumental variables. These results are also consistent with those for Cambodia and Viet Nam. Therefore, increased financial inclusion holds the prospect of making increased savings more readily available for investment activity in those economies. Again, this suggests the importance of developing policies to raise both general education and financial literacy. Access to finance, i.e., distance from the bank, is also shown to be important.

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APPENDIX 1: SAMPLE DISTRIBUTION

Province	Population	Sample	% Male	% Female	% Age under 30	% Age 30−60	% Age over 60
Vientiane Capital	55,018	60	31.7%	68.3%	25.0%	70.0%	5.0%
Oudomxay	146,250	180	50.0%	50.0%	29.4%	56.7%	13.9%
Laungpabang	220,665	120	40.8%	59.2%	39.2%	52.5%	8.3%
Bolikhamxai	154,770	110	49.1%	50.9%	19.1%	69.1%	11.8%
Khammuan	219,264	130	33.1%	66.9%	29.2%	55.4%	15.4%
Savanaket	566,675	200	50.5%	49.5%	24.0%	56.5%	19.5%
Sekong	45,095	60	40.0%	60.0%	36.7%	61.7%	1.7%
Champasak	384,295	140	45.7%	54.3%	19.3%	68.6%	12.1%
Total	2,287,194	1,000	44.4%	55.6%	27.1%	60.1%	12.8%

APPENDIX 2: FINANCIAL KNOWLEDGE, FINANCIAL BEHAVIOR, FINANCIAL ATTITUDE LITERACY AND SAVING BEHAVIOR IN THE LAO PDR

	(1) Save (Both Formal and Informal)	(2) Formal Save in Previous Year	(3) Formal Save in Previous Two years
Financial knowledge	–0.004	0.008	0.007
	[0.007]	[0.014]	[0.014]
Financial behavior	0.068***	0.079***	0.059***
	[0.007]	[0.014]	[0.014]
Financial attitude	–0.013*	0.049***	0.019
	[0.007]	[0.013]	[0.013]
From 2M to 3.5M Kip	0.024	0.103***	0.117***
	[0.017]	[0.032]	[0.032]
More than 3.5M Kip	0.015	0.151***	0.202***
	[0.021]	[0.043]	[0.045]
Some secondary education	–0.007	–0.053	–0.036
	[0.022]	[0.053]	[0.052]
Some primary education	–0.025	–0.170***	–0.154***
	[0.024]	[0.055]	[0.054]
Age 30−60	–0.013	0.085***	–0.009
	[0.016]	[0.030]	[0.030]
Age over 60	–0.001	0.159***	0.187***
	[0.021]	[0.050]	[0.051]
Male	–0.005	–0.035	–0.025
	[0.015]	[0.027]	[0.026]
Self–employed	0.012	0.108***	0.010
	[0.020]	[0.040]	[0.043]
Paid employees	0.017	0.111**	0.048
	[0.026]	[0.052]	[0.055]
Cannot work/Students/Retired	–0.148**	0.050	0.007
	[0.058]	[0.065]	[0.066]
Rural area	0.057***	–0.041	–0.024
	[0.019]	[0.035]	[0.035]
R-squared	0.2319	0.1734	0.1428
N	989	989	989

Note: Figures in brackets are standard deviations. ***, **, and * denote coefficients significant at the 1%, 5%, and 10% statistical levels, respectively. The dependent variable in column 1 is whether the respondent has any types of savings, that in column 2 is whether the respondent has saved formally in the previous year or not and in column 3 is whether he/she had savings in the previous two years or not. Province dummies are included in all estimates.

Source: Authors' estimates.

APPENDIX 3: EFFECT OF EACH COMPONENT OF FINANCIAL LITERACY ON TYPES OF SAVINGS IN THE LAO PDR (MARGINAL EFFECTS)

	Ordered Probit			Multiple Nominal Probit		
	No Saving	Either Formal or Informal	Both Formal and Informal	No Saving	Informal Saving	Both Formal and Informal Saving
Financial knowledge	–0.001	–0.002	0.003	0.002	–0.014	0.012
	[0.005]	[0.007]	[0.011]	[0.008]	[0.015]	[0.013]
Financial behavior	–0.055***	–0.075***	0.131***	–0.069***	–0.011	0.081***
	[0.006]	[0.008]	[0.012]	[0.007]	[0.016]	[0.014]
Financial attitude	–0.006	–0.009	0.015	0.013*	–0.060***	0.047***
	[0.004]	[0.006]	[0.010]	[0.007]	[0.014]	[0.013]
From 2M to 3.5M Kip	–0.038***	–0.057***	0.095***	–0.023	–0.082**	0.104***
	[0.010]	[0.018]	[0.028]	[0.017]	[0.035]	[0.032]
More than 3.5M Kip	–0.043***	–0.070***	0.113***	–0.013	–0.141***	0.155***
	[0.012]	[0.027]	[0.038]	[0.022]	[0.047]	[0.043]
Some secondary education	0.011	0.028	–0.039	–0.004	0.035	–0.031
	[0.012]	[0.035]	[0.047]	[0.025]	[0.057]	[0.052]
Some primary education	0.046***	0.077**	–0.122***	0.014	0.125**	–0.139***
	[0.014]	[0.034]	[0.047]	[0.027]	[0.059]	[0.053]
Age 30−60	–0.025**	–0.027**	0.053**	0.010	–0.104***	0.095***
	[0.012]	[0.012]	[0.024]	[0.016]	[0.033]	[0.030]
Age over 60	–0.045***	–0.066**	0.112***	0.001	–0.152***	0.151***
	[0.015]	[0.026]	[0.040]	[0.021]	[0.053]	[0.049]
Male	0.015	0.020	–0.035	0.007	0.032	–0.039
	[0.010]	[0.013]	[0.023]	[0.015]	[0.029]	[0.027]
Self–employed	–0.038**	–0.041***	0.079***	–0.013	–0.101**	0.114***
	[0.017]	[0.013]	[0.030]	[0.020]	[0.043]	[0.038]
Paid employees	–0.036*	–0.037*	0.073*	–0.016	–0.089	0.105**
	[0.021]	[0.022]	[0.041]	[0.027]	[0.057]	[0.051]
Cannot work/Students/Retired	0.046	0.011	–0.056	0.137**	–0.200**	0.063
	[0.041]	[0.010]	[0.044]	[0.057]	[0.078]	[0.063]
Rural area	–0.011	–0.015	0.027	–0.056***	0.095**	–0.039
	[0.014]	[0.018]	[0.032]	[0.019]	[0.038]	[0.034]
N		989			966	

Note: Figures in brackets are standard deviations. ***, **, and * denote statistically significant at the 1%, 5%, and 10% levels, respectively. We use provinces dummies in all specifications. Marginal effects are presented. The dependent variables in columns 1−3 are: (i) no savings; (ii) one type of savings (either formal or informal savings); and (iii) two types of savings. Ordered probit is used to estimate (with group of no saving as the reference group). The dependent variables in columns 4−6 are: (i) no savings; and (ii) only informal savings; (iii) both formal and informal savings. We do not use the group of only formal savings because it has only 24 observations (versus 19 covariates in our model). The multinomial probit estimator is used. The weighted sample is used in all estimations.

Source: Authors' estimates.

A Study on Determinants of Household Debt Repayment Using Hazard Model

- focusing on Middle/old-aged people over 45years old -

2019.08.20

Contents

1.Background and Purpose

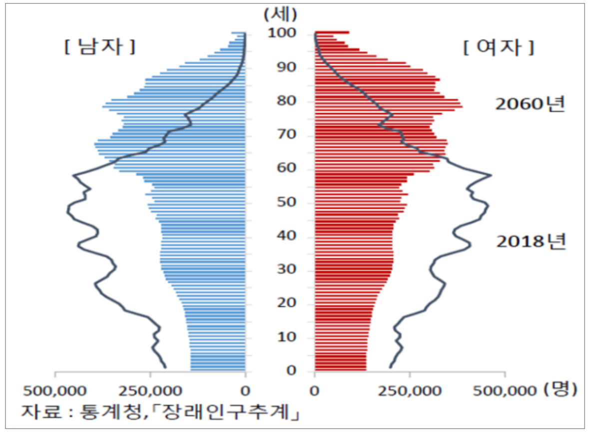
Aging index

- In 2000, the proportion of people over 65 years old was 7%, but in 2018, the portion of the population increased to 14.3%, exceeding the aged society standard of 14%;
  In 2060, the proportion is expected to exceed 41%
  (National Statistical Office, 2018).

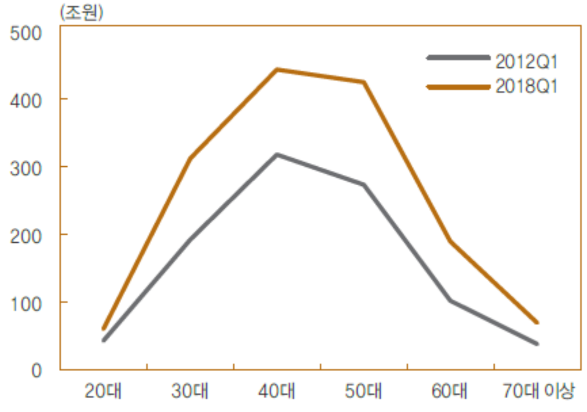
: Aging society(over 7%), Aged society(over 14%), Super aged society(over 20%)

- The burden of household debt has dramatically increased in the 40-50s, and the center of household debt is expected to move to the Middle/old-aged according to population movements
  : As of the first quarter of 2018, the household debt ratio is 30% for the 40s, 28% for 50s, 21% for 30s and 17% for 60s.
  : Compared to the first quarter of 2012, most of the loans increased in the 30-50s, where the economy is active.
  (Bank of Korea 2018.9)

<Figure 1> Population Pyramid



<Figure 2> Distribution of Debt Scale by Age Group



주: 1) 20대는 18~19세 포함 자료: 가계부채DB

1.Background and Purpose

- Korea 's household debt is increasing at a rapid pace around Middle/old-aged people, which could seriously aggravate the problem of household debt in the future. (Kim Ji Sub, 2015)

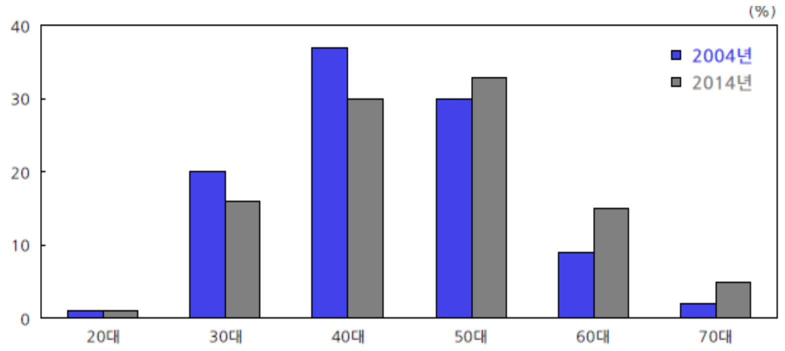
① Household debt ratio to income

- The ratio of the household debt to the income of the elderly over the age of 60 is the most serious among OECD countries.
  : The ratio of household debt to income over 60 years old is 161%, which is well above the average of all age groups(128%)
  : This ratio is the highest among the comparable OECD countries, and the household debt ratio of households over the age of 60 is higher than that of all age groups.

② Structural characteristics of income and assets

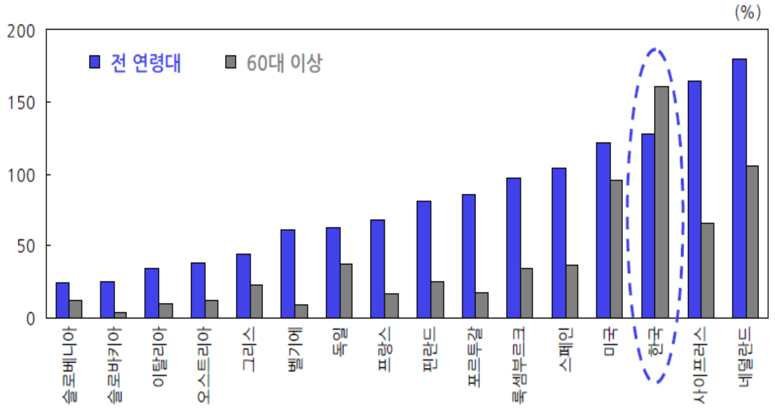
- In total income, pension income and transfer income account for 29% and the proportion of earned income and business income exceeds 50%. That indicates that the Middle/old-aged households in Korea have an income structure sensitive to economic fluctuations and the availability of debt repayment is weak.
- The ratio of household debt to financial assets is 74%, which is higher than that of all age groups (67%)

<Figure 3> Change in composition ratio of household debt by age group



자료: 2004년 「노동패널」; 2014년 「가계금융・복지조사」.

<Figure 4> Ratio of household debt to income



주: 국가 간 비교를 위해 본고는 경상소득을 기반으로 분석을 실시함.
자료: 2014년 「가계금융・복지조사」; HFCS; 2013년 SCF.

1.Background and Purpose

Importance of household debt research

- In Korea, Middle/old-aged households are relatively weak in debt repayment ability, so if macroeconomic conditions are to be changed suddenly, the debt repayment capability will likely deteriorate. (Kim, J, S., 2015)
- Along with low fertility and aging, Middle/old-aged households have a high debt burden, which is likely to increase the social problem.

A summary of previous research

- There have been various studies on household debt since the 1990s, but, research focusing on Middle/old-aged households limited, especially reviews on debt repayment are in short supply.
- As a result of a study of Middle/old-aged households, Yilmazer and Devaney (2005) found that elderly households with low asset levels may have difficulty in repaying their debts, and the need to analyze the household debt repayment problem based on longitudinal data analysis.
- Choi Pil-sun and Min In-sik(2008) pointed out that the elderly in Korea has a relatively large debt, and The 60s or older have a high debt burden and a lower debt repayment ratio.
- Kim Woo-young and Kim Hyun-jung (2010) pointed out that Korea's debt holding probability and average debt size was the largest in the age group of 45 to 54 years.

1.Background and Purpose

- Kim Min-jung and Cho Hye-jin (2013) estimate that 13.6% of elderly households with debt holdings can repay their debts entirely as financial assets after retirement. When using real estate other than residential housing, the debt repayment rate was 36%, using all assets, including residential housing, the debt repayment rate was 78.7%. And many retirement households without earned income predicted that debt repayment would be difficult.
- Kim Ji-seop and Oh Yun-hae (2016) interpreted that the change in population structure led to an increase in the household debt repayment burden of Middle/old-aged people. They accumulate assets in line with the rise in life expectancy but did not reduce household debt in advance.

1.Background and Purpose

Purpose

- This paper focuses on research that explores the determinants of debt repayment among Middle/old-aged people over the age of 45. Specifically, we investigate the key factors affecting the repayment rate of Middle/old-aged households and analyze dynamically how the debt repayment ratio varies with time. In particular, examine how the inheritance, which means retirement and the transfer of wealth between generations.
- In particular, This paper considered the possession characteristic of real estate debt to verify the difference of the determinants of the debt repayment ratio. Possession characteristic includes whether posses real estate debt or not, whether posses personal home purchase loan or not, whether posses a rental deposit or not.
- In the end, suggest practical implications.

2.Approach Method

- Scope of study : Middle/old-aged household(Head of household: 45 or older)
- Source: Korean Longitudinal Study of Ageing (short: KLoSA)
- Approach
  - To apply the Survival analysis model, I set up the debt repayment of the middle/old-aged households as a hazard event. .
  - Analysis model: Kaplan-Meier, Cox proportional hazard model.

▪ Statistical package: R program, SPSS, EXCELL

3.Empirical analysis

Research hypothesis

[Hypothesis 1]

depend on whether middle/old-aged households possess a real estate debt or not, the difference in the debt repayment trend considering the time flow exists.

[Hypothesis 2]

The key factors that affect the debt repayment rate of middle/old-aged households exist mutual differences between factor groups.

[Hypothesis 3]

The key factors that affect the debt repayment rate of middle/old-aged households exist mutual differences depend on whether they possess a real estate debt or not.

[Hypothesis 4]

The key factors that affect the debt repayment rate of middle/old-aged households exist mutual differences depend on Type of Real Estate Debt.

<Table 1> Definition of variables to be applied to the extended hazard model

Type			Variable Description
Socio-Demographic Factors	sex	time fixing factor	male, female
	age		45~54, 55~64, 65 years or older
	education level		elementary, secondary , university
	marital status		marriage, separation or divorce etc.
	residence type	time variation factor	general house, apartment
	residence area		large cities, small cities, town and villages
Financial Factors	asset		log of total assets per household
	income		log of total income per household
	expenditure		log of total expenditure per household
Economic activity Factors	labor status		Participation, no participating
	retirement phase		economic activity: under 55 years old; partial retirement age: 55-64 years; full retirement age: 65 years and over
Subjective Psychological Factors	health status (current status)		good, normal, bad
	health status (compare last survey)		better, unchanged, worse
	saving status		yes, no
	heritage availability		high, normal, low

3.Empirical analysis

Descriptive statistics

- to successfully derive the analysis results, the study extracted 500 households and 1,986 observations as sample households used for the empirical analysis.
- Before the actual analysis, the paper conducted a T-test to describe the frequency of the variables and verify the differences among the variable groups.
- Among them, 345 observations corresponding to debt repayment accounted for 17.4% of the total. Of the total analysis households, 1,172 observations of real estate debt hold 59.1% of the total. Debt repayment was relatively high in the households that didn't possess real estate debt.
- Break down the real estate debt into the home purchase loans, and rental deposits, 1,356 observations possess home purchase loan in which Occupied 68.2% of the total. And 700 observations possess a rental deposit in which occupied 35.2% of the total.
- Of the total analysis households, the household with rental deposits showed lower debt repayment rates than other households.

<Table 2> Frequency of debt repayment by households with real estate-related debt

Type		Total (1,986)	No repayment (1,641/82.6%)	Repayment (345/17.4%)	P
Real estate debt	Hold	1,172 (59.1%)	1,009 (86.1%)	163 (13.9%)	0.104
	not hold	814 (40.9%)	632 (77.6%)	182 (22.4%)	
Home purchase loan	Hold	1,356 (68.2%)	1,136 (83.8%)	220 (16.2%)	0.003
	Not hold	630 (31.8%)	505 (80.2%)	125 (19.8%)	
Rental deposit	hold	700 (35.2%)	651 (93.0%)	49 (7.0%)	0.005
	not	1,286 (64.8%)	990 (77.0%)	296 (23.0%)	

* Based on the first (2006) time of starting observation

3.Empirical analysis

[Hypothesis 1]

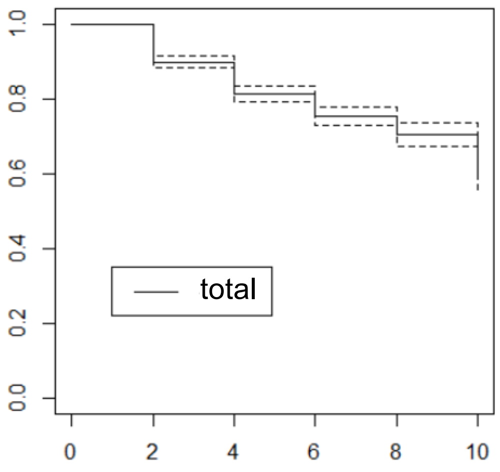
depend on whether middle/old-aged households possess a real estate debt or not, the difference in the debt repayment trend considering the time flow exists.

Kaplan-Meier survival analysis results

The survival rate of middle/old-aged Korean households shows a significant difference depending on whether they have real estate debt or not.

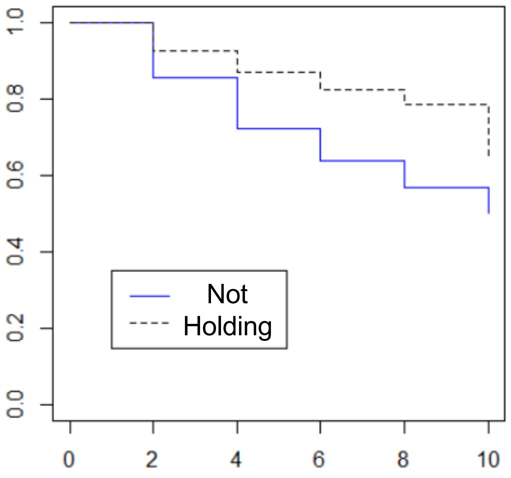
- In other words, the households that didn't possess real estate debt have a low survival rate, which means that the debt repayment rate is high.
  On the contrary, the survival rate of the households that possess real estate debt is relatively high, which means that the debt repayment rate is low.
  The trend of survival curves showed a significant difference by type of real estate debt.
- Of the household that possesses home purchase loan, The survival curve did not show a significant difference compared to not possesses.
- But, did show a significant difference depending on whether they possess rental deposit or not.

[total]



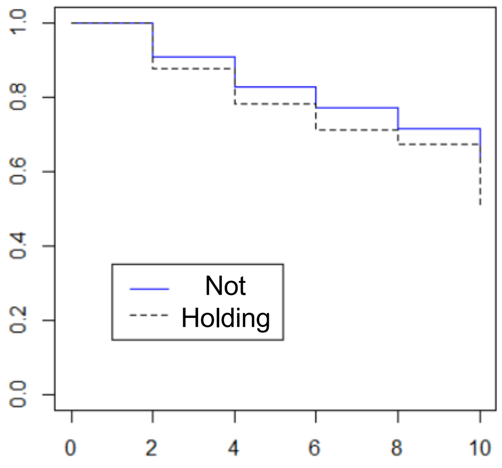
[elapsed time(year)]

[real estate debt(holding/not)]



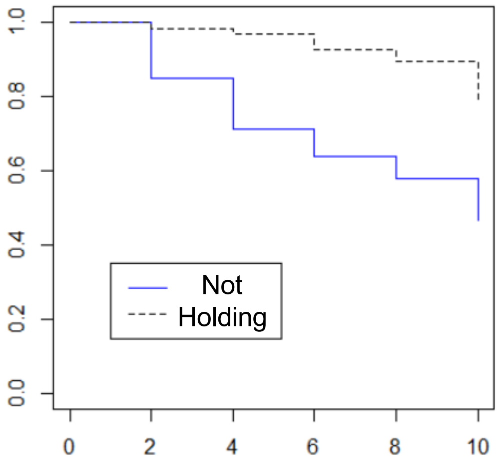
[elapsed time(year)]

[home purchase loan(holding/not)]



[elapsed time(year)]

[rental deposit(holding/not)]



[elapsed time(year)]

3.Empirical analysis

Correlation analysis

This is the result of the correlation analysis for the variables except the nominal scale. As a result of the analysis, the coefficient of correlation between total assets of households and the likelihood of miscarriage was 0.573, between income and expenditure was 0.694, and between health status (①) and health status(②) was as high as 0.540. Therefore, households' assets, income, and health status(②) are excluded from the study model.

<Table 3> Correlation analysis by variables

type	asset	income	Expendi -ture	health stat(①) (current status)	health stat(②) (compare last survey)	heritage availability
asset	1					
income	0.347 ***	1				
expenditure	0.432 ***	0.694 ***	1			
health status(①) (current status)	-0.194 ***	-0.274 ***	-0.287 ***	1		
health status(②) (compare last survey)	-0.148 ***	-0.220 ***	-0.236 ***	0.540***	1	
Heritage availability	0.573 ***	0.251 ***	0.291***	-0.191***	-0.123***	1
* Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1						

Variable Extraction

The study used the AIC method (backward) to extract the optimal explanatory variables. As a result of AIC model, age, education level, residence type, retirement stage, labor status, health status, miscarriage, and total saving were adopted as significant variables and gender, saving insurance coverage, residence area, marital status, Was removed from the model.

<Table 4> Result of variable extraction by AIC method (backward)

variable		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
<none>		1898.0	1895.0	1893.3	1891.6	1890.0	1888.9
select	age	1900.5	1898.1	1896.2	1894.5	1894.2	1892.9
	residence type	1904.3	1901.2	1899.2	1895.7	1893.9	1892.8
	labor status	1899.0	1896.6	1894.9	1894.2	1892.5	1893.2
	retirement phase	1898.2	1895.3	1893.4	1891.3	1889.7	1888.9
	health status	1899.3	1896.2	1894.6	1893.3	1891.7	1891.0
	heritage availability	1901.8	1898.9	1897.0	1895.5	1894.2	1893.6
	expenditure	1900.7	1897.5	1896.8	1894.8	1893.7	1891.9
Remove	sex	1897.2	1894.2	1892.2	1890.5	1888.9	-
	saving status	1896.4	1893.4	1891.7	1890.0	-	-
	residence area	1896.8	1893.5	1891.6	-	-	-
	marital status	1896.3	1893.3	-	-	-	-
	education level	1902.8	1899.8	-	-		

3.Empirical analysis

[Hypothesis 2]

The key factors that affect the debt repayment rate of middle/old-aged households exist mutual differences between factor groups.

Hazard Model Analysis Results

- The P-value for the LRT test and the P-value for the Wald test were less than 0.001.
- The key variables affecting the rate of debt repayment are age, education level, residence type, retirement phase, health status, the possibility of providing heritage, and total expenditure of households.

<Table 5> Results of determinants of debt repayment ratio①

variable		HR	Std.Err	Z	P
age		1.050	0.019	2.496	0.012*
education level (By: university)	secondary	2.078	0.259	2.816	0.004**
	elementary	1.908	0.285	2.263	0.023*
residence type (By: apartment)	General house	0.665	0.163	-2.484	0.013*
retirement phase (By: Economic Activity)	partial retirement	0.592	0.273	-1.917	0.055.
	full retirement	0.441	0.436	-1.876	0.060.
health status(current status) (By: bad)	normal	1.165	0.165	0.930	0.352
	good	1.977	0.258	2.632	0.008**
heritage availability (By: low)	high	0.571	0.191	-2.912	0.003**
	normal	0.814	0.186	-1.099	0.271
Log of total expenditure		0.481	0.323	-2.258	0.023*

n= 654, number of events= 189 ; Likelihood ratio test = 52.48 on 12 df, p=5e-07;
Wald test = 51.32 on 12 df, p=8e-07; Score (log-rank) test = 52.38 on 12 df, p=5e-07

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

3.Empirical analysis

[Hypothesis 3]

The key factors that affect the debt repayment rate of middle/old-aged households exist mutual differences depend on whether they possess a real estate debt or not.

- <Table 6> is the result of analyzing the determinants of debt repayment ratio into three cases.
  First is the total households, second is the households with real estate debts, and third is the households without real estate debts.
- In households without real estate debt, variables such as residence type, retirement phase, labor status, health status, and heritage availability were not adopted.
- In households that own real estate debt, the labor status variable has been newly adopted instead of excluding health status.
- Age is a commonly adopted variable and the debt repayment rate increased with age. These findings support the life-cycle hypothesis, regardless of property ownership.

- In the case of owning real estate debt, the level of retirement variables was the highest, and the coefficients of partial retirement and full retirement were lower than the total households. It means that the burden of repaying the debt due to retirement is even more severe in households with real estate debt.

<Table 6> Analysis of determinants of debt repayment ratio②

variable		HR(hazard ratio) total	HR(hazard ratio) real estate debt (○)	HR(hazard ratio) real estate debt (X)
age		1.050*	1.087*	1.029*
education level (By: university)	secondary	2.078**	1.942.	2.426*
	elementary	1.908*	1.263	2.382*
residence type (By: apartment)	general house	0.665*	0.565*	
retirement phase (By: Economic Activity)	partial retire	0.592.	0.276**	
	full retire	0.441.	0.119**	
labor status (By: no)	participation		1.609.	
health status (current status)(By: bad)	normal	1.165		
	good	1.977**		
heritage availability (By: low)	high	0.571***	0.386***	
	normal	0.814	0.626.	
Log of total expenditure		0.481*	0.462	0.439*
N(nunber of events)		654(189)	382(93)	289(99)
Likelihood ratio test		52.89***	46.24***	27.26***
Wald test		51.32***	44.87***	22.95***
Score (logrank) test		52.38***	47.62***	24.48***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

3.Empirical analysis

[Hypothesis 4]

The key factors that affect the debt repayment rate of middle/old-aged households exist mutual differences depend on Type of Real Estate Debt.

- <Table 7> shows the results of exploring the factors affecting the debt repayment ratio for home loans and lease deposits.
- In households with home loans, age, educational attainment, type of residence, retirement stage, labor participation, health status and total expenditure have been adopted as key factors.
- In households with lease deposits, health status, the likelihood of miscarriage and total expenditure have been adopted as key factors.

- In the model of the home purchase loan, The variable coefficients did not show any significant difference compared to the analysis results.

- In the model of rental deposit, The absence of an age variable means that age and debt repayment are irrelevant. It's inconsistent with the life cycle hypothesis. When the state of health is good, the probability of debt repayment is high, and when the possibility of miscarriage is high, the likelihood of debt repayment is low.

<Table 7> Determinants of Debt Repayment Ratio③

variable		HR		
		total	home purchase loan	rental deposit
age		1.050*	1.107*	
education level (By: university)	secondary	2.078**	1.543	
	elementary	1.908*	0.828	
residence type (By: apartment)	general house	0.665*	0.466*	
retirement phase (By: Economic Activity)	partial retirement	0.592.	0.260*	
	full retirement	0.441.	0.110*	
labor status(By: no)	participation		1.953*	
health status (current status)(By: bad)	normal	1.165	0.927	2.985*
	good	1.977**	2.057.	2.670
heritage availability (By: low)	high	0.571***		0.228**
	normal	0.814		0.440.
Log of total expenditure		0.481*	0.227*	0.208.
N(nunber of events)		654(189)	212(71)	219(28)
Likelihood ratio test		52.89***	30.71***	17.56**
Wald test		51.32***	29.7***	16.59**
Score (logrank) test		52.38***	31.6***	18.17**

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

4.Summary

The problem of the household debt of middle and elderly citizens is likely to become more severe as the population ages. In the 1990s, research on a household debt has diversified into the home economics and consumer studies fields. However, research focusing on middle and elderly households limited, and studies on debt repayment are in short supply.

This paper focuses on research that explores the determinants of debt reimbursement as a research subject for the elderly over the age of 45. The data were analyzed using the first to sixth data from the KLoSA, and the analysis method was applied to the hazard model considering the variation of time(t).
The results showed that age, education level, residence type, retirement stage, health status, the possibility of providing a legacy, the total expenditure of households were the main variables influencing the debt repayment of middle-aged households.

This result is consistent with the life cycle hypothesis that reflects the retirement consumption puzzle and the intergenerational transfer theory. Age showed a positive correlation with the repayment rate and was adopted as a critical factor affecting the repayment rate regardless of the real estate-related debt holdings. The shift in the retirement stage showed a negative correlation with the debt repayment rate and supported the claim of the retirement consumption puzzle. The total expenditure showed a negative association with the debt repayment rate, and the probability of providing miscarriage was 61.4% slower than the 'low' households with 'high' debt repayment rate.

There was a difference in the variable on the debt repayment rate of the middle and elderly household depending on the type of real estate debt. As a result, age, education level, residence type, retirement stage, labor participation, health status, and total expenditure were adopted as critical factors in households with home purchase loans. In the case of households with rent deposits, health status, the likelihood of providing miscarriage, and total expenditure were the key factors.

In households with home purchase loans, the burden of debt repayment was more significant in retirement, and labor participation was a newly adopted variable, indicating that income is an essential factor in helping pay off debt. In the case of households with loans for housing, the likelihood of legacy provision was not taken as a variable, and the age was not adopted as a variable in households with rental deposits, so it was found that there were differences in the factors affecting debt repayment depending on the type of real estate debt.

What is the Effects of Differences between Kyosai and Insurance on Consumer Welfare?
A Study Based on Legislation System of Japan

Akifumi Kusano

Abstract: In Japan, there is an insurance product called Kyosai which is the same with insurance in substance. It provides some categories: fire, death, injury, car accident, and so on. Kyosai and insurance are both governed by Insurance Contract Law. However, cooperatives (provider of Kyosai) and insurance companies are governed by different company acts. On the other hand, cooperatives are regulated by each cooperative law while insurance companies are regulated by the Insurance Business Act. The American Chamber of Commerce in Japan criticizes ensuring a "level playing field" between Kyosai and Financial Services Authority (FSA)-Regulated Insurance Companies. Against such argument, cooperatives insist that Kyosai should be regulated by cooperative laws, as it is not the same as insurance. This study analyzes the differences between each cooperative law and the Insurance Business Act; however, there are few differences between them. Major difference is "terminology" between Kyosai and insurance. Therefore, consumers cannot compare Kyosai products and insurance products. Then, consumer welfare decreases. Kyosai and insurance companies should disclose information that consumer can compare them. In addition, consumer welfare increases.
Key words: insurance business act, comparative law

1. Introduction

In Japan, there are products known as "Kyosai" that strongly resemble insurance. Some claim that Kyosai should compete with insurance in the same environment, whereas others claim that insurance and Kyosai are in fact different. This paper describes the characteristic features of Kyosai and compares Kyosai and insurance. Additionally, the effects that the differences between insurance and Kyosai have on consumers is also investigated.

2. The features of Kyosai

This section discusses the characteristic features, suppliers, coverage, and the market size for Kyosai and insurance.

2.1. Suppliers

Established in 1951, Zenkyoren is the supplier Japan Agricultural Cooperatives (JA) Kyosai nationwide and jointly runs a cooperative insurance business[1].

Zenrosai, CO-OP Kyosairen, and Zenkyokuseikyoren are consumer cooperatives.

Zenrosai was established in 1954, CO-OP in 1951, and Zenkokuseikyoren in 1971.

2.2. Coverage

As shown in Figure 1, various Kyosai provide various Kyosai products. For example, Zenkyoren offers fire Kyosai, life Kyosai, accident Kyosai, auto Kyosai, annuity Kyosai, and so on.

Furthermore, insurance companies in Japan are prohibited from selling both life and damage insurance, meaning that they may only sell one of the two. Kyosai, however, are able to sell both life and damage insurance, for example, by offering both fire Kyosai and life Kyosai.

Figure 1[2]

	Fire	Life	Accident	Auto	Annuity	Others
Zenkyoren	○	○	○	○	○	○
Zenrosai (National Federation of Workers and Consumers Kyosai Cooperatives)	○	○	○	○	○	○
CO-OP Kyosairen (Japan CO-OP Insurance Consumers' Co-operative Federation)	○	○				
Zenkokuseikyoren	○	○	○			

2.3. Market size

This section briefly examines the market size of Kyosai. Data on premium income, number of policies, and amount insured are presented in Figure 2 for both Kyosai and insurance companies. For Kyosai, all three of these are equal to or higher

[1] Japan Cooperative Insurance Association Incorporated. (2018) COOPERATIVE INSURANCE IN JAPAN FACT BOOK2018[PDF file]. Retrieved from https://www.jcia.or.jp/publication/

[2] Ibid.

than those of insurance companies. However, Kyosai may sell both damage insurance and life insurance, whereas insurance companies may only sell one of the two, which makes it difficult to make a single comparison of market sizes.

Figure 2 (1/4/2017-31/3/2018)

	Number of policies (Thousand)	Amount insured (million yen)	Premium income (million yen)
Zenkyoren[3]	57581	3287000	4559900
Zenrosai[4]	29570	311200	579000
Zenkokuseikyoren[5]	21148	322131	619995
CO-OP Kyosairen[6]	8670	65567	186090
Tokio Marine[7]		2144780	1225285
Nissei[8]	30080	4488421	3663124

3. Literature review

The American Chamber of Commerce in Japan cites four situations under which Kyosai and insurance should be in competition under identical conditions: 1) Kyosai organizations being under the supervision of the Financial Services Agency. 2) Identical rules being applied to Kyosai organizations and insurance companies. 3) Funding being contributed to policyholder protection institutions. 4) The same tax rate as that applied to insurance companies being applied to Kyosai.

On the contrary, there are also arguments from the Kyosai side claiming that: 1) Supervision that is based on the characteristics of Kyosai organizations is necessary, and also that the government agencies with jurisdiction are indeed conducting suitable and

[3] Zenkyoren. (2018) Annual Report 2018[PDF file]. Retrieved from https://www.ja-kyosai.or.jp/about/disclosure/pdf/disclosure_2018.pdf

[4] Zenrosai. (2018) Annual Report 2018[PDF file]. Retrieved from https://www.zenrosai.coop/zenrosai/disclosure/factbook.html

[5] Zenkokuseikyoren. (2018). Jigyo to Kessan no Gaikyo(Overview of Business and Settlement). Retrieved from https://www.kyosai-cc.or.jp/aboutus/account/

[6] CO-OP kyosairen（Japan CO-OP Insurance Consumers' Co-operative Federation). (2018). Annual Report 2018[PDF file]. Retrieved from http://coopkyosai.coop/about/work/pdf/annual_en_2018.pdf

[7] Tokio Marine. (2018) Integrated Annual Report 2018[PDF file]. Retrieved from https://www.tokiomarinehd.com/en/ir/library/annual_report/

[8] Nippon Life Insurance Company. (2018) Annual Report (2018). Retrieved from https://www.nissay.co.jp/english/annual/

appropriate supervision. 2) The rules being applied to Kyosai are virtually identical to those being applied to insurance companies. 3) Given the characteristics of Kyosai, there is no need for policyholder protection institutions. 4) Given the mutual aid mechanism that exists among Kyosai members, there is need for a tax rate that differs from that for insurance companies[9].

4. Comparison of Kyosai with insurance

4.1. Applicable law

Insurance companies are governed by the Insurance Business Act. Additionally, different laws are applied to different Kyosai organizations. For example, Zenkyoren is governed by Agricultural Cooperative Society Law. Zenrosai, Zenkkuseikyoren, and CO-OP Kyosairen are governed by Consumers Livelihood Cooperative Society Law. The applied laws are shown in Figure 3.

Here, comparisons are made regarding insurance solicitation in Insurance Business Law and each of the Cooperatives Acts, in particular those falling under consumer protection. The clauses in the Insurance Business Law and each of the Cooperatives Acts are presented in Figure 4. As can be seen from Figure 4, clauses from the Insurance Business Law are being applied in the Cooperatives Acts. Therefore, almost identical regulations are being applied to both insurance and Kyosai solicitation.

The “Insurance Business Law” contains the Liability of Affiliated Insurance Companies, Explanation to Customer, Ascertainment of Customer’s Intention, Measures Concerning Business Operations, Prohibited Acts Pertaining to Conclusion of Insurance Contracts, Mutatis Mutandis Application of the Financial Instruments and Exchange Act, and so on, which are clauses concerning consumer protection.

“Liability of Affiliated Insurance Companies” states that when an insurance solicitor has caused damage relating to insurance solicitation to a policyholder, the insurance solicitor must then bear responsibility for compensation for said damage[10]. “Entrusting Insurance Company, etc.” is stipulated in the Insurance Business Act Article 2-24 as a company that is the insurer in the insurance contract for which the insurance solicitor is conducting insurance solicitation.

“Explanation to Customer” refers to insurance solicitors, when carrying out

[9] Kazuyuki Kozuka. (2018, December). Inquiry into ‘Theory of Equal Footing’ for Kyosai and Insurance. Paper presented at the Japanese Society of Insurance Science Kanto Regional Meeting, Tokyo, Japan.
[10] Hirofumi Hosoda: “Insurance Business Law” (2018, KOUBUNDO) p.390.

insurance solicitation, providing insurance policyholders and insured persons with the information necessary for making decisions concerning insurance contract conclusion, and enrollment. The content of this provided information is regulated by the items concerning product mechanism, insurance benefits, and so on. Furthermore, information provision methods include provision via written documentation and electronic processes[11].

“Ascertainment of Customer's Intention” refers to the ascertainment of the customer’s intention and the provision of products that are in accordance with said intention when concluding a contract[12]. The content contained therein includes: “1) The obligation to ascertain the customer’s intention. 2) The obligation to provide for insurance contract conclusion and enrollment that is in accordance with the customer’s intention. 3) The obligation to offer insurance contract content explanations that are in accordance with the customer’s intention. 4) The obligation during insurance contract conclusion and enrollment to provide the customer with the opportunity to confirm that the content of the insurance contract to be concluded and enrolled in does in fact confirm to the customer’s intention”[13].

“Measures Concerning Business Operations” refers to insurance companies conducting management and guidance for insurance solicitors. The purpose is to ensure suitable and appropriate insurance solicitation by insurance solicitors[14]. This content includes measures ensuring that explanations regarding vital matters concerning insurance solicitation are provided to customers[15].

“Prohibited Acts Pertaining to Conclusion of Insurance Contracts” stipulate matters that are prohibited for insurance companies and insurance solicitors during insurance solicitation and insurance contract conclusion[16]. Forbidden acts include statement of falsehoods and concealment of important matters, as well as acts hindering the stating of important matters, encouraging the statement of falsehoods, or encouraging the concealment of important matters by an insurance policyholder or insured person[17].

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[11] Hosoda, op. cit., p.434.
[12] Ibid., p.484
[13] Ibid., p.487
[14] Ibid., p.503
[15] Ibid., p.505
[16] Ibid., p.538
[17] Ibid., p.545

Figure 3

Zenkyoren	Agricultural Cooperative Society Law
Zenrosai	Consumers Livelihood Cooperative Society Law
Zenkokuseikyoren	
CO-OP Kyosairen	
Insurance Company	Insurance Business Act

Figure 4

	Insurance Business Act	Agricultural societies cooperative Law	Consumer Cooperatives Act
Liability of Affiliated Insurance Companies, etc.	Article 283	Article 11-31	Article 12-2
Explanation to Customer	Article 294	Article 11-20	
Ascertainment of Customer's Intention	Article 294-2	Article 11-21	
Measures Concerning Business Operations	Article 294-3	Article 11-22	Article 12-2
Prohibited Acts Pertaining to Conclusion of Insurance Contracts	Article 300	Article 11-24	Article 12-2
Mutatis Mutandis Application of the Financial Instruments and Exchange Act	Article300-2	Article 11-27	Article 12-3

4.2. Regulators

The government agencies supervising insurance companies and Kyosai differ. These agencies are presented in Figure 5. Zenkyoren is supervised by the Ministry of

Agriculture, Forestry, and Fisheries. Zenrosai, CO-OP Kyosairen, and Zenkokuseikyoren are supervised by the Ministry of Health, Labor, and Welfare, and insurance companies are supervised by the Financial Services Authority.
It is claimed that the Ministry of Agriculture, Forestry, and Fisheries and the Ministry of Health, Labor, and Welfare conduct the same supervision as the Financial Services Agency[18].

However, there is no information available with which consumers can check the content of the supervision conducted by each respective government agency.

Figure 5

JA Kyosai	Ministry of Agriculture, Forestry, and Fisheries
Zenrosai, CO-OP Kyosairen, Zenkokuseikyoren	Ministry of Health, Labor, and Welfare
Insurance company	Financial Services Authority

5. The difference between Kyosai and insurance affects consumer welfare

The differences in regulation for Kyosai and insurance providers have been discussed. When attention is focused on consumer protection, there appear to be no major differences in terms of regulations aside from the fact that the supervising government agency differs.
However, because insurance companies and Kyosai are treated as separate entities, the terminology used for each differ. It is therefore difficult for consumers to compare insurance and Kyosai.

The inability of consumers to compare insurance and Kyosai generates damage to consumer margins. With regards to the economic function of the compensation that can be obtained concerning damages that have occurred due to a chance accident, insurance companies and Kyosai do not differ from a consumer viewpoint. Regardless of whether the two perform the same function, choice is limited by consumers being unable to make comparisons. If circumstances were to change so that consumers could make simple and easy comparisons between insurance companies and Kyosai, the resulting increase in choice would be accompanied by an increase in consumer margins.

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18 Kozuka, op. cit.

6. Suggestions and conclusions

Insurance and Kyosai perform the same economic function. Additionally, the market size for insurance companies and Kyosai are of the same level. On the other hand, insurance companies and Kyosai are treated as different entities, and differ in terms of the regulations being applied, the supervising government agencies, and the terminology used. Additionally, it is difficult for consumers to compare insurance and Kyosai.

For consumers, insurance and Kyosai are the same in terms of their economic function. Accordingly, it would be desirable if consumers were able to make comparisons regarding the two. For this to happen, it is necessary to provide information with which consumers can make comparisons between insurance and Kyosai when considering insurance products. There is demand for a mechanism via which identical insurance and Kyosai contract phrasing will be used, and via which insurance solicitors and insurance agents can compare insurance and Kyosai and provide consumers with this information. By establishing links between each of the supervising government agencies, the creation of such a mechanism is possible.

If consumers are able to compare insurance and Kyosai, consumer margins would experience an increase as consumer choice would increase. Additionally, the promotion of competition between insurance companies and Kyosai would lead these providing better products, therefore enabling consumers to purchase better products.

This paper considered the differences between insurance companies and Kyosai, with focus placed on insurance and Kyosai solicitation. However, with consumer protection, it is not just solicitation that is important, but also all kinds of operations such as those concerning product design, contract management, handling and response to complaints, payment of insurance money, and customer information management[19].

Regarding these points, I would like to give concrete consideration to the presence or lack of differences between insurance and Kyosai from the viewpoints of regulation and practical operation.

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Corporate Social Responsibility Reporting Standards in China: Trend and Prospect

Abstract: Chinese Academy of Social Science (CASS) published CASS-CSR 4.0 at the end of 2018 which is a representative CSR Reporting Guideline in China. In fact it is significantly different from global standards but the relevant researches are almost non-existent. In order to contribute to the literature in this area, this study discusses three topics: the policies, laws and regulations on CSR practices in China; the current CSR reporting standards and guidelines in China; introduce CASS-CSR 4.0 comparing it to the previous versions and GRI G4. After that, some suggestions and prospects were proposed for foreign-invested companies in China.
Key words: Corporate Social Responsibility Reporting, China, CSR reporting， standards

I. Introduction

During the course of rapid economic development, some social problems such as environmental issues, product safety, corporate ethics, corruption and migrant workers emerged in China. Various stakeholders including the government of China pay more and more attention to the release of Corporate Social Responsibility (CSR) reports. But the CSR Reports released in China by foreign companies including Hong Kong, Macao and Taiwan is no more than 217 in a total by the end of 2017, in a sharp contrast with the total number of foreign companies registered in China. Most foreign companies including Japanese and Korean companies prefer to follow GRI G4, which is a global standard for CSR reporting widely accepted by 77% of global 250 companies, while more than 78% companies especially the State Owned Companies (SOEs) in China tend to comply with the local CSR reporting standards under the government-led rather than G4. We can infer that foreign companies are not aware of the value and role of China’s local CSR reporting standards.

Chinese Academy of Social Science (CASS) published CASS-CSR 4.0 at the end of 2018, which is a representative CSR Reporting Guideline in China with a lot of significant difference from global standards. In order to contribute to the literature in this area, this study is going to introduce CASS-CSR 4.0 comparing it to the previous versions and global standards, such as GRI G4. Before that, the CSR laws and policies, the current CSR reporting standards and guidelines in China will be discussed.

II. CSR Laws & Policies in China

Reform and opening to the outside world and accession to the WTO have created enormous wealth for China, but it also brings about various social problems. The government and the community are paying more attention to the enterprises to fulfill their social responsibilities. In every stage of China's economic and social development, a series of guiding policies have been gradually introduced, and the relevant laws and regulations are continuously perfected to standardize and encourage the enterprises to fulfill their social responsibilities. Generally speaking, the construction of corporate social responsibility policy and legal environment in China has gone through three stages.

1. Focus on rapid growth and labor condition improvement（1984-2002）

In 1984, China launched the reform of the economic system. The focus of the reform was the separation of government from enterprises and the separation of the two powers.[1] The purpose of the reform is to enable enterprises to untie their productivity from the high concentration of power of the government[2]. After the reform, China's economy took off rapidly and rose rapidly in the economic globalization. At the same time, problem of decoupling between economic system and reality appears and it is urgent to synchronize the economic system reform with the economic legislation, and the corporate social responsibility project is also born. The government has issued a series of relevant policies, laws and regulations, such as the company law, the labor law, the contract law, the consumer protection law, the anti-unfair competition law and the public welfare donation act, etc., to regulate the unreasonable business and adjust the labor environment. These laws and regulations form the earliest policy and legal framework for enterprises to fulfill their social responsibilities.

2.Focus on balanced growth（2003-2011）

Entering the twenty-first Century, China's economy is approaching the crossroads of transformation and development. On the one hand, there are many foreign institutions' high-profile forecasts of China's economic scale that will surpass the US. On the other hand, it is a pessimistic assessment of the unsustainable China miracle.[3]Not to say whether the public opinion is scientific or not, China's economy is facing six major uplink pressures: the three peak of the population (the peak of the total population, the peak of the total employment population, the peak of the total population of the aged), the sustainable utilization of energy and natural resources, the environmental protection, the urbanization strategy and the three rural issues[4]. In October 2003, the Hu Jintao administration put forward the "Scientific Outlook on Social Development", which provides a new theoretical basis for solving the problems of China's development stage.[5] In 2006,

[1] This is the separation of ownership and management rights that enterprises have the right to operate independently

[2] That is to say, separation of ownership and management makes enterprises own the right to operate independently.

[3] Goldman Sachs(2003)，Standard Chartered Bank and magazine "Economist" predict that China's economy will surpass the United States in 2020 and 2022 respectively; and "The Future of the World Economy" believes that China's economic aggregate is still far behind the United States in 2035.

[4] "Three rural issues" is a short term for the issues related with agriculture, farmer and rural area. The issues were regarded as of high importance for the country's economic and social development in China.

[5] The 'Scientific Outlook onSocial Development,' was formally presented at the 17th grand meeting for ChineseCommunist Party in October 2007. It still emphasizes the high economy growthrate but requires to pursue a comprehensive & reformative approach for the energysavings, the environment protection, the labor condition improvement and thebalanced growth, which are urgent national assignments caused by the rapid

the CPC in the sixth Plenary Session of the 16th CPC Central Committee deliberated and passed 《Certain major issues decision about constructs socialism harmonious society》（The following is referred to as "decision"）. The "decision" points out that all types of organizations, including enterprises, should participate in the construction of a harmonious society by fulfilling their social responsibilities. In 2008, China suffered a series of disasters such as the Wenchuan earthquake and melamine milk powder. The global economic crisis also broke out in the same year. The Chinese government is more aware of the urgency of setting up a sense of corporate social responsibility in China. In 2008, former chairman Hu Jintao delivered a speech at the APEC summit, emphasizing that enterprises should establish a sense of global responsibility and consciously incorporate social responsibility into business strategy. In 2010, the SASAC of the State Council, in the central enterprise responsibility conference, proposed that all central enterprises should publish the report of corporate social responsibility within 3 years, which promoted the process of the legal construction of Chinese enterprises' social responsibility.

In the same period, relevant laws and regulations related to the top level design have been introduced, such as the fifth chapter of the company law revised in 2006 clearly stipulates that the enterprise's performance of social responsibility is the basic principle that the enterprise production and management must abide by.[6] This is the first time China's corporate social responsibility has been written into law, marking the beginning of the process of legalization of CSR in China[7]. In addition, the provisions of "unfixed term labor contract" and "economic compensation" in the new labor contract law in 2008 are also the test of the moral standards of enterprises.

3.Focus on systematic construction（2012 - present）

In 2012, China's new president Xi Jinping put forward an important exposition of “Chinese dream”.[8]Obviously, corporate social responsibility is an important part of realizing the “Chinese dream”. In 2013, President Xi Jinping's first visit to the breakfast conference in South Africa stressed that "Chinese enterprises should carry out social responsibility actively". Premier Li Keqiang also made clear that "efforts should be made to improve the level of social responsibility construction of Chinese enterprises". In 2014, in the fourth Plenary Session of the 18th CPC Central Committee, “The Communist Party of China in the fourth Plenary Session of the 18th CPC Central Committee”（The following is referred to as "decision"）proposed to take" strengthening the corporate social responsibility legislation "as one of the key tasks to improve the legal system of our country. In 2015, the Chinese government issued the "opinion of the Central Committee of the Communist Party of China on the construction of harmonious labor relations", and proposed to build a standard system and rating system of corporate social responsibility in accordance with the national conditions of China. In the same year, the Communist Party of China introduced the five major development concepts of "innovation, coordination, green, open and sharing" in the fifth Plenary Session of the 18th CPC Central Committee, which pointed out the direction and the focus of development for the period of "13th Five-Year" and even more long term in China. It also indicated that the issue of social responsibility of Chinese enterprises entered a new era.

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growthof Chinese economy for last 30 years.

6 In Article 5 of the <Company Law> amended in 2006, it is stipulated that "a company must obey laws, administrative regulations, virtues, and so on during its management activities, be supervised by the government, society and the public and fulfill its social responsibilities".

7 In the new amendment of the company law, the corporate responsibility only exists as a basic principle. Its connotation, extension, norms, rules, rules and regulations are not clearly stipulated.

8 Xijinping pointed out that “Chinese dream is a dream of peace, development, cooperation, and mutual benefit. It’s essential content is the ‘national rejuvenation, improvement of people’s livelihoods, national prosperity, social progress and a strengthened military.”

In order to promote the social responsibility movement of Chinese enterprises to comply with the requirements of the new era, many legislations related to the stakeholders of corporate social responsibility have been revised. For example, the Consumer Rights Protection Act ("new law of digestion"), implemented in March 15, 2014 (China's consumer rights protection day), is the first time to implement the law for 20 years. A comprehensive revision of the "overlord clause", "Three Guarantees System", "recall system" and other aspects have more perfect regulations. 2The new environmental protection law, implemented in January 1st 2015, reflects unprecedented environmental protection and governance from various angles. It is called "the most severe" law in history. The charitable act introduced in September 2016 provided a legal guarantee for the formation of a good charitable atmosphere and a milestone in the movement of CSR in China.

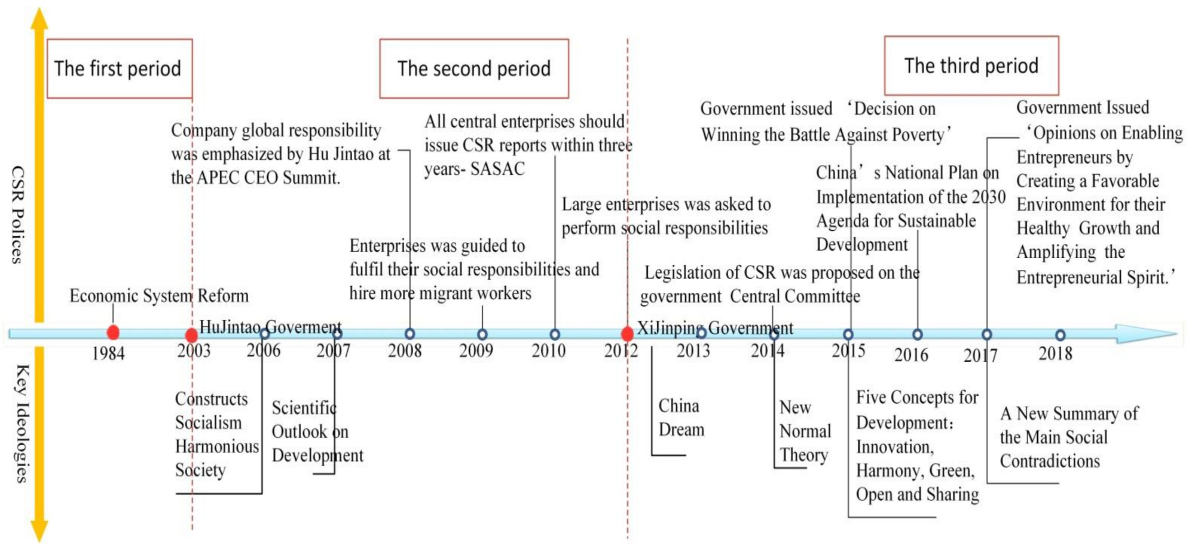

Figure 1. Key Ideology and Government Policy of CSR in China

Source: According to the web site reports "Ten Major Events of CSR in China" (2006-2017), www.csr-china.net

Table 1 Laws and regulations related to CSR in China since 1984

	Year	Protection of Laborers' Rights	Social Relations	Environment and Energy Protection
Stage I	1987			The law on the prevention and control of air pollution in the PRC
	1988	Regulations on labor protection of female workers		
	1991	The law on the protection of minors in PRC"		
	1992	Law of the People's Republic of China on Trade Unions" The law on the protection of the rights and interests of women in PRC"		
	1993	Company Law of the People's Republic of China" Law of the People's Republic of China on Mine Safety" Regulations on the handling of labor disputes in People's Republic of China"	Law of the product quality Law of the Protection of Consumers Rights and Interests Law of "Anti-Unfair Competition Law	
	1994	Labor Law of the People's Republic of		

		China”		
	1995	“Rules of the State Council on Working Hours of Workers and Staff Members”		Law of the People's Republic of China on the Prevention and Control of Solid Waste Pollution”
	1996	People's Republic of China Public Welfare Donation Law”		
	1997			Law of the People's Republic of China on the Prevention and Control of Ambient Noise Pollution” Energy conservation law in People's Republic of China”
	1999	Amendment of the contract law of the People's Republic of China		
	2000		The first amendment to law of the products quality	
	2001	The amendment of the trade union law of the People's Republic of China		
	2002	The law on the safety of production in People's Republic of China”		The law on the promotion of cleaner production in People's Republic of China”
Stage II	2003	“Minimum wage regulations”		
	2006	The first amendment to the law of the People's Republic of China on the protection of minors	Revision of the company law. Law of the People's Republic of China on the quality and safety of agricultural products	
	2007	“Employment regulations for the disabled”		
	2008	Labor contract law of People's Republic of China The People's Republic of China law on Employment Promotion The law on the protection of the disabled in the People's Republic of China	Antitrust law of People's Republic of China”	Law of the People's Republic of China on the Prevention and Control of Water Pollution”
	2009	The first revision of the insurance law of the People's Republic of China	Second amendments to the product quality law of the People's Republic of China, Food safety law of People's Republic of China”, The second amendment of the law on the protection of the rights and interests of consumers	
	2012	Revision of the labor contract law of the People's Republic of China, The second revision of the law on the protection of minors		Amendment to the Cleaner Production Promotion Law of the People's Republic of China
Stage III	2014	The second revision of the insurance law of the People's Republic of China	The second amendment of the law on the protection of the rights and interests of consumers, "Punishment measures against the rights and interests of consumers"	

	2015	Third amendment to the insurance law of the People's Republic of China	Revision of the food safety law of the People's Republic of China	Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution Amendment to the environmental protection law of the People's Republic of China
	2016	The charitable law of the People's Republic of China		
	2018			Amendment to the law of the People's Republic of China on the prevention and control of water pollution

The establishment of the institutional framework for corporate social responsibility in China has been basically completed, and China's corporate social responsibility movement has entered a stage of advanced development. In the future, the realization of corporate social responsibility in China will be performed in 3ways: General social responsibilities will continue to be adjusted by ethics; Moral bottom line responsibilities will rise to mandatory requirements of the law; the other corporate social responsibilities which cannot be directly constrained by law can be bound by informal legislative body such as CASS in terms of guidelines or standards. The following third part is to sort out the existing CSR standards and reporting guidelines in China.

III. CSR standards and utilization in China

1. CSR standards and guidelines (Classification)

As described above, China's corporate social responsibility movement has entered a comprehensive and institutionalized stage of construction. From the central government to the local government, from large enterprises to small and medium enterprises, from state to industry associations and social organizations, various kinds of standards and rating systems for the construction of corporate social responsibility in accordance with China's national conditions have been issued. The standards and guidelines for corporate social responsibility can be broadly grouped into four types according to the nature of publishing institutions. Due to the limitation of space, only a part of the table is listed.

(1) The government-Oriented

At the central government level, corresponding laws and regulations are put forward to standardize corporate social responsibility behavior. For example, the China Securities Regulatory Commission issued the "information disclosure management method for listed companies" in January 2007, which requires listed companies to provide information disclosure documents, mainly focusing on the disclosure of financial information, and does not explicitly mention corporate social responsibility reports. In January 2008, the State Asset Supervision and Administration Commission (hereinafter referred to as the SASAC) issued the guidance on the implementation of the social responsibility of the central enterprises and established the policy of the central enterprises to fulfill their social responsibilities. From the local characteristics, the governments of all provinces and municipalities have issued corresponding guidance and standards for corporate social responsibility report, such as Changzhou Jiangsu "Changzhou enterprise social responsibility standard, Pudong" Pudong New Area enterprise social responsibility guidelines ", Zhejiang Yiwu" Yiwu enterprise social responsibility Certification Evaluation Index System", etc.

(2) The stock market-Oriented

The Shenzhen Stock Exchange (hereinafter referred to as the "Shenzhen Stock Exchange") has issued guidelines for the disclosure of social responsibility reports for listed companies since June 2006, requiring 100 listed companies of the "Shenzhen 100 index" to publish the CSR report, and other companies voluntarily disclose them. The Shanghai Stock Exchange (hereinafter referred to as "the upper transaction") began to request three types of listed companies since May 2008. A total of 258 companies (including 230 companies in the corporate governance sector, 50 companies listed abroad, 21 financial companies) must disclose social responsibility reports and encourage other companies to voluntarily disclose them. In December 2015, the Hongkong Stock Exchange issued the guidelines for the environmental, social and Governance (ESG) report (hereinafter referred to as "the guidelines of the ESG report"), requiring the financial year of the Hong Kong listed companies to disclose the ESG report from January 1, 2016 or after the financial year. And in the 2017 fiscal year, the general disclosure of the 11 levels of environmental and social categories in the ESG guidelines and all the key performance indicators of the environment category were carried out at the same time with the "non compliance and interpretation" requirements.

(**3) Industry associations-Oriented**

According to the characteristics of the industry, various industry associations propose a guide to the preparation of corporate social responsibility reports suitable for the industry. For instance, the first textile and garment industry to launch the CSR-GATEs in June 2008 is the first industrial guidance document on the social responsibility performance disclosure system, which is also the first set of indicators and norms on social responsibility reports in China.[1] Other industries such as banking, finance, overseas contracting and forestry have also issued a guide to social responsibility.

(4) NGOs or research institutions-Oriented

Relevant social organizations and research institutes have also put forward guidelines for the preparation of CSR reports applicable to Chinese enterprises according to China's national conditions. For instance, a guide to the compilation of Chinese corporate social responsibility report (CASS-CSR1.0) [2] was put forward by the research center of corporate social responsibility of the Chinese Academy of Social Sciences (CSR) in 2009. This guide draws on the international standards and the practice of advanced foreign enterprises, according to the requirements of China's laws and regulations, fully considers the current social issues in our country, systematically summarizes the experience of the preparation of the leading enterprise social responsibility report. And it also puts forward the principles, logical framework and content system of the report on corporate social responsibility in China. In addition to the general indicator system, the guide also provides specific guidance for the development of the report on the social responsibility of 46 different industries, including agricultural and forestry, forestry and fishing, coal mining and washing, natural gas mining and processing industry.[3]

Table2 Standards and guidelines for the preparation of CSR reports for various types of enterprises in China

		Time of Effective	**Name of Standards/Guidelines**	**Body or organization**	**General description**	Object	Mandatory /Voluntary
Government	Central Government	2007.1	Administrative Measures for the Disclosure of Information of Listed Companies	China Securities Regulatory Commission	The information disclosure documents mainly include the stock prospectuses, bond and prospectuses, listing announcements, periodic reports and temporary reports.	Listed companies	M
		2008.1	Notification on Issuance of the Guideline on Fulfilling Social Responsibility by Central Enterprises	The State-owned Assets Supervision and Administration Commission of the State Council(SASAC)	Require to establish CSR fulfillment mechanisms and CSR information reporting systems for Central State-owned Enterprises (CSOEs)	Central State-owned Enterprises (CSOEs)	M
		2008.5	Environmental Information Disclosure Act 2007	The State Environmental Protection Administration	Require to disclose environmental information	Government, enterprises	M
		2014.5	Guideline on Fulfilling Social Responsibility by network trading platforms operators	The State Administration for Industry and Commerce（SAIC）	Stipulate the principles, scopes and main contents of operators of network trading platforms to fulfill their social responsibilities.	network trading platforms operators	V
		2016.1	Guidance on social responsibility(GB/T 36000-2015) Guidance on social responsibility reporting(GB/T 36001-2015) Guidance on classifying social responsibility performance（(GB/T 36002-2015)	General Administration of Quality Supervision, Inspection and Quarantine(GAQSIQ)	Use the redrafting method ISO 26000，Take these three standards as national standard, announced the concepts, themes and issues of CSR and innovatively provide a classification and evaluation system of CSR performance.	Domestic enterprises	V
		2016.7	Guidance on the State-owned Enterprises(SOEs) to better fulfill their social responsibilities	SASAC	Three principles for state-owned enterprises to fulfill their social responsibilities are pointed out: insist on sustainable development as the core; adhere to the combination of social responsibility and enterprise reform and development; and adhere to the integration of social responsibility and business operations.	SOEs	V
	local	2004.5	Changzhou enterprise social responsibility standard”	the city government of Changzhou	The basic standards for the employees' work environment, health and safety, salary, and training are defined.	Changzhou enterprises	V
		2007.7	Guidelines for the social responsibility of enterprises in Pudong New Area”	Pudong New Area Government	Clear the basic principles of social responsibility that should be followed by Pudong New Area enterprises, guide them to improve their strategies, organizations, systems and culture, and establish an effective social	Shanghai Pudong New Area enterprises	V

					responsibility management system.		
		2014.2	"CSR Indicator System" and "CSR reporting Guidelines"	Shandong Bureau of quality and technology supervision	China's first CSR regional standard set by local governments to highlight regional characteristics.	Shandong Enterprises	V
		2017.2	Guiding opinions on the construction of social responsibility of enterprises in Jiangsu"	Jiangsu provincial economic and Information Commission and other departments	Stipulates the must establish and improve the working mechanism for promoting enterprises to fulfill their social responsibilities, and build a corporate social responsibility evaluation system.	Jiangsu Enterprises	V
Stock Exchanges		2006.6	Shenzhen Stock Exchange Social Responsibility Instruction to Listed Companies	Shenzhen Stock Exchange(SZSE)	Require listed companies to establish CSR mechanism and prepare CSR reports on a regular basis.	listed company	M
		2008.5	Notice on Strengthening Listed Companies' Assumption of Social Responsibility (Shanghai CSR Notice) Guidelines on Listed Companies' Environmental Information Disclosure (Shanghai Environmental Disclosure Guidelines)	Shanghai Stock Exchange(SSE)	Require to disclose environmental information and CSR strategy in format either part of CSR report or separate report.	listed company	M
		2015.12	Guidelines for Environment, Social and Governance Report（ESG Guide）[9]	The Stock Exchange of Hong Kong（HKEX）	On the basis of the 2012 guidelines, the revised edition of the guidelines has risen to the semi mandatory height of "comply or explain", which includes key performance indicators（KPI） in general disclosure and environmental categories.	Listed companies in Hong Kong	M
Industry	associations	2008.6	China Sustainability Reporting Guidelines for Apparel and Textile Enterprises (CSR-GATEs)	China National Textile and Apparel Council	Provide the evaluation principles and classification system for the quality of the CSR reports of the textile and apparel enterprises	apparel and textile enterprises	V
		2009.1	Guidelines on CSR for Banking Financial Institution In China	China Banking Association (CBA)	CSR report to address economic, social and environmental responsibilities and submit it to CBA annually	banking financial institution	V
		2010.12	Guidelines for social responsibility of China's foreign contracting engineering industry"	China International Contractors Association		China contracting engineering enterprises	V
		2011.7	Guidelines for the preparation of CSR reports for Chinese forest products	China Federation of forestry industry,		Forest industrial enterprises	V

[9] In December 2015, the Hong Kong Stock Exchange issued a revised version of the guideline in 2012 following the introduction of the Guidelines for Environment, Social and Governance Report (ESG Guide), Seeking from "voluntary release" to "not explaining"

		industrial enterprises”	China Forest Products Industry Association			
NGOs or academic research centers	2006.10	China Corporate Social Responsibility Recommended Standard and Best Practice	China Business Council for Sustainable Development(CBCSD)	Provide CSR key issues and best practice CSR companies as reference to local Chinese companies in order to promote CSR practices in China	domestic enterprises	V
	2008.4 (First edition） 2010 (second edition） 2015.7 (third edition)	China Industrial Enterprises and Industry Association Social Responsibility Guidelines(GSRI-CHINA 1.0/2.0) China Industrial Enterprise Social Responsibility Management Guidelines (2015)	China Federation of Industrial Economics （CFIE）	Clarified the social responsibilities that industrial enterprises need to fulfill and initiative the guidelines for the implementation of social responsibilities by Industrial Association. Consist of six steps and specific contents such as “Identification & understanding, management principles, construction concepts, performance paths, issue management, and capacity building”.	domestic industrial enterprises	V
	2008.6	Guide to social responsibility of industrial enterprises in Shanxi’	Shanxi industrial and Economic Federation		industrial enterprises in Shanxi province	V
	2009.12 2011.3 2016.3 2017.11	Guidelines for the compilation of Chinese corporate social responsibility reports (CASS-CSR1.0)” Guidelines for the preparation of corporate social responsibility reports （CASS－CSR2.0）” Guidelines for the compilation of Chinese corporate social responsibility reports (China-CSR4.0)” (The following is referred to as "Guide 4")	Chinese Academy of Social Sciences (CASS)	CASS-CSR 1.0 / 2.0 / 3.0 focuses on the content and preparation of the report. CASS-CSR 4.0 clarifies what values are included in the Report and how the company can better use its reporting value.	All kind of domestic enterprises	V
	2013.11	Guidelines for Social Responsibility in Outbound Mining Investments	China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters（CCCMC）	Guide enterprises to formulate clear corporate social responsibility and sustainable development strategy, and establish corporate social responsibility and sustainable development management system	outbound mining investment enterprises	V
	2017.12	Foreign Investment China(CEFI-CSR1.0), Guidelines for the preparation of CSR reports for foreign invested enterprises in China（CEFI-CSR1.0）	China Foreign Investment Enterprise Association	The basic requirements, steps and methods for foreign enterprises to write social responsibility report are put forward to provide reference for foreign enterprises to disclose social responsibility information, to write and publish social responsibility reports	foreign invested enterprises, investment enterprises of compatriots from Hongkong, Macao, Taiwan and overseas Chinese within Chinese territory	V

Source：According to the WTO economic guide of each period

Fifthly, from the economic type of reporting, the government is increasingly clear about the guiding attitude of domestic enterprises to fulfill their social responsibilities, and the attention to the performance of social responsibility for foreign enterprises is also strengthened. At the end of 2017, the Chinese foreign investment enterprise association, which was in charge of the Ministry of Commerce, formally issued a guide to the CSR report of foreign invested enterprises in China. It explained that China started the substantive promotion of the responsibility practice of foreign investment, and the responsibility image and responsibility practice became the necessary questions for foreign enterprises.

2. The application of CSR reporting standards in China

The history of the development of corporate social responsibility in China was relatively short. Until 2006, the State Grid officially released China's first CSR report, which was highly praised by Premier Wen Jiabao, and thus led to the emergence of standards and guidelines for social responsibility reports in every field. From the previous content, the reference standards of CSR reports are disorder at present. However, it is worth noting that in recent years, the number of reports compiled by international standards and guidelines for social responsibility, such as GRI, ISO 26000 and the global contract, has declined, and Chinese enterprises are gradually inclined to use local standards when choosing the reference standards for the preparation of reports. [4] From the analysis results of CSR report 2017 (hereinafter referred to as report 2017) of the Chinese Academy of Social Sciences, As of December 2017, a total of 1913 social responsibility reports were released in 2017, representing an increase of about 60 times compared with 32 in 2006. 80.2% of the reports refer to the relevant standards, and more than 78% of the reports refer to the local standards.

In addition, the reference standard of the report is more pluralistic. In compliance with the requirements of government departments and regulatory agencies, we should pay attention to the guidance of industry associations and academic institutions and pay attention to the reference of domestic guidelines as well as the reference to international related standards. ESG guidelines, GRI guidelines,[10] and CASS-CSR became the most widely cited reporting standards.[11]

From the perspective of different enterprises, domestic enterprises are the main force of the report 2017. Only 217 of the foreign and Hong Kong, Macao and Taiwan enterprises released their social responsibility reports (including environmental reports) in China, accounting for only 11.3% of the enterprises involved. This is because most foreign-funded enterprises believe that a global responsibility report has been issued, and there is confusion about whether or not to publish the report on China's responsibility.

[10] Currently the GRI G3.1 or G4 became as the most widely accepted standard for CSR reporting as much as the 90% of global 250 companies claimed to have followed it (Wen 2017, 18).

[11] In 2017, the number of mainland listed companies in Hong Kong soared, as many as 925. Exceeding state-owned enterprises constitutes an important part of China's CSR report, of which 810 refer to HKEX's ESG Reporting Guide.

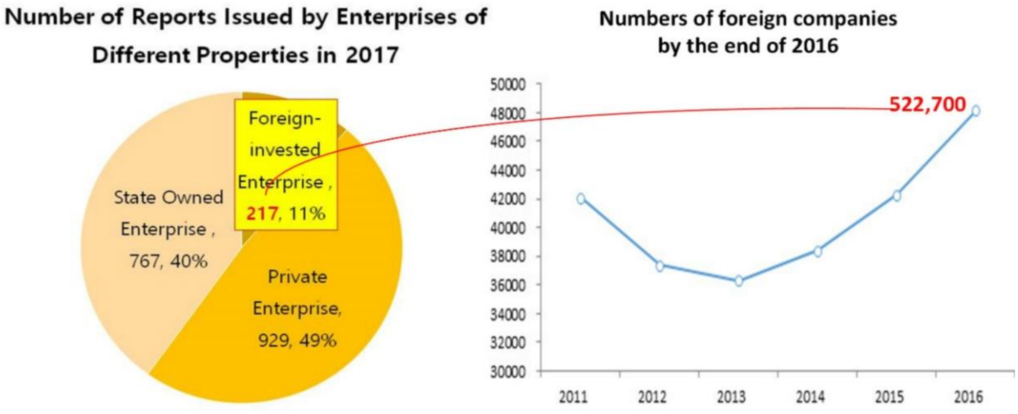

Figure 2 The application of CSR report in China

Source: 《2017 Corporate Social Responsibility Reporting Survey in China》

As far as Korean enterprises are concerned, the guide for the preparation of corporate social responsibility report (CASS-CSR Guide) compiled by the social responsibility research center of the Academy of social sciences is the most important reference for enterprises.

Dushan(China), Samsung (China), modern automobile, LG (China), Pohang (China), LG chemistry, Dou Shan (China), Emily Pacific and other large multinational corporations are all referred to the index system of this standard under the framework of SDGs. The main reasons are: first, the listing procedure of Hong Kong stock exchange is very tedious. There are only three Korean companies listed in Hong Kong (because the conditions for listing in Hongkong are too harsh, so there are only three Korean companies listed in Hongkong). Second, no matter the GRI report guide or the ESG guide, they are not divided according to the industry. This requires enterprises to identify their own operation related ESG indicators and set up an index system. In addition to the general index system, CASS-CSR also compiled 46 industry guidelines for reporting, which provided more operational guidelines for enterprises. Besides, several major international standards are non-mandatory and non-certified. The CASS-CSR guide provides reporting process management and rating services to enterprises, which is helpful for enterprises to establish a good image and take root in China.

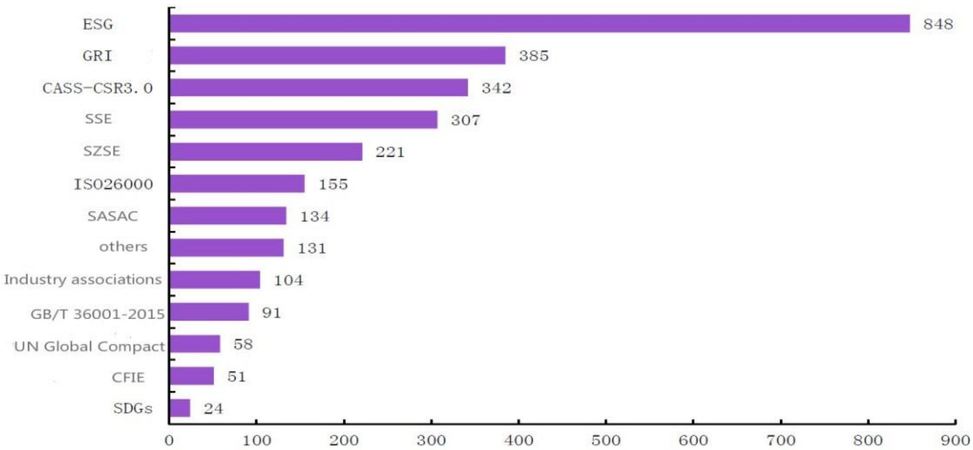

Figure 3 Reporting Reference Standard Distribution

Souce:《2017 Corporate Social Responsibility Reporting Survey in China》

IV. The Chinese Academy of Social Sciences (CASS) -CSR Reporting Guidelines

1. CASS Introduction

CASS (The Chinese Academy of Social Sciences) was established in May 1977, National research institute under the State Council. It is premier academic organization and comprehensive research center of China in the fields of philosophy and social sciences. CASS is now made up of 31 research institutes and 45 research centers, has more than 4,200 staff members in total, of which more than 3,200 are professional researchers. China's largest research institute and graduate-centered educational institution.

In February 2008, CASS established the China’s CSR research center as a research institute under the Graduate School of Economics. CASS has actively carried out systematic theoretical research on CSR in China, and has issued a series of guidelines for the preparation of CSR reports （CASS-CSR 1.0/2.0/3.0/4.0）. CASS also publishes the blue book on CSR in China, which tracks the latest progress of CSR theory and practice in the past year. It continues to issue the white paper on CSR Report of China, studying and recording the phased characteristics of CSR reports in China. CASS has set up and issued the rating of the CSR Report of China and a compulsory course for the MBA "corporate social responsibility" of the Graduate School of the Chinese Academy of Social Sciences. Meanwhile, it organized various social responsibility research and communication activities of enterprises in order to spread the theoretical knowledge and practical experience of CSR.

2. CASS-CSR1.0/2.0/3.0

It is generally recognized that the global CSR categorization which is mainly adopted by developed countries might not reflect China’s specific socio-cultural and political context. Chinese government has been interested in making its own CSR standards while emphasizing the ‘Chinese characteristics’. As a public research institute being under control of State Council of China, the CASS CSR research center released the CSR Reporting Guideline 1.0 in December 2009 and it has been revised to the fourth edition until now. The guideline of CASS-CSR series is based on the traditional "three bottom line" theory and stakeholder theory, putting customer responsibility and partnership responsibility into market responsibility[12]. At the same time, it uses "market, society and environment" to replace the original "economy, society and environment", and constructs the "four in one" model, which includes the four elements of "responsibility - market - Society - environment". The difference is that starting with Guideline 2.0, it provides a handbook for each of the 46 industries listed, instead of one book covering them all (the general index system and industry expansion index system in Guideline 1.0 are divided into a basic framework, a guide series of +46 sub industry guides), which improves the practicality and operability of the

[12] In 1997, British scholar John Elkington first proposed the "three bottom line theory (Triple Bottom Line)", that is, the bottom line of the economy, the bottom line of the environment and the bottom line of the society. Economic responsibility is traditional corporate responsibility, mainly referring to shareholder responsibility. The CASS believes that market responsibility is not only shareholder responsibility, but also customer responsibility and partner responsibility. This classification maintains the balance between the responsibility sectors and optimizes the structure of the indicator system.

guide. Starting from Guideline 3.0, it has risen to a comprehensive guide to reporting life cycle management and the index system of Guideline 3.0 covers significant indicators of ISO 26000. These make Guideline 3.0 become the only official reporting standard of the world report Initiative (GRI)[5]. In 2017, Guideline 3.0 has become the most widely used local standard for Chinese enterprises and there are 342 companies referring to it.

Table 3 Evolution Trend of CASS-CSR

	CASS-CSR 1.0	CASS-CSR 2.0	CASS-CSR 3.0
Focus on	report content	report content	the overall report life cycle
general guidelines	Triple Bottom Line, the stakeholder model	Triple Bottom Line, the stakeholder mode	Triple Bottom Line, the stakeholder mode
key philosophies	Four factors integrative model	Four factors integrative model	Four factors integrative model
indicators	4 chapters with 18 responsibility management indicators	6 chapters with 21 responsibility management indicators	6 chapters with 25 responsibility management indicators
format	One book	One book+46 handbooks	One book+46 handbooks

3、CASS- CSR4

（1）Background

In 2015, important standards initiatives such as the United Nations Sustainable Development Goals (SDGs), China's Social Responsibility National Standards (GB/T36000) and the Hong Kong Stock Exchange's Environmental, Social and Governance (ESG) Reporting Guidelines were issued. In order to comply with the rules of the new round of international standards and to take full consideration of the objective requirements of the relevant policies on social responsibility in China, the CASS issued the China's corporate social responsibility report (CASS-CSR4.0) in November 2017. CASS-CSR 4.0 inherits the excellent results of Guideline 1.0-3.0 and absorbs the advantages and advanced indicators of other standards or guidelines at home and abroad. After a greater degree of revision to Guideline 3.0, the latest version of CASS-CSR4.0 was officially released in November 2017. Unlike previous versions, CASS-CSR 4.0 is committed to manifest the value of social responsibility reports, which indicates that China's CSR reporting standards have entered a new era.

(2)Features and Changes

Firstly, CASS-CSR 4.0 is a comprehensive guideline which goes beyond the scope of the report and provides full life cycle management. It adds to the "value management" chapter, which aims to provide a comprehensive one-stop guide for corporate disclosure of social responsibility information, the preparation, publication and evaluation of social responsibility reports.

Reporting process management in CASS-CSR 4.0 reintegrates 7 elements of Guideline 3.0, and optimizes the 8 process elements including organization, planning, defining, starting, researching, writing, publishing and summarizing. As shown in Figure 4.1.

Report value management is an important content and breakthrough of CASS-CSR 4.0. CASS-CSR 4.0 combines the latest trends and characteristics of the value study of social responsibility report and the development of social responsibility. The value of social responsibility report can be divided into four categories, namely, "risk prevention" value, "strong management" value, "promoting management" value and "plastic brand" value. CSR report is the carrier of content and process. The realization of its value must be realized by stakeholders, through three ways: key response, process participation and influence communication. CASS-CSR

4.0 innovatively proposed the model of selecting key stakeholders according to the active communication intention and the passive communication frequency. Through the guidance of the system, it lists the key response, process participation and the concrete practice that can be taken under the influence of the communication mode to enterprises and it ends the confusion that enterprises did not know what to do to give full play to the value of the report.

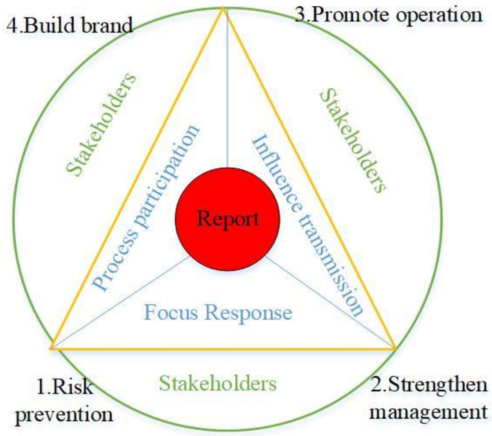

Figure 4 CSR Report Value Management Model

Secondly, Guide 4.0 is the “1+M+N” guide series. If Guideline 3.0 compared with the previous two versions of the largest feature is to adopt the "sub industry compilation, sub industry release" model, CASS-CSR 4.0 continues to adopt this model. At the same time, it also adopts the “problem-by-topic, issue-by-topic” model to build a series of guides for 1 (basic framework) + N (sub-industry guide) + M (sub-topic guide).

Thirdly, the previous "four in one" theoretical model was restructured. CASS-CSR 4.0 is still based on the “triple bottom line” and stakeholder theory, but the “four in one” theoretical model has been restructured. It is emphasized that enterprises should take the responsibility vision as the origin and clarify the objectives of corporate social responsibility. It also focuses on responsibility management and consolidates the foundation of corporate social responsibility. Moreover, CASS-CSR 4.0 takes the essential responsibility as the traction, relies on the market responsibility, and takes the social responsibility and the environmental responsibility as the two wings to constitute the action logic and the sound system of the corporate social responsibility.

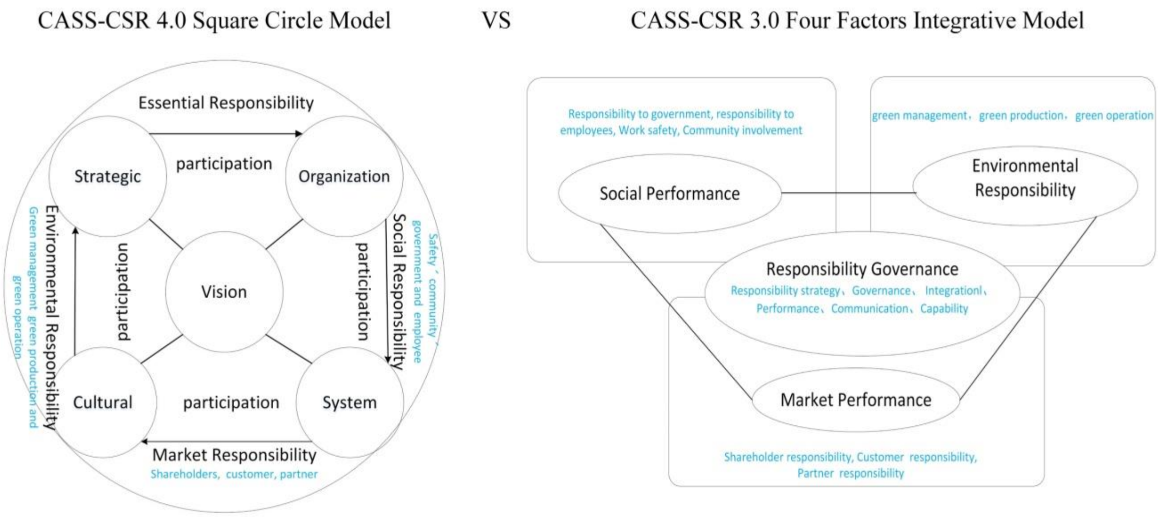

Figure 5 Comparison with CASS-CSR 4.0 and the previous version

Fourthly, CASS-CSR 4.0 adopts the latest domestic social responsibility policies and the latest standards at home and abroad. For example, referring to the current advisement GRI-G4, adding corruption to the section of corporate social responsibility, referring to ESG(2015) of Hong Kong Stock Exchange, some specific quantifiable indicators such as carbon intensity and carbon sinks were added into environmental responsibility.

Table 4 Overview of Changes in Standard Disclosures of CASS-CSR4.0

Structure of general standard in CASS- CSR4.0		deleted/moved/added or new indicators from 3.0	Linkage with GRI G4
Reporting Preface(P)	Reporting Norms（P1）	• contact details(3.0-P1.5) moved to Information of report(4.0-P1.2) • Scope of report(3.0-P1.3)moved to Reporting system(4.0-P1.3)	G4-20， G4-21
	Message from CEO (P2)	No change from 3.0-P3.	G4-1，G4-2
	Responsibility Focus (P3)	• Summary of annual progress (3.0-P5) moved and integrated to Responsibility Focus(4.0-P3.1 and P3.2)	
	Company Introduction(P4)	• Corporate strategy and culture (4.0-P4.1) is added as a new standard disclosure • 3.0-P4.1-4.4 are combined to Organizational structure and operation region(4.0-P4.2) • 3.0-P4.5 and P4.6 are combined to company size and influence(4.0-P4.4) • No change in P4.3、P4.5.	G4-3,G4-5,G4-6,G4-7 ,G4-8 G4-9,G4-10,G4-16，G4-4 , G4-13
		Report process(3.0-P2) is deleted in 4.0 P	
Responsibility management（G）		vision(G1)strategic(G2 organization(G3)	
Market performance（M）			
Social performance（S）			
Environmental performance（E）			
Postscript of the report （A）			
Indicator system (G4), cultural(G5), participation(G6)			

Based on retaining the original index system of the previous version, CASS-CSR 4.0 adds, deletes and merges sub indicators under each dimension. It widely absorbs the latest initiatives, indicators or guidelines for social responsibility and it also integrates the Global Reporting Initiative (GRI G4) Social Responsibility Indicators-the global standard, the United Nations Sustainable Development Goals (SDGs) and the Hong Kong Stock Exchange Environmental, Social and Regulatory Reporting Guidelines (ESG 2015). In addition, CASS-CSR 4.0 combines with the trend of China's social responsibility policy.

V. Suggestion and Prospect

The Chinese government departments have played a major role in promoting corporate social responsibility. In the future, the government supervision departments will further improve and refine the guidance and supervision of corporate social responsibility. Foreign enterprises should attach importance to the standards of social responsibility reporting for key and special industries, which are launched by the Chinese government and the regulatory authorities. Based on China's existing policies and guidelines, they ought to focus on disclosing special effects on society and environment during production and operation. At the same time, it is necessary to emphasize the integration of China's development strategy on the basis of focusing on the global strategic coordination with the parent company, and pay attention to the disclosure of local content, such as precision poverty alleviation, environmental protection, innovation and entrepreneurship, medical health and so on. In addition, foreign enterprises are supposed to actively introduce the local third-party examination process in China, in order to improve the credibility of the report and the efficiency of government supervision. This is very helpful in creating a good public opinion atmosphere for foreign companies.

In a word, localization of responsibilities should become an important strategy for foreign companies in the future. For foreign-invested enterprises, the release of the CSR report is not only a process of presenting the global strategy of the enterprise to the stakeholders in China, as well as the operation of the Chinese business, but also an important appearance of the foreign enterprises adapting to the new era of socialism in China.

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[2]www.china-csr.org
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[5] www.infzm.com
[6]www.mqi.org.cn

The Role of Political Economy in Designing Banking Regulation

The Israeli Bank Fees Reform as a Test Case

RUTH PLATO-SHINAR

7.1 Introduction

According to the Public Interest Theory, the aim of regulation is to maintain and promote the public interest. Regulation is supplied in response to the demand of the public for the correction of inefficient or inequitable market practices, and it is designed to improve the public's welfare by correcting market imperfections. The underlying assumption of the concept of regulation is that no other body (private, group, or the market as a whole) can satisfy the public's interest in a more effective manner, and therefore regulation was established as the mission of the regulatory agency. Regulation is assumed to benefit society as a whole, rather than any particular vested interests. The regulatory agency represents the interest of the society in general, within which it operates, rather than the private benefit of certain interest groups or those of the regulator himself. The regulators are perceived as professionals, specialists in their field, honest in their pursuit of public goals, and unbiased, thus capable of fulfilling their goals.[1]

[1] M. E. Levine and J. L. Forrence, "Regulatory Capture, Public Interest and the Public Agenda: Towards Synthesis," *Journal of Law, Economics and Organization*, 167 (1990); M. Hankte-Domas, "The Public Interest Theory of Regulation; Non-Existence or Misinterpretation?," *European Journal of Law and Economics*, 15 (2003), 165–194; R. Baldwin, M. Cave and M. Lodge, *Understanding Regulation: Theory, Strategy and Practice*, 2nd edn. (Oxford: Oxford University Press, 2012), 40–43; R. A. Posner, "Theories of Economic Regulation," *The Bell Journal of Economics and Management Science*, 5 (1974), 335, 335–341; J. den Hertog, "Review of Economic Theories of Regulation," Discussion Paper No. 10–18, Tjalling C. Koopmans Research Institute 5–21 (2010), www.uu.nl/sites/default/files/rebo_use_dp_2010_10–18.pdf.

However, this normative theory does not always match reality. The regulator does not always understand his task. He may use poor judgment in the prioritization of his goals. He may not act industriously enough in the fulfillment of his powers. He may prefer the interest of a specific interest group over that of the general public, and may act egocentrically by promoting his own self-interest.[2] As a result of these and other issues, regulators do not necessarily maintain and promote the public interest.

These regulatory failures may also apply in the banking sector and characterize the regulator of banks. Banking is a complex activity, obliging the regulator to use enhanced knowledge and a very high level of specialization. Banking is a dynamic field that requires the regulator to keep pace and adopt an active attitude in order to meet the market's needs. Often, the banking regulator is in charge of both prudential regulation (maintaining the stability of the banking system) and the conduct of business regulation, goals that may contradict each other and may require a sensitive balance between them, which is not an easy task. The banks, as a special interest group with a huge financial and political clout, may attempt to convince the regulator to adopt a policy that suits their needs, to the detriment of the general public. As a result of all these issues, the banking regulation, in many situations, fails to achieve its objective and does not work in favor of the general public.

However, the Israeli experience shows that under certain circumstances, public pressure can overcome such a regulatory failure and result in regulation fashioned to suit the interests of the public. A case that well illustrates this issue is the bank fees reform that took place in Israel in 2007, and which will serve as the test case in this chapter.

The structure of this chapter is as follows: section 7.2 describes the Israeli banking system with its special characteristics – a high level of concentration and a low level of competition. These idiosyncrasies created preliminary conditions for the creation of systemic failures in respect of the bank fees. Section 7.3 provides the background of the banking fees reform analyzed herein. It illustrates the problems that characterized the bank fees arrangements prior to the reform. The following three sections contain a chronological survey of the developments that took place in respect of bank fees throughout the years.

[2] This theory has been known as the "Public Choice Theory." See, in general: J. M. Buchman and R. D. Tollison (eds.), *The Theory of Public Choice*, 4th edn. (Ann Arbor MI: University of Michigan Press, 1994).

Section 7.4 analyses the efforts for regulating the bank fees prior to the 2007 Reform, efforts that were unsuccessful in solving the failures of the system. Section 7.5 describes the Bank Fees Reform which, for the first time, established supervision over bank fees. The section also analyzes the Reform's immediate results. Section 7.6 deals with another turning point: The social protest that erupted in the summer of 2011 and which resulted in enhanced supervision over the bank fees. The measures that the Bank of Israel took at that point, together with a slow but consistent reduction of fees as an on-going implementation of the 2007 Reform by the banks, finally resulted in a true change in the bank fees arena.

The impression from the last three chapters is of a passive attitude of the Supervisors of Banks over the years, and of a clear agenda of non-intervention in respect of bank fees. Section 7.7 suggests two explanations for this approach. It argues that Supervisors of Banks tended to focus their attention on prudential regulation, rather than consumer protection, and therefore neglected consumerist issues, such as bank fees. Moreover, in their desire to strengthen the banks' stability, the Supervisors preferred not to take measures that could have cut the banks' profitability, and therefore avoided curtailing bank fees. The section also refers to regulatory capture, as an additional possible explanation for the passivity of the Supervisors. Section 7.8 concludes with a few thoughts regarding the relationship between the passivity of regulators, public pressure, and the role of the political echelon.

7.2 The Israeli Banking System

The banking system in Israel consists of five major banking groups that control about 94 percent of the bank assets in the country. In addition, there are three small independent banks and isolated branches of four foreign banks. The banking corporations provide a wide range of financial services, including corporate, commercial and retail banking, housing loans and credit card transactions. In addition, they provide investment counseling, brokerage services, and pension advice. The three credit card companies that operate in Israel are owned by the large banks.[3]

[3] For elaboration on the Israeli banking system, see: R. Plato-Shinar, *Banking Regulation in Israel: Prudential Regulation versus Consumer Protection* (Alphen aan den Rijn: Wolters Kluwer, 2016), 31–37. A recent law obliges the two largest banks to sell their credit card companies. See the Law to Enhance Competition and Reduce Concentration in Israel's Banking Sector (Legislative Amendments), 5777–2017.

In the field of insurance, the activities of the Israeli banks are limited due to statutory restrictions. They market, through special subsidiaries, property insurance and life insurance as incidental services to the provision of housing loans.[4] Other activities, which – due to the restrictions of the law – are performed by subsidiaries, are underwriting and portfolio management.[5] Although the banks are allowed to provide trust services pursuant to section 10 of the Banking (Licensing) Law, in practice these services are provided by subsidiaries of the banks as well. As a result of a 2005 reform in the Israeli capital market, the banks are prohibited from managing provident funds or mutual funds, and from holding companies that manage such funds.[6]

The banks are subject to the Banking Supervision Department at the Bank of Israel. The Department is headed by the Supervisor of Banks, who is appointed by the Governor of the Bank of Israel.[7]

As mentioned above, the Israeli banking system consists of five banking groups, whose joint assets amount to about 94 percent of the total assets of the system. Approximately 58 percent of these assets are held by the two largest groups (Bank Leumi and Bank Hapoalim). This centralized structure constitutes a duopoly, where two players control the vast majority of the activities of the sector.[8]

Concentration in the Israeli banking system is rather high. In 2015, the Herfindahl-Hirschman Index (HHI), which measures the concentration in the system as a whole and is calculated according to the total assets of the banks, was 0.22. The concentration ratio (CR2), which measures the market share of the two largest banks within the system's total assets, amounted to 0.58. An international comparison shows that the concentration in the Israeli banking system is significantly higher than the EU average.[9]

Another conspicuous characteristic of the Israeli banking system is the low level of competition between the banks. This observation is mainly based on the Structure Conduct Performance (SCP) Paradigm, according to which the greater the level of concentration in the system, the greater is the market power of its players, and the lower is the level

[4] Banking (Licensing) Law, s. 11(b).

[5] Banking (Licensing) Law, ss. 11(a)(3a) and 11(a)(3b).

[6] For elaboration on the Capital Market Reform, see: Plato-Shinar, *Banking Regulation,* 23–24.

[7] For elaboration on these supervisory powers, see ibid., 14–16, 66–73.

[8] Supervisor of Banks, *Israel Banking System – Annual Survey 2015* (August 2016), 8–9.

[9] Ibid., 9. Supervisor of Banks, *Israel Banking System – Annual Survey 2014* (June 2015), 12.

of competition.[10] A low level of competition was also found using the Contestable Market Theory, according to which competition can exist, even in a concentrated market, on condition that a real threat of competition exists, pressurizing the existing players to behave competitively. Apparently, such a threat does not exist in the Israeli banking system.[11] The Paznar-Rosse H-Statistic value for the Israeli banking system in various years was found to be lower in comparison to other Western countries, thus indicating a lower level of competition.[12]

These characteristics of a high level of concentration and a low level of competition were used by the banks adversely against their customers, as will be explained in section 7.3.

7.3 Failures in the Bank Fees System

In Israel, until the bank fees reform of 2007, there was no supervision of bank fees.[13]

It transpired that, for many years, the banks in Israel had used the mechanism of bank fees in an inappropriate manner, in order to increase

[10] See, e.g., Report of the Team to Examine Increasing Competitiveness in the Banking System (March 2013), 51, www.boi.org.il/he/NewsAndPublications/PressReleases/Pages/19032012e.aspx and summary in English at www.boi.org.il/en/BankingSupervision/Survey/Pages/competition.aspx; Committee to Enhance Competitiveness in Common Banking and Financial Services, "Background Survey for the Interim Report: The situation of Competition in the Target Sectors and the Required Measures" (2016), http://mof.gov.il/Committees/competitivenessCommittee2015/MidReport2.pdf; Bank of Israel, *Examination of the Prices of the Banking Services – Recommendations of the Work Teams* (January 2007), 4, www.boi.org.il/he/Research/Pages/neumim_neum226h.aspx.

[11] D. Rotenberg, "The Competitiveness in the Banking Sector: Theoretical Aspects and Empirical Evidence from Israel and Abroad," Banking Supervision Department Research Unit, Working Paper (2002), www.boi.org.il/he/Research/Pages/papers_dp0502h.aspx; Report of the Committee to Enhance Competitiveness in Common Banking and Financial Services, supra n. 10, at pp. 8–13 (in respect of retail credit); *Examination of the Prices of the Banking Services – Recommendations of the Work Teams*, supra n. 10, at pp. 6–12.

[12] Committee to Enhance Competitiveness in Common Banking and Financial Services, "Background Survey for the Interim Report," pp. 8–9. Bank of Israel, *Examination of the Prices of the Banking Services*, 8–9; Parliamentary Inquiry Committee on Bank Fees, Final Report (June 2007), 16–17, in Hebrew at www.knesset.gov.il/committees/heb/docs/bank_inq.pdf.

[13] For an opinion that the bank is subject to a fiduciary duty when determining its fees, see L. Haim, "Bank Fees: Banking Liability in their Determination and Collection (following CA 4619/08 Mercantile Discount Bank v. Ezrat Israel Housing)," *Mishpatim Online*, 5 (2013), 51. For the opposite opinion, see R. Plato-Shinar, *The Bank's Fiduciary Duty: The Duty of Loyalty* (Israel: Bar Publishing, 2010), 103–105.

their profits at the expense of the retail sector (individuals, households and small businesses), that were perceived as weak customers.[14] A few problems could be noted in this regard.

Firstly, due to an absence of competition between the banks, the banks permitted themselves to charge very high fees. The level of fees increased sharply from year to year, even surpassing the rise of the consumer price index. For example, from June 1999 to January 2005, the level of fees increased by an average of 12.2 percent, in comparison to an increase of 7.9 percent in the consumer price index, meaning that the fees actually increased by 4 percent above the index.[15] In addition, in the years 2001–2003 there was a serious economic recession in the Israeli economy, which was accompanied by a sharp decline in real wages. Nevertheless, bank fees continued to rise.[16] In 2007, the average expenditure of an account holder for basic bank services was 73 percent higher than its counterpart in Western countries.[17]

Another problem was the multiplicity of fees charged by each bank for financial and operational services. In 2007, on the eve of the bank fees reform, there were banks that charged more than 300 different types of fees to retail customers. Between 1993 and 2007, the number of fees for actions in current accounts increased by 137 percent; the number of fees for computerized and technological services increased by 147 percent; and the number of fees in respect of credit cards increased by 189 percent.[18] While in other developed countries such as the United Kingdom and the United States, a current account with a positive balance bore no fees, and fees were charged only in cases of no cover or exceeding a credit facility, in Israel customers had to pay fees for each and every action which was executed in their account, no matter its balance, plus expensive fees in cases of a lack of cover or of a credit facility excess.[19] In 2005, the Israeli banks' income from fees charged to households constituted 49.5 percent of their total income from fees.[20]

In addition, the banks used to collect double fees for the same transaction. A good example for such a double fee was the "line-entry fee": For

[14] Parliamentary Inquiry Committee on Bank Fees, Final Report, 32.
[15] Ibid., 34. Knesset Research and Information Center, "The Prices of Banking Services," (May 2006), 3.
[16] Parliamentary Inquiry Committee on Bank Fees, Final Report, 41.
[17] Ibid., 36.
[18] Ibid., 32.
[19] Ibid., 35.
[20] Ibid., 37.

every line that was recorded on the bank statement of the customer, the bank charged a fixed fee, even if the customer was charged with an additional, specific fee for the transaction itself. The banks explained that this fee was intended to cover their computer expenses in the handling of the customer's account. However, they used to charge an "account management fee" as well, another variety of a double fee. Other examples for double fees were: A "documents processing fee," a "collection fee" that was charged for every monthly installment of a loan repayment, "credit card membership fee," and more.[21]

A fourth problem was information barriers. The bank fees system was extremely complicated. It not only contained hundreds of types of fees, as explained above, but, in addition, some of the fees comprised a few levels (such as the fees in respect of securities trading). Rules promulgated over the years with the aim of making the fees simpler and clearer did not solve the problem.[22] As a result, customers were unable to understand the cost of banking services. In addition, each bank identified and calculated the fees differently, which made it impossible for customers to compare them from bank to bank.[23]

Last, but not least, one should mention the phenomenon of the great similarity in the level of fees that were charged by the different banks. For years, there was almost complete uniformity in the fees that the banks charged their retail customers. Moreover, when one bank raised a fee, the other banks were quick to update their parallel fee by a similar rate. Although this phenomenon lasted for years, the Supervisor of Banks did not intervene.

This phenomenon of great similarity among fee levels served as the basis for a lengthy investigation by the Director General of the Antitrust Authority. The investigation revealed that from the 1990s until 2004, the five major banks had exchanged among themselves information concerning the fees that they charged, which constituted a criminal offence.[24]

[21] Ibid., 38, 42.

[22] See in section 7.4, below.

[23] Parliamentary Inquiry Committee on Bank Fees, Final Report, 38.

[24] Israel Antitrust Authority, "A Ruling regarding Restrictive Arrangements between Israeli Banks regarding the Transfer of Information about the Bank Fees" (April 26, 2009), www.antitrust.gov.il/subject/120/item/25879.aspx. However, in 2014, following an appeal that was filed by the banks with the Antitrust Tribunal against the Director General's ruling, the case was settled and the ruling against the banks was cancelled. In return, the banks undertook to pay the Antitrust Authority ILS 70 million. Not only was this sum much lower in comparison to the amounts involved, the banks were allowed to set off an

7.4 Attempts to Regulate the Bank Fees Prior to the 2007 Reform

Until the bank fees reform of 2007, there was no systemic supervision of bank fees.

The competent authority to set prices on essential goods and services, by virtue of the Supervision of Goods and Services Law, 5756–1996, was the Ministry of Trade, Industry and Tourism. In isolated cases, where the Banking Supervision Department found it fitting to set a ceiling for the price of a specific banking service, it had to rely on the Ministry's authority, recommending it to act in this regard. The Bank of Israel did not see fit to change this situation, nor to assume the authority to set prices for banking services.

In 1993, the Bank of Israel appointed an internal committee to examine the bank fees. The committee reduced the number of fees charged to households and small businesses to 125 and prepared a standard list of fees to be adopted by all banks.[25] These steps were anchored by the Supervisor of Banks in Proper Conduct of Banking Business Directive No. 414. However, over the years, the banks gradually deviated from the Directive, while the Supervisor of Banks refrained to take any measures against them.

In 1998, the Knesset (the Israeli Parliament) amended the Banking (Service to Customer) Law, 5741–1981. It added section 5A, which obliged the banks to provide their customers with written information about the amount or rate of fees they charge. Information that did not refer to a specific customer, such as the bank's tariff of fees, had to be presented in a prominent location in all the bank's branches. In addition, every quarter the banks had to provide each customer with a notice detailing all fees charged that customer during the preceding three months. Section 5A did not deal with the amount of the fees or their structure. The obligations it imposed on the banks were only meant to increase transparency.

At the beginning of the millennium, public criticism of the banks for mistreatment of customers in general, and in regard to bank fees in particular, started gaining momentum. Serious allegations were made regarding the fees that were being charged to households and small

amount of ILS 35 million that they paid in settlement proceedings relating to class actions that were filed against them in this regard.

[25] Parliamentary Inquiry Committee on Bank Fees, Final Report, 41; Knesset Research and Information Center, "The Prices of Banking Services," 8–9.

businesses. Expectation arose amongst the public of active intervention on the part of the Supervisor of Banks,[26] but the latter was slow to act.

In 2003, the Israeli Consumer Council launched a campaign concerning bank fees, which attracted intense media coverage and the attention of the Knesset Economic Affairs Committee, which decided to actively intervene in the matter. Between 2003 and 2008 this Committee held 21 hearings that focused or touched upon the banks' excessive fees. In addition, to signal their responsiveness to the public, various members of the Knesset initiated several bills that empowered the Banking Supervision Department in the Bank of Israel, to control bank fees.[27]

In 2003, the Supervisor of Banks appointed an internal team – the Team to Examine the Policy of the Banking Supervision Department in respect of the Prices of Banking Services (the "Fein Team"). In 2004, the Team submitted its report, which determined that the level of fees in Israel was high in comparison to other countries. The Team recommended, inter alia, abolishing many fees, reducing the level of others, and controlling the prices of banking services according to certain criteria.[28] However, it turned out that not everybody in the Bank of Israel agreed with these recommendations. While the Supervisor of Banks was willing to adopt the recommendations, the Governor of the Bank of Israel and other senior officials in the Banking Supervision Departments rejected them.[29] In addition, the Association of Banks in Israel rejected the Team's recommendations, and submitted a counter-report according to which the level of fees in Israel was shown to be similar to the level in other countries.[30]

In 2004, the Knesset Economic Affairs Committee appointed the Team to Examine Issues in the Banking System. It was headed by the Director of the Knesset Research and Information Center, and included representatives from the Economic Affairs Committee, the Israel Consumer Council, the Antitrust Authority, the Association of Banks, the

[26] Compare: P. Cartwright, *Banks, Consumers and Regulation* (London: Bloomsbury Press, 2004), 2, noting that "consumer expectations may not only apply to the relation between bank and consumer, but also to that between bank, consumer and the State, particularly the regulator."

[27] S. Gilad, "Political Pressures, Organizational Identity, and Attention to Tasks: Illustrations from Pre-Crisis Financial Regulation," *Public Administration*, 93 (2015) 593, 601.

[28] Knesset Research and Information Center, "The Prices of Banking Services," 23–24.

[29] Gilad, "Political Pressures," 602.

[30] Parliamentary Inquiry Committee on Bank Fees, Final Report, 42; Knesset Research and Information Center, "The Prices of Banking Services," 25–26.

Ministry of Finance, and the Deputy Supervisor of Banks. In July 2004, the Team published its recommendations in respect of competition in the household sector. As to bank fees, the Team adopted nearly all the recommendations of the Fein Team (which had called for intervention in the prices of the fees). In addition, it focused on increasing transparency regarding fees. For example, by sending a monthly fee statement to the customers, by creating a standard and simple tariff of fees that the banks would be obliged to adopt, by notifying the customer in advance of the fees involved in the requested transaction, and by receiving the customer's specific consent before charging expensive fees. The Team also recommended a duty of semiannual reporting by the Supervisor of Banks to the Knesset Economic Affairs Committee, about the measures taken by him in the preceding six months, in respect of the bank fees.[31]

Some of the above-mentioned recommendations regarding the transparency of the fees were adopted by the Governor of the Bank of Israel. In 2004 the Governor amended the Banking (Service to Customer) (Proper Disclosure and Delivery of Documents) Rules, 5772–1992, by adding new rules regarding due disclosure of bank fees. The rules obliged the banks to exhibit their tariff of fees in their branches, in a prominent manner. In addition, the banks were obliged to obtain informed, advance consent of fees changes from each customer before performing any banking transaction. This duty also applied to transactions performed on the phone or by electronic means.[32]

Immediately after these Rules entered into force, Bank Hapoalim (one of the two largest banks in the country) announced an increase of its line-entry fee by a few cents. This announcement created a new wave of public and media criticism. The Knesset Economic Affairs Committee threatened to promote a legislative bill to strictly limit the bank fees. At the end, the Committee, the Supervisor of Banks and the banks reached a "package deal," which came into force in December 2005. The "package deal" allowed the banks to collect a fixed fee (ILS 1.21) for every bank transaction performed in a current account, with a minimum monthly charge. In consideration, the banks agreed to abolish double fees such as the "account managing fee" and the "line entry fee"; to create baskets of fees that included a certain amount of

[31] Knesset Research and Information Center, "The Prices of Banking Services."

[32] Banking (Service to Customer) (Proper Disclosure and Delivery of Documents) Rules, 5752–1992, ss. 26 and 26A.

services for a fixed – and lower – price; and to facilitate the possibility for customers to switch between banks.[33]

The package deal was honored by the banks for almost one year. But then, in October 2006, the three largest banks decided one after the other to raise their fixed fees, without raising the prices of the baskets of fees. This move escalated public criticism to a new apex and led the Knesset Economic Affairs Committee to a new initiative – a Parliamentary Inquiry Committee in respect of the bank fees.[34]

Concurrent with preparations for establishing the Parliamentary Inquiry Committee, internal working teams at the Bank of Israel examined the issue of the bank fees. In January 2007, almost simultaneously with the formal establishment of the Inquiry Committee, the Bank of Israel published a report about bank fees. The report recommended a series of regulatory steps, as follows: Empowering the Supervisor of Banks to supervise the prices of banking services, especially in sectors where the level of competition is low; creating standard lists of fees while reducing the number of fees; determining a fixed price for the management of a current account; obliging the banks to provide reports about their fees to the Supervisor of Banks on a regular basis; and obliging the Supervisor of Banks to regularly publish comparative tables of the fees charged by the different banks.[35]

In June 2007, the Parliamentary Inquiry Committee published its report. The report pointed to a long list of failures that characterized the bank fees system in Israel, as was detailed in section 7.3. Moreover, the Committee determined that for years, the banks had taken advantage of their influence as pillars of the Israeli economy in order to increase their earnings, mainly at the expense of the retail sector, which was perceived as the weaker party in terms of its bargaining power in dealings with the bank. The Committee determined that "households in Israel pay a 'lack of competition fee' when purchasing bank services."[36] The Committee further noted that, while Western countries had been implementing reforms since the 1980s, in order to encourage competition in the banking industry as well as the non-bank sector, not enough had been done in this field in Israel, because the policy of the Supervisor of Banks had not been sufficiently active in this regard. Throughout the

[33] Supervisor of Banks, *Israel Banking System – Annual Survey 2005* (May 2007), 116, www.boi.org.il/en/NewsAndPublications/RegularPublications/Pages/skira05_skira05e.aspx.
[34] Parliamentary Inquiry Committee on Bank Fees, Final Report.
[35] Bank of Israel, "Examination of the Prices of the Banking Services."
[36] Parliamentary Inquiry Committee on Bank Fees, Final Report, 8.

past decades, the Israeli Supervisors of Banks had not implemented an active regulation policy in the field of retail banking.[37]

Based on these findings, the Committee's main recommendations that directly referred to bank fees, were as follows: (1) to transfer the authority of price control in respect of bank fees from the Industry and Trade Ministry to the Bank of Israel; (2) to cap the price of certain fees for a limited period of time (for this, it was recommended that banks and the Supervisor of Banks reach a voluntary agreement, in order to avoid conferring a new power on the Bank of Israel); (3) to determine a standard list of fees for the retail sector which would be identical for all banks, while reducing the number of fees and canceling double fees; (4) to create a few models of current accounts for which a fixed monthly fee could be charged; (5) to oblige the Supervisor of Banks to publish a comparative index of fees paid by household in each bank, which would thereby enable the public to compare fees between banks.[38]

The recommendations of the Inquiry Committee were immediately adopted by the Government and by the Knesset. In July 2007, based on a bill that was formulated by the Bank of Israel, the Banking (Service to Customer) Law was amended,[39] and the Bank of Israel was statutorily authorized to supervise bank fees.

7.5 The Bank Fees Reform of 2007

According to the above-mentioned amendment of the Banking (Service to Customer) Law, powers are conferred on the Governor of the Bank of Israel to oversee the fees.

The law grants the Governor two main powers: The first relates to retail customer accounts of individuals, households and small businesses, and empowers the Governor to determine and update – from time to time – a closed list of permissible fees.[40] The aim of the closed list was to reduce the number of fees, to prevent the charging of double fees for the same service, and to present the fees to the public in a way that is fair and understandable, giving the same names to the fees that are charged by the different banks, and ensuring that the customer can compare the prices of different banks. However, the aforementioned power does not include intervention in the prices or the level of the fees.

[37] Ibid., 9.
[38] Ibid., 9–13.
[39] Banking (Service to Customer) Law, Chapter B2.
[40] Banking (Service to Customer) Law, ss. 9I, 9J.

The second power conferred on the Governor is to declare certain bank services to be "a service subject to supervision." Such a declaration allows the Governor to limit the amount of the fee charged for that service.[41] A service will be declared "a service subject to supervision" if one of the following circumstances exists: The fee charged for the service may reduce competition between the banks or between banks and other institutions that provide similar services; a customer can only receive the service from the bank where his account is managed; in the Governor's opinion, the service is an essential service for which public welfare recommends supervision.[42]

By virtue of his power, the Governor published in 2008 a list of allowed fees while giving banks discretion to determine actual fees.[43] The result of this move was the abolition of many fees, and uniformity in the names and structure of the rest of the fees that remained in force.

In addition, very few services were declared "a service subject to supervision," and for such services a limited price was specified.[44] However, regarding most of the fees, the Bank of Israel allowed the banks discretion to determine the level of the fees, while expecting competition to trigger a reduction in prices. Unfortunately, these expectations were not realized: It turned out that some banks took advantage of this reform to the detriment of the customers, and actually increased their fees.[45]

Opinions were divided as to the immediate consequences of the bank fees reform. The Bank of Israel determined that the reform led to a reduction in the "average basket of fees."[46] However, the Israel Consumer Council found that the average fee charged to households actually increased.[47] In addition, the hope that the Fees Reform would immediately lead to price competition between the banks proved

[41] Ibid., ss. 9K and 9N.

[42] Ibid., s. 9K.

[43] Banking (Service to Customer) (Fees) Rules, 5768–2008.

[44] Services Subject to Supervision according to the Banking (Service to Customer) (Amendment 12) Law, 5767–2007, 5799 The Official Gazette (Yalkut Hapirsumim) 2927 (2008).

[45] Bank of Israel, "Data for the First Quarter after the Implementation of the Bank Fees Reform" (Dec. 30, 2008), www.boi.org.il/he/NewsAndPublications/PressReleases/Pages/081230h.aspx.

[46] Ibid.

[47] Israel Consumer Council, "The Council's Opinion in Respect of the Bank Fees after the Reform" (August 20, 2008), in Hebrew at www.consumers.org.il/files/files/odaot/amlot bemda2.doc.

unfounded. Few real differences have arisen between the prices charged by different banks for same fees. Since no meaningful improvement was seen, consumer organizations argued that the Governor was not active enough in his role, and was succumbing to the industry's power. However, the Governor did not change his policy. Save for a few specific updates, such as giving discounts to senior citizens, the disabled or the underprivileged on fees for basic clerk-assisted services,[48] the Governor did not broaden his supervision over bank fees.

7.6 Strengthening the Supervision over Bank Fees – The Social Protest of 2011

In summer 2011 something changed: A huge social protest erupted against the high cost of living in Israel. The protest did not focus on the high cost of banking services per se, but centered on the high cost of housing, food and transportation. Nevertheless, it also had an impact on bank fees, as will be explained below. The protest was supported by major portions of the public, in particular the middle class. It was encouraged by aggressive media coverage, prominent social leaders and social organizations, and it caused the political echelon to understand that actual change in the Israeli economy should take place.[49]

As a result of the protest, the government established the Committee for a Social-Economic Change (the "Trachtenberg Committee"). The Committee examined the different factors that influenced the cost of living in Israel. To this end, the Committee made an analysis of several key sectors of the Israeli economy where there were apparent failures and significant barriers to competition, including the banking sector. The Committee found that the high degree of concentration in the banking system created a concern as to a lack of competitiveness, as well as over-charging. In this light, the Committee recommended

[48] Banking (Service to Customer) (Fees) (Amendment No. 2) Rules, 5768–2008, 6705 Regulations File (Kovetz HaTakanot) 1290.

[49] For a wider description of the social protest and its impact on the regulatory agencies, see: Y. Chernin and Y. Lahav, "'The People Demand Social Justice': A Case Study on the Impact of Protests on Financial Markets," *Accounting Economics and Law – A Convivium*, 4 (2014), 99, 103–105. See also: S. Alon-Barkat and S. Gilad, "Political Control or Legitimacy Deficit? Bureaucracies' Symbolic Response to Bottom-Up Public Pressures," *Policy and Politics*, 44 (2016), 41. S. Gilad, S. Alon-Barkat and A. Braverman, "Large-Scale Social Protest: A Business Risk and a Bureaucratic," *Governance*, 29 (2016), 371.

establishing a team that would work toward increasing competitiveness in the Israeli banking industry.[50]

In 2012, the Minister of Finance and the Governor of the Bank of Israel appointed the Team to Examine Increasing Competitiveness in the Banking System, headed by the Supervisor of Banks. The mandate given to the Team was to focus on the retail banking sector – households and small businesses – and to recommend measures for developing competition in the sector.

The report published by the team in 2013 included recommendations aimed at enhancing competition in the banking sector to reduce the cost of banking services and improve the situation of bank customers.[51] In addition, the Committee expressly recommended more involvement by the Bank of Israel in respect of the bank fees charged to the retail sector. In particular it recommended to cancel a number of fees (in addition to those that were already abolished in the 2007 Reform); to declare additional services to be "a service subject to supervision" and to limit their fees; to alter the structure of fees charged in respect of securities trading and to reprice these fees; and to oblige the banks to provide the customer with comparative information about fees that were actually paid by other customers for similar trading activities, in order to increase the bargaining power of the customer in dealings with his bank.

50 Report of the Committee for a Social-Economic Change (September 2011), 188, http://hidavrut.gov.il/sites/default/files/%20%D7%A1%D7%95%D7%A4%D7%99.pdf?bcsi_scan_99FE300B8A2E1F36=1. Translation at www.bjpa.org/Publications/details.cfm?PublicationID=13862.

51 Report of the Team to Examine Increasing Competitiveness in the Banking System. It was believed that implementation of the Team's recommendations would result in a loss of revenue for the bank of NIS 500-800 million. See: I. Avisar, "Stability is above everything," *Globes* (July 16, 2012), www.globes.co.il/news/article.aspx?did=1000766233; S. Aizescu, "The Competition Committee Is a Display to the Public as If the Banking System Is Handled," *The Marker* (June 13, 2012), www.themarker.com/markets/1.1730298. On the other hand, various agencies, including the Israel Consumer Council, argued that the Team's recommendations were insufficient to create real competition and significantly strengthen the position of bank customers, and that the real reason for this was the preference given to the prudential over consumer interest. See the speech of E. Peleg, CEO of the Israel Consumer Council, in the Knesset Economic Affairs Committee, following on publication of the Team's Interim Report: Knesset Economic Affairs Committee, Protocol No. 921 (July 17, 2012), http://main.knesset.gov.il/Activity/Committees/Economics/Pages/CommitteeAgenda.aspx?tab=3&AgendaDate=17%2f07%2f2012+12%3a00%3a00. See also criticism of the General Director of the Israel Antitrust Authority, even though a representative of the Antitrust Authority was among the members of the Team: I. Avisar, "With All Due Respect to Gilo, the Ball Is in the Hands of Fisher," *Globes* (July 18, 2012), www.globes.co.il/news/article.aspx?did=1000766963.

In addition, attention was given to the small business sector. It was recommended to expand the small business group that enjoys discounted retail rates, and to require the banks to inform these businesses of their entitlement and how they could exercise it.[52]

The Bank of Israel promptly adopted these recommendations. It was even so quick to act that it implemented some of the recommendations immediately after publication of the Committee's interim report, without waiting for the final report.[53]

Moreover, the Bank of Israel did not stop at adopting the Committee's recommendations, but this time took even further measures. Over the years, it has gradually deepened and strengthened its involvement in respect of fees by initiating and implementing additional measures aimed at enhancing competition and reducing fee levels.

In this context, of particular interest was the initiative of the Bank of Israel in 2014, whereby it compelled banks to introduce uniform "baskets of fees" on current accounts.[54] A "basket of fees" includes a certain number of services at a fixed price, to be determined by each bank separately. Because of the Bank of Israel's concern that the banks might abuse the basket system in order to increase prices, as occurred when the Fees Reform came into effect in 2008, the Governor of the Bank of Israel declared the basic basket of fees a "service subject to supervision," which allowed him to determine the price of this basket.[55] However, as the transition to the basket system was not worthwhile for the banks, they did not bother to inform their customers about this. Another directive of the Bank of Israel required the banks to take proactive measures to bring the matter to the attention of their customers, and to report to the Supervisor of Banks the rate at which the customers subscribe to the basket of fees

[52] Report of the Team to Examine Increasing Competitiveness in the Banking System, 111–120, 125–127.

[53] See, for example: Banking (Service to Customer) (Cancelling Supervision of a Certain Banking Service and Its Amendment in Another Case), 5773-2012, 7196 Regulations File (Kovetz HaTakanot) 368; Banking (Service to Customer) (Fees) Rules, 5773-2012, 7196 Regulations File (Kovetz HaTakanot) 369; Banking (Service to Customer) (Fees) (Amendment No. 2) Rules, 5773-2013, 7261 Regulations File (Kovetz HaTakanot) 1385.

[54] Banking (Service to Customer) (Fees) (Amendment) Rules, 5774–2013.

[55] Banking (Service to Customer) (Supervision on Basic Track Service) Order, 5774-2014, 7360 Regulations File (Kovets HaTakanot) 1001; Bank of Israel, "The Price of the Basic and Uniform Basket of Current Account Management Services will be under Supervision and will not Exceed NIS 10 a Month" (March 5, 2014), www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/05-03-2014-BankSupervi.aspx.

system.[56] The Bank of Israel even launched a radio campaign to increase public awareness.[57]

In accordance with the obligation imposed on him by this law, the Supervisor of Banks reports to the Knesset Economic Affairs Committee every six months about actions taken regarding fees, and about the banks' implementation of the provisions of the law. These reports constitute a tool for supervising his actions.[58]

In addition, the Banking Supervision Department endeavors to promote banking services transparency by publishing detailed information about the fees that different banks charge, by issuing comparative tables, and by providing calculators on the Bank of Israel's website that are available for public use.[59]

To summarize, the social protest in the summer of 2011 resulted in enhanced supervision of bank fees. The measures taken by the Governor of the Bank of Israel and the Supervisor of Banks in response to the social protest, together with a slow but consistent reduction of fees through implementation of the 2007 Reform did, finally, result in a true change in bank fees.

7.7 The Passive Approach of the Supervisor of Banks

In section 7.3 we saw the failures that characterized the bank fees system, particularly in respect of the retail sector. Notwithstanding these problems, the Bank of Israel was not enthusiastic to actively intervene in this regard, and surely not to establish a systematic response.

[56] Supervisor of Banks, "Letter to the Banking Corporations: 'The Tracks Service'" (July 5, 2014), www.boi.org.il/en/BankingSupervision/LettersAndCircularsSupervisorOfBanks/LettersOfTheBankingSupervisionDepartment/201405.pdf; Supervisor of Banks, "Letter to the Banking Corporations: 'The Tracks Service'" (June 21, 2015), www.boi.org.il/he/BankingSupervision/LettersAndCircularsSupervisorOfBanks/LettersOfTheBankingSupervisionDepartment/201512.pdf; Supervisor of Banks, "Proper Conduct of Banking Business Directives: Directive no. 423 on 'The Tracks Service'," www.boi.org.il/en/BankingSupervision/SupervisorsDirectives/ProperConductOfBankingBusinessRegulations/423_et.pdf.

[57] Supervisor of Banks, Annual Survey 2014, 104.

[58] By virtue of s. 9R of the Banking (Service to Customer) Law. For an example of such a report, see: Bank of Israel, "The Semiannual Report on Common Banking Service Fees was presented today to the Knesset Economic Affairs Committee," (January 26, 2016), www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/26-01-2016-BankingSupervisor.aspx.

[59] By virtue of the authority conferred on him in s. 16K of the Banking (Service to Customer) Law. The information is published on the Bank of Israel website: www.boi.org.il/en/ConsumerInformation/ConsumerIssues/Pages/Amalot.aspx.

From the survey in section 7.4, it seems that until the Bank Fees Reform of 2007, the involvement of the Supervisor of Banks and the Bank of Israel in bank fees was rather limited. They focused mainly on efforts to increase the transparency of the fees, assuming market forces would cure customer mistreatment. Only in sporadic cases did they set a ceiling on the price of a banking service, relying on the general powers of the Ministry of Trade, Industry and Tourism to set the prices of essential services. Yet these interventions were too weak to provide a real solution.[60]

Even when professional teams, such as the Fein Team or the Team to Examine Issues in the Banking System, recommended regulating the prices of banking services, the Bank of Israel still did not take any active measure to implement these recommendations. And in those issues where the Bank of Israel did take an active part, such as the "package deal," it only followed acts that were initiated and promoted by other political players, mainly the Knesset Economic Affairs Committee.

Most of the moves of the Bank of Israel were made only as a response to escalating public pressure, and simply as a gesture with no full commitment. Moreover, due to the general reluctance of the Bank of Israel to intervene in this field, its response was belated and attenuated.[61] The general impression of the Bank of Israel's behavior is that of a firm agenda of non-intervention, an agenda which was even expressly admitted by the Deputy Supervisor of Banks during the Knesset debates.[62]

It was only toward the end of 2006 and the beginning of 2007 that the Bank of Israel could no longer adhere to this agenda. Two main political actors compelled it to intervene: The public, whose escalating pressure now reached a new peak, encouraged by aggressive media coverage; and the Parliament – headed by social activist members who were influenced by the public pressure, which led to the establishment of the Parliamentary Inquiry Committee. Presented with the possibility of serious social and parliamentary censure, the Banking Supervision Department could no longer ignore the issue of bank fees. Therefore, at that point, it changed its attitude and took an active part in the legislative

[60] Gilad, "Political Pressures," 601.
[61] Ibid., at p. 604.
[62] See the speech of Mr. Motti Fein, the Deputy Supervisor of Banks, at the Knesset State Control Committee, Protocol 7029 of 30 July 2003: "We do not think that there should be control over the banks' fees, because control is a bad thing."

process promoted by the Knesset, which resulted in the statutory Bank Fees Reform.

However, even after the law was amended, authorizing the Governor of the Bank of Israel to intervene in the prices of the banking services, the Governor used this power in a limited manner, leaving the level of most of the fees to the discretion of the banks themselves. The result was quick to come – there were banks that took advantage of the reform in order to increase their fees, with the Supervisor of Banks taking no measure against them.

Another milestone took place a few years later, once again as a response to a huge public protest. This time it was the social protest of 2011, that swept hundreds of thousands of people who went out on the streets and called upon the government to reduce the cost of living. The strength of this protest caused the Supervisor of Banks not only to head the Team to Examine Increasing Competitiveness in the Banking Sector, but also to immediately adopt the Team's recommendations, and to even take additional measures to reduce the fees.

The interesting question is what was the reason for the passive approach of the Supervisor of Banks and the Bank of Israel? Why, for so many years, did the Israeli regulators adopt such an attitude, despite the existence of public criticism? I believe that the main explanation for this situation is related to prioritization of regulatory goals, namely the preference of prudential regulation over consumer protection. In addition, I will refer to regulatory capture as another possible explanation for regulatory passivity.

7.7.1 Prioritization of Regulatory Goals

The Israeli Supervisor of Banks is in charge of both fields of banking regulation: prudential regulation (maintaining the stability of the banks), as well as consumer protection. However, the prudential role has always occupied the predominant place in the activities of the Supervisors of Banks, while consumer protection has received less attention.[63] This is not surprising. There are several reasons why bank regulators prefer to focus on prudential supervision rather than on consumer protection.

Firstly, banking instability will always attract a more vigorous response from regulators by virtue of its potential severity.[64] A bank that collapses

[63] Plato-Shinar, *Banking Regulation,* 84–86, 172–175.
[64] A. D. Schmulow, "Twin Peaks: A Theoretical Analysis," Center for International Finance and Regulation, Research Working Paper Series Project No. E018, at p. 9 (2015).

causes considerable damage, not only to customers and investors, but it may – through the contagion effect –harm the entire banking system and the economy as a whole.[65] Whereas improper conduct regarding a consumer, even if it involves a systemic failure rather than an isolated event, does not usually have such severe consequences.

In addition, the collapse of a bank could be perceived as a professional failure, both by the Banking Supervision Department as an organization, and by the Supervisor of Banks personally. No Supervisor would like a bank to collapse during his term in office. On the other hand, inadequate attention to consumer matters is not seen as a supervisory failure, and will at most attract public criticism. Considerations of protecting personal interests will therefore motivate the Supervisor to devote more attention to the supervision of stability.

A similar explanation is supported by the theory of Risk Based Regulation.[66] According to this theory, regulatory agencies are responsible for reducing risk to the public ("social risk"). However, in the event that a social risk materializes (such as the collapse of a bank), the relevant regulatory agency will be exposed to "institutional risk" as having failed to fulfill its duties, and it could lose its status and its power. Hence, in determining priorities between regulatory goals, the regulatory agency will also take this institutional risk into consideration, and will establish its priorities so as to prevent the institutional risk from materializing.[67]

In addition, it was found that regulatory agencies prefer to handle social risks with high salience (even if the probability of them materializing is low), rather than social risks with low salience (even if the probability of them materializing is high). This is due to the dramatic significance of social risk with high salience on the reputation of the

[65] J. R. Macey and G. P. Miller, "Bank Failures, Risk Monitoring, and the Market for Bank Control," 88 *Columbia Law Rev.* 1153, 1156 (1988); L. Dragomir, *European Prudential Banking Regulation and Supervision* 30 (Abingdon: Routledge, 2010); X. Freixas, C. Giannini, G. Hoggarth and F. Soussa, "Lender of Last Resort: a Review of the Literature," *Financial Stability Review* 151, 154 (1999); R. J. Herring and R. E. Litan, *Financial Regulation in the Global Economy* (Washington DC: Brookings Institution Press, 1995), 50.

[66] J. Black, "The Emergence of Risk-Based Regulation and the New Public Risk Management in the United Kingdom," *Public Law*, 512 (2005); J. Black, "Managing Regulatory Risks and Defining the Parameters of Blame: A Focus on the Australian Prudential Regulation Authority," 28 *Law and Policy* 1, 4 (2006); J. Black and R. Baldwin, "Really Responsive Risk-Based Regulation," 32 *Law and Policy*, 181 (2010).

[67] H. Rothstein, M. Huber and G. Gaskell, "A Theory of Risk Colonization: The Spiralling Regulatory Logics of Societal and Institutional Risk," 35 *Economy and Society*, 91 (2006).

organization and on its ability to survive the resulting institutional risk.[68] Because a bank collapse has much higher salience than mistreatment of a customer, we can understand why the Supervisor of Banks prefers to focus on prudential regulation.

Similarly, a recent political economic study examining why multiple-goal agencies succeed in achieving some goals and fail in others, claims that agencies will systematically over-perform on tasks that are easier to measure, and underperform on tasks that are harder to measure and that conflict with the achievement of the more measurable goals.[69] The prudential field is easy to measure because it quotes clear number parameters such as capital adequacy, liquidity and leverage ratios. Likewise, a prudential failure – the collapse of a bank or its inability to meet its obligations – is also visibly obvious. By contrast, the consumer field is difficult to measure because it has a social value orientation rather than a quantitative orientation and it is not based on measurable parameters.

To conclude this point, reputational considerations may well lead to the preference of prudential regulation over consumer protection.

It is worth noting that consumer protection supervision requires more inputs, manpower and resources than those required for prudential supervision.[70] Therefore, even if the Supervisor devotes identical resources to both these fields, the actual results will be more noticeable in the field of prudential regulation.

In addition to all these explanations, we must remember that past history and agency culture may also “lock-in” certain goals as primary over other goals.[71] A few studies that analyzed public agencies’ prioritization among multiple tasks and goals, suggested that agencies’ allocation of attention is guided by their idiosyncratic sense of mission. Tasks that were not defined as central to the agency’s mission, were underperformed.[72] For years, the Banking Supervision Department in Israel saw it as its mission to

[68] S. Gilad, “Attention and Reputation: Linking Regulator’s Internal and External Worlds,” in M. Lodge and K. Wegrich (eds.), *Executive Government in Crisis* (Palgrave Macmillan, 2012), 157, 158-159 (2012).

[69] E. Biber, “Too Many Things to Do: How to Deal with the Dysfunctions of Multiple-Goal Agencies,” *Harvard Environmental Law Review*, 33 (2009) 1.

[70] R. K. Abrams and M. W. Taylor, “Issues in the Unification of Financial Sector Supervision,” IMF Working Paper 00/213 (2000), 24.

[71] Biber, “Too Many Things to Do,” 61.

[72] J. R. DeShazo and J. Freeman, “Public Agencies as Lobbyists,” *Columbia Law Review*, 105 (2005), 2217; Gilad, “Political Pressures,” 593–594 (using the term “organizational identity”).

maintain the stability of the banking system, and it developed its organizational culture around this objective.[73] Hence, it is only natural that the Supervisor continues to promote this mission over the other objective for which he is responsible – regulating the banks' conduct vis-à-vis customers. This is particularly true when the latter objective conflicts with the agency's mission.

The focus of the Supervisors of Banks on prudential regulation, whatever the reasons for this may be, and their desire to strengthen the stability of the banks, led them to encourage high profitability for the banks, and they did so even when it resulted in sacrificing consumer protection.[74] As bank fees are a major source of profit for Israeli banks,[75] the Supervisors have, over the years, preferred not to limit the earnings that derive from fees and not to intervene in this area.

7.7.2 Regulatory Capture

As was explained in section 7.1, regulation is intended to benefit the general public. However, in certain cases, the regulated industry acquires a persistent and excessive influence over the regulator, which causes the latter to prefer the interests of the regulated firms over those of the public. In such cases, the question arises as to the existence of "regulatory capture": i.e. "the result or process by which regulation, in law or application, is consistently or repeatedly directed away from the public interest and towards the interest of the regulated industry, by the intent and action of the industry itself."[76]

[73] Plato-Shinar, *Banking Regulation*.

[74] On the conflicts that may occur between prudential regulation and consumer protection, see: Plato-Shinar, *Banking Regulation*, 170–172; M. Taylor, "'Twin Peaks': A Regulatory Structure for the New Century," Center for the Study of Financial Innovation (1995), 1, 15 (noting that the two goals "often conflict"); E. J. Pan, "Four Challenges to Financial Regulatory Reform," *Villanova Law Review*, 55 (2010), 743, 745, 759 ("fundamental differences"); J. J. Norton, "Global Financial Sector Reform: The Single Financial Regulator Model based on the United Kingdom FSA Experience – A Critical Reevaluation," *International Lawyer*, 39 (2005), 15, 42 ("inherent conflict").

[75] In 2016, the total amount of fees collected by the five largest banks was NIS 14.5 billion, whereas the net earnings from interest were NIS 26.2 billion. See: E. Rosenberg, "The Banks' Profit in 2016: More than 8 billion," *YNET* (March 30, 2017), in Hebrew at www.ynet.co.il/articles/0,7340,L-4942689,00.html.

[76] D. Carpenter and D. A. Moss, "Introduction," in D. Carpenter and D. A. Moss (eds.), *Preventing Regulatory Capture* (Cambridge: Cambridge University Press, 2014), 1, 13. For criticism of this definition see: L. Tai, "Regulatory Capture and Quality," New York University Law and Economics Working Papers, Paper No. 397 (2015), 6; D. F. Engstrom, "Corralling Capture," *Harvard Journal of Law & Public Policy*, 36

The classical works on regulatory capture focus on the materialistic capture, which consists of materialistic benefits offered to the regulator by the regulated industry. These benefits may include bribes, gifts and various entrustments given to the regulator by the regulated firms.[77] They may also include career opportunities by way of express or implied promises for recruitment into a higher-paying job in the regulated firms (the "revolving doors" phenomenon).[78]

The more recent literature on regulatory capture deals with non-materialistic capture. One type of non-materialistic capture is "cognitive" or "cultural capture," which is the creeping process of "colonization of ideas"[79] through which the regulator shares the views of the regulated industry. It mostly refers to the regulator's education, background, experience, networks and social interaction with the industry, that may influence his worldview and mold it in a pro-industry manner. The result is that the regulator may identify – albeit even unconsciously – with the industry, its views and its needs.[80] A close interface or a permanent and continuing relationship between an institution and a regulator may increase the chance for a cultural capture. Such a close interface may, for example, be found in highly regulated fields such as the banking field, due to the need for the regulator to constantly design and enforce regulation on the regulated firms.[81]

Another type of non-materialistic capture is the "information capture." For an agency to regulate an industry effectively, it needs to know

(2013), 31. See also the definition in: L. G. Baxter, "'Capture' in Financial Regulation: Can We Channel It Toward the Common Good?" *Cornell J. L. & Pub. Pol'y*, 21 (2011–2012) 175, 176. The subject of regulatory capture was recently discussed by the Israeli Committee to Reduce Concentration, in its Draft Methodology for the Examination of Economy-Wide Concentration 5–6 (Jan. 17, 2017), in Hebrew at www.antitrust.gov.il/subject/203/item/34435.aspx.

77 G. J. Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science*, 2 (1971), 3; Posner, "Theories of Economic Regulation"; S. Peltzman, "Toward a more general Theory of Regulation," *Journal of Law and Economics*, 19 (1976) 211. See also: J. Laffont and J. Tirole, "The Politics of Government Decision-Making: A Theory of Regulatory Capture," *The Quarterly Journal of Economics*, 106 (1991) 1089.

78 Stigler, "The Theory of Economic Regulation"; R. D. Eckert, "The Life Cycle of Regulatory Commissioners," *Journal of Law and Economics*, 24 (1981) 113; E. Dal Bo, "Regulatory Capture: A Review," *Oxford Review of Economic Policy*, 22 (2006) 203.

79 Engstrom, "Corralling Capture," 32.

80 J. Kwak, "Cultural Capture and the Financial Crisis," in Carpenter and Moss, *Preventing Regulatory Capture*, 71; ibid., 18–20. Baxter, "'Capture' in Financial Regulation," 183; N. Bagley, "Agency Hygiene," *Texas Law Review*, 89 (2010) 1, 5.

81 Committee to Reduce Concentration, "Draft Methodology for the Examination of Economy-Wide Concentration," 12–13.

how the industry works and what it is capable of doing. But this information is often in the exclusive control of the regulated firms, resulting in a dependency of the regulator upon these firms. Such a dependency may also create a capture.[82] Information capture is more likely to occur when the regulation is highly complex, and when information asymmetry between the regulated industry and the regulator is greater.[83] These are features that characterize financial regulation and therefore suggest that information capture is more likely to happen in the financial sector.[84]

Banking regulators are not immune to regulatory capture. They, too, may be captured by the industry they are supposed to supervise – the banks. In fact, regulatory capture in the banking field should not surprise us. The banks, as special interest groups with huge financial clout, have a high-stake interest in the outcome of policy and regulatory decisions of the Supervisor. Therefore, the banks focus massive resources and energies on attempting to gain the policy outcome they prefer.[85] In contrast, members of the public, each with only a tiny individual stake in the outcome, ignore it. While the banks are better equipped and incentivized to concentrate their lobbying efforts,[86] the public suffers from "rational apathy," whereby each individual prefers to avoid, rather than contribute, to public oversight of the matter at hand.[87] This situation is a fertile ground for the development of captive regulation.

[82] R. E. Barkow, "Insulating Agencies: Avoiding Capture through Institutional Design," *Texas Law Review*, 89 (2010), 15, 23; Bagley, "Agency Hygiene," 5; W. E. Wagner, "Administrative Law, Filter Failure, and Information Capture," *Duke Law Journal*, 59 (2009–2010), 1321.

[83] C. Knil and A. Lenschow, "Modes of Regulation in the Governance of the European Union: Towards a Comprehensive Evaluation," in J. Jordana and D. Lavi-Faur (eds.), *The Politics of Regulation: Institutions and Regulatory Reforms for an Age of Governance* (Cheltenham: Edward Elgar, 2004), 218, 231.

[84] M. Hellwig, "Capital Regulation after the Crisis: Business as Usual?" CESifo DICE Report 2/2010 (2010), 40; H. Hakenes and I. Schnabel, "Regulatory Capture by Sophistication," Working Paper (2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2531688. For the phenomenon of the "captured regulator" in the Israeli insurance market, see: HCJ 7721/96 *Association of Insurance Appraisers in Israel* v. *The Commissioner of Insurance*, 55(3) PD 625, 653.

[85] See, for example: D. Igan, T. Lambert, et al., "Winning Connections? Special Interests and the Sale of Failed Banks," CEPR Discussion Paper No. DP12440 (2017).

[86] D. Igan and T. Lambert, Chapter 5; T. Lambert, "Lobbying on Regulatory Enforcement Actions: Evidence from U.S. Commercial and Savings Banks," *Management Science* (2018).

[87] M. Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge MA: Harvard University Press, 1965); Laffont and Tirole, "The Politics of Government Decision-Making," 1089–1090; Barkow, "Insulating Agencies," 22.

Moreover, as was well described:

> The particular processes involved in financial regulation suggest that the opportunity for capture might be greater than ever in financial services, particularly in relation to large-scale financial institutions, which have very deep engagements with the regulators. Banks are not only subject to rules that govern their structure, operations, and activities in advance but they are also subject to ongoing monitoring in a manner that involves broad regulatory discretion. One need not be totally cynical to recognize that the highly discretionary and continuous nature of bank regulation is dependent on and nurtures an environment in which the regulators and the regulated are engaged in such close, daily relationships as to nurture intense mutual empathy – perhaps even a kind of "transference" – between the two sides.[88]

Indeed, various studies determined – some of them based on empirical research – that bank regulators were actually captured by the banks.[89] Some even claimed that captive regulation was one of the causes for the Global Financial Crisis.[90]

Going back to the bank fees in Israel, we saw above the passivity of the Supervisor of Banks throughout the years and the policy of non-intervention in this field; a policy that served the interests of the banks and drifted away from that of the public. However, tempting as it may be, this fact by itself does not automatically lead to a conclusion of regulatory capture. Whereas classical scholars were quick to diagnose capture whenever any interest group appeared to benefit from regulation, or

[88] Baxter, "'Capture' in Financial Regulation," 187.

[89] S. Johnson and J. Kwak, *13 Bankers: The Wall Street Takeover and the Next Financial Meltdown* (New York: Pantheon Books, 2010); W. H. Buiter, "Central Banks and Financial Crises," Federal Reserve Bank of Kansas City's symposium, Discussion Paper No. 619 (September 2008), 104–107 (noting that "there has been regulatory capture of the Fed by Wall Street during the Greenspan years, and that this is continuing into the present"); Baxter, "'Capture' in Financial Regulation," 181–187. Hakenes and Schnabel, "Regulatory Capture by Sophistication"; D. Veltrop and J. de Haan, "I Just Cannot Get You Out of My Head: Regulatory Capture of Financial Sector Supervisors," De Nedelandsche Bank, Working Paper No. 410 (January 2014), www.dnb.nl/binaries/Working%20Paper%20410_tcm46-302769.pdf; Kwak, "Cultural Capture"; A. E. Wilmarth, "Turning a Blind Eye: Why Washington Keeps Giving in to Wall Street?," *University of Cincinnati Law Review*, 81 (2012, 2013), 1283.

[90] Johnson and Kwak, *13 Bankers*; S. Claessens, G. R. D. Underhill and X. Zhang, "The Political Economy of Basle II: The Costs for Poor Countries," *The World Economy*, 31 (2008) 313; Kwak, "Cultural Capture," 93; Hakenes and Schnabel, "Regulatory Capture by Sophistication." See also the references in Carpenter and Moss, *Preventing Regulatory Capture*, 1; and in L. G. Baxter, "Capture Nuances in Financial Regulation," *Wake Forest L. Review*, 47 (2012) 537.

when there was merely motive for capture, recent literature emphasizes the need to establish such a conclusion on the basis of empirical findings and their careful analysis.[91]

The Israeli banking system contains some features that may contribute to the creation of captive regulation or, at least, explain the tendency of the Supervisor of Banks to succumb to pressure exerted by the banks.

Firstly, as was explained in section 7.2, the Israeli banking sector is very concentrated. It is dominated by five strong banking groups, and in particular by the duopoly of the two largest groups. In addition, competition between the banks is low. A market of this type allows the banks to join forces and consort in their battle on the Supervisor's opinion, using their cumulative power for the benefit of their mutual interest.

In this regard it should also be emphasized that the interest group that is subject to the Supervisor of Banks is rather homogenous, being comprised of both banks and credit card companies which are subsidiaries of the banks. In contrast, when a regulator is in charge of various and different interest groups, the diversity of their interests reduces their ability to capture the regulator, especially in cases where the interests of these groups contradict each other.[92]

Another factor that may strengthen the power of negotiation of the banks in Israel (or at least of the two largest banks that constitute a duopoly) against the Supervisor, is based on the concept of being "too big to fail." The wide scope of activities of the large banks and their interconnectedness with other key players in the economy may lead the Supervisor to take into account considerations that stem from the systemic risk that such institutions create. The problem, in the current context, is not potential business failures and resulting bailouts, but the influence that such institutions exert when business is going well, thus creating a distortion in the decision-making process of the Supervisor.[93]

[91] Carpenter and Moss, *Preventing Regulatory Capture*; D. Carpenter, "Detecting and Measuring Capture," in *Preventing Regulatory Capture,* 57; D. A. Moss and D. Carpenter, "Conclusion: A Focus on Evidence and Prevention," in *Preventing Regulatory Capture* 451. See also: Baxter, "Capture Nuances."

[92] J. R. Macey, "Organizational Design and Political Control of Administrative Agencies," *Journal of Law, Economy and Organization*, 8 (1992), 93, 99; A. Eckstein, "Regulatory Inertia and Interest Groups: Empirical Evidence from the Field of Regulation of Capital Markets," *Bar-Ilan Law Studies*, 30 (2016), 635, 672.

[93] A. Ayal, "The Market for Bigness: Economic Power and Competition Agencies' Duty to Curtail It," *Journal of Antitrust Enforcement*, 1 (2013), 221, 233–238; Committee to Reduce Concentration, "Draft Methodology for the Examination of Economy-Wide Concentration," 6–7.

Secondly, the Israeli banks have very strong lobbying power. Their high profitability and large financial resources allow them to hire the country's most prominent and experienced lobbying firms to attend the Knesset debates on their behalf.[94] Similarly, the banks can afford to hire the best professionals in the market to provide policy makers with opinions and reports that are biased toward banking interests. In addition, the Association of Banks plays an important role as an informal lobbyist of the banks. Whereas, in other countries, banking associations engage in various tasks such as self-regulating their members,[95] the Association of Banks in Israel serves mainly as an intermediary between the banks and the policy-makers in various matters, focusing its efforts on convincing the regulators to shift their policy toward the interests of the banks.

Thirdly, the Advisory Board of the Supervisor of Banks, with which the Supervisor consults in the promulgation of new directives, contains nineteen members, of whom eight are representatives of the banks and only one is a public representative.[96] Needless to say, such a structure of the Board not only allows the banks to express their views, but also affords them the opportunity to convince the Supervisor to adopt a policy that suits their needs. In comparison, the Advisory Board of the Israeli Commissioner of Capital Markets, Insurance and Savings contains no industry representatives. Industry can express views on new directives by providing comments on drafts published by the Commissioner during the rule-setting process.[97]

[94] See, for example, the lobbying companies that represent the banks in the current debates about the separation of the credit cards companies from the banks: Z. Zrachya, "The Banks operate Lobbyists to Pressure Members of Knesset to change the Strum Committee's Recommendations," *The Marker* (September 6, 2016), in Hebrew at www.themarker.com/news/1.3059725.

[95] See, e.g., the activity of the Swiss Bankers Association that published guidelines, recommendations and agreements: www.swissbanking.org/en/home/standp unkte-link/regulierung-richtlinien.htm. In Australia, the Australians Bankers' Association Inc. has developed industry codes and standards: www.bankers.asn.au/Consumers/Industry-Standards.

[96] The Hebrew website of the Bank of Israel: https://www.boi.org.il/he/BankingSupervision/Pages/about.aspx.

[97] On the ability of interest groups to informally influence the regulatory agency, already in the very preliminary stage of the rule-making process, see: N. A. Mendelson, "Regulatory Beneficiaries and Informal Agency Policymaking," *Cornell Law Review*, 92 (2007) 397, 429–431. S. W. Yackee, "The Politics of Ex Parte Lobbying: Pre-Proposal Agenda Building and Blocking during Agency Rulemaking," *Journal of Public Administration Research and Theory*, 22 (2012), 373.

Fourthly, the revolving door phenomenon has become common practice in Israel. Many Supervisors of Banks have found themselves, at the close of their term in office, as chairpersons or holders of other senior positions in banks.[98] Incumbent Supervisors may prefer to keep good relations with the regulated firms to secure future appointment and, in so doing, inadvertently collaborate with the needs and interests of these firms.

These idiosyncrasies may serve as fertile ground for the creation of regulatory capture. For the purposes of this chapter, these indicators may explain the sensitivity of the Supervisors of Banks, throughout the years, to the pressures exerted against them by the banks, and the Supervisors' responsiveness to the banks' desires and needs. This situation, in its turn, may also explain the regulatory tendency to support the banks on the question of fees and serves as an additional explanation for the passivity of the Supervisors in this regard.

7.8 Conclusion

Today, more than ten years after the Bank Fees Reform took place, it seems that Israeli supervision over bank fees resulted in an improved situation in the retail sector. Reports by the Bank of Israel in recent years show a consistent trend of reduced fees and the existence of a "wide variance" in prices between the different banks,[99] which is an improvement in the protection afforded to consumers.

The Supervisor of Banks and the Bank of Israel understood that they could not stay passive and indifferent any longer. Continuous public scrutiny compelled them to stay alert and keep pace, by constantly examining the bank fees system and by imposing additional limitations in response to the changing circumstances. The duty of reporting to the

[98] For example: Dr. Meit Heth (1969–1975) became the Chairperson of Bank Leumi; Galia Maor (1982–1987) became the CEO of Bank Leumi; Dr. Amnon Goldschmidt (1987–1992) became a deputy CEO at Discount Bank, and later a director at First International Bank; Zeev Aveles (1992–1998) became the Chairperson of Union Bank; Dr. Yitzhak Tal (1998–2003) became a director at Tefachot Mortgage Bank; Ronny Hizkiyahu (2006–2010) became the chairperson of the First International Bank. Before being nominated as the Supervisor, he served as a senior banker in various banks. In 2016 he was appointed as the State Accountant General. Hedva Ber, the current Supervisor, served as the Chief Risk Operator at Bank Leumi, before being appointed as a Supervisor.

[99] See, e.g., "The Semiannual Report on Common Banking Service Fees." I. Avisar, "A Decrease of 17% in Four Years in Household Bank Fees," *Globes* (July 16, 2015), in Hebrew at www.globes.co.il/news/article.aspx?did=1001053777.

Knesset, which enhances the accountability of the supervisory process, constitutes an important mechanism for controlling the regulatory echelon.

Before the reform took place, the banks had threatened that supervision of fees would have a negative influence on the market, compelling them to raise interest rates, and that it would ultimately harm customers instead of protecting them. However, although the Reform did decrease banks' earnings, they still exist and thrive. They passed the global financial crisis relatively unscathed, and continue to make enormous profit.[100]

Having said this, two reservations should be made. Firstly, the fact that improvement has been achieved up to now does not mean that the Supervisor can rest on his laurels and let market power continue from here. As was mentioned above, the Supervisor must constantly examine the bank fees system and impose additional limitations in response to changing circumstances. For example, the current trend that the Israeli banking system is undergoing, namely the closing of branches and the move to digital banking, reduces banks' costs and should – respectively – also reduce the fees charged for banking services.[101]

Secondly, the positive results of the Israeli Bank Fees Reform do not necessarily lead to the conclusion that bank fees should be subject to supervision in all countries. However, where banks abuse their market power to the detriment of weaker customers, such as households and small businesses, in a systematic manner and as prevailing practice, as was the case in the Israeli banking market, then supervision should take place, in order to protect the underdog.[102]

[100] In comparison, in the United States at the time of intensive banking legislation at the end of the 1960s and the beginning of the 1970s, the banks claimed that the legislation that protected the customers would destroy the credit market and would harm the American economy as a whole. It is interesting that among the opponents were not only the banks but also the Federal Reserve Bank. The claims were rejected, laws and regulations were enacted, and nothing untoward happened in the credit market, which continued to prosper and succeed. See J. A. Spanogle, "'Regulation of the Bank-Customer Relationship in the United States," *Journal of Banking and Finance Law and Practice*, 4 (1993), 18, 22–23.

[101] See, e.g., draft amendment, Banking (Service to Customer) (Fees) Rules, 5768-2008, of Jan. 25, 2017, www.boi.org.il/he/BankingSupervision/DraftsFromTheSupervisorOfBanks/Pages/Default.aspx.

[102] It is interesting to note that even Adam Smith, who supported market freedom and who invented the metaphor of the "invisible hand," justified supervision of the banks for fear that the collapse of a bank would cause damage to the public at large. See: A. Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), Book II chap. II, 308. See also E. G. West, "Adam Smith's Support for Money and Banking Regulation:

The lesson that can be learned from the Israeli bank fees reform is that there is sometimes a need for other political actors to intervene when the regulator has adopted a passive approach and neglected the public interest. It was the Knesset that adopted the uncompromising socio-economic approach on banking fees, establishing the Inquiry Committee on Bank Fees, and finally enacting the Bank Fees Reform. The Government also played a role, by establishing the Trachtenberg Committee which, in its turn, led to the establishment of the Team to Examine Increasing Competitiveness in the Banking Sector. Without these initiatives, it is doubtful whether the bank fees reform would have taken place and would have been further developed as it actually was.

Nevertheless, the legislator and the government should be cautious about excessive intervention into the expert discretion of the regulator. They should interfere only in those cases where the public interest is unjustifiably harmed, and to the minimum extent that is required. Indeed, in the Israeli bank fees affair, the legislator did not directly intervene in the level of fees. It sufficed in granting authority to the Bank of Israel as the professional body to determine the list of permissible fees, and to set prices only in exceptional cases. Similarly, the Trachtenberg Committee avoided dealing by itself with the lack of competition in the banking system. Instead, it recommended the establishment of a professional committee to examine this subject. Experience shows that these initiatives constituted an adequate framework for leading the regulator to change its attitude and take active measures to protect the public interest.

Last, but not least, the Israeli experience demonstrates the value of public pressure. It shows that in certain situations, a strong public protest can overcome the passivity of the regulator, and result in improved supervision.

A case of Inconsistency," *Journal of Money, Credit and Banking*, 29 (1997) 127; M. Carlson, "Adam Smith's Support for Money and Banking Regulation: A case of Inconsistency?," *History of Economics Review*, 29 (1999), 1, www.hetsa.org.au/pdf-back/29-A-1.pdf.

THE PRICE IMPACT OF FOREIGN AND DOMESTIC INVESTORS' BLOCK TRADING: THE HYPOTHESIS TESTING OF PRICE PRESSURE, INFORMATION AND SLOPING DOWN DEMAND CURVE

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Abstract

Theoretically, block trading should not have any impact on stock price changes but the results of empirical studies find that block trading has a price impact. Price changes occur are theoretically associated with three hypotheses: price-pressure hypothesis, sloping-down demand curve hypothesis, and information hypothesis. Using LQ45 data in 2015-2017 on the Indonesia Stock Exchange (IDX) this study found a temporary price impact on the sale of blocks. At the time of sell and buy initiated testing based on the investor type, it is found that foreign sell-initiated, foreign buy-initiated and domestic buy-initiated have a permanent price impact that confirms support for the information hypothesis depending on the type of initiating investor. Otherwise, domestic sell-initiated have a temporary price impact that confirms support for the price-pressure hypothesis.

Keywords: Block Trading, Price-pressure Hypothesis, Information Hypothesis, Sell and Buy Initiated, Foreign Investor, Domestic Investor.

INTRODUCTION

How trading affects securities prices has become an important research question in the financial and economic fields. Literature assumes financial markets are perfect and have high degree of liquidity without market friction so that trading has no effect on securities prices. However, the results of the study show that trading has an effect on stock prices, especially on large trading (block trading). Block trading should not affect the company value since there is always one buyer for each seller (Bozcuk & Lasfer, 2005), and because investors are rational and make decision based on information. Hence the trading they do should not provide information about the company's prospect, but several studies have shown that block trading has a significant price impact such as the study conducted by Easley and O'Hara (1987) which found that large trading makes prices worse than small trading, and large trading has a permanent price effect with lower transaction prices after block sales and greater after block purchase.

Research on large trading (block) is still a controversy to date due to differences in the results of empirical research with the existing theories, especially the definition of block trading which has not reached agreement yet, and there is still very limited research on block trading in developing countries.

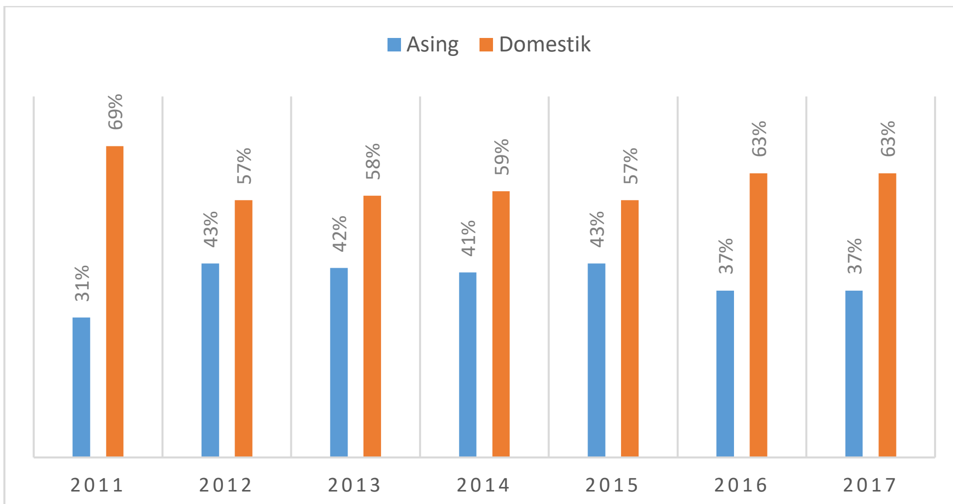
The first study to explore the price impact of block trading is a study by Kraus and Stoll (1972) that found three factors that can cause price impact, namely price pressure, demand and supply curves and the information content carried by large trading. In addition, the asymmetry of price impact between block purchases and sales is found (the impact of permanent buying price is greater than the impact of permanent selling price). Therefore, it is concluded that the information carried at the time of block purchases is greater than at the time of block sales. Some arguments given regarding the price impact asymmetry, among others, are those by Kraus and Stoll (1972) and Chan and Lakonishok (1993) which state that investors' decision to sell shares may not be based on the information they have, but may be due to limitations on the investors' portfolios, whereas the decision to buy one share among many shares in the market is likely due to the superior information owned by the investors. Several other arguments given to explain on why price impact asymmetry was found are those by Chiyachantana et al., (2004) who found that market condition can explain why differences in price impact occur, Chan and Lakonishok (1993) and Bozcuk and Lasfer (2005) found that the identity of the transaction affects the price impact. On the Indonesia Stock Exchange (IDX), there are two types of investors, namely foreign and domestic investors; so it provides an opportunity to test whether there is an asymmetry in the price impact between the two investors. The price impact between these two classes of investors may be different depending on whether there is a content of information carried on the trading.

The existence of foreign investors in developing country exchanges is an issue which is still interesting to study until now. Investment by foreign investors is different from local investors in developing markets since foreign investors are institutional investors with large capital and have good portfolio diversification. The existence of foreign investors on the IDX has existed since 1989 following financial market liberalization, but the policies of the Indonesian Government only allow foreign investors to own shares up to 49% of the total outstanding shares. In 1997 the maximum limit of the shares was abolished so that foreign investors could own up to 100% of the outstanding shares except the shares in the banking sector that still had maximum shareholding limit.

Figure 1.1 below illustrates the comparison of trading carried out by domestic and foreign investors in the Indonesia Stock Exchange from 2011 to 2017. In the figure, it can be seen that IDX trading is dominated by domestic investors, but for shareholding (figure 1.2), the shareholding percentage of foreign investors is greater compared to domestic investors'. This shows that foreign investors on the IDX are institutional investors who make long-term investments with a greater percentage of shareholding, though the total daily trading is still lower than the domestic investors. In the IDX's note, it is known that shareholding by domestic investors in 2007 amounted to 33.7% and foreign shareholding of 66.3%, while in 2017 this shareholding position had changed a lot; shareholding by domestic investors increased to 47.77% (the highest since 2007) while foreigners' shareholding declined to 52.23%. This indicates a significant increase in the involvement and shareholding of domestic investors on the IDX year by year.

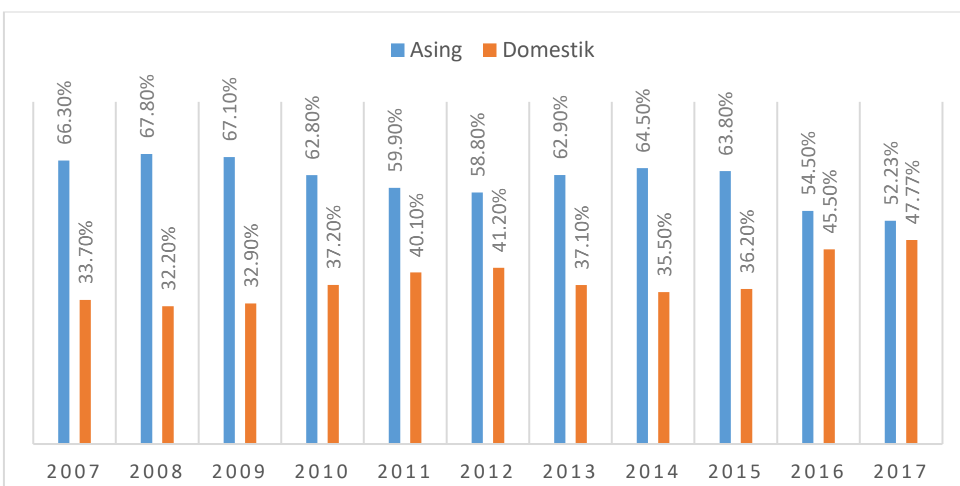
The composition of foreign and domestic shareholdings is far different from the composition of foreign and domestic shareholding in the Jakarta Stock Exchange (JSX) from 1999 to 2001 in the study of Dvorak (2001) which found that domestic investors had information superiority compared to foreign investors. During the Dvorak's research, foreign composition in JSX is only 25% so that the condition of the Indonesian capital market at the time of Dvorak's (2001) and current research is so different that further research needs to be done to examine whether the differences in the composition of foreign and domestic shareholding in the stock exchange cause different result of study on price impact.

Figure 1.1. Total of Trading Volume based on Investor Type



Source: Annual Report of Indonesia Stock Exchange

Figure 1.2. Shareholding based on Investor Type



The issue of foreign investors is generally related to three main issues, namely regarding the trading behavior of foreign investors, the comparison of performance superiority between foreign and domestic investors and the price impact of trading carried out by foreign investors (Dvorak 2005, Richards 2005 & Ulku & Weber 2011). Foreign investors generally have positive feedback trading, in which foreign investors make purchases (sales) when prices rise (fall) Grinblatt et al. (1995), Choe et al. (2000), Grinblatt & Keloharju (2000), Karolyi (2000), Froot et al. (2001), Kim & Wei (2002), Richards (2005), Samarakoon (2009), Liao et al. (2013) and Hanafi (2014).

The second issue is the comparison of performance superiority between foreign and domestic investors. The results of the study are still varied regarding the performance superiority between the two classes of investors. Some research results confirm that domestic investors have better performance, Dvorak (2005) and Choe et al. (2005) while others argue that foreign investors have the superiority of analyzing the prospects of shares since they have more investment experience (Grinblatt & Keloharju 2000, Seasholes 2000).

The third issue is the price impact of foreign investors' trading. Questions on this issue generally include: 1) Does the trading carried out by foreign investors have an impact on prices? 2) If the trading carried out by foreign investors has a price impact, is the price impact temporary or permanent?, and 3) If the trading carried out by foreign investors has a price impact, can the price impact be explained by the price pressure or information hypothesis?

There are three hypotheses that are able to explain the price impact of trading, they are: 1) Price-Pressure Hypothesis which states that a large flow of funds into (out of) the market will push the price of securities to go up (down). 2) The Sloping Down Demand Curve Hypothesis, coming from one of the assumptions on financial theory relating to the ability of investors to buy and sell stock equity without any price impact. The theory states that the demand curve for stocks is horizontal which indicates that stocks have a close substitution so that the underlying value of the stock does not significantly depend on the offer. In other words, companies can sell any quantity of shares without considering the fall in stock prices since the horizontal demand curve predicts that the market can always absorb excess supply in fundamental values. However, some results of studies such as the study of Holthausen et al. (1987) found that the demand curve is in the form of sloping down so that when there is a large amount of supply, the stock price will go down so that the excess supply can be all absorbed, and 3) Information Hypothesis, coming from the efficient market hypothesis (Fama, 1970) states that investors are able to respond the market information rationally and efficiently so that the stock price will reflect all information available to the public. The new information available will immediately be reflected in the stock price, so that when trading with information happens, it will result in a change in price depending on the type of information carried on the trading.

Research provides different results regarding the price impact of foreign investor trading. This difference may occur due to differences in methods and data used in the existing studies. At the beginning of the research on the price impact, the data used are monthly and daily data. The use of monthly and daily data is considered inappropriate since if there is price impact of foreign trading, adjustments should occur immediately (related to efficient market theory). The use of data that is considered appropriate is high frequency data (intra-day data). The use of intra-day data is considered more appropriate than the daily data as stated by Seasholes (2001) in his research on foreign investors.

The effect of trading on prices can occur in a short period of time (seconds or minutes). The use of daily data in research regarding the price impact may be biased since the daily data used in general has been adjusted, so that it does not measure in real time.

Based on the description above, this study aims to examine whether the price impact of block trading carried out is able to be explained by the sloping down demand curve hypothesis or the price pressure hypothesis, and whether there are differences in the price impact of block trading initiated by foreign and domestic investors (for testing information hypothesis) by using data from Indonesia in which the structure of foreign and domestic shareholding is quite balanced.

The results of the study found that block sales that occurred on the IDX can be explained by the price pressure hypothesis, the permanent impact on block sales initiated by foreign investors, and also the permanent impact on the block purchases initiated by foreign and domestic investors. However, there was no difference in price impact so it was concluded that the amount of information held by the two investors was the same. Research based on the type of investor found information that was carried out at the time of the sell-initiated and buy-initiated of blocks, thus supporting the information hypothesis.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

How trading affects asset prices has become an important research question in the financial and economic fields. Early literature assumes that financial markets are perfect and have high levels of liquidity without market friction so that trading has no influence on asset prices, but research results show that trading has an impact on prices.

Block trading should not affect company value because there is always one buyer for each seller (Bozcuk & Lasfer, 2005), and because investors are rational and make decisions based on information. Hence the trading they do should not provide information about company prospects, but several studies show that block trading has a significant price impact such as Easley and O'Hara's (1987) study which found that large trading makes prices worse than small trading, and block trading has a permanent price impact with lower transaction prices after block sales and greater transaction prices after block purchases.

The price impact is related to the correlation between incoming orders to buy or sell with subsequent price changes (Bouchaud, 2009). From this understanding, purchases (sales) should encourage prices so that the next purchases (sales) will be more expensive (cheaper) than the previous purchases (sales) due to the impact of trading on prices.

Theory states that large trading results in price movements due to asymmetry information. Large (block) trading transactions play a large role in trading that occurs on stock exchanges throughout the world. Nearly half of the trades that occur on the New York Stock Exchange are carried out by block trading (greater than 10,000 shares or more). Jain (2003) in Frino et al. (2007) claim that institution trading (which dominates the block trading) controls more than 70% of trading activities. In relation to the price impact of block trading, it is found that the common pattern is similar, namely block purchases on the equity market will be followed by an increase in the price of individual assets, and this price increase is permanent. In addition, block sales are followed by a decline in prices, but then a price reversal (temporary price reduction) so that from the results of previous studies it was found that there was an asymmetry in the price impact of block purchases and sales (Frino et al. 2008). Chan and Lakonishok (1993) and Keim and Madhavan (1996) assume that the asymmetry of the price impact between block purchases and sales is due to differences in information content.

Block trading is often associated with the existence of information and price movements resulted from inventory costs and information asymmetry (Agarwalla & Ajay, 2010). The emergence of block trading is believed to provide a signal about the existence of private information, causing investors to change their expectations depending on the nature of the block itself. Some studies attempting to test block trade are associated with the information that was carried on the trading. Sun and Ibikunle (2015) tested the price impact of block trading by using intraday and interday data on the London Stock Exchange. The results of the study found that block trading has information that facilitates the formation of prices. The price impact is found to be stronger in the first hour of trading compared to other times. This is consistent with the hypothesis that information is accumulated at night during hours outside of trading.

Holthausen *et al*. (1987) describes the price impact as follows:

Figure 2.1. The Impact of Block Sales on the Stock Prices

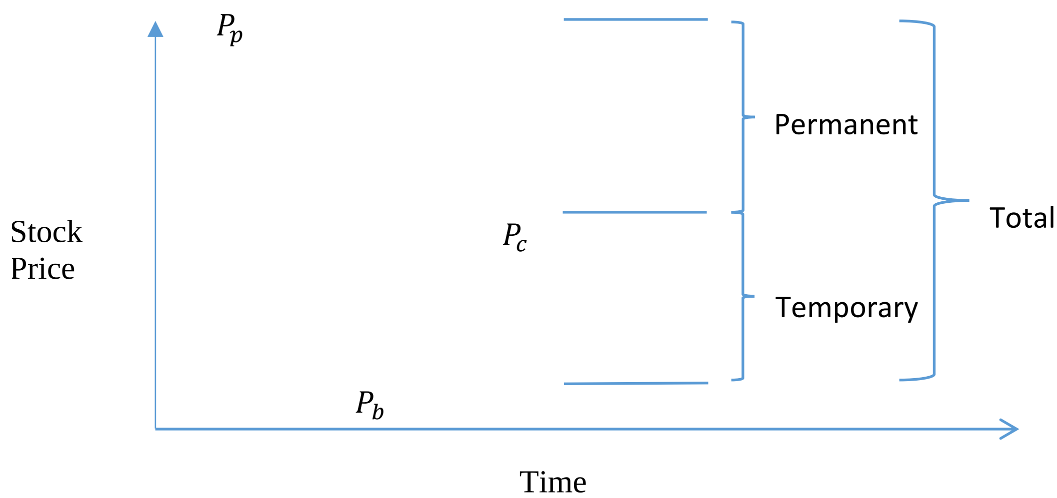
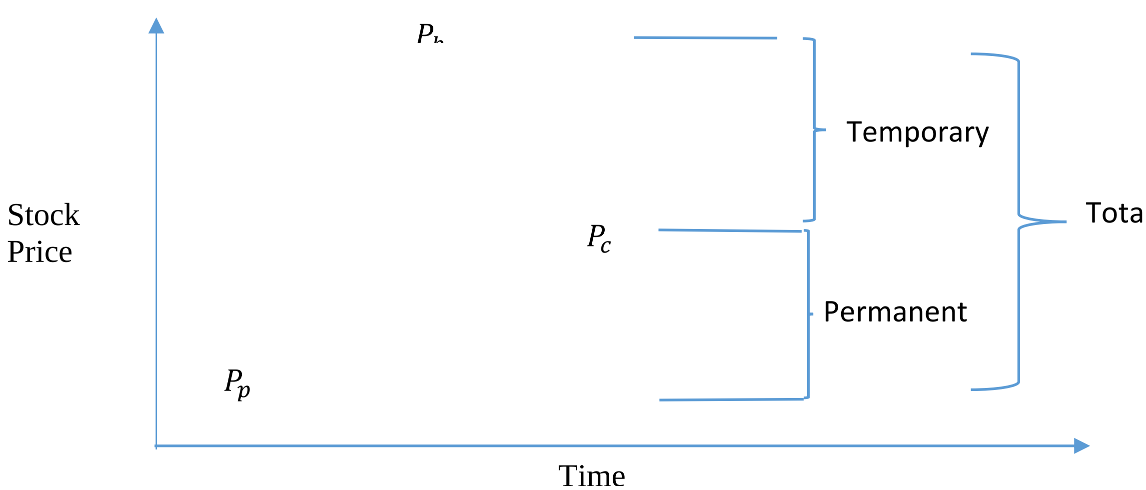


Figure 2.2. The Effect of Block Purchases on the Stock Prices



Holthausen et al. (1987) illustrates the price impact of block sales on figure 2.1 and block purchases on figure 2.2. P_p as the equilibrium price before the occurrence of a block transaction and without information about the block transaction, P_b as the block price and P_c as the equilibrium price after the temporary effect disappears. Holthausen et al. (1987) predicts that all price changes (total, temporary and permanent) that occur in block sales are negative and price changes that occur in block purchases are positive.

There are three hypotheses that can explain why trading can affect stock price changes: 1) the price pressure hypothesis which states that if the demand curve for equity is not perfectly elastic, then large purchases (sales) will push securities prices to go up (down), but increase or the decline in the price of this security is only temporary since in a certain period the stock price will return to the initial equilibrium price, 2) the sloping-down demand curve hypothesis which states that securities do not have substitutions for one another (demand curve is not perfectly elastic) so that the equilibrium price will change when the demand curve shifts to eliminate excess demand, and 3) the information hypothesis which states that trading helps to enter information into prices.

Some tests found the price impact of block sales, namely a decline in prices at the time of block sales such as the research conducted by Krauss and Stoll (1972), Holtahusen et al. (1987), Keim and Madhavan (1992), Chan and Lakonishok (1992) and also Surasni (2012) which indicate that block trading has an effect on prices.

H_{1a} : There is a negative change on the stock price at the block sales.

The price pressure hypothesis states that the demand curve for stocks is not perfectly elastic, so the investors who want to accommodate demand shift must be compensated for the portfolio transaction and risk costs they want to bear. Therefore, there will be a decrease in prices after the block sales, but this temporary decline in prices will be then followed by a price reversal. Some studies such as Harris and Gurrel (1986) Ben-Rephael et al. (2011), Ulku and Weber (2013) provide support for price pressures, so that:

H_{1b} : There is a price reversal at the period after the block sales.

Theories in economics and finance state that the demand curve for stocks is horizontal, but several studies have found that the demand curve for stocks is sloping down as the research conducted by Shleifer (1986), Neumann & Voetmann (2003) and Levin & Wright (2006). If the demand curve for stocks is sloping down, then when a large number of sales occur, the stock price will change permanently, so:

H_{1c} : There is a negative permanent price change after the period of block sales.

Scholes (1972) conducted a study related to block sales at the secondary offering event. If block sales have a negative effect on prices, then a price reversal occurs, what happens is the temporary effect of block sales, causing prices to change (price pressures). However, if the price changes are permanent, it can be caused by a demand curve in the form of sloping down or due to negative information content at the time of sales in the secondary offering. Scholes (1972) then distinguishes them by identifying who made the sales at the secondary offering. The results of the research conducted found that Abnormal Return (AR) after the sale shows that AR for the corporation and also the officer is greater than the other vendor categories, so it is concluded that the sales made by corporations and officers have information content. Scholes's (1972) study supports that the stock demand curve is horizontal and trading contains information depending on who the vendor is. Based on the description above, hypotheses can be formed as follows:

H_2 : There is price decline which is followed by price reversal around the sell-initiated of block by the foreign or domestic investors.

H_3 : There is negative permanent price change around the sell-initiated of block by the foreign or domestic investors.

If there is a permanent price change around the sell-initiated of block carried out by foreign or domestic investors, the party that has a larger permanent price change has greater information content.

H_4 : There is a difference between the negative permanent price change around the sell-initiated of block by foreign investors and the negative permanent price change around the sell-initiated of block by the domestic investors.

The finding of foreign investor trading effect on stock prices in developing country exchanges can be caused by several factors, including the fact that the majority of foreign investors are institutional investors, so they trade in large quantities, so that the trade done causes pressure on prices, this is known as the price pressure hypothesis. Another cause of price impact is that foreign investors are predominantly institutional investors, so foreigners do trading based on information, so that the trading they carry has information content and helps them to enter information into stock prices.

The Choe et al. (2001) study used Korean data and Dvorak (2001) used data from the Jakarta Stock Exchange to test the price impact of trading in foreign and domestic investors using event studies. The data used are intra-day and inter-day data. Choe et al. (2001) and Dvorak (2001) conducted research by using 5 minute intervals. Their research investigates at whether abnormal returns occur around incentive trading carried out by foreign and domestic investors. The study found a positive return around the purchase of incentives by foreign investors and negative returns around the sale of incentives by foreign investors.

Choe et al. (2001) and Dvorak (2001) then conducted the next test to test whether the effect of this trading is temporary or permanent. If it is temporary, they link it to the pressure of purchases (sales) which causes prices to go up (down), but this change is only temporary since in some periods later there will be a price reversal, this is known as the price pressure hypothesis. Next if the price change is permanent, it will be associated with the existence of information content, this is due to the propositions on economic and financial theory which states that the demand curve for stocks is horizontal, so that investors can buy and sell regardless of the price and also based on assumptions that trading carried out by investors has information that will help to enter information into prices through the trading.

Choe et al. (2001) and Dvorak (2001) then conducted a test to test whether the price impact is temporary or permanent with reference to the method used by Holthausen et al. (1989), namely by testing Cumulative Abnormal Return (CAR) by the incentives buying and selling carried out by each class of investors. CAR (-10, -

1), CAR (0, + 1), CAR (0, + 10) and CAR (+ 1, + 10) are cumulative returns from day -10 to -1, from 0 to +1 are the total effect of events, from 0 to +10 is a permanent effect and from +1 to +10 is a temporary effect. The results of the study of Choe et al. (2001) found that the permanent effect of incentive purchases made by foreign investors was greater than the temporary effect, while the study conducted by Dvorak (2001) found that foreign purchases had a permanent effect and this permanent effect was greater than the permanent effect of domestic purchases. The difference between the two classes of investors is 0.54% and this difference is statistically significant. The study results from foreign sales also found that foreign sales had a greater permanent effect than domestic sales, and the difference was 0.27% but was not statistically significant.

Existing studies relate the price impact to the information content held by investors. Investor classes that have a greater price impact are believed to have greater information content. Dvorak (2001) states that by comparing the price impact of foreign and domestic investors, it enables the chance to identify which investors have greater information content. This is because investors who have information should have a greater price impact. Based on the descriptions above, the following hypotheses can be formed:

H_5 : There is price increase which is followed by price reversal around the buy-initiated of block by foreign or domestic investors.

H_6 : There is positive permanent price change around the buy-initiated of block by foreign or domestic investors.

If there is a permanent price change around the buy-initiated of block made by foreign or domestic investors, the party that has a larger permanent price change has greater information content.

H_7 : There is a difference between positive permanent price change around the buy-initiated of block by foreign investors and the positive permanent price change around the buy-initiated of block by domestic investors.

RESEARCH METHODOLOGY

The sample in this study is the shares of LQ45 companies which are traded on the regular market by foreign and domestic investors in the form of block trading. The stocks used are LQ45 shares since the selected shares must be traded by foreign and domestic investors, in which foreign investors generally like trading in liquid stocks and have a large market capitalization value.

The data used are block transaction data that occurred on the Indonesia Stock Exchange in the period of 2015 to 2017 of the LQ45 companies listed on the Indonesia Stock Exchange.

The Definition of Block Trading

The definition of block trading has not yet reached an agreement; some researchers provide different definitions of block trading so that until now there has been no standard definition of block trading in the literature. The focus of this research is block trading that occurs in the regular market on the Indonesia Stock Exchange. This is based on the results of Bonsear-Neal's (1999) study which found that 91% of trading and 45.1% of the transaction volume in the Jakarta Stock Exch ange occurred in the Regular Market.

This study uses the definition of block trading in accordance with the definition issued by the IDX, namely 30 largest trades during the sample period for each issuer, each initiation and each type of investor using a minimum value of 200,000 shares per transaction and occurring on the regular market.

The Definition of Price Impact

In this study, the variables used to measure price impact refer to Holthausen et al. (1987), whereas for the determination of interval time refers to the results of previous studies which found that prices adjust in a short time to the existence of information such as the results of the study of Holthausen et al. (1990) and Surasni (2012) which found that the average of trading was initiated by sellers adjusting in one transaction and being complete in three transactions, while trading was initiated by buyers adjusting in one transaction so that this study used per-transaction intervals. The measurement of price impact was done by using the measurement proposed by Halthousen *et al.* (1989) as follows:

a. Temporary Effect = $\mathrm{Ln}(\frac{P_b}{P_c})$

b. Permanent Effect = $\mathrm{Ln}(\frac{P_c}{P_p})$

c. Total Effect = $\mathrm{Ln}(\frac{P_b}{P_p})$

Which are:

P_p : Equilibrium price before the block transaction (t = -1 transaction before the block trading).

P_b : Price on the time of block transaction (t = 0)

P_c : New equilibrium price after the block transaction (t = +10 transaction after the block trading).

Buy-initiated and Sell-initiated

Trading on the IDX depends on an automated trading system known as the Jakarta Automated Trading System (JATS). Data from 2015 to 2017 shows 14 data columns consisting of: 1) trading number, 2) trading date, 3) entry time stamp, 4) securities identity, 5) identity board, 6) quantity, 7) price, 8) value 9) the seller's identity ID, 10) the seller's domicile, 11) the sales order number, 12) the buyer's identity number, 13) the buyer's domicile, and 14) the purchase order number.

The first step is to determine whether initiation is a buy or sell-initiated by looking at the sales order number (column 11) and the purchase order number (column 14), if the sales (purchase) order number is greater than the purchase (sales) order number then it is identified as sell (buy) initiated. The second step is by looking at whether the seller's (buyer's) domicile is I (A) which is then identified as the initiation of the seller (buyer) by the domestic (foreign).

RESULT AND DISCUSSION

The data used are the issuer's data included in the LQ45 index in the period of 2015 to 2017 and traded by foreign and domestic investors. The data are obtained on the IDX through The Indonesia Capital Market Institute (TICMI). The final sample of this study included 35 listed companies in LQ45 (not in and out of the index during the observation period). During 2015 to 2017, 35 listed companies recorded trading transactions totaling 72,338,991 times. The trading carried out was greater than 200,000 shares for foreign buy-initiated of 34,861, domestic buy-initiated amounted to 51,472, foreign sell-initiated amounted to 31,090 and domestic sell-initiated amounted to 30,154.

Table 4.1 below shows the average volume, value and size of daily trading between foreign and domestic investors during the period of 2015 to 2017. On average, the volume of daily domestic investor trading is greater than that of foreigners, on average domestic investors trading with a volume of 1,054,883,900 shares per day while foreign investors accounted for 824,824,600 shares per day. Although the trading volume of foreign investors was less than domestic investors, but for the value of trade, foreign investors traded with average daily trading value which is greater than domestic. Foreign investors trade with a daily value of Rp3,854,780,000,000 while domestic investors trade with a daily value of Rp3,789,500,000,000. This indicates that foreign investors buy shares at a price that is relatively more expensive than domestic investors which proves that foreign investors have relatively larger capital compared to domestic investors.

Table 4.1. The Average of Volume, Value, and Size of Daily Trading during the Period of 2015 to 2017

Categories	**Domestic Investor**	**Foreign Investor**
Trading Volume	1.054.883.900 shares	824.824.600 shares
Trading Value	Rp. 3.798.500.000.000	Rp. 3.854.780.000.000
Trading Size	7600 share / transaction	7100 share / transaction

Table 4.2. Block Sales Testing

	Total Impact	Temporary Impact	Permanent Impact
Mean	-0.00018	-0.00024	0.00005
T-Test	-5.03	-2.36	0.54
No. of obs.	986	986	986
Wilcoxon Sig.	0.0001*	0.0012*	0.5753

*Significant on level 1% **Significant on level 5% ***Significant on level 10%

There are two kinds of statistical tests that can be done namely one-sample t-test and one sample Wilcoxon signed rank test. If the data is normally distributed, one sample t-test can be done, but if the data is not normally distributed then the statistical analysis that can be done is one sample Wilcoxon signed rank test. Based on the results of the normality test, it was found that the data was not normal so the statistical test used was one sample Wilcoxon signed rank test. Even so, Hartono (2015) states that parametric testing is still needed and non-parametric testing serves as an additional test.

In table 4.2 above, it can be seen the results of block sales testing, when block sales occur, the total and temporary impacts are -0.018% and -0.024% while the permanent impact shows positive price changes. Significant test results for total impact support hypothesis 1a which states that there is a negative price change at the time of block sales (total negative and significant impact), and the Wilcoxon sign test found that negative and significant temporary impact support hypothesis 1b which states that there is a price reversal in period after block sales. This result supports the price reversal in the period after the block sales, which indicates that prices change temporarily due to large amounts of sales causing sales pressure on prices, but this sales pressure slowly disappears and prices will return to the initial equilibrium price. Hypothesis 1c states that there is a permanent price change at the time of block sales, the test results for permanent impacts show a positive sign (which is expected to be a negative change) so that hypothesis 1c is not supported. This shows that the demand curve for shares is horizontal and there is no information carried on block sales. Based on these results, it can be concluded that when block sales occur, a negative price change (stock price decreases) and this price change is temporary which supports the price pressure hypothesis.

The testing results of hypotheses 2, 3, 4, 5, 6 and 7 are summarized in the table 4.3 below.

Table 4.3. The Test Result of Buy-initiated and Sell-initiated by Foreign and Domestic Investors

Categories	Total Impact	Temporary Impact	Permanent Impact
	Panel A.Sell	**Initiated**	
By Domestic	-0.0003	-0.00049*	0.00019
	(-6.88)	(-3.44)	(1.32)
Wilcoxon Test	0.0001*	0.0002*	0.3517
No. of Obs.	841	841	841
By Foreign	-0.00038*	-0.00008	-0.00031**
	(-7.11)	(-0.66)	(-2.31)
Wilcoxon Test	0.0001*	0.3492	0.0065*
No. of Obs.	865	865	865
Domestic-Foreign	0.000089	-0.00041	0.0005
	(1.29)	(-2.23)	(2.54)
Wilcoxon Sign	0.0181	0.1312	0.0087
	Panel B. Buy	**Initiated**	
By Domestic	0.000265*	-0.00005	0.000315**
	(6.32)	(-0.34)	(2.12)
Wilcoxon Test	0.0001*	0.7521	0.0149**
No. of Obs.	897	897	897
By Foreign	0.00031*	0.00015	0.000165
	(7.54)	(1.09)	(1.17)
Wilcoxon Test	0.0001*	0.2905	0.0230**
No. of Obs	891	891	891
Domestic-Foreign	-0.00005	-0.00020	0.000150
	(-0.86)	(-1.00)	(1.11)
Wilcoxon Sign	0.0384**	0.2694	0.9655

*Significant on level 1% **Significant on level 5% ***Significant on level 10%

Hypothesis 2 states that there are temporary price changes at the time of sell-initiated by foreign and domestic investors. The results of one-sample t-test and Wilcoxon signed rank (Table 4.3 panel A) indicate a temporary negative price change at the time of sell-initiated of domestic investors. This result provides support for hypothesis 2 which proves the existence of price pressures at the time of the sell-initiated of block carried out by domestic investors, but is not supported for foreign investors since there are no negative and significant temporary price impacts.

Hypothesis 3 states that there is a permanent price change at the time of the sell-initiated by foreign and domestic investors. The Wilcoxon signed rank results (Table 4.3 panel A) support hypothesis 3, on average there is a significant negative permanent price change at the time of sell-initiated by foreign investors, but no significant negative permanent impact is found for domestic investors. Therefore, based on this result there is information on block sales by foreign investors. Hypothesis 4 was not tested since there are no permanent price impacts on block sales by domestic investors.

Hypothesis 5 states that there are temporary price changes at the time of buy-initiated carried out by foreign and domestic investors. One-sample t-test and Wilcoxon signed rank test results (Table 4.3 panel B) show even though prices change positively (as predicted) but they are not significant, so hypothesis 5 is not supported.

Hypothesis 6 states that there are permanent price changes at the time of buy-initiated carried out by foreign and domestic investors. The Wilcoxon signed rank test (Table 4.3 panel B) shows a permanent and significant price change for buy-initiated by foreign and domestic investors, so that this result supports that buy-initiated carried out by both types of investors has information that causes prices to change permanently. Based on these results, it is found that there is information content that is carried out during trading so that prices change permanently since the information hypothesis states that the information carried on the trading causes the information to be immediately reflected in the stock price, so that prices will change permanently.

Hypothesis 7 states that there are differences in the impact of permanent prices between foreign and domestic investors, the test results found no difference in the permanent impact between the two investors, so that hypothesis 7 is not supported. Based on these results, it is found that the amount of information held by the two investors is the same.

Based on the test results of hypotheses 2, 3, 4, 5, 6 and 7 (Table 4.3), it can be concluded that the price changes that occur at the time of sell-initiated by domestic investors are temporary since prices experience changes due to price pressures but the pressure on these prices slowly will disappear and the price will return to the initial equilibrium point. The results of the sell-initiated test by a foreign investor are permanent, indicating the presence of information that is carried out when a foreign investor initiates a sale. In addition, the test results at buy-initiated by foreign and domestic investors found that the price changes that occur are permanent, so that it supports the information hypothesis which states that large trading (blocks) helps to enter information into stock prices and the amount of information between the two investors is the same, so there is no difference in the size of the permanent price impact between the two investors.

This research attempts to test whether the theory is able to explain the block sale events that occur on the IDX. The test results show that there are negative price changes at the time of block sales (prices fall in the period after the block sales) and this price change is temporary. Therefore, it can be concluded that block sales on the IDX can be explained by the price pressure hypothesis which states that large amount of sales cause prices to change (down) and shifts from the initial equilibrium price but a few moments later this price pressure slowly disappears and the price returns to the initial equilibrium point, so that the test results support the price pressure hypothesis that is able to explain the price changes that occurred at the block sales on the IDX.

The next test relates to the information hypothesis, the results of empirical research find information content that is carried out during the trading depends on whether trade is a buy-initiated or sell-initiated, and also depends on the party or identity behind the transaction (Scholes, 1972). On the IDX, there are two types of investors, namely foreign and domestic investors. The price impact between these two investors may differ depending on who initiates. Distinguishing between sell-initiated and buy-initiated by foreign or domestic investors can provide an opportunity to test whether there is a content of information carried on the trading and whether there is a difference in the size of the information content. Parties that have a greater price impact are more superior parties in the information of Dvorak (2001) and Choe et al., (2001).

Efficient market hypothesis (Fama, 1970) states that investors are able to respond to market information rationally and efficiently so that stock prices will reflect all information available to the public. An efficient market will prevent traders who do not have special information to get abnormal returns and because the market is efficient and stock prices reflect all available information, when trading carries information, that information will immediately be reflected in stock prices and prices will change permanently. Scholes (1972) states that the identity behind the trading can indicate which party has more information, with the block trading setting on the IDX can be done by distinguishing which party initiates trading and investor identity behind the initiation of the trading.

The results of different tests which are based on which party initiates found that when block sales made by domestic investors, there are temporary price changes. The finding of a temporary impact on sell-initiated by domestic investors supports the price pressure hypothesis and is in line with the results of previous studies such as the studies of Krauss and Stoll (1972), Chan and Lakonishok (1993), Keim and Madhavan (1995) and Alzahranai et al. (2010) which found that prices changed temporarily when there was a large number of sales that supported the hypothesis of price pressure since large sales put pressure on prices but the pressure on these prices slowly disappeared and prices would return to the initial equilibrium price. The results of this study are also able to be explained by the arguments given by Chan and Lakonishok (1993) and Keim and Madhavan (1995) which state that the decision of investors to make large amounts of sales is done not because of information but one of them may be due to limitations in the portfolio owned by investors, so investors decide to make a sale.

The study result of block sell-initiated by domestic investors provides support for the price pressure hypothesis which assumes that investors consider securities as a unique commodity so that it is not perfectly elastic which results in large trade such as block trading, stock prices should fall to encourage investors to buy additional shares because of the demand curve for stocks is sloping down. This hypothesis states that when the demand curve for stocks is not perfectly elastic, a large flow of funds into (out of) the market will push the price of securities to go up (down). There is a purchase (sales) pressure on the market that pushes prices up (down) which results in a temporary deviation from the equilibrium price resulting in a positive (negative) market return, but a moment later the purchase (sales) pressure on this market slowly disappears and the price returns to initial balance.

The test result of the block sell-initiated by foreign investors found a negative and significant permanent price change. This result provides evidence that the trading carried out by foreign investors has information content. The efficient market hypothesis states that trading will enter information into the stock price if it has information and because the market is efficient, all available information will immediately be reflected in the stock price. In addition, this result also supports the results of Easley & O 'Hara, 1987; Karpoff, 1987 in Sun & Ibikunle, 2015, which found that investors or market participants prefer trading with large volumes to minimize transaction costs and to maximize profits obtained through trading activities that have information content. This is done because of competition from other market players who also have information and also because the private information they have may be short-term, so that large trading brings information into the market which causes prices to change permanently.

Sell-initiated by domestic investors on the IDX supports the price pressure hypothesis and also the arguments given by Chan and Lakonishok (1993) and Keim and Madhavan (1995) which state that the decision to sell one stock is not always due to negative information, but is likely due to limitations in portfolio so that investors have to make sales. While on the side of sell-initiated by foreign investors, there is no temporary impact but a permanent impact. The finding of a permanent impact on the side of sell-initiated by foreign investors shows that foreign investors on the IDX are investors with large capital, so that they make sales due to information.

The test results of block buy-initiated found a significant permanent impact at the time of block buy-initiated by domestic and foreign investors. The finding of the permanent impact of block purchases by both investors is in accordance with the information hypothesis and the results of previous tests such as the research of Krauss and Stoll (1972), Chan and Lakonishok (1993), Keim and Madhavan (1995) and Alzahranai. (2010). In line with efficient markets, trading that has information will immediately be reflected in the stock price. Chan and Lakonishok (1993), Keim and Madhavan (1996) and Saar (2001) state that buy-initiated carried out by investors usually contains company-specific information and the decision to buy one share compared to many other shares is generally done because of information.

Based on the test results of which parties doing sell and buy initiated, it was found that sell-initiated by domestic had a temporary impact (supporting the hypothesis of price pressure) and sell-initiated by foreign investors had a permanent impact (supporting the information hypothesis). Meanwhile, buy-initiated by domestic and foreign investors had a permanent impact (supporting the information hypothesis) and the amount of information between the two investors is the same. These results prove that foreign investors are superior in accessing and executing company information when it relates to negative news and information and when related to positive information, the two types of investors have the same amount of information.

CONCLUSION AND RECOMMENDATION

Some conclusions obtained from this study are 1) Block sales that occur on the IDX in the period of 2015 to 2017 can be explained by the price pressure hypothesis, 2) At the sell-initiated of domestic investors, it is found a temporary price change that gives support for the price pressure hypothesis, while foreign sell-initiated finds permanent price changes that provide support for the information hypothesis, and 3) At the buy-initiated of foreign and domestic investors, there found to be permanent and significant price changes. These results confirm the existence of information that is carried out at the time of the buy-initiated for both types of investors and the amount of information held by the two investors is the same.

The research limitations and suggestions that can be given in this study are as follows: 1) Research on block trading is carried out by the method of Holthausen et al., (1989) because so far no other method has been able to measure block trading by using intraday data. This study also adopts the method of Holtahusen et al., (1989); future research can develop other methods or measurements related to block trading using intraday data, 2) The impact of block trading in this study has not distinguished the impact on different market conditions; some research empirically found the impact of prices can differ based on market conditions (bearish or bullish). Future research can distinguish whether there are differences in the price impact on different market conditions using the Indonesia Stock Exchange settings. Future research can also divide samples based on company or industry size to test whether company size and industry differences affect the significance of the price impact that occurs.

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