

## 7th Session:

# International trends in the regulation of mortgage markets

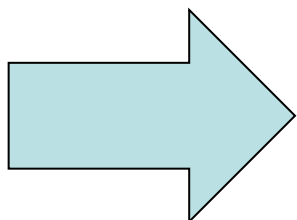
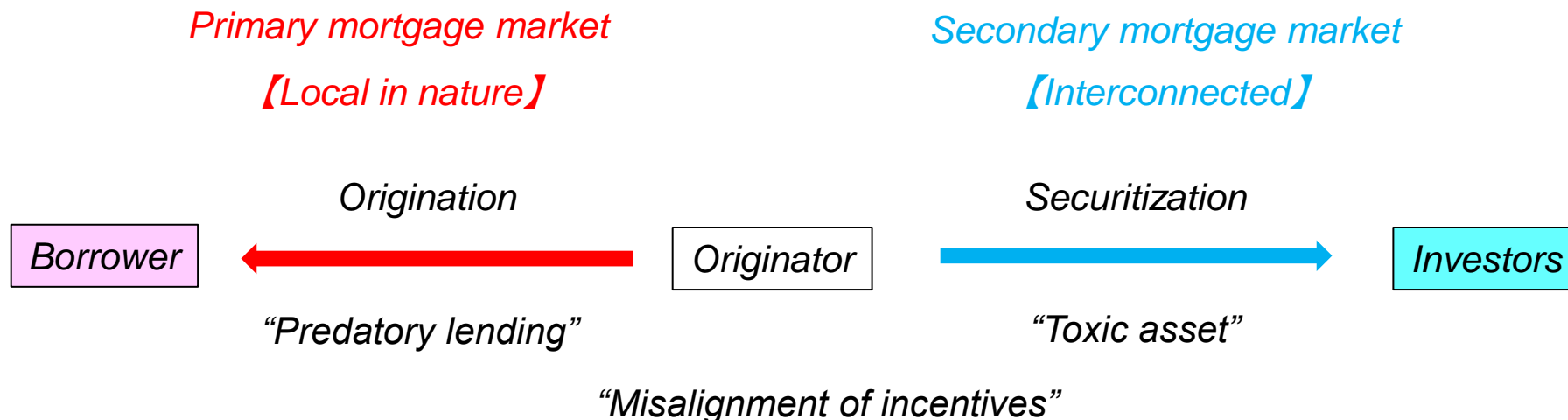
*Masahiro Kobayashi*

Director General, Research and Survey Department, and  
Director General, Office of International Affairs, Corporate Strategy Department



# Origin of current regulations on mortgage market

US subprime crisis

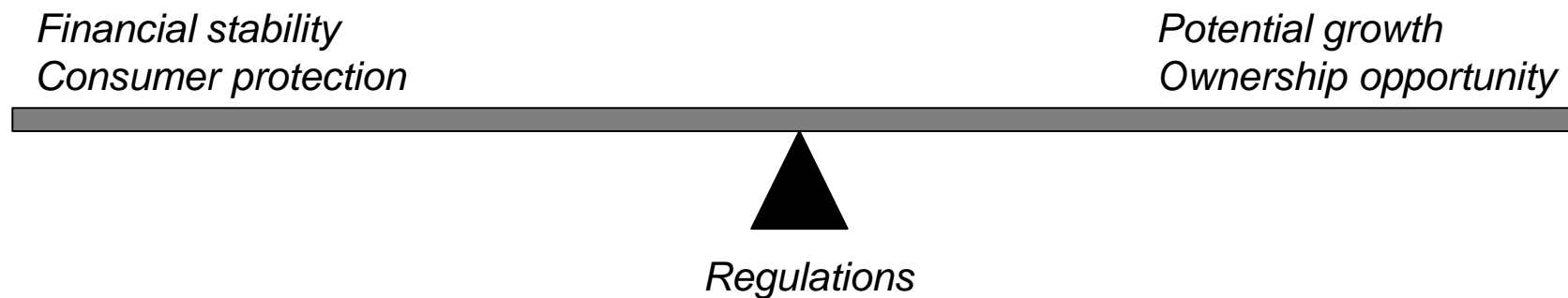


- Sound underwriting  
LTV, DTI, Ability to repay
- Mortgage products and consumer protection  
Fixed rate mortgage and Adjustable rate mortgage (ARM)  
Explanation to borrowers
- Business model and method of funding  
Originate to distribute (OTD) vs Originate to hold (OTH)  
Securitization vs Covered Bond
- Macro-prudential regulation  
Countercyclical capital buffer, Mortgage debt to GDP

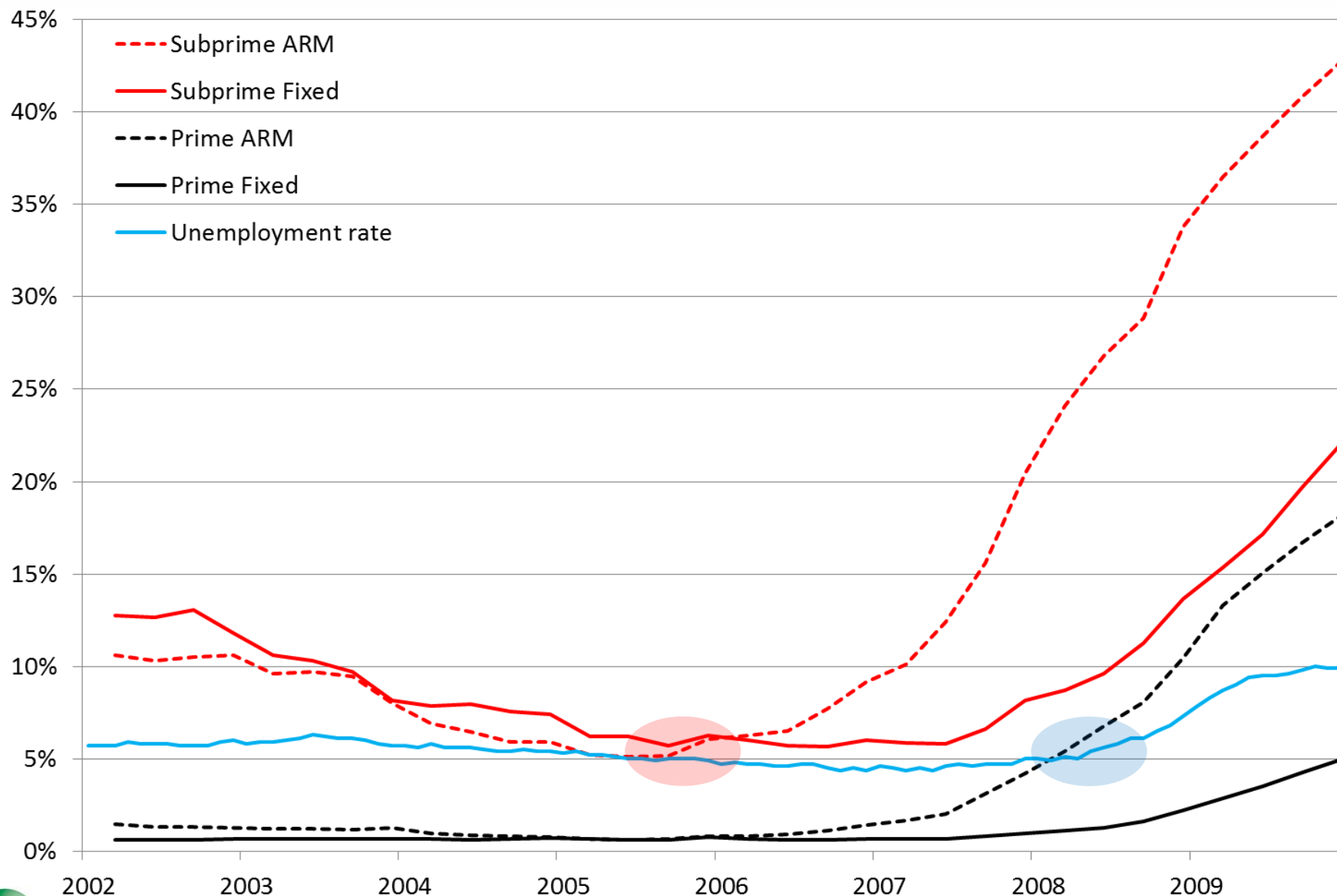
# FSB Principles for Sound Residential Mortgage Underwriting Practices

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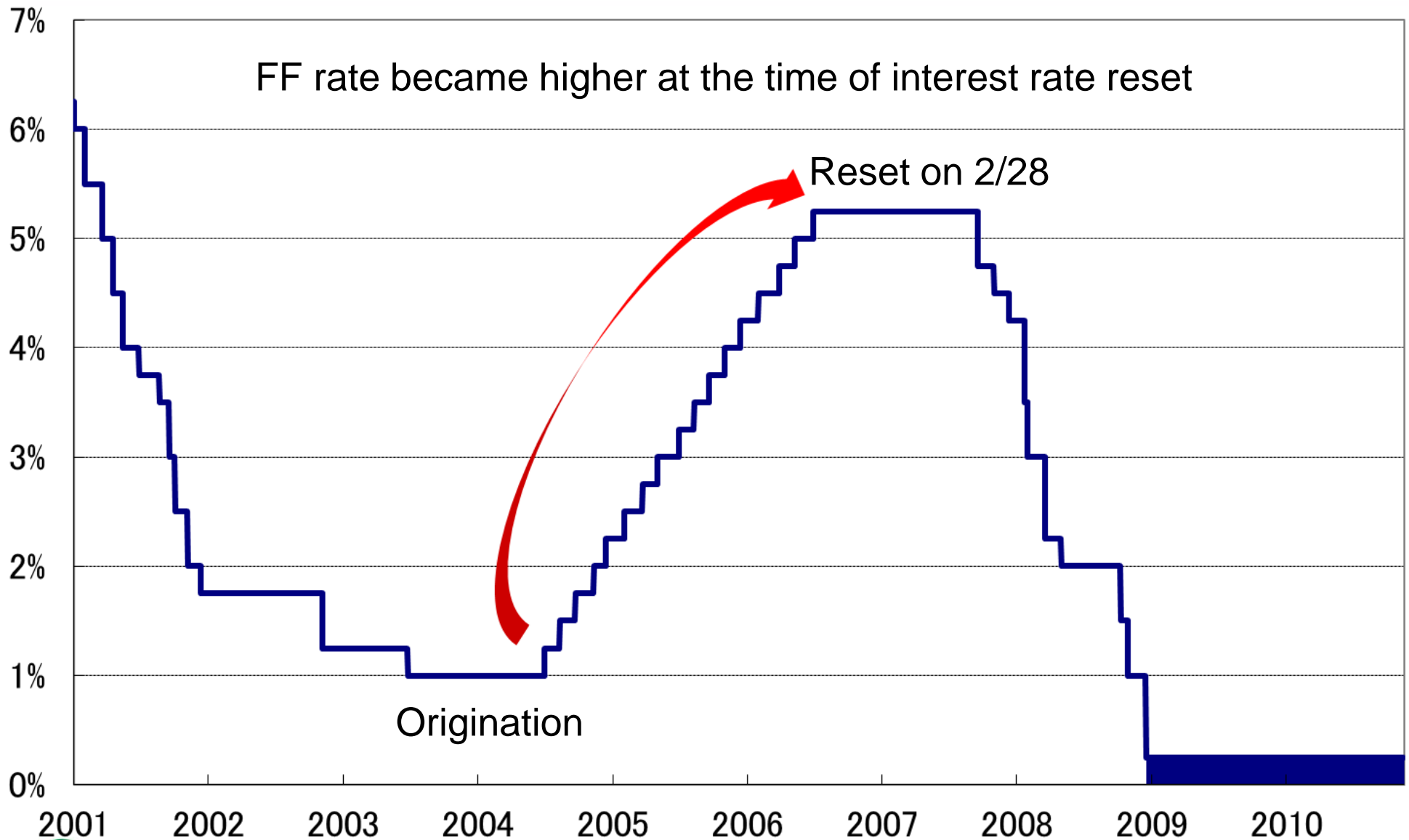
- Effective verification of income and other financial information
- Reasonable debt service coverage
- Appropriate loan-to-value (LTV) ratios
- Effective collateral management
- Prudent use of mortgage insurance
- Implementation framework
- Effective supervisory tools and powers



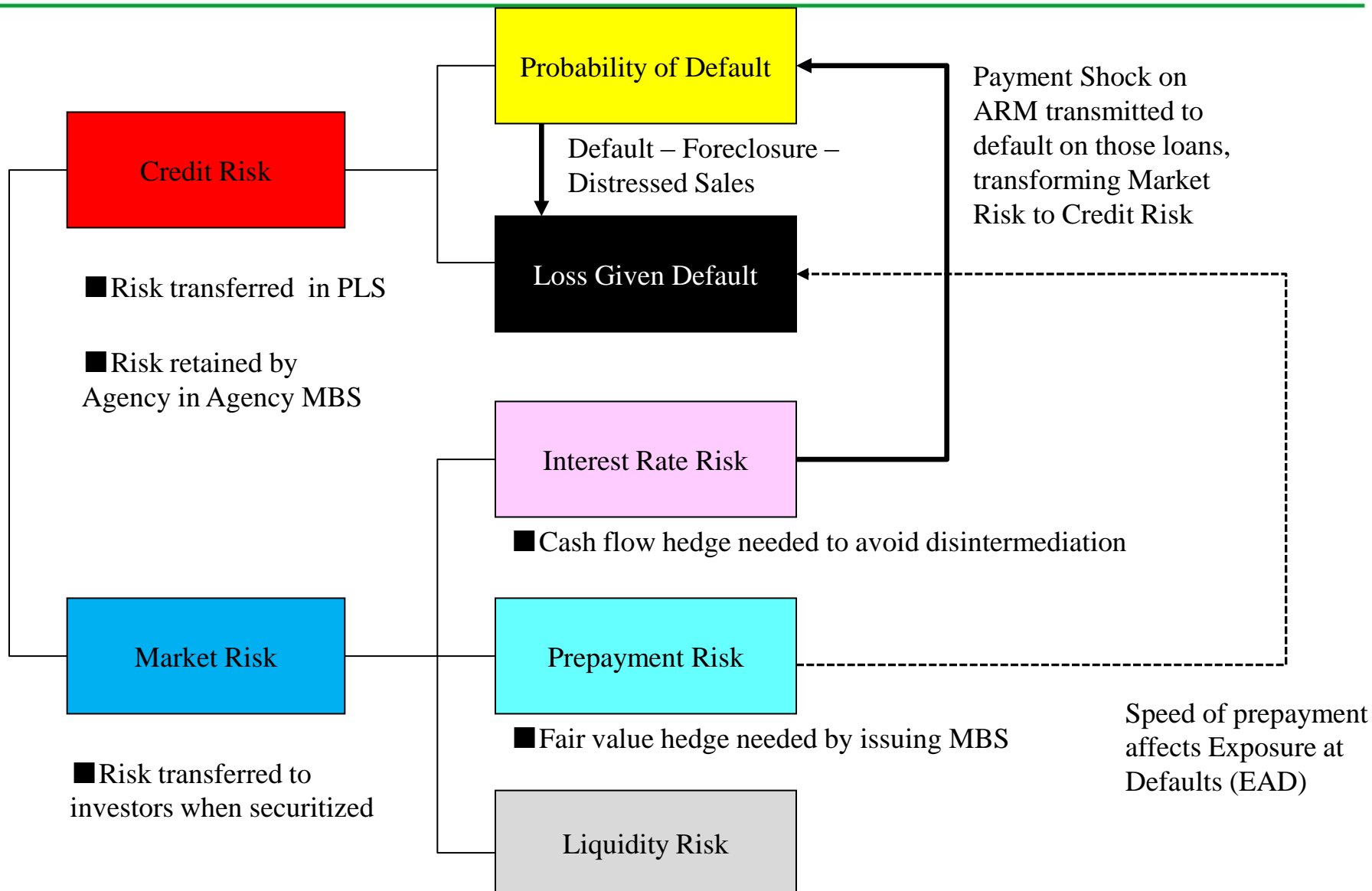
# Mortgage Delinquencies by Loan Type in the US



# Payment Shock on US 2/28 ARM

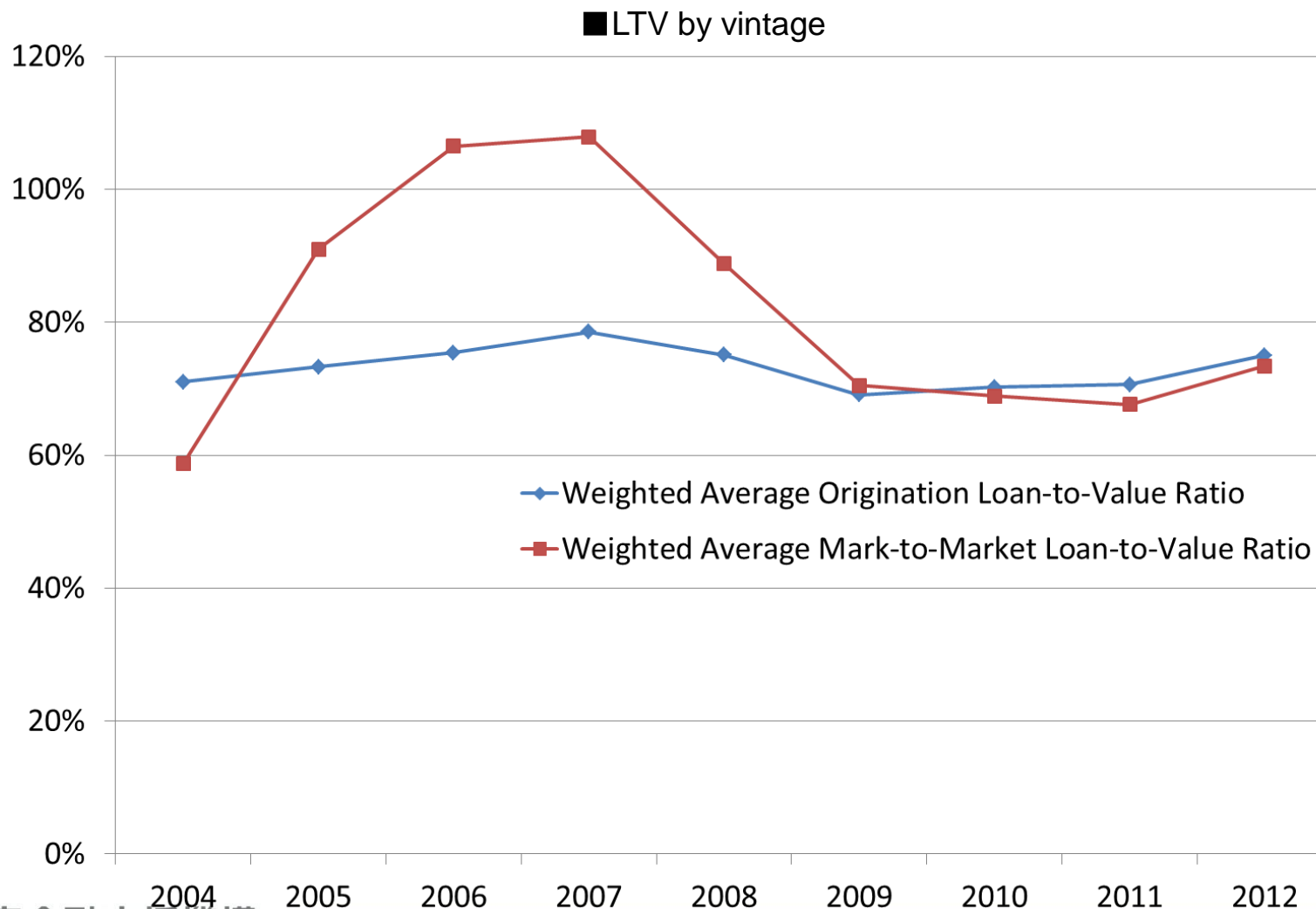


# Risks in Mortgage Lending and their interrelation

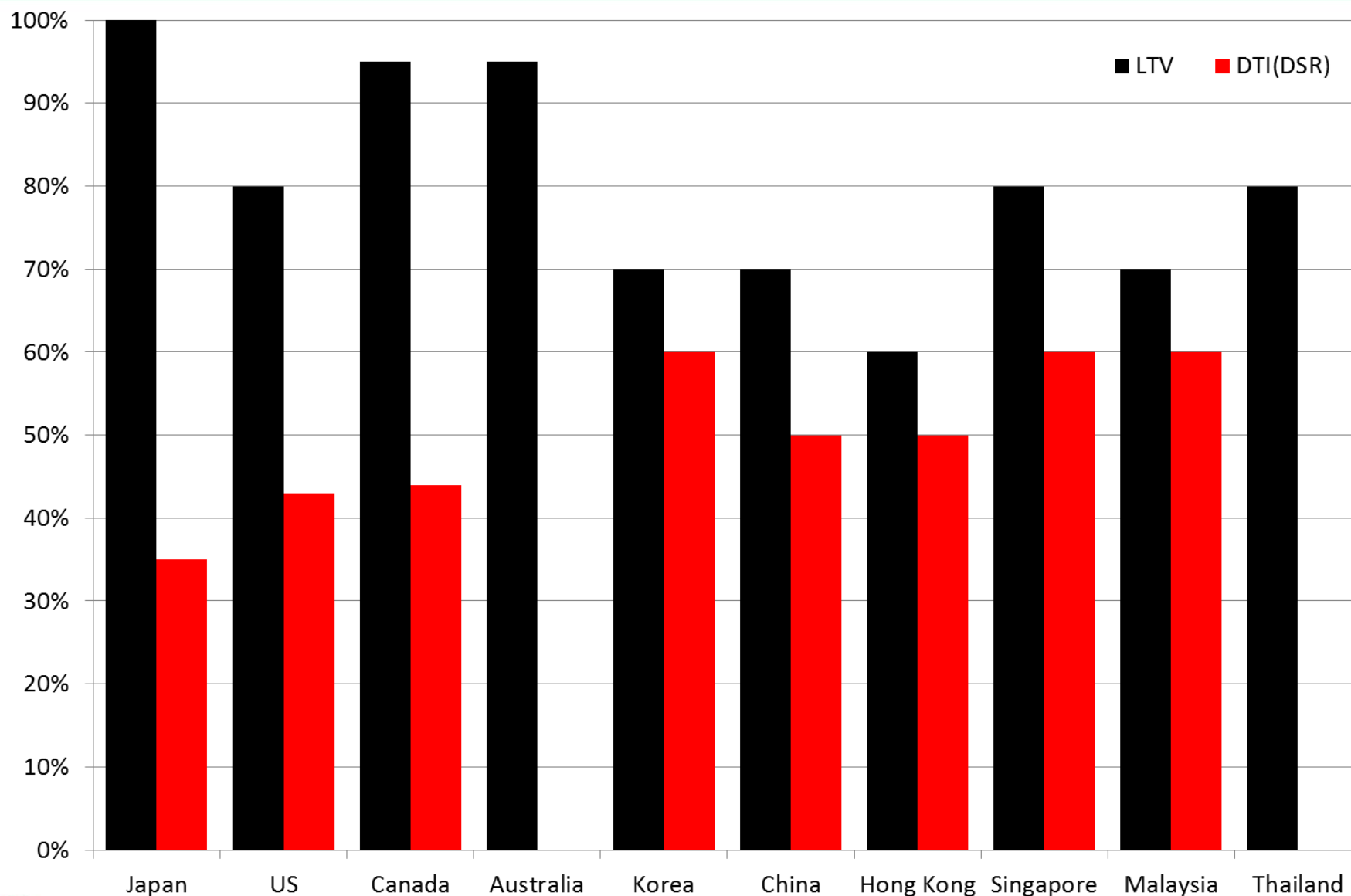


# LTV at origination and mark to market

*Even LTV is less than 80% at origination, mark to market LTV can exceed 100%, resulting in negative equity (underwater) if property market declines.*

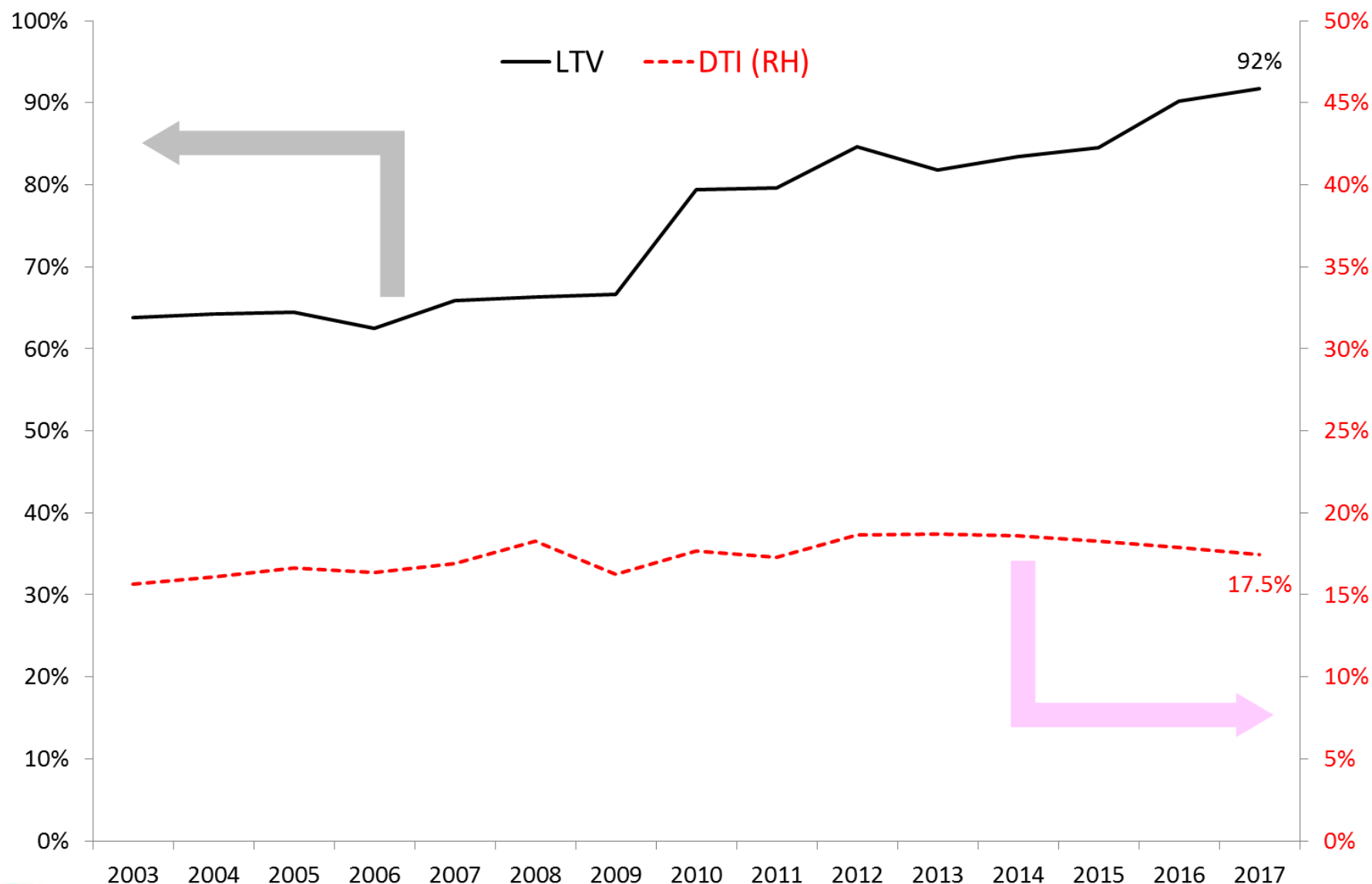


# Regulatory limits on LTV and DTI

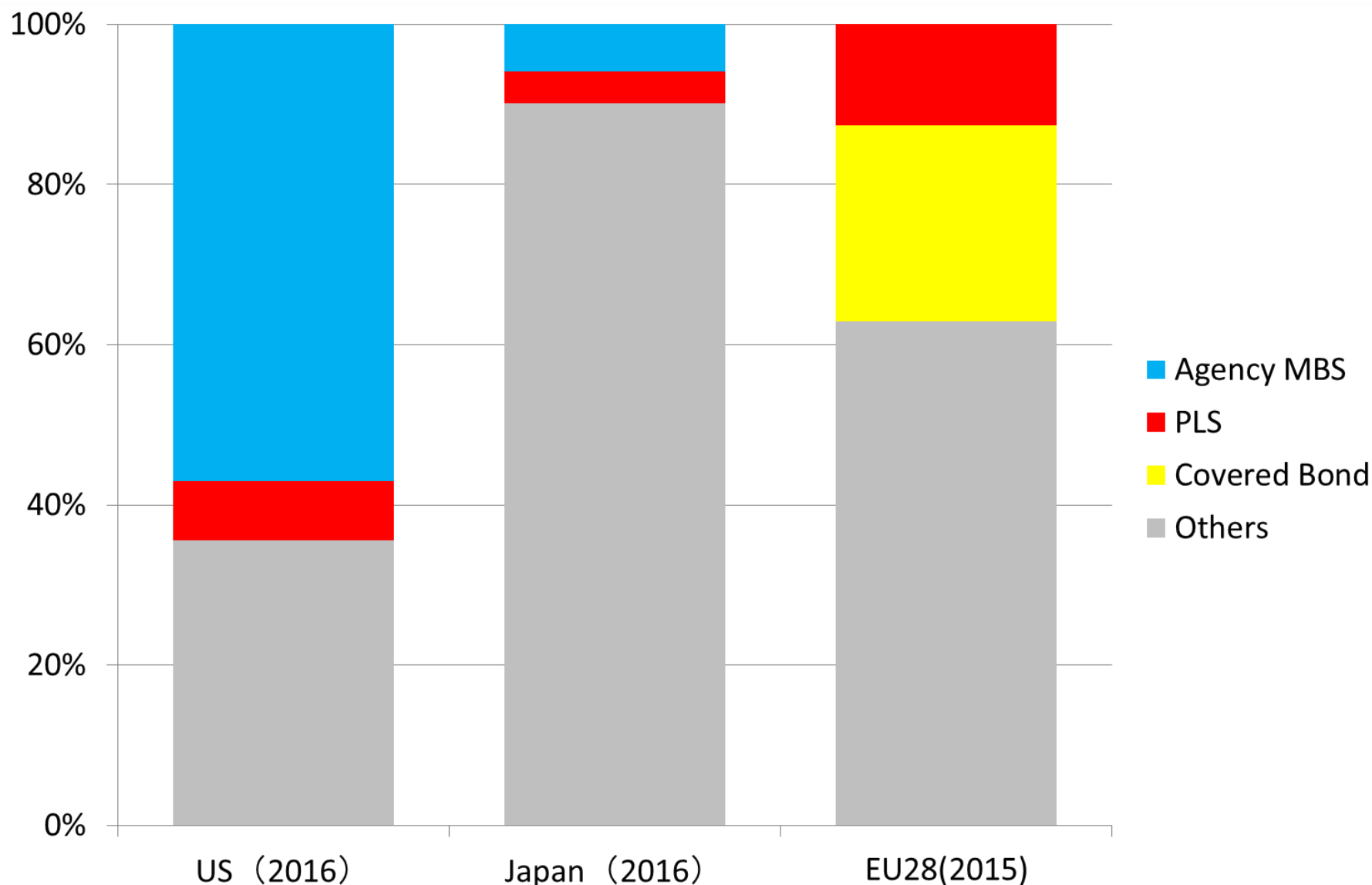




# Average LTV and DTI in Japan (JHF)

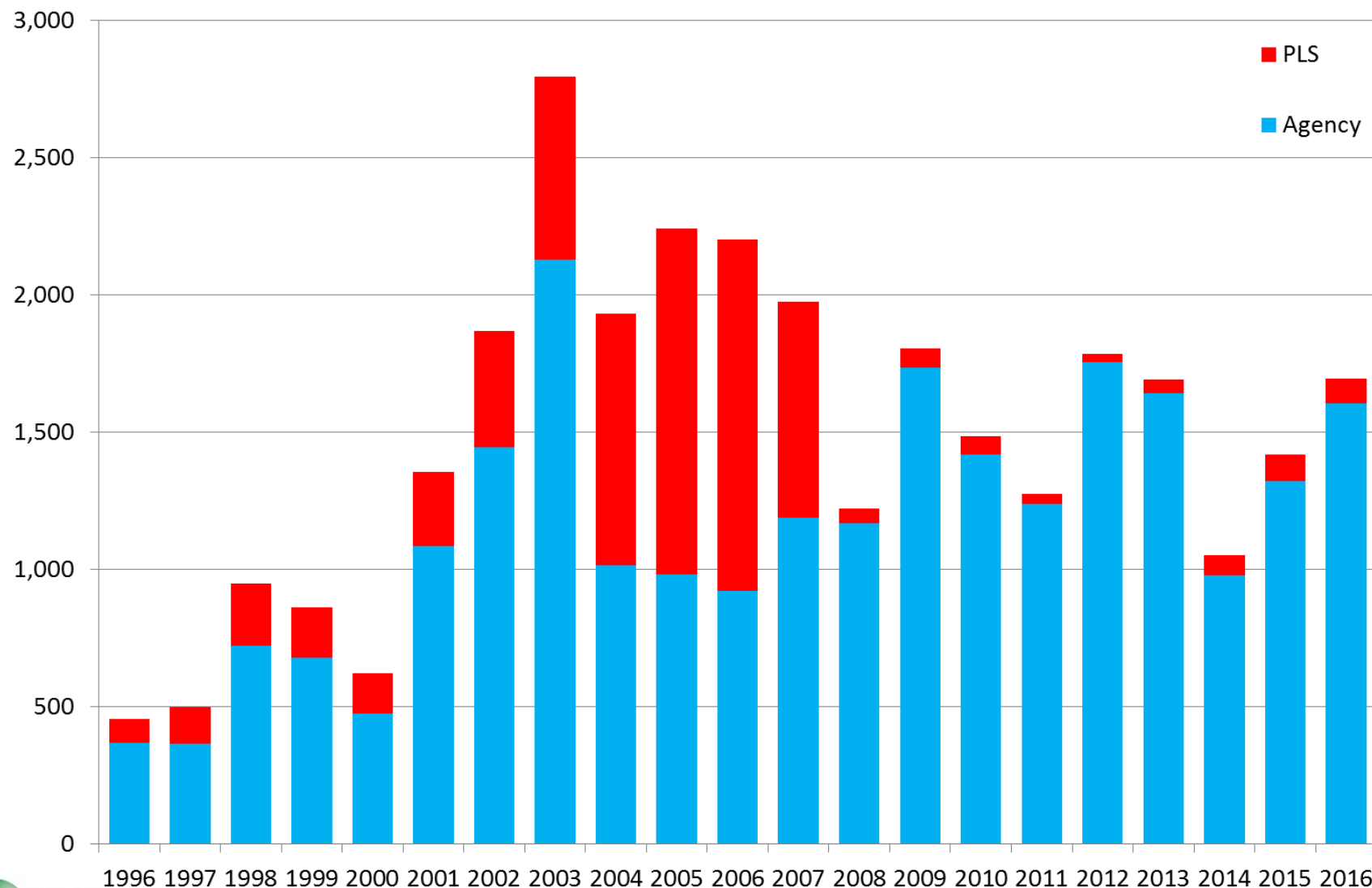


# Funding Source of Mortgages

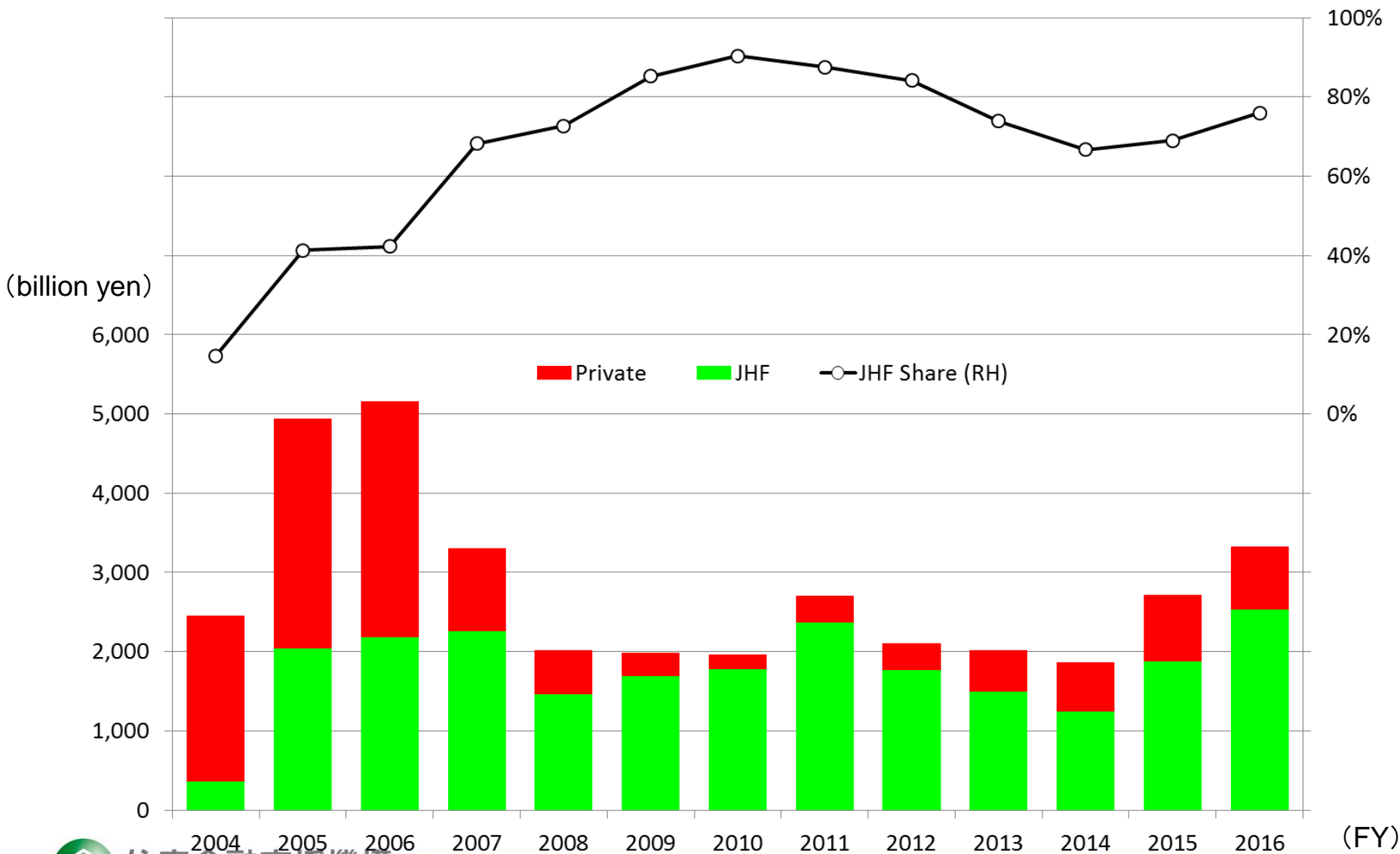


# MBS issuance amount in the US

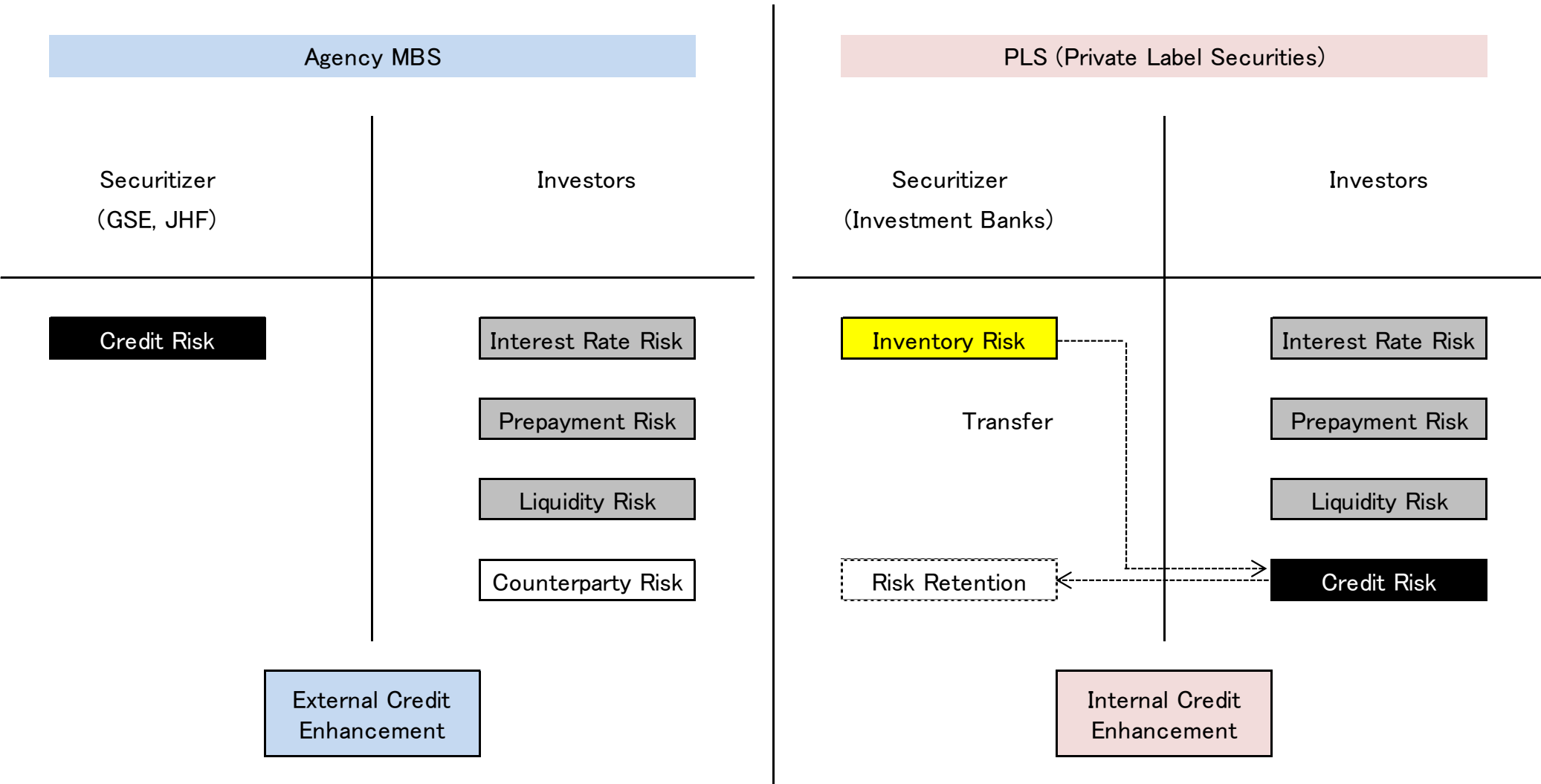
(billion USD)



# MBS issuance amount in Japan



# Risk transfer in securitization transaction



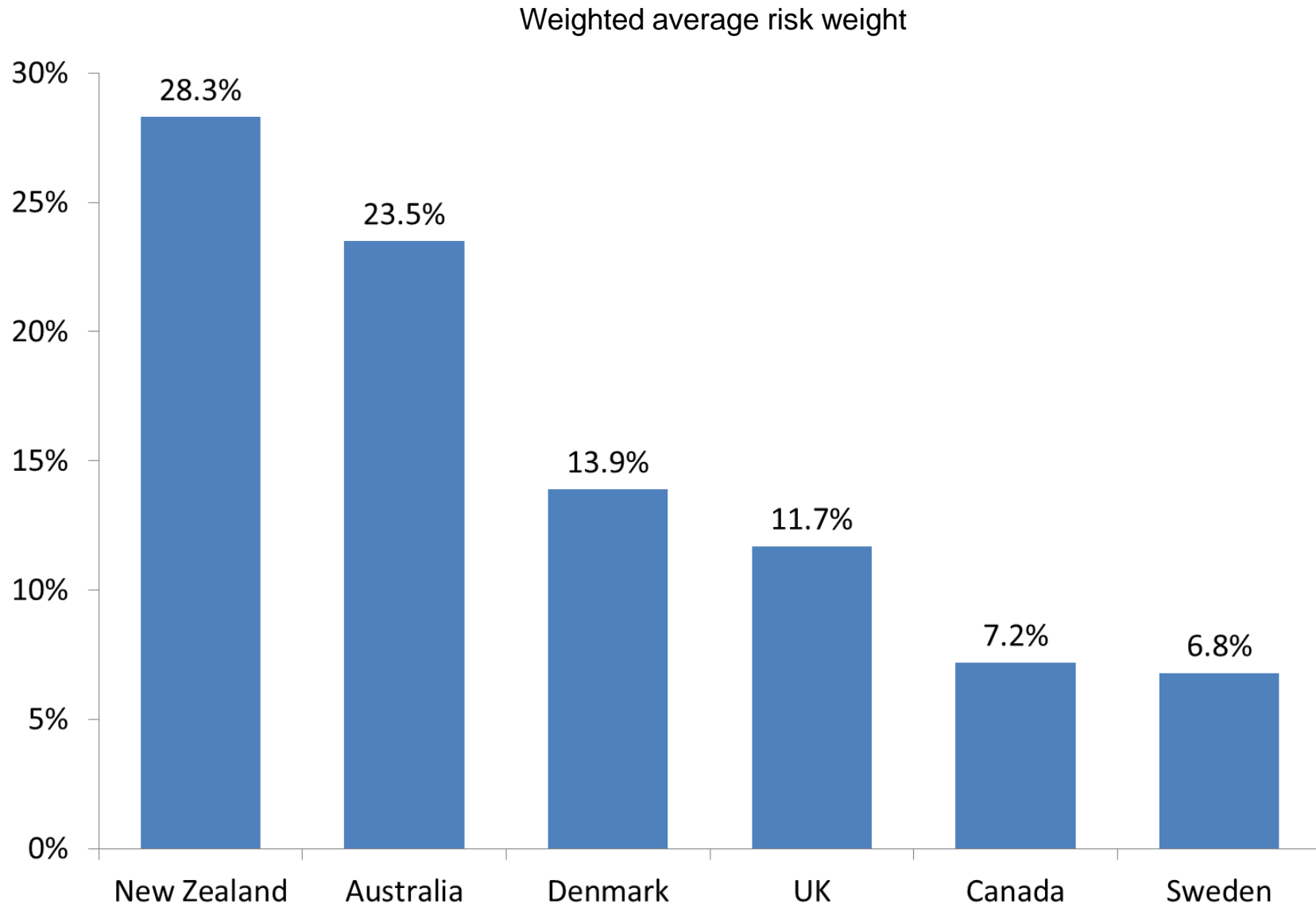
## Comparison of typical MBS (PLS) vs Covered Bond

	MBS	Covered Bond
History	Since 1970 US Origine	Since 1770 German Origine
Balance Sheet Treatment of Assets	Off-Balance (Static Pool)	On-Balance (Dynamic Pool)
Credit Risk of the Borrowers	Transferred to Investors (→5% retention)	Retained by Issuers
Moral Hazard	More Likely (Originate to Distribute Model)	Less Likely (Originate to Hold Model)
Loan Modification	Difficult	Easy
Market Condition	Almost Collapsed	Relatively Stable
Regulatory Treatment	Unfavorable	Preferential
ALM Risk	Transferred to Investors (Option Premium is included)	Remains with Issuers

# Diversification of MBS and Covered Bond

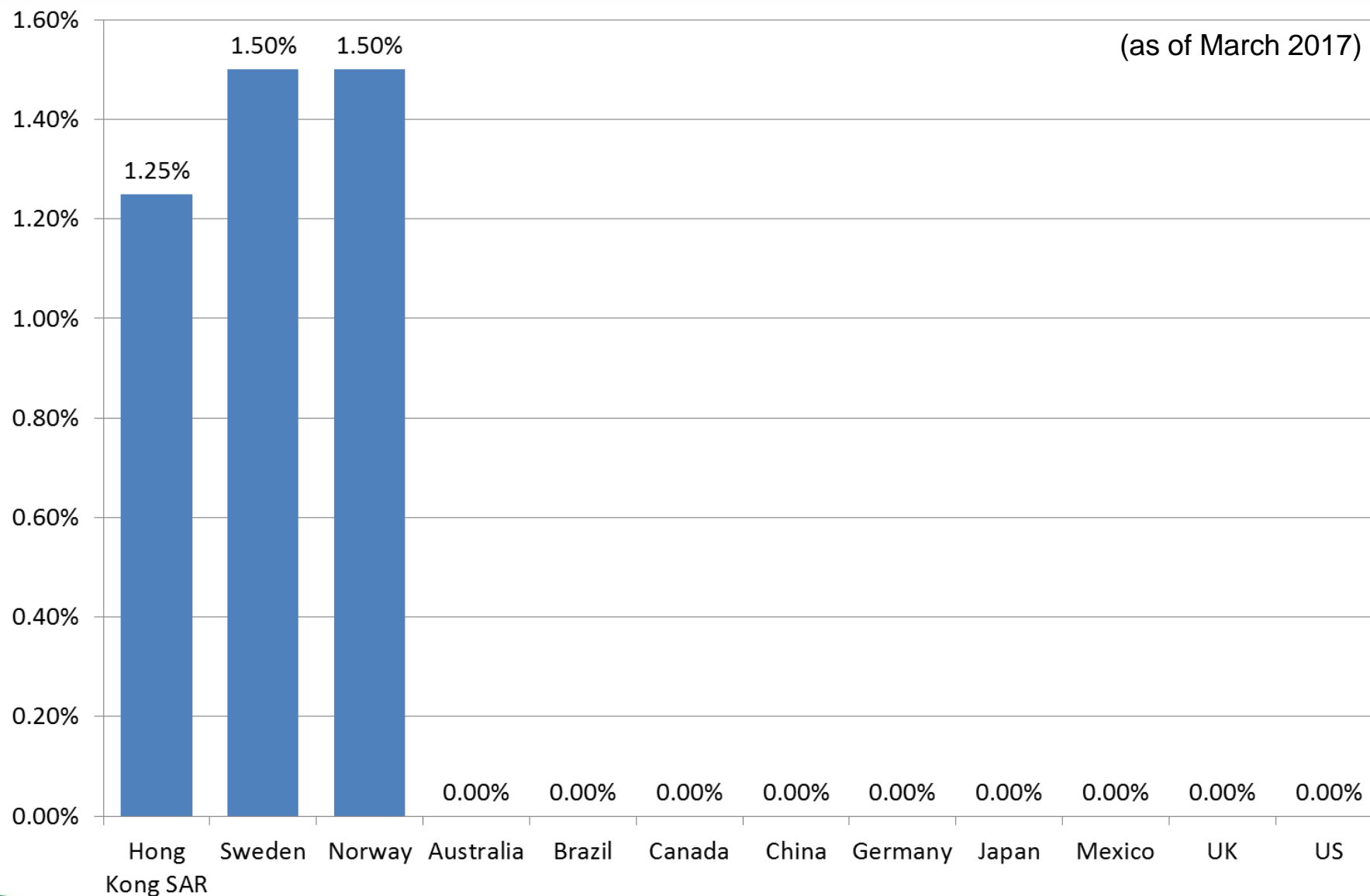
		Patern of Cash Flow	
		Bullet (Straight Bond)	Pass-through (with Amortization and prepayment)
Balance Sheet Treatment of Assets	On-Balance	Pfandbrief (Germany) Cédulas Hipotecarias (Spain)	JHF MBS (Japan) Særligt Dækkede Obligationer (Denmark) Fannie Mae MBS, Freddie Mac PC (US) As of Jan2010
	Off-Balance	Obligations Foncières (France) Obbligazioni Bancarie Garantite (Italy)	<div>                         Fannie Mae MBS, Freddie Mac PC (US)                     </div> Ginnie Mae MBS (US) Private Label Securities (US) Master-Trust MBS (UK)

# Housing risk weights for selected countries (large banks)

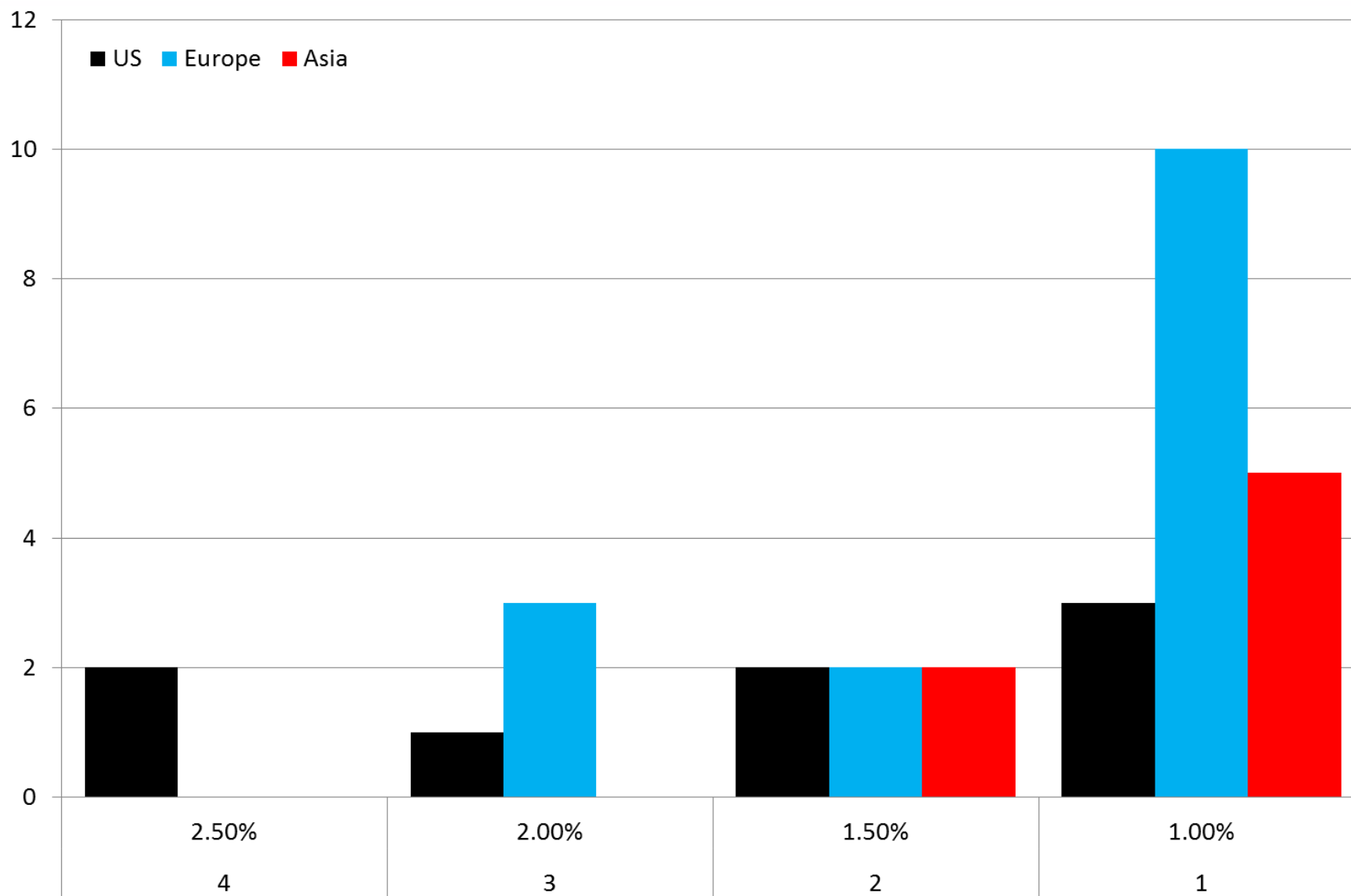




# Countercyclical capital buffer

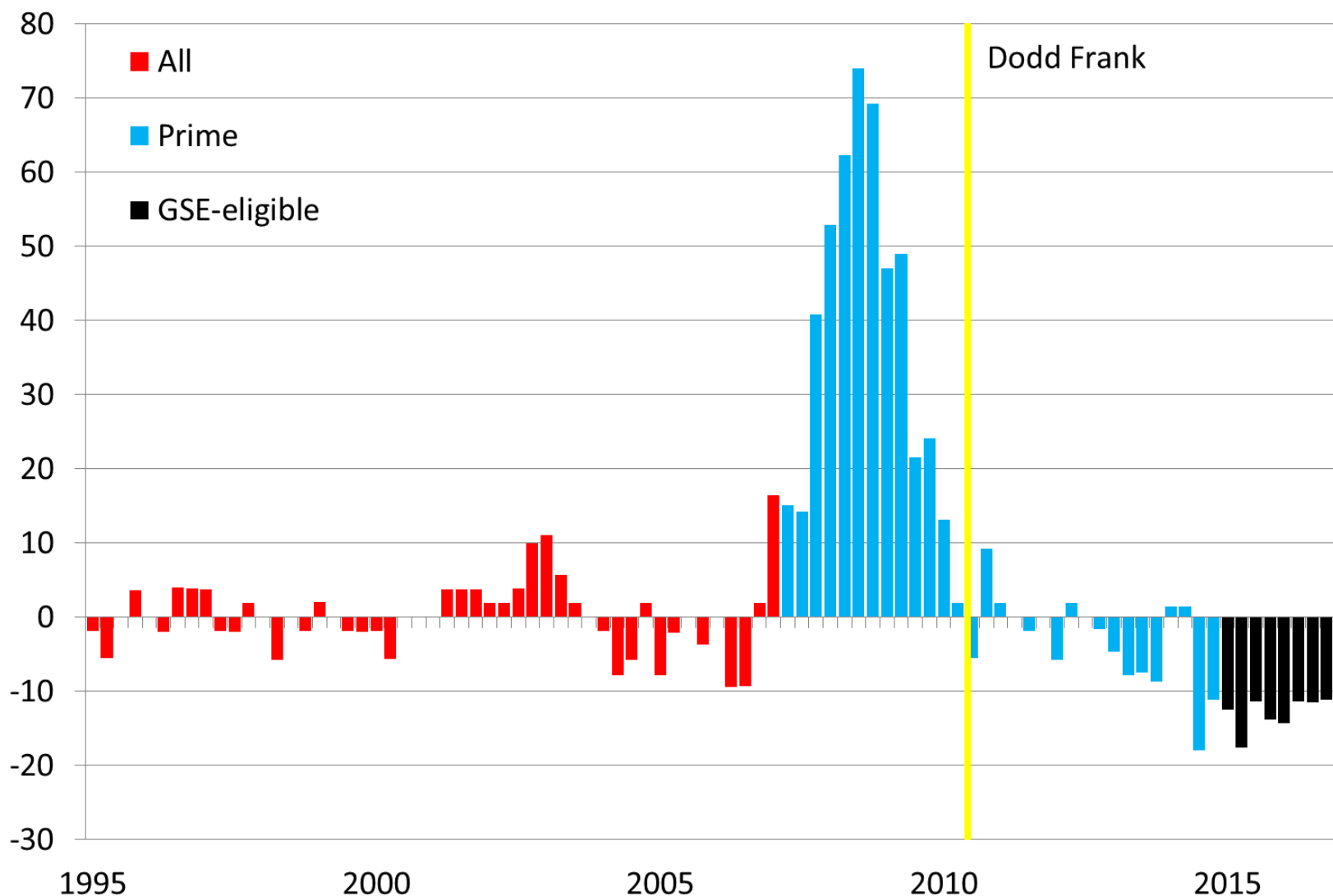


# G-SIBs as of November 2016

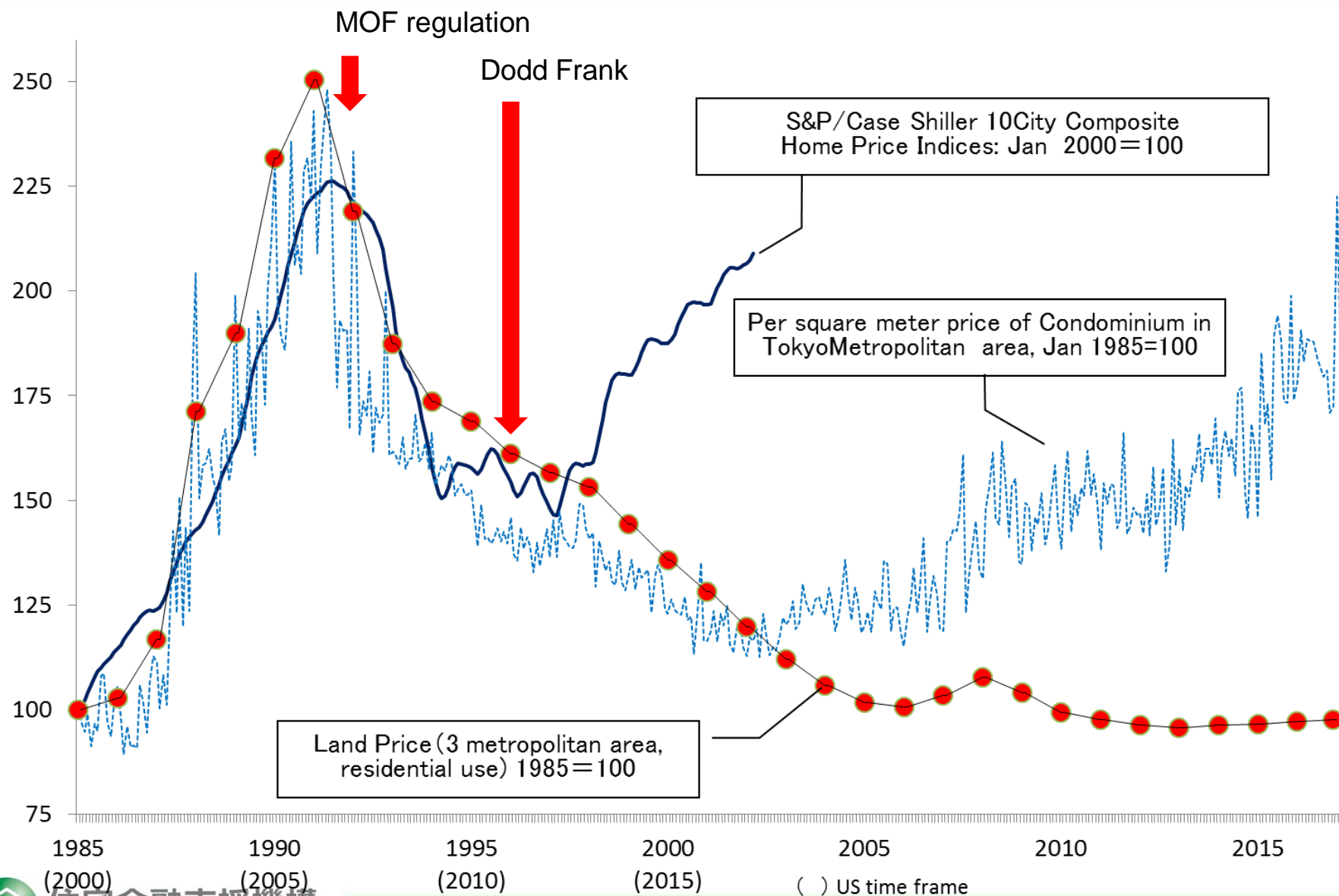


# Senior Loan Officer Opinion Survey on Bank Lending Practices

*DI: Net Percentage of Domestic Respondents Tightening Standards for Mortgage Loans*

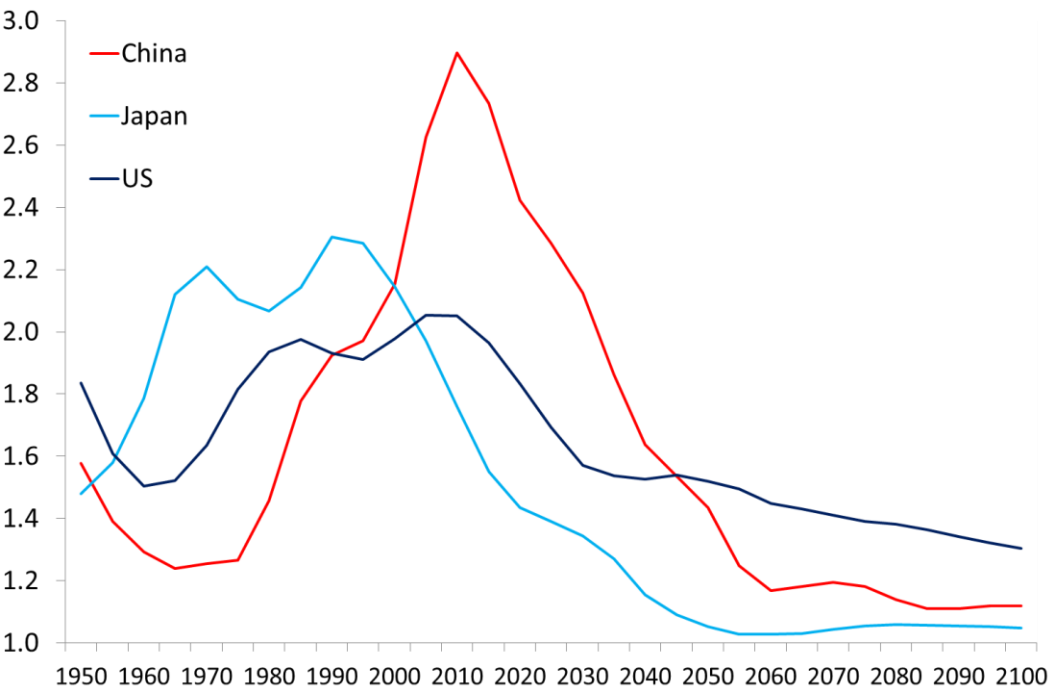


# Property price and timing of regulation

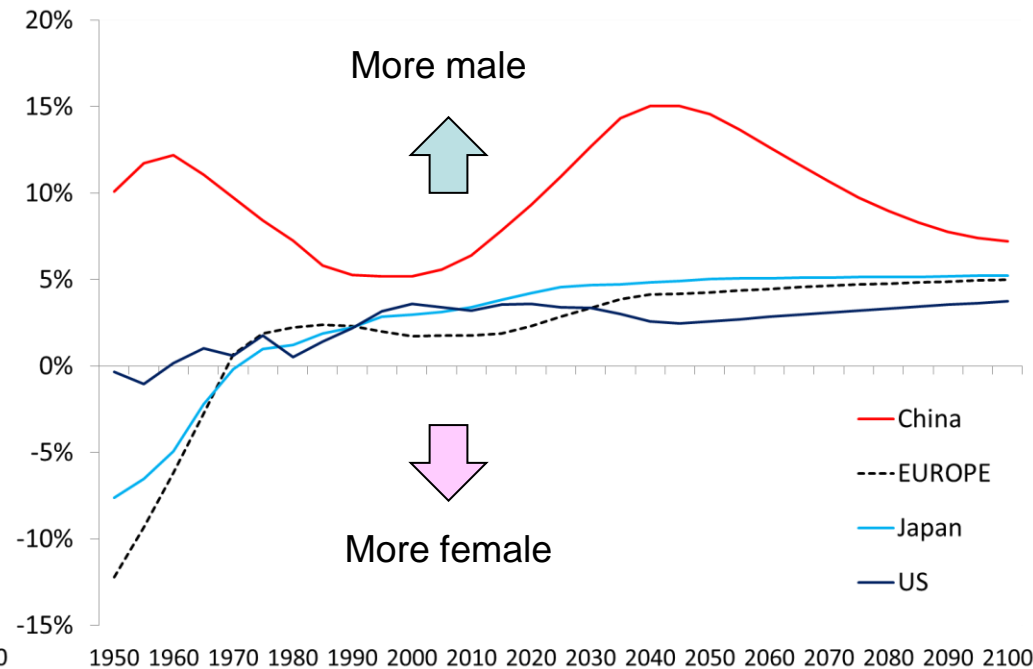


# Regulations on real estate in China are offset by demographics

Inverse dependency ratio



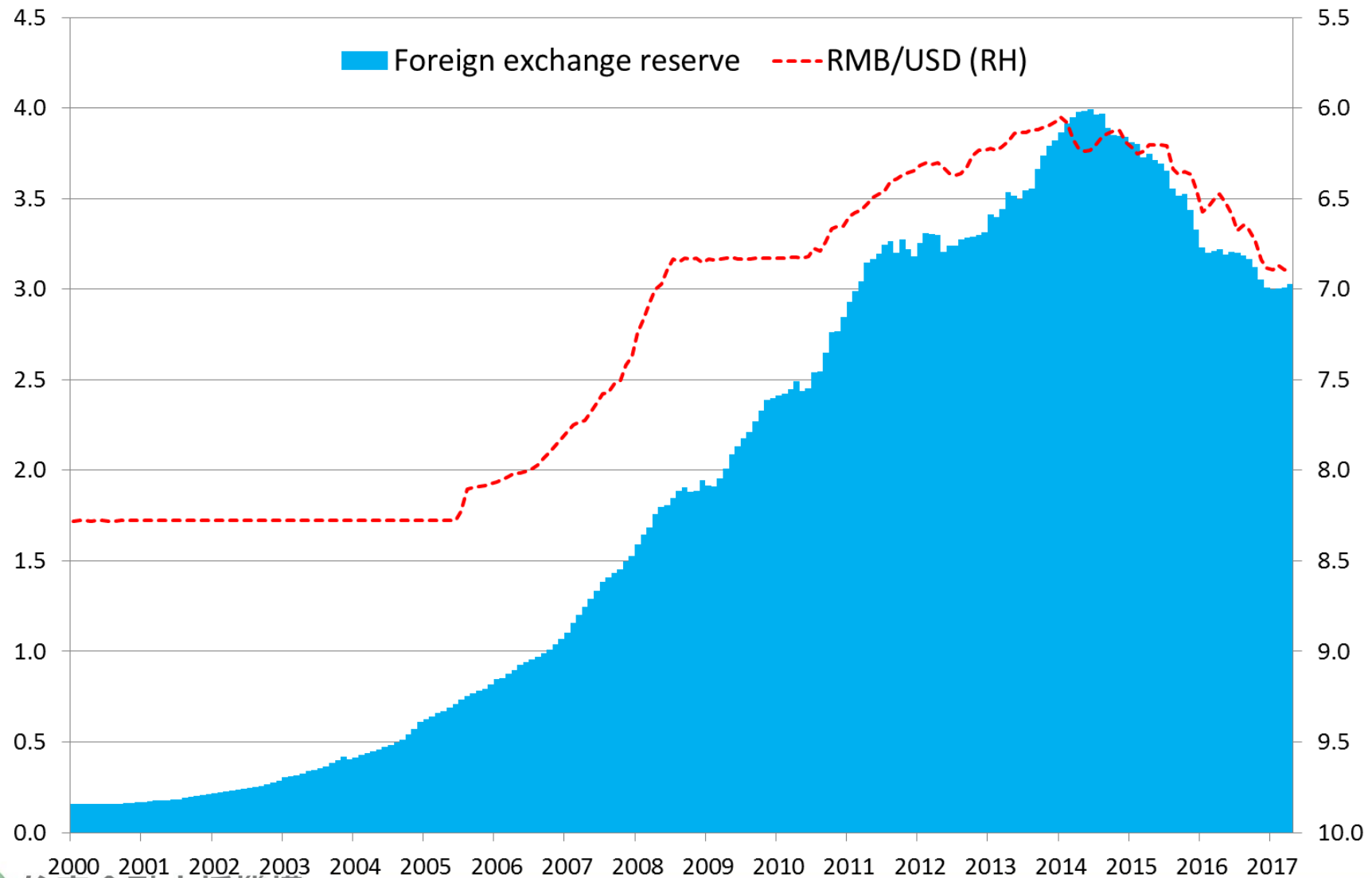
Difference of gender composition aged 15-44



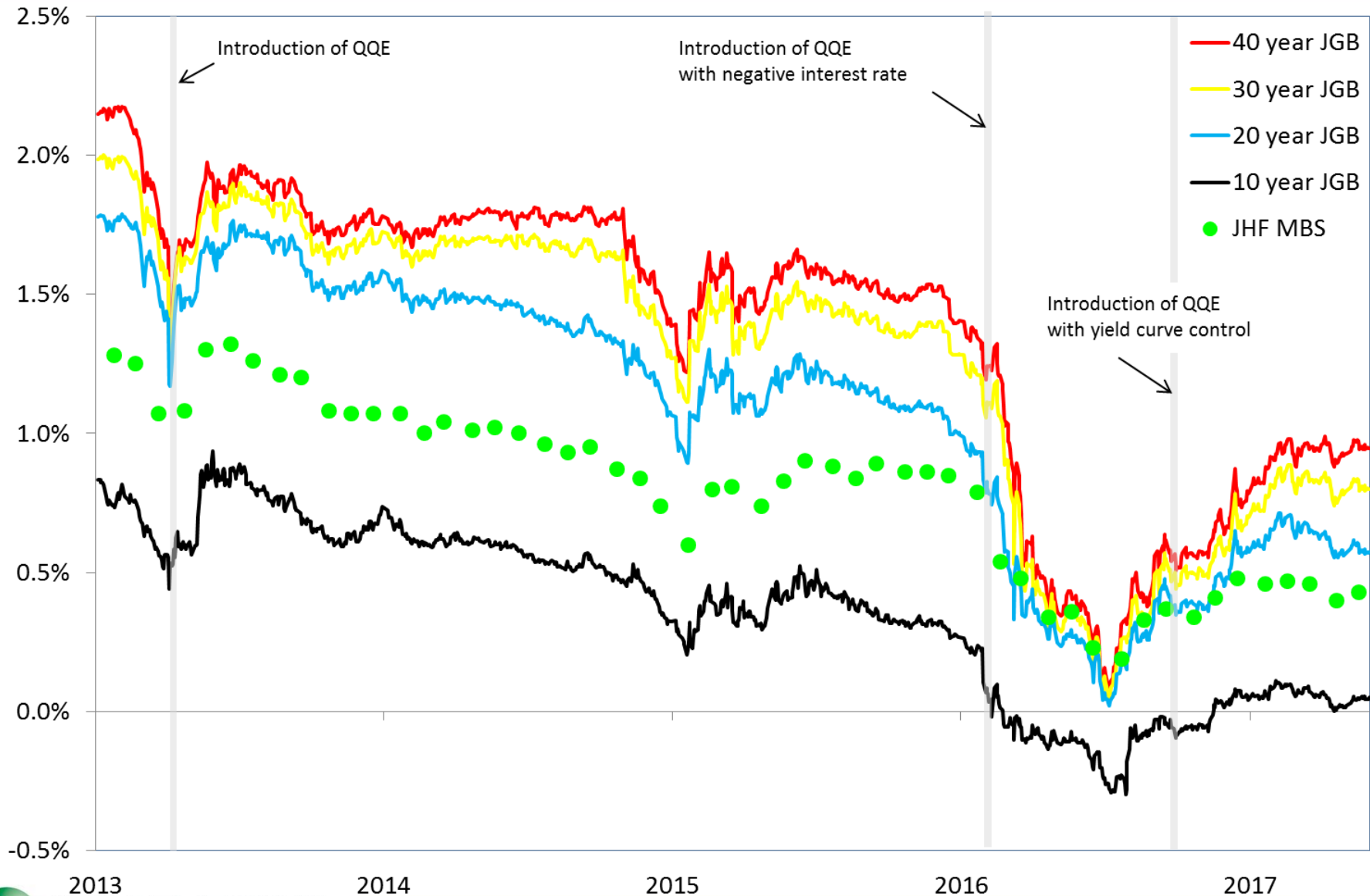
(Source) United Nations, Department of Economic and Social Affairs, Population Division (2015).  
World Population Prospects: The 2015 Revision, DVD Edition.

# Regulations on capital outflow in China is also affecting property markets

(trillion USD)



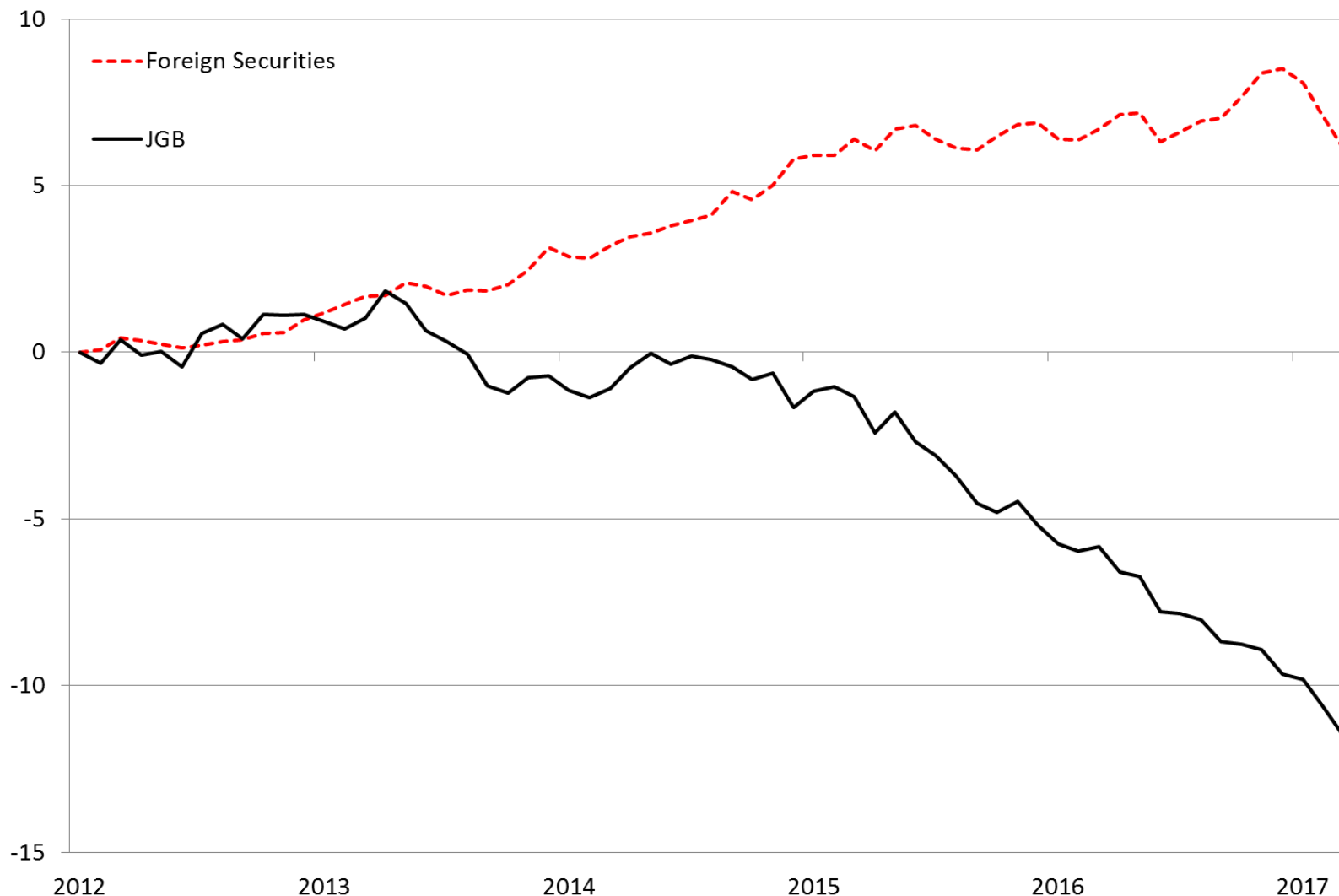
# JGB yields and coupon of JHF MBS



# New regulation?

■ Outstanding balance of securities held by regional banks: change from January 2012

(trillion yen)





# Regulations on mortgage and securitization in advanced economies

		Japan	US	EU	Canada	Australia
Underwriting criteria	LTV	– JHF +44bp for LTV>90%	80% for QM	–	LTV<95%	LTV<95%
	DTI(DSR)	DTI<30or 35%	43% for QM	–	44%(GDS) 39%(TDS)	–
Explanation to consumers (Consumer Protection)		–	Dodd Frank		Financial Consumer Agency of Canada Act	Australian Consumer Law
Quantity limit		–	–		–	YoY<10% for investor credit IO share <10% of total mortgage
Risk weight for residential mortgage		to be revised	to be revised	to be revised	35% 50% 75% 100%	35% 50% 75% 100% (APS112)
Securitization	Risk retention	introduced	introduced by Dodd Frank	introduced by Directive	–	introduced by Guideline (Prudential Standard APS 120 Securitisation).
	Risk weight for RMBS	to be revised	to be revised	to be revised	0% 35% 100%	35% 50% 75% 100%

# Regulations on mortgage and securitization in Asia

		Japan	Korea	China	Hong Kong	Singapore	Malaysia	Thailand
Underwriting criteria	LTV	– JHF +44bp for LTV>90%	LTV<70%	LTV<70%	LTV<60%	LTV<80%	3rd House LTV<70%	Loan amount >10 mb LTV < 80% Vertical < 90% Horizontal < 95%
	DTI(DSR)	DTI<30or 35%	DTI<60%	DTI<50%	DSR<50%	TSDR<60%	DSR <60%	–
Explanation to consumers (Consumer Protection)		–	Framework Act on Consumers	People's Republic of China Law ( on Protection of the Rights and Interests of Consumers)	Money Lenders Ordinance	Consumer Protection (Fair Trading) Act	1. Consumer Protection Act, 1999 2. Personal Data Protection Act, 2013 3. Building and Common Property (Maintenance and Management) Act 2007 4. Housing Development (Control & Licensing) Act 1966 Act 118 5. Strata Titles Act 1985 Act 318	The Consumer Protection Act
Quantity limit		–	–	–*	–	–		–
Risk weight for residential mortgage		to be revised	35%	50%	15%	35% 75% 100%	LTV<80% – 35% LTV 80%-90% – 50% LTV>90% – 100%	35% 75% 100%
Securitization	Risk retention	introduced	– (Draft)	introduced by Directive	– (Draft)	– (Draft)	–	–
	Risk weight for RMBS	to be revised	0%(KHFC)	20% (AAA to AA–)	50% 20%(HKMC)	35% 75% 100%	RAM's Rating Scale: AAA to AA3 – 20% A1 to A3 – 50% BBB1 to BBB3 – 100% BB1 to BB3 – 350% B1 and below – 1250% Unrated – 1250%	20% 50% 100% 150% 100/8.5% (1st loss)

# Asian Secondary Mortgage Market Association (ASMMA)



National Mortgage Corporation of Malaysia

Cagamas Berhad, MALAYSIA

[cagamas.com.my](http://cagamas.com.my)



**Japan Housing  
Finance Agency**

Japan Housing Finance Agency,JAPAN

[jhf.go.jp/english/index.html](http://jhf.go.jp/english/index.html)



KOREA HOUSING-FINANCE CORPORATION

Korea Housing Finance Corporation,  
Korea

khfc.co.kr



Mongolian Mortgage Corporation-  
MMC,MONGOLIA

mik.mn



**NHMFC**  
National Home Mortgage Finance Corporation

National Home Mortgage Finance Corporation, PHILIPPINES

[nhmfc.gov.ph](http://nhmfc.gov.ph)

PT Sarana Multigriya Finansial  
(Persero)SMF,INDONESIA[smf-indonesia.co.id](http://smf-indonesia.co.id)

Secondary Mortgage Corporation  
ប្រតិបត្តិការសេវាប្រាក់បញ្ញើ

Secondary Mortgage Corporation, THAILAND

[smc.or.th](http://smc.or.th)



2014 Malaysia



2015 Philippines



2016 Thailand

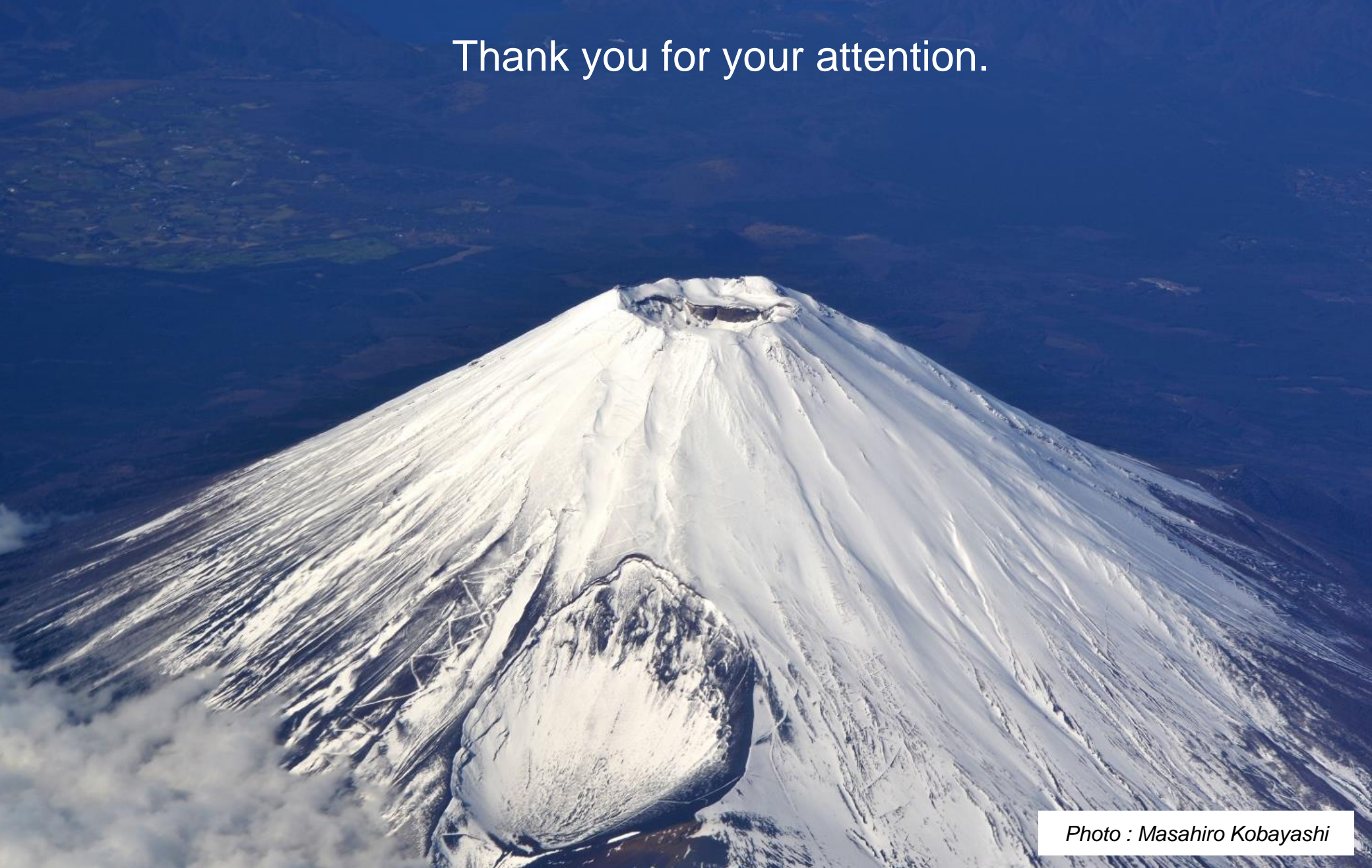


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Japan Housing Finance Agency

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*Photo : Masahiro Kobayashi*

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