

BNM-OECD* Conference on Financial Education
and Financial Consumer Protection in Asia-Pacific
Empowering financial consumers in the digital age

PRESENTATIONS

11-12 December 2019
Sasana Kijang, Kuala Lumpur, Malaysia



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

A MEMBER OF



*The OECD contribution to this event is supported by the Government of Japan.

Opening remarks



EMPOWERING FINANCIAL CONSUMERS IN THE DIGITAL AGE

DIGITALISATION AND ITS IMPLICATIONS FOR
FINANCIAL POLICY MAKERS

Greg Medcraft
Director for Financial and Enterprise Affairs
Organisation for Economic Co-operation and Development



Outline

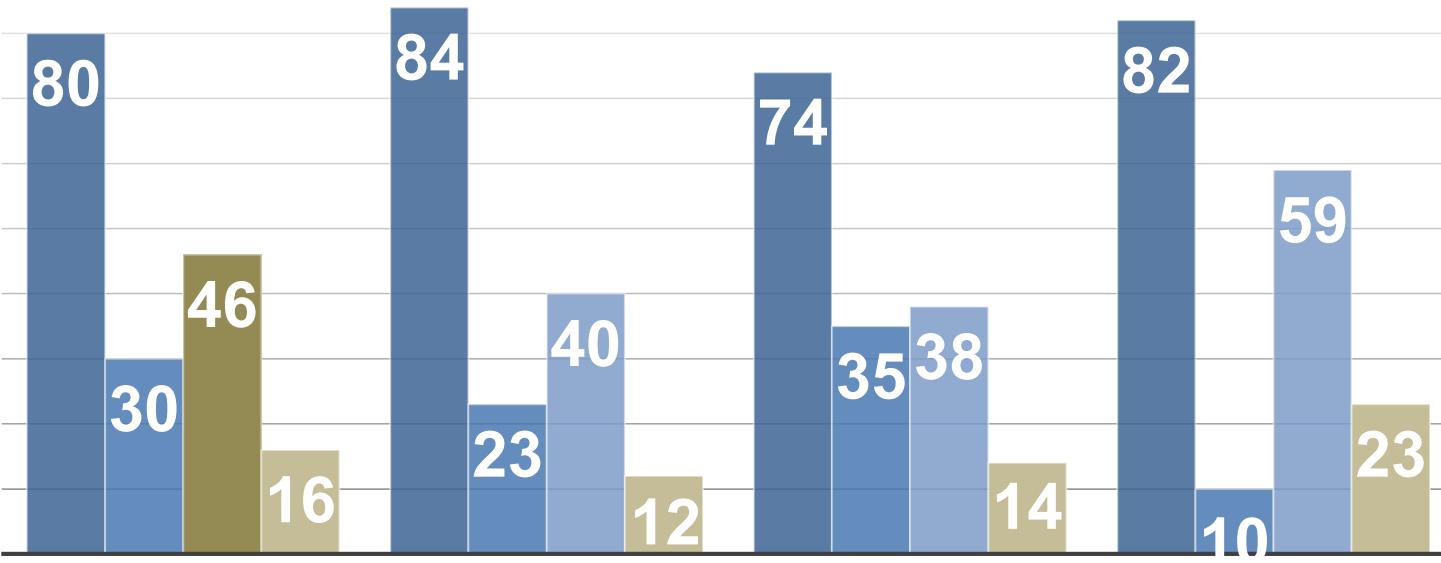
1. Digitalisation, cryptoassets and blockchain

2. OECD findings: consumer insights and ICOs

3. Emerging lessons for regulators/policy makers



1. CONSUMER INSIGHTS: ATTITUDES AND BEHAVIOURS RE CRYPTOASSETS



- Cryptocurrency awareness
- Cryptocurrency holding
- ICO awareness
- ICO holding



Why invest? – “To make money quickly” (41%)



How? Various ways, including paying on a credit card (13%)



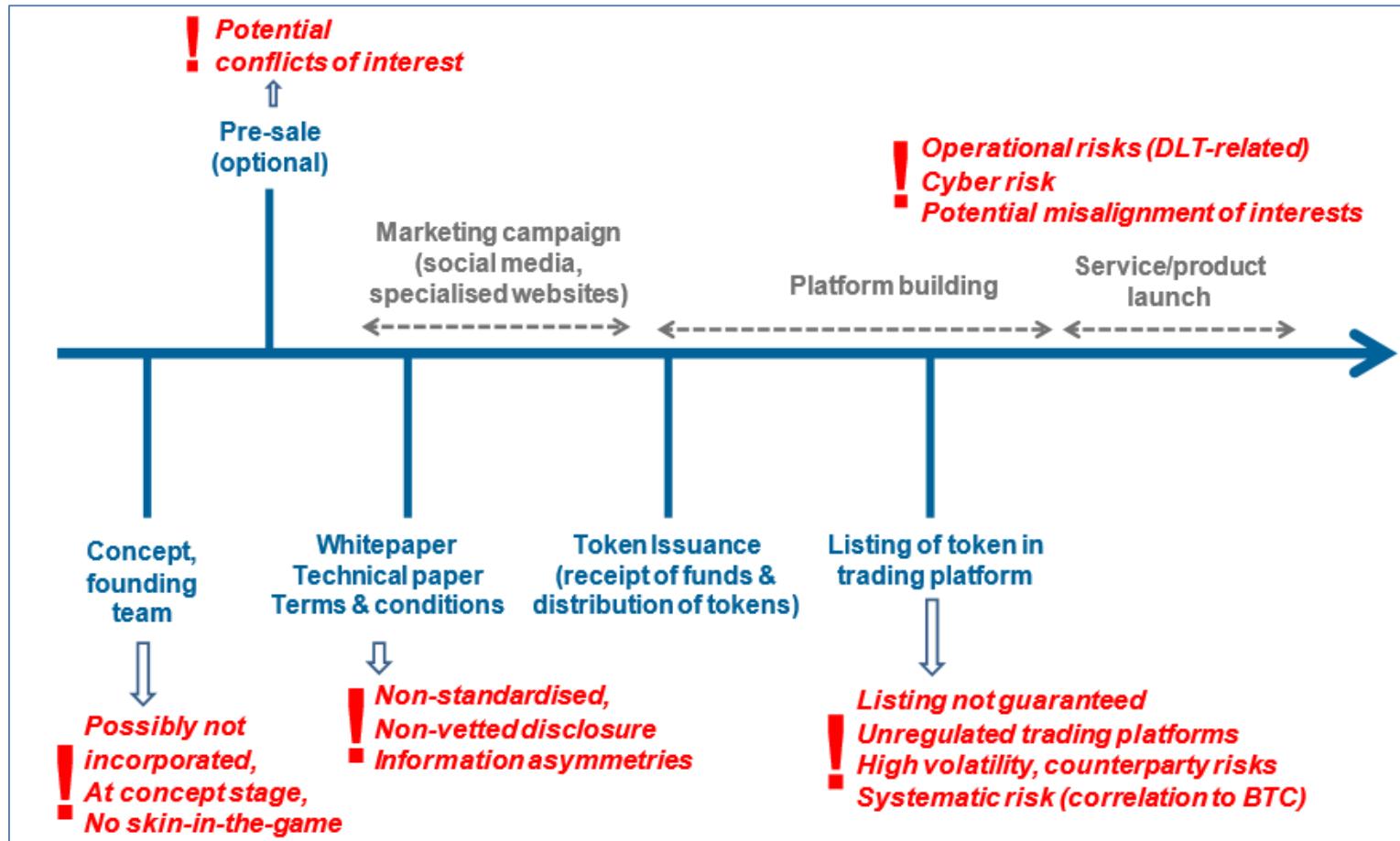
28% cannot afford to lose the money invested



29% do not understand cryptocurrencies very well, 34% to some extent



2. INITIAL COIN OFFERINGS (ICOs)



Indicative ICO process

ICO risks and market failures:

- Conflicts of interest, information asymmetries
- Inadequate AML/CFT checks
- Improper valuations
- Unclear tax requirements



3. EMERGING LESSONS FOR REGULATORS

- 1. Focus on market fundamentals:** orderly financial markets – financial stability; business conduct; consumer protection and market efficiency.
- 2. Leverage existing rules:** market issues raised by new blockchain-based products or business models may be already covered elsewhere.
- 3. Regulatory certainty is important – but is a fine balance:** if new rules needed, take the long view, use principles, be tech-neutral
- 4. Build capacity and understanding in regulators:** to allow authorities to respond appropriately and not rush in.
- 5. Cooperate internationally:** to learn from one another and to arrive on common approaches, in order to avoid fragmentation and arbitrage given global nature of digital assets and blockchain networks.
- 6. Inform, empower and protect consumers.** Collect data to understand their attitudes and better tailor communications at them. Tell them about the risks they face, monitor marketing techniques, assess emerging issues, develop appropriate financial consumer protection frameworks.



OECD and digitalisation of financial services: understand impact, promote dialogue, and provide policy solutions

Financial Markets, Insurance and Pensions
DIGITALISATION AND FINANCE



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

Financial Markets, Insurance and Pensions
INCLUSIVENESS AND FINANCE



2019

- **Initial Coin Offerings (ICOs)** for inclusive SME financing
- **(Digital) Short-term consumer credit** and inclusiveness

GOING DIGITAL

Making the transformation work for growth and well-being

www.oecd.org/going-digital

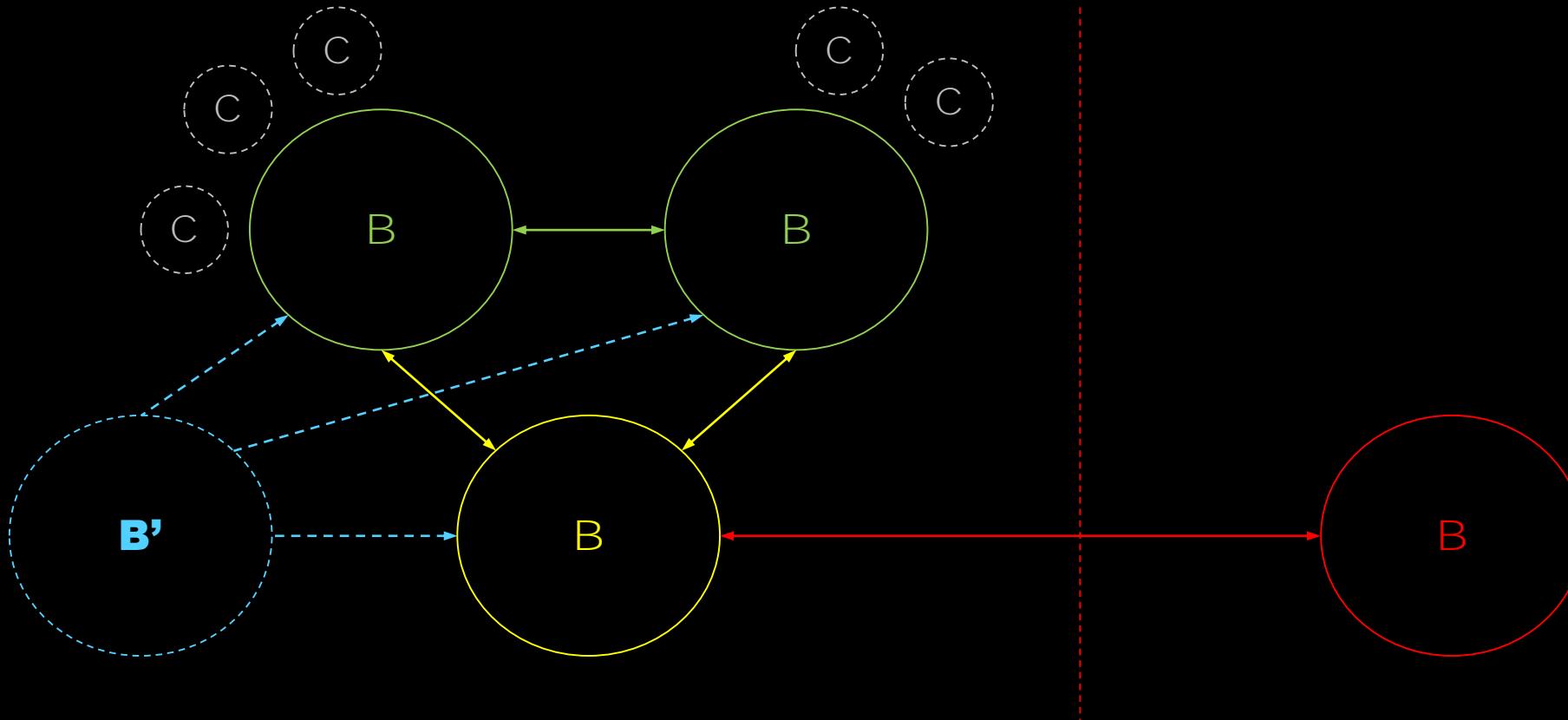
In the Spotlight
and
Keynotes



DLT-Enabled Ecosystem

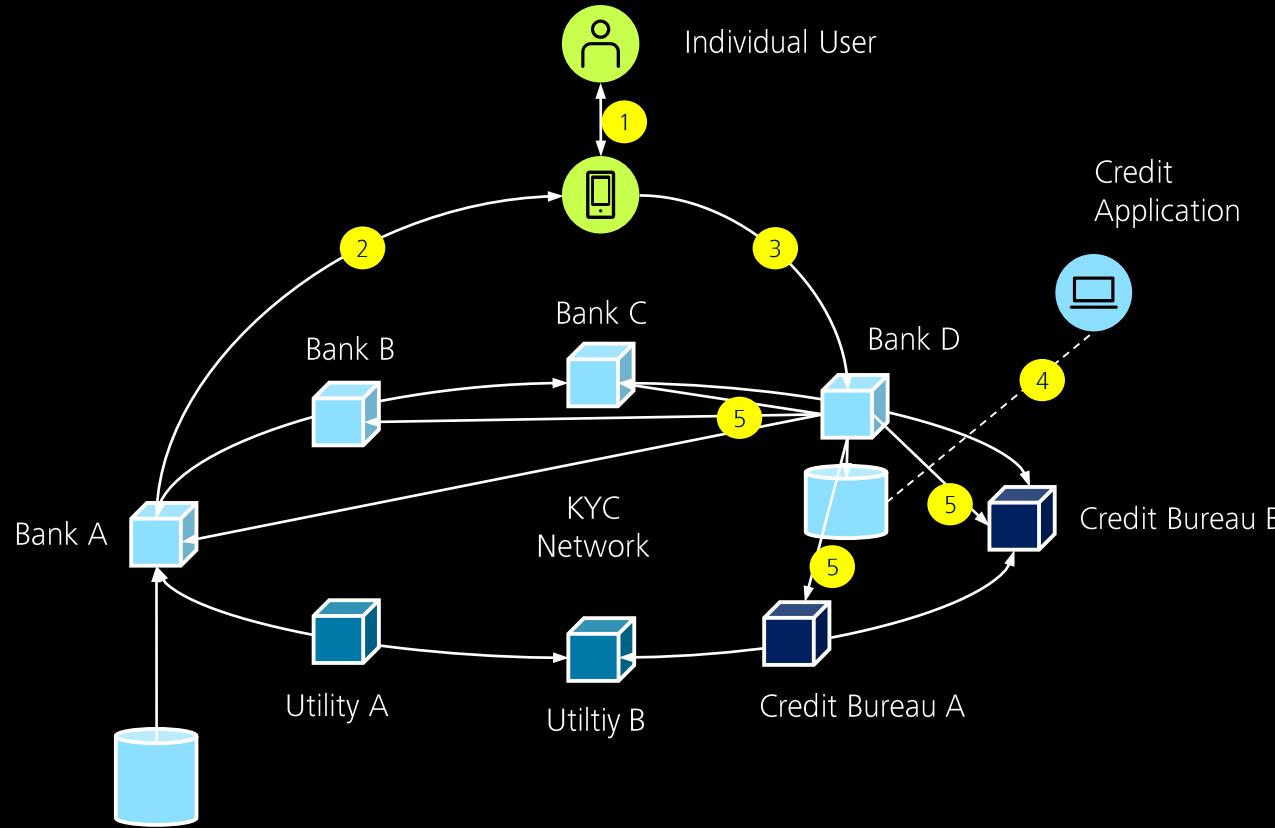
B2B Data Synchronization

Distributed Ledger Technology (DLT) can be either permissionless (public) or permissioned platforms, and the latter is the most suitable for enterprise applications, especially in support of B2B partnership.



Cross-Border Know-Your-Customer (KYC)

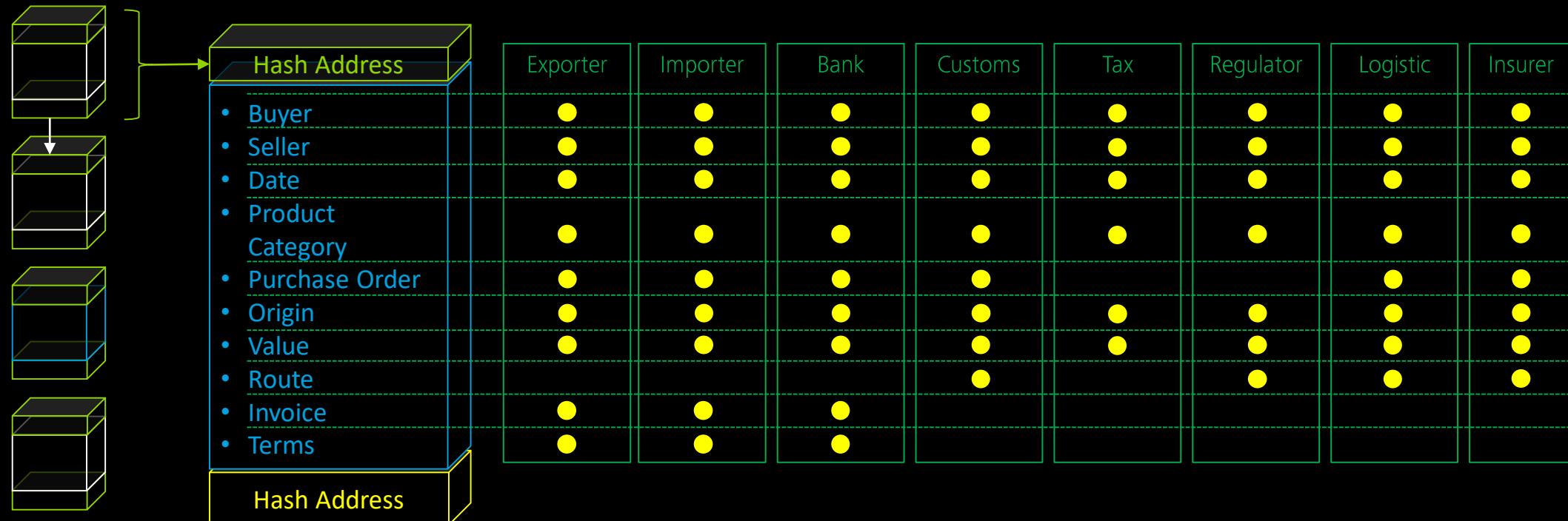
Individual users can retrieve their profile information from a bank they choose, then authorize the use of those data by another bank for credit applications.



- 1 Individual user sends a request to Bank A to populate his/her KYC account with KYC and bank account information, using a hashed HKID (and potentially other fields) for lookup.
- 2 Bank A retrieves the information from their database and sends the information to the user, which logically belongs to the user but physically stored in the distributed ledgers, i.e. everyone will own a copy, but in a hashed form which cannot be reverse-engineered.
- 3 The user sends the information to Bank D for credit application, but technically, the user sends the hashed ID over to Bank D and Bank D finds the information in the data node hosted by themselves.
- 4 Bank D can either use API to connect the data from KYC Blockchain network or use the portal to conduct KYC information enquiries.
- 5 The approved credit information will then be propagated to all parties in the ecosystem using the hashed ID.

Gold Mine in Blockchain

The transparency of data in Blockchain enables tons of business case.



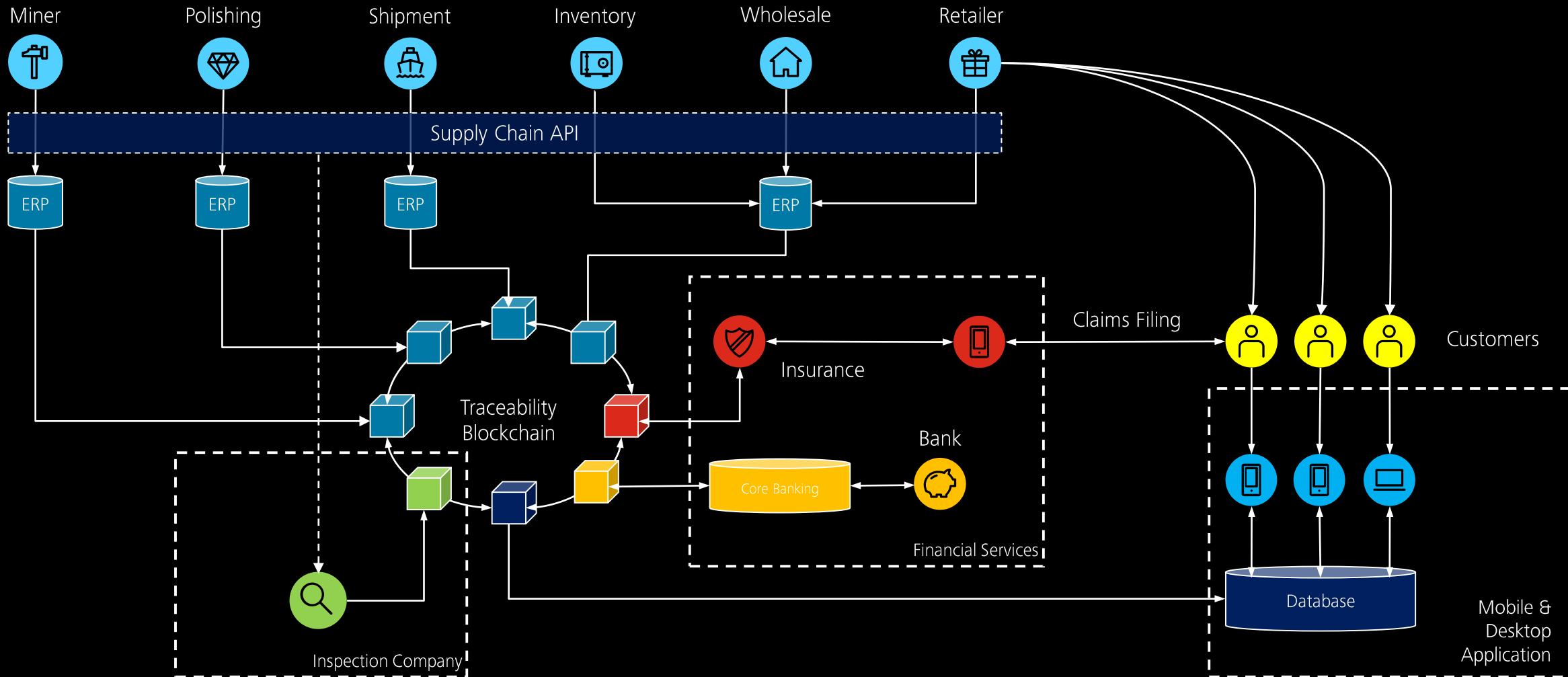
Trade Finance Platform Strategy

Many large banks are members of multiple networks.

	Corda	Hyperledger (超级账本)																																				
Open (开源)	<table border="1"> <tr><td colspan="2">Marco Polo</td></tr> <tr><td>#</td><td>14</td></tr> <tr><td>P</td><td>OAF</td></tr> <tr><td>V</td><td>RWA</td></tr> <tr><td>T</td><td>All</td></tr> <tr><td>D</td><td>Oct 17 → Q4 18</td></tr> </table>	Marco Polo		#	14	P	OAF	V	RWA	T	All	D	Oct 17 → Q4 18	<table border="1"> <tr><td colspan="2">eTC</td></tr> <tr><td>#</td><td>7 + 5</td></tr> <tr><td>P</td><td>OAF</td></tr> <tr><td>V</td><td>Effort & Risk</td></tr> <tr><td>T</td><td>All</td></tr> <tr><td>D</td><td>Sep 2018</td></tr> </table>	eTC		#	7 + 5	P	OAF	V	Effort & Risk	T	All	D	Sep 2018												
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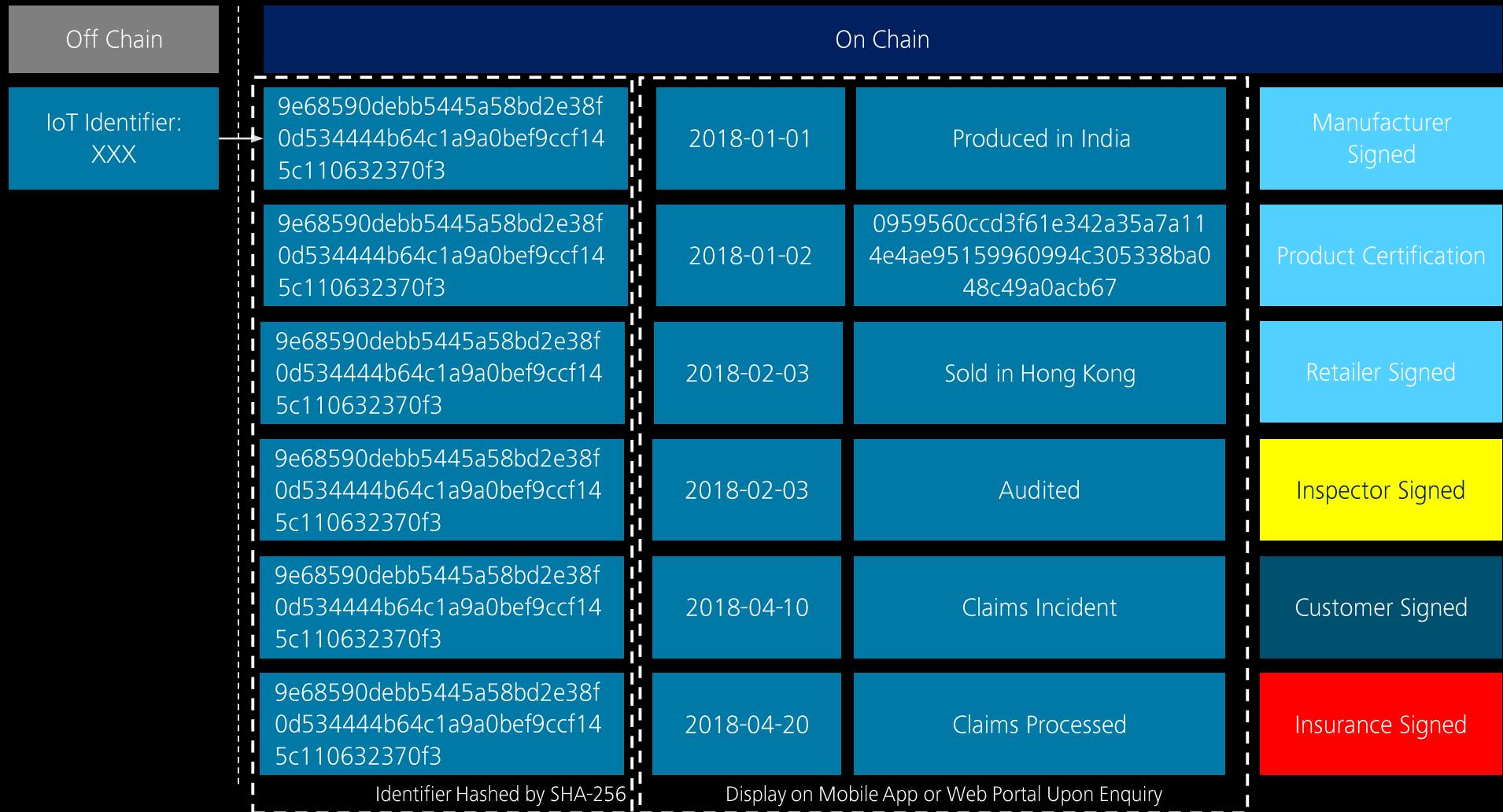
Supply Chain Traceability

Deloitte's supply chain solution includes physical inspection results which are then validated against on-chain and immutable records.



Data Design

Blockchain platform captures an immutable trail of the product, with inspector providing assurance of data reliability. No financial data is on-chain.



Track & Trace

Deloitte Tracechain

HIJ Co. Inc. | Supply Chain Overview

Date Range: Last 30 Days | Product Name / ID: Aluminum Cans

Filter Results: Region: Select a Region, Country: Select a Country, Company Type: Select a Company Type, Variant: No Variant Selected

Key Traceability Metrics:

- 4 Open Disputes
- 1 Late Shipments
- 11 Outstanding Orders
- 9 Associated Companies
- 2 Products

Companies

Company Name	Type	ID	Action
ABC Co. Inc.	Supplier	183928	View Profile
HIJ Co. Inc.	Manufacturer	294829	View Profile
LMN Co. Inc.	Manufacturer	183928	View Profile
XVZ Co. Inc.	Distributor	294829	View Profile
Retailer A	Retailer	183928	View Profile

Transaction History - HIJ Co. Inc. (3)

Trans. ID	Date	From	To	Transaction Type	Unit ID	Label	Flag	Action
111221	5/1/2017	ABC Co. Inc.	HIJ Co. Inc.	Ownership transferred	444333222	100lbs aluminum	0	View Details
111222	5/2/2017	HIJ Co. Inc.	HIJ Co. Inc.	Unit registered to blockchain	444333222	100 aluminum cans	0	View Details

Transaction Details - 111222

Date: 5/1/2016 Transaction Type: Unit registered to blockchain
 From: HIJ Co. Inc. Transaction Attachments: ABC Co. Attachment (PDF)
 To: HIJ Co. Inc. Flag: None

Unit ID	Label	Unit Owner	Unit Creator	Flag
444333222	100 aluminum cans	HIJ Co. Inc.	HIJ Co. Inc.	0

Traceability Diagram

Transaction History - HIJ Co. Inc. (3)

Trans. ID	Date	From	To	Transaction Type	Unit ID	Label	Flag	Action
111221	5/1/2017	ABC Co. Inc.	HIJ Co. Inc.	Ownership transferred	444333222	100lbs aluminum	0	View Details
111222	5/2/2017	HIJ Co. Inc.	HIJ Co. Inc.	Unit registered to blockchain	444333222	100 aluminum cans	0	View Details
111223	5/3/2017	HIJ Co. Inc.	LMN Co. Inc.	Ownership transferred	444333223	100 aluminum cans	0	View Details

Geographic Overview

Company Types

Deloitte Tracechain

HIJ Co. Inc. | Create PO

Purchase Order: Test for Approval, Pre-shipment Financing: Applied, Shipment: Booked, Invoice: Submitted, Post-shipment Financing: Applied, Payment: Invoice Paid

Create New Purchase Order

Upload Purchase Order Excel (Optional)

Line Items

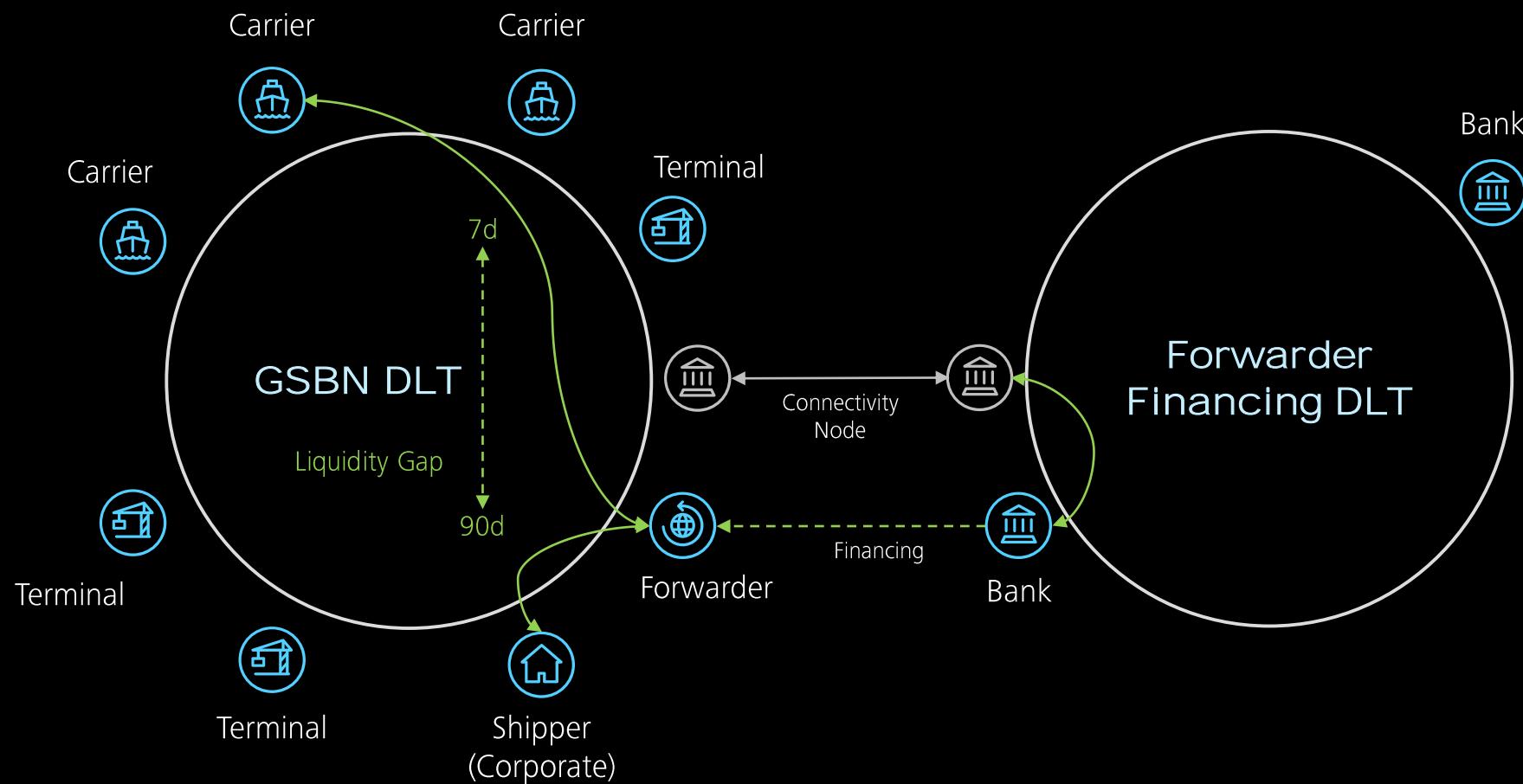
Item No.	Style No.	Quantity	Items	Measure Unit	Unit Price	Total Price
						Grand Total:

Line Items

Item Number: ZA8291, Actual Departure Date: , Actual Delivery Date: , Place of Loading: , Place of Discharge: , Place of Arrival: Toronto, Place of Destination: , Marks and Numbers: , Total's Weight: 100, Container & Truck: , Unit Price: , Total Price: , Grand Total: , DECLINE, CONFIRM

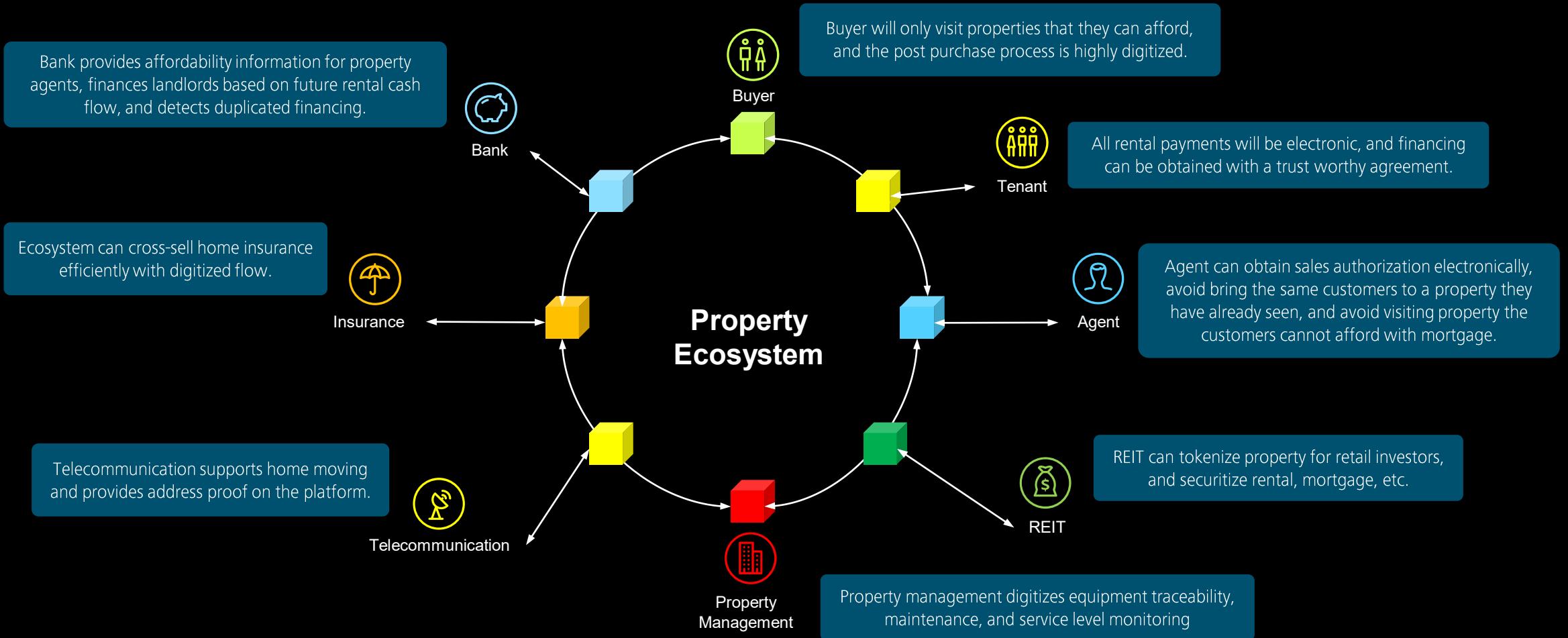
Forwarder Financing

As forwarders are providing longer credit periods to shippers than what they receive from carriers, banks can fill the liquidity gap through network interoperability.



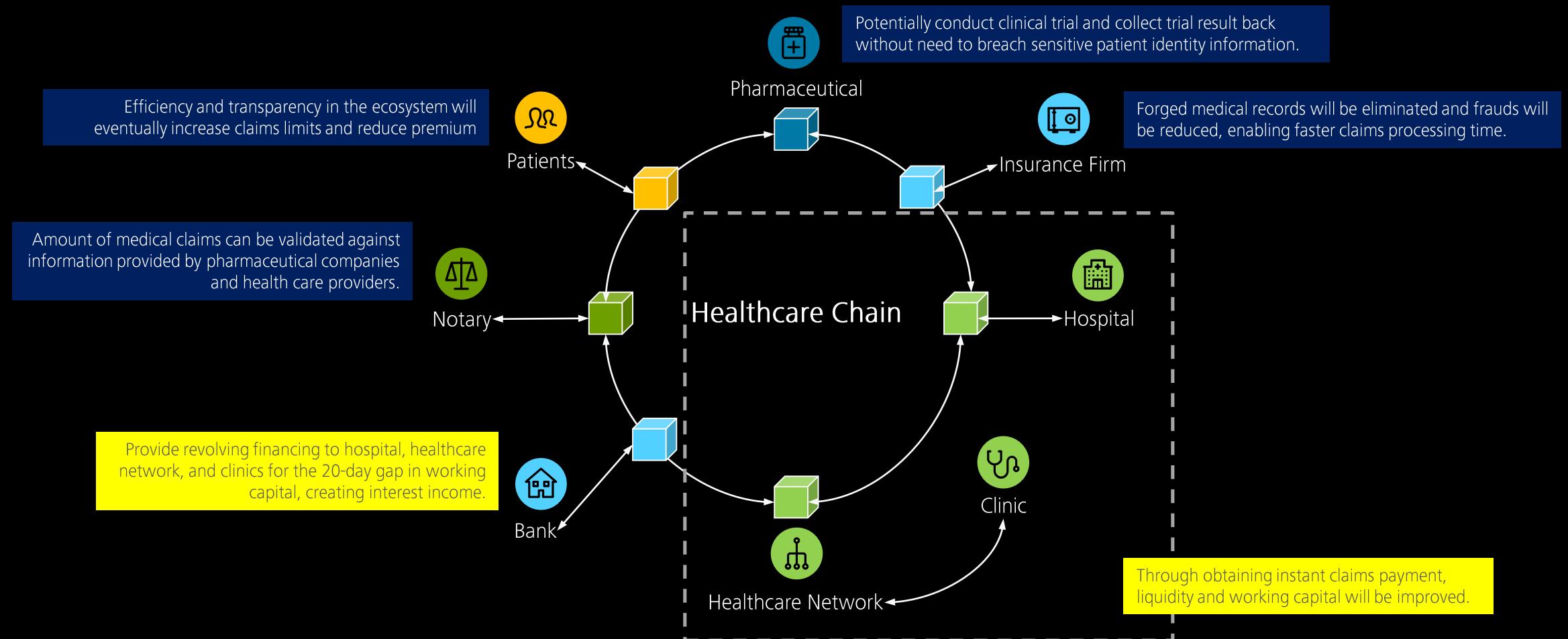
Property Ecosystem

Property agents, mortgage providers, and other supporting industries can achieve high synergy from sharing different kinds of data.



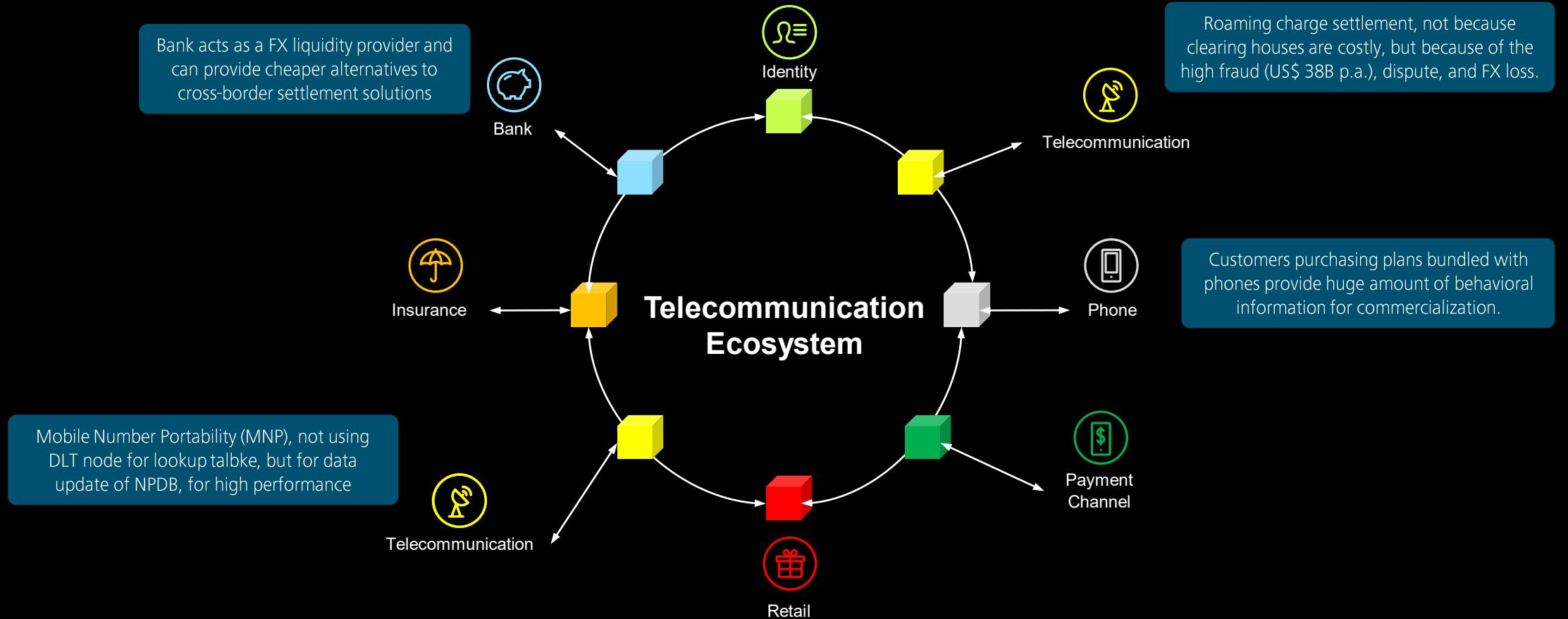
Healthcare Ecosystem

The first phase can focus on the liquidity improvement among healthcare providers, but the network will provide much more future benefits in future.



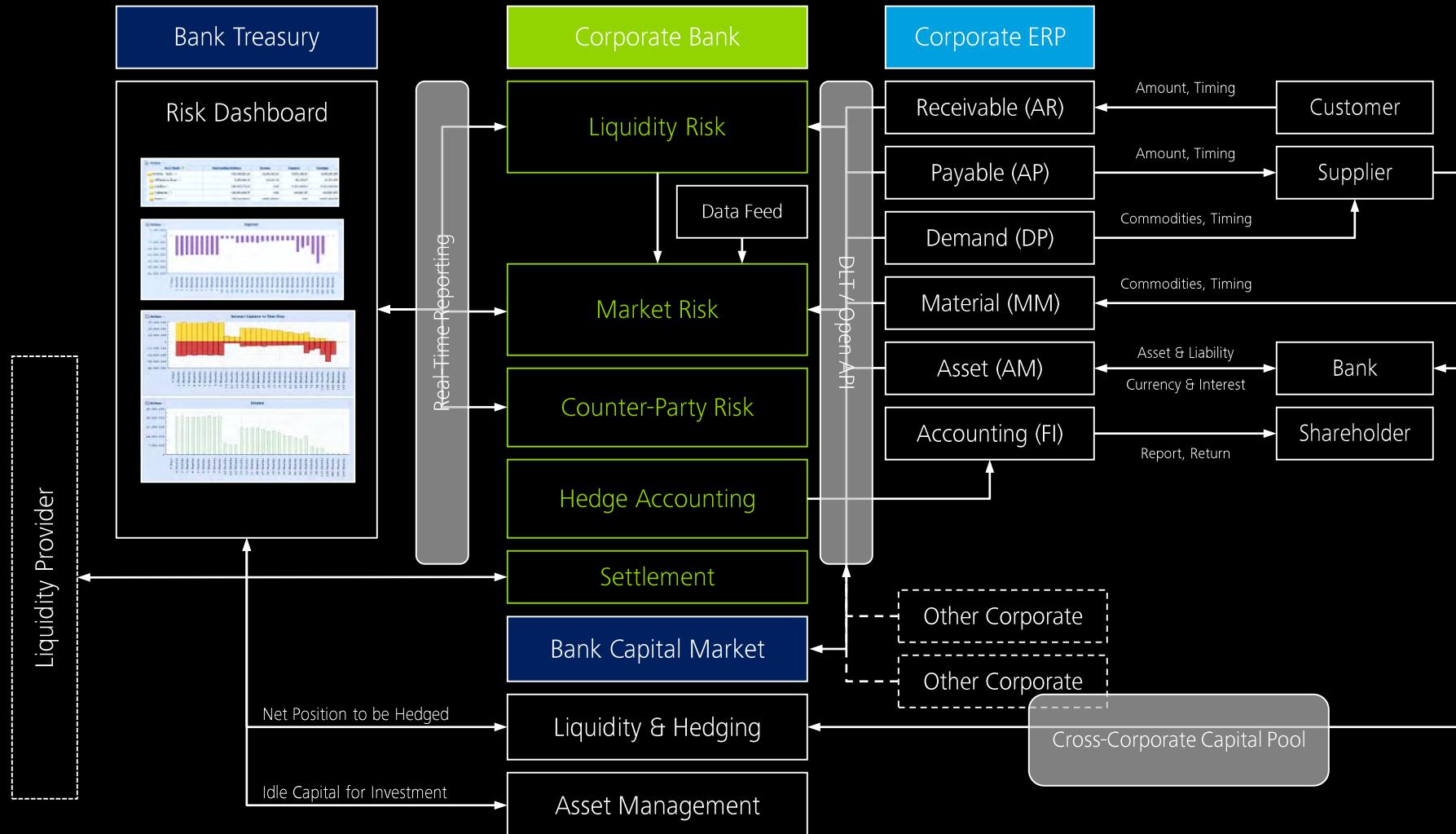
Telecommunication

The current use cases are around number portability, roaming charge settlement, and inter/intra-company settlement, but there are huge potentials in data commercialization.



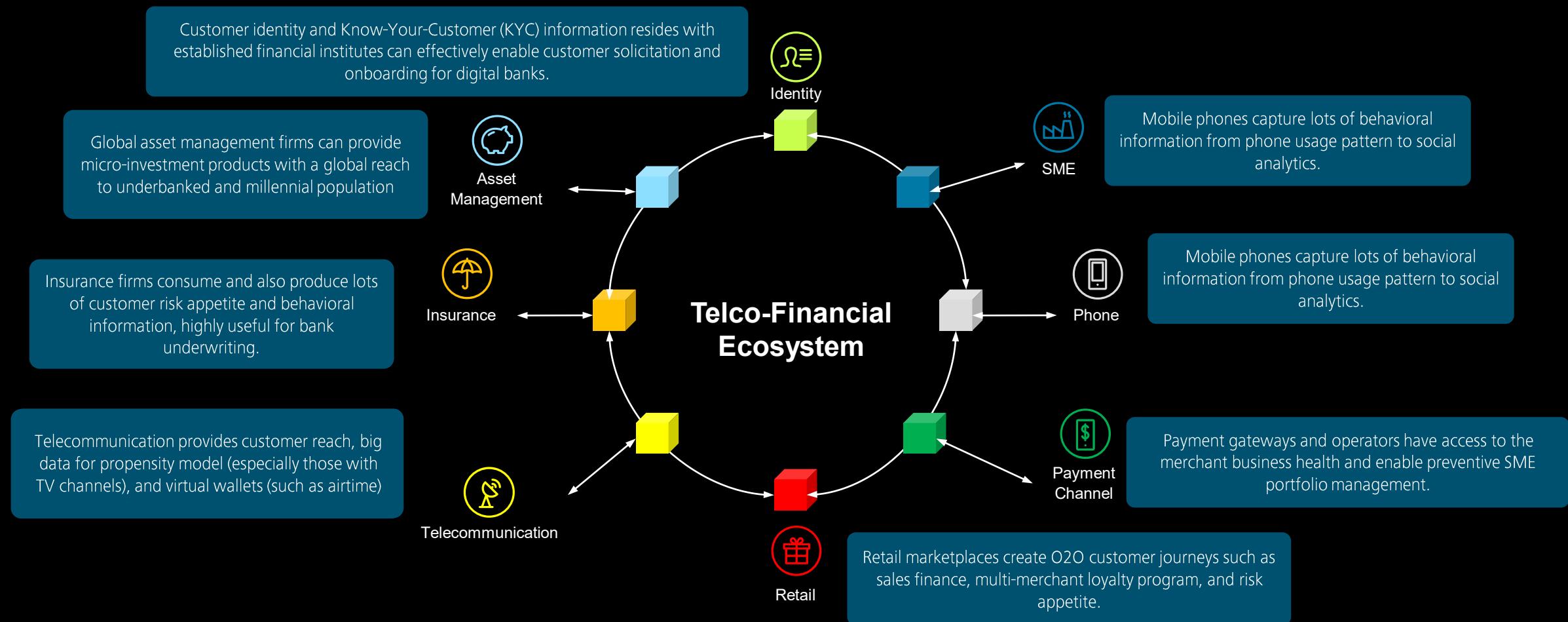
Next Generation Corporate Banking

Mid-market corporates are facing huge risk on currency and commodities when they are developing their regional and global coverage. Risk monitoring and mitigating tools are both in demand and also creating new revenue for the bank.



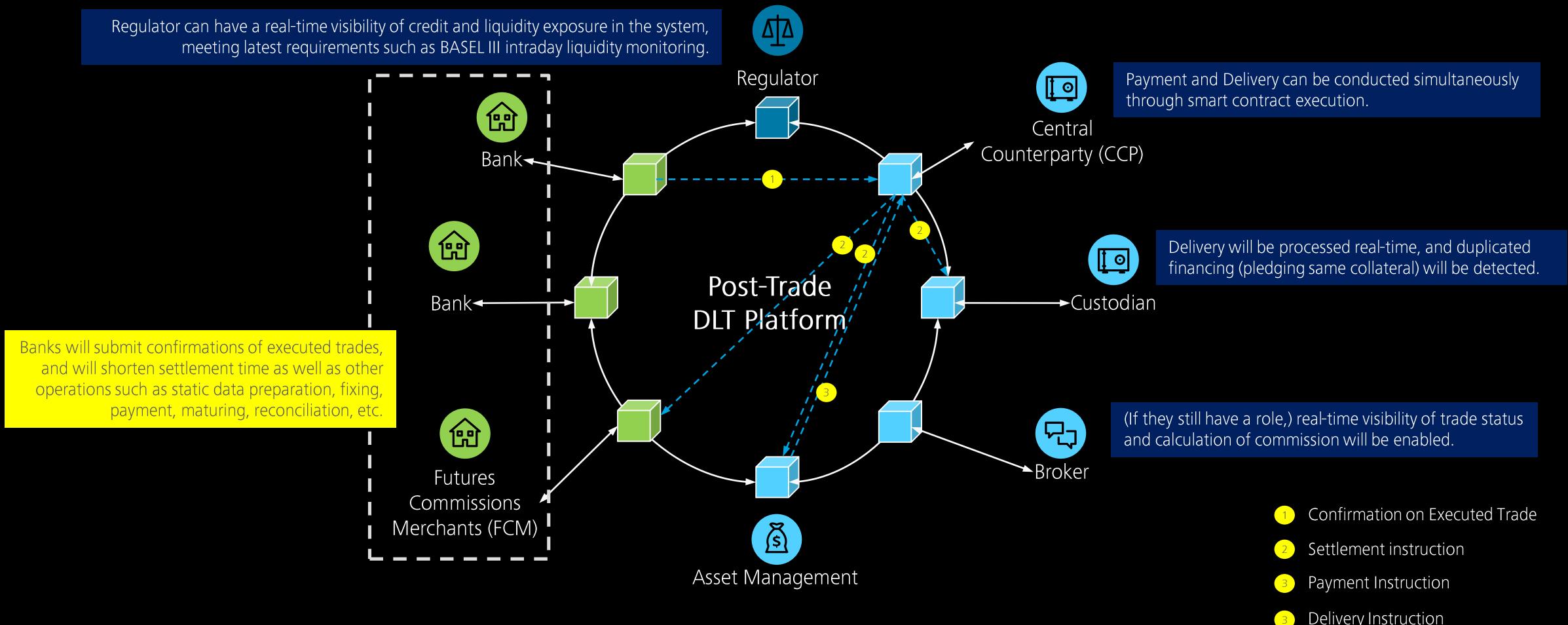
Challenger Bank

Huge synergy is available in cross-industry and later on, cross-border ecosystem, enabled by Distributed Ledger Technology (DLT) that allows sensitive customer data sharing without breaching privacy laws.

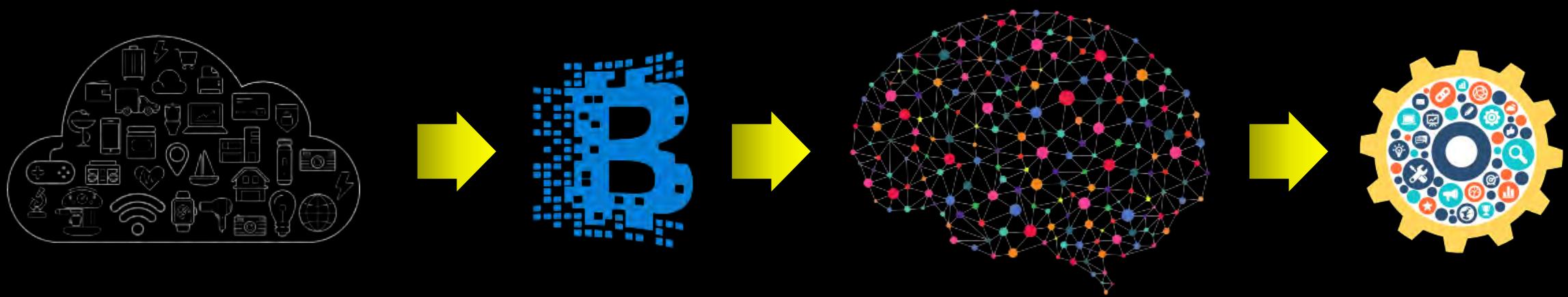


OTC & Crypto Post-Trade Ecosystem

The real-time synchronization enabled by distributed ledger technology (DLT) will largely improve the liquidity and efficiency of the system, as well as reduce counterparty, credit, and operational risks.

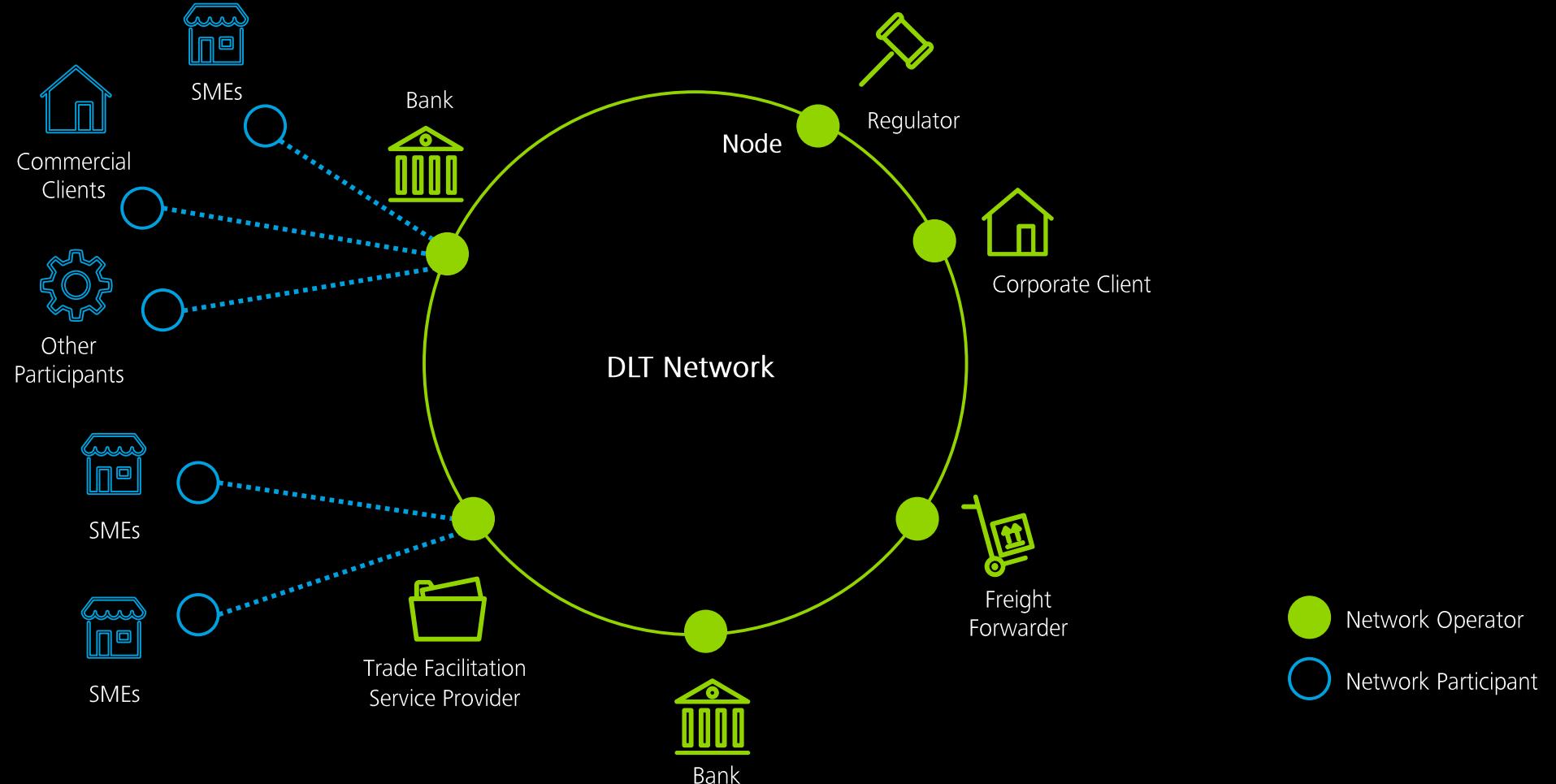


Technology Convergence



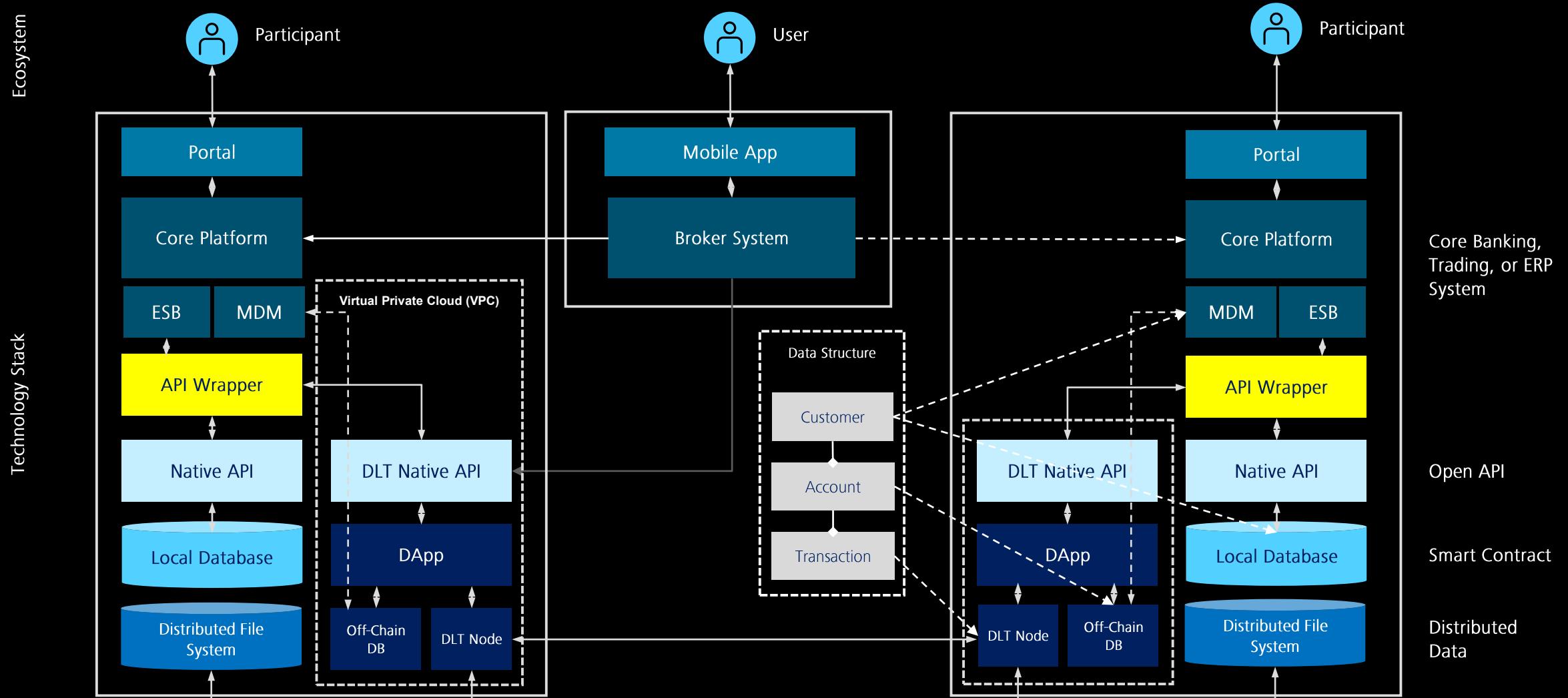
Trade Finance Ecosystem

For a minimal viable platform (MVP), not everyone need to be running a node.



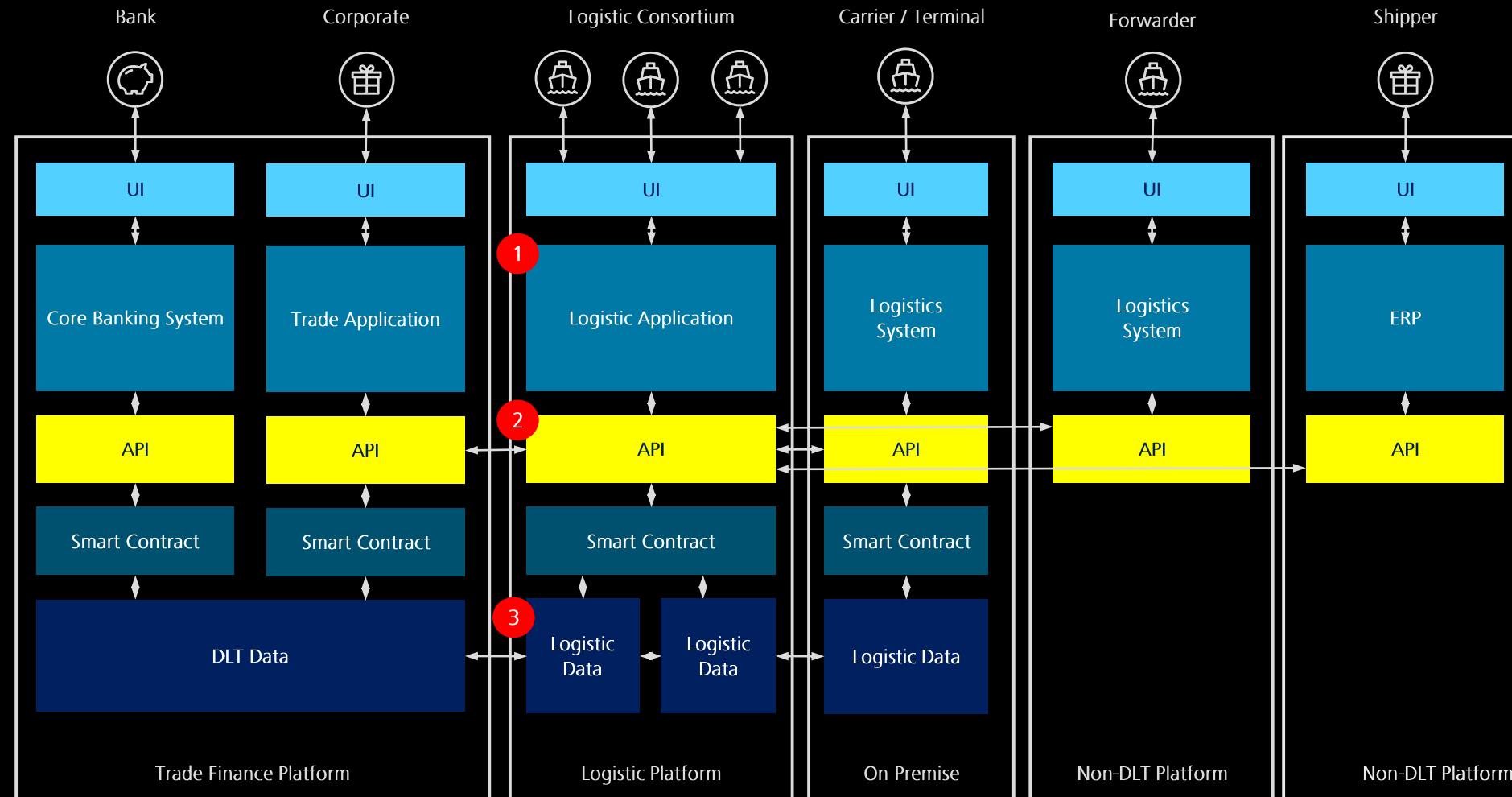
Technology Architecture

Legacy system should be integrated with DLT data node through APIs.



Integration Approach

Carriers, forwarders, and banks can choose to use a common application, host a DLT node themselves for data synchronization, or integrate with cloud-hosted APIs.



Financial Education and Financial Consumer Protection

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Peter Morgan

**Co-Chair, Senior Project Consultant
ADB Institute (ADBI)**

Trinh Long, Research Assistant, ADBI

Conditions of Sustainable Growth

- 1, Domestic Savings → Investment**
- 2, Human Capital Development
(including Financial Education)**
- 3, Infrastructure investment
long term investors are needed
Insurance and Pension funds**
- 4, Sound financial system**

Development of Financial Technology

- 1, Easy access to financial products through mobile phone
- 2, Financial products can be supplied from overseas → **Needs for financial education**
- 3, Households can shop around various financial products through mobile phone and heavy use of **credit cards**
- 4, Financial education will be very important (by use of Internet & mobile phones)
- 5, Machine learning and Big-data analysis
→ **Unexpected shock, Data Privacy**

Traditional Banks versus Fin Tech Industry

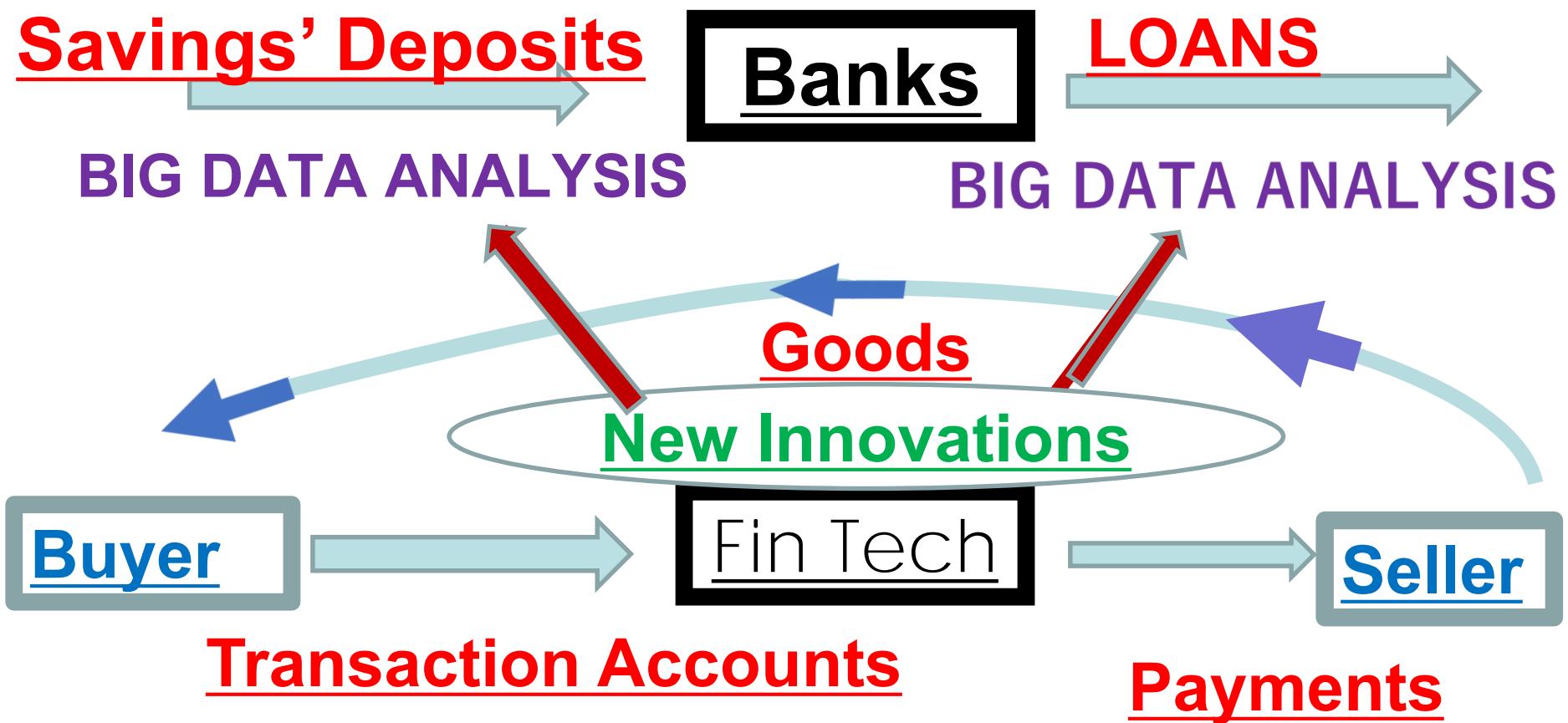
Banking Sector

- (1) CB regulation**
- (2) Capital Requirement**
- (3) Reserve Requirement**
- (4) Deposit Insurance**
- (5) Liquidity provision**

Fin Tech Industry

- (1) Free Entry and competition**
- (2) Low costs**
- (3) No strict regulation**
- (4) No BIS regulation**
- (5) Risk of Bankrupt
No protection**

Full Use of Fin Tech by Banking Business



Consumer Protection and confidentiality of data

1, Regulation of Fin Tech

- (1) Financial Stability and increase national welfare
- (2) Increase efficiency

2, Block chain and De-centralized payment system

- (1) Secured transaction monitored by FSS (or FSA)
- (2) Non-registered transaction

3, Data privacy and big data analysis

(machine learning)

4, Digitization of human life

Financial Education Promotion Council

What kind of subjects and items should be taught at each level of school education ?

Chair Person, Naoyuki YOSHINO

Central Bank of Japan

Financial Services Agency (FSA)

Ministry of Education

Consumer Protection Agency (Government of Japan)

Bankers Association of Japan

Securities Dealers Association

Insurance Association

Trust Bank Association

Investment Trust Association

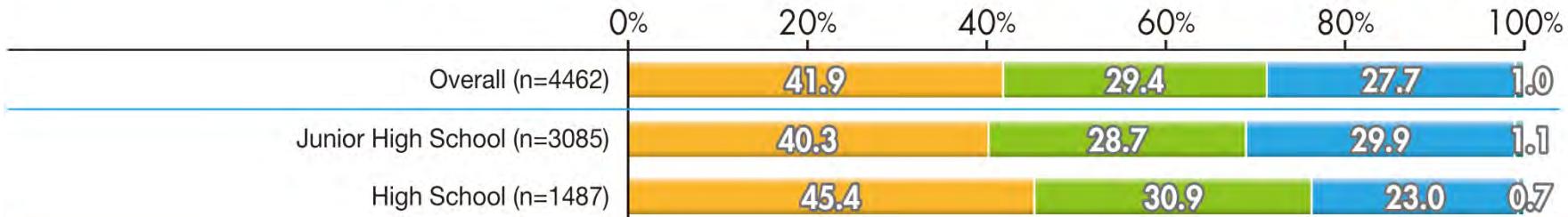
Financial Planners Association

Finance is taught, but for only a few hours

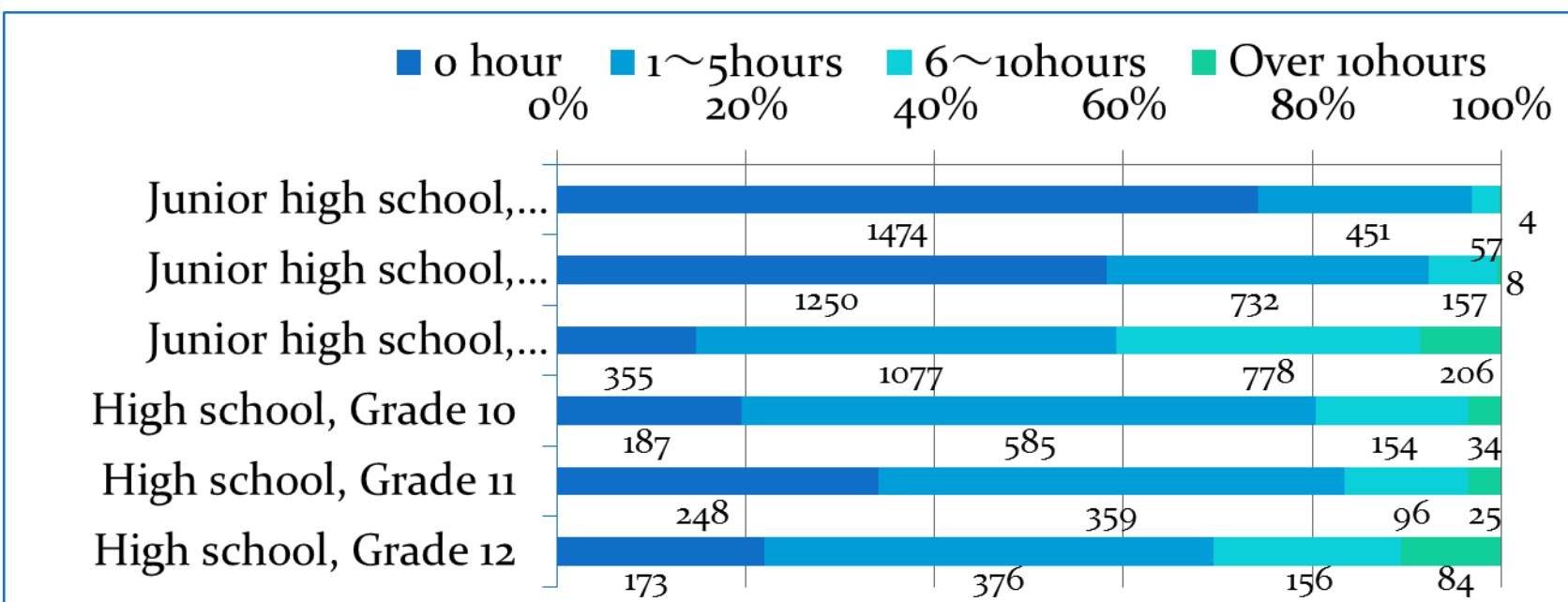
Figure 22. Actual Teaching of Financial and Economic Education

Teach it
Don't teach it

Have taught it
No response



Actual Time Spent Teaching Financial and Economic Education



For the Students

- 1, Subjects are nothing to do with their daily life, 72.9 %**
- 2, Difficult to understand, 62.6 %**
- 3, Lack of textbook material 26.6 %**

Teachers' awareness

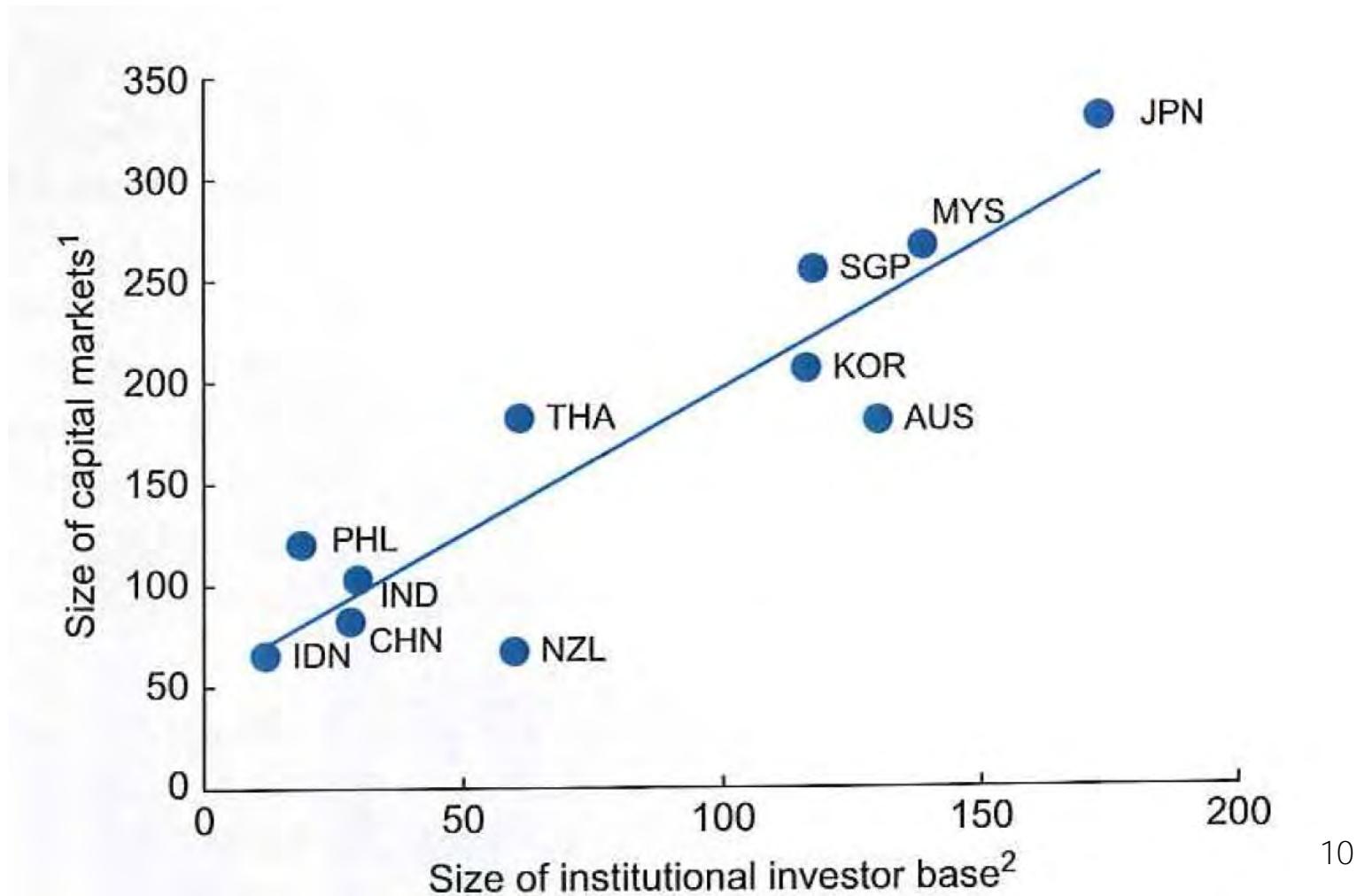
Teachers admit importance of financial education in order to become wise consumer

73.5%

Size of Institutional Investor/GDP

source: IMF, A Bird's-Eye View of Finance in Asia, 2015

life Insurance and Pension Funds



I. Financial life planning and household expense management

A. Money management and decision making

Goals Goals by category have been set in reference to the four aspects in learning assessment. <small>(Note)</small>	Primary School Students		
	1st and 2nd grades	3rd and 4th grades	5th and 6th grades
a. Understanding that resources are limited (i.e., budgets are constrained).	1. Learning the value of goods and money, and making much of them. (Living Environment Studies, Moral Education) 2. Learning that one cannot have all that one wants.	5. Understanding the limitedness of goods and money and the importance of money. (Social Studies)	9. Understanding the limitedness of goods and money, and thinking of better ways to use them. (Home Economics) 10. Being able to exercise moderation in spending, while reviewing one's spending habits. (Moral Education) 11. Being able to buy things according to

A. Money management and decision making (Continued)

Goals Goals by category have been set in reference to the four aspects in learning assessment. <small>(Note)</small>	Secondary School Students	High School Students
a. Understanding that resources are limited (i.e., budgets are constrained). b. Understanding the significance of building a better life under a limited budget, and acquiring the skills and attitude to do so.	14. Understanding the scarcity of goods and services, and trying to make better decisions. (Social Studies<Civics>, Technology and Home Economics <Home Economics>) 15. Establishing a favorable lifestyle whereby one makes the most of time and goods. (Moral Education) 16. Understanding household income and expenditure. 17. Being able to choose, purchase, and use necessary goods and services adequately. (Technology and Home Economics <Home Economics>) 18. Managing income and expenditure practically, for example, by controlling spending during a school excursion. 19. Being careful not to overspend invisible money such as various cards. (Technology and Home Economics <Home Economics>)	22. Understanding the scarcity of resources, and being able to make better decisions in purchasing goods and services. (Civics, Home Economics) 23. Learning one's living cost and the cost of education, etc., and acquiring the attitude to give thought to expenses spent on oneself out of the total household expenses. 24. Understanding the importance of long-term and well-planned money management. (Home Economics) 25. Being able to practically balance income and expenditure in school events, etc.

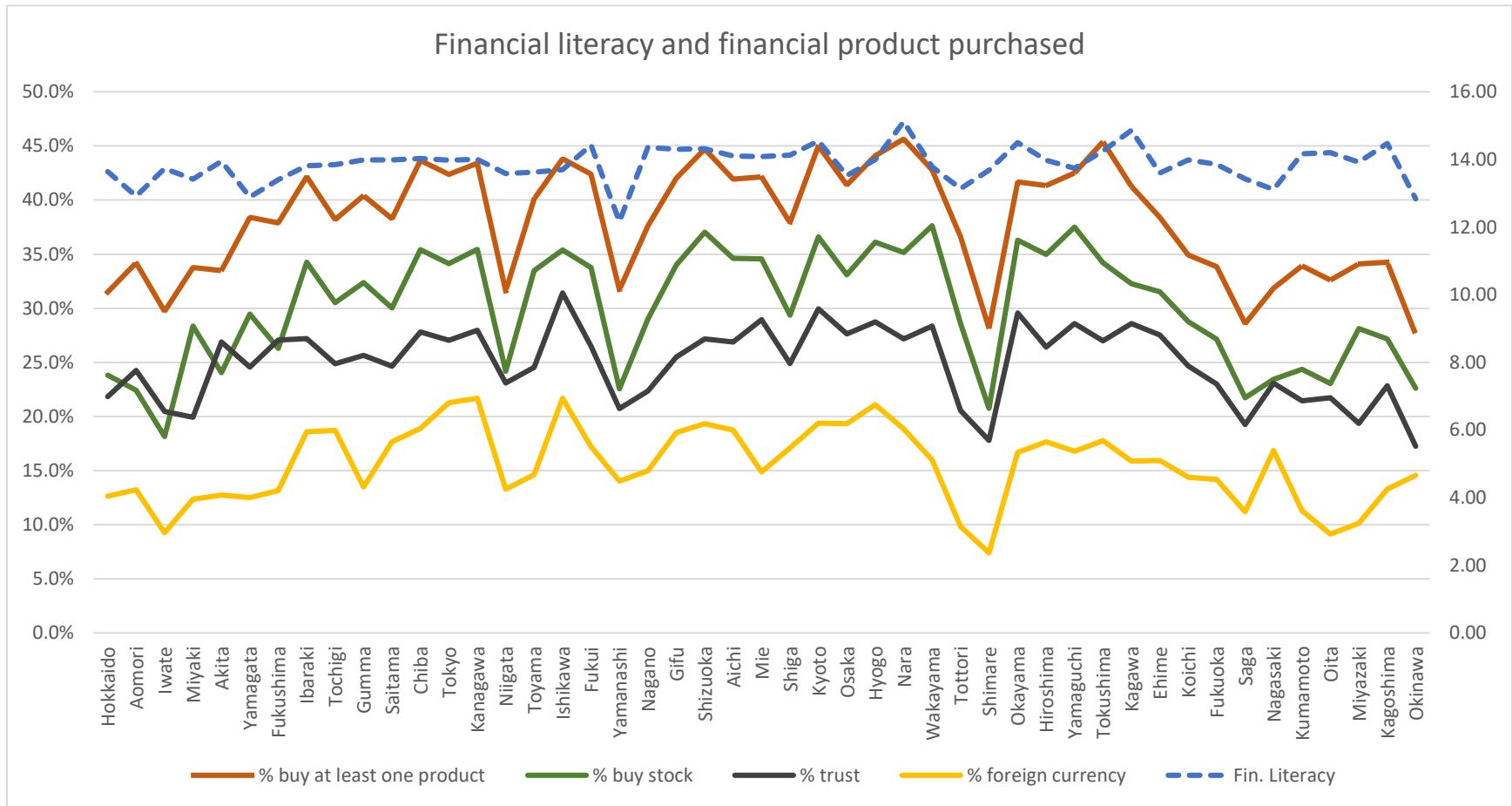
Financial Education can be given by internet and mobile phone

- 1, University on Air (University on Television)
- 2, Education by use of internet
- 3, Web education
- 4, mobile phones are available in many places
- 5, can study by use of mobile phone
- 6, Credit can be obtained (**On line education**)

Bank of Japan survey of adult financial literacy

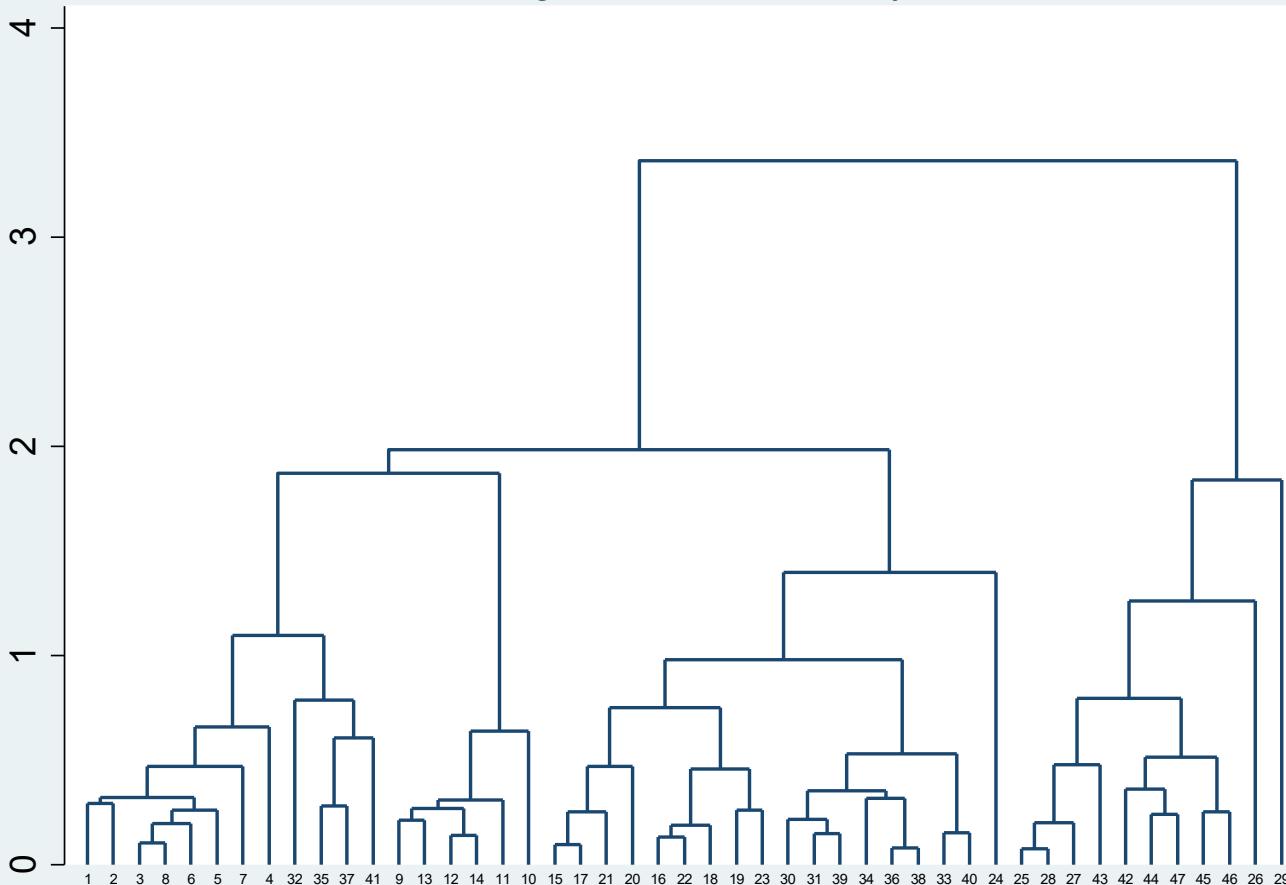
- Representative sample of **25,000 individuals aged 18 to 79**
 - Chosen in proportion to Japan's demographic and economic structure
- Survey questions
 - Includes respondents' **age, gender, level of general education and financial education, income, occupation and the frequency of reading financial and economic news**
 - **25 true/false questions**, including 18 questions on financial knowledge and 7 on financial decision-making skills
 - **Experience of buying stocks, investment trusts (mutual funds) and foreign currency**

Regional Disparities in Japan



Cluster Analysis of Prefectures

Dendrogram from cluster analysis

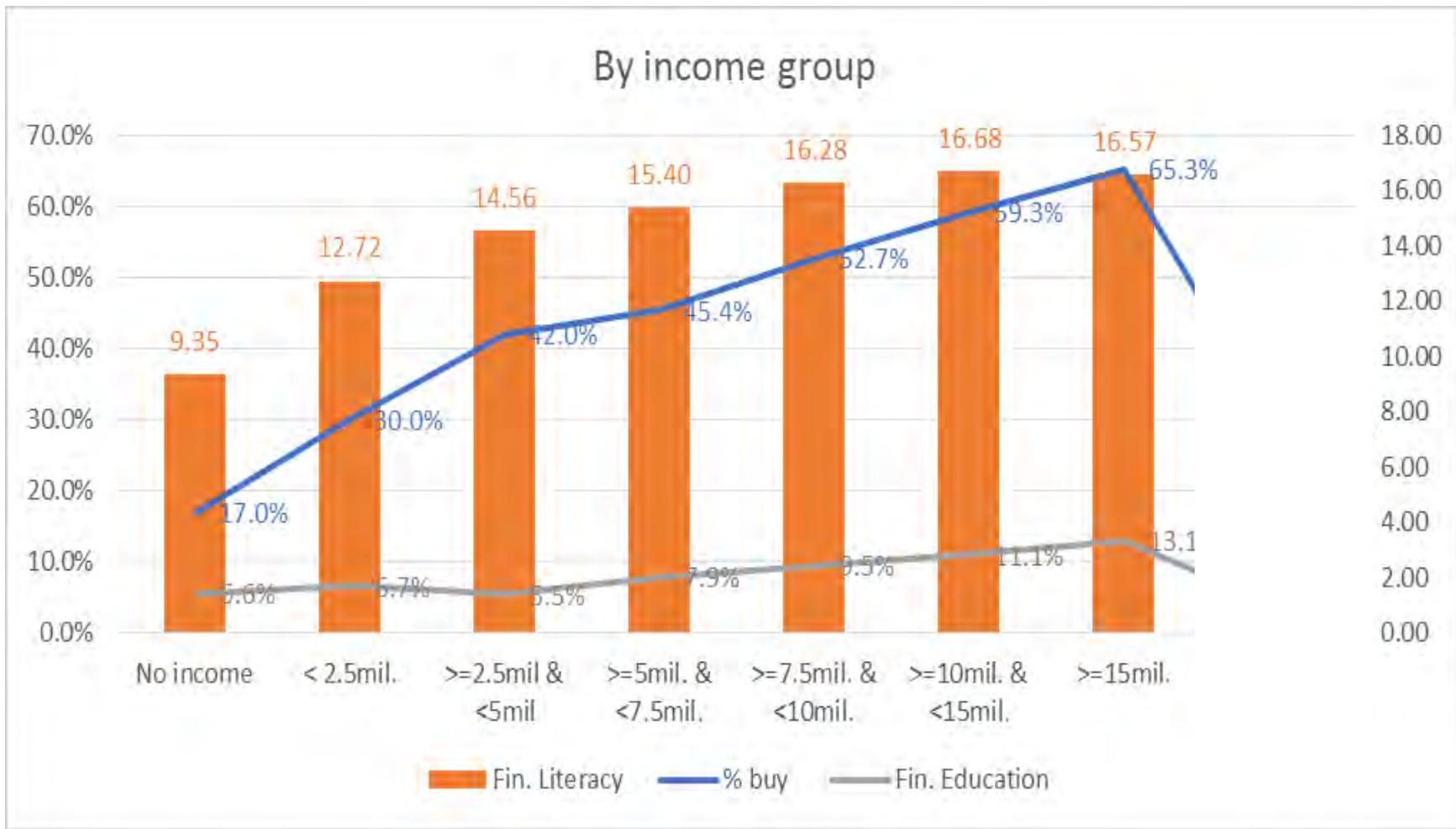


(1) Score of Male and Female, Age

Proportion of those who had **high score (21/25-25/25)**, roughly top 20% (as figure 35 in BoJ book)

	All	Male	Female
All	20.9%	26.5%	15.5%
Age<30	10.1%	12.9%	7.2%
Age>=30&Age<40	16.6%	22.7%	10.3%
Age>=30&Age<40	20.7%	26.6%	14.8%
Age>=50&Age<60	25.8%	30.8%	20.9%
Age>=60&Age<70	28.1%	35.1%	21.9%
Age>=70	23.9%	31.8%	16.8%

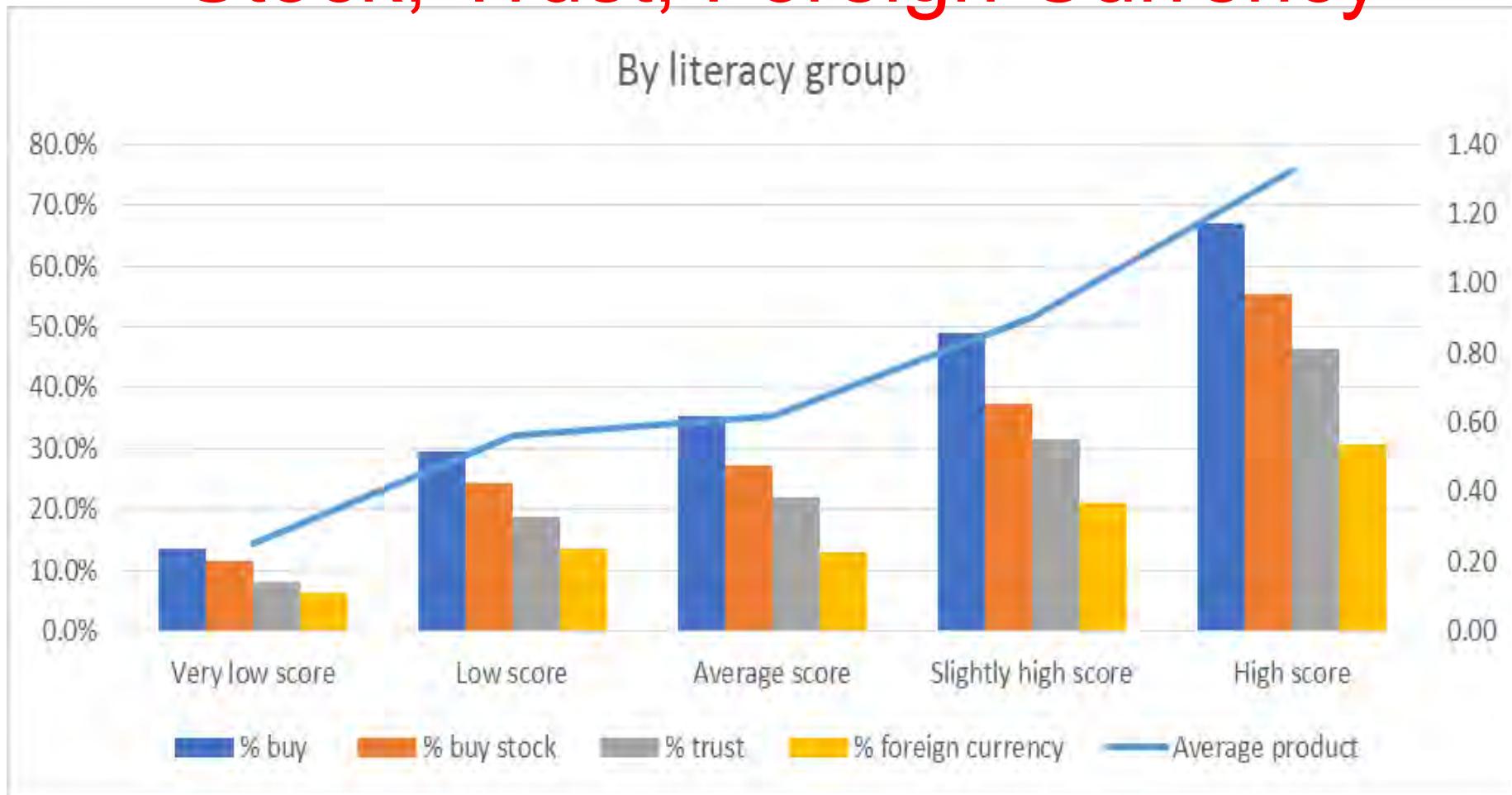
Distribution of financial literacy, product purchases and education by income



Source: Authors

Distribution of purchases of financial products by financial literacy score

Stock, Trust, Foreign Currency



Source: Authors

V. Empirical approach

- Financial literacy equation:

$$FL_i = \alpha_0 + \alpha_1 FEDU_i + \alpha_2 X_i + \epsilon_i \quad (1)$$

- FL_i : Financial literacy score
- $FEDU_i$: Financial education: dummy variable, taking value of one if individual i took financial education at school/work and 0 otherwise
 - We focus on financial education outside the home in this study
- Control variables: financial literacy, age, education level, income level, occupation, prefecture dummies.
- Identification: Assume financial education is endogenous. Use IV approach. Instrumental variable: Whether financial education is offered or not.

Empirical approach (3)

- To examine the role of financial education at home → augmented our HH asset allocation equation:

$$A_i = \beta_0 + \sum_j \beta_j (FEDU_i \# FHOME_i) + \beta_2 X_i + \epsilon_i \quad (3)$$

- There are 4 options (j):
 - No financial education at school/work or at home
 - No financial education at school/work but at home
 - Financial education at school/work but not at home
 - Financial education at both school/work and home
- Use the first option as reference group.
- Dependent variables and control variables as in equation (2)

VI. Empirical results (1)

Effect of financial education on financial literacy

	(1)	(2)	(3)	(4)
	OLS	IV	IV	IV
Financial education at school	0.224*** [0.020]	0.138*** [0.024]	0.067*** [0.024]	0.085*** [0.032]
Financial education at home			0.276*** [0.012]	
Financial education at school*Financial education at home				0.123*** [0.044]
Other control variables	Yes	Yes	Yes	Yes
Intercept	-1.003*** [0.057]	-0.995*** [0.057]	-1.053*** [0.056]	-0.996*** [0.057]
R-sq	0.281	0.280	0.291	0.280
N	25,000	25,000	25,000	25,000

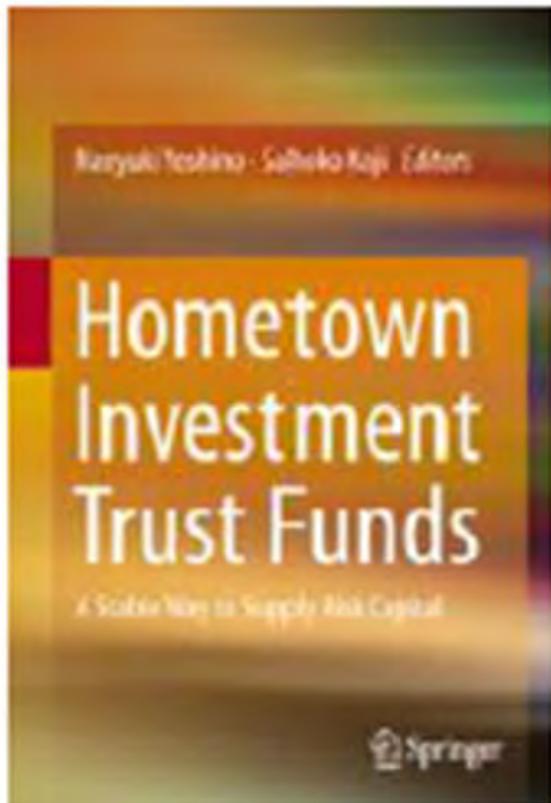
Empirical results (2)

- Financial education & asset allocation:

	Any Financial Products	Stock	Investment Trust	Foreign Currency	Crypto Assets
	(1)	(2)	(3)	(4)	(5)
Financial education	0.144*** [0.011]	0.141*** [0.011]	0.146*** [0.012]	0.124*** [0.011]	0.113*** [0.009]
Financial literacy	0.099*** [0.003]	0.069*** [0.003]	0.074*** [0.003]	0.038*** [0.003]	-0.019*** [0.002]
Male	0.061*** [0.007]	0.097*** [0.006]	0.003 [0.006]	0.011** [0.005]	0.042*** [0.004]
Other control variables	Yes	Yes	Yes	Yes	Yes
Intercept	0.249*** [0.026]	0.138*** [0.023]	0.218*** [0.022]	0.124*** [0.019]	0.072*** [0.017]
R-sq	0.273	0.253	0.190	0.120	0.068
Number of observation	25,000	25,000	25,000	25,000	25,000

Start up businesses and farmers

Financial Education for SME owners



Hometown Investment Trust Funds **(Springer)**

A Stable Way to Supply Risk Capital

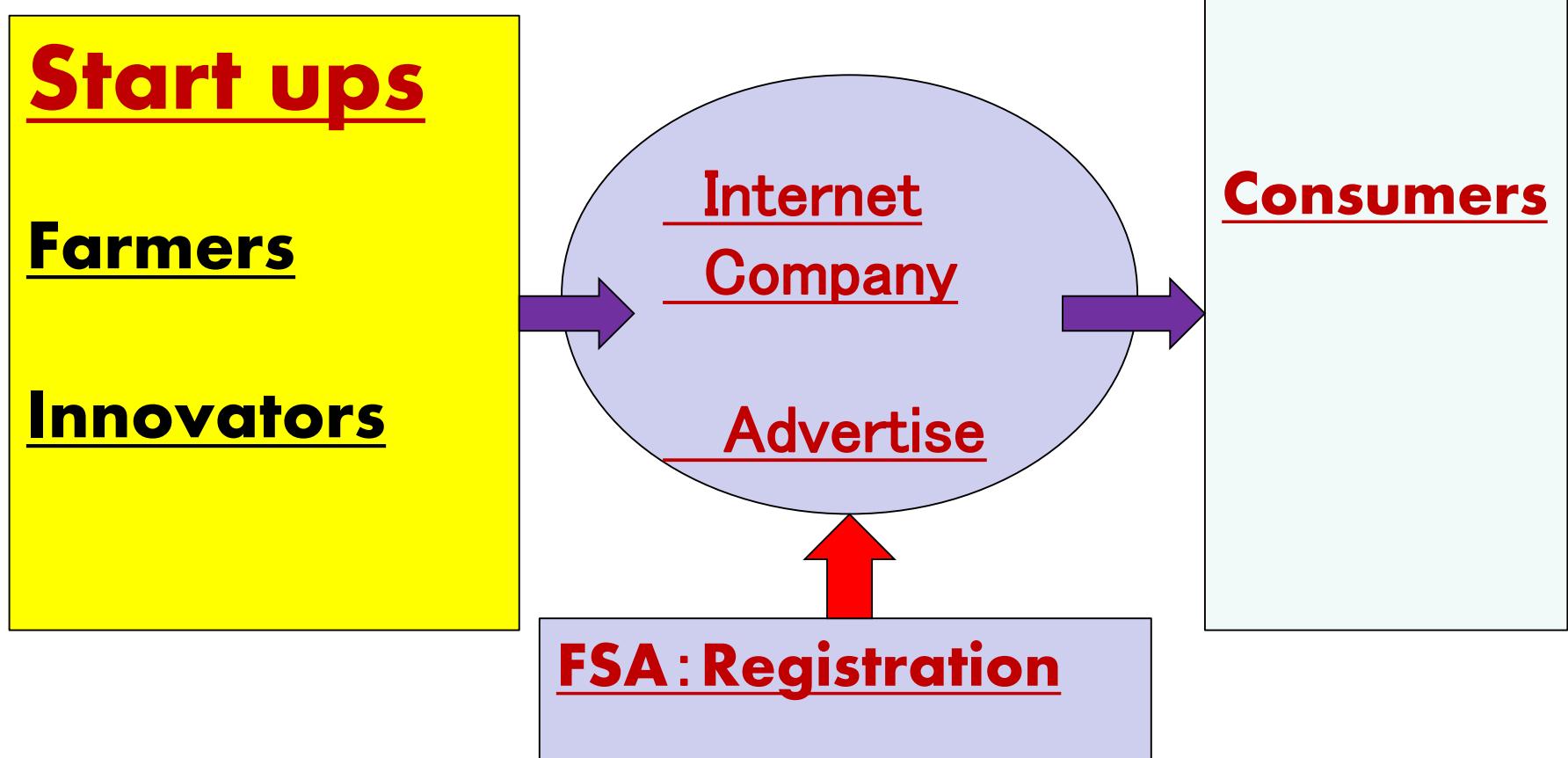
Yoshino, Naoyuki; Kaji Sahoko (Eds.) 2013,

**Japan, Cambodia
Vietnam, Peru, Mongolia**

Access to Digital Technology, Internet

- (1) Purchasing Type of Hometown Trust**
- (2) Investment Type of Hometown Trust**

(1) Internet On-line trading



Internet Sales of Products



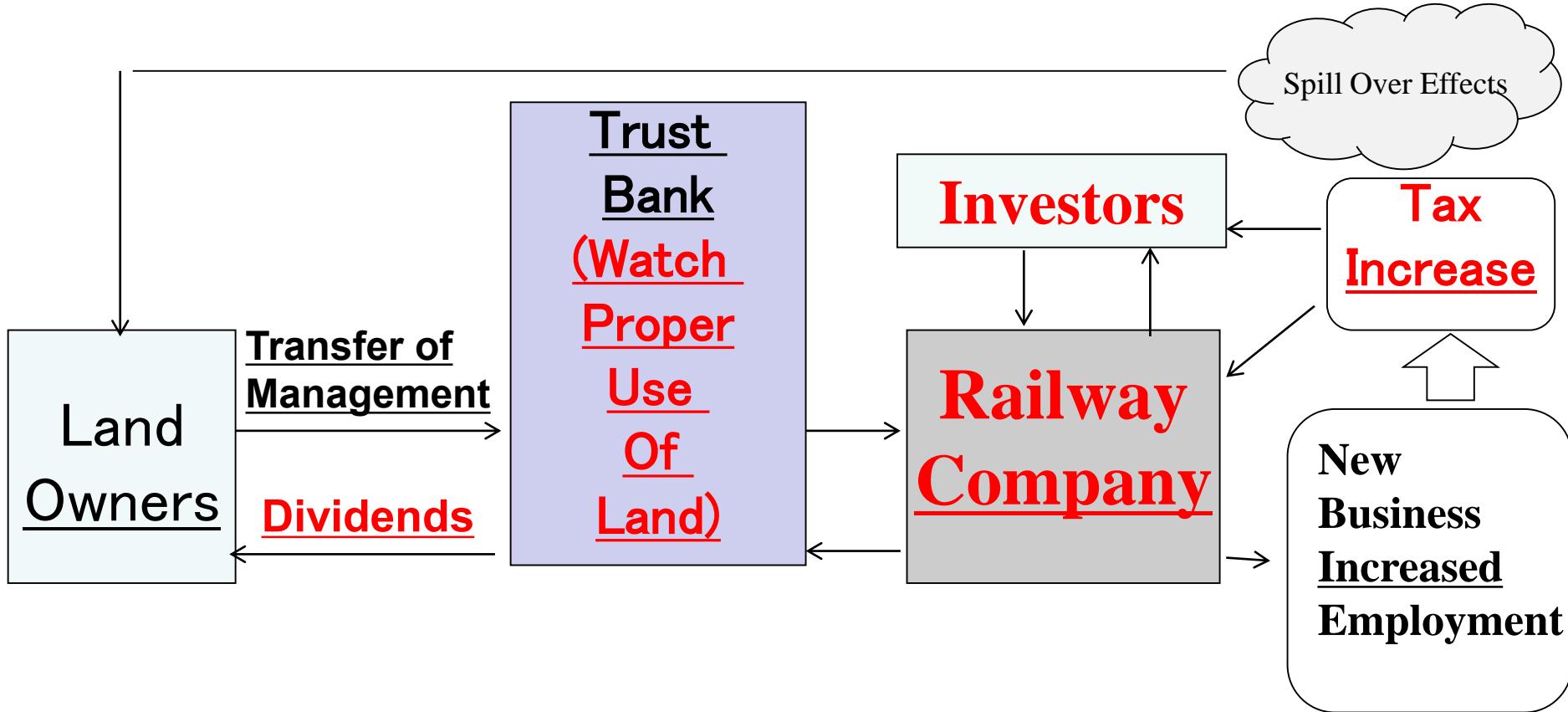
*Agricultural Funds
Beans and Wine*



Financing for Start-ups along Railway (Hometown crowd funding) (2) Investment Type



Land Trust for Infrastructure Investment



1, Reduction of Costs of Land Purchase

2, Leasing contract

3, future tax revenues can be used for repayment

4, Land owners keep their ownership

Financial Education for SMEs

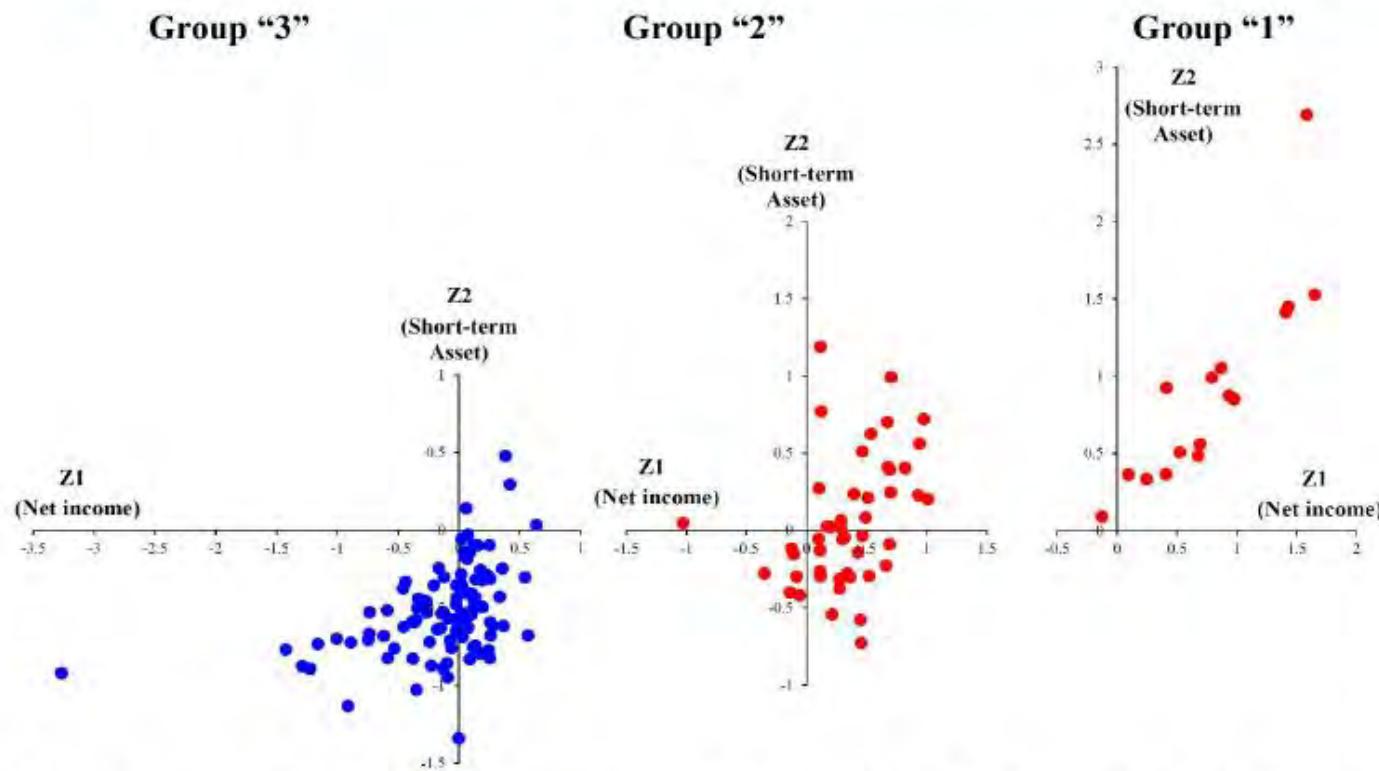
- 1, Bookkeeping**
- 2, Daily revenue and expenses**
- 3, Long-term planning**
- 4, Accurate reporting of their business**
- 5, Reduce default loan losses**
 - SME database**
- 6, Asset Management by SME**
- 7, Pension Contribution by SME (50%)**
 - Asset Management of Reserves**

Factor Loadings of Financial Variables after Direct Oblimin Rotation

Variables (Financial Ratios)	Component			
	Z1	Z2	Z3	Z4
Equity_TL	0.009	0.068	0.113	0.705
TL_Tassets	-0.032	-0.878	0.069	-0.034
Cash_Tassets	-0.034	-0.061	0.811	0.098
WoC_Tassets	-0.05	0.762	0.044	0.179
Cash_Sales	-0.937	0.021	0.083	0.009
EBIT_Sales	0.962	0.008	0.024	-0.004
Rinc_Tassets	0.014	0.877	0.015	-0.178
Ninc_Sales	0.971	-0.012	0.015	0.014
EBIT_IE	0.035	0.045	0.766	-0.098
AP_Sales	-0.731	-0.017	-0.037	-0.016
AR_TL	0.009	-0.041	-0.104	0.725

Note: The extraction method uses principal component analysis. The rotation method uses direct oblimin with

Grouping Based on Principal Component (Z1-Z2) and Cluster Analysis

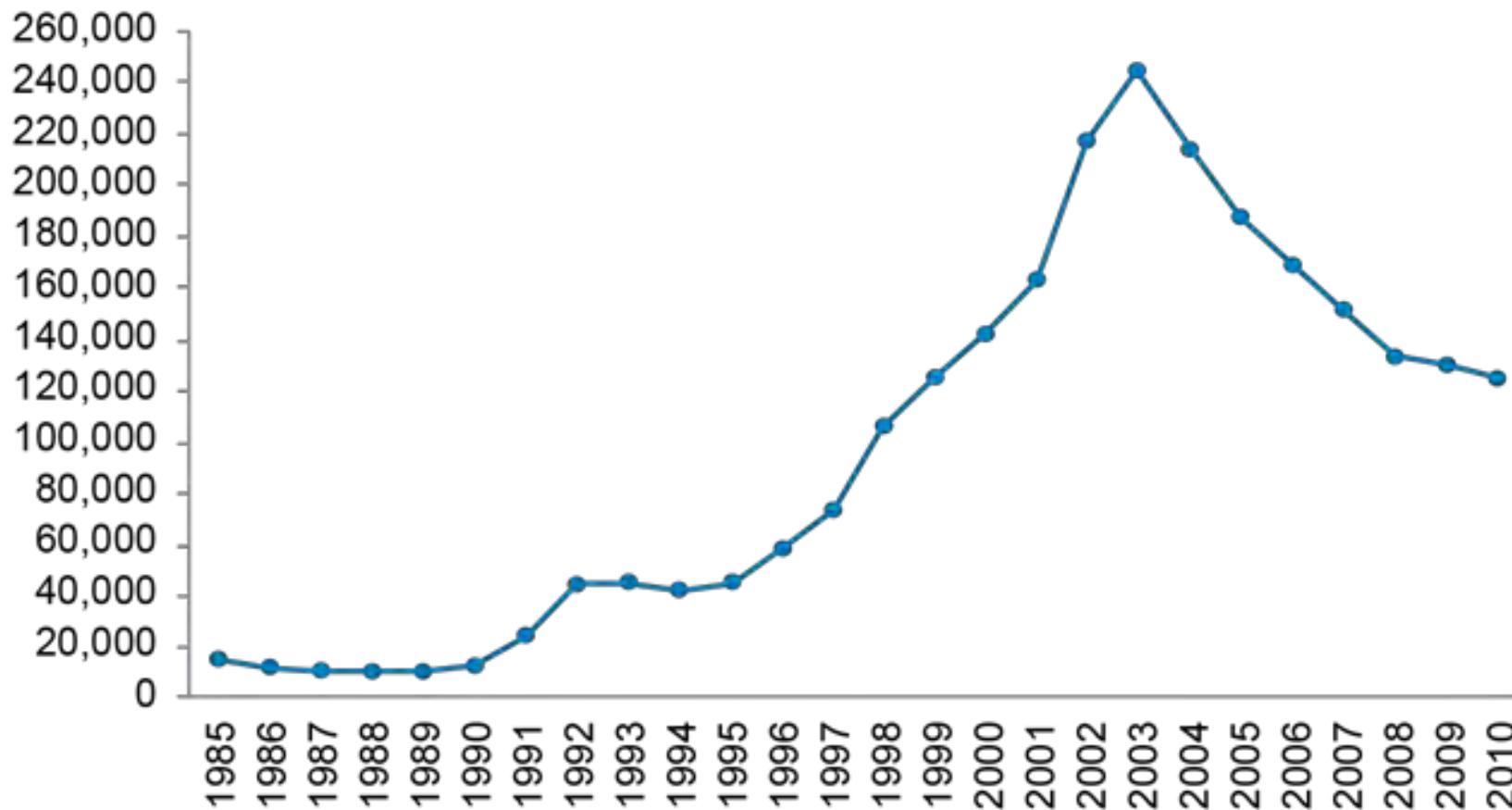


Note: Group 1 = healthiest SMEs; group 2 = in-between SMEs; group 3 = least healthy SMEs.

Households' Debt Overhang

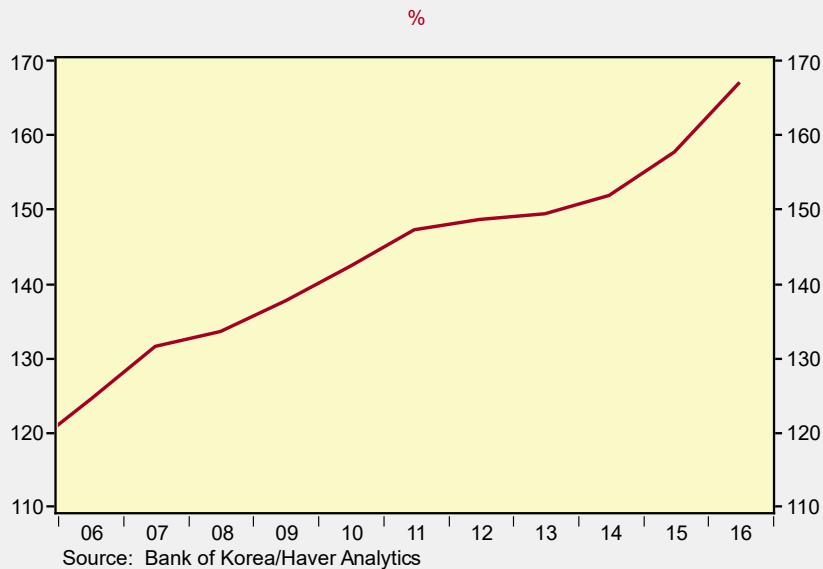
Lessons from Japan

Promoting Better Lifetime Planning through Financial Education

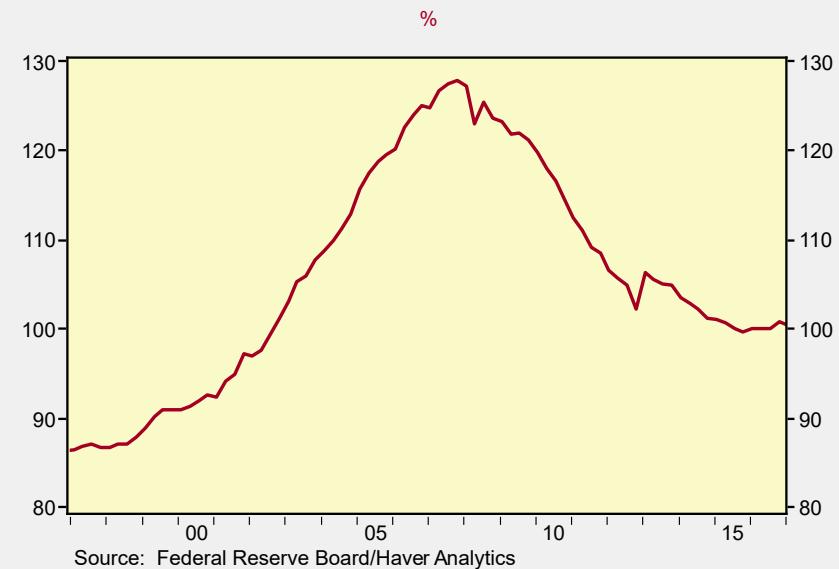


Household debt level in South Korea and US

Korea: HHs/NPISHs/Small Pvt Ents Outstanding Debt to Disposable I...



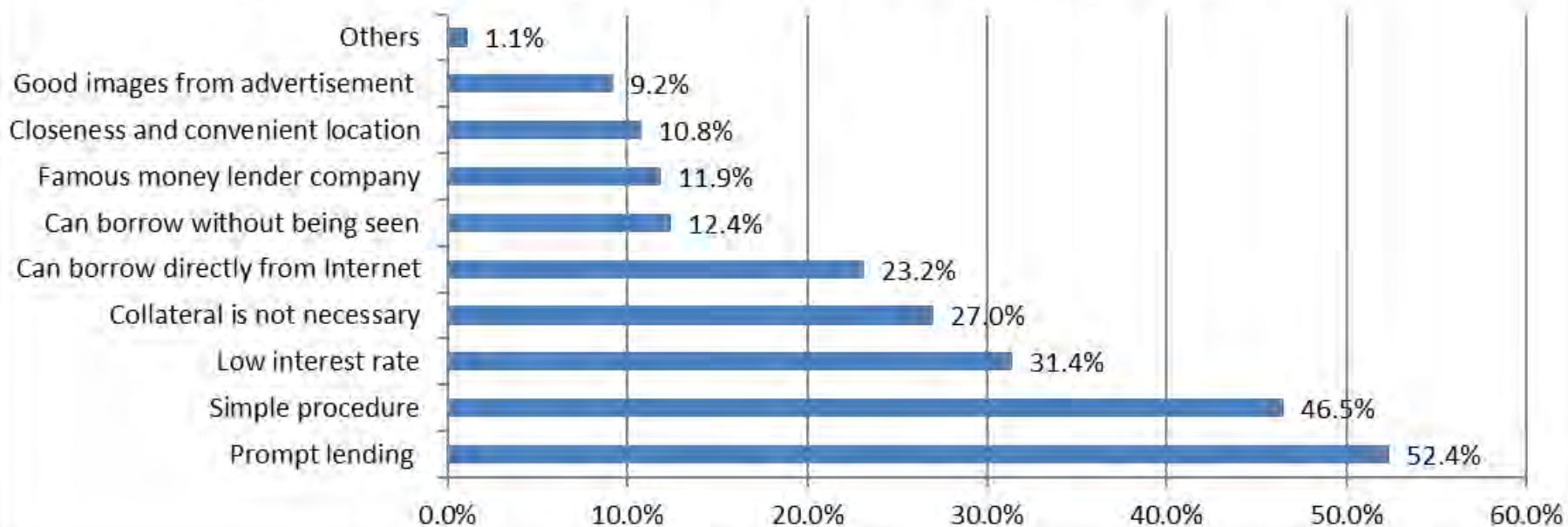
US: Ratio of Household & Nonprofit Debt to SAAR Gross Disposable...



South Korea: HH debt to disposable income (%)

US: HH debt to disposable income (%)

Why Do You Borrow money From Money Lenders ?



Theoretical Model

$$C_t = c Y_t$$

$$Y_t = (1+a)Y_{t-1}$$

$$a = \frac{\Delta Y}{Y} = \frac{\Delta p}{p} + \frac{\Delta y}{y}$$

From (1), we can get -

$$rL_{n-1} + cY_n = Y_n + (L_n - L_{n-1})$$

$$\Leftrightarrow L_n = (1+r)L_{n-1} - (1-c)Y_n$$

$$\Leftrightarrow L_n = (1+r) \{ (1+r)L_{n-2} - (1-c)Y_{n-1} \} - (1-c)Y_n$$

.....

$$\Leftrightarrow L_n = (1+r)^n L_0 - (1-c) \left\{ (1+r)^{n-1} (1+a) + (1+r)^{n-2} (1+a)^2 + \cdots + (1+a)^n \right\} Y_0$$

$$\Leftrightarrow L_n = (1+r)^n L_0 - \frac{(1-c)(1+a)}{(r-a)} \left\{ (1+r)^n - (1+a)^n \right\} Y_0$$

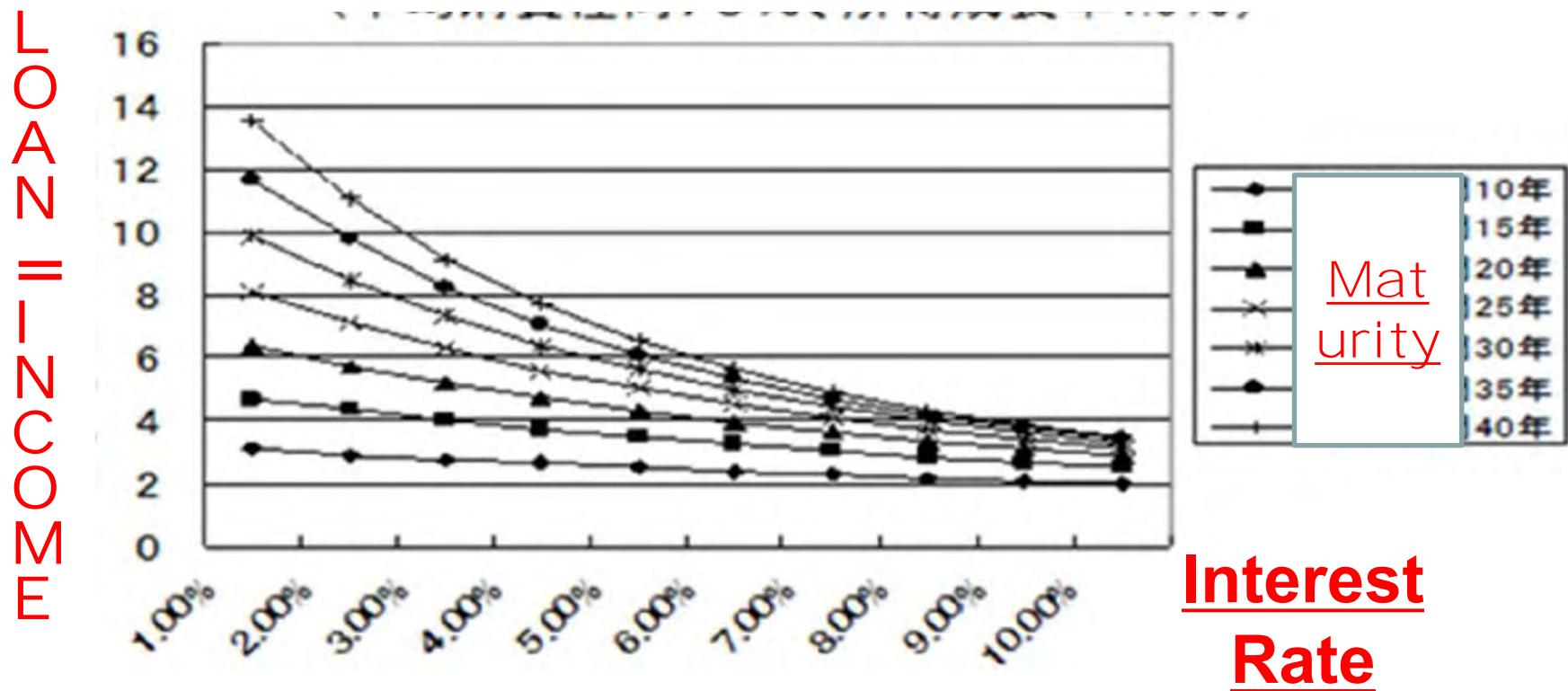
$$L_n = (1+r)^n L_0 - \frac{(1-c)(1+a)}{(r-a)} \left\{ (1+r)^n - (1+a)^n \right\} Y_0 < 0$$

$$\frac{L_0}{Y_0} < \frac{(1-c)(1+a)}{(r-a)} \left\{ 1 - \left(\frac{1+a}{1+r} \right)^n \right\}$$

$$\frac{L_0}{Y_0} < \frac{(1-c)(1+a)}{(r-a)} \left\{ 1 - \left(\frac{1+a}{1+r} \right)^n \right\}$$

- 1, L_0/Y_0 = [Initial Loan/Income] ratio
- 2, r = Interest Rate
- 3, n = number of years of borrowing
- 4, a = growth rate of income
- 5, c = marginal propensity to consume

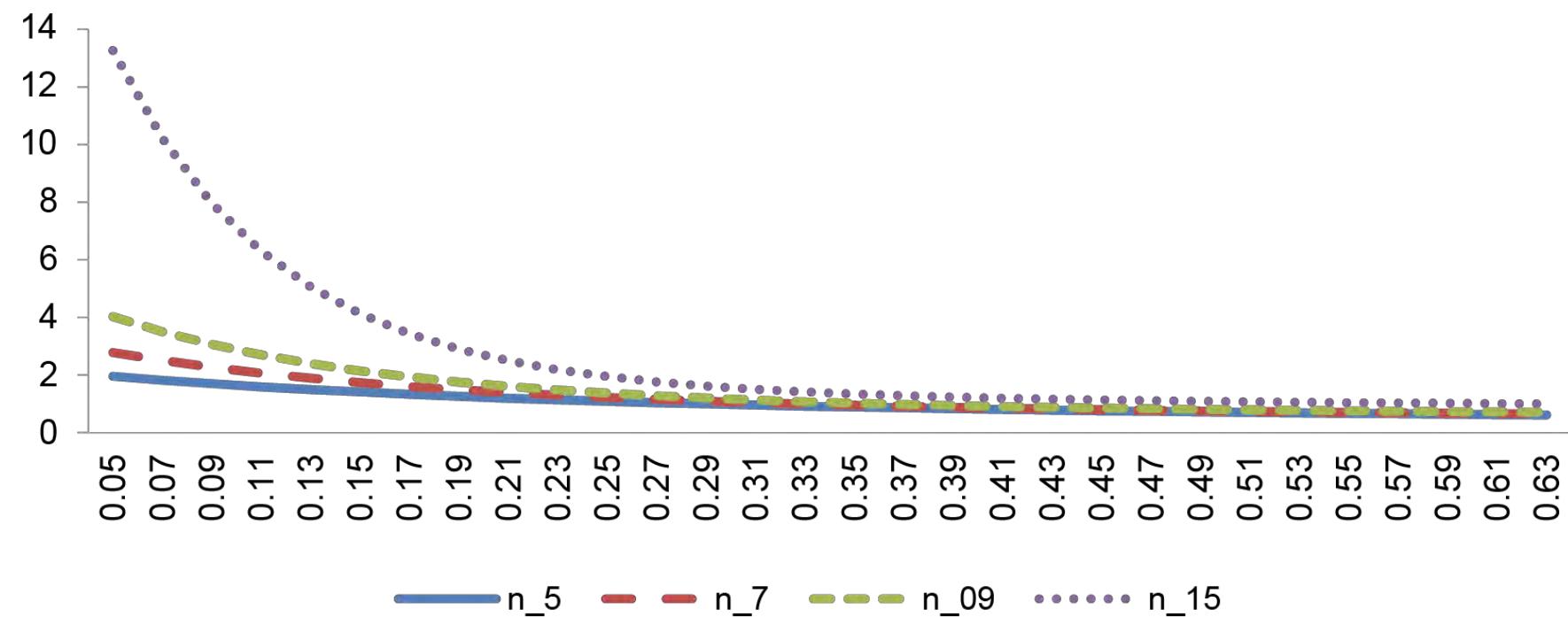
Loan/Income Ratio of Japan



MPC=0.70, Income Growth=1.6%

- a. Ceiling on borrowing ratio: $L/Y=1/3$**
- b. Interest rate ceiling: 20%**
- c. Borrowers' information:** The law required all individual borrowing within a household to be aggregated to obtain the total household borrowing
- d. Self-regulatory association of money lenders:** A self-regulatory association of moneylenders
- e. Consumer care hotline:**

Borrowing Ratio for Varying n ($a = 7\%$, $\beta = 0.45$)



Estimated Borrowing Ratio for Varying n

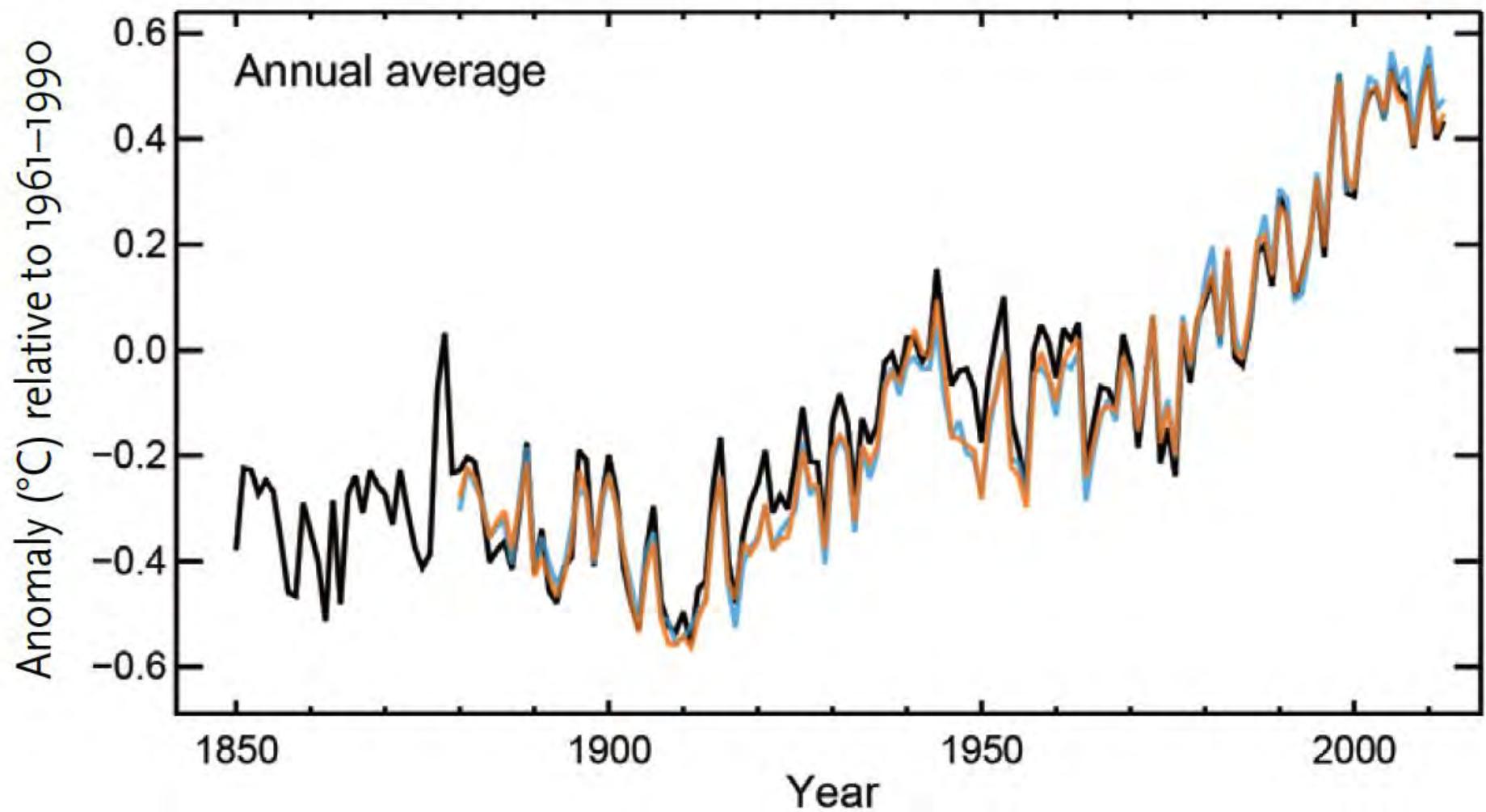
n	r	β	a	L_0/Y_0
1	0.15	0.5	0.07	0.93
3	0.15	0.5	0.07	0.95
5	0.15	0.5	0.07	0.98
7	0.15	0.5	0.07	1.03
9	0.15	0.5	0.07	1.10
11	0.15	0.5	0.07	1.20
13	0.15	0.5	0.07	1.31
15	0.15	0.5	0.07	1.45

SDG Investment, Possible Distortion of Portfolio Allocation and Financial Education

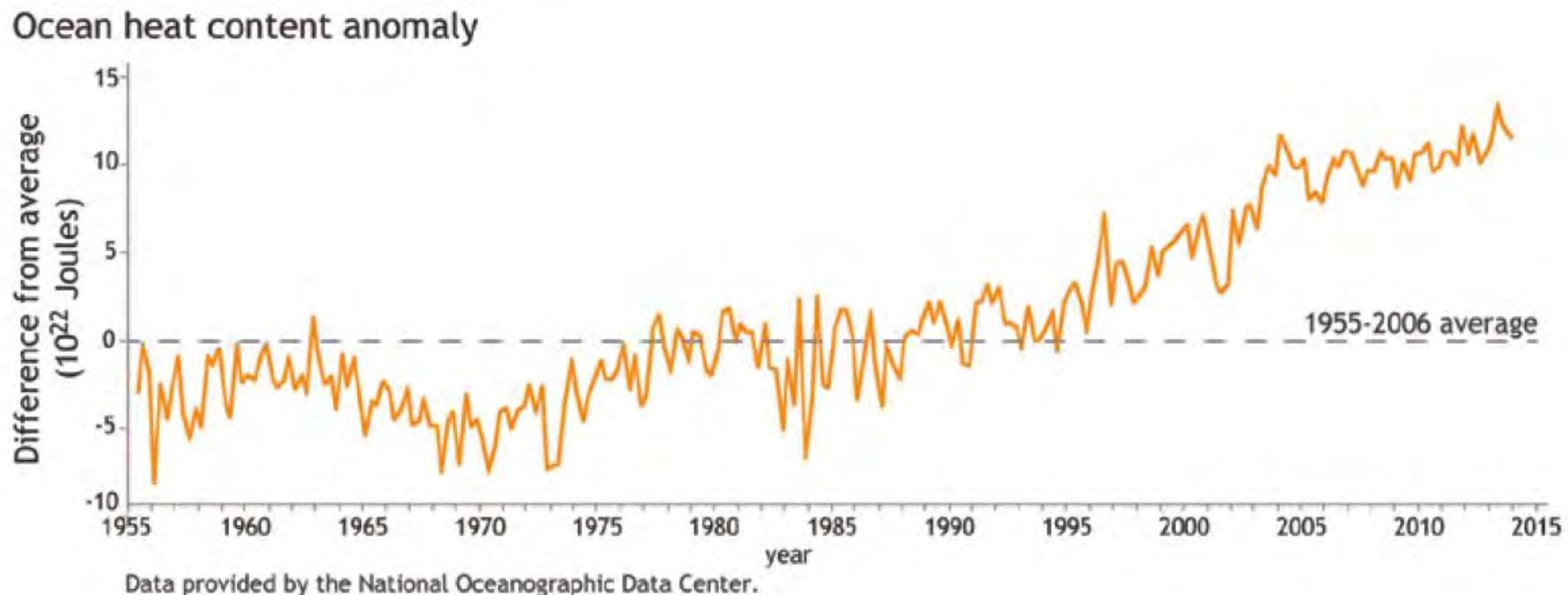
Naoyuki Yoshino
Dean, Asian Development Bank Institute
(ADBI)

SDG Investments: 17 Goals

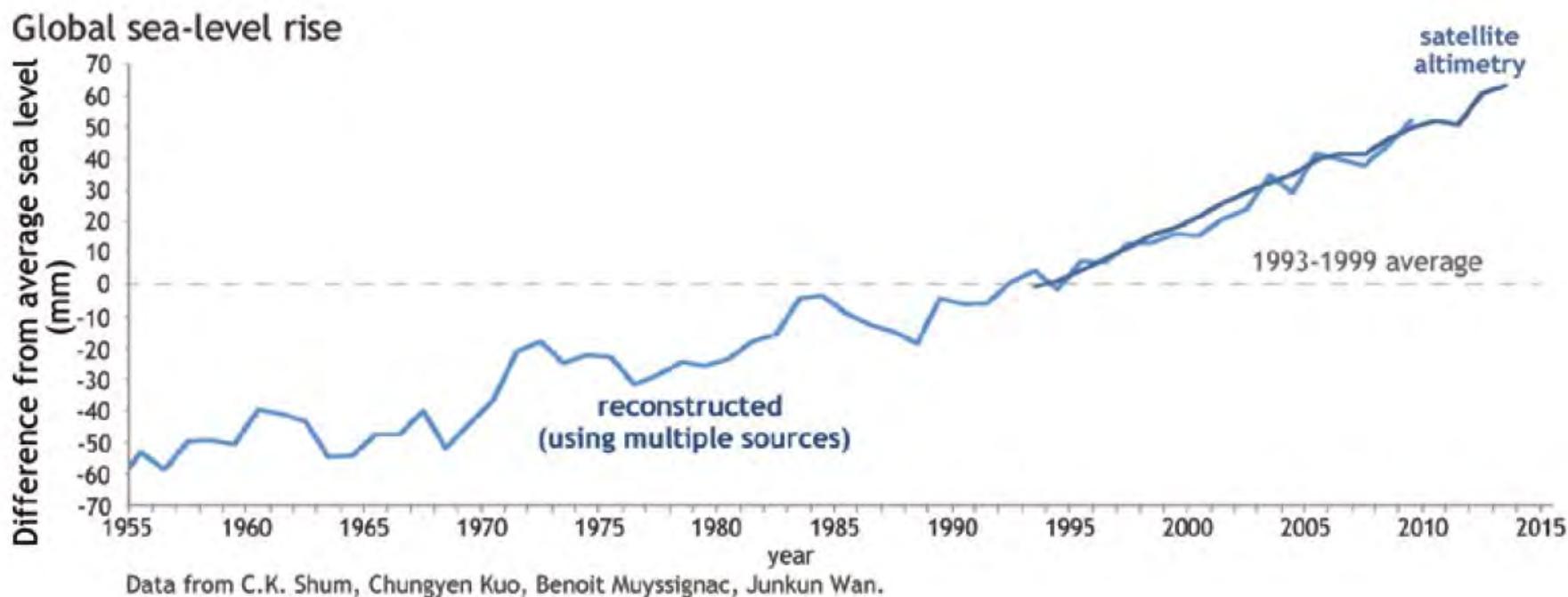




OCEAN HEAT CONTENT



GLOBAL SEA LEVEL



KPMG's Definition of SDG

In order to measure the consistency to each SDG, four points are mainly taken into consideration; **demographics (the population prediction in specific country or region), income growth, technology (renewable energy sources, knowledge sharing cultures, and so on), and collaborations (among governments, companies, international organizations, academia and so on).** The higher these four indicators' levels are, the more actively SDGs investment can be held,

NRI (Nomura Research Institute)

According to NRI, the consistency and contribution level to SDGs should be quantitatively defined. NRI sets 4 key performance indicators in investigating the business activities; innovation, business opportunity, impact and cost. Using the example of hydrogen energy, technological growth through innovation is essential in order to create the hydrogen energy market first of all. When a company succeeds activating the hydrogen energy business, business opportunity can be broadly expanded. Social impact of hydrogen energy is huge and can contribute to the achievement of SDGs. At the same time, however, risk factors should be taken into account such as the rise of energy prices or the high product costs.

PwC (Price Waterhouse Coper)

PwC has developed the indicators which consider the business level for achieving the Global Goals including SDGs. Confirming the right company to satisfy the SDGs strategy is crucial in the global market. The indicators include such as leadership (business and financial strategies), employee engagement (awareness and bottom up initiatives), reporting (risk assessment and management), and collaborations (among suppliers, consumers, government, NGO and so on).

3.1. Utilizing HIT funds for green energy projects

Two Parameter Approach

Investors (households) utility function depends on rate of return and risk. Eq (1). Shows utility function of investors which is function of rate of return and risk:

$$U = U(r_t, \sigma_t) = r_t - \beta\sigma_t^2 \quad (1)$$

where r_t denotes the rate of return, σ_t denotes the risk and β is the weight for the risk. If investor gives more weight to the risk, then β will be larger. Smaller β means that the investor is not so much concerned about risk.

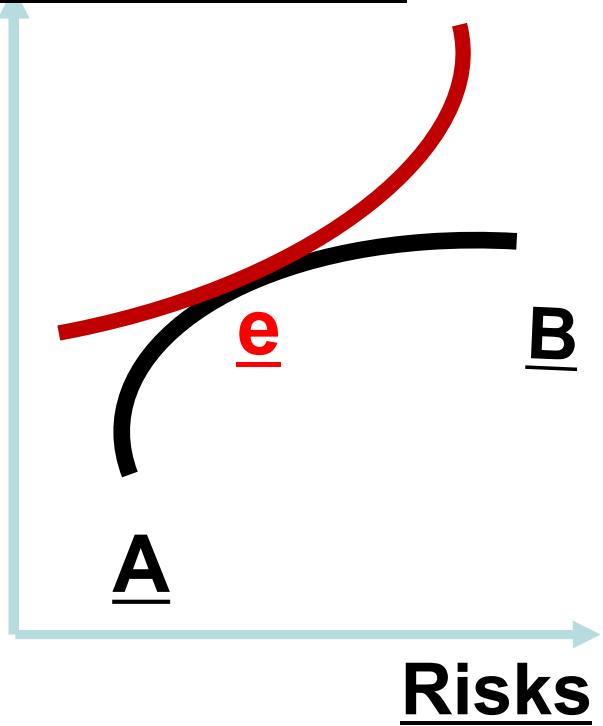
Eq. (2) shows the total rate of return of households' investment. We are assuming that households are putting their money either in bank deposit or in HIT funds that will be invested into green energy projects.

$$r_t = \alpha_t r_t^D + (1 - \alpha_t) r_t^E \quad (2)$$

In Eq. (2), we are assuming that α percent of the households assets is going to bank deposits and rate of return of bank's deposit or the deposit interest rate is r_t^D . On the other hand $(1 - \alpha)$ percent of their assets are investing in HIT funds and r_t^E denotes rate of return of HIT funds.

$$\sigma_t^2 = \alpha_t^2 (\sigma_t^D)^2 + (1 - \alpha_t)^2 (\sigma_t^E)^2 + 2\alpha_t(1 - \alpha_t)\sigma_t^D\sigma_t^E \quad (3)$$

Rate of Return



Multi-Factor Model (including SDG)

$$U = R - \beta \sigma^2 - \gamma(SDG)$$

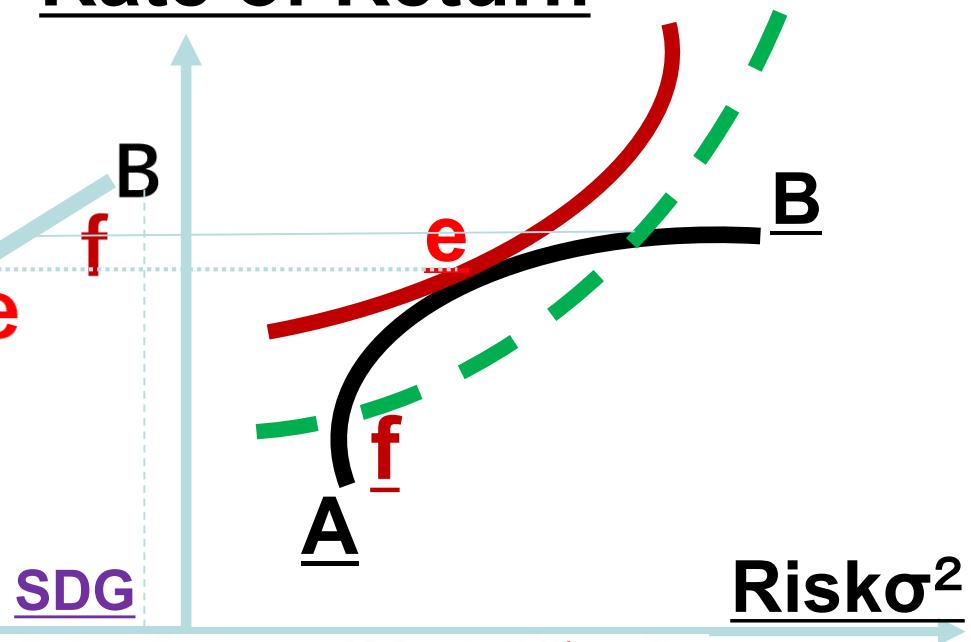
$$SDG_A = -a_1(CO_2) - a_2(NOX)$$

$$SDG_B = -b_1(CO_2) - b_2(NOX)$$

$$SDG = \alpha SDG_A + (1-\alpha) SDG_B$$



Rate of Return



$$\alpha_t = \frac{(r_t^A - r_t^0) + 2\beta(\sigma_t^B)^2 - 2\beta\sigma_t^{AB} + \gamma(SDG_t^A - SDG_t^B)}{2\beta(\sigma_t^A)^2 + 2(\sigma_t^B)^2 - 2\sigma_t^{AB} - 2\beta\sigma_t^{AB}}$$

Global Taxation on Pollution

Tax levied on Asset A

$$T_A = t_1 x a_1 x(CO_2) + t_2 x a_2 x(NOX)$$

Tax levied on Asset B

$$T_B = t_1 x b_1 x(CO2) + t_2 x b_2 x(NOX)$$

Revised rate of return on asset A

$$\underline{RA} = R_A - t_1 x a_1 x(CO_2) + t_2 x a_2 x(NOX)$$

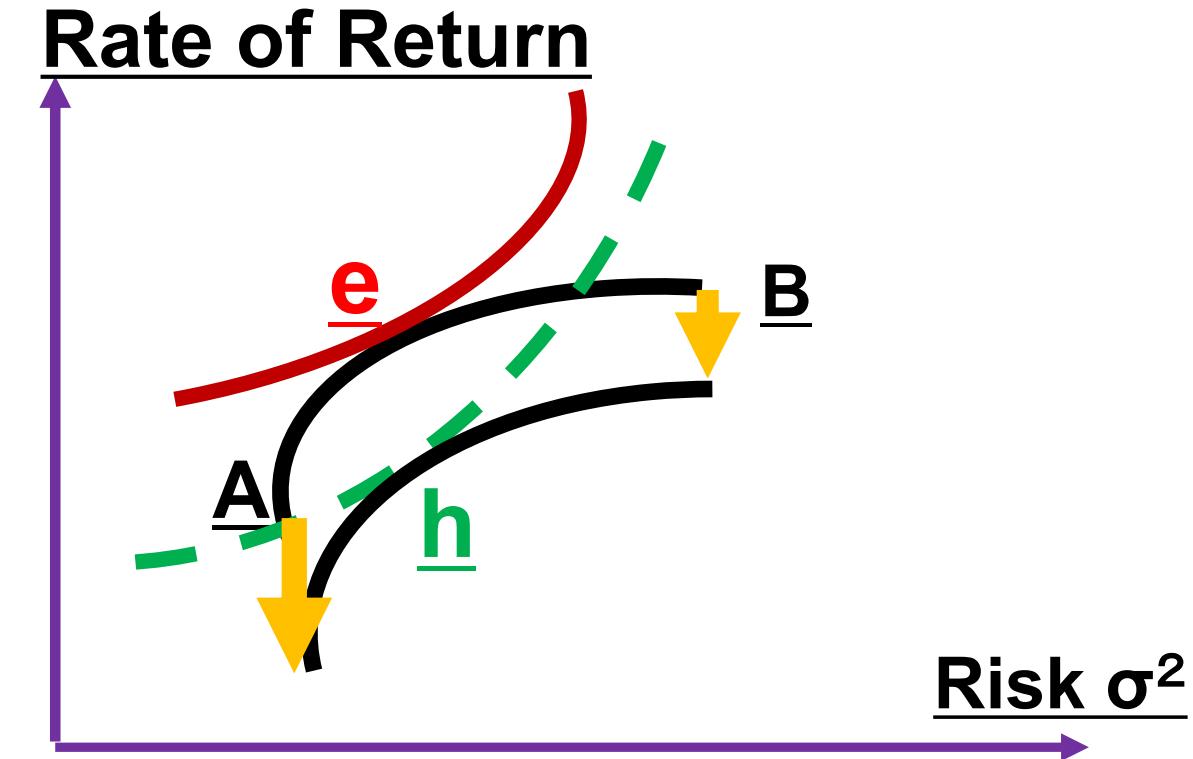
Revised rate of return on asset B

$$\underline{RB} = R_B - t_1 x b_1 x(CO2) + t_2 x b_2 x(NOX)$$

Investors look RA and RB instead of RA and RB

Global tax on CO₂ and NOX

$$U=R-\beta\sigma^2-\gamma(SDG)$$



Session 1

Finance Digitalization Strategy in Japan

11th December, 2019



Eiichiro Kawabe

Deputy Commissioner for International Affairs
Financial Services Agency, Japan

The views expressed through the presentation may not necessarily represent official views of the JFSA.

Finance Digitalization

- Using IT, financial services such as payment can be unbundled or rebundled with e-commerce by new FinTech players.
- Data accumulation/analysis can change business model drastically.

Example of FinTech in Japan

➤ e-payment

Many e-payment methods are under severe competition. Recent cashback initiatives by Japanese government to mitigate consumption tax-hike and develop cashless economy would spur this competition.

Cash register screen



➤ Robo-adviser asset management

After a customer answers several questions, an asset management company offers Robo-adviser asset management plan based on his/her risk-profile. Under the plan, it automatically proceeds investment, rebalancing asset allocation, and tax-saving management.



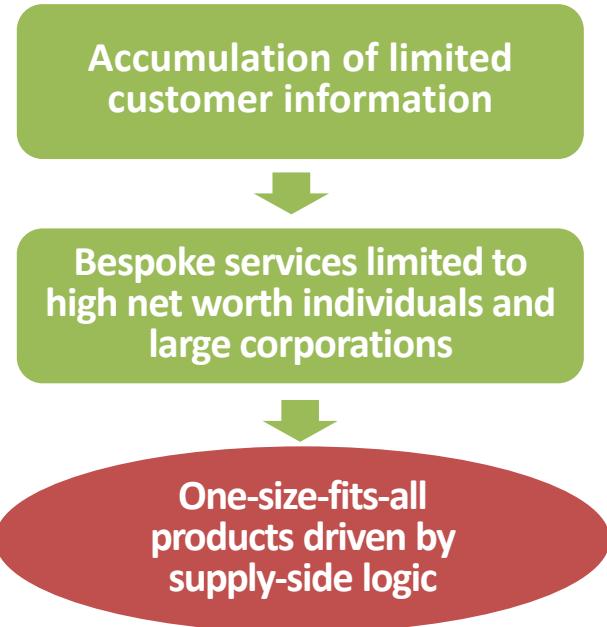
➤ Household accounting service

Under a contract, an app automatically collects transaction information from financial institutes, then it provides detailed household accounting report every month.



Ongoing changes

Current Environment



Ongoing Changes

Digitalization of human life

Automatic accumulation of customer *life-logs*

AI capability for big data analysis and deep learning

Accumulation of detailed customer information

Bespoke services available for all

Creating shared values based on customer information

- Offer only limited financial products
- Rely on entry-point analysis and, due to moral hazard and information asymmetry, serve narrower range of customers at higher interest/premium/fees
- No advice or incentive provided to attain better customer lifestyle/business operation.

- Offer combination of financial and non-financial services
- Rely on ongoing monitoring, attain more accurate assessments of customer conditions and serve wider range of customers at lower interest/premium/fees
- Provide advice and incentives for better lifestyle/business operation

Future



- **Outcomes** - from July 2018 to June 2019:

- ✓ “**FinTech Innovation Hub**” launched; interviewing with FinTech firms.
- ✓ Functionalized “**FinTech Support Desk**” and “**FinTech Proof-of-Concept Hub**”
- ✓ International networking enhanced **FinTech Summit 2018** and **Blockchain Round-Table**
- ✓ Infrastructure for data usage by financial institutions

- **New Environments:**

- ✓ Data usage
 - Big data
 - Data policy
- ✓ New proposal of crypto-assets

5 Key Initiatives by the JFSA

- (1) **Data strategy** – data utilization and privacy protection [e.g., adapting “information bank” by financial institutions]
- (2) **Supports for further Innovation** - “**FinTech Innovation Hub**” [incl. Support Desk and POC hub]
- (3) **Function-based, cross-sectoral financial regulations** [payment regulations to be a flexible structure, financial intermediary]
- (4) **Digitalization of financial regulation and infrastructure** [RegTech / SupTech Ecosystem]
- (5) **Global issues** [Governance of decentralized financial systems, Fintech Summit, cooperation with foreign authorities, cyber security, responses to new concepts of crypto-assets]

(1) Data strategy for utilization and privacy protection

- Promoting data utilization with careful consideration of protecting personal information

- Encouraging financial institutions' data projects, such as "**information bank**," in order to provide advanced services
- Protecting customers' interests in terms of privacy and others. Promoting initiatives aligned with digitalization, such as support for private business to implement **innovative customer identification**
- Developing a utilization framework for information other than personal one based on the concept of **Data Free Flow with Trust**, carefully considering personal information protection, while international data policies for free, safe and secure data distribution develop

(2) Innovation support

- Supporting various players aiming to create new financial services

- Enhancing information gathering and support by **FinTech Innovation Hub**, which is the JFSA cross-sectional team to grasp FinTech trends and have dialogues with FinTech companies.
- Promoting innovation support by **FinTech Support Desk** and **FinTech Proof-of-Concept Hub**
- Promoting initiatives that utilize **open architectures**.

FinTech Innovation Hub

- Gathering information/Promoting innovation
 - ✓ Interviews with FinTech 100 companies
⇒ 10 Key Findings
- Networking/Public consultation
 - ✓ FinTech Summit
 - ✓ Meetup with JFSA

Interaction with FinTech startups (From Meetup with JFSA)



FinTech Support Desk / FinTech PoC hub

For Fintech start-ups

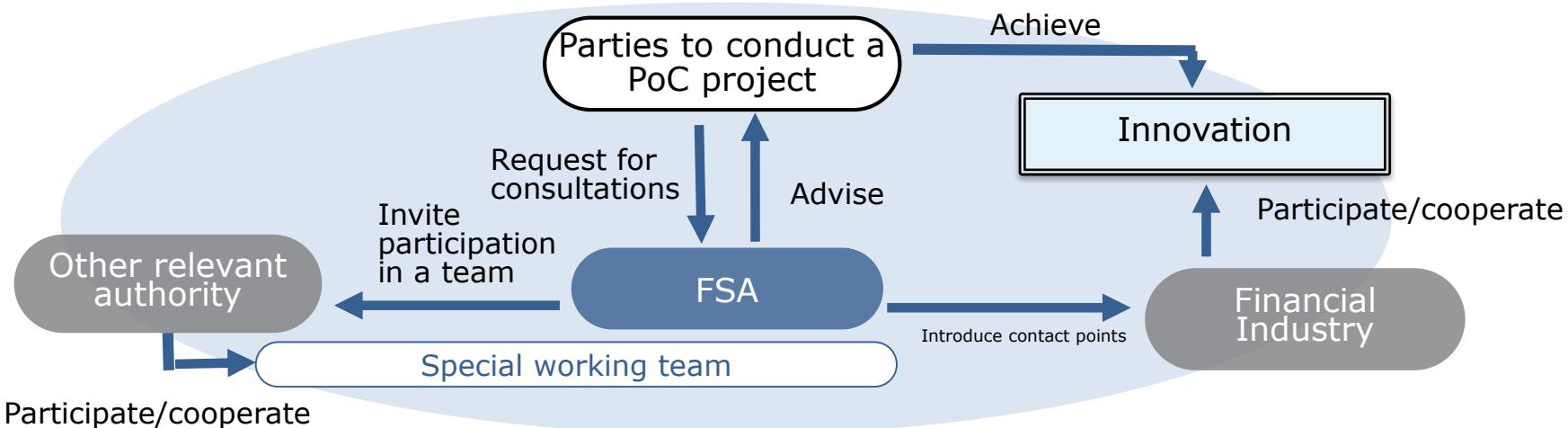
"FinTech Support Desk" (consultation desk) [since December 2015]

- Work as a one-stop contact channel for FinTech businesses
- Answer FinTech startups' queries within 5 working days (on average)
- Received 919 inquiries since its inception till end-September 2019

For PoC collaboration by Financial institutes and start-ups

"FinTech PoC Hub," (innovation hub) [since September 2017]

- Aim to support innovative projects that lead to user convenience and/or productivity of companies in Japan.
- For each selected proof-of-concept (PoC) project the FSA will set up a special working team, in cooperation with relevant authorities as necessary.
- A special working team will continually support a project by giving advice on issues related to compliance and supervision etc., that participants of a PoC project would like to clarify.



(3) Function-based, cross-sectoral financial regulations

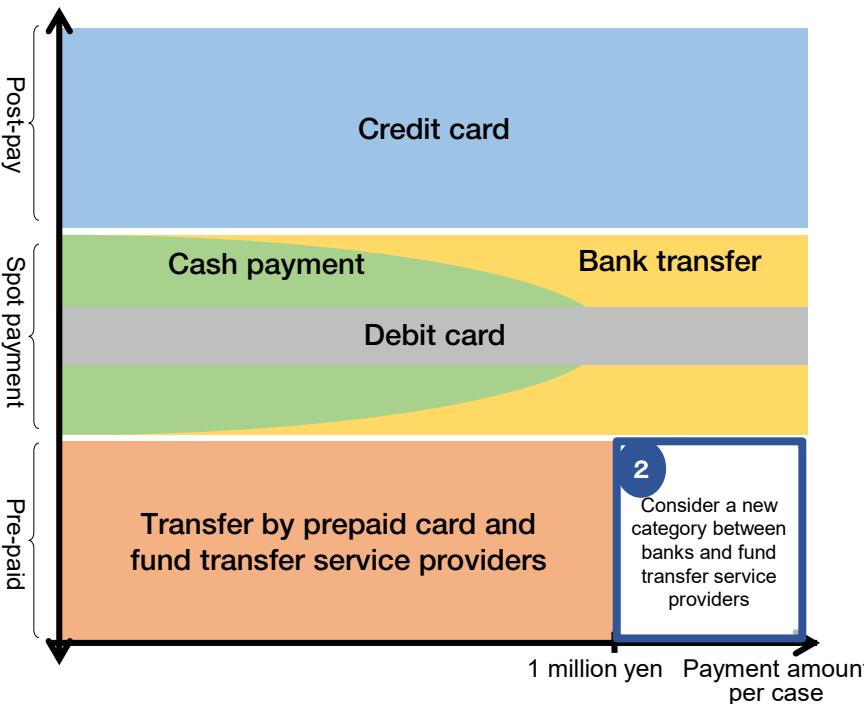
- In order to respond to the digital transformation of financial services, developing regulatory frameworks into more function-based and cross-sectoral ones

- Realizing flexible and convenient **cash-less payment** methods by developing a cross-sectoral and flexible regulatory framework on payment fields
- Realizing a convenient **one-stop channel** by developing cross-sectoral regulatory frameworks for **financial intermediation**

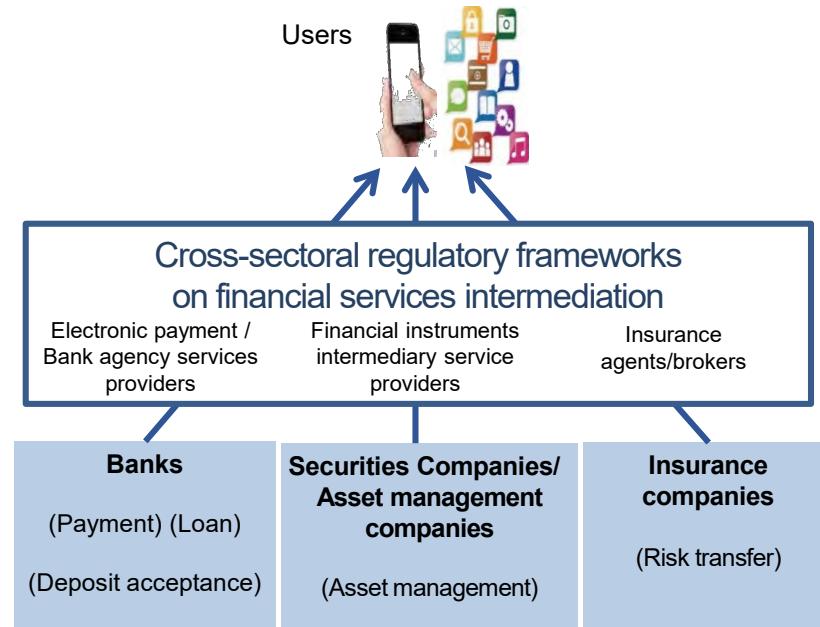
Cross-sectoral and flexible regulatory frameworks
for payment fields

1

Consider realization of seamless payment that combines pre-paid and post-pay



Cross-sectoral regulatory frameworks
on financial services intermediation

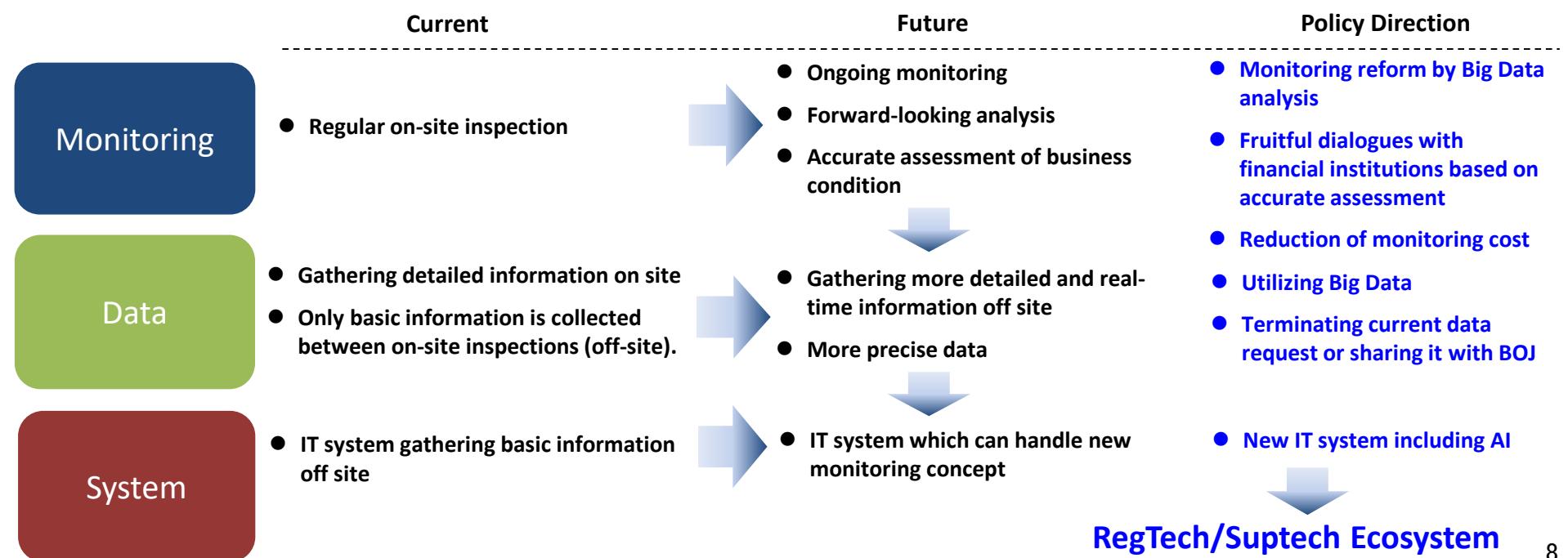


(Source) Excerpts from the materials submitted by Finance Minister Aso in the Council on Investments for the Future (February 13, 2019)

(4) Digitalization of financial regulation and infrastructure

- Developing efficient financial regulation and infrastructure through digitalization

- Working on the **RegTech/SupTech Ecosystem** through inviting ideas from financial institutions and conducting a proof-of-concept experiment in cooperation with financial institutions. [Key concept: effectiveness, efficiency, flexibility, real-time, data sharing, simplicity, confidentiality]
- JFSA started RegTech/SupTech initiatives including:
 - ✓ **Unifying data request** together with Bank of Japan
 - ✓ **RPA** (Robotic Process Automation) in data analysis
 - ✓ Study on utilizing **granular data**



(5) Global issues

- Ensuring cyber security and grasping the latest trends in technology such as blockchain

- Holding Governance Forum (*tentative name*), in which a wide range of stakeholders have discussions on **governance issues of decentralized financial systems**, in light of discussions at the "G20 High-Level Seminar on Financial Innovation"
- Disseminating the progress of FinTech in Japan by organizing "**Fintech Summit**" and strengthening frameworks for **cooperation with foreign authorities on FinTech**
- Considering responses to a **new concept related to crypto-assets**
- Strengthening a **cyber security** management system including outsourcing

G20 High-level Seminar on Financial Innovation (June 8th 2019 in Fukuoka)



JFSA has Exchanged Letters on FinTech Co-operation Framework



Fintech trends in Asia Pacific and policy and regulatory responses: The Malaysia's Experience

Suhaimi Ali
Financial Development and Innovation
Bank Negara Malaysia

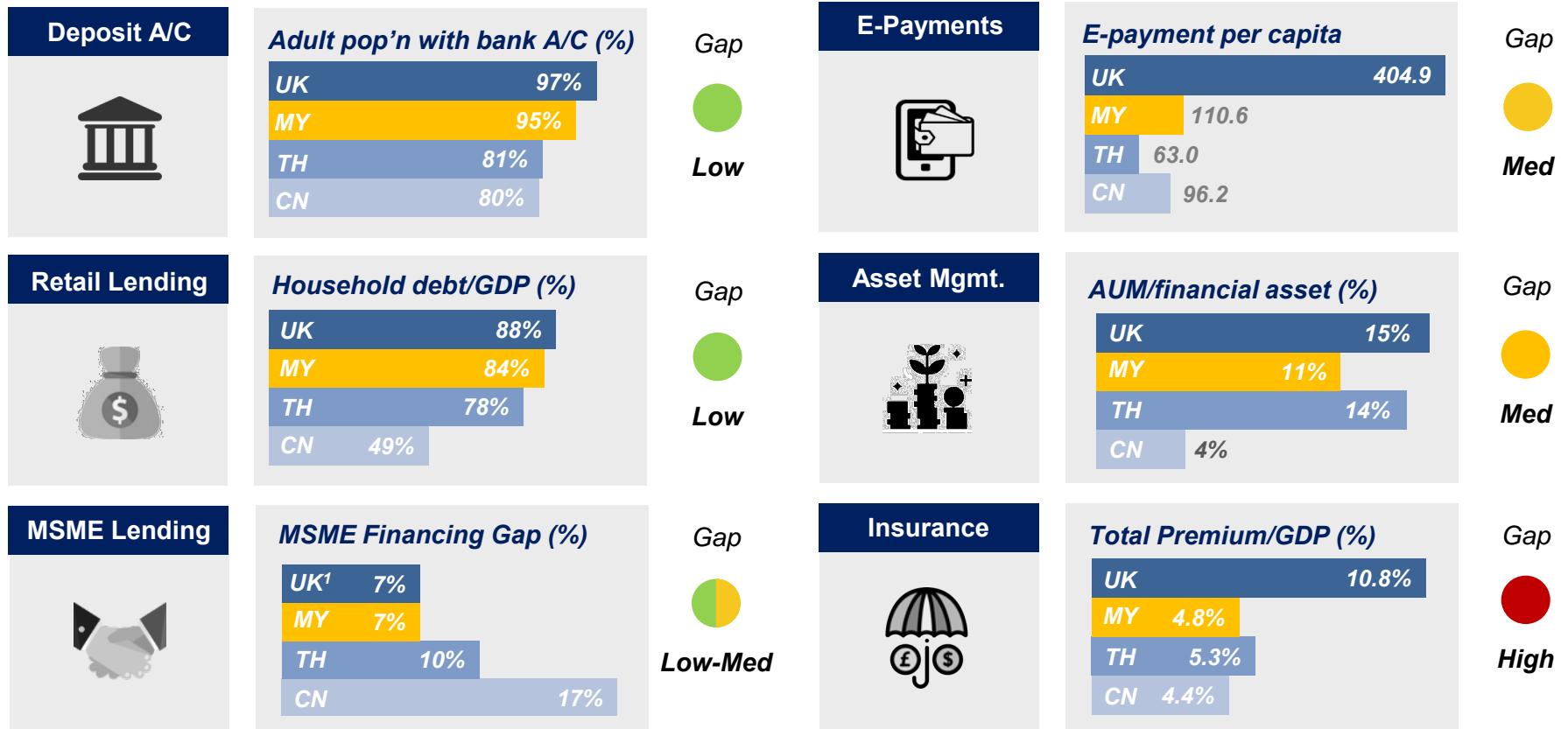


BNM-OECD Conference on Financial Education and Financial Consumer Protection in Asia-Pacific Empowering financial consumers in the digital age
11 December 2019



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

Generally, Malaysia has widespread access to most basic financial services...



¹ Data for UK excludes micro-enterprise financing gap

Source: BNM, BIS (CPMI), World Bank, BCG, Credit Suisse, Swiss Re, UK Finance



...but there remains scope for improving the level of financial capability among Malaysians



Financial knowledge & capability

1 in 3
rate themselves to have low financial knowledge

43%
understand money compounds over time

22%
believe money grows linearly



Personal financial management

76%
Have a budget
but

40%
Find it difficult to keep to the budget



Dealing with financial difficulties

90%
Cannot survive more than 6 months in event of loss of income

52%
Have difficulties raising RM1000 for emergencies

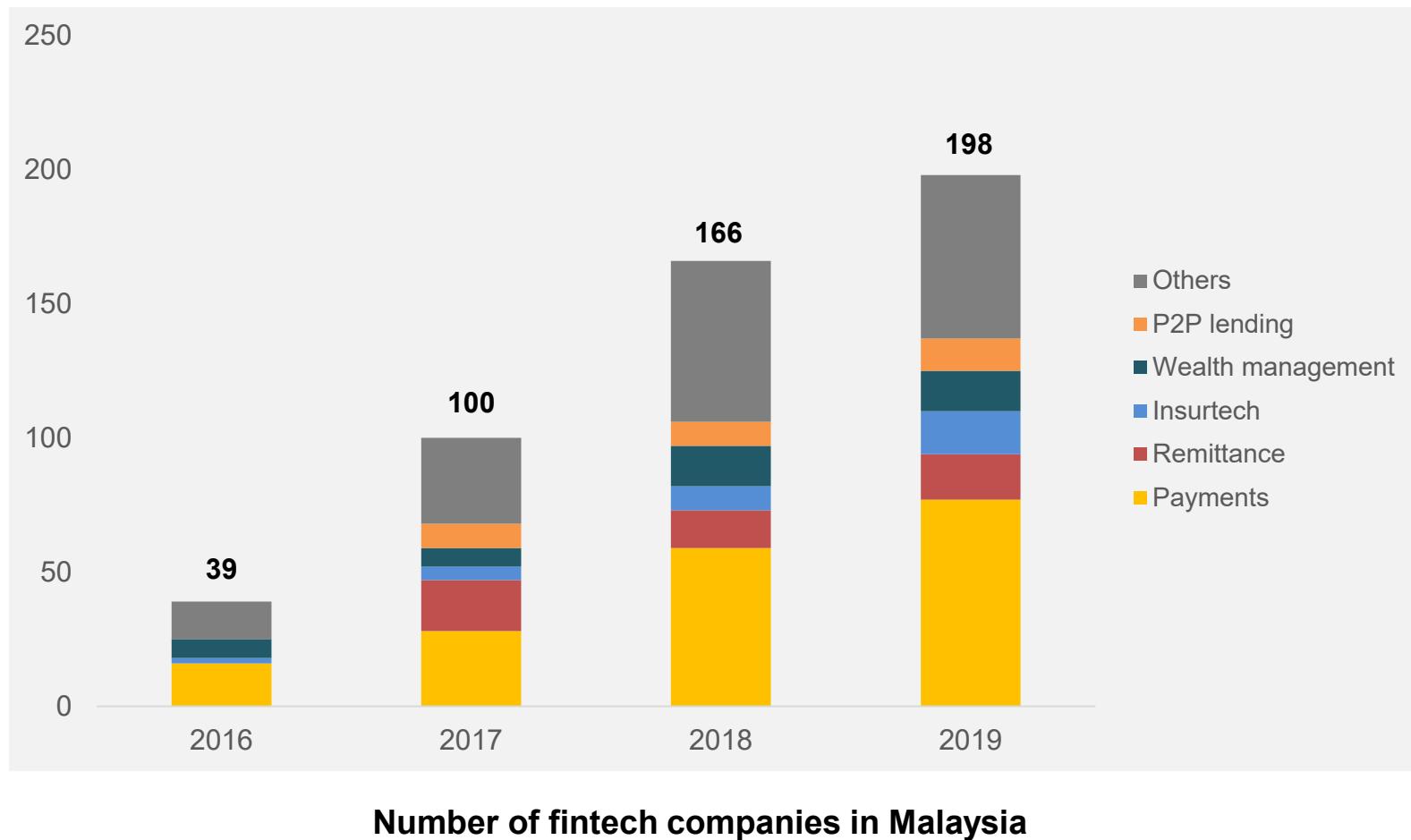


Preparing for retirement

41%
Rely on EPF savings as main source of income for retirement

~50%
Have low confidence of having adequate income for retirement

In recent years, Malaysia's fintech ecosystem has shown promising growth



Source: Fintech News Malaysia, BNM



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA



BNM facilitates innovation based on principles of proportionality, neutrality and equality

3 principles

Equality

Provide a level playing field for both incumbents and new entrants

Proportionality*

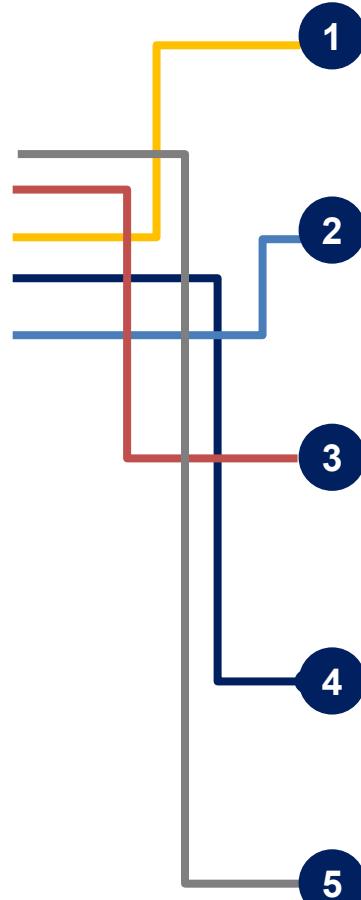
Regulation that is proportionate to benefits and risks

Neutrality

Prioritise desirable outcomes over preference to specific technologies

* refer slide 7

5 approaches



Regulatory coordination:

Driving the fintech agenda in close collaboration with other key agencies such as SC, MDEC, MCMC

Policy & operational flexibility:

Operating a regulatory Sandbox to enable live-testing of emerging businesses in a safe and contained market environment

Outreach, education and guidance:

Conducting educational and public outreach programmes for fintechs to communicate and clarify regulatory expectations

Regulatory Adaptations:

Recalibrating existing regulation and publishing new policies to facilitate new innovation

Enabling shared infrastructure:

Implementation of open/digital infrastructure in collaboration with other industry players to catalyse the growth of fintech



FTEG drives and coordinates BNM's efforts to facilitate digital innovation in the financial sector

1 Coordination



Digital Identity



Digital Assets

2 Flexibility



Regulatory Sandbox



Innovation Lab

3 Outreach



Fintech Hacks



Accelerator and
Booster programmes



MyFintech Week 2019



Direct industry engagement



Close working relationship
with key agencies



4 Adaptation



Interoperable Credit
Transfer Framework



Outsourcing & Risk
Management in
Technology



Insurance and Takaful
Aggregator Framework



Standardised
parameters for eKYC



Digital Banking

5 Infrastructure



Open API



Distributed Ledger
Technology (DLT)

Education,
redress &
facilitation



AKPK



FEN



KHIDMAT NASIHAT PEMBIAYAAN
FINANCING ADVISORY SERVICES



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA



In general, however, no proportionality of regulations on consumer protection/market conduct and ML/TF areas to protect financial consumers and preserve integrity of the financial system...

Financial consumer protection regime in Malaysia

1.Financial consumer protection functions	2.Disclosure and sales practices	3.Customer account handling and maintenance	4.Secrecy and data protection	5.Assistance & redress mechanisms	6.Deposit insurance and guarantee scheme
Legal mandate, dedicated functions, industry codes, gatekeeping regime, FTFC	Product transparency & disclosure regime, proper advice, prohibited conducts	Early notification of changes to terms, clear settlement process, proper account handling, fair debt collection	Secrecy provision, personal data protection, customer info protection	Complaint mgmt. @ FSPs, Ombudsman, DMP @ AKPK, BNM LINK	PIDM – deposit insurance, takaful and insurance benefit protection
7.Financial education and consumer empowerment	FEN, Integration of FE elements into school curriculum, AKPK for adult financial education	8. Competition	Arrangement with MyCC on competition matters i.e. tied selling & collusive behavior.	9. Access to basic products	Basic savings & current accounts, mySalam, Tenang, Sihat (Healthy) Malaysia



...underpinned by 6 fair treatment of financial consumer outcomes imposed on financial service providers

1. Financial consumers have the confidence that they are dealing with a FSP where the fair treatment of its financial consumers and consideration of their best interests are integral to its **corporate culture and core values**; (*corporate culture*)
2. Financial consumers are **not subject to unfair discriminatory practices**, including unfair contract terms that significantly disadvantage financial consumers; (*fair terms*)
3. Financial consumers are **provided with clear, relevant and timely information** for them to make informed decisions before, during and after the point of sale, including the costs, risks and important exclusions or limitations; (*provision of information*)
4. Staff, representatives and agents of a FSP **exercise due care, skill and diligence when dealing** with financial consumers; (*fair dealing*)
5. Financial consumers **receive suitable advice and recommendations** that take into account their financial needs and circumstances; (*advice and recommendation*) and
6. Financial consumers' **complaints and claims are handled in a prompt, fair and effective manner.** (*redress*)



The National Strategy on Financial Literacy aims to improve the financial well-being of Malaysians through five strategic priorities



Formulated by the Financial Education Network
BNM, SC, MOE, PIDM, AKPK, PNB, EPF

RMK 12

Financial literacy agenda to be incorporated in the 12th Malaysia Plan to ensure sustained nationwide efforts

The recent trend of digitalisation and rapid advancements in technology provide great opportunity to support action plans under each strategic priority



Action plans under each strategic priority outline focused approaches to enhance impact and outreach



Strategic Priority 1: Nurture values from young

- ✓ Expand financial education fundamentals into the curriculum for pre-school, primary and secondary schools
 - ✓ Reinforce financial education through co-curriculum activities
 - ✓ Introduce capacity development and support for teachers
 - ✓ Encourage financial education advocates among students, parental groups and the community
-



Strategic Priority 2: Increase access to financial management information, tools and resources

- ✓ Make basic financial education information easily understood, available and accessible to all
 - ✓ Heighten awareness and intensify financial education initiatives through nationwide outreach campaigns
-



Strategic Priority 3: Inculcate positive behaviour among targeted groups

- ✓ Impart financial knowledge to promote positive financial behaviour among the youth
 - ✓ Encourage financial education at the workplace to promote financial resilience, which will have positive impact on employees' productivity
 - ✓ Foster good money management practices through community-based financial education
 - ✓ Equip the self-employed with financial knowledge to encourage self and business sustainability
-



Strategic Priority 4: Boost long term financial and retirement planning

- ✓ Promote use of innovative guides and tools to improve long-term financial planning
 - ✓ Create awareness and promote the benefits of seeking professional advice on financial planning
 - ✓ Promote voluntary savings channels and platforms to encourage income diversification
 - ✓ Educate Malaysians to make long-term financial plans for retirement
-



Strategic Priority 5: Building and safeguarding wealth

- ✓ Promote better understanding of risks and returns to build wealth
- ✓ Improve awareness on the innovation of financial products and services and its implications
- ✓ Raise awareness on financial scams and fraud
- ✓ Develop and publish materials relating to sophisticated financial products and services

FinTech Trends and Regulations in Thailand

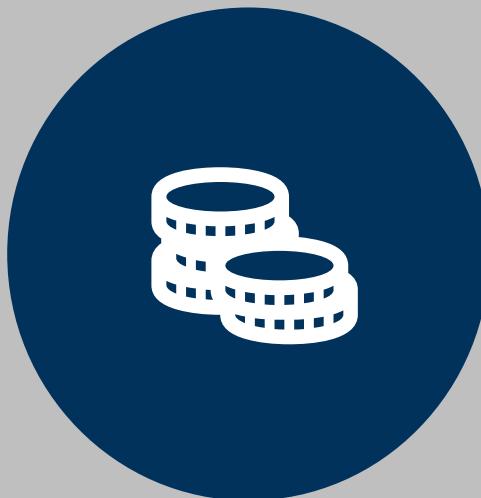


Nopnuanparn Pavasant
FinTech Department, SEC Thailand
11 December 2019

FinTech trends in Thailand



Securities



Digital Assets



Crowdfunding

The Securities and Exchange Act

The Securities and Exchange Act (No. 6) B.E. 2562

Supervision of Securities Business

The SEC has power to determine the undertaking of business in any manner is **not a securities business under the Securities and Exchange Act B.E. 2535 ("the SEA")**



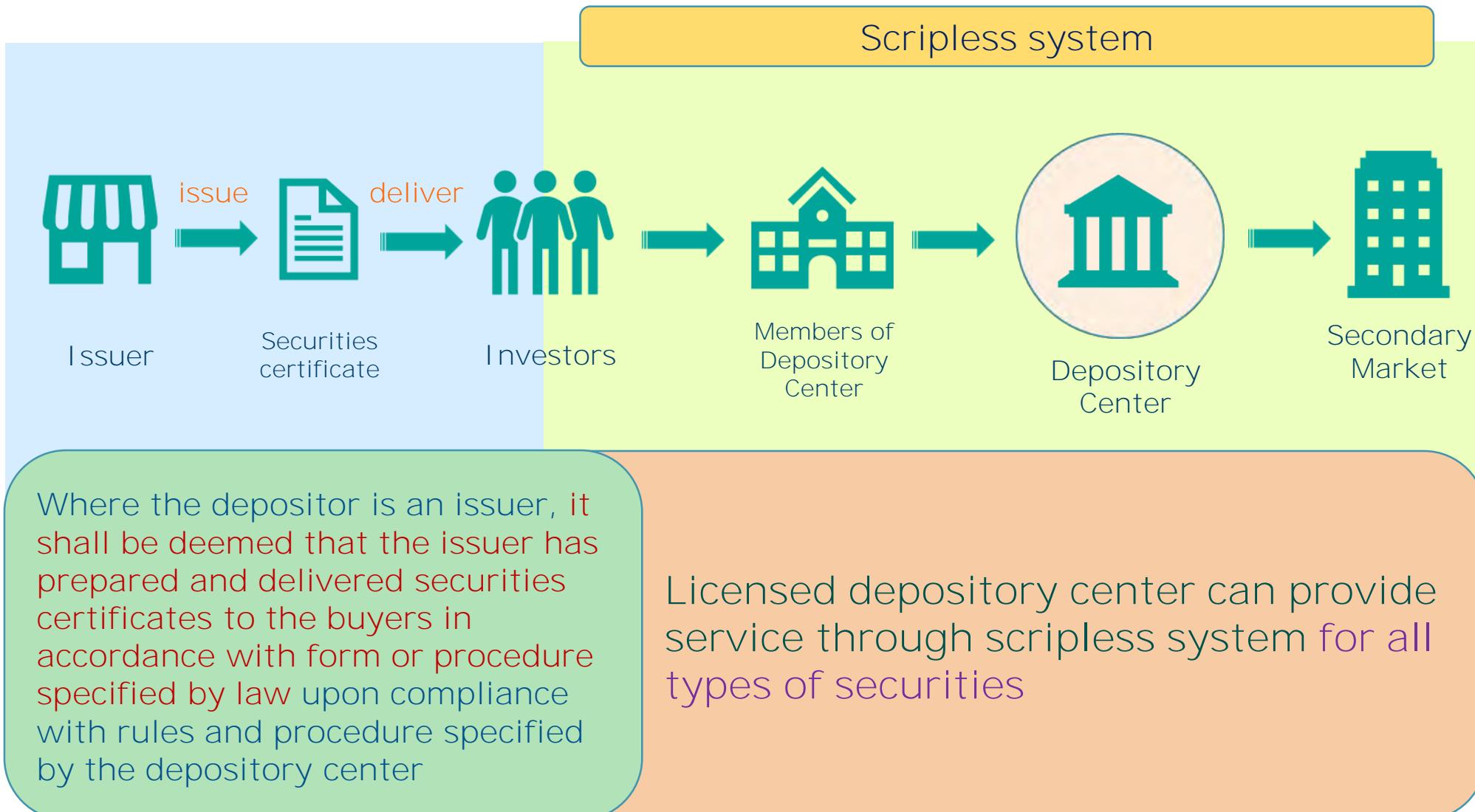
The SEC may **exempt** a securities company from undertaking or prescribe a securities company to **undertake** in a different manner from provisions under Division 2: Supervision and Control of Chapter 4: Securities Business of the SEA, in whole or in part.



The SEC has discretionary power to prescribe required paid-up capital of a securities company as the SEC thinks fit. There is no minimum amount of required capital specified in the provision.

The Securities and Exchange Act

Enhancing Competitiveness of the Capital Market



To prevent money laundering, fraud, and other risks, the Thai government would like to regulate both digital tokens and cryptocurrencies.



Cryptocurrency

Electronic data unit created to be medium of exchange for

- ★ goods
- ★ services
- ★ other digital assets
- ★ other rights



Investment token

- ★ Electronic data unit specifying right to participate in an investment e.g. revenue or profit sharing right (similar substance as securities)
- ★ Offered through ICOs

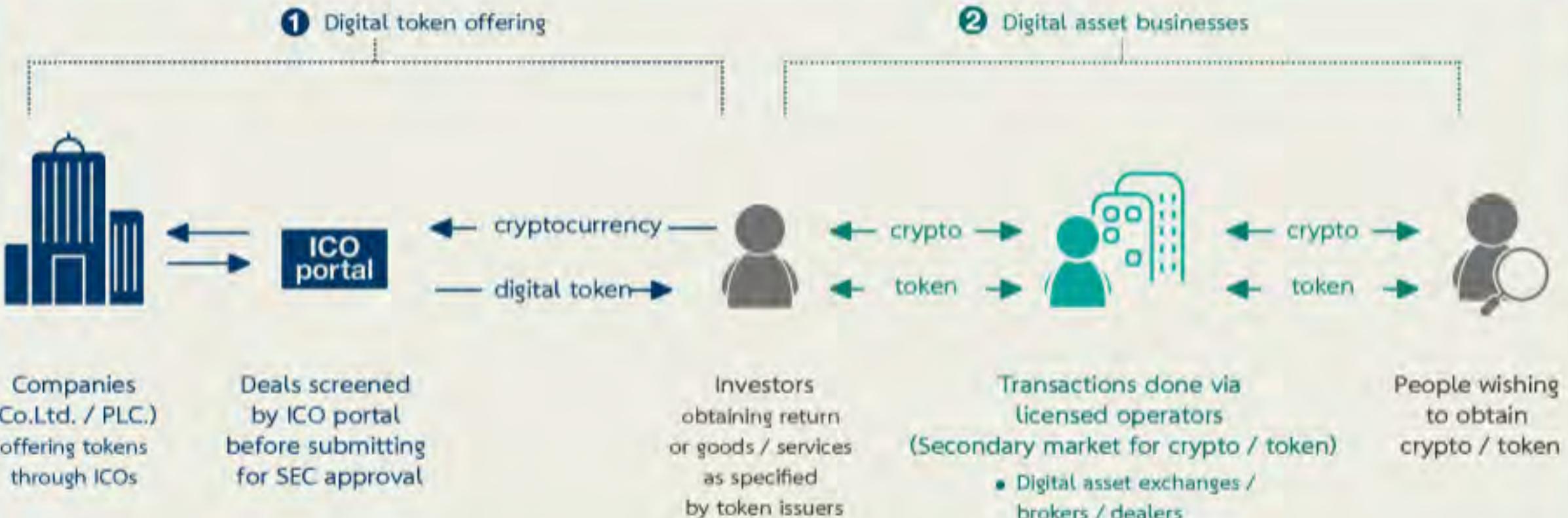


Utility token

- ★ Electronic data unit specifying right to acquire specific goods/ services
- ★ Offered through ICOs

Include any other electronic data unit with similar purposes as specified by SEC Board

Activities governed by the Decree



SEC Board is empowered to exempt certain types of offering or businesses from provisions of the Decree.

Offering of newly issued digital tokens to the public



- Issuer established as limited / public limited company
- SEC Approval
- Offer to be made through ICO portal recognized by SEC
- Filing / prospectus requirements
- Accepting only crypto via licensed operators
- Investor types & investment limits as specified by SEC

To limit potential losses, **retail investors** are subjected to investment limit: maximum 300,000 baht per project

Limit on offering amount to retail investors is either **4 times of equity** or **70% of total issuance amount**, whichever is higher

Digital Asset Businesses



Digital asset exchanges / brokers / dealers

- ★ Licensed by Minister of Finance
- ★ In Compliance with standards set by SEC e.g.
 - Adequate capital
 - Proper risk management (incl. against cyberthreats)
 - Know Your Client / Customer Due Diligence process
 - Measures to prevent anti-money laundering

Upcoming new licenses

- Digital Asset Advisory Service
- Digital Asset Fund Manager

Crowdfunding

Crowdfunding is a way that SMEs and startups can raise fund from the public through funding portals. This helps increase access to capital for the companies and increase investment options for the investors.



THE CROWD

FUNDING PORTAL

ENTREPRENEUR

Crowdfunding

Investment Limit
Retail : \leq 100,000 Baht/ company
and \leq 1 million Baht/ year
Non-retail: unlimited

Thai company (non-listed)



Funding Portal approved by SEC



Offer to retail: \leq 20 million Baht/
total \leq 40 million Baht

Offer to non-retail: unlimited

Investment-based crowdfunding process

4. Issuer proceeds with the project & periodically report progress to investors.



Funding goal reached - Project gets the money.



Session 2



CRYPTOASSETS IN ASIA: CONSUMER ATTITUDES, BEHAVIOURS AND EXPERIENCES

Adele Atkinson, Head of Financial Education, OECD
Miles Larbey, Head of Financial Consumer Protection, OECD

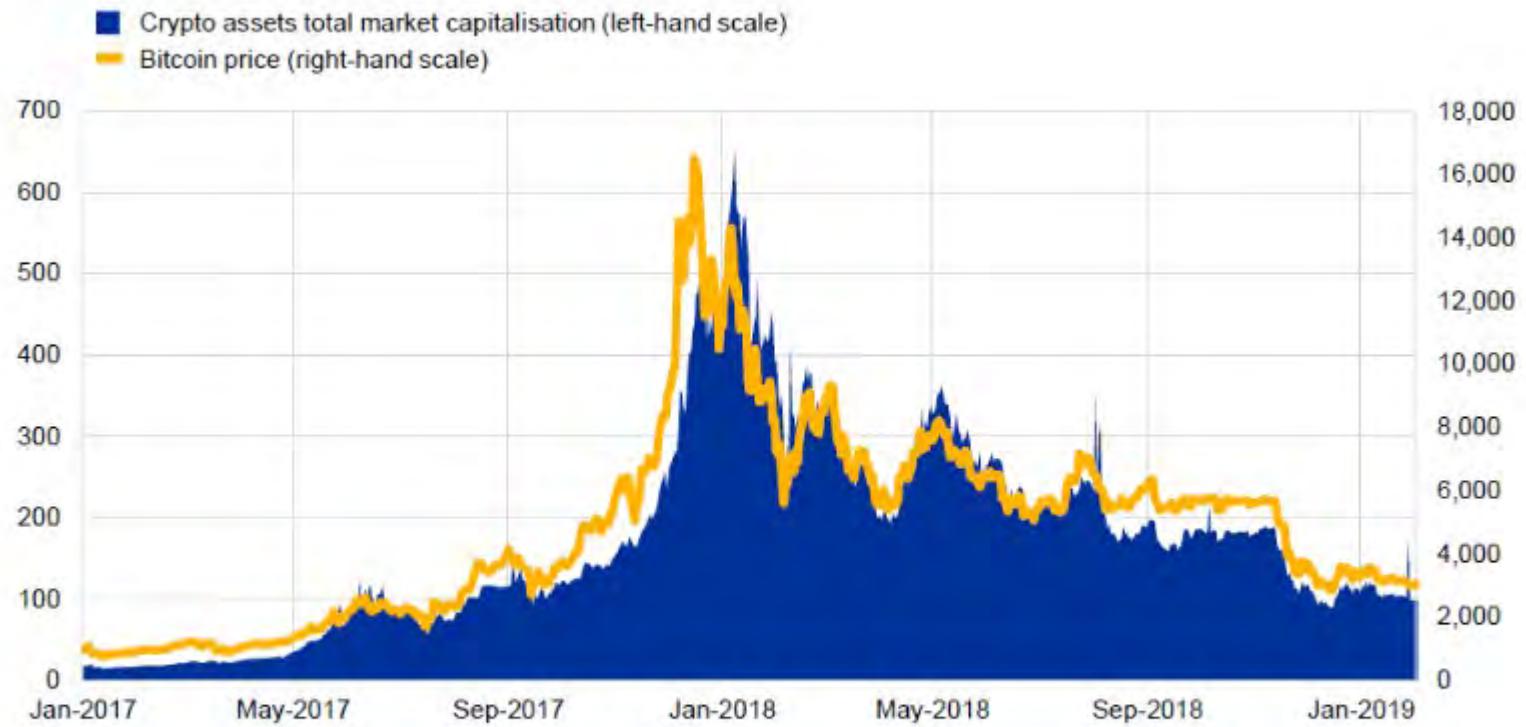
11 December 2019



Cryptoassets



Total market capitalisation of crypto-assets



Sources: Cryptocompare, Coinmarketcap and ECB calculations.

Notes: The data used here follow the "circulating supply" definition of market capitalisation, which corresponds to the "free float" for each crypto-asset i.e. excluding the part that may be owned by a company supporting the crypto-asset. Daily data from 1 January 2017 to 31 January 2019.

Source: ECB Cryptoassets – trends and implications, June 2019



Cryptoassets

Benefits:

- Investment opportunity
- Alternative funding source for entrepreneurs
- Lower costs, confidentiality, immutability

Risks:

- Price volatility, loss of investment
- Security risks – cyberattacks, frauds
- Failure of business proposals, liquidity risk
- Lack of information and understanding
- Limited financial consumer protection



Examples of policy developments

- FSB – monitoring of risks to financial stability
- IOSCO – support framework re regulatory treatment of ICOs
- FATF – AML/CFT
- Range of jurisdiction approaches
 - explicit or effective bans
 - application of existing laws
 - new or adapted regulatory regimes
- OECD – financial consumer protection and financial education

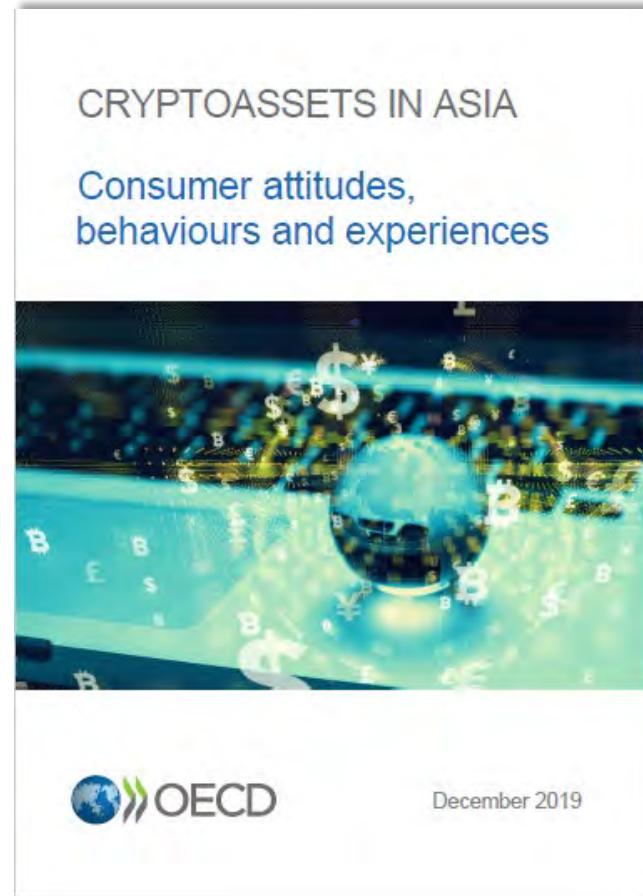


Cryptoassets consumer research

- Objective: to fill data gaps and inform evidence-based financial education and financial consumer protection responses
- Quantitative survey instrument developed and validated, can be used by others
- Research conducted across three markets in Asia-Pacific
- Project supported by funding from the Japanese Government

CRYPTOASSETS IN ASIA

Consumer attitudes,
behaviours and experiences

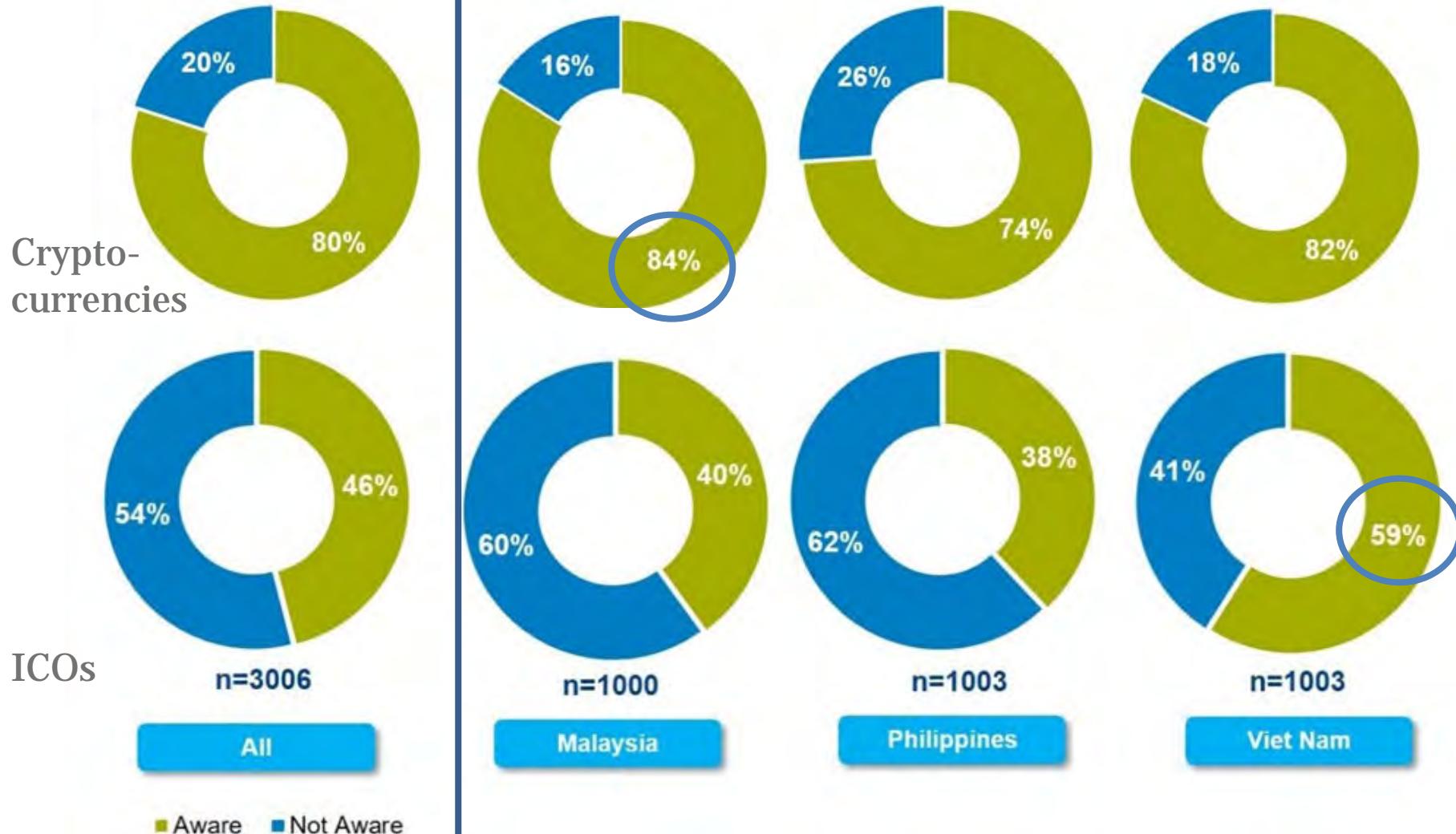


 OECD

December 2019



Most people are aware of cryptocurrencies; lower awareness of ICOs





Awareness overwhelmingly driven by the online sources (top 3 responses, single-coded)

Where did they first hear about these cryptoassets

Cryptocurrencies

- Social media (30%)
- Online articles (30%)
- Online adverts (19%)

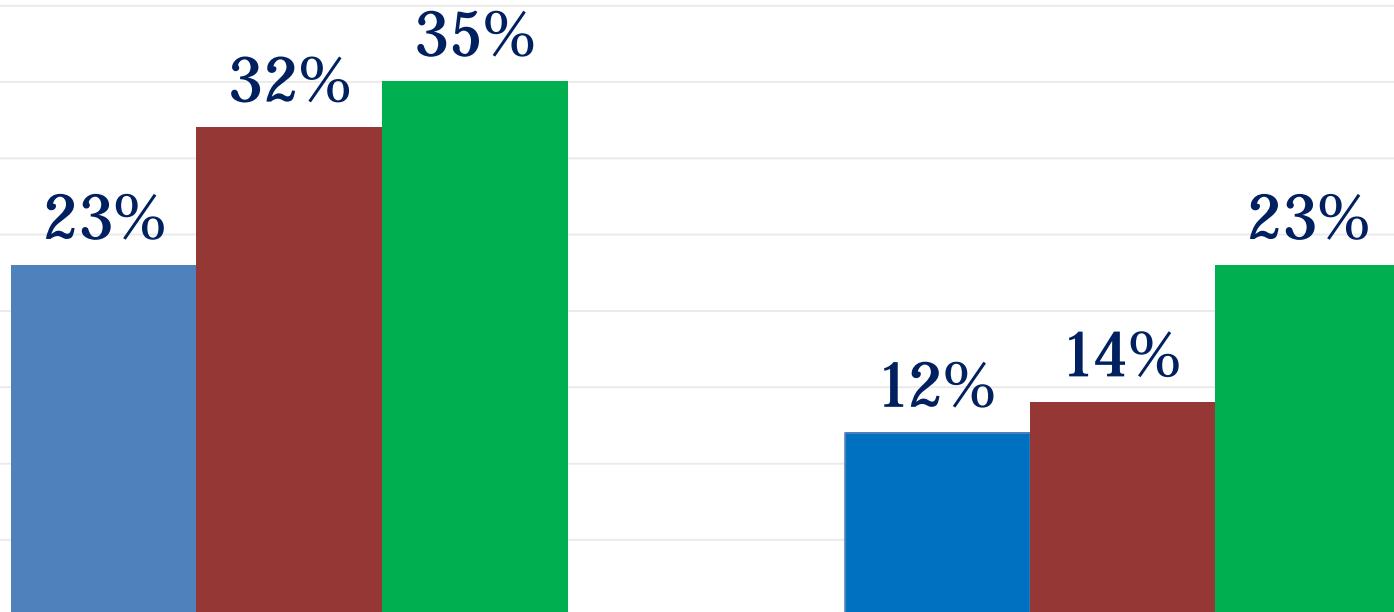
ICOs

- Social media (35%)
- Online articles (23%)
- Online adverts (17%)

Sample: Respondents who currently hold cryptocurrencies/ICOs, including booster sample. (Single choice – top three only reported here)



30% hold cryptocurrencies; 16% hold ICOs



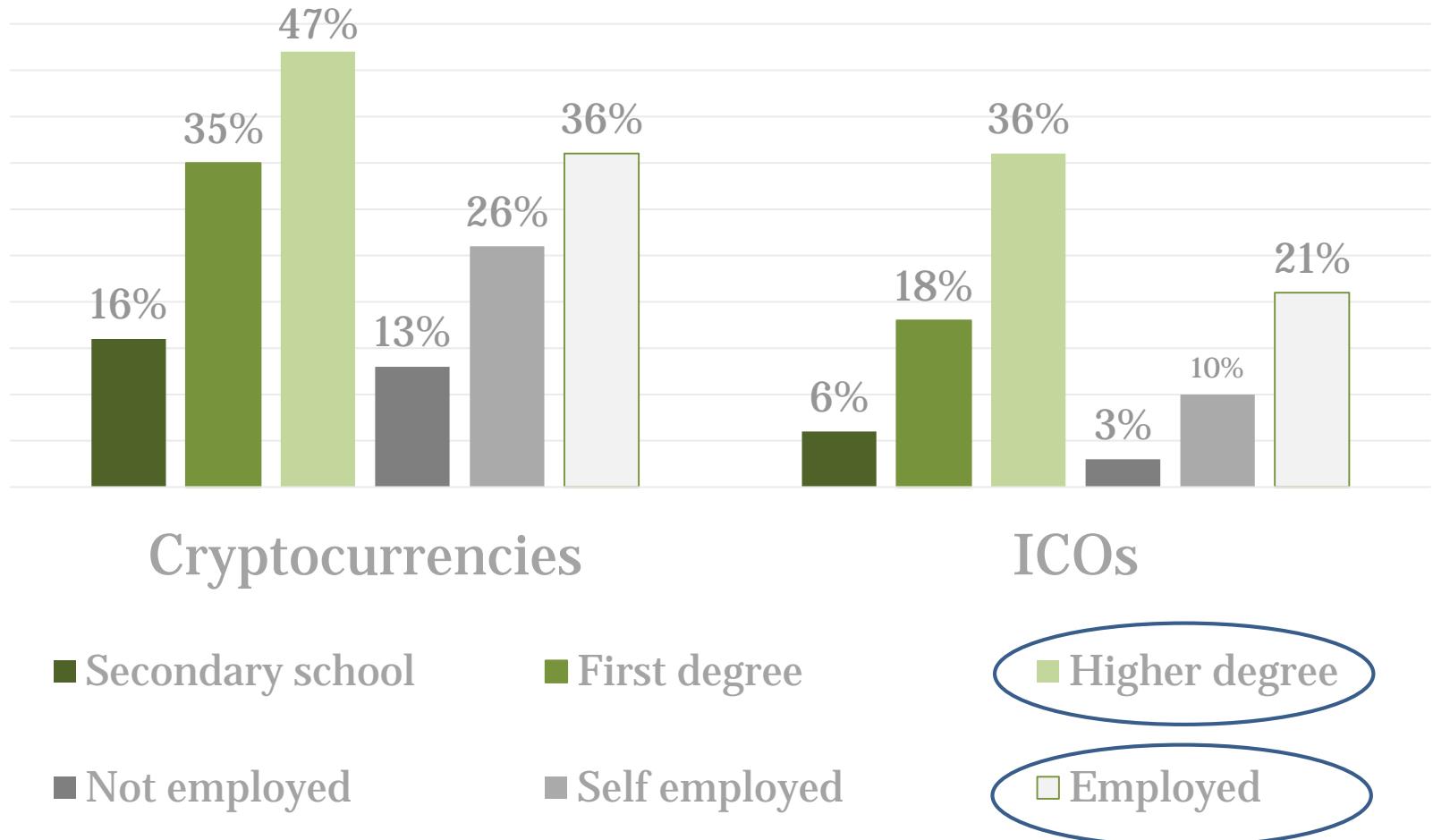
Holds cryptocurrency

Holds ICOs

■ Malaysia ■ Philippines ■ Viet Nam

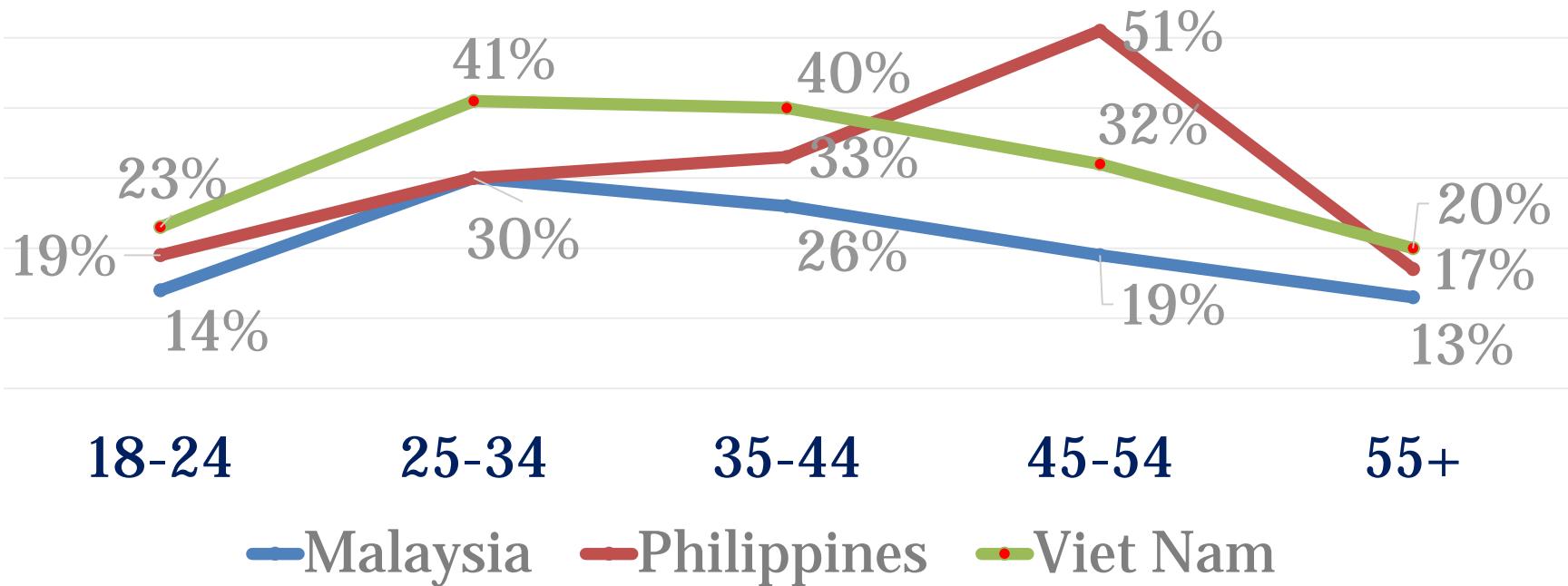


Ownership of cryptoassets increases with education, and is higher among the employed





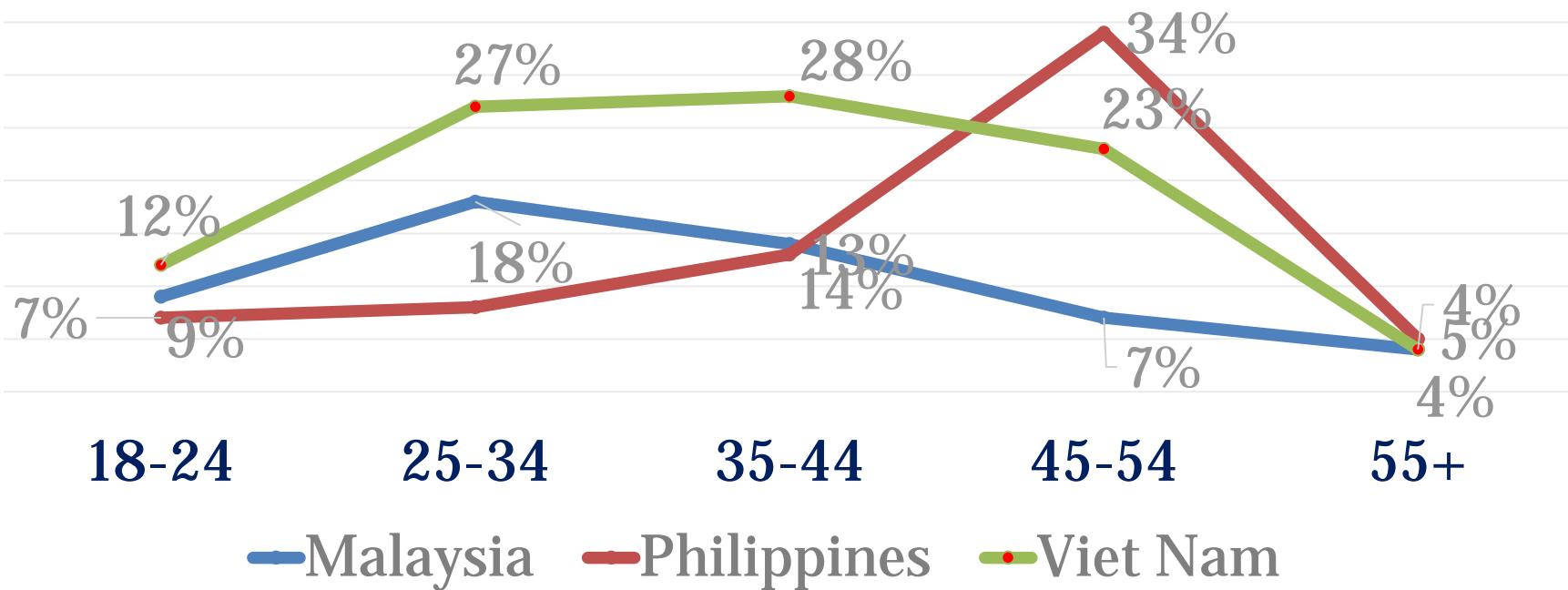
Cryptocurrency ownership varies by age



Highest proportion of cryptocurrency holders in the 25-34 age group in Malaysia and Viet Nam, but among 45-54 year olds in the Philippines



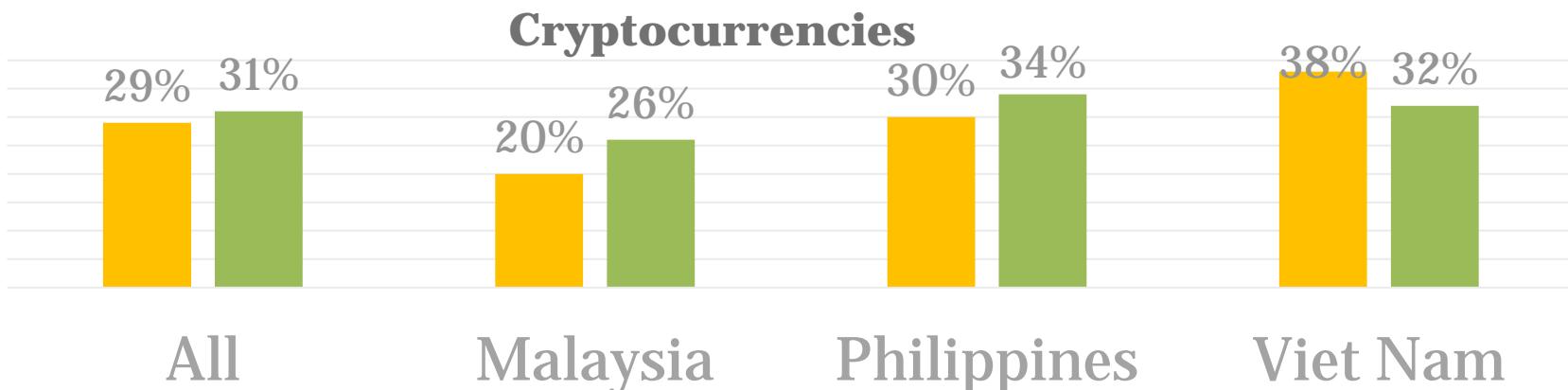
ICO ownership also varies by age (especially in the Philippines)



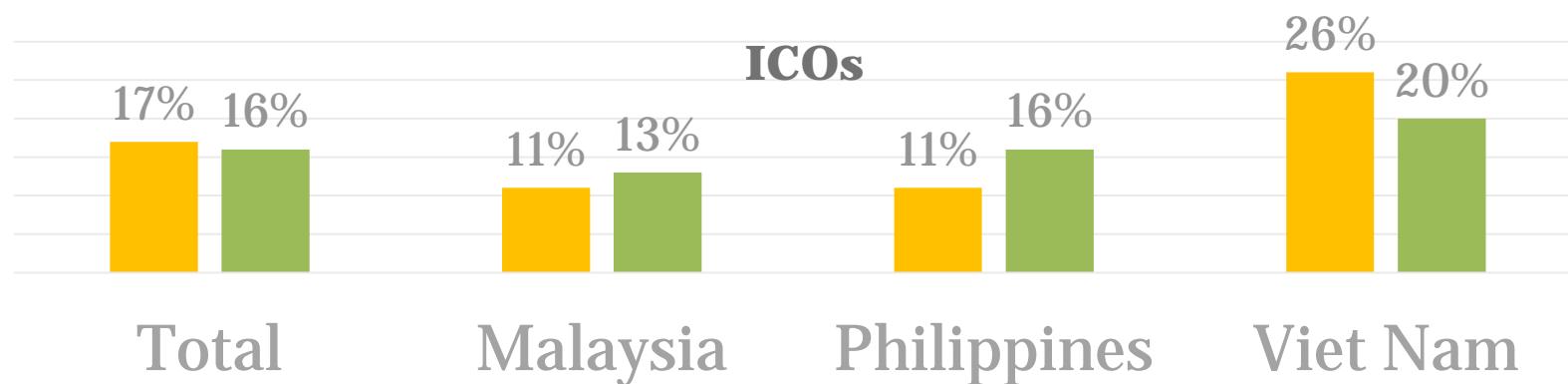
Highest proportion of ICO holders in the 25-34 age group in Malaysia and 25-44 in Viet Nam, but peaks at 45-54 year olds in the Philippines



Similar proportions of men and women hold cryptocurrencies and ICOs

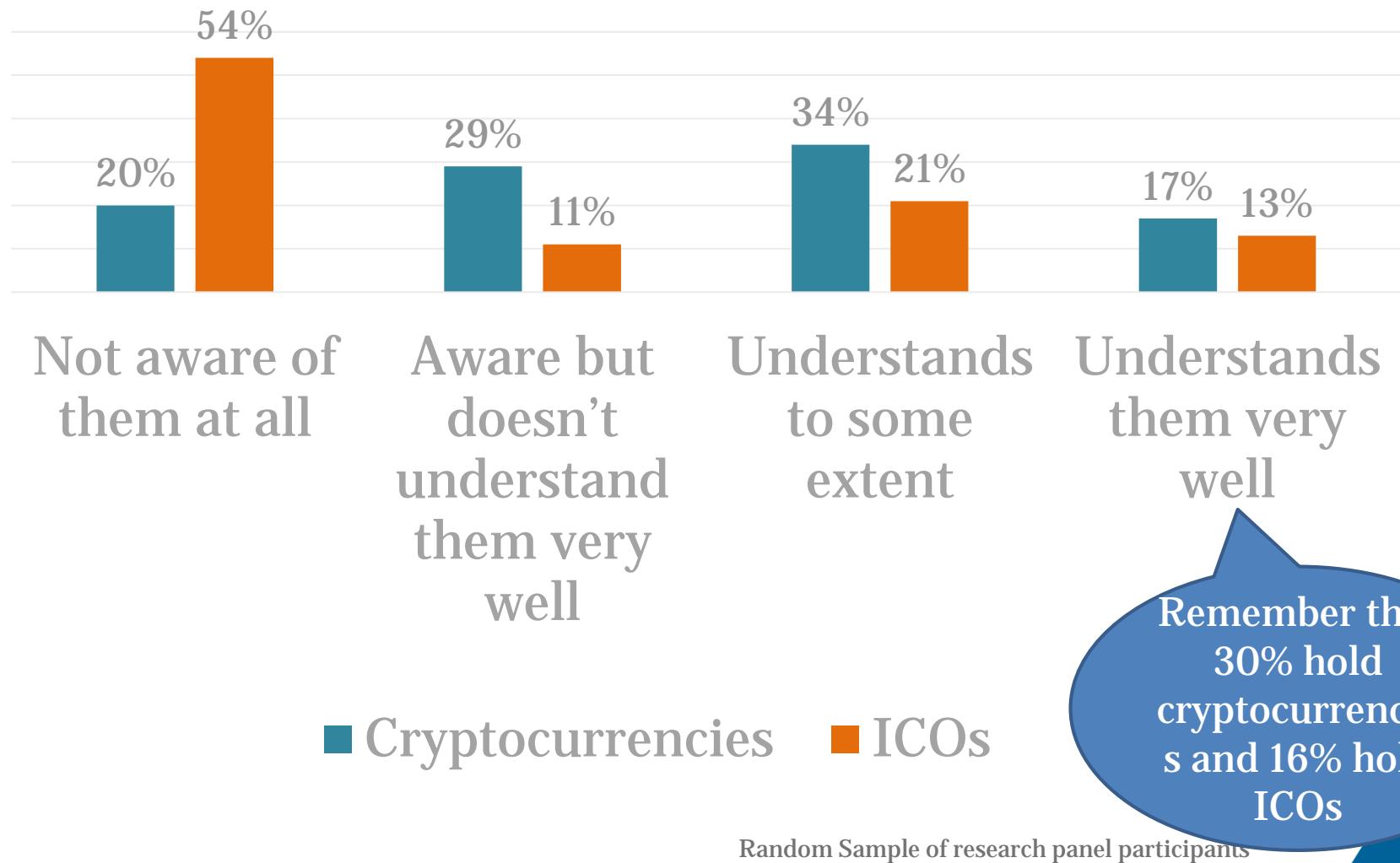


■ Female ■ Male





Awareness is not the same thing as understanding (still looking at general population)





41% bought cryptocurrencies to make money quickly.

Malaysia

- **To make money quickly (38%)**
- As long-term saving/retirement fund (37%)
- To diversify a portfolio (31%)

Philippines

- To know more about cryptocurrencies (40%)
- To use as a means of payment (39%)
- **To make money quickly (36%)**

Viet Nam

- **To make money quickly (47%)**
- To diversify a portfolio (34%)
- To know more about cryptocurrencies (33%)

Respondents who have ever held cryptocurrencies, including booster sample



.... And 42% invested in ICOs to make money quickly

Malaysia

- **To make money quickly (38%)**
- As long-term saving/retirement fund (37%)
- To know more about ICOs (31%)

Philippines

- **To make money quickly (38%)**
- As long-term saving/retirement fund (31%)
- To know more about ICOs (31%)

Viet Nam

- **To make money quickly (46%)**
- To know more about ICOs (38%)
- Belief in project/ diversification (35%)

Respondents who have ever held ICOs, including booster sample



Where did advice to buy come from?

(top 3 responses, multi-coded)

Cryptocurrencies

- Family and friends (47%)
- Professional (finance) (33%)
- Professional (Tech) (33%)

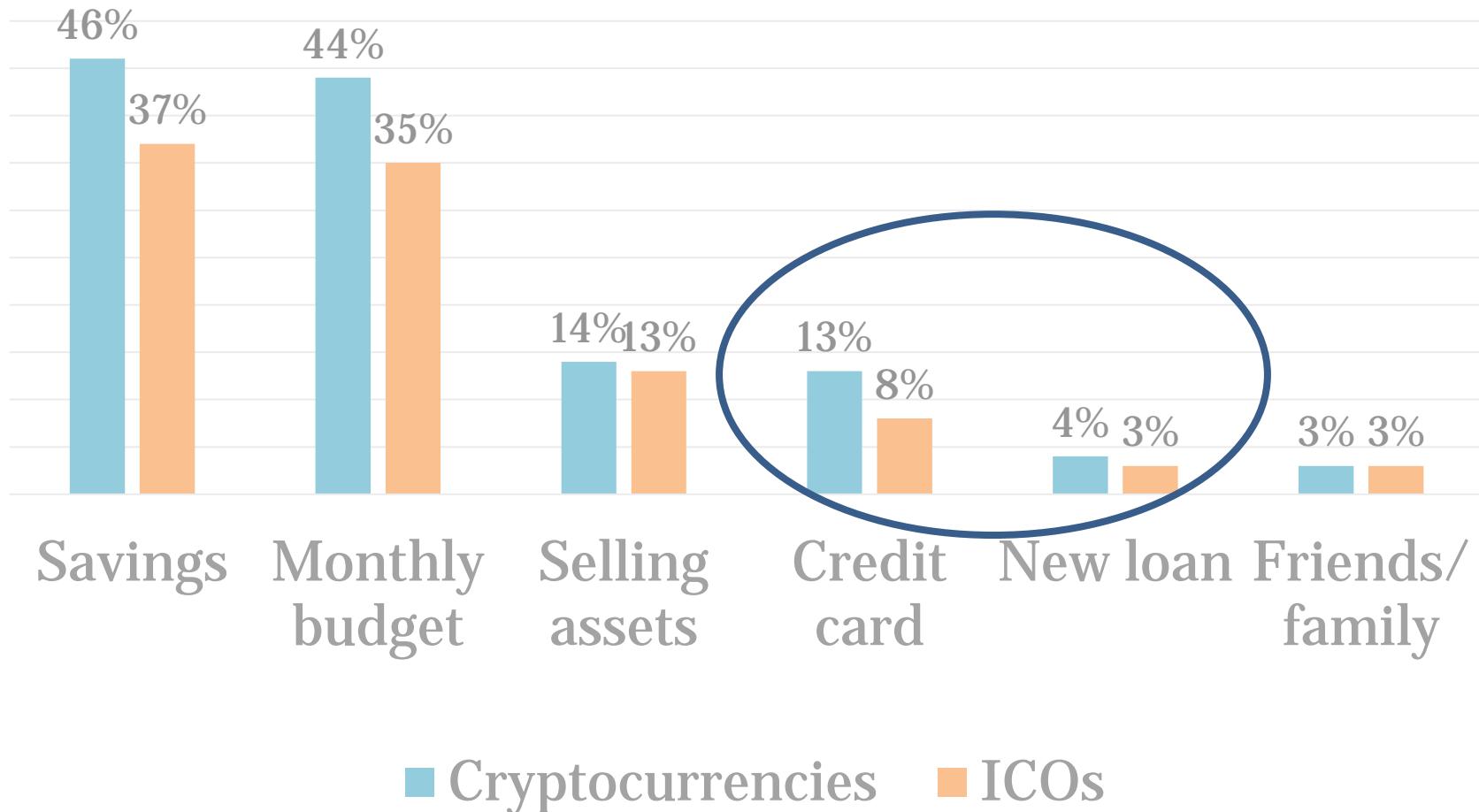
ICOs

- Professional (finance) (45%)
- Family and friends (38%)
- Professional (Tech) (37%)

Sample: Respondents who were advised to hold cryptocurrencies/ICOs, including booster sample.



And where did the money come from? (multi-coded)



Sample: Respondents who ever held cryptocurrencies/ICOs, including booster sample.



Most ICO investors read the white paper; 11% of them said it was not easy to understand

80% claim to have read it

38% of those said it was very easy to understand..

- 50% found it somewhat easy
- 11% said it was not easy to understand

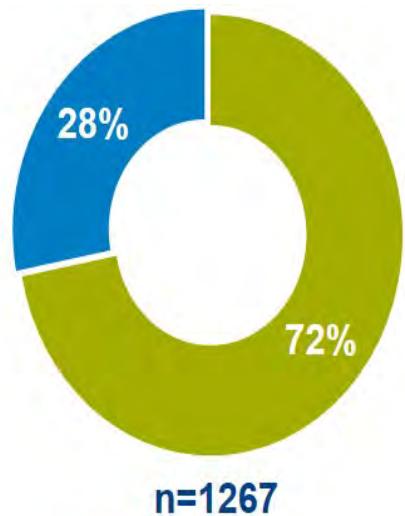
63% found the whitepaper very useful

- 36% found it somewhat useful
- 1% said it wasn't useful

Sample: Respondents who have ever invested in ICOs, including booster sample.

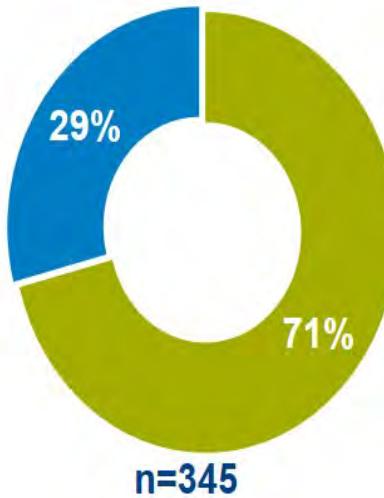


Not everyone can afford to lose the money they have invested in cryptocurrencies

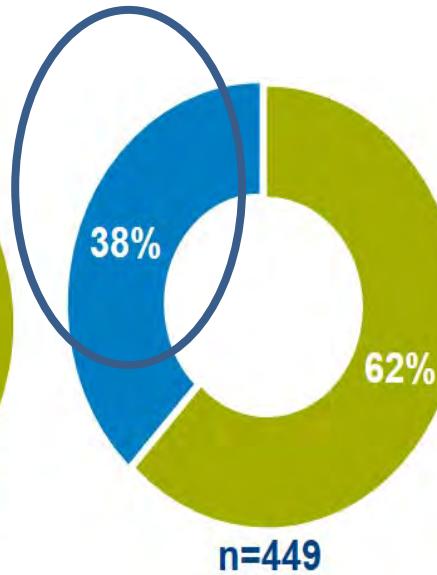


All

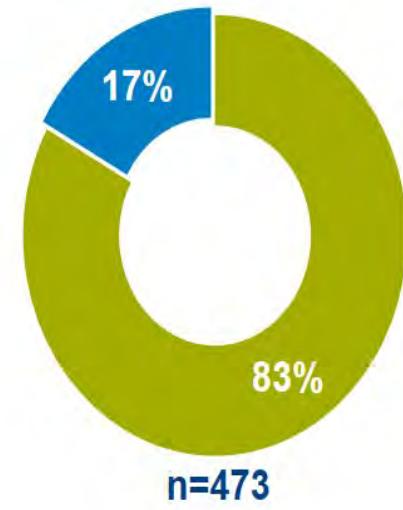
■ Yes ■ No



Malaysia



Philippines



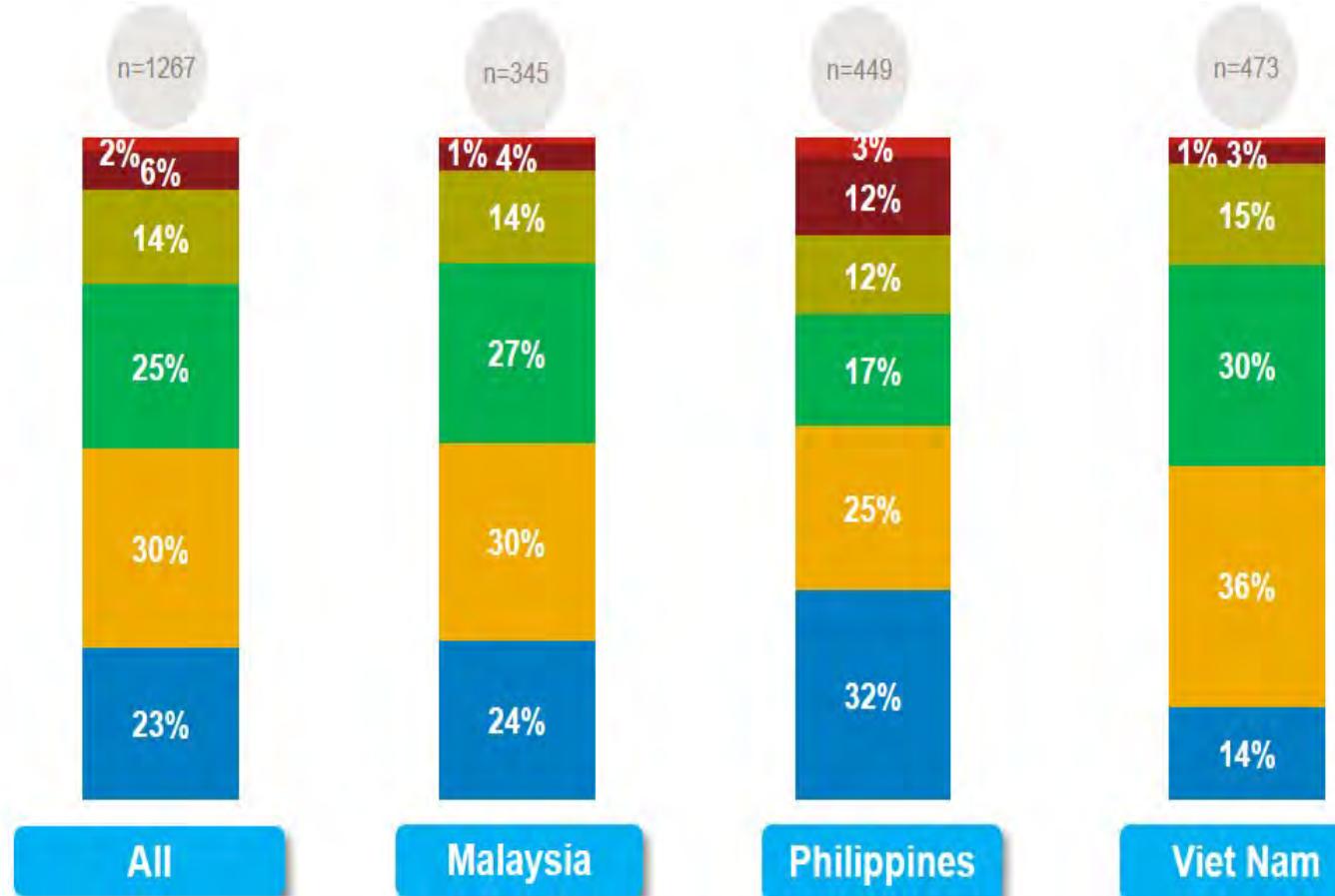
Viet Nam

Sample: Respondents who currently hold cryptocurrencies, including booster sample



And some have most, or all of their portfolio invested in cryptocurrencies

- 100%
- At least 50% but less than 100%
- At least 25% but less than 50%
- At least 10% but less than 25%
- At least 5% but less than 10%
- Less than 5%



Sample: Respondents who currently hold cryptocurrencies, including booster sample



Key takeaways – cryptocurrencies

-  There is a high level of awareness about cryptocurrencies.
-  Ownership is lower compared to the level of awareness, although many say they would like to hold in future.
-  Many do not understand well or only to some extent (17% very well).
-  Making quick money is the main motivation in investing. For some, motivation is long term investment.
-  Online channels are the most common sources of news and information, with advice most often sought from family and friends.
-  A number of investors purchase cryptocurrencies using credit.
-  28% could not afford to lose the money invested.



Key takeaways – ICOs

- 
- Awareness and ownership of ICOs is lower than that of cryptocurrencies.
 - Many do not understand well or only to some extent (13% very well).
 - Most investors said they read some of the ICO whitepaper, although not all of them found it easy to understand.
 - There is a strong demand for investing into ICOs in the future.
 - Online channels are the main sources of information.
 - Main motivator for investing is to make quick money.



Policy considerations





Policy considerations



Collect consumer and market data to understand issues, risks and challenges arising.



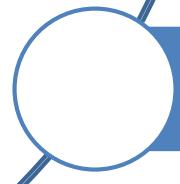
Monitor advertising especially via online channels to understand how cryptoassets are promoted, misleading representations.



Consider adequacy of disclosure in whitepapers.



Engage in international cooperation.



Share information with other regulatory agencies both at a national and international level.



Next steps

- Ongoing monitoring of market developments
- Input to policy developments
- Future data collection – contact OECD Secretariat if you are interested



Suruhanjaya Sekuriti
Securities Commission
Malaysia

INVESTORS' EXPERIENCES WITH DIGITAL ASSETS AND ASSOCIATED POLICY RESPONSES

SECURITIES COMMISSION MALAYSIA

OUR ROLE AS SECURITIES REGULATOR

Core Objectives:

- Ensure markets are fair, efficient and transparent
- Facilitate the orderly development of an innovative and competitive capital market
- Protect investors

EMERGENCE OF DIGITAL-ASSETS AND ITS ENABLING TECHNOLOGY, POSITIVES

- Speed of execution, far-reaching access as well as the attraction of a decentralised system captured the attention of issuers and investors both retail and wholesale alike
- *Potential to act as an alternative asset class for investors – ability to raise risk capital more competitively vs. conventional methods*
- *Quick, direct, wider and borderless access to pool of investors*
- *Potential to enhance efficiencies in the capital market including lowering transaction time, costs and enabling seamless reporting and compliance*

EMERGENCE OF DIGITAL-ASSETS AND ITS ENABLING TECHNOLOGY, NEGATIVES

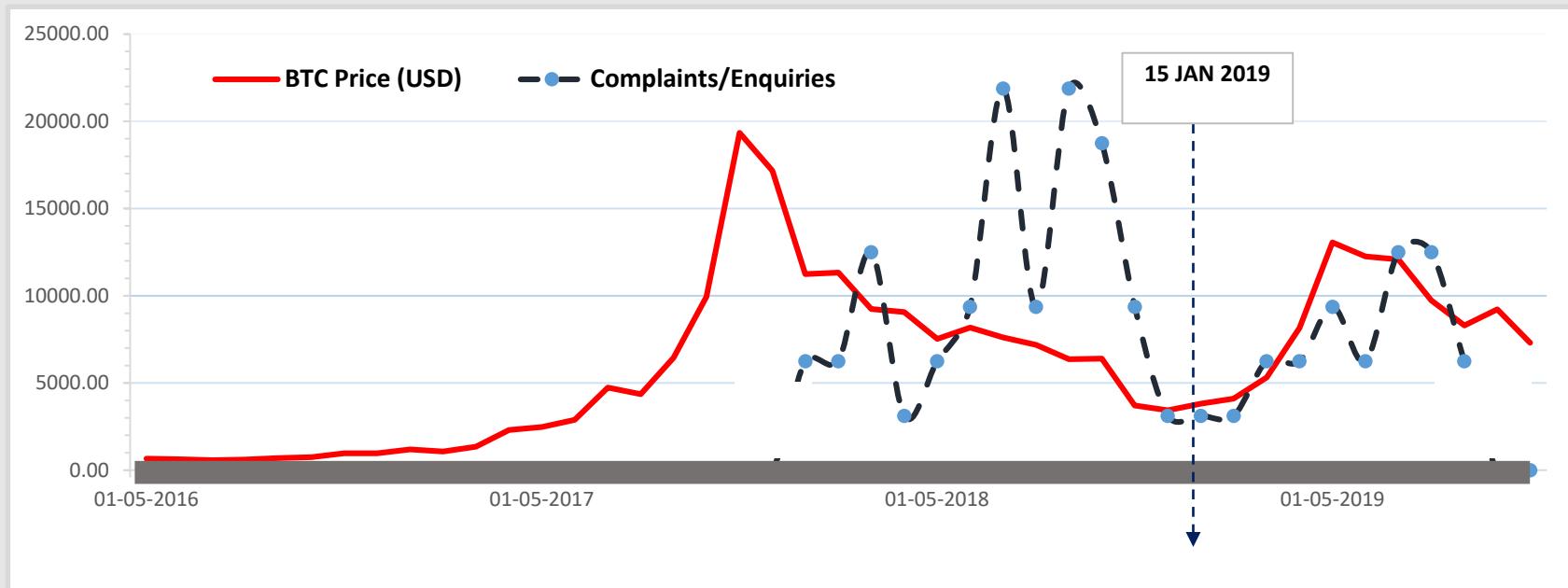
- Speed of execution, far-reaching access as well as the attraction of a decentralised system captured the attention of issuers and investors both retail and wholesale alike
 - *Potential information asymmetry – low levels of transparency complicates decision-making by investors*
 - *Expose issuers and participants to market and other systemic risks*
 - *Expose issuers and investors, to fraud, manipulation, money laundering or financing of terrorism*
 - *Participants may need some technical acumen in addition to financial as well as investment literacy skills*

MALAYSIA: TRENDS THE LAST 24 MONTHS ...

- Exponential growth in interest and participation in the use of blockchain, blockchain-based digital assets and investing in such digital assets
 - *More than 50,000 digital asset accounts in Malaysia @ 2018* actively trading that we know of ...*
 - *Acute upward shift in fundraising trend towards initial offerings of digital tokens*
 - *Digital asset related complaints and enquiries increased significantly*
 - ❖ *99% retail*
 - ❖ *Significant number relate to ICOs and its legitimacy*
 - ❖ *Others relate to issues surrounding digital trading platforms*

ICOS INTEREST VS BTC PRICE THE LAST 24 MONTHS ...

Diagram purely for illustrative purposes -> an attempt to visualize ICO associated interests through complaint and enquiry traffic (last 24 mts only)



- ICO cycles to a degree influenced by returns from bitcoin
- ICOs -> opportunity to get the next best thing at a lower pre-market price
- Investors driven by speculation, issuers by opportunity

OBSERVATION: INVESTORS COMPLAINTS AND EXPERIENCE WITH DIGITAL ASSETS

Anecdotes

“Dear Mr Regulator I invested in an ICO a few months ago. When tried to visit the site recently I couldn’t find it!”

“Dear Mr Regulator I invested in an ICO after reading its impressive 100 pg whitepaper. But until today I have not been able to realise my investments.”

“Dear Mr Regulator I stored my digital assets in the wallet of the digital exchange but now I can’t locate it!”

“Dear Mr Regulator can I invest in this digital asset?”

Perspective

- 99% ICO exercises perpetuated online, 75% no physical presence in Malaysia – difficult to verify authenticity or reach
- 90% whitepapers say a lot and nothing – often used for inducement – inadequate critical information to enable investors to make informed investment decision
- Low standards of safekeeping of participants’ assets, including custody arrangements and cyber security
- Regulatory certainty desired – for fair and safe access to market.

OUR RESPONSE ...

- Support industry innovation, while ensuring the risks from digital asset activities remain under control
 - **15 January 2019 introduced Capital Markets and Services (Prescription of Securities) (Digital Currency and Digital Token) Order 2019**
 - ❖ ‘Digital assets’ are prescribed as securities under securities laws if certain characteristics are present ...
 - ❖ Any offering of digital assets as well as its associated activities such as marketing or inducing others to subscribe to digital assets will require authorisation from the SC
 - **31 January 2019 issued a revised Guidelines on Recognised Market**
 - ❖ Sets out the requirement for operators that facilitate the trading of digital assets to be registered with the SC

ADDRESSING CHALLENGES

A WORK IN PROGRESS ...

- ❖ *Digital space evolves rapidly, some natural progression – some intended to circumvent regulation. Embrace technology move towards digitising regulatory and supervisory monitoring of risks and compliance*
- ❖ *Change communication approach – need to be nimble and creative (alternative channels) to ensure investor education, awareness and warnings are timely, impactful and easily understood*
- ❖ *Mind-set among investors – falling for promise of high returns with little to no risk involved. Similarly high tolerance for loss (over 40% in some instance)*
- ❖ *Effective information sharing and enforcement cooperation is important to manage the risks associated with global nature of digital assets – often involving multiple jurisdictions*

CAPITAL MARKETS AND SERVICES (PRESCRIPTION OF SECURITIES) (DIGITAL CURRENCY AND DIGITAL TOKEN) ORDER 2019 (PO)

Digital assets defined as securities if it is recorded on a distributed ledger
and...

Digital Token

- Monies paid in exchange for tokens (consideration)
- Monies and returns are pooled and managed by issuer
- A return or appreciation in value from investment is expected

Digital Currency

- Traded on a digital platform where offers to sell and purchase or exchange of digital assets are regularly made
- Expect to benefit from a return or appreciation in the value of the digital currency that is traded on the digital platform

The views expressed here are entirely my own and do not necessarily represent those of the Bangko Sentral ng Pilipinas (BSP). These views focus only on financial stability/systemic risk considerations.

SESSION 2: FINANCIAL CONSUMERS' EXPERIENCES WITH DIGITAL FINANCIAL ASSETS & ASSOCIATED POLICY RESPONSES TO ADDRESS RISKS & BENEFITS

DR. JOHNNY NOE E. RAVALO

Assistant Governor

Office of Systemic Risk Management

11 December 2019



BANGKO SENTRAL NG PILIPINAS

FinLit is Important

*Financial Education and the Crisis
OECD/INFE June 2009*

“...While financial literacy could not be pointed as the main root cause for the (global financial) crisis, ... it certainly played a key role in worsening its effects...”



BANGKO SENTRAL NG PILIPINAS

FinLit is Important *for Achieving Financial Stability*

*Financial Education and the Crisis
OECD/INFE June 2009*

“...While financial literacy could not be pointed as the main root cause for the (global financial) crisis, ... it certainly played a key role in worsening its effects...”

*“...But the lack of understanding of households on financial issues and, in particular, on credit and investment, has also a major role. As a result individuals have accepted (sometimes unknowingly) to support more **financial risks** than what they could afford...”*



BANGKO SENTRAL NG PILIPINAS

The Philippines is an Archipelago ... FinTech Is a Plus

- Population of over **100 million** with median age of **24.3** years old (based on census of Aug 2015)
- **21.4%** of the population are aged 9 years old or younger with another **20.5%** aged between 10 to 19 years old That puts **41.9% of the 100 million born in this millennium** alone (*I learned DOS. These guys grew up with Windows XP*)
- About **58%** of Filipinos have mobile phones with each one owning more than one unit
- There were **2.5 billion** monthly payments made in 2013 of which only **1%** was by electronic channel. By 2018, this increased to **4.4 billion** transactions with **10%** thru electronic means.

ACCESS

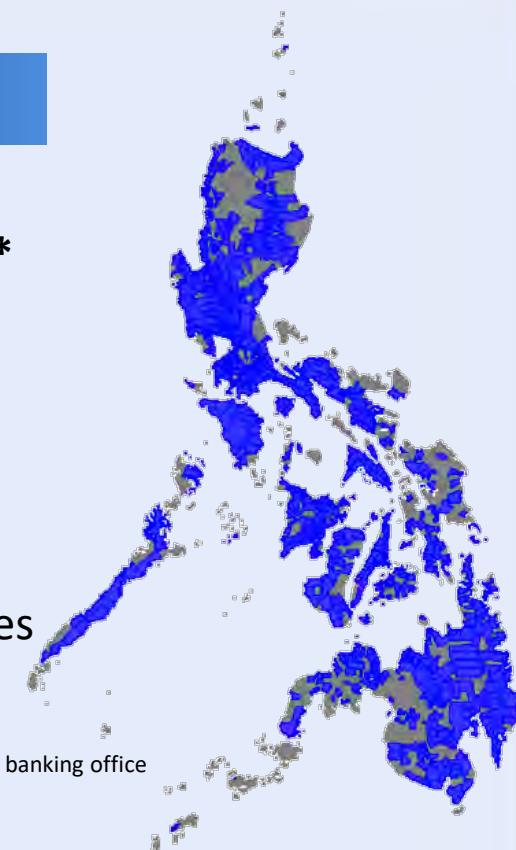
Unbanked*

526

out of

1,634

cities and
municipalities



With at least one banking office
Unbanked

* As of end-June 2019



BANGKO SENTRAL NG PILIPINAS

Some of the OECD Survey Results To Take Note



High level of awareness from survey respondents but largely from **social media** rather than from financial professionals



66% say that they **understand** while 68% expect **positive returns** within the next 12 months



45% say they **did NOT consult** before making the purchase/investment but those who do consult do so with professionals



Those who acquired largely used their **savings** (43%) or used part of their **monthly budget** (47%)



BANGKO SENTRAL NG PILIPINAS

Some of the OECD Survey Results To Take Note



PURPOSE: to know more (40%); to use as payment (39%) but really the majority is for investment (75%)

HOLDING PERIOD: For 6 months or less (42%), up to a year (27%), and beyond 1 year (31%)

REACTION TO PRICE DECLINE: Bought more (46%), sold their holdings (20%) or did nothing (34%)

THOSE NOT HOLDING: Cannot afford to lose money (62%)



BANGKO SENTRAL NG PILIPINAS

If We Want to Just Be Picky ... Some Sampling Caveats

- 
1. 60% of the respondents are either with their first job (33%) or just getting themselves settled in job-wise (27%)
 2. 74% report monthly household incomes of less than P100,000
 3. Sampling may have over-sampled Manila City (17%) but under-sampled Makati City (1%)

Quezon City	10%
Cebu	7%
Davao	5%
Caloocan	3%
Pasay	2%



BANGKO SENTRAL NG PILIPINAS

Where Does Financial Stability Come Into the Picture?

Financial Stability

Interlinkages

Actions / Behavior



Our objective with Financial Stability is to mitigate systemic risks (in financial markets) that can affect the economy

Systemic risks are created by the way financial market stakeholders are interlinked with one another

The financial market is prone to systemic risks in either good or bad times

The health of the financial system is distinct from the health of each agent



BANGKO SENTRAL NG PILIPINAS

Pricing is the Key . . . And There Are Concerns

Bitcoin flash crash to \$700 on Binance caused by failing stablecoin

Decrypt Daniel Phillips

Decrypt December 5, 2019



Yesterday, an order to sell 8 bitcoin (BTC), worth \$60,000, tanked the price of Bitcoin on a single trading pair on [crypto exchange Binance](#). It was either a fat-fingered mistake or there were more nefarious plans underway.

The trade was made on the trading pair between bitcoin and a stablecoin—a cryptocurrency that keeps its price pegged to a fiat currency, like the US dollar—called StableUSD (USDS).

Only a few days ago, Bitcoin suffered an intraday crash to \$681 ... and it then recovered to \$7,393



BANGKO SENTRAL NG PILIPINAS

What the Technical Side is Saying



Hyun Song Shin

Economic Adviser and Head of Research
Bank for International Settlements

[C]ryptocurrencies **fall a long way short of being able to oust the conventional monetary system**... Two limitations loom large. One is the **lack of scalability**, which is about providing flexibility and capacity to function as a payment system regardless of the number of transactions. The second problem is the **lack of finality of payments**. A payment being recorded in the ledger does not guarantee that it is final and irrevocable.

The Committee (IFRS Interpretations Committee) observed that a holding of cryptocurrency meets the definition of an **intangible asset** as it is capable of being separated from the holder and sold or transferred individually, and is **not a monetary asset** as it does not give the holder a right to receive a fixed or determinable number of units of currency.



IFRIC Update
June 2019



BANGKO SENTRAL NG PILIPINAS

What the Technical Side is Saying



“Stablecoins are **not an especially stable store of value**. As discussed, they are a claim on a private institution whose viability could prevent it from honoring its pledge to redeem coins at face value.... stablecoins is akin to constant net asset value funds which can break the buck – i.e. pay out less than their face value – as we found out during the global financial crisis.”

“Some stablecoins do not offer redemptions at fixed prices, but at market prices instead. We say their **value is variable relative** to the domestic unit of account.”



BANGKO SENTRAL NG PILIPINAS

The Debate Really Revolves Around Its Nature

What is it ?

Security Money



- If the digital asset has no underlying asset, is it even an “economic good”?
- Having an underlying asset suggests that it is of the nature of a security.
- Yet, endowing these with the ability to be a medium of exchange, store of value and a unit of account means that it has a textbook features of “money.”



BANGKO SENTRAL NG PILIPINAS

The Debate Really Revolves Around Its Nature

Whose oversight is it ?

SEC

CB



“In any event, **financial authorities need to coordinate their actions with those taken in other policy domains**, such as competition or data protection. No less importantly, they need to cooperate with their peers in other jurisdictions, given the global scope of both innovation and the business models of many new players”

Fernando Restoy

Chairman, Financial Stability Institute

Bank for International Settlements

October 2019



BANGKO SENTRAL NG PILIPINAS

Should We Treat Digital Assets Like Driving ?



In driving:

- Not everyone who wants to or has the means to drive is allowed to drive
- Driving provides private benefits but its costs are often public (bad driving habits cause traffic jams or accidents)
- Those allowed to drive have to show some minimum level of knowledge and skill



BANGKO SENTRAL NG PILIPINAS

Potential Financial Stability / Systemic Risk Issues

To Individuals

1. Digital assets look like very appealing. *Do we know enough about it to act?*
2. But DAs can quickly lose their luster. *Are individuals ready to lose their principal investment?*
3. This tech world processes bytes much faster than the old paper-based world. *Are individuals able to monitor faster-paced developments?*
4. The Fallacy of Composition holds. *Do individuals have to worry about the health of the system, alongside or ahead of their own interests?*

To the Financial System

There is much for financial authorities to think about. Thankfully, there's Session 5.



BANGKO SENTRAL NG PILIPINAS

Cryptocurrencies in Vietnam - context and policy challenges

DUONG Thi Nhi
Head of Research Division
Insurance Research and Training Center
Ministry of Finance

*(The presentation is based on personal opinion, and does
not represent the relevant agencies)*

Context

- At the end 2017 and early 2018, the cryptocurrencies trading activity had complicated happenings in Vietnam.
- Vietnam is one of four largest markets in Asia. The amount of access from Vietnam to some Bitcoin exchanges or virtual money information sites in the world such as Bittrex, Poloniex, Coinmarketcap ... is always in the Top 5 (CryptoCompare).
- From 2017 - mid 2018: there have been 15,600 virtual currency miners being imported into Vietnam.
- Trading virtual currencies following the multi-level business model.

Context

- In April 2018, to sell iFan & Pincoin virtual currency Modern Tech Joint Stock Company pledged: the lowest profit of 48%/month, the maximum payback period of 4 months, invite other people to join investors will receive an additional 8% commission ... Besides, they also promise to help US citizenship, use accounts to pay like Visa cards, Or will it be listed on the Nasdaq Stock Exchange (US) ...
- By the above tricks, members of Modern Tech Company has invited about 32,000 investors to participate in iFan virtual currency project. It is worth mentioning that, after the investors contributed 15,000 billion VND, they were not refunded capital, interest.
- This case is the first in the top 5 largest scams in the world in the cryptocurrency market.

Context

- These transactions mainly take place on the internet, so the investigation is extremely difficult. Therefore, when this model collapsed, people could not withdraw money to invest in the system.
- This case is a warning to many investors who are investing in virtual currencies despite all risks and hope to get rich quickly while there is no legal framework to regulate and manage virtual money business in Vietnam.

Legal and policy framework

- In Vietnam, cryptocurrencies are not recognized as a means of payment, but there are no regulations to specify it as a commodity.
- Vietnam has no legal framework to regulate and protect the interests of virtual currency investors.
- When a dispute arises from civil transactions using virtual currency, it can be declared invalid due to content violating the prohibition of the law, the parties only have to return to each other what they have received. But **if the party who is obliged to repay is unable to pay**, the risk of losing the property is very high.

Legal and policy framework

- On August 21, 2017, the Prime Minister issued Decision No. 1255 / QD-TTg approving the Project on the legal framework for management and handling of virtual assets, electronic money, virtual money ": the Ministry of Justice was assigned to be the focal point to review and assess the status of virtual money and make a proposal to formulate legal documents on management of virtual money and financial virtual production; The time for completion is in 2018: good plan but slow progress, prudence because of the context.
- On April 11, 2018, the Prime Minister issued Directive No. 10 / CT-TTg on strengthening the management of activities related to Bitcoin and other similar virtual currencies to prevent and control virtual currency transactions and activities, minimize the impacts and negative effects of virtual currencies on people and society.

Legal and policy framework

- The Prime Minister requested the State Bank to instruct credit institutions and payment intermediary service providers to not conduct illegal transactions related to virtual currencies; enhance the review and timely reporting of suspicious transactions related to virtual currencies in accordance with the law.
- The statement of the State Bank shows that organizations and individuals should not invest, hold or conduct transactions related to bitcoin and other similar virtual currencies because the State does not protect them.
- The related agencies (SBV, SSC) mainly give warnings and recommendations. SSC recommends that public companies, securities companies, fund management companies and securities investment funds not conduct issuance, trading and brokerage activities related virtual money.

Legal and policy framework

- Ministry of Industry and Trade; Ministry of Finance and relevant agencies consider the temporary suspension of import of data processing machines that automatically exploit virtual money but the list of goods and services banned from import doesn't have the name of these types of machines.
- Because there is no legal basis for cryptocurrencies to be a commodity or a service, the Ministry of Finance cannot collect any taxes on cryptocurrency trading.
- In Legal framework, no crime, penal, behavior directly linked to cryptocurrency, so it cannot be processed unless there is evidence of fraud.

Findings of the research

- ***Very useful report, providing a lot of practical information:***
The IOSCO Principles and Methodology, experience from other countries in supervising as well as supporting investors on cryptocurrencies, Malaysia's Proposed Regulation Framework for Issuing Digital Assets through ICOs and requirements, rules when registering with the SEC in Philippine is really a useful and timely reference.
- ***Better understand about Vietnamese cryptocurrency investors:***
- Formal transactions in banking and payment intermediaries are prohibited from trading in cryptocurrencies, but underground transactions are still strong; most holders in the age group 25-54, the woman holder position...

Findings of the research

- Only 56% think it is necessary to diversify the portfolio demonstrating the need for financial and investment education from the root knowledge.
- Important role of social media platforms, media articles, user-created profiles, interactive apps, social networking sites.
- Investors mainly use advice from family members, friends....
- 83% of Vietnamese people are willing to lose money, much higher than other countries.
- **About Policy considerations:** agree with all recommendations of the report. Any solution is very important and may requires separate studies to implement.

Challenges-Opportunities

- Project 1255 is important in the absence of a legal framework for cryptocurrencies: learn from experiences of Malaysia, Philippines and other countries, organizations, cryptocurrencies can be traded officially and subject to regulatory oversight with transparency.
- Organizations and individuals involved in providing services related to cryptocurrencies need to be licensed and enforce regulations according to certain standards.
- The financial agencies should build a legal corridor (including pilot area - sandbox) to ensure the control and protect the investors of cryptocurrency. When the policy has been stabilized, well understanding of the mode of operation of transactions, a wide-ranging policy and legal framework can be applied

Session 3



CONSUMER AND DATA PROTECTION IN AN INCREASINGLY DIGITAL ENVIRONMENT

Miles Larbey, Head of Financial Consumer Protection, OECD

miles.larbey@oecd.org

11 December 2019



Financial Consumer Protection

- OECD leads the development of global financial consumer protection policy
- **G20/OECD Task Force on Financial Consumer Protection**, includes all G20 and OECD countries and international organisations eg IOSCO
- **G20/OECD High Level Principles on Financial Consumer Protection** endorsed by G20 and OECD, and part of FSB Compendium of Standards
- Principles are supported by practical policy guidance in the form of **Effective Approaches**



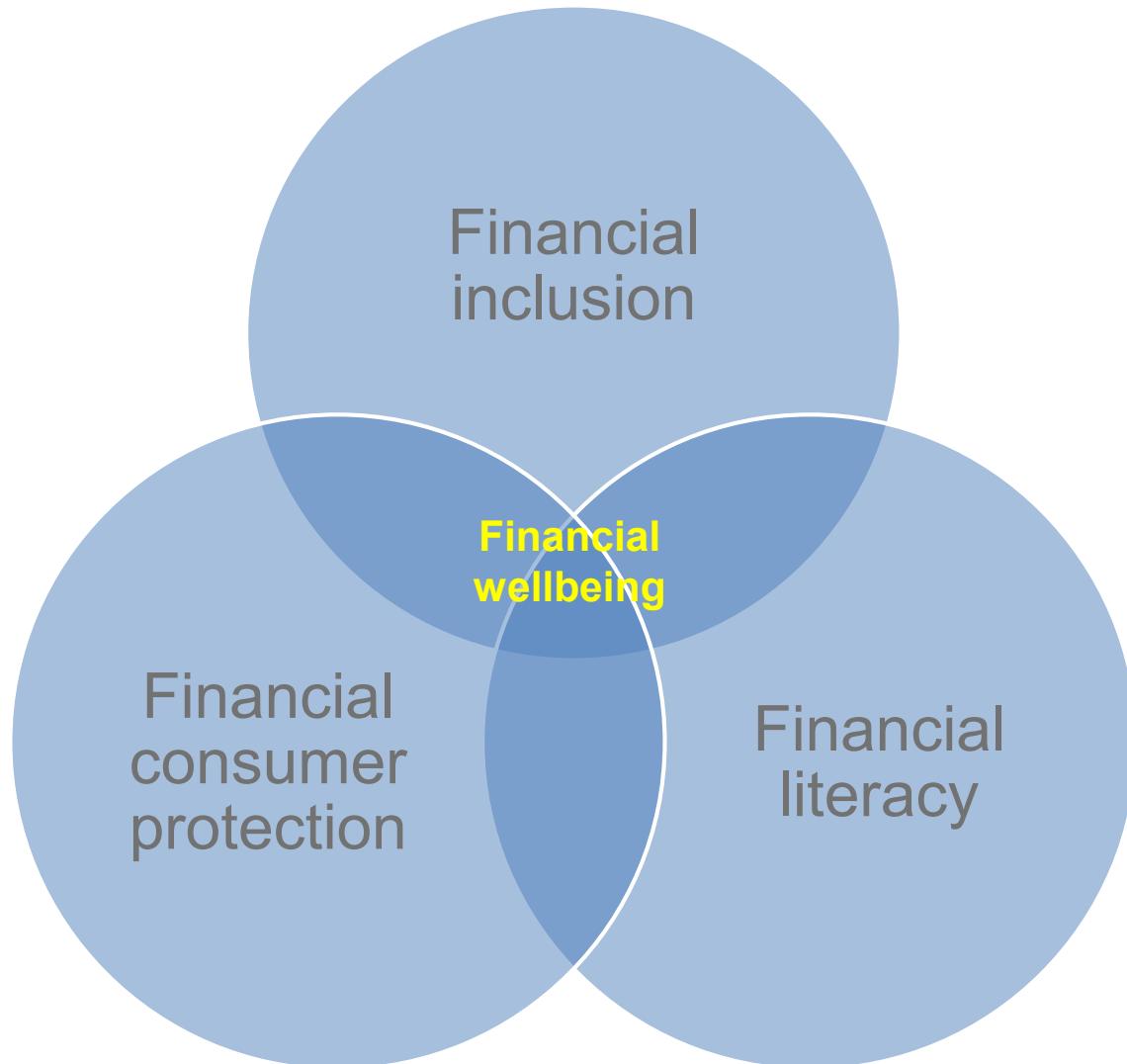


Financial Consumer Protection Principles

1. Legal, Regulatory and Supervisory Framework	6. Responsible Business Conduct of Financial Services Providers and Authorised Agents
2. Role, powers and capabilities of Oversight Bodies	7. Protection of Consumer Assets against Fraud and Misuse
3. Equitable and Fair Treatment of Consumers	8. Protection of Consumer Data and Privacy
4. Disclosure and Transparency	9. Complaints Handling and Redress
5. Financial Education and Awareness	10. Competition



OECD policy agenda



THE FINTECH ECOSYSTEM

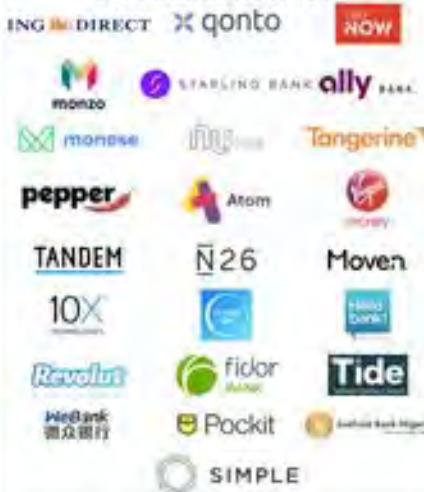
ROBO ADVISORS & PERSONAL FINANCE



REGTECHS



DIGITAL BANKS & BANKING SOFTWARE PROVIDERS



PAYMENTS & REMITTANCES



BLOCKCHAIN/DLT & BITCOIN



DIGITAL IDENTITY VERIFICATION



INSURTECHS



ALTERNATIVE FINANCE





Digitalisation: benefits

- Potential benefits for consumers:
 - Providing services that are tailored to individual needs and facilitate their usage
 - Offering more convenient, faster, secure and timely transactions
 - Increasing opportunities for fruitful interactions between financial services providers and consumers through digital interfaces
 - Improving identification and verification for new customers
 - Broadening the range of providers
 - **Extending the potential reach and access of financial services**



Digitalisation: risks

Digital financial services also carry new risks for consumers:

- Misuse of unfamiliar or new products
- New types of fraud
- Lack of or uneven levels of financial consumer protection
- Data protection issues
- Inappropriate or excessive use of digital profiling
- Growing digitalisation of daily life and of financial decisions is not necessarily matched by increasing digital and financial literacy levels



Digitalisation

The Task Force is updating the Effective Approaches to support implementation of the High Level Principles in the digital environment:

2018

Principle 2 – Role of Oversight Authorities
Principle 4 – Disclosure & Transparency

2019

Principle 1 – Legal, Regulatory and Supervisory Framework
Principle 3 – Equitable and Fair Treatment of Consumers
Principle 6 – Responsible Business Conduct
Principle 9 – Complaints Handling & Redress

2020

Principle 7 – Protection from fraud and misuse
Principle 8 – Consumer data protection



Financial consumer protection in the digital environment

Overarching policy considerations:

- Ensure regulatory responses apply regardless of the distribution channel, ie technological neutrality
- Ensure regulatory responses reflect the business model, size, systemic significance as well as complexity ie proportionality
- Use insights gained from data analysis to ensure evidence-based approaches, 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

G20/OECD Policy Guidance
Financial Consumer Protection Approaches
in the Digital Age

OECD G20 GPFI



Role of Oversight Bodies

Financial consumer protection oversight bodies need to adapt to the digital environment

- Engage proactively with stakeholders to understand market developments, emerging issues and risks
- Establish or upgrade systems and processes for data collection
- Adapt regulatory and supervisory approaches to the digital environment, eg suptech
- Respond to technological innovation while maintain consumer protection eg Regulatory Sandboxes etc
- Ensure the appropriate skills, capabilities and resources, provide staff training and development and establish multi-disciplinary teams or working groups



Disclosure and Transparency

Digitalisation provides opportunities to enhance transparency, and test alternatives

- Evaluate and adapt disclosure requirements for the digital environment (eg scroll down times etc)
- Explore different approaches enabled by digital technology eg screen sizes, different formats and channels
- Test and explore approaches in line with digital capability and embed consumer behavior
- Consider *alternatives* to disclosure enabled by technology eg publication of indicators based on data (eg complaints), opt-outs, smart defaults, personalised frictions in decision making



Consumer data protection

- Relevant digital developments eg open banking, online scams, greater use of data, personalisation, use of algorithms etc
- Policy and legislative developments, including OECD legal instruments – AI Principles
- Development of policy guidance tailored to issues re financial consumers:
 - Importance of consultation and information-sharing arrangements
 - Use of personalisation has benefits, but need to avoid financial exclusion
 - Algorithms or other programmes underpinning digital financial services (eg digital financial advice or automated credit scoring) should be clear and transparent, including options for recourse, and lead to fair and objective outcomes
 - Promotion of safe online transacting, protection of personal information and from cyberattacks
- Liaison and consultation with data protection authorities
- Final guidance will be developed in 2020

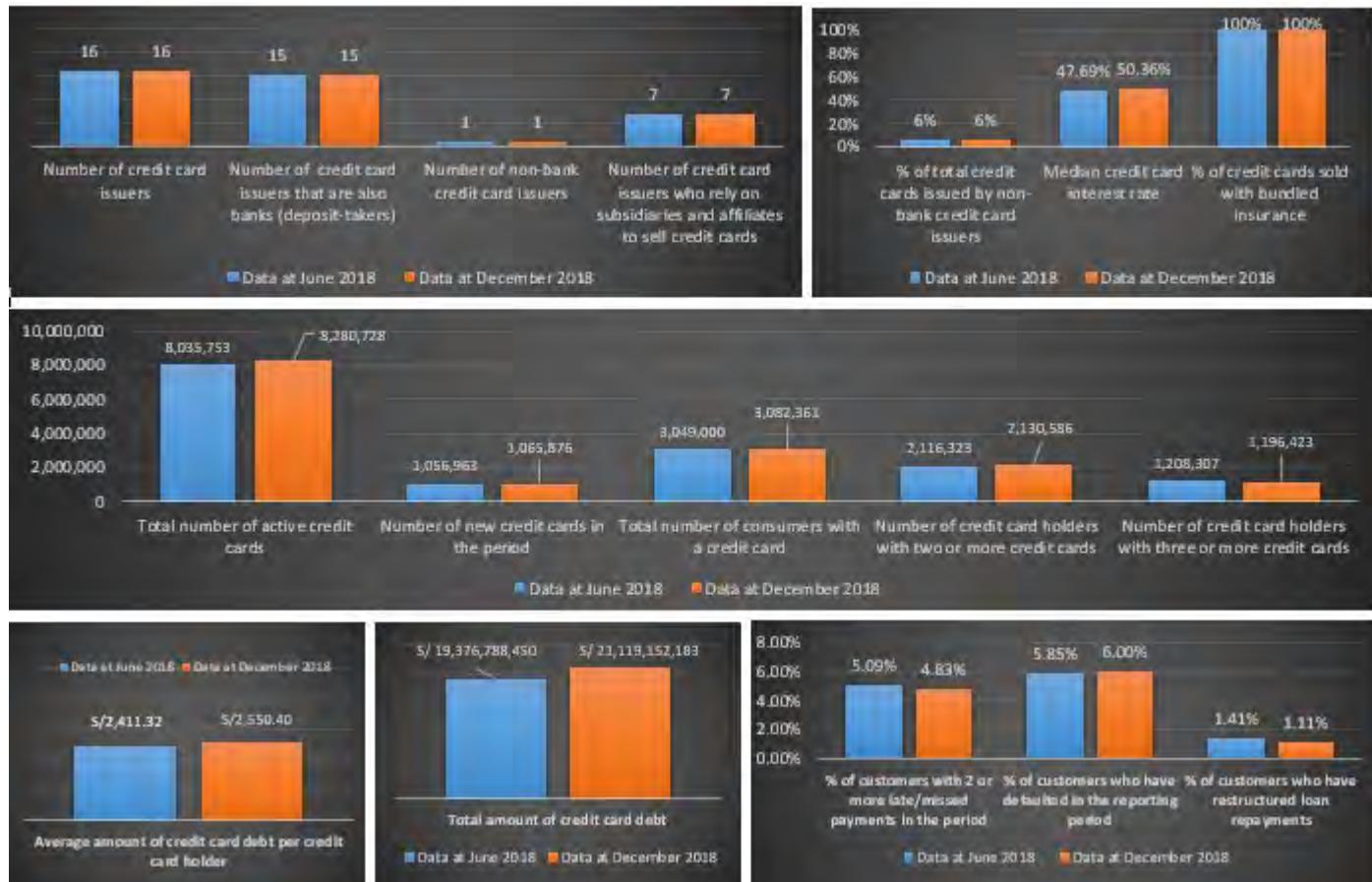


Collection and use of data – “risk dashboard”

- A project to develop a model approach to collection and use of data to help jurisdictions identify, monitor and quantify financial consumer protection risks using data.
- First phase: conceptual model of risk management, identification of risk indicators and development of draft risk dashboards.
- Second phase: a pilot exercise to test the draft risk dashboards, with a view to learning and adapting in light of experience.
- Working group comprising data experts from regulatory and supervisory agencies.



Illustrative risk dashboard: Industry/product indicators



*These charts are for illustrative purposes only and do not reflect the official views of any particular jurisdiction



Conclusions & Next Steps

- Data is an essential part of an overall risk assessment framework for oversight authorities, although there are challenges in identifying sources of and collecting data
- Data is often collected and used in relation to a specific function, but has greater potential to understand a market segment and identify risks holistically
- Value of a policy or strategy on collection and use of data – “connect the dots” between different data sources
- Importance of having the necessary organisational capabilities and other mechanisms to support effective collection and use of data
- Final versions of risk dashboard and policy guidance published Q2 2020
- Development of regular reporting exercise or outlook based on the dashboard on consumer risks and trends globally Q2 2020



Digital Environment: HKMA's initiatives on Bank Consumer Protection

*Hong Kong Monetary Authority
11 December 2019*



Outline

1. HKMA's approach

2. Recent Initiatives

- Consumer Protection in respect of Big Data and Artificial Intelligence (BDAI)
- Consumer Protection Measures in respect of Open API Framework
- Online Retrieval Period of e-Statement
- Handling of Mis-transfer of Funds



HKMA's approach

- **Characteristics of digital financial services:**
 - high speed, remote, automated decision-making, non-financial entities
- **Rapid evolution of technology and its application to financial services increase:**
 - convenience and benefits to consumers
 - financial consumer protection concerns
- **A right balance** between promoting financial innovations and appropriate consumer and investor protection



Consumer Protection in Respect of Big Data and Artificial Intelligence

- ❖ Balance between promoting financial innovations and according appropriate customer protection
- ❖ Engagement with the banking industry
- ❖ Risk-based and technology-neutral supervisory approach
- ❖ High-level principles issued on 5 Nov 2019
- ❖ Joint effort for developing worked examples and consumer education



Consumer Protection in Respect of Big Data and Artificial Intelligence

(1) Governance and accountability

- ⊕ Board and senior management accountability
- ⊕ Explainability of the models
- ⊕ Upholding principles of customer-centric culture and fair treatment of customers
- ⊕ Proper validation of the BDAI applications before launch and on an on-going basis

(2) Fairness

- ⊕ Objective, consistent, ethical and fair outcomes
- ⊕ Ensure customer access to basic banking services not denied unjustifiably
- ⊕ Possibility of manual intervention where necessary



Consumer Protection in Respect of Big Data and Artificial Intelligence

(3) Transparency and disclosure

- ❖ Provide proper disclosure to customers on the use of BDAI
- ❖ Upon customers' request, provide explanations on what types of data are used and what factors or how the models affect the BDAI-driven decisions
- ❖ Mechanism for customers to enquire and request reviews on the decisions made by BDAI

(4) Data privacy and protection

- ❖ Comply with the Personal Data (Privacy) Ordinance (PDPO)



Consumer Protection Measures in respect of Open API Framework

- ❖ HKMA introduced the “Open API Framework for the Hong Kong Banking Sector” in July 2018
- ❖ Issued a circular in October 2019:
 - Remind banks to uphold consumer protection principles
 - Risk-based approach
 - Clarify the use of loan intermediaries



Consumer Protection Measures in respect of Open API Framework

Banks to implement adequate measures, such as:

- ⊕ Publish a list of 3rd party service providers (TSPs) partnering with banks
- ⊕ Educate customers to check the list and be vigilant to fake websites or similar scams
- ⊕ Conduct assessments on the TSPs and collaborated services before on-boarding and thereafter on an on-going basis

Fair treatment of customers	Measures against fraud
Adequate disclosure and transparency	Appropriate customer data protection measures
Complaints handling and redress	Liability and settlement arrangement
Responsible business conduct	Customer education



Consumer Protection Measures in respect of Open API Framework

(Con't)

- ⊕ Clear liability and settlement arrangement, adhering to the principles that a bank customer should not be responsible for any direct loss suffered by him/her as a result of unauthorised transactions
- ⊕ Regular monitoring to see if there are fake websites or similar scams, and promptly notify customers and the public
- ⊕ Proper complaint handling and redress mechanism



Online Retrieval Period of e-Statement

Background

- ❖ Online retrieval period varied among banks (ranged from 6 months to 7 years)
- ❖ Customer feedback on short online retrieval period
- ❖ Customers need to download and store the softcopy themselves, but may forget

New Requirements

- ❖ Extend online retrieval period to at least 7 years
- ❖ Provide the service to customers free-of-charge
- ❖ Start to incrementally accumulate the e-Statements if banks cannot backload past e-Statements



Handling of Mis-transfer of Funds

Background

- ❖ Erroneous transfer funds to wrong recipients by customers, esp. under digital channels
- ❖ Customer feedback on difficulties in recovering the fund
- ❖ To standardise the procedures across banking industry

New Requirements

- ❖ Transferor's bank to contact the transferee's bank; seek consent from the transferee in returning the fund
- ❖ Transferor's bank to provide written response to the transferor within 20 working days

Session 4



FINANCIAL AND DIGITAL LITERACY

Adele Atkinson, Head of Financial Education Unit

Insurance, Private Pensions and Financial Markets Division
Directorate for Financial and Enterprise Affairs
OECD



OECD Project on Financial Education



OECD International Network
on Financial Education
(2008)

123 economies 277 public
authorities

Advisory board and
Technical committee

Thematic working groups



Outreach to other
communities
through

OECD/INFE Research
Committee
Conferences, seminar,
workshops
Global Money Week



Regional platforms and technical
assistance projects

Asia

Latin America

Eurasia (CIS)

South-East Europe

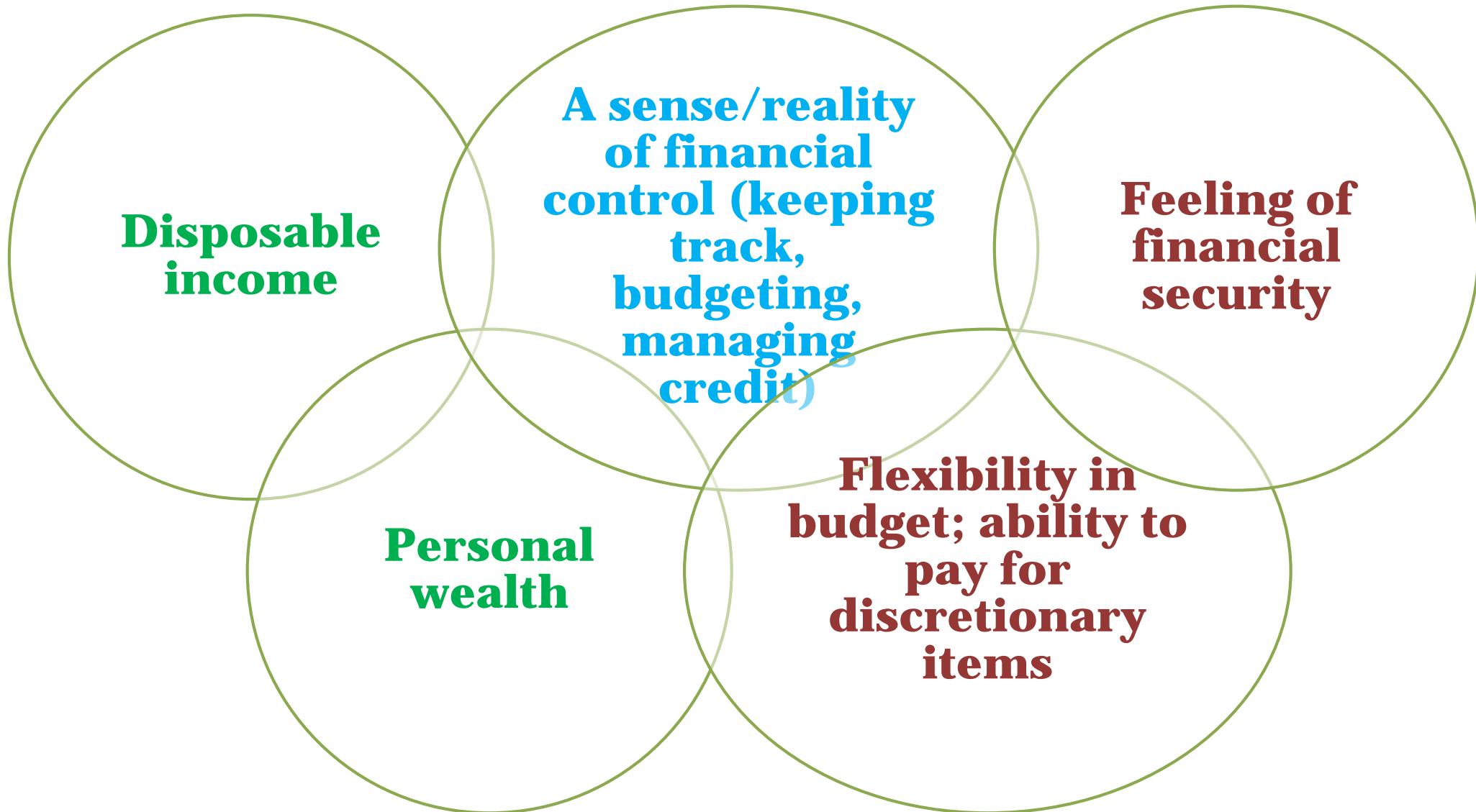


Financial Education definition (OECD, 2005; G20, 2012):
A capacity building process by which individuals,
through information, instruction and/or objective advice...





Financial well-being may include:



G20 OECD/INFE Policy Guidance Note on Digitalisation and Financial Literacy: a policy checklist

Develop a national diagnosis of the impact on consumers and entrepreneurs

Ensure coordination with private and not-for-profit sector

Support the development of a core competencies framework on digital financial literacy

Support effective delivery of FE through digital and traditional means

Facilitate and disseminate evaluation of FE programmes on DFS

Develop and collect key indicators: supply and demand side

Map actors and assess online platforms and tools to understand the message conveyed

Involve non-public actors in the design and implementation of digital initiatives

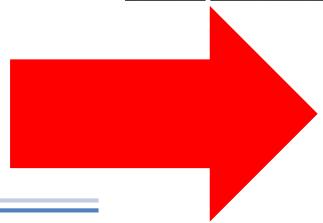
Develop and enforce codes of conduct / good practices to limit conflict of interest

More next!

Exploit advantages of digital delivery (easier access, tailored to the audience, better support to money management, reinforcement of core competencies)

Design appropriate mix digital/traditional for priority groups and vulnerable populations

Encourage the use of a standardised evaluation toolkit at the national level
Share the results at the national and international level





G20 OECD/INFE Policy Guidance Note: draw on data to develop or fine-tune **core competencies** frameworks

Appropriate trust in digital financial services

Awareness of new products, benefits and risks

Know what is regulated

Know your rights

Manage your digital life

Avoiding over-reliance on easy access to online credit

Beware of temptation to use online credit

Awareness of costs and risks of rotating credit

Know how to compare and understand digi-credit

Avoiding digital crimes, account hacking and data theft

Awareness of online fraud and security risks

how to use or stop using aggregation tools

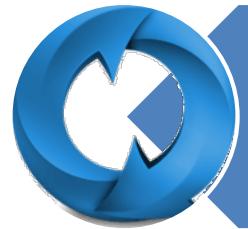
How to complain



Currently working on how to use digital delivery to make financial education more effective...



Appealing – especially to digital natives



Cost effective, scalable, quick to update



Convenient (available 24/7), with excellent reach



Can reduce cognitive, numeracy and time limitations – retirement income calculators, automated budget tools etc.

Global survey of OECD/INFE Full and Regular Members in January 2020 to:

- Identify **good practices** and **case studies**
- Understand the level of **cooperation between the public and the private and not-for-profit sector**
- **Develop guidance** to policy makers



OECD and digitalisation of financial services: understand impact, promote dialogue, and provide policy solutions

Blockchain Policy Centre

Pensions

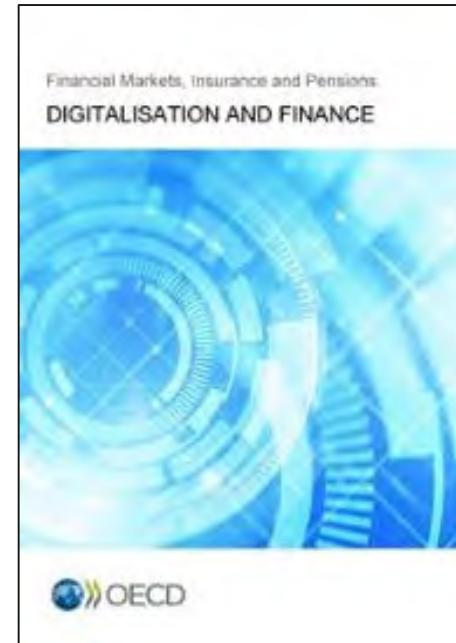
- Use of technology to enhance interactions with pension members
- Impact of technology on business models
- Regulatory approaches to Fintech

Insurance

- The sharing economy and insurance
- AI applications
- InsurTech

Robo-Advice

- Benefits and challenges
- Robo-advice platforms and role in promoting savings for retirement



OECD

OECD Global Blockchain Policy Forum 2019 12-13 September 2019



GOING DIGITAL
Making the transformation work for growth and well-being

OECD Going Digital project
www.oecd.org/going-digital



- Initial Coin Offerings (ICOs) for inclusive SME financing
- (Digital) Short-term consumer credit and inclusiveness

OECD Summit on Going Digital
11-12 March 2019



ĐẠI HỌC QUỐC GIA HÀ NỘI
TRƯỜNG ĐẠI HỌC KINH TẾ
VNU UNIVERSITY OF ECONOMICS AND BUSINESS

FINANCIAL EDUCATION IN THE DIGITAL AGE: EXPERIENCE FROM VIETNAM

Dr. Dinh Thi Thanh Van

Founder, Vietnam Financial Literacy Network

Associate Dean, Faculty of Finance and Banking

VNU University of Economics and Business

Email: yandtt@vnu.edu.vn or dinhthanhvan@gmail.com



Vietnam Financial Literacy Network
Improving financial literacy for Vietnamese people

Financial Inclusion and Fintech in Vietnam

92.7 Million
Population

6.5 Million
Population with
income <USD 2
per day

78.5 Million
Population with
income <USD 10
per day



65.8%
Rural population



94.5%
Adult literacy level



139.7%
Mobile penetration



31%
Banked population



2.2%
Gender gap in ownership
of bank accounts

Key Trends: Savings

- Low disposable income, high cost and time involved in travelling to the branch, long waiting time often with denial of transactions, complex processes, high transaction and other service charges are some of the key barriers for low-income customers

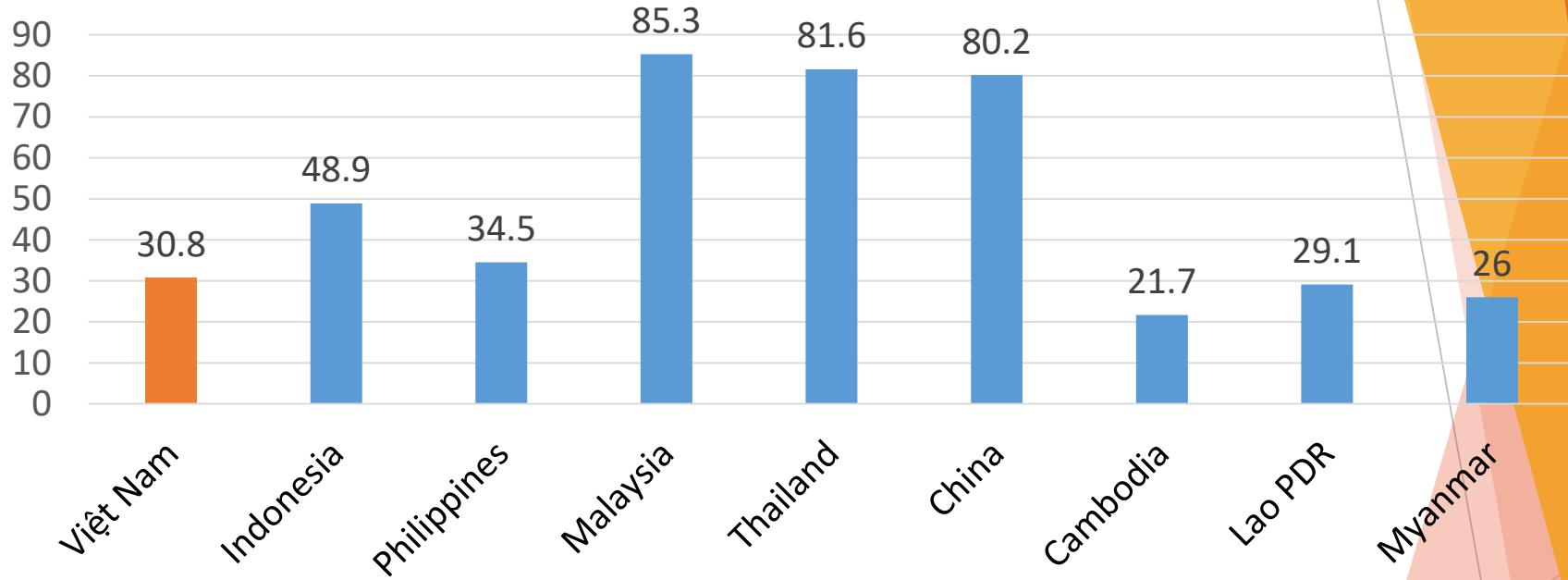
Key Trends: Credit

- Ranked at 88 globally in terms of ease of access to loans
- Almost half of the population avails credit, of which fifth avails credit from formal financial institution
- Inability to offer collateral and complex processes act as key constraints for low-income customers to avail formal credit services

Source: MicroSave, 2018



Bank account holders in Vietnam

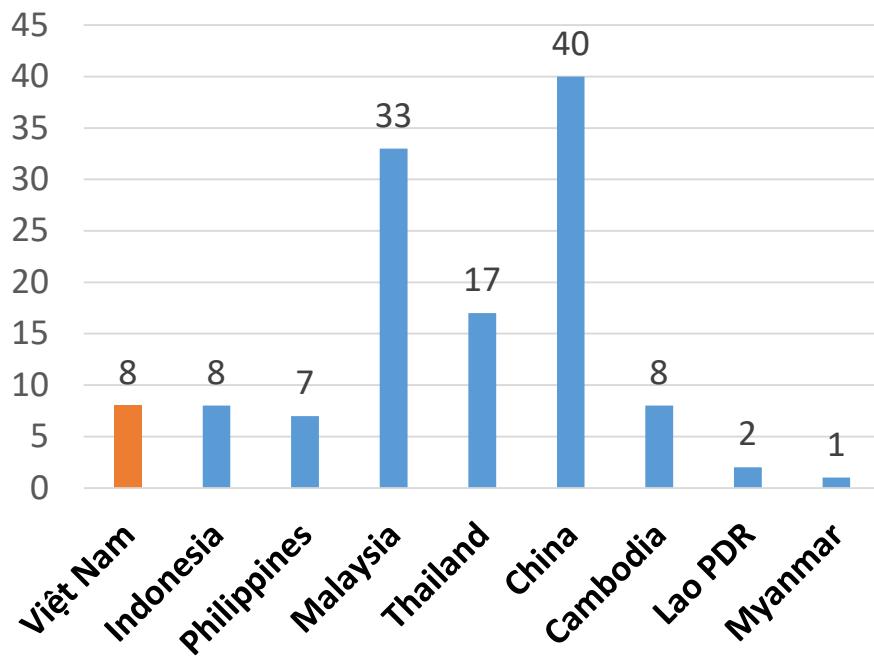


- Only a third of the adult population has bank account.
- Vietnam *lag* behind the ASEAN average.

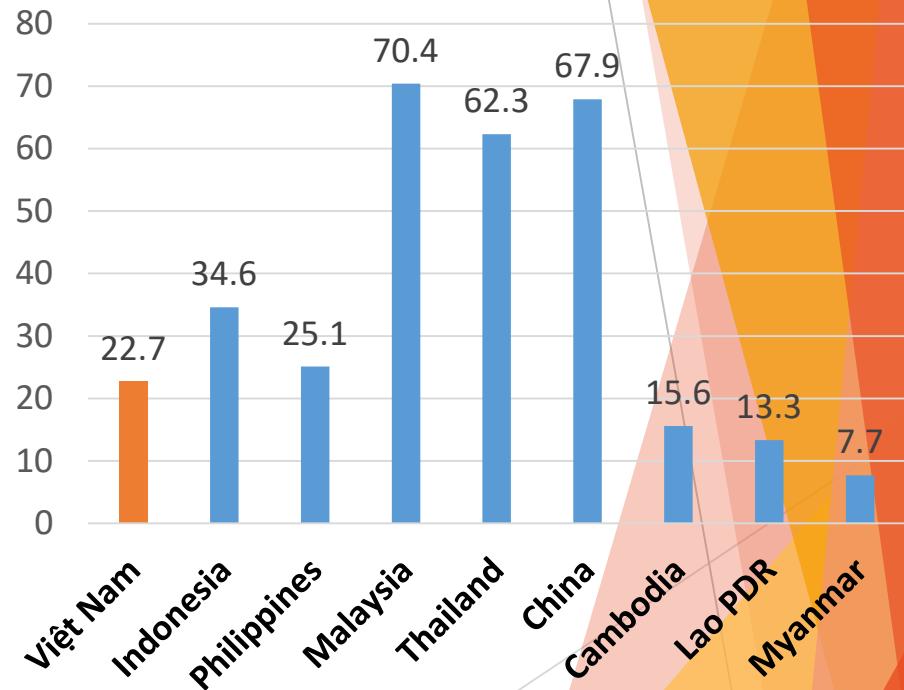
Source: Global Findex 2017



Percentage of adults using mobile phone to access to accounts (%),



Percentage of adults using mobile phone to make and receive payments, %



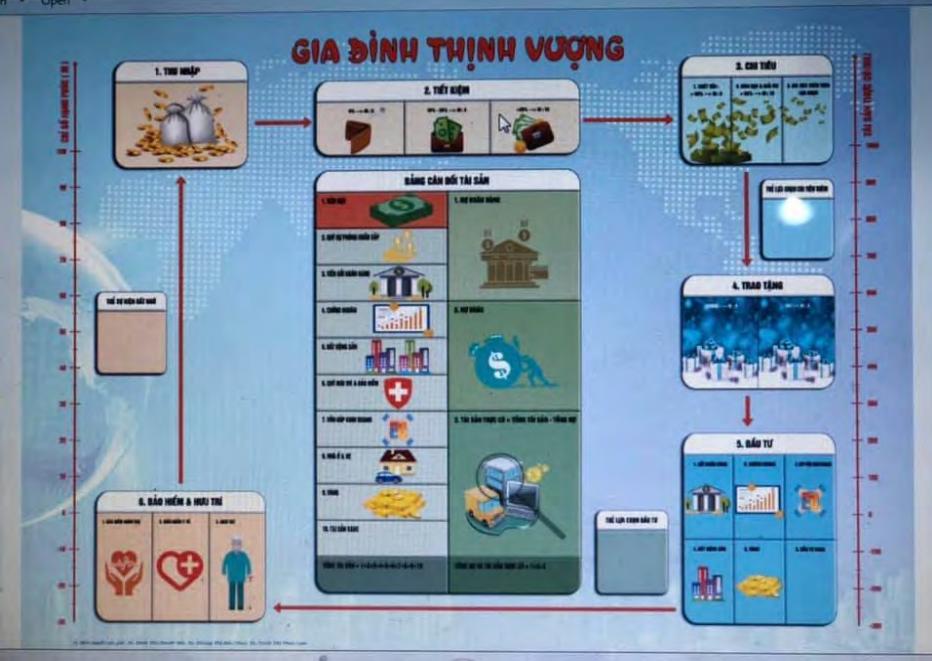
Source: Global Findex 2017



Financial Education In Vietnam: Boardgame for Kids



Board game for Adults





Formal Textbooks and Comic Books

Gia đình cơ bản



Bạn cùng lớp của Long



Bạn cùng lớp của Mai





Online lessons for students: game based learning

Ngày xưa tôi với bạn có biết bao kỉ niệm vui hồi đại học...

KHOI CAI PHAI

TÀI CHÍNH CÁ NHÂN

Chưa bao giờ là muộn để học cách quản lý tài chính cá nhân. Và đừng đợi đến khi bạn già mới nhận ra tầm quan trọng của kỹ năng này. Bạn có muốn biết cách sử dụng đồng tiền hiệu quả ngay từ bây giờ?

SẴN SÀNG

CHARACTER

NGƯỜI CHƠI NAM

NGƯỜI CHƠI NỮ

ROADMAP GAME

Bảo hiểm và hưu trí

Lập mục tiêu tài chính và ngân sách cá nhân

Nghề nghiệp và thu nhập

Chi tiêu và vay mượn

Tiết kiệm và đầu tư

GAME 1

GAME 2

GAME 3

GAME 4

GAME 5

START



Fintech's Customer Education

Writing the lessons on the website and apps, and books for financial education of customers

<https://my.moneylover.com/ong-thu-mot-ba-chi-hai/#doc-thu>



FINHAY



MoneyLover

Session 5

OECD-BNM CONFERENCE

*on Financial Education and Financial Consumer Protection in
Asia-Pacific - Empowering Financial Consumers in the Digital Age*

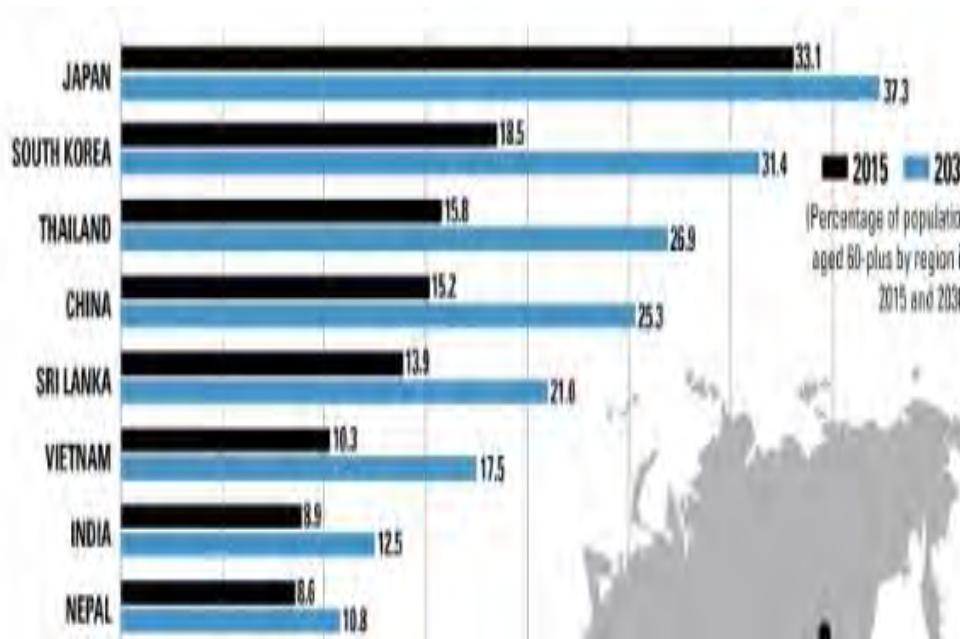
Looking over the Horizon: What Next for Policy Makers in Asia and Beyond?

Kuala Lumpur, 12 Dec 2019

Tirta Segara
Member of the Board of Commissioners
in Financial Education and Consumer Protection

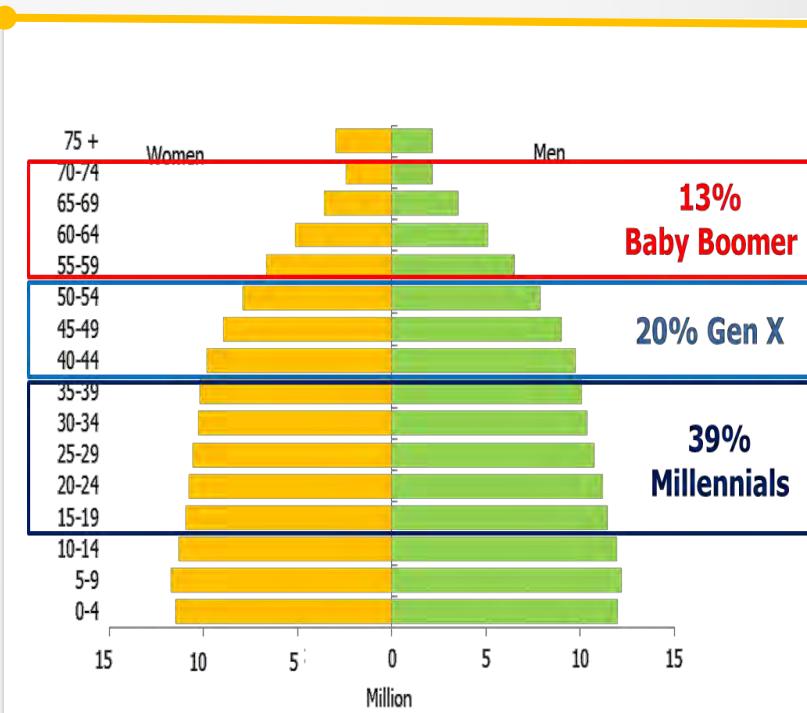
The Proportion of People aged 60 and over is projected to grow in all Asian Countries with Japan and South Korea aging faster than their neighbours...

Aging Population in Asia



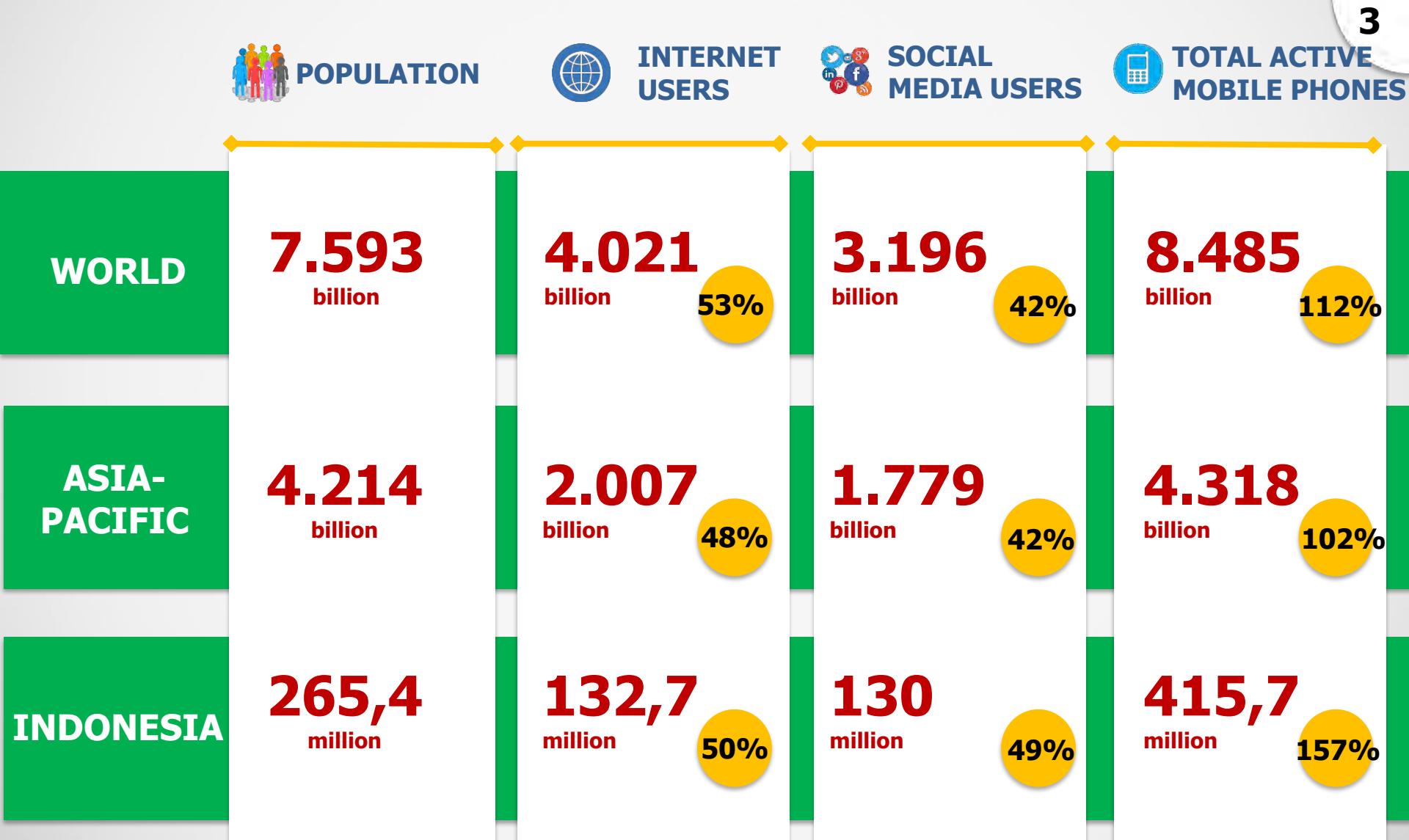
... On the contrary, Indonesia will experience demographics bonus.

Indonesian Population (2020 Projection)



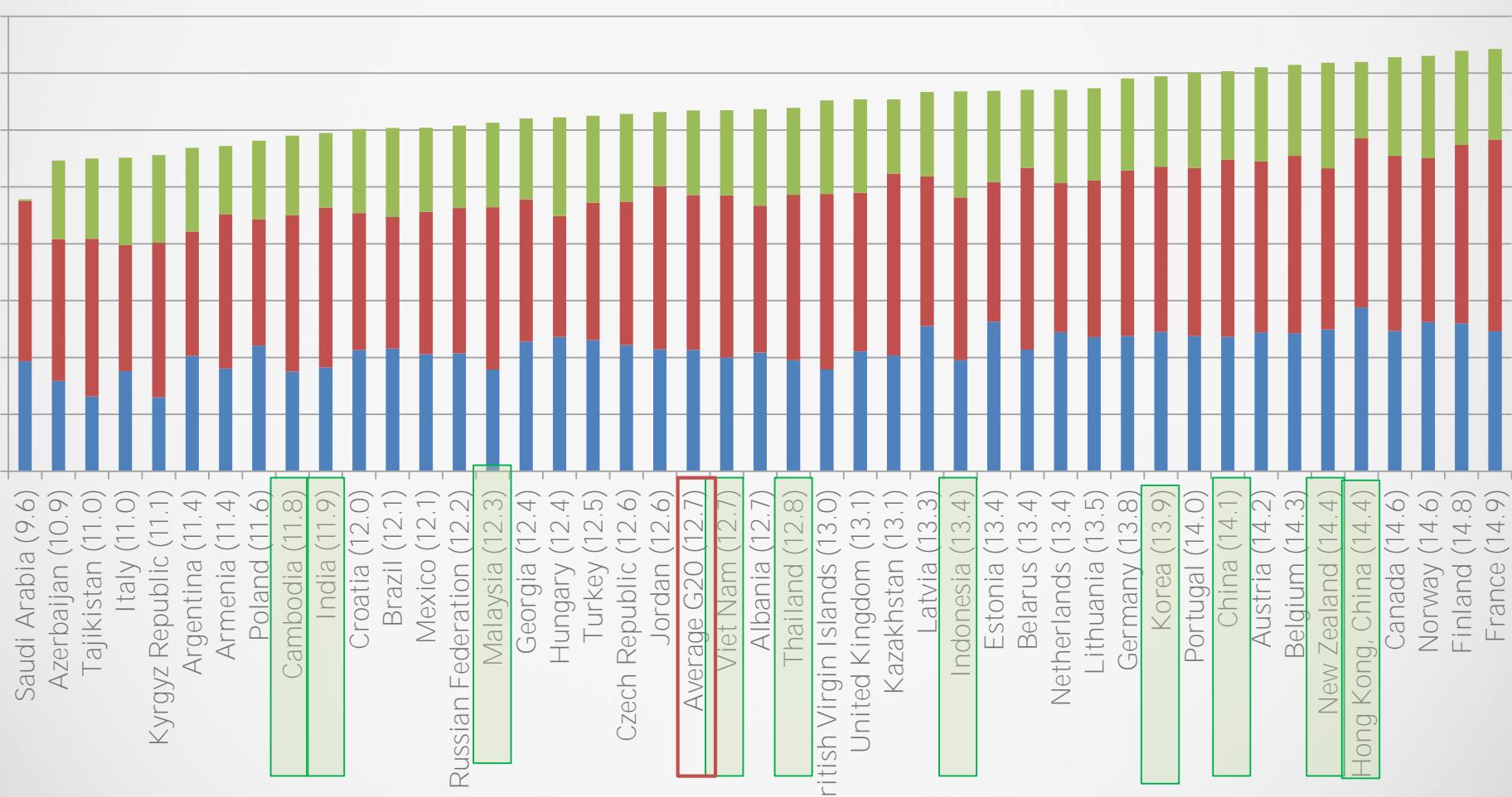
The Development of Information Technology

Financial Technology is growing very fast



But there are some Challenges Ahead..., such as Low Financial Literacy...

■ Knowledge ■ Behaviour ■ Attitudes



1 More financial products offered via Online and Retail



The growth of P-to-P lending



Adoption of Branchless Banking, Internet Banking & Digital Banking



Much lower transactions cost

2 Financial products are also offered from Overseas



Cross border transactions



Many illegal offers (scams)

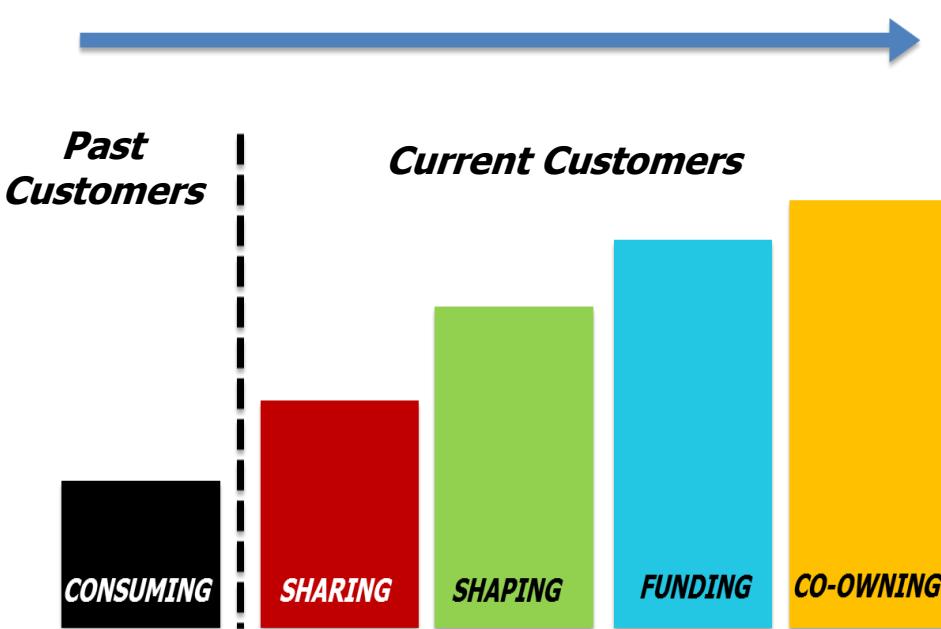
3 More complex financial product offered

What will Changes ...

Mobilization and Orchestration

Changing how people consume

Changing how society connected



From only consumption, today's consumers tend to 'sharing' and 'shaping', as well as participate in financing (*funding*) and participating in ownership (*Co-Owning*)

Distributed Trust

*In the hyper connected society, **trust** is not only function of (1) Capability, (2) Integrity, and (3) Consumer Protection, but also information from crowd communities (herding behaviour).*

*People now tend to trust information from other people **they don't know really well** (through social media).*

1

*Empowering Consumer through Financial Education...
From Awareness – Knowledge – Behaviour – Advocate*

7

“ Different Target, Different Languages ”

1

Face-to-Face Financial
Education Program

2

Digital Channel and Mobile Apps

Financial education using website,
mobile apps, social media, website,
and other media



3

TV and Radio (*featuring
celebrities/social leader*)

4

Include Financial Education
Program in Schools' **curriculum**

5

Contact Center: Kontak OJK 157

Strengthening contact
centre to become a main
reference for financial
information, and main
channel for financial
education



2

Build solid Consumer Protection Framework, including the use of technology for Regulation (RegTech) and Supervision (SupTech)



Strong Consumer Protection Regulation

Strike the balance between Regulation and Growth, as well as between Innovation and Protection.



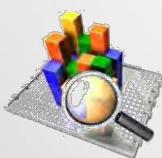
Accessible Internal Dispute Resolution

Strengthening Complaints Resolution Mechanism through IDR, including "*On Line Dispute Resolution*"



Credible External Dispute Resolution

Strengthening Out-of-Court Dispute Resolution mechanism



Effective Market Conduct (*On-site and Off-site Supervision*)

Strengthening Market Conduct Supervision along with Microprudential Supervision.

8



Customer Complaints Mobilization through Social Media

3

Collaboration with Key Stakeholders

9

GOVERNMENT/ REGULATOR

The National Council on Financial Inclusion

National council to boost financial inclusion, chaired by the President.

Task Force on Regional Financial Access Acceleration (TPAKD)

Stakeholders forum to improve financial access in the regions (*as of now: 32 Provincial Level and 132 Cities Level*)

Investment Alert Task Force (13 ministries)

The Task Force already warned 500 unlicensed financial activities during 2019, and closed down more than 1.200 financial apps.

Regional/Global Cooperation

Collaboration between international regulator is needed to tackle illegal cross border offers or transactions.

INDUSTRY

Financial Education Program by more than 2.000 financial institutions every year

Working Group on Financial Cons. Protection

1

Quarterly Coffee Morning

2

Sharing Critical Information

3

Problem Solving

Ensuring inclusive growth for all by Striking THE RIGHT BALANCE between Digital Innovation and Consumer Protection...

Vision: Stability; Contributive; Inclusive; Adequate Consumer Protection

Digital Innovation



Fintech for
Millenials



Fintech for
Financial Inclusion



Fintech for MSMEs

Consumer Protection



Transparency



Fair Treatment



Reliability



Data Privacy Protection



Effective Complaint Handling

Promote Stability

Increase Trust

Conclusion



Trends, Developments and Challenges ahead are also provide big opportunities to boost Financial Inclusion



Targeted Financial Education Program, together with Strong Policy Regulation and Solid Consumer Protection will increase the Level of Consumer's Trust, which eventually ensure inclusive growth for all.