

# **Financial regulation in Asia to achieve sustainable growth**

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# Higher Growth Rate of Asia

**1, Production networks**

**FDI and Export oriented Growth**

**2, Political stability**

**3, Population bonus (young population)**

## Uncertainly of Advanced Economies

**(1) From Export oriented Growth**

**to Domestically lead growth ?**

**(2) Increase of Private Debt**

**→ Banking Crisis or Capital injection ?**

## Comparison **ADB ADO** and WB GEP Economic Growth Projections

Table: GDP Growth, Developing Asia (%)

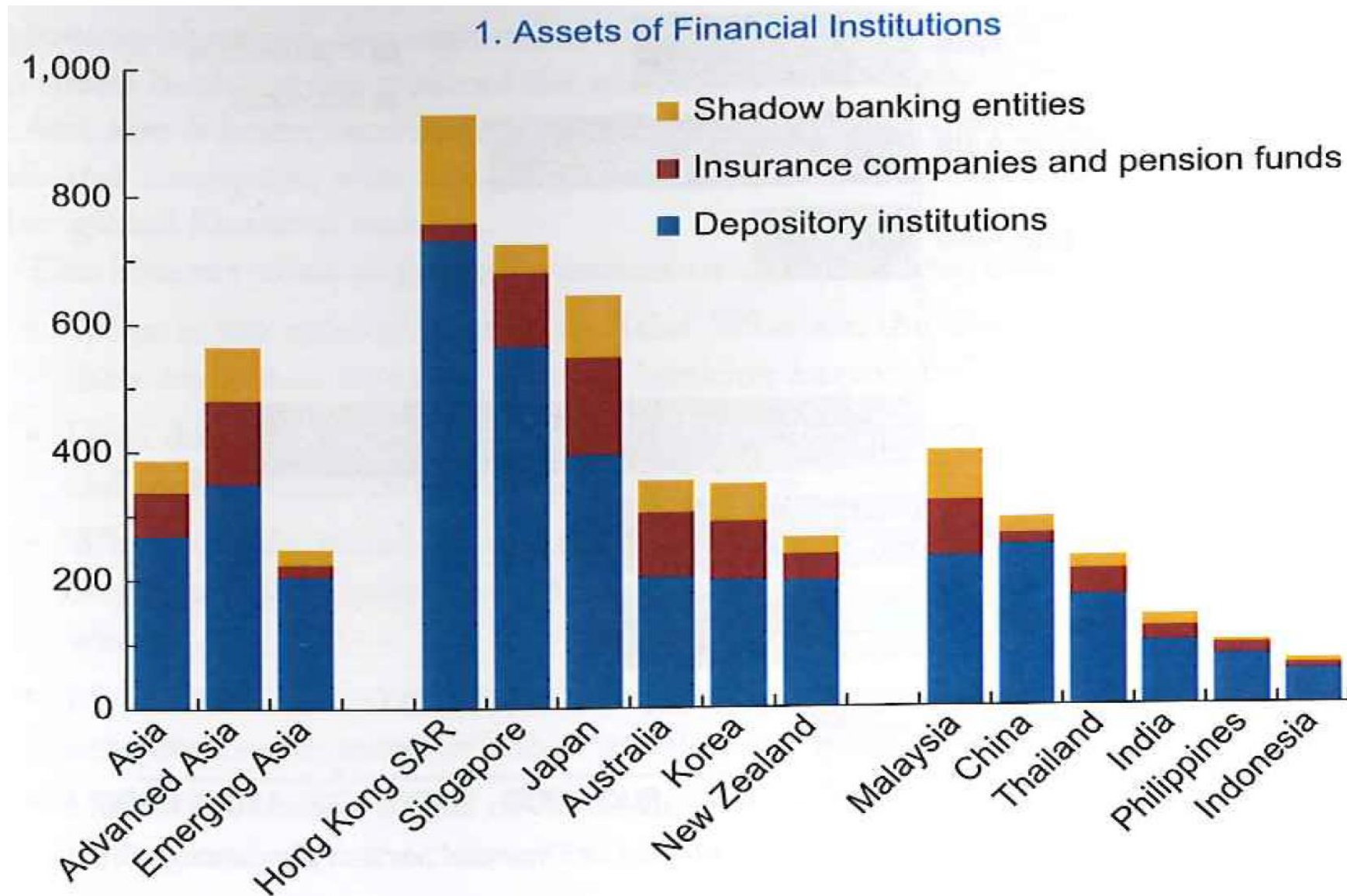
	2015	2016	WB2016	2017	WB2017
India	7.6	7.0	7.0	7.8	7.6
Indonesia	4.8	5.0	5.1	5.1	5.3
Malaysia	5.0	4.2	4.2	4.4	4.3
Philippines	5.9	6.8	6.8	6.4	6.9
PRC	6.9	6.6	6.7	6.4	6.5
Thailand	2.8	3.2	3.1	3.5	3.2
Viet Nam	6.7	6.0	6.0	6.3	6.3

# Asian Financial Markets' Main Features

1. Bank-dominated financial system
2. Small share of bond markets --->  
Needs for long term financing
3. Lack of long-term investors are gradually growing  
pension funds and Life insurance  
→ Too much reliance on overseas' investors ?
- 4, Bench mark bond market (sovereign bond)  
Infrastructure bond, corporate bond
5. High percentage of SMEs
6. Large share or Microcredit (finance companies); Lack of venture capital

# Large share of banks in Asia

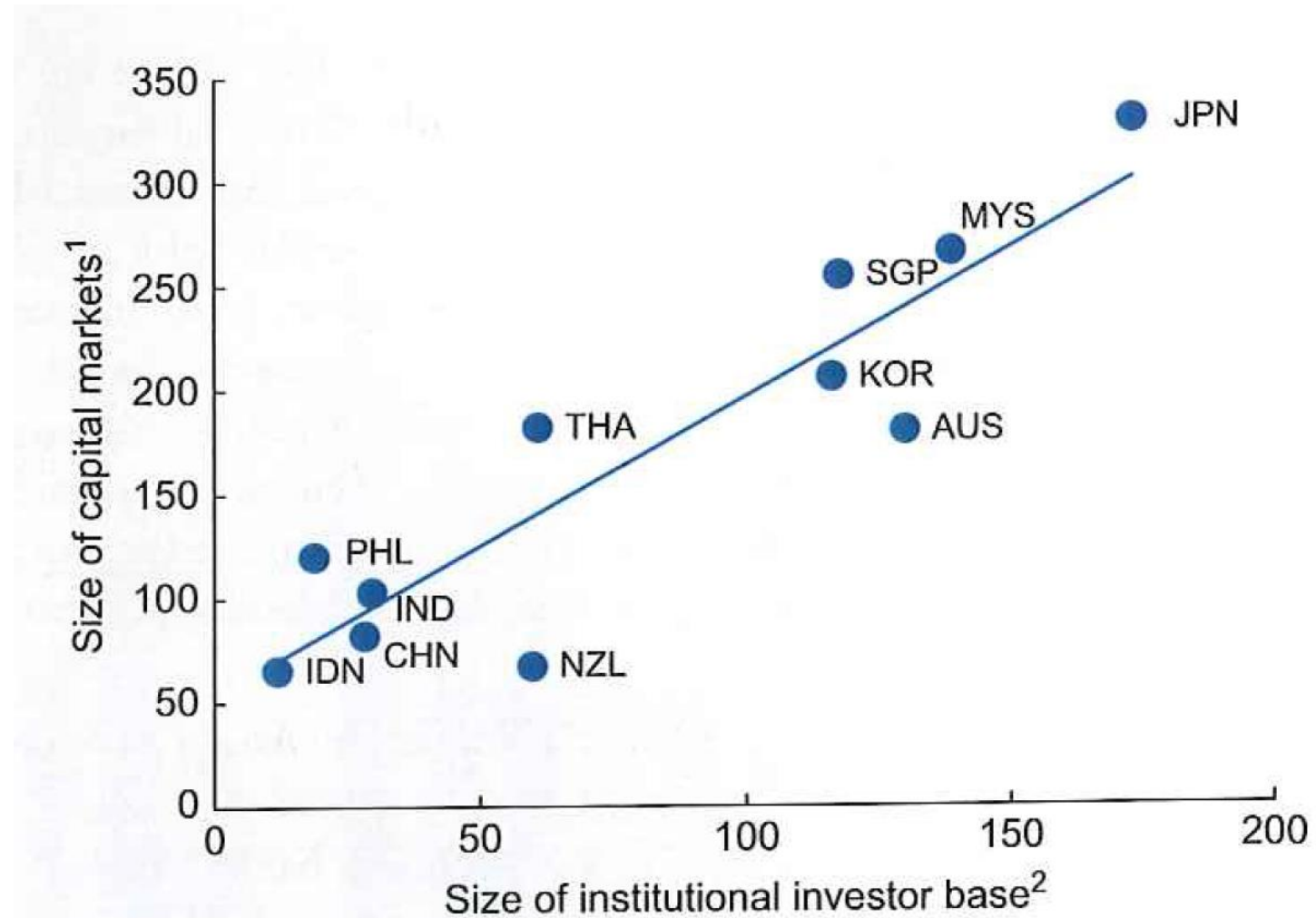
source: IMF, A Bird's-Eye View of Finance in Asia, 2015



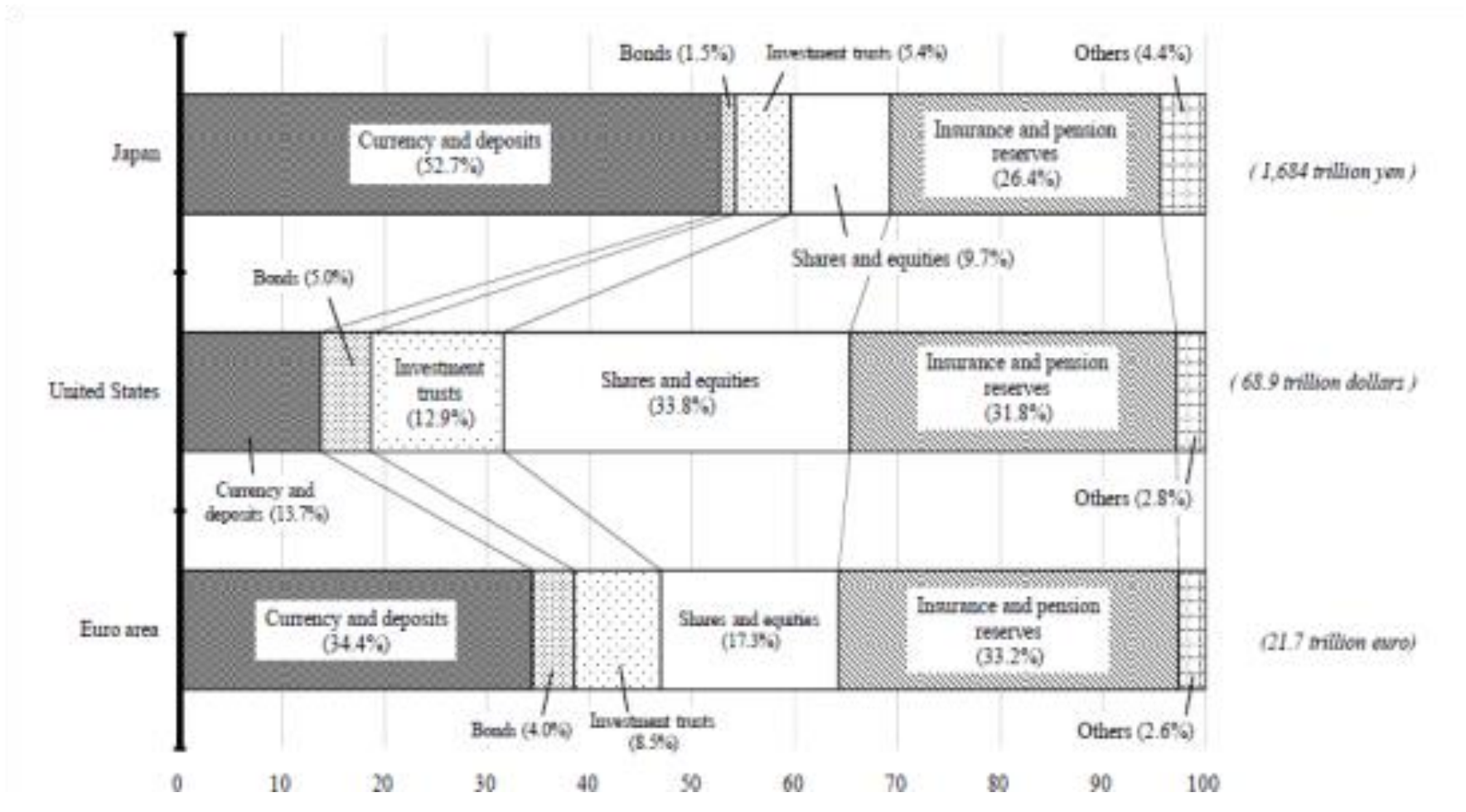
# Size of Institutional Investor/GDP

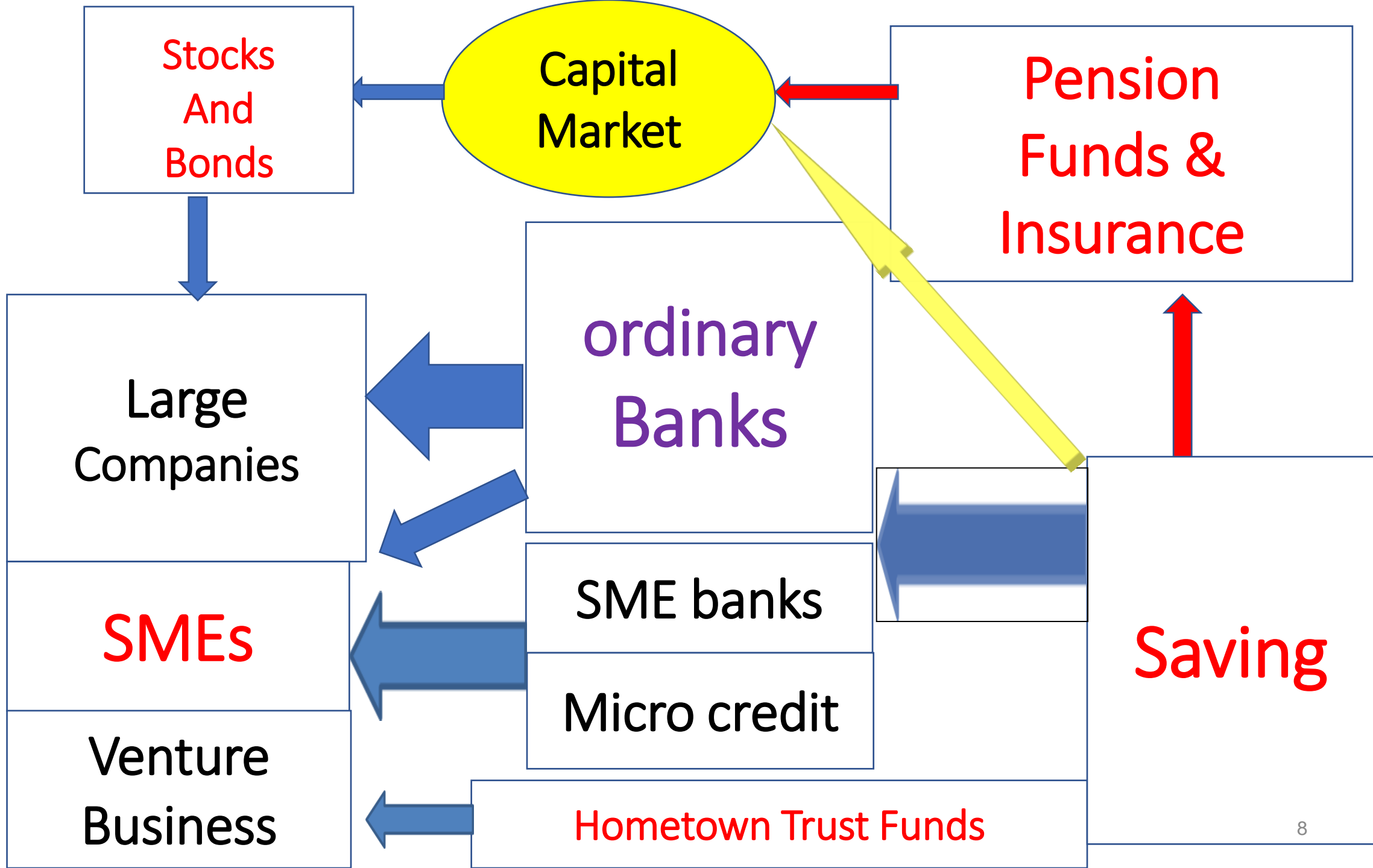
source: IMF, A Bird's-Eye View of Finance in Asia, 2015

## life Insurance and Pension Funds



# Asset Allocation (JAPAN,USA,Europe)







# Financial Regulation in Asia

## 1, Bank regulation

### Examine Loans

supplied by banks (and Insurance companies)

→ **Reduce NPLs,**

→ **risky borrowers are difficult to borrow**

## 2, Deposit Insurance, (Single premium rate)

## 3 Pension funds are not under financial regulation

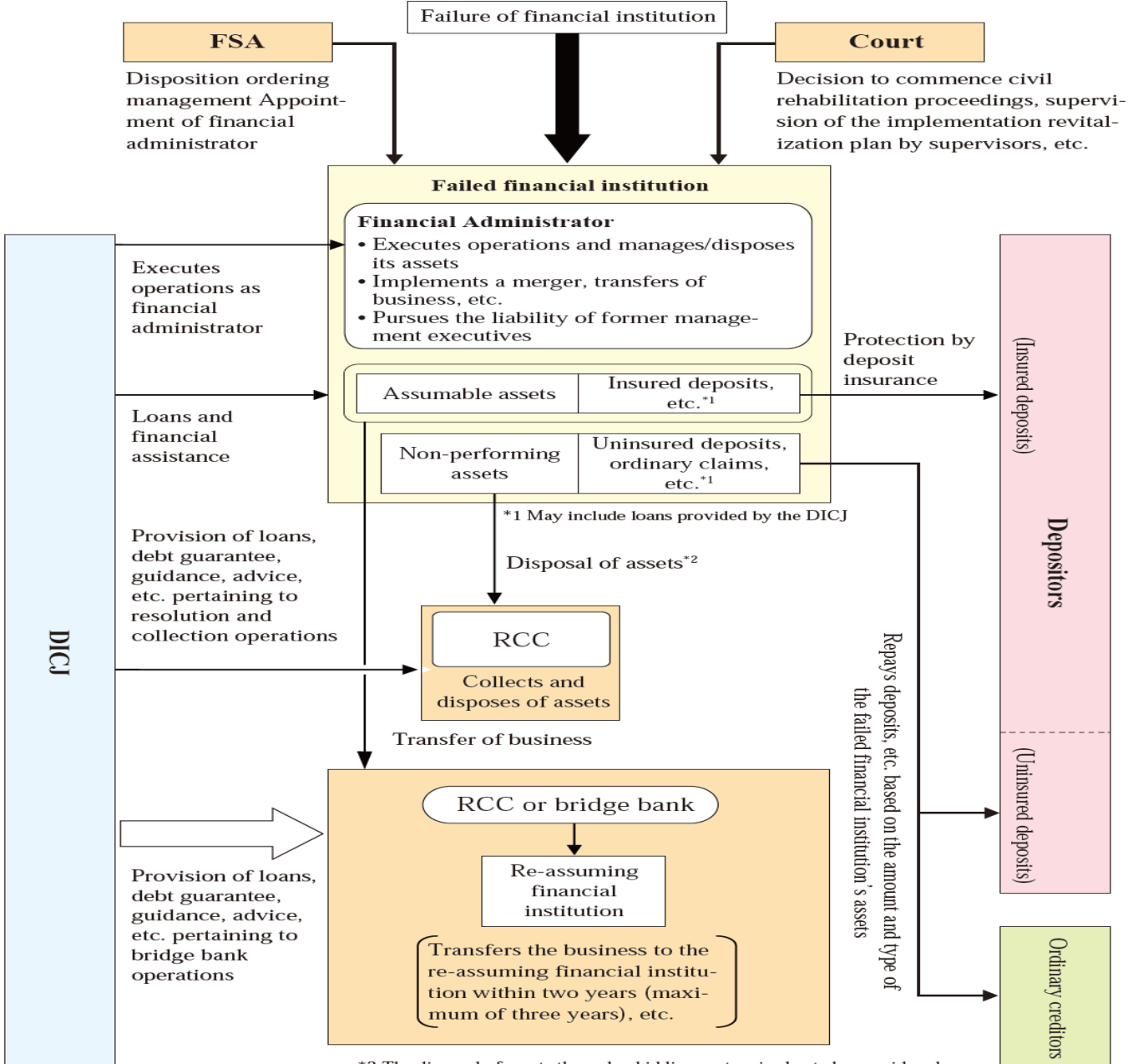
# Financial assistance in the resolution of failed financial institutions (as of the end of March 2016)

## (i) Financial assistance on a fiscal year basis

(Unit: ¥ billion)

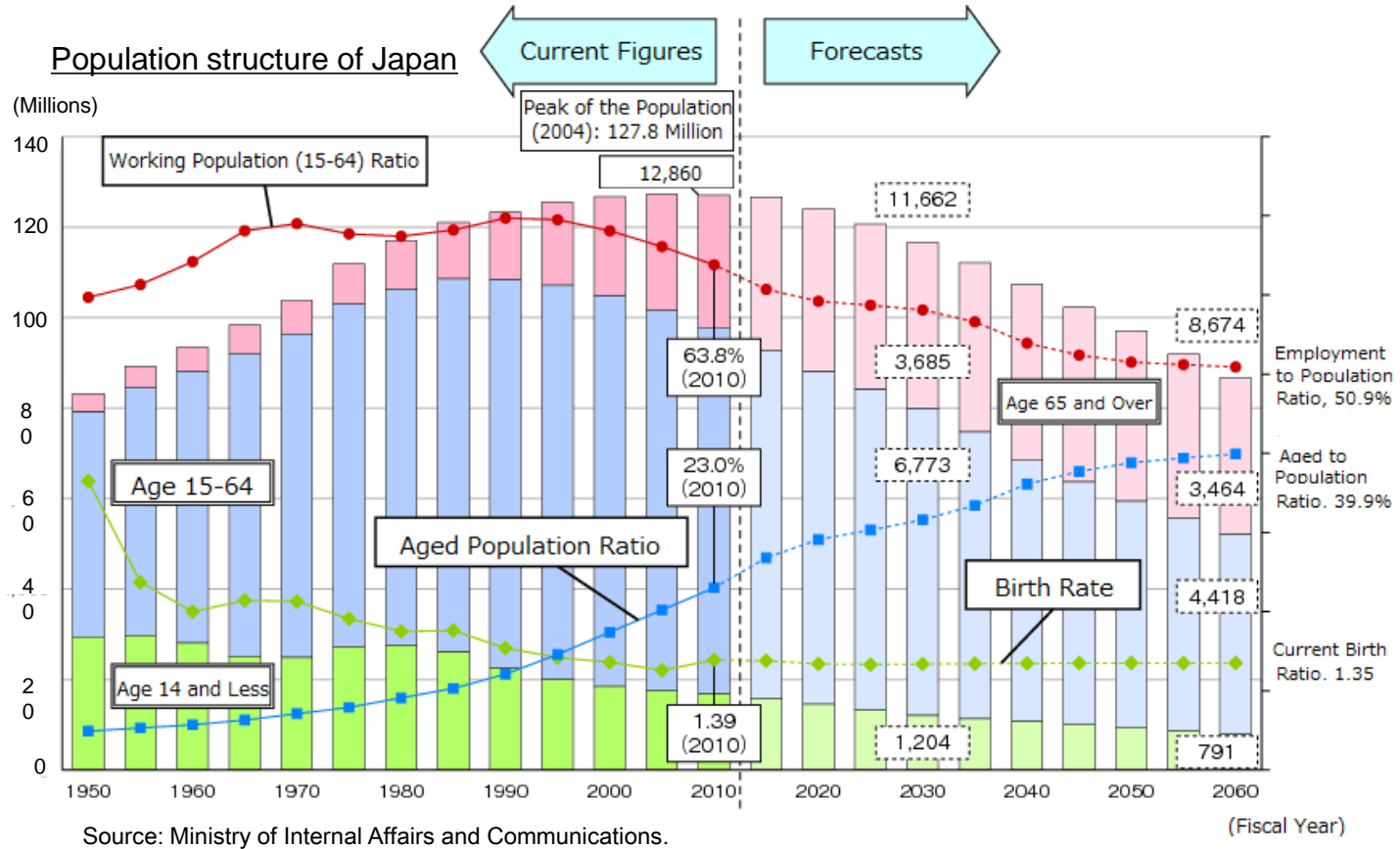
Fiscal year	Number of cases	Monetary grants		Purchase of assets	Lending	Debt assumption
		To assuming financial institutions	To failed financial institutions (equitable financial assistance)			
1992	2	20.0		—	8.0	—
1993	2	45.9		—	—	—
1994	2	42.5		—	—	—
1995	3	600.8		—	—	—
1996	6	1,315.8		90.0	—	—
1997	7	152.4		239.1	—	4.0
1998	30	2,674.1		2,681.5	—	—
1999	20	4,637.4		1,304.4	—	—
2000	20	5,153.0		850.1	—	—
2001	37	1,639.4	—	406.4	—	—
2002	51	2,332.5	—	794.9	—	—
2003	0	—	—	—	—	—
2004	0	—	—	—	—	—
2005	0	—	—	—	—	—
2006	0	—	—	—	—	—
2007	0	—	—	—	—	—
2008	1	256.4	—	1.7	—	—
2009	0	—	—	—	—	—
2010	0	—	—	—	—	—
2011	1	46.1	122.3	53.0	—	—

**Failure resolution scheme under the limited coverage  
(Overview of the financial assistance method (an example))**

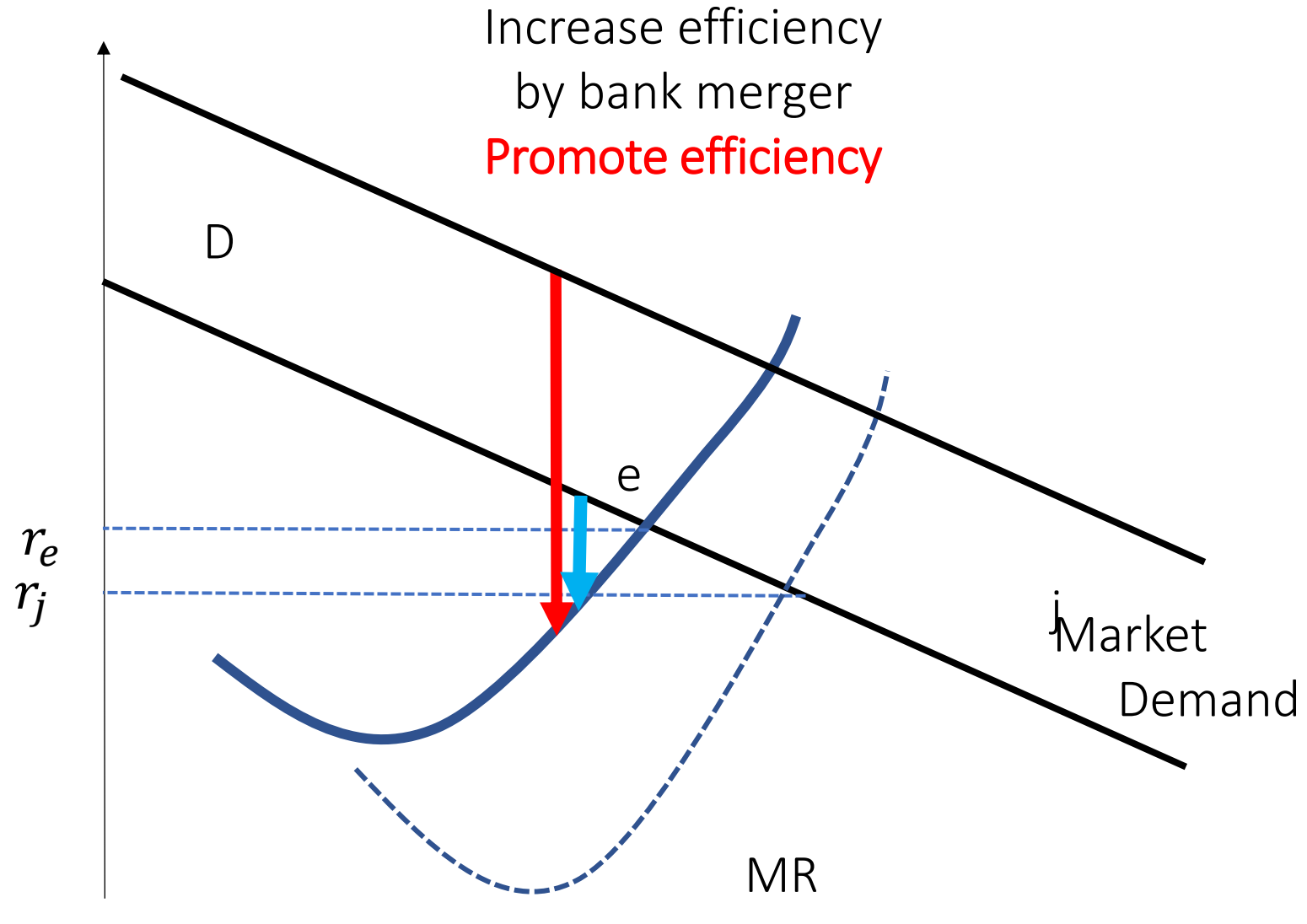


\*2 The disposal of assets through a bidding system is also to be considered.

# Japan's Aging Population



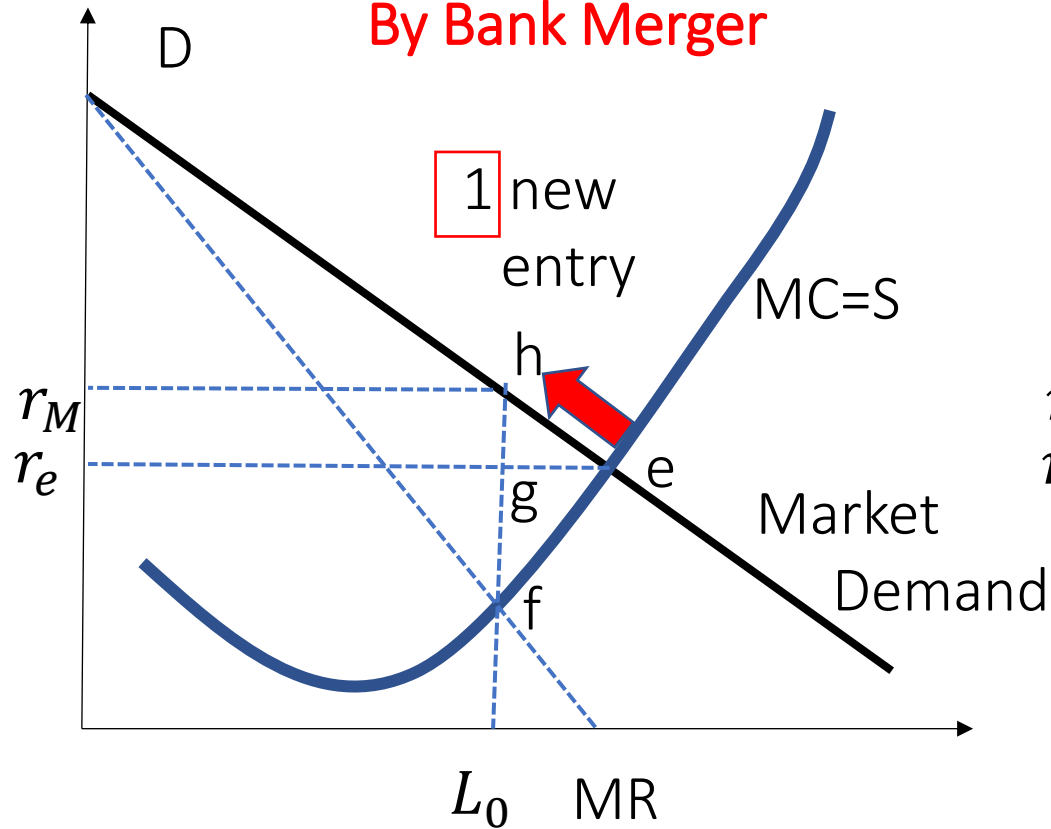
# Facing Problem of Regional Banks in Japan



# Facing Problem of Regional Banks in Japan

Decline of Loan  
Contestable market

**Monopoly**  
**By Bank Merger**



Increase efficiency  
by bank merger

**Promote efficiency**

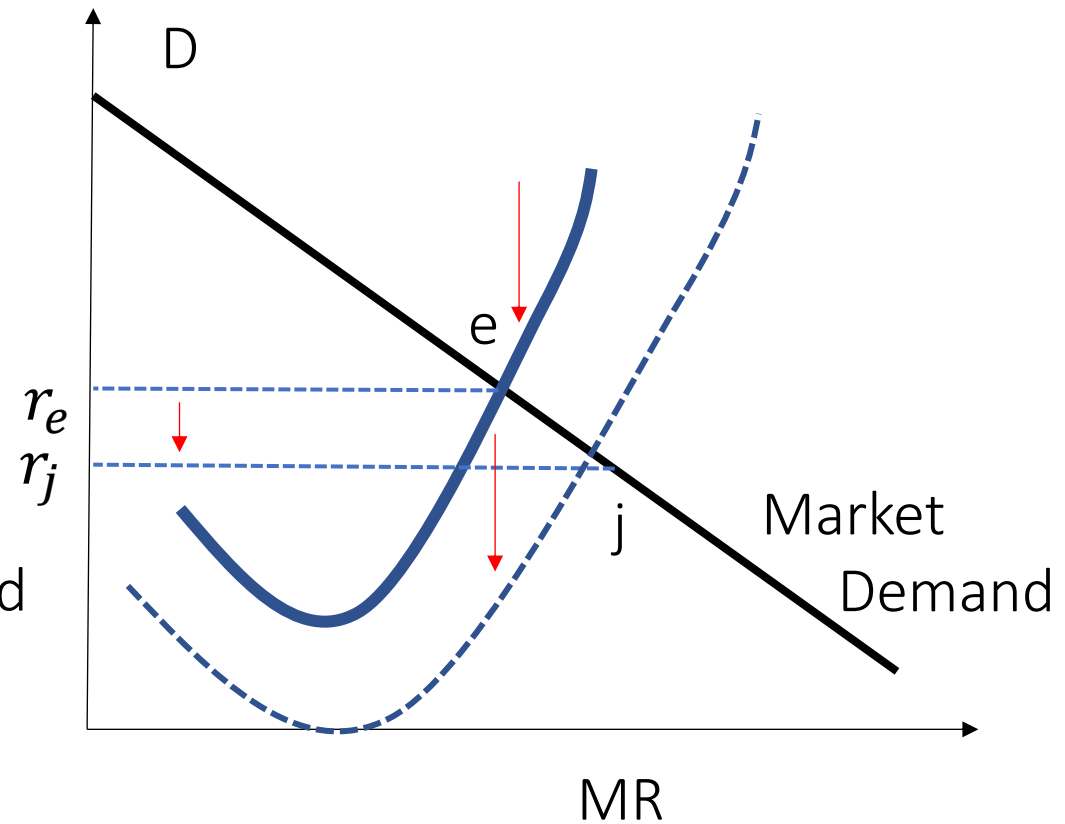


Figure 4: Dendrogram Using Average Linkage

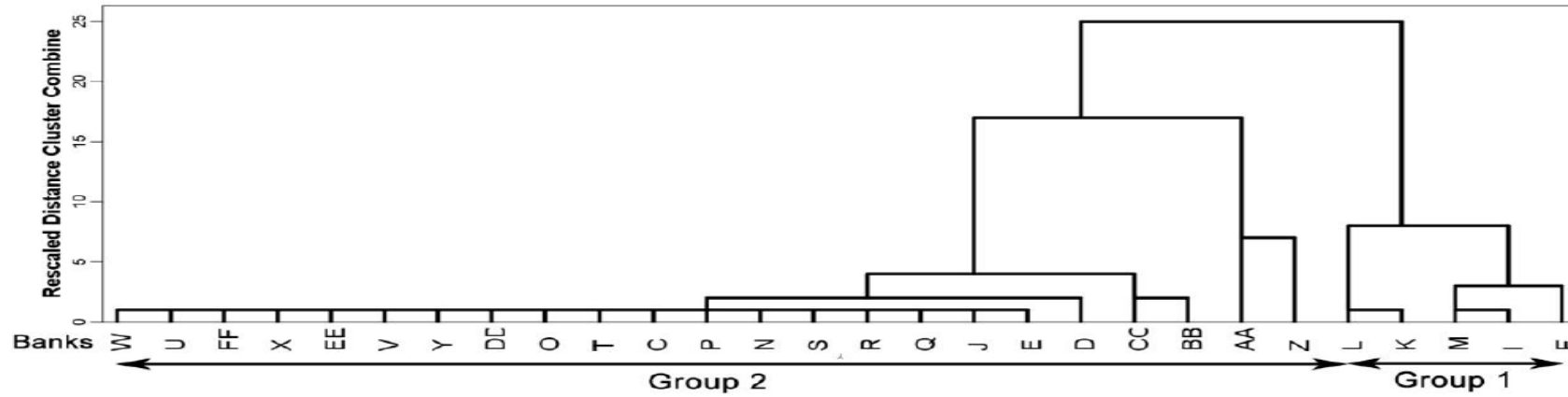
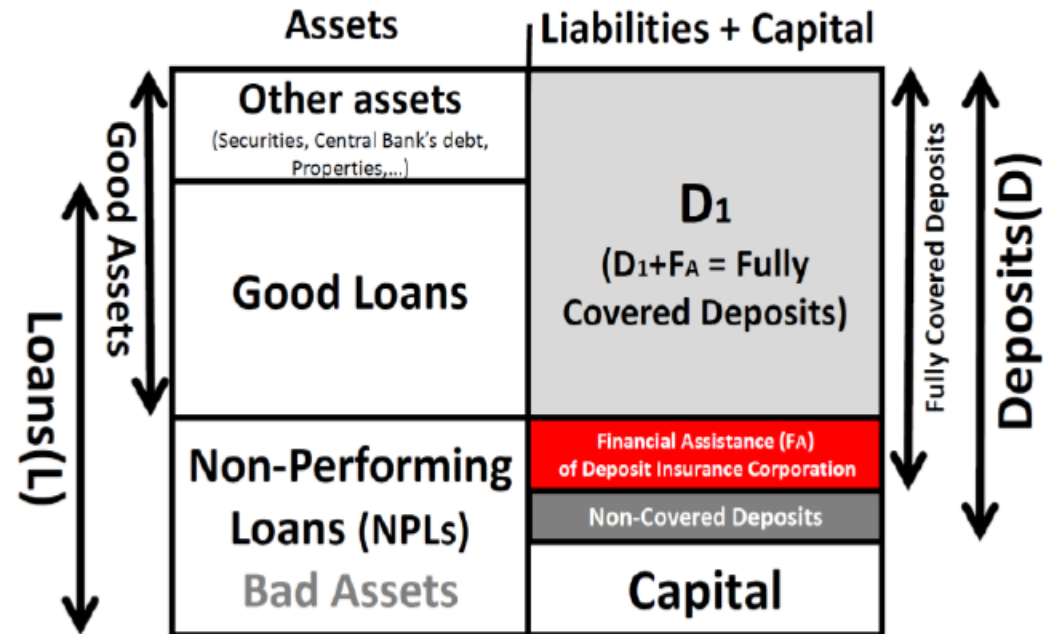


Figure 7: Financial Assistance of the Deposit Insurance Corporation/Agency in a Failed Bank's Balance Sheet

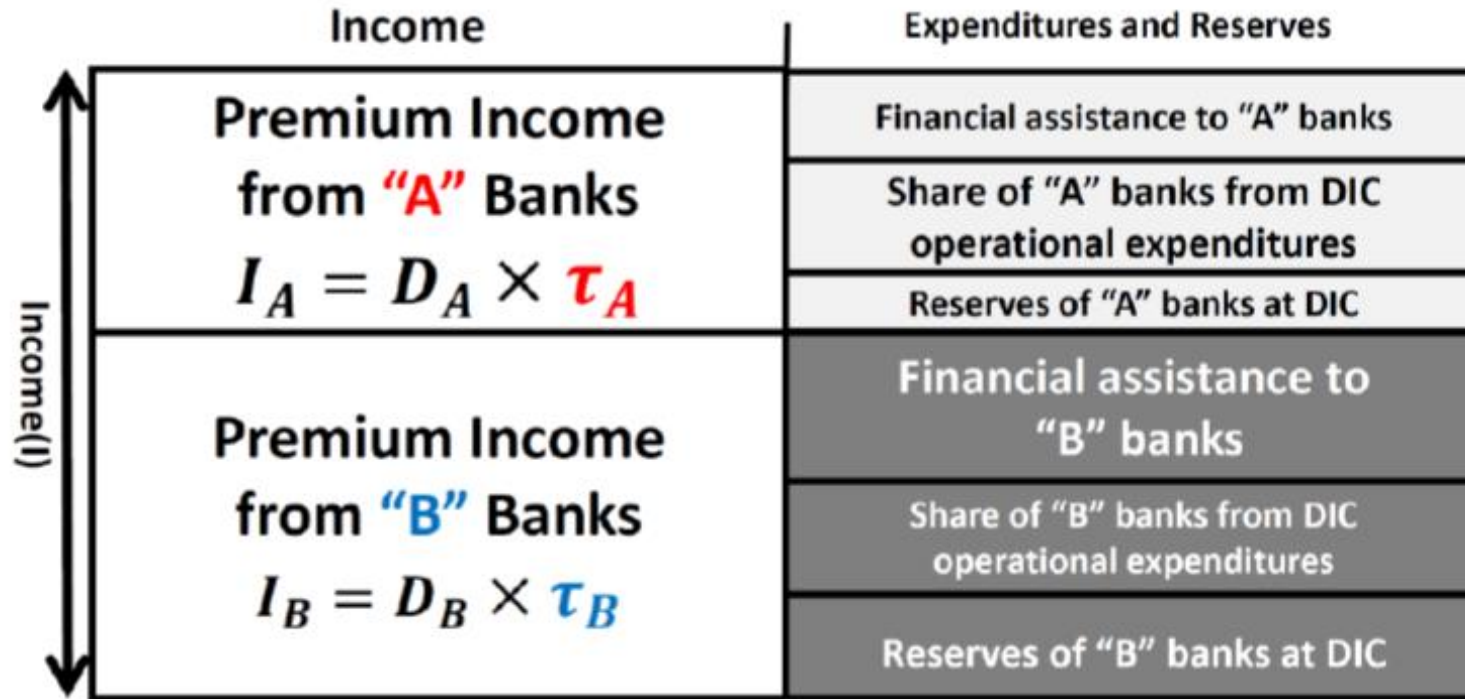


# Fair Deposit Insurance Premium of two groups of banks

Based on these assumptions and our earlier forecast for NPLs, we estimated the present value of FA, and were thus able to obtain fair deposit insurance premium rates for each group of Iranian banks. For Group 1, which is the group with higher soundness and stability, the calculated premium rate is 0.64% and for Group 2, which has lower soundness and stability, the rate is 0.86. To calculate the fair premium income from each group of banks, these two rates need to be multiplied by the amount of eligible deposits. The effective fair premium rate, which is the weighted average of the two estimated premium rates, is 0.83. This rate could be use by the DIC in case it decides to adopt a single premium rate policy.



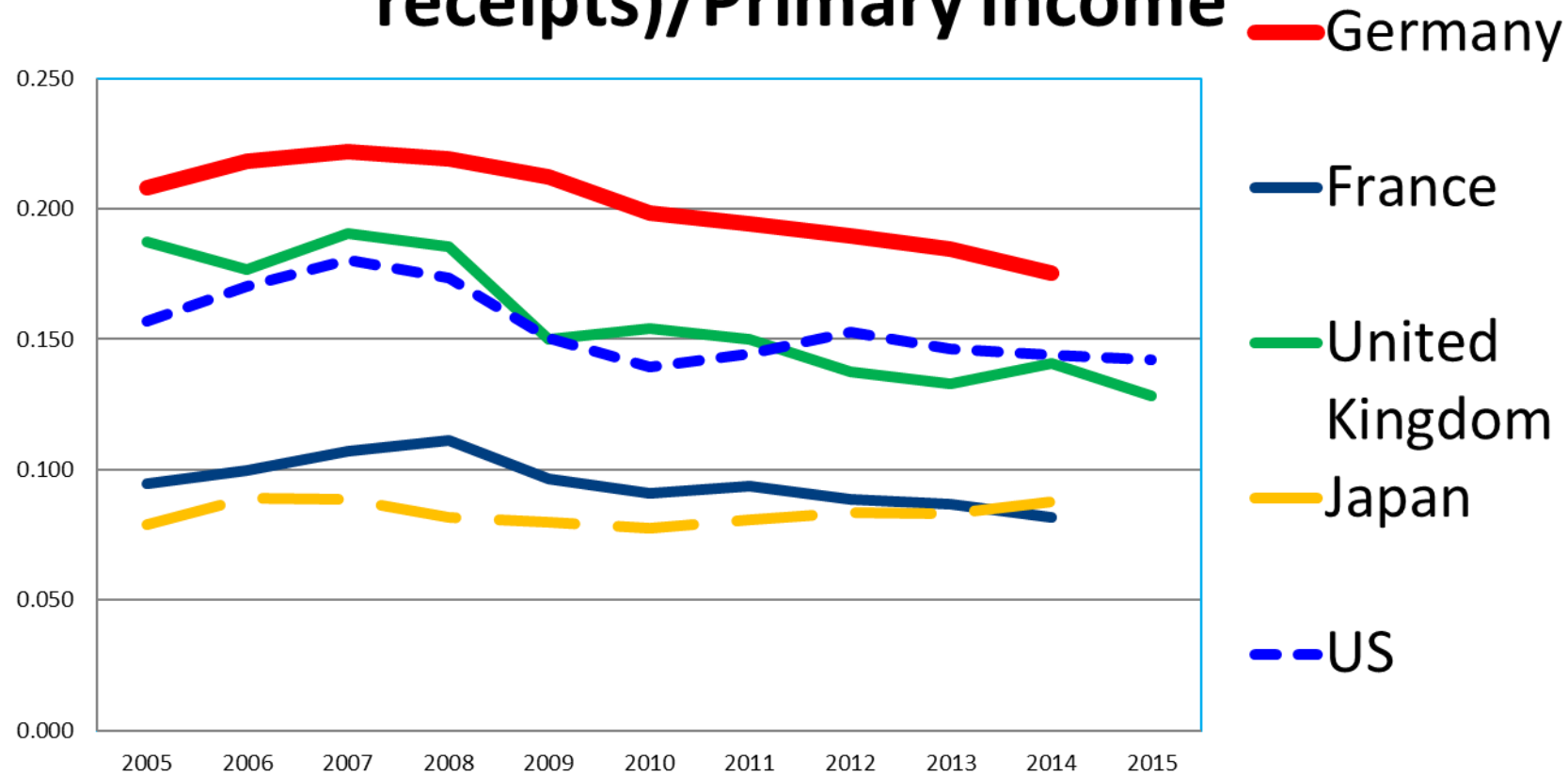
Figure 2: Income and Expenditure of DIC in the Case of Dual Premium Rates



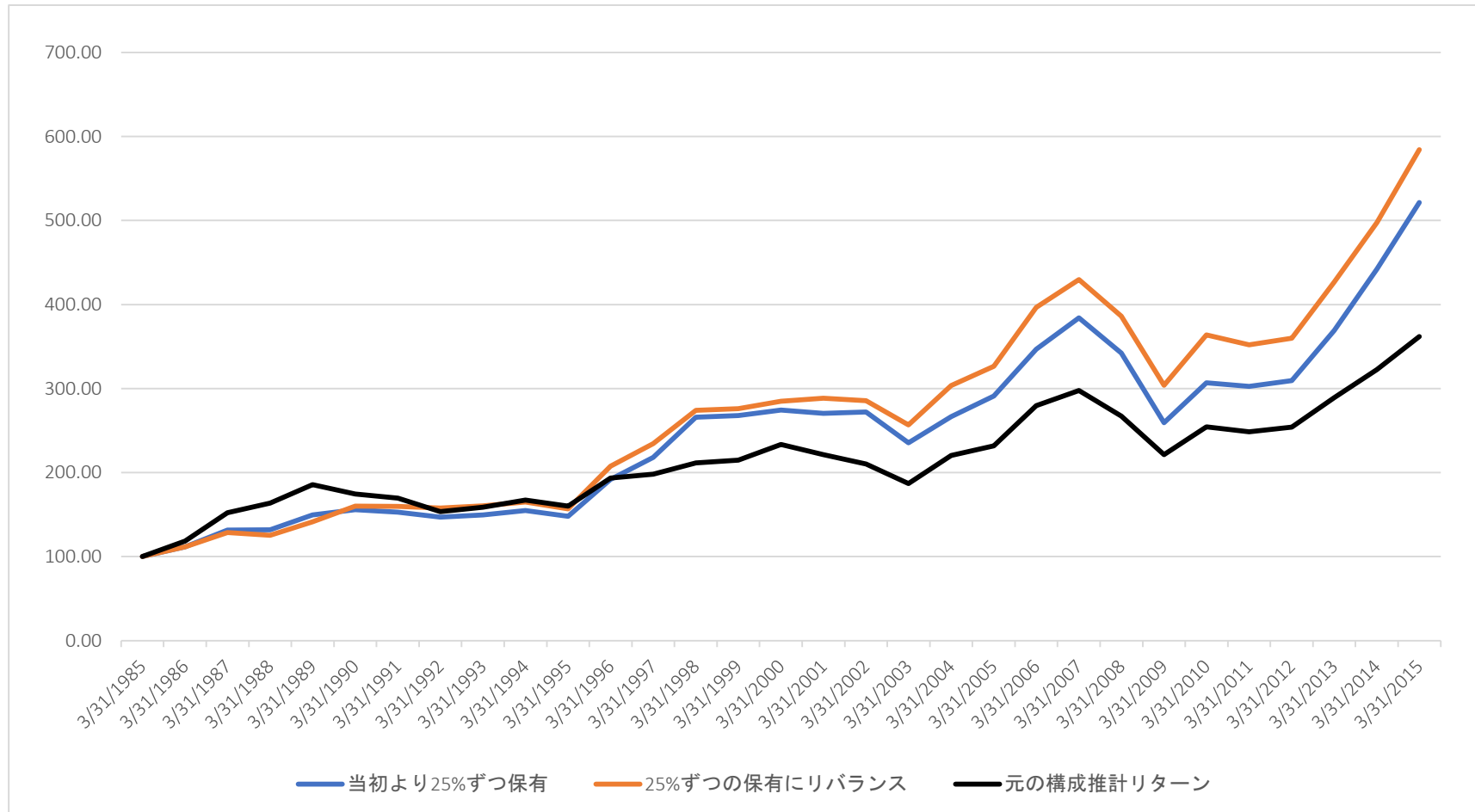
DIC = de

$$\begin{cases}
 \frac{\tau_A D_0^A}{(1+r_0)^0} + \frac{\tau_A D_1^A}{(1+r_1)^1} + \frac{\tau_A D_2^A}{(1+r_2)^2} + \dots + \frac{\tau_A D_n^A}{(1+r_n)^n} = \alpha \left[ \frac{E_0}{(1+r_0)^0} + \frac{E_1}{(1+r_1)^1} + \frac{E_2}{(1+r_2)^2} + \dots + \frac{E_n}{(1+r_n)^n} \right] + \\
 \frac{F_0^A}{(1+r_0)^0} + \frac{F_1^A}{(1+r_1)^1} + \frac{F_2^A}{(1+r_2)^2} + \dots + \frac{F_n^A}{(1+r_n)^n} + \beta \left[ \frac{RES_n^A}{(1+r_n)^n} \right] \\
 \\
 \frac{\tau_B D_0^B}{(1+r_0)^0} + \frac{\tau_B D_1^B}{(1+r_1)^1} + \frac{\tau_B D_2^B}{(1+r_2)^2} + \dots + \frac{\tau_B D_n^B}{(1+r_n)^n} = (1-\alpha) \left[ \frac{E_0}{(1+r_0)^0} + \frac{E_1}{(1+r_1)^1} + \frac{E_2}{(1+r_2)^2} + \dots + \frac{E_n}{(1+r_n)^n} \right] + \\
 \frac{F_0^B}{(1+r_0)^0} + \frac{F_1^B}{(1+r_1)^1} + \frac{F_2^B}{(1+r_2)^2} + \dots + \frac{F_n^B}{(1+r_n)^n} + (1-\beta) \left[ \frac{RES_n^B}{(1+r_n)^n} \right]
 \end{cases}$$

# (Dividends & Interest receipts)/Primary Income

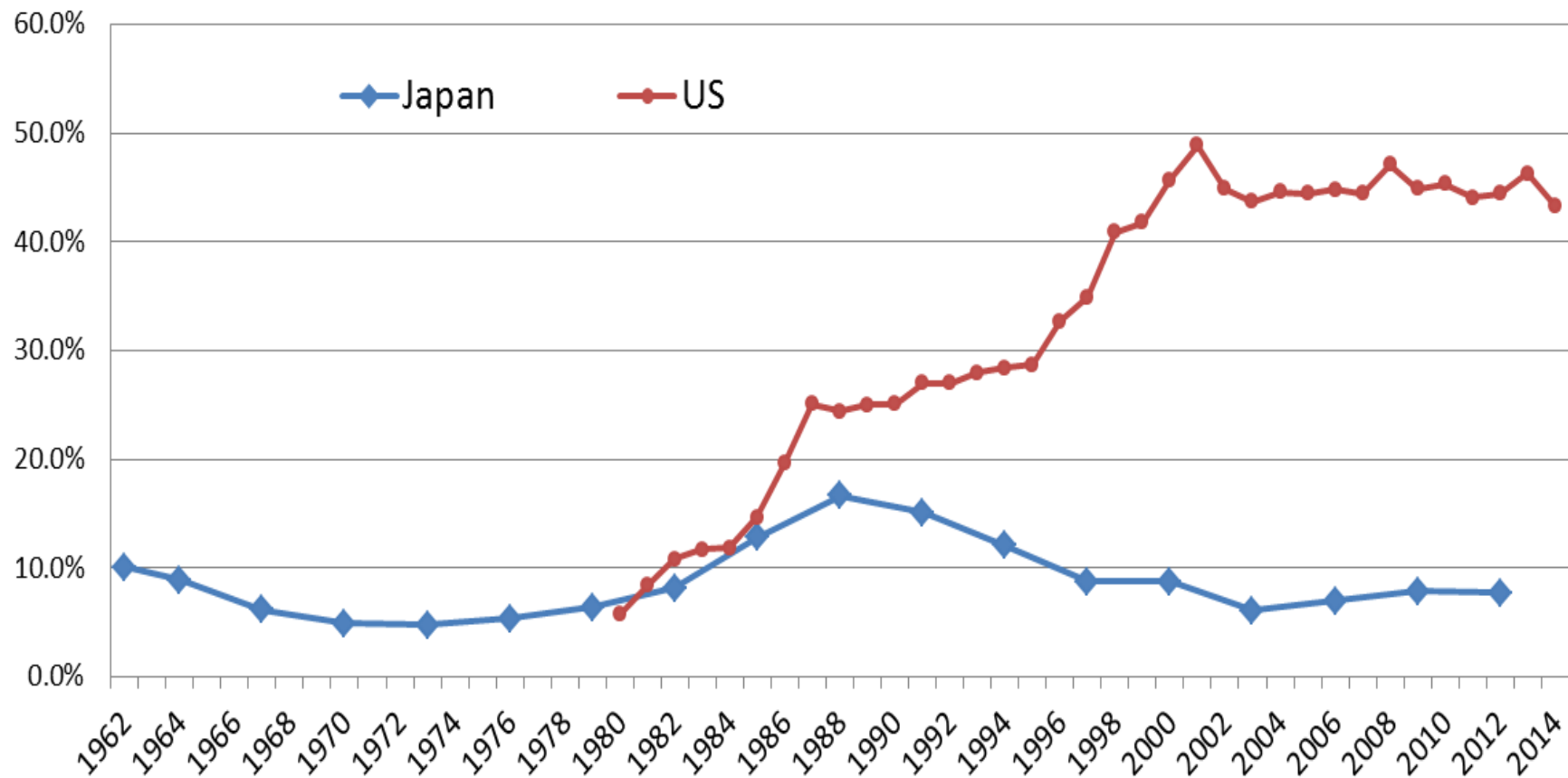


# Asset Allocation by Pension funds



Asset Allocation by Pension Funds					
ACTUAL	(A)	(B)	( C)	(D)	( E)
Figure	Short term	JGB	Domestic Stocks	Overseas' Stocks	Foreign Bonds
1985/3/31	15.22%	31.90%	42.31%	5.28%	5.28%
1990/3/31	18.10%	9.75%	56.77%	7.69%	7.69%
1995/3/31	18.54%	27.40%	34.72%	9.67%	9.67%
2000/3/31	7.91%	23.98%	43.96%	12.08%	12.08%
2005/3/31	10.04%	26.62%	28.46%	17.44%	17.44%
2010/3/31	8.11%	35.26%	21.29%	17.67%	17.67%
2015/3/31	12.34%	35.22%	15.10%	18.67%	18.67%

# Percentage of US and Japanese household Investment trusts and Mutual Funds

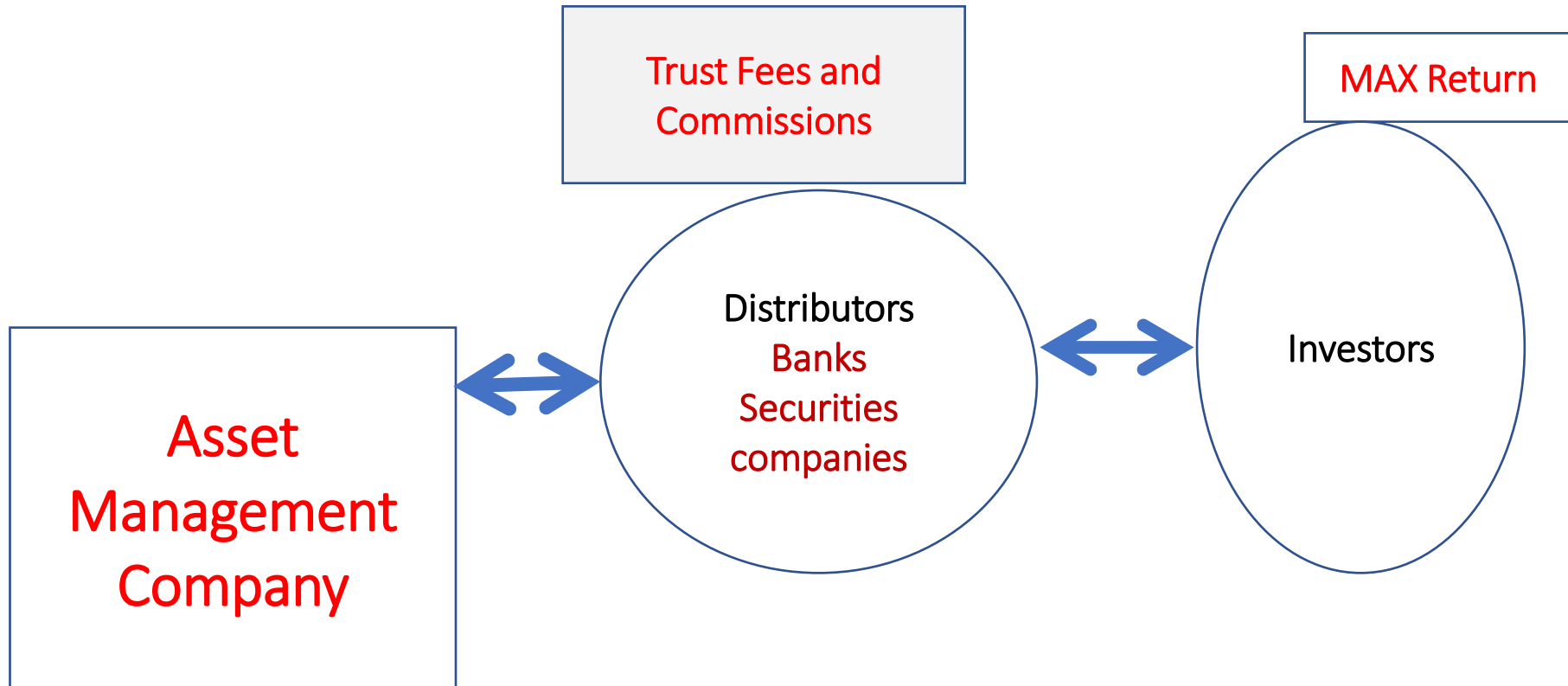


## Fees and Commissions of Distributors

Maximize Fee and Commissions (**Distributors**)

Investors --- maximize Return

Trust Fees & Commissions =  $\alpha$  (A + Dividend)



# Mutual Funds – Holding Period

## Fee Structure is important

		Gross return on investment		Net return of individual investors		Sales charges		Trust remunerations
No swithing	$A_0=100$	R 44.27	=	$A_T - A_0$ 24.34	+	$\tau$ 2.45	+	$\epsilon$ 17.48
Switching funds every 2.6 years	$A_0=100$	R 43.25	=	$A_T - A_0$ 11.99	+	$\tau$ 14.79	+	$\epsilon$ 16.47
Switching funds every 2.0 years	$A_0=100$	R 42.99	=	$A_T - A_0$ 10.47	+	$\tau$ 16.32	+	$\epsilon$ 16.20

# **Changing Economic Structure by Digital Finance**

## **1, Supply of Fund by households**

**Financial Inclusion through mobile phones**

## **2, Various financial products can be supplied through mobile phone**

## **3, Financial education, financial literacy**

## **4, Business can access to finance**

**directly through digital technology**



# Development of Financial Technology

- 1, Access to financial products through mobile phone
  - 2, Financial products can be supplied from overseas
  - 3, Households can shop around various financial products through mobile phone
  - 4, Financial education will be very important
  - 5, Amazon --- Book market
- Many people purchase books through internet

# E-banking, E-commerce

## Trade Credit

high cost of sending money to overseas

## New Entry to Transaction service

traditional banks are so expensive

SONY and YEON retail store enter the business

Finger print identification by mobile phone

Individual identification – SS number

## Start up Business --- Internet Access

Overseas players sell financial products

# Financial Regulation

## <Single Regulator>

Banks, Insurance, Trust Funds,  
Finance companies, Securities

## <IT Industries come into financial service>

Cash transfer

Purchase of various goods through internet

Deposit taking

## <International Coordination of Regulation>

# Small and Medium Sized Enterprise (SME)

## Venture business

**Toyota, Honda, Seven Eleven, Nintendo**

Nintendo could not borrow from Mitsubishi bank.

HONDA was not supported by government.

Mr. HONDA worked at SME as a repairman.

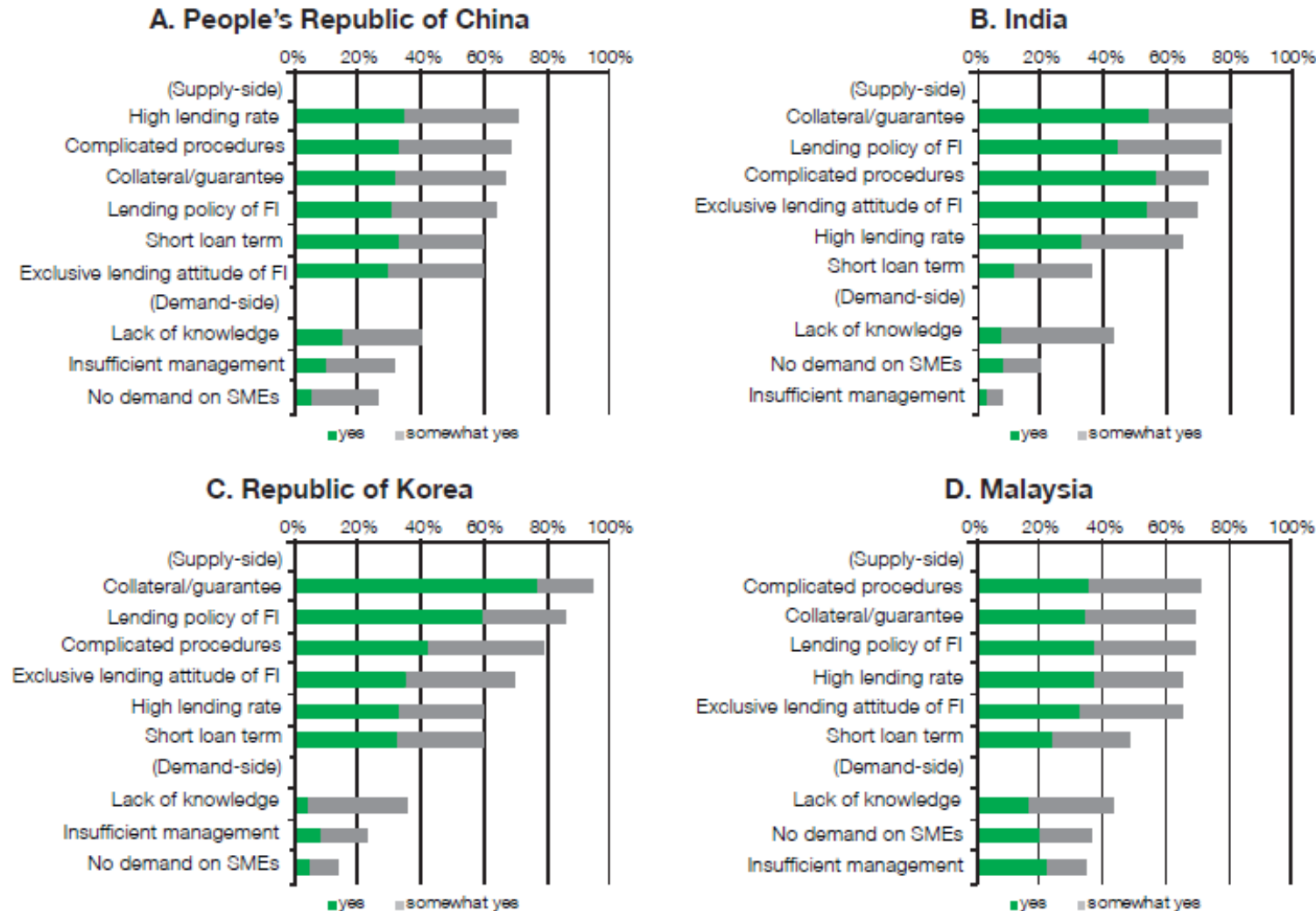
Mitsubishi-bank made loans to HONDA.

How to finance start-up business ?

→ Raising funds through digital technology

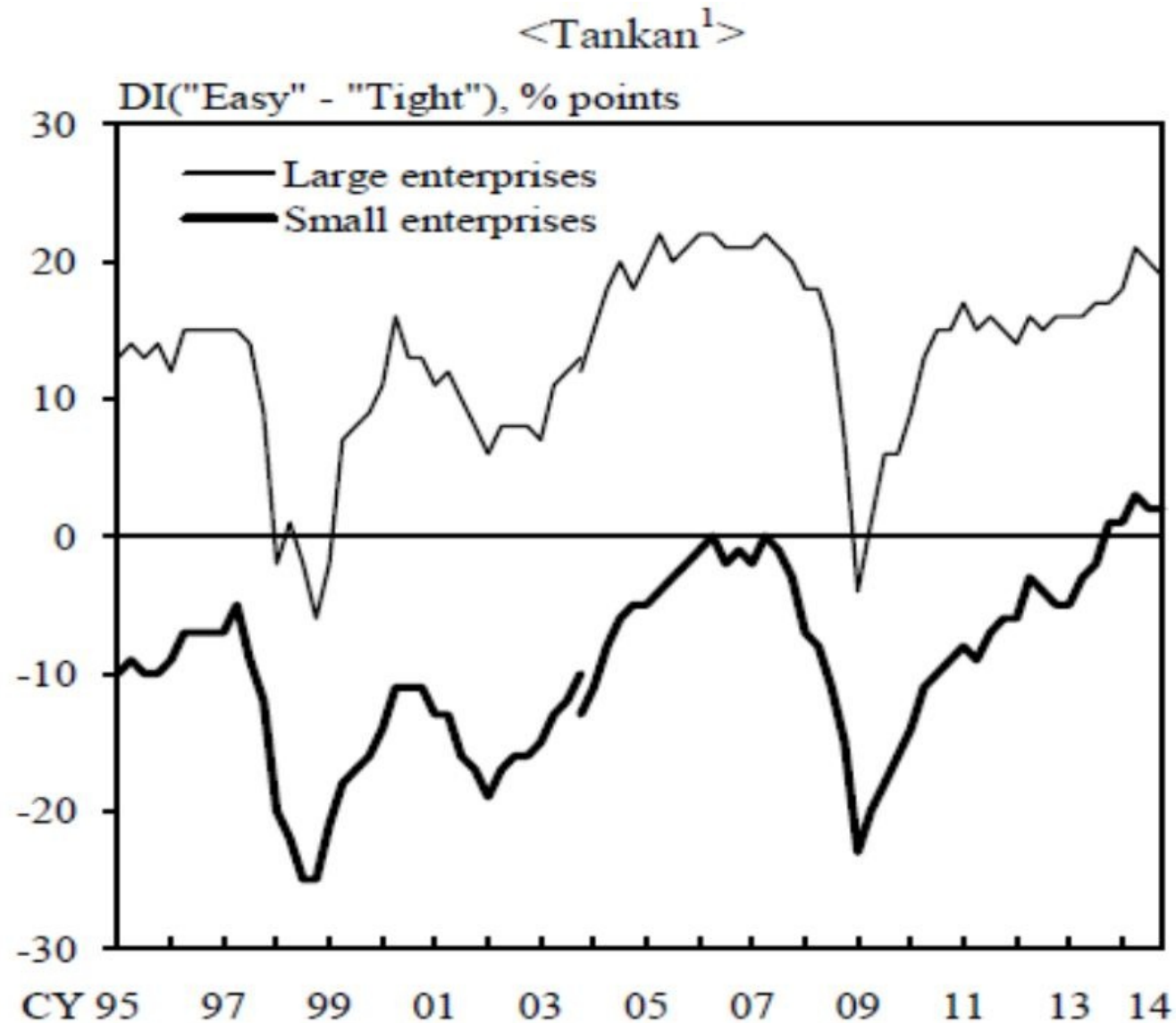
# Barriers for SMEs in Access to Financial Institutions

## Collateral requirement, higher rate of interest



**Source:** ADB–OECD study on enhancing financial accessibility for SMEs: Lessons from recent crises. Mandaluyong City, Philippines: Asian Development Bank, 2013

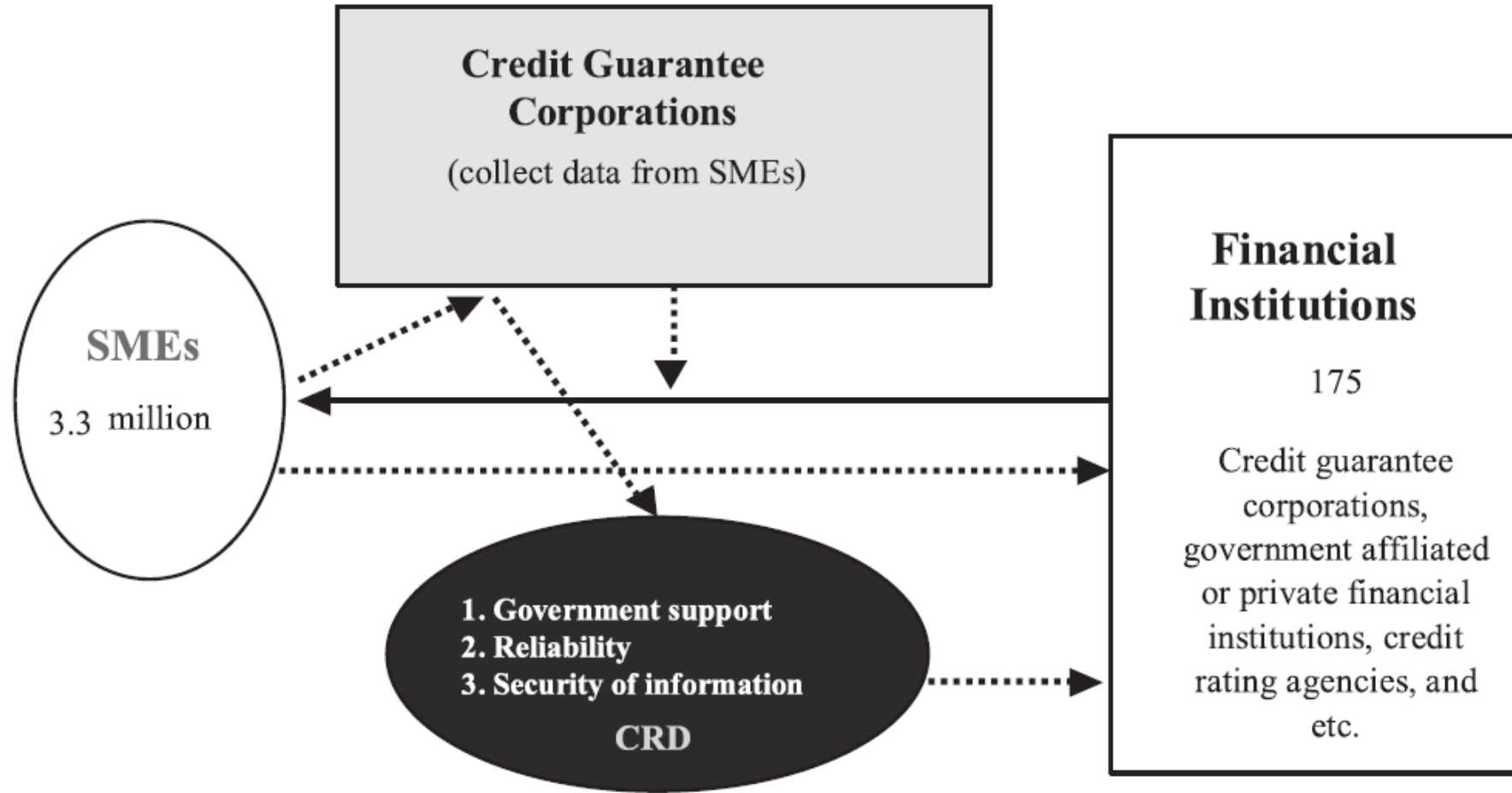
# Access to Finance by SMEs and Large Firms in Japan (Bank of Japan)



# **Government Support Programs of SMEs**

- 1, Grant,**
- 2, Subsidies**
- 3, Government Bank Loans**
- 4, Credit Guarantee**
- 5, Big data will allow us to reduce  
information asymmetry of SMEs**

Figure 5. Credit Risk Database of Small and Medium-Sized Enterprises





# Optimal Credit Guarantee for SMEs

## Policy Objective Function

$$U = w_1 (L-L^*)^2 + w_2 (\rho-\rho^*)^2$$

$$\text{where } L^*=(1+a)L_{t-1} \quad \rho^* = \alpha \times \rho_{t-1}$$

## Banks' Profit Maximization

$$\text{Max. } \Pi = r_L(L) \times L - \rho(L, Z, P_L) \times L - r_D \times D - C(L, D)$$

$$\text{subject to } (1-\rho) \times L + \rho \times L = D + A \quad \text{Banks' B/S}$$

where Z= credit guarantee, PL=land price

Optimal Credit guarantee ratio is obtained as

$$Z^* = f\{(L-L^*), (\rho-\rho^*), w_1, w_2, \rho'_L, \rho'_Z, d_1\}$$

--> **Optimal credit guarantee ratio is not 100%.**

## Variables Examined for Bank's Soundness

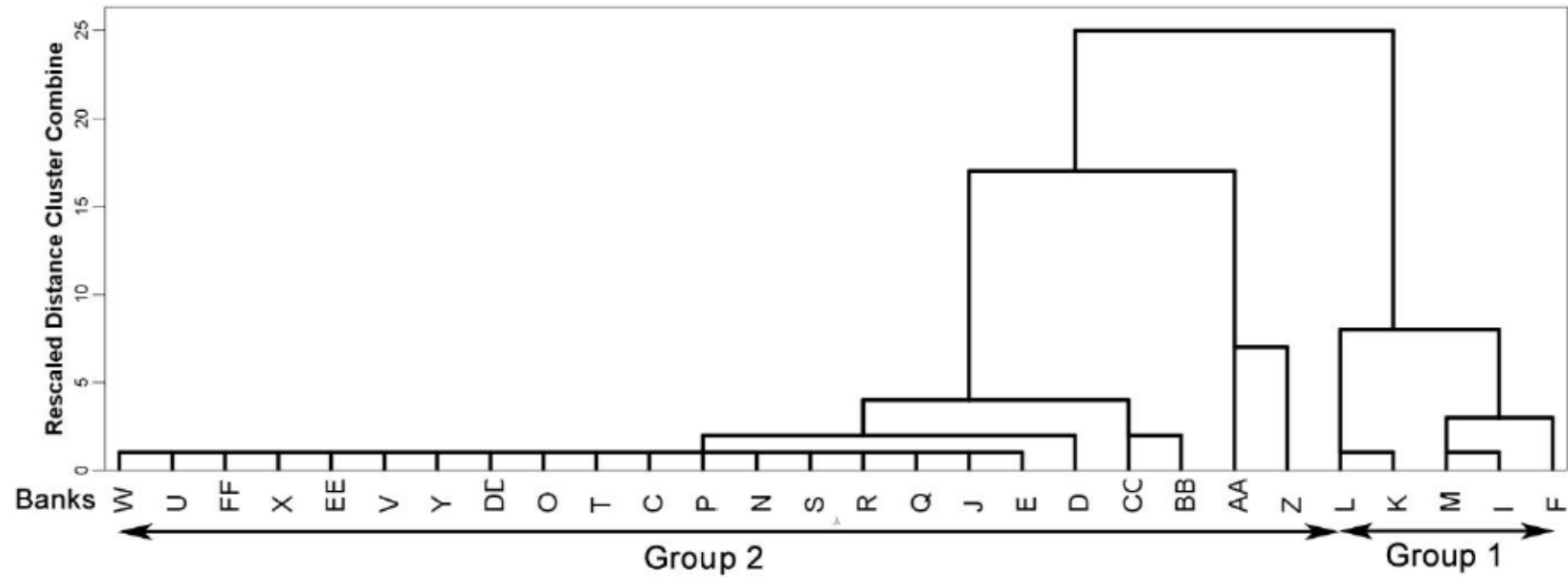
No.	Symbol	Definition
1	L-D	Total loans/total deposits
2	PR-L	Properties/total loans
3	(SD+LD)-D	(Saving deposits + long-term deposits)/total deposits
4	A-L	Total assets/total loans
5	SC-L	Securities/total loans
6	CA-D	Cash/total deposits
7	CBR-D	Accounts receivable from central bank/total deposits
8	OBR-D	Accounts receivable from other banks/total deposits

Note: Properties are land, buildings, and other hard assets owned by banks. Securities include shares of corporate stock or mutual funds, bonds issued by corporations or governmental agencies, limited partnership units, and various other formal investment instruments that are negotiable and fungible. Accounts receivable from the central banks includes reserve requirement (or cash reserve ratio) and other sums that are normally in the form of cash stored physically in a bank vault (vault cash) or deposits made with a central bank. Accounts receivable from other banks are sums loaned to other banks.

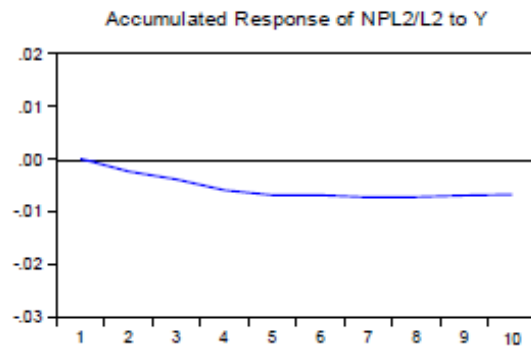
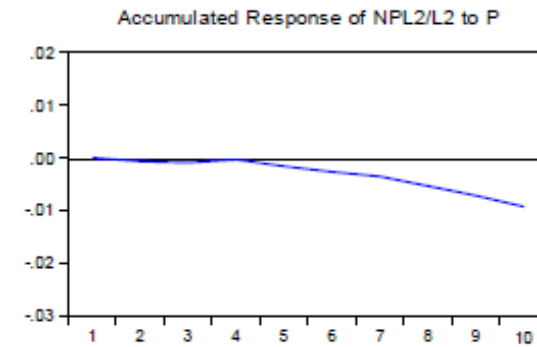
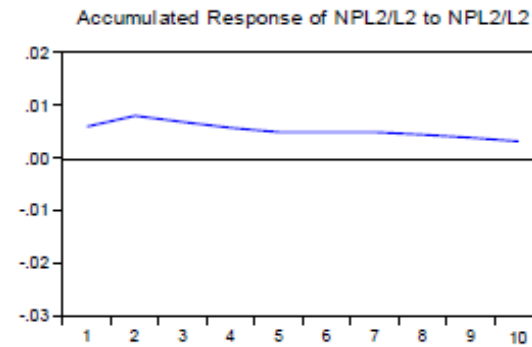
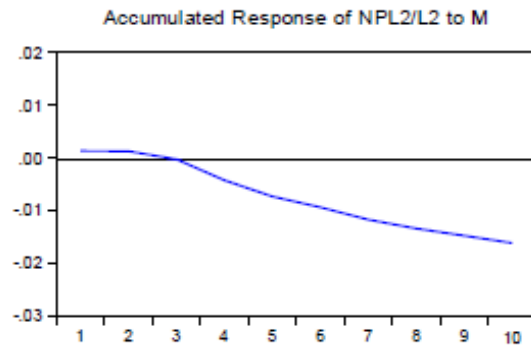
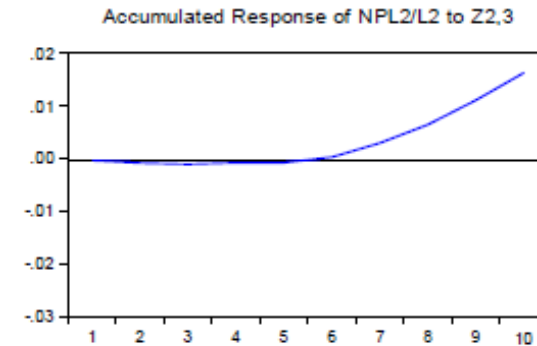
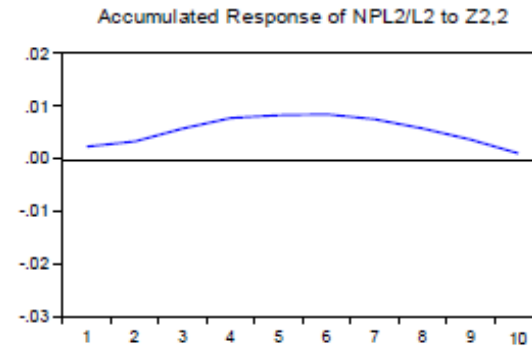
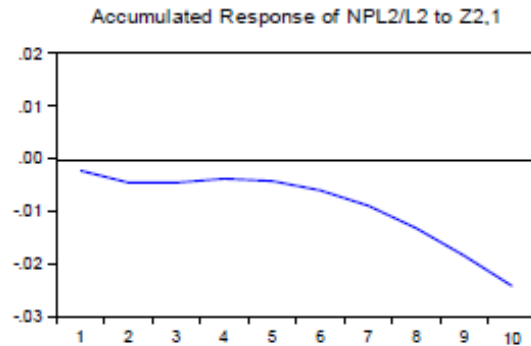
Source: Yoshino, Taghizadeh-Hesary, Nili (2015)

# Clustering

## Dendrogram



# Impulse Response Analysis: Group 2 of banks



**Calculated Optimal credit Guarantee ratios:**

**Group 1 of banks: 0.775**

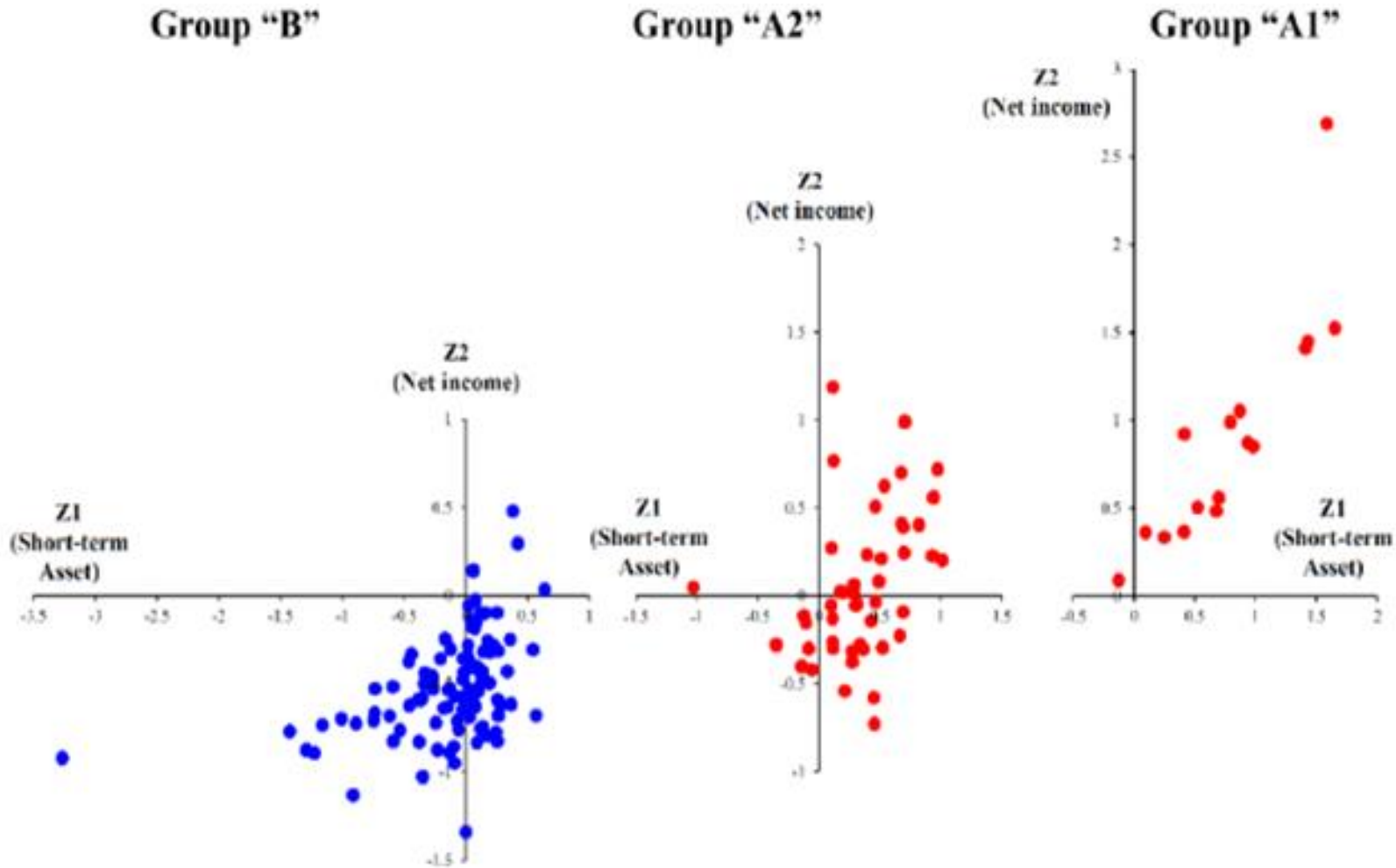
**Group 2 of banks: 0.683**

# 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	<b>0.705</b>
TL_Tassets	-0.032	<b>-0.878</b>	0.069	-0.034
Cash_Tassets	-0.034	-0.061	<b>0.811</b>	0.098
WoC_Tassets	-0.05	<b>0.762</b>	0.044	0.179
Cash_Sales	<b>-0.937</b>	0.021	0.083	0.009
EBIT_Sales	<b>0.962</b>	0.008	0.024	-0.004
Rinc_Tassets	0.014	<b>0.877</b>	0.015	-0.178
Ninc_Sales	<b>0.971</b>	-0.012	0.015	0.014
EBIT_IE	0.035	0.045	<b>0.766</b>	-0.098
AP_Sales	<b>-0.731</b>	-0.017	-0.037	-0.016
AR_TL	0.009	-0.041	-0.104	<b>0.725</b>

Note: The extraction method was principal component analysis, The rotation method was direct oblimin with Kaiser normalization.

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




# Credit Rating of SMEs using Asian Data

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- (i) Sales
- (ii) Assets
- (iii) Liquidity (Cash)
- (iv) Total Debt

# Small and Medium-Sized Enterprise (SME) Credit Risk Analysis Using Bank Lending Data: An Analysis of Thai SMEs

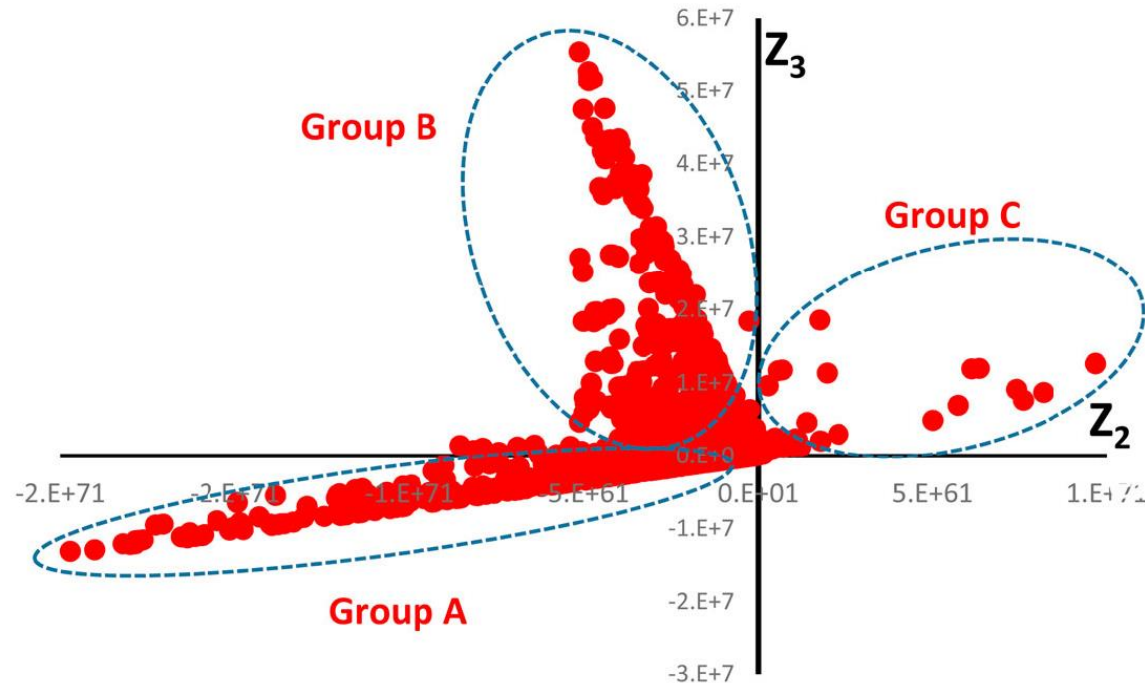
Naoyuki Yoshino<sup>a,b</sup>, Farhad Taghizadeh-Hesary <sup>b,c</sup>,  
Phadet Charoensivakorn<sup>d</sup> and Baburam Niraula<sup>a</sup>

<sup>a</sup>Asian Development Bank Institute (ADBI), Tokyo, Japan; <sup>b</sup>Faculty of Economics, Keio University, Tokyo, Japan; <sup>c</sup>Graduate School of Economics, The University of Tokyo, Tokyo, Japan; <sup>d</sup>National Credit Bureau (NCB), Bangkok, Thailand



**Table 4.** Factor Loadings of Loan Variables after Direct Oblimin Rotation.

Variable	Component		
	Z1	Z2	Z3
Total loans	<b>0.834</b>	-0.009	0.004
Initial amount	<b>0.833</b>	0.018	0.017
Past due amount	0.029	<b>0.834</b>	-0.242
Outstanding amount	0.023	-0.083	<b>0.896</b>
Past due days	0.034	-0.590	-0.407



**Figure 8.** Distribution of Factors. Source: Authors' compilation.

# Financial Education for SMEs

SMEs are working hard to make profits

they are experts in manufacturing

SMEs do not know how to manage assets

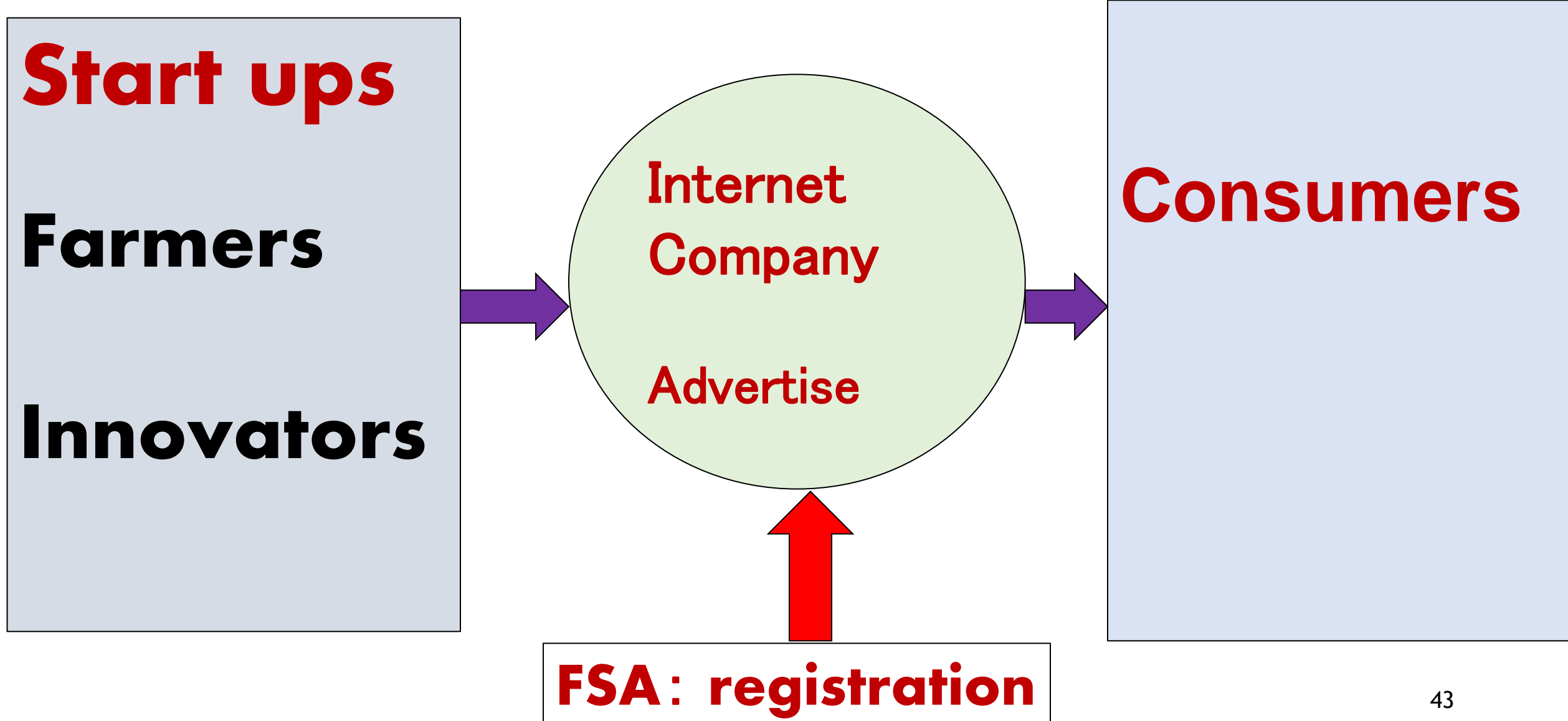
they lose money by asset management

School education

Financial education for Adults

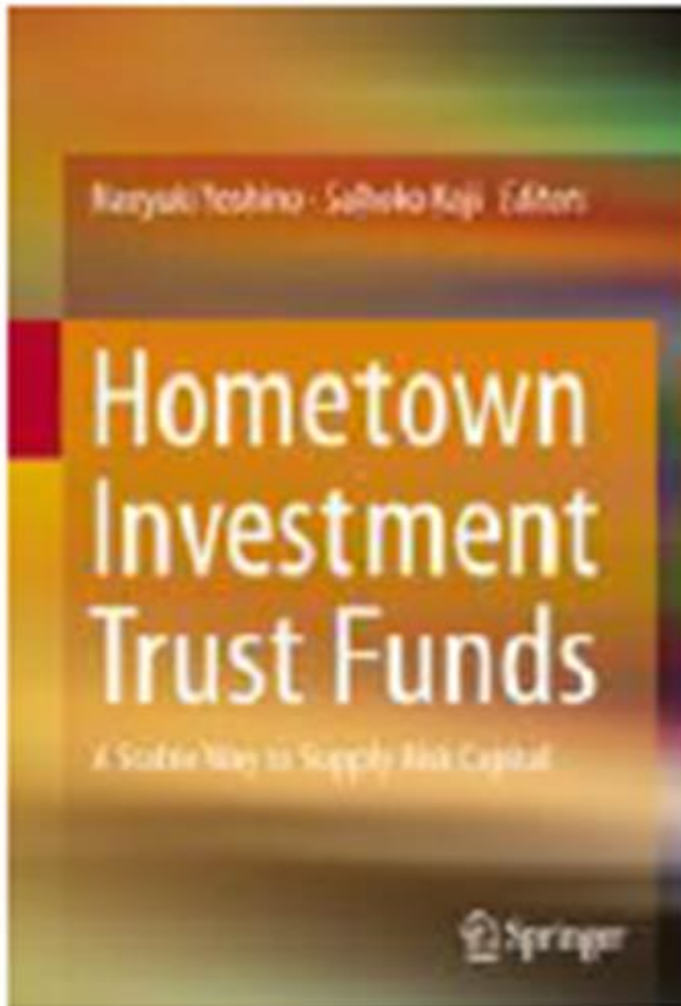
Financial education for Senior people

# On-line finance



# Possible Solutions

## Start up businesses, farmers



## Hometown Investment Trust Funds

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-  
A Stable Way to Supply Risk Capital

Yoshino, Naoyuki; Kaji Sahoko (Eds.)  
2013, IX, 98 p. 41 illus., 20 illus. in color

Available Formats:

ebook

Hardcover

Springer

**Japan, Cambodia  
Vietnam, Peru**



Drink

# Strawberry Products



Gelee





# ***Agricultural Funds***

## ***Beans and Wine***



# Regulation of Money Lenders

1, Money lenders, Interest rate = 96% in Japan, (Loan Shark)

2, License --- Banks

Registration --- Finance companies

3, **New Finance Company Law**

(i) Highest interest rate = 20%

(ii) Amount of borrowing < 1/3 of Income

(iii) Minimum Capital requirement

(iv) Paper test to run business

(v) Self regulatory organization was set up

two steps of monitoring and supervision

(vi) Consumers' hotline

# Financial Education for Individuals

## Education Program and School Education

1, Financial Education Council

FSA (Financial Services Agency),

Ministry of Education, Cabinet Ministry

Ministry of Consumer Protection,

Chairperson, YOSHINO

Central Bank of Japan

Various Financial Associations

(Bankers Association, Stock Exchange)

2, Text books, Educate School teachers



## 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

- 1, Teachers admit importance of financial education in order to become wise consumer, 73.5%
- 2, Students need to understand how financial activities are related to economy and society  
44.6%

### Financial Education Goals by Age Group from Primary School through High School (Financial Education Program)

The goals by category and by age group in this table reflect the contents of the subjects to be learned in the respective school grades as indicated in the Ministry of Education, Culture, Sports, Science and Technology (MEXT) curriculum guidelines and commentaries; it should be noted that some of these goals are not included in the guidelines and commentaries.

\*The names of subjects attached at the end of the goals by age group indicate that the contents of the respective goals are learned in the subjects according to the MEXT curriculum guidelines or commentaries thereof.

\*The goals by age group not followed by any name of subject mainly cover the contents addressed in activities for advanced learning, comprehensive learning, or other special activities.

#### 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. <sup>(Note)</sup>	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 one's plan, while taking indispensability into account. (Home Economics)
b. Understanding the significance of building a better life under a limited budget, and acquiring the skills and attitude to do so.	3. Learning to be patient when unable to have what one wants. 4. Being able to buy goods within one's budget.	6. Recognizing the difference between needs and wants. 7. Being able to manage money by recording the amount of pocket money or money spent. 8. Becoming aware of the importance of moderateness through learning how to spend money appropriately, and practicing it in one's everyday life. (Moral Education)	12. Learning how to choose goods, and being able to buy goods efficiently. (Home Economics)

# Macroeconomic Effects of Financial Education

(1) Households' Asset Allocation (Diversification)

$$Y-T = S + C = (D + B) + C \quad \text{.....(1)}$$

(2) Aggregate Supply Curve (SME and corporation)

$$Y-Y_f = a_1 (P_e - P) + a_2 L + a_3 (B + v) \quad \text{.....(2)}$$

(3) Aggregate Demand Curve (Corporate fund raising)

$$Y = b_1 + b_2 L + b_3 (B + u) + b_4 G \quad \text{.....(3)}$$

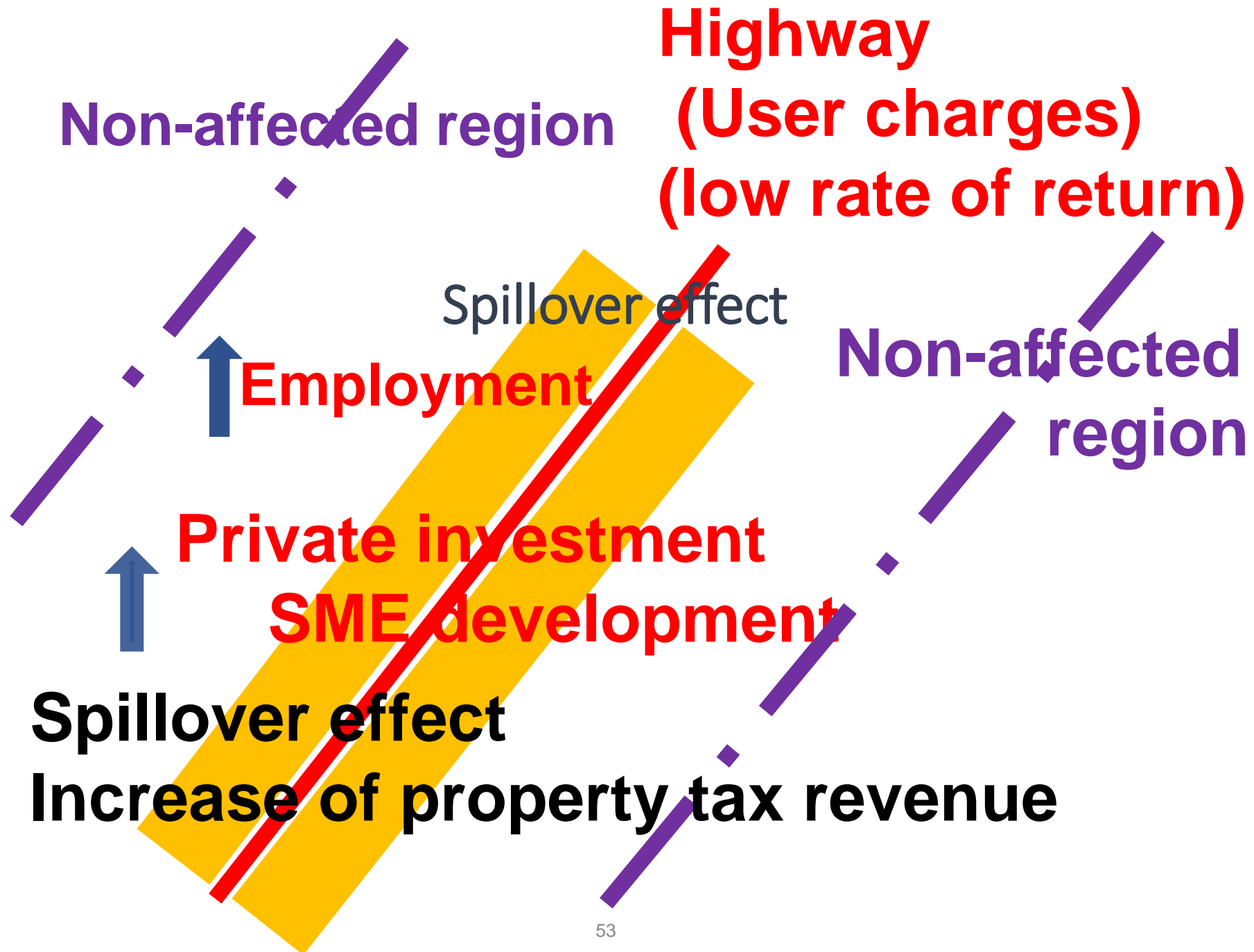
(4) Increase of Expected Outputs

$$dE(Y) = -b_2 dE(S) + b_3 (dE(S) + du) \quad \text{.....(4)}$$

(5) Risks  $V(y) = b_3 V(S+u)$  .....(5)

# Transmission of Financial Education

- 1, Efficient allocation of assets by households
- 2, Long-term perspectives of households
- 3, Enhance wellbeing of individuals
- 4, Diversify corporate fund raising
- 5, Efficient cash management of corporations
- 6, Transparency of SMEs (small enterprises)
- 7, Promotion of start-up businesses
- 8, Enhance economic growth
- 9, Efficient time allocation of financial institutions



# TOD in the world



NY grand central , USA



St Pancras London , UK



Berlin central , Germany



Taipei , Taiwan



Raffles place Singapore



Nehru place New Delhi

# New transportation nod & Miraina Tower



## In-station shopping mall



## Medical floor

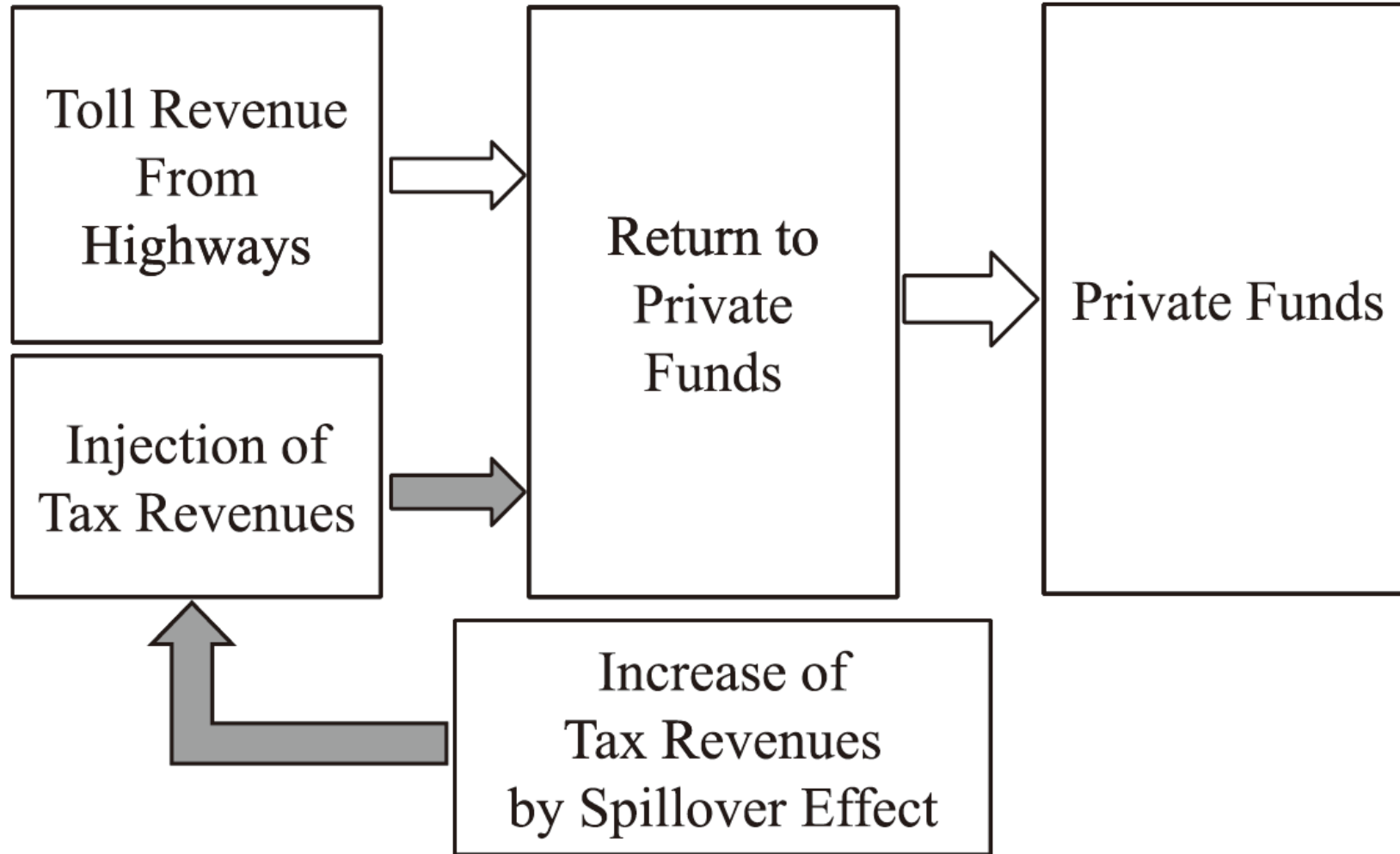


小児科	Pediatrics	兒科
予防接種	Vaccines	疫苗接種
内科	Internal Medicine	內科
皮膚科	Dermatology	皮膚科
旅行医学	Travel Medicine	旅行醫學



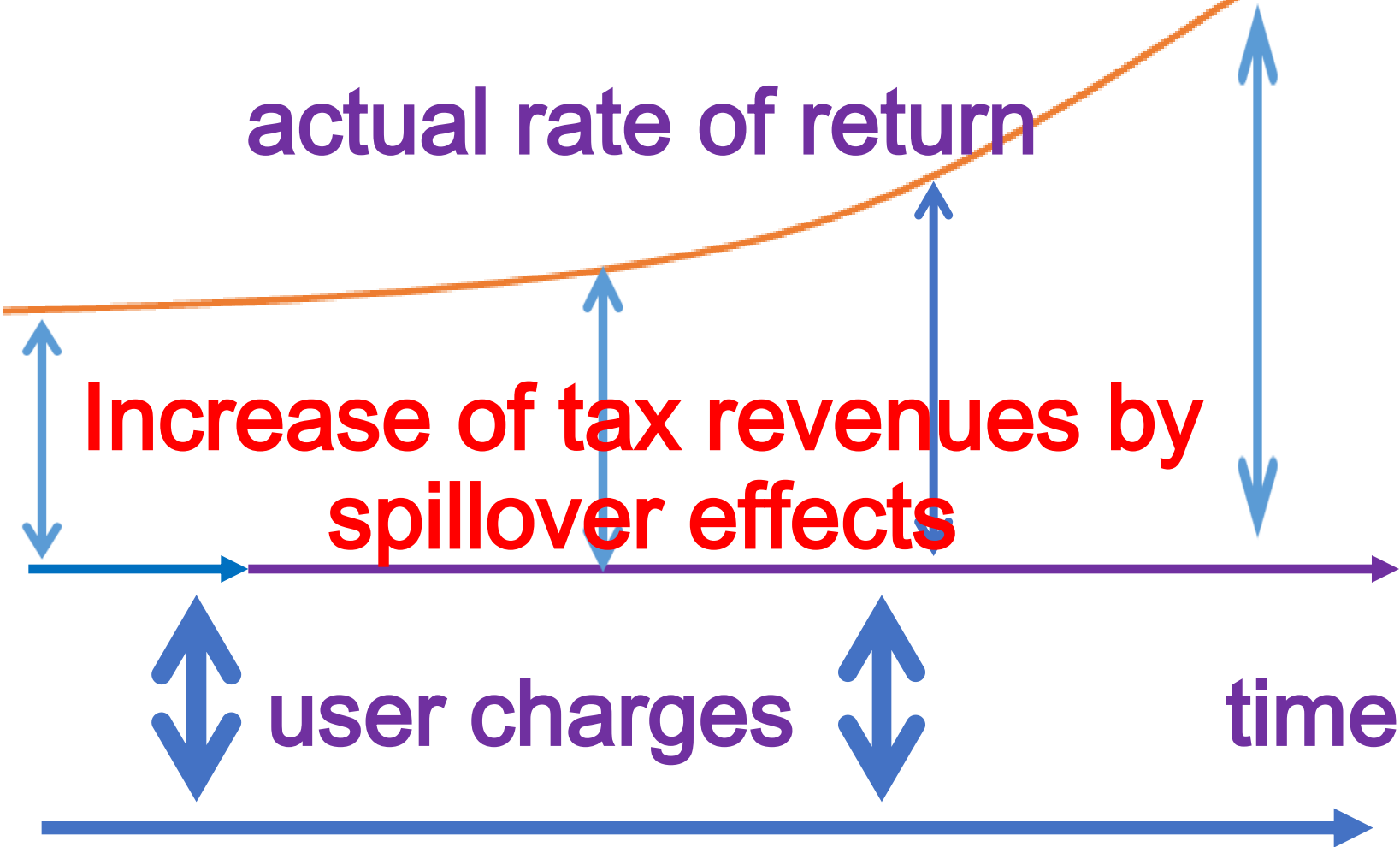
Figure 4

Injection of a fraction of tax revenues gained from spillover effect





# Injection of Increased Tax revenues



# The Southern Tagalog Arterial Road (STAR Highway), Philippines, Manila

## Tax Revenues in three cities

Yoshino and Pontines (2015) ADBI Discussion paper 549

表8 フィリピンの STAR 高速道路の影響のない地域と比較した事業税の増加額

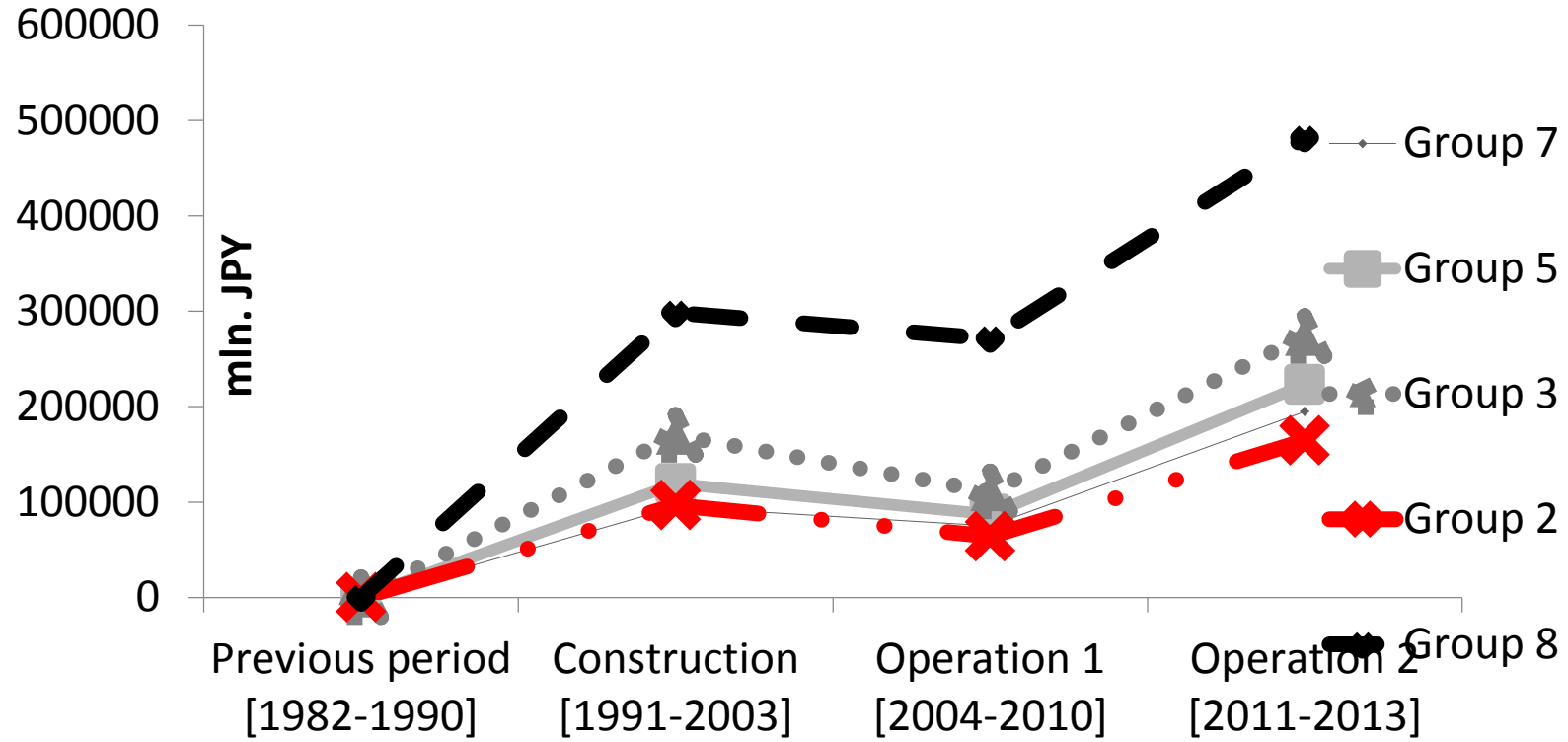
(単位：100 万ペソ)

	$t_{-2}$	$t_{-1}$	$t_0$	$t_{+1}$	$t_{+2}$	$t_{+3}$	$t_{+4}$ 以降
Lipa 市	134.36	173.50	249.70	184.47	191.81	257.35	371.93
Ibaan 市	5.84	7.04	7.97	6.80	5.46	10.05	12.94
Batangas 市	490.90	622.65	652.83	637.89	599.49	742.28	1208.61

(出所) Yoshino and Pontines (2015)より筆者作成

**Completion**

## Total tax revenue, mln. JPY



# Crowd In

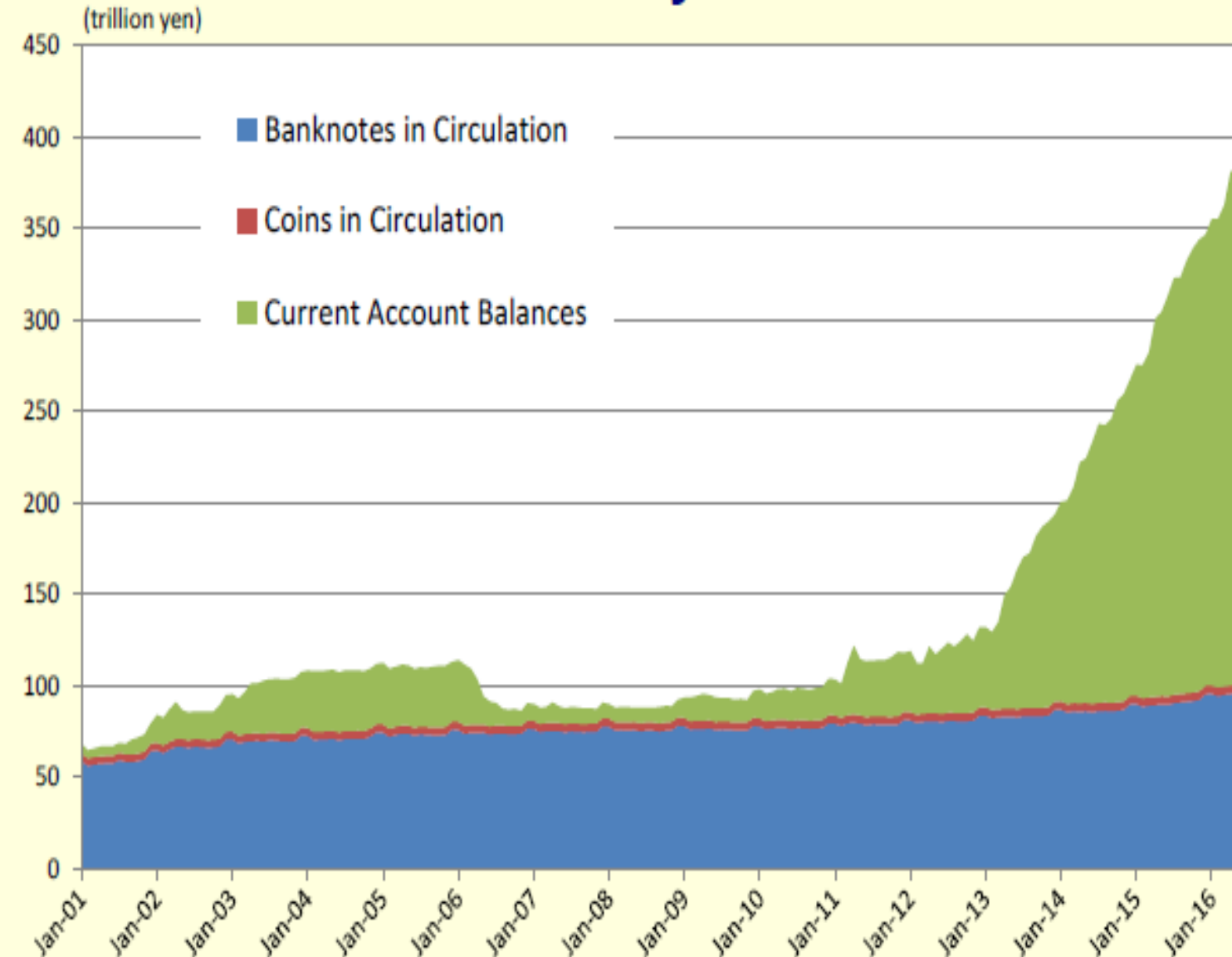
or

# Crowd Out ?

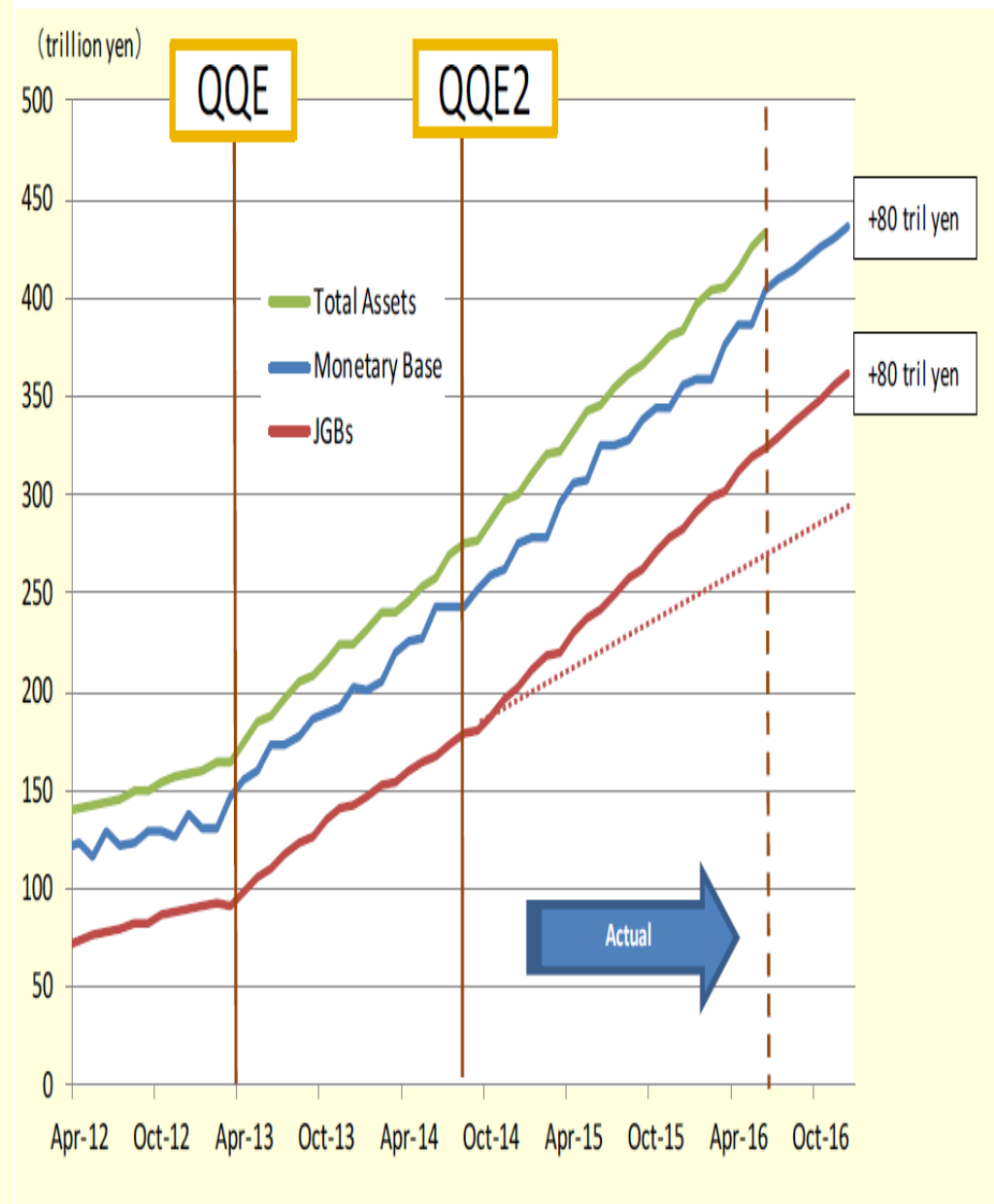
	1956-60	1961-65	1966-70	1971-75	1976-80	1981-85
<b>Direct effect</b>	<b>0.696</b>	<b>0.737</b>	<b>0.638</b>	<b>0.508</b>	<b>0.359</b>	<b>0.275</b>
<b>Indirect effect(Kp)</b>	<b>0.452</b>	<b>0.557</b>	<b>0.493</b>	<b>0.389</b>	<b>0.270</b>	<b>0.203</b>
<b>Indirect effect(L)</b>	<b>1.071</b>	<b>0.973</b>	<b>0.814</b>	<b>0.639</b>	<b>0.448</b>	<b>0.350</b>
<b>100% Returned case</b>	<b>2.189</b>	<b>2.075</b>	<b>2.050</b>	<b>2.022</b>	<b>2.002</b>	<b>2.010</b>
<b>50% returned</b>	<b>0.762</b>	<b>0.765</b>	<b>0.653</b>	<b>0.514</b>	<b>0.359</b>	<b>0.276</b>
<b>% increment</b>	<b>1.095</b>	<b>1.038</b>	<b>1.025</b>	<b>1.011</b>	<b>1.001</b>	<b>1.005</b>

	1986-90	1991-95	1996-00	2001-05	2006-10
<b>Direct effect</b>	<b>0.215</b>	<b>0.181</b>	<b>0.135</b>	<b>0.114</b>	<b>0.108</b>
<b>Indirect effect(Kp)</b>	<b>0.174</b>	<b>0.146</b>	<b>0.110</b>	<b>0.091</b>	<b>0.085</b>
<b>Indirect effect(L)</b>	<b>0.247</b>	<b>0.208</b>	<b>0.154</b>	<b>0.132</b>	<b>0.125</b>
<b>100% Returned case</b>	<b>1.961</b>	<b>1.959</b>	<b>1.949</b>	<b>1.952</b>	<b>1.953</b>
<b>50% returned</b>	<b>0.210</b>	<b>0.177</b>	<b>0.132</b>	<b>0.111</b>	<b>0.105</b>
<b>% increment</b>	<b>0.980</b>	<b>0.979</b>	<b>0.975</b>	<b>0.976</b>	<b>0.977</b>

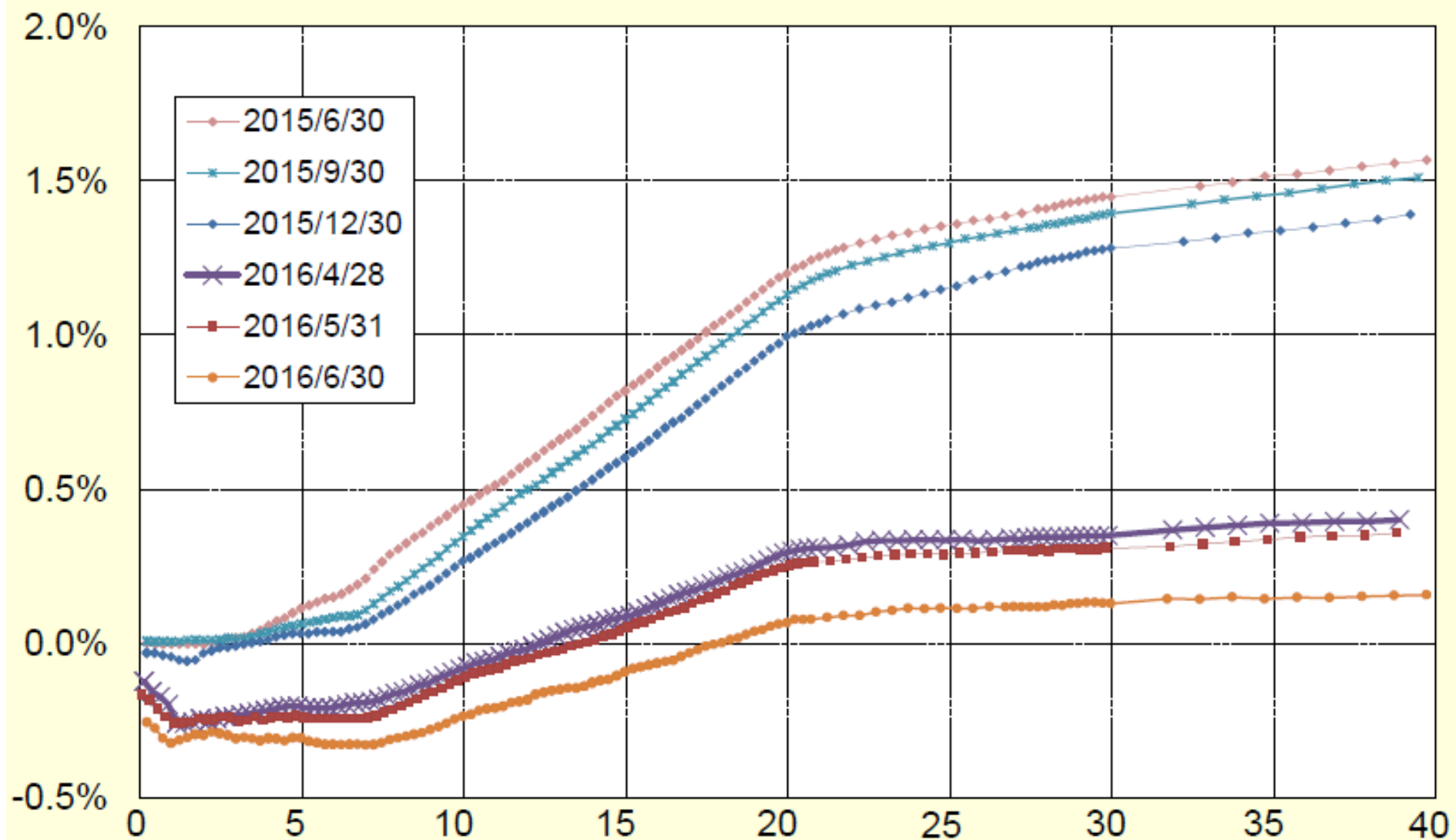
# Monetary Base



Source: Bank of Japan "Monetary Base"

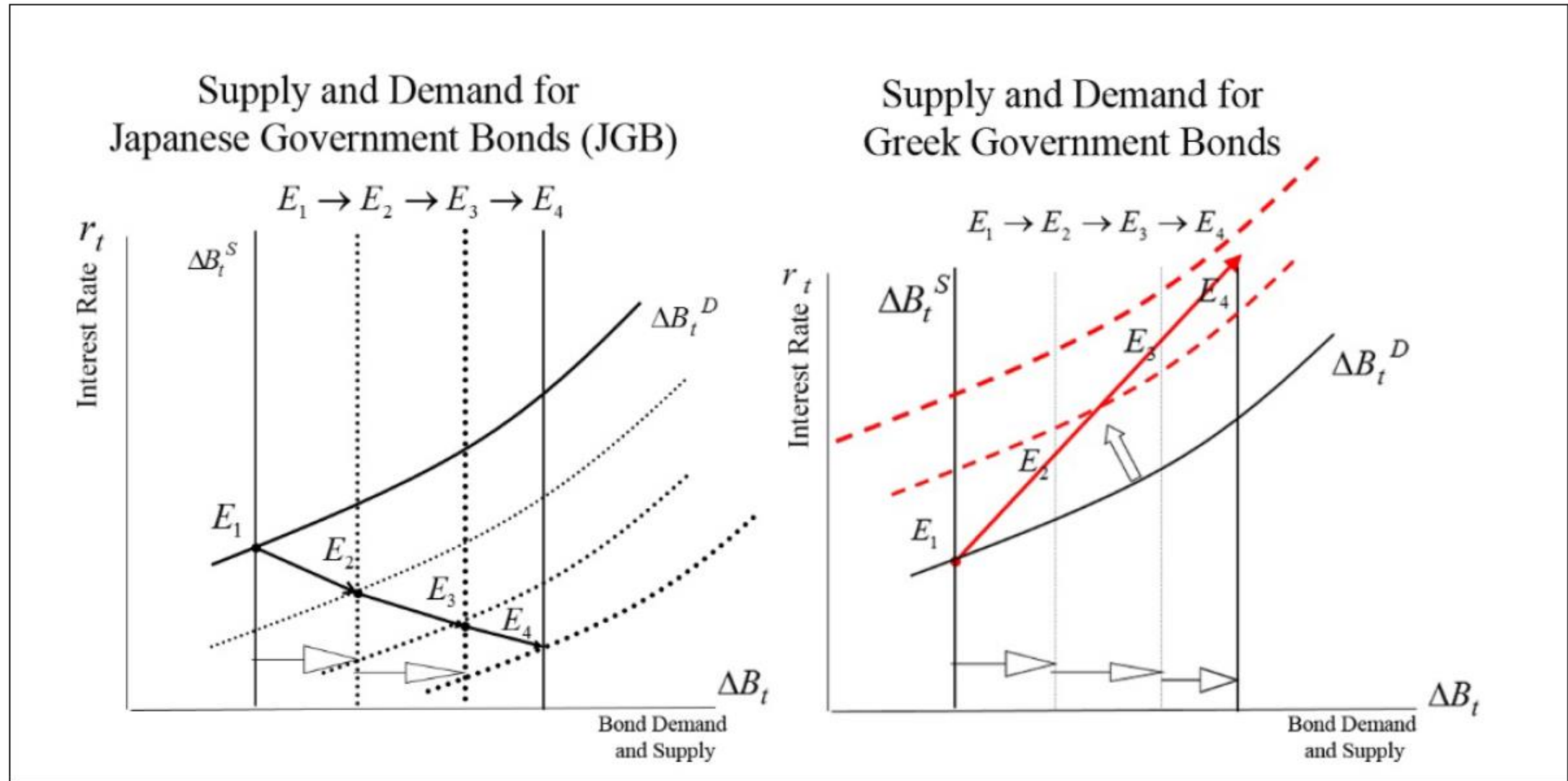


# JGB Yield Curves



Source: Japan Bond Trading Co.,Ltd.

**Figure 2: Government Bond Markets of Japan and Greece**



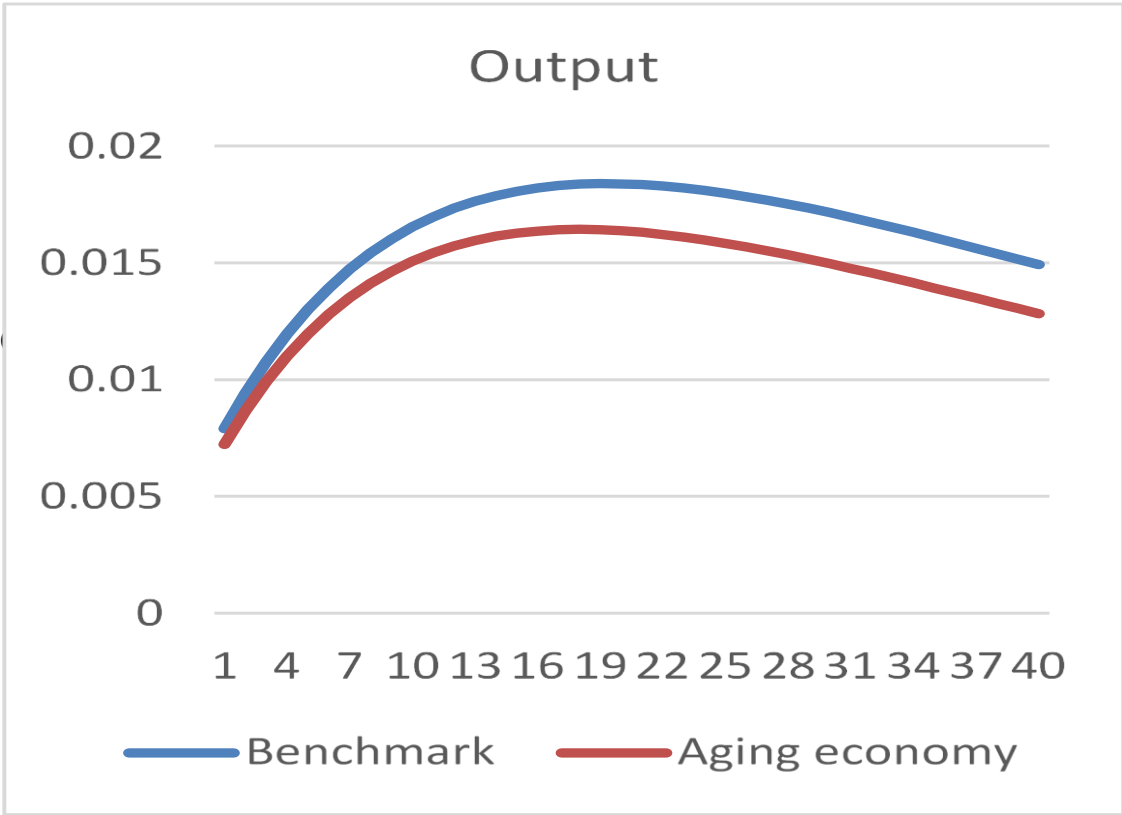
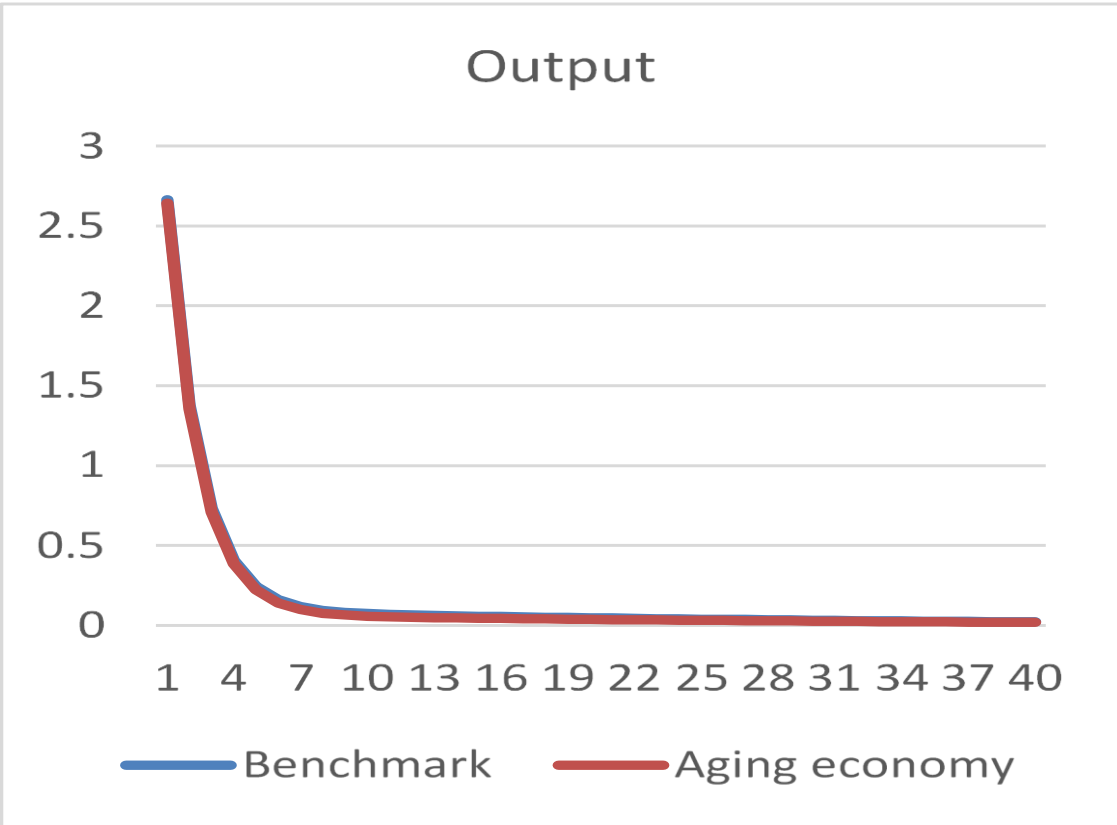
Source: Yoshino and Taghizadeh-Hesary (2014a).

# Declining Effects of Monetary and Fiscal Policies

Yoshino, Farhad and Miyamoto (2017) Credit and Capital Market

(a) Effects of an expansionary monetary policy

(b) Effects of a positive government investment shock

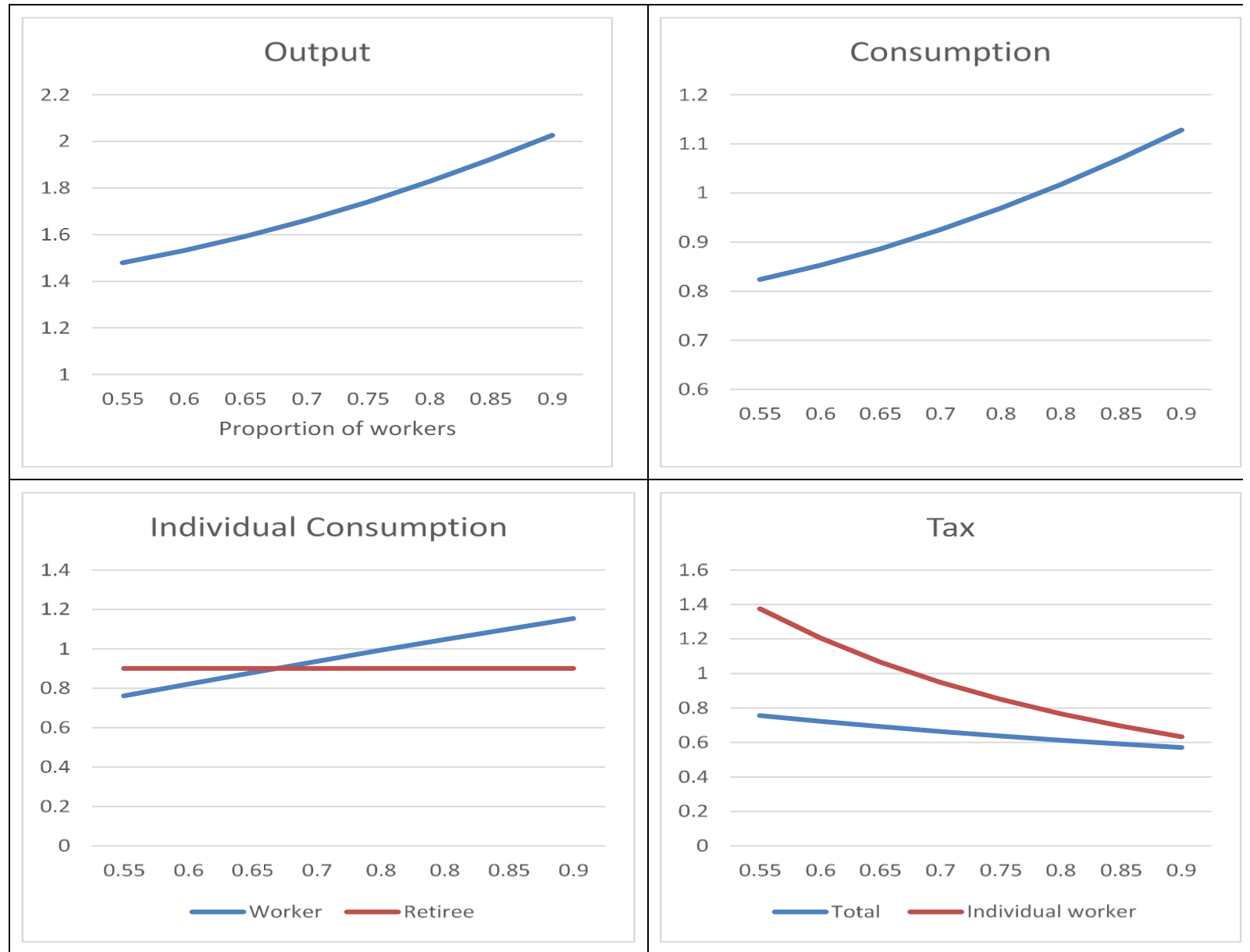




# Structural Problem:

# Aging Population

Yoshino-Miyamoto  
(2017) ADBInstitute



Source: Yoshino and Miyamoto (2016).

# Declining Bank Loans

2016

Monetary base /  
GDP

Japan

80 %

USA

21 %

Euro area

20 %

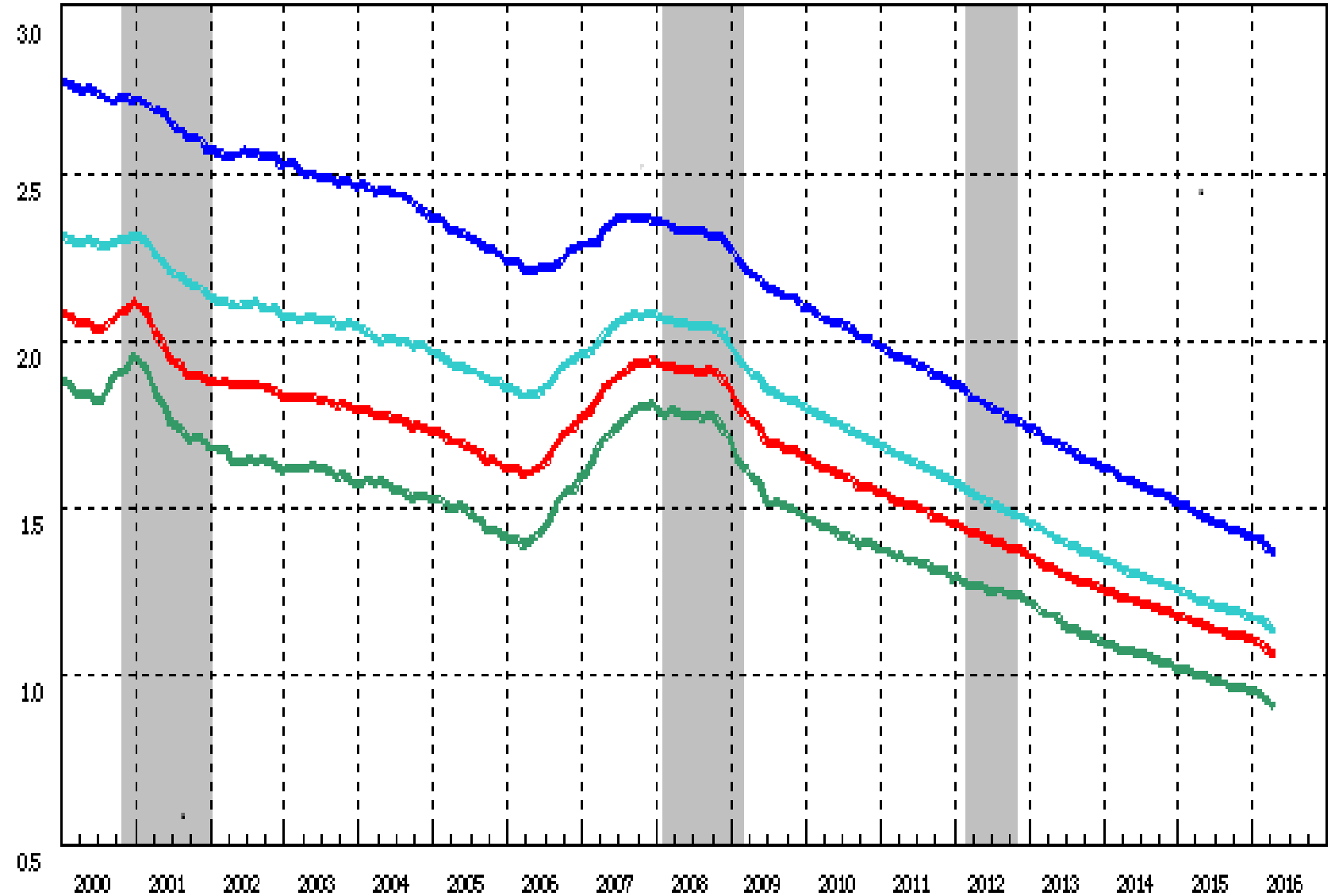


Table 3.  
(Sample:

$$y_t = -0.16 - 0.0002(i - E\Delta p_{+1}) + 1.01y_{t-1}$$

(-1.98)\*    (-0.53)                      (147.63)\*\*

$R^2 = 0.99$  adjusted  $R^2 = 0.99$  Durbin-Watson Statistic = 1.70

$$y_t = -0.15 + 0.0002(i - E\Delta p_{+1}) + 1.01y_{t-1}$$

(-2.36)\*    (1.17)                              (188.23)\*\*

$R^2 = 0.99$  adjusted  $R^2 = 0.99$  Durbin-Watson Statistic = 1.62

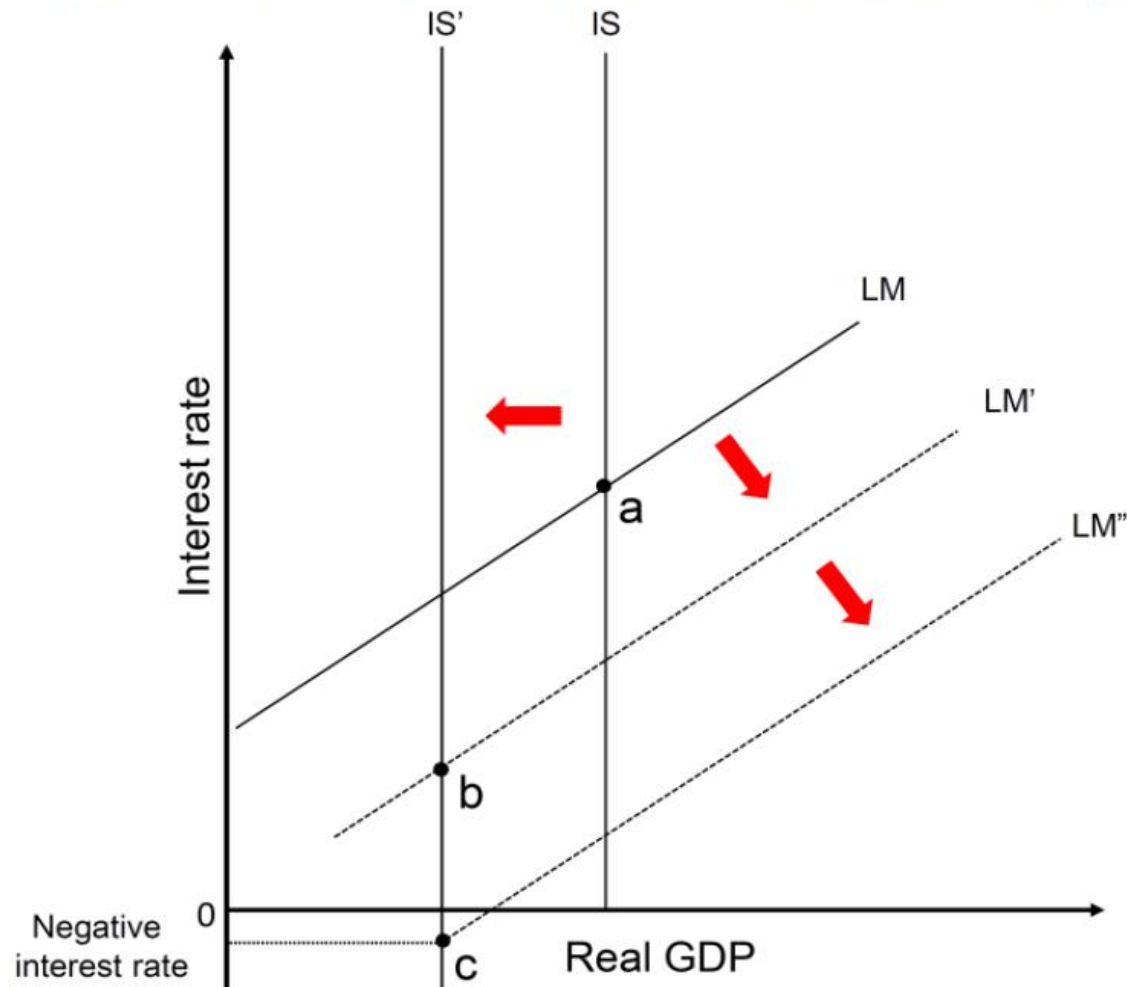
$$(m-p)_t = 0.02 + 0.70y_t - 0.025i_t + 0.99(m-p)_{t-1}$$

(0.11)    (2.67)\*\*    (-2.72)\*\*    (171.06)\*\*

$R^2 = 0.99$  adjusted  $R^2 = 0.99$  Durbin-Watson Statistic = 1.93

Source: Authors' compilation.

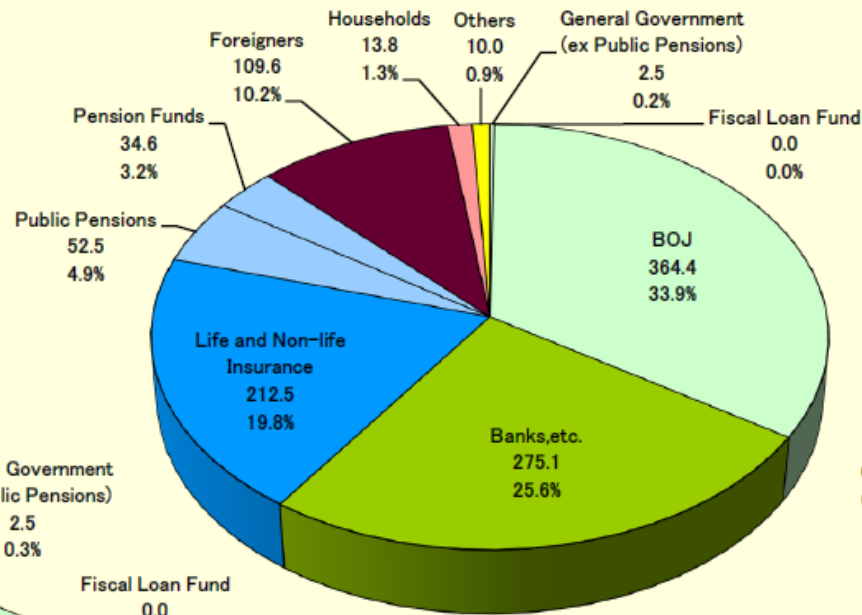
Figure 12: The Ineffectiveness of Monetary Policy in Japan



# Breakdown by JGB and T-Bill Holders (Mar. 2016)

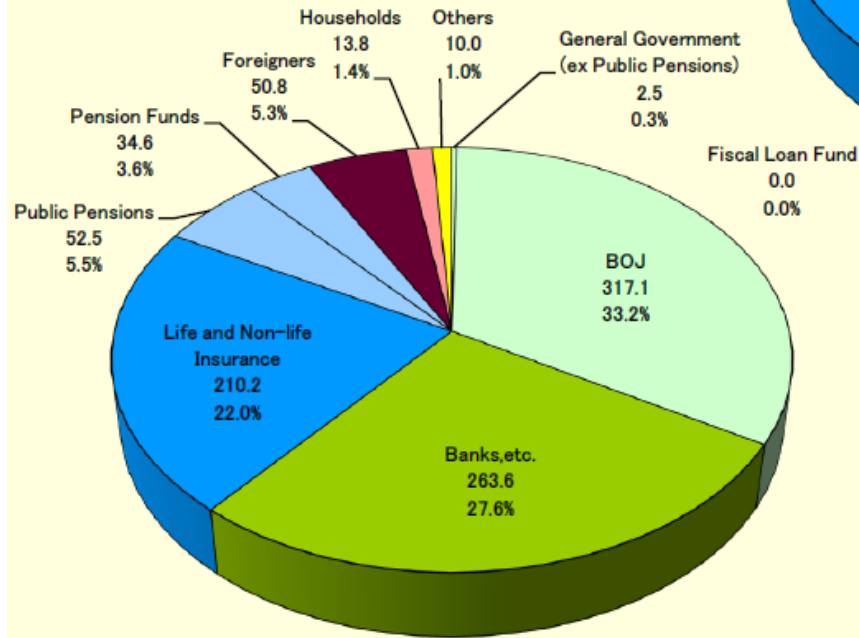
## JGB and T-Bill Holders

(trillion yen)



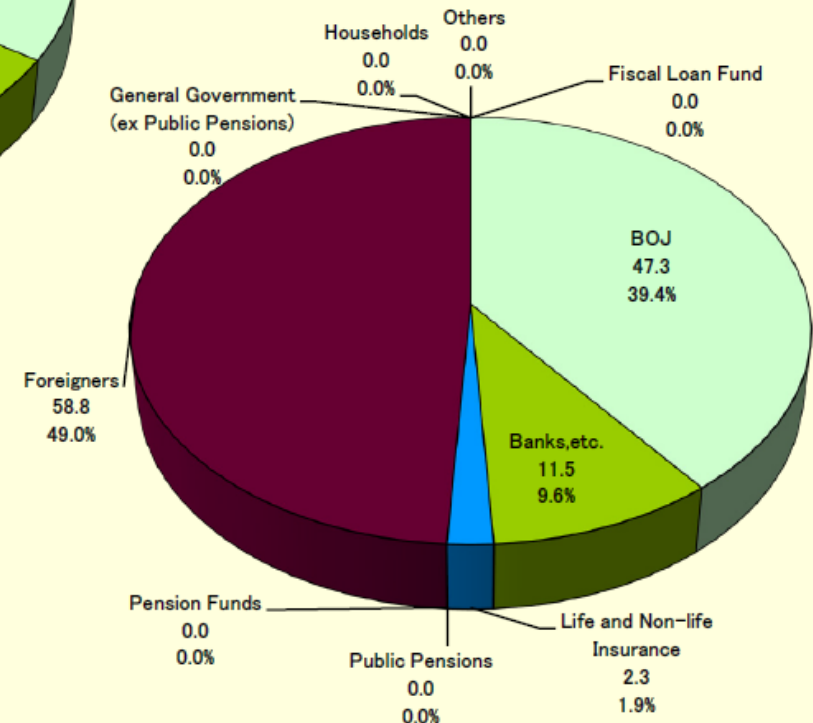
Total 1,075.0 trillion yen

## JGB Holders



Total 955.0 trillion yen

## T-Bill Holders



Total 119.9 trillion yen