

Recent Developments of Housing Finance Markets in Korea

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- Seung Dong You is an assistant professor at the Department of Economics and Finance at Sangmyung University. Professor You has strong interests in both consumer finance and producer finance in the real estate market. As a consultant at the United Nations - Habitat, he published “Housing Finance Mechanisms in the Republic of Korea.” He has papers related to project finance and real estate finance on *Real Estate Economics*, *Asia Pacific Journal of Financial Studies*, and *others academic journals*. With his professional experience, in particular, he published “Establishing a New Government Sponsored Enterprise” on *Housing Finance International*.

Professor You has recently completed the 2017/18 Knowledge Sharing Program with the Republic of the Philippines: Enhancing the Reverse Mortgage Program in the Philippines. In 2011, in addition, he was a winner of both ICSC (International Council of Shopping Centers) Best Paper Award at AREUEA & AsRES Joint International Conference and FN-KAFA Doctoral Student Dissertation Award. Professor You has more than forty articles on mortgages, securitization, mortgage insurance and mortgage consumer protection.

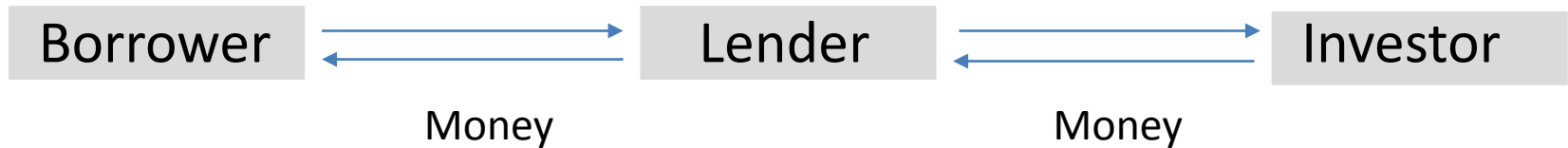
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Primary Mortgage Market

Secondary Mortgage Market



Mortgage Backed Securities
Mortgage Backed Bond
Mortgage Backed Commercial Papers..



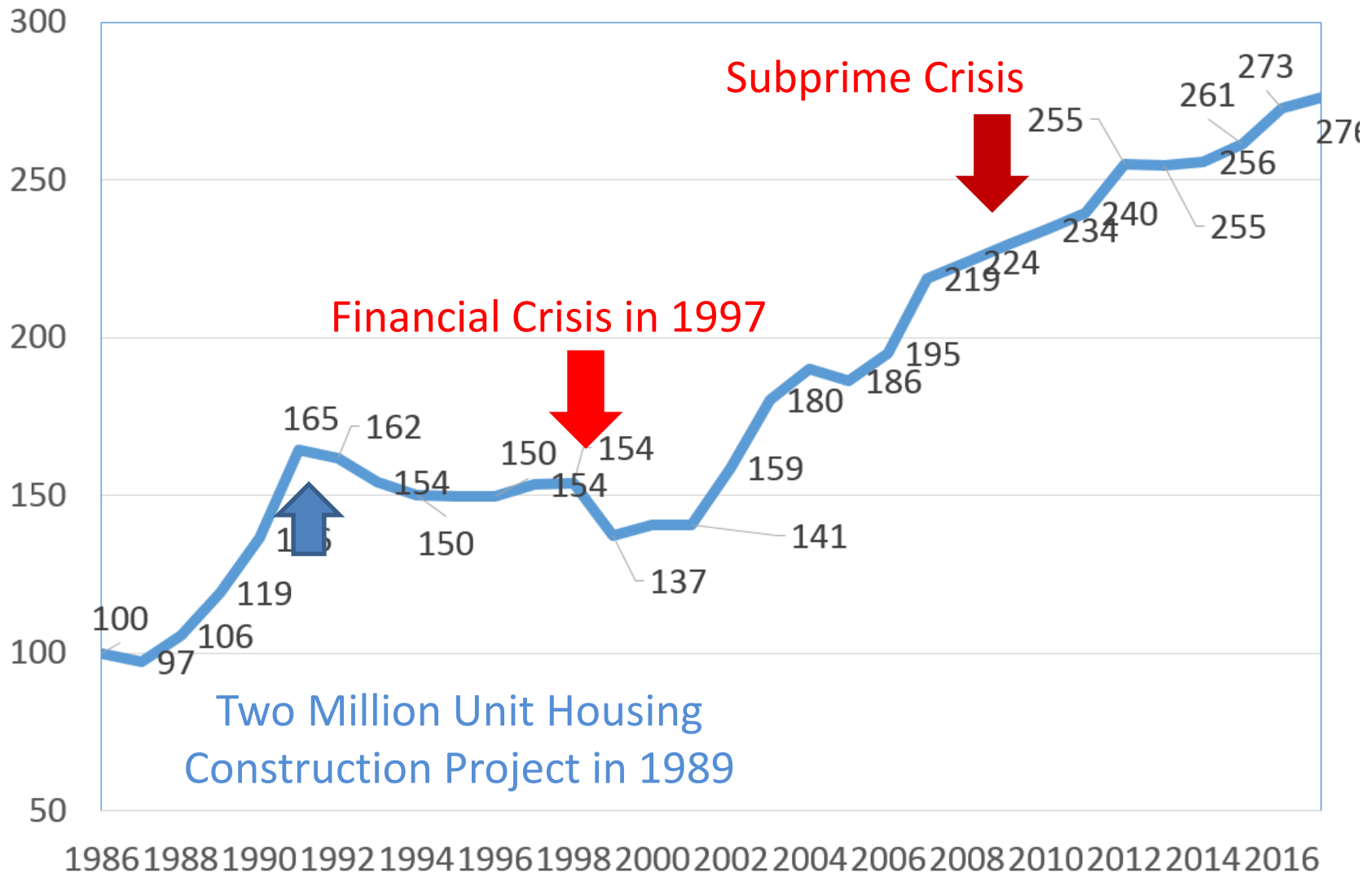
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1. Overview of Housing Finance Systems
2. Primary Mortgage Market
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Overview of Housing Finance Systems

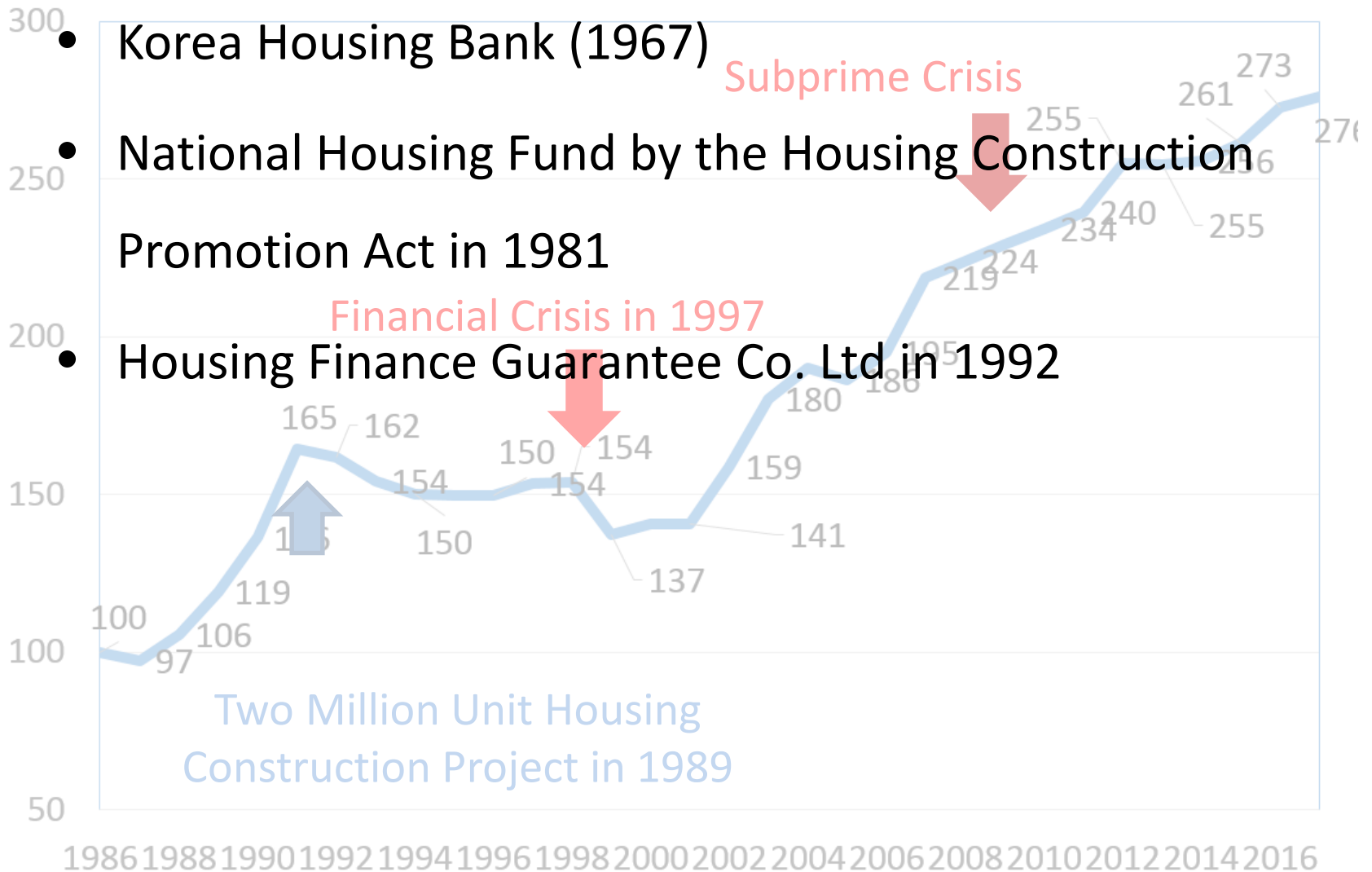
Trend in Nominal Housing Purchase Composite Price Index

(Condominium: 1986=100)



Trend in Nominal Housing Purchase Composite Price Index

(Condominium: 1986=100)

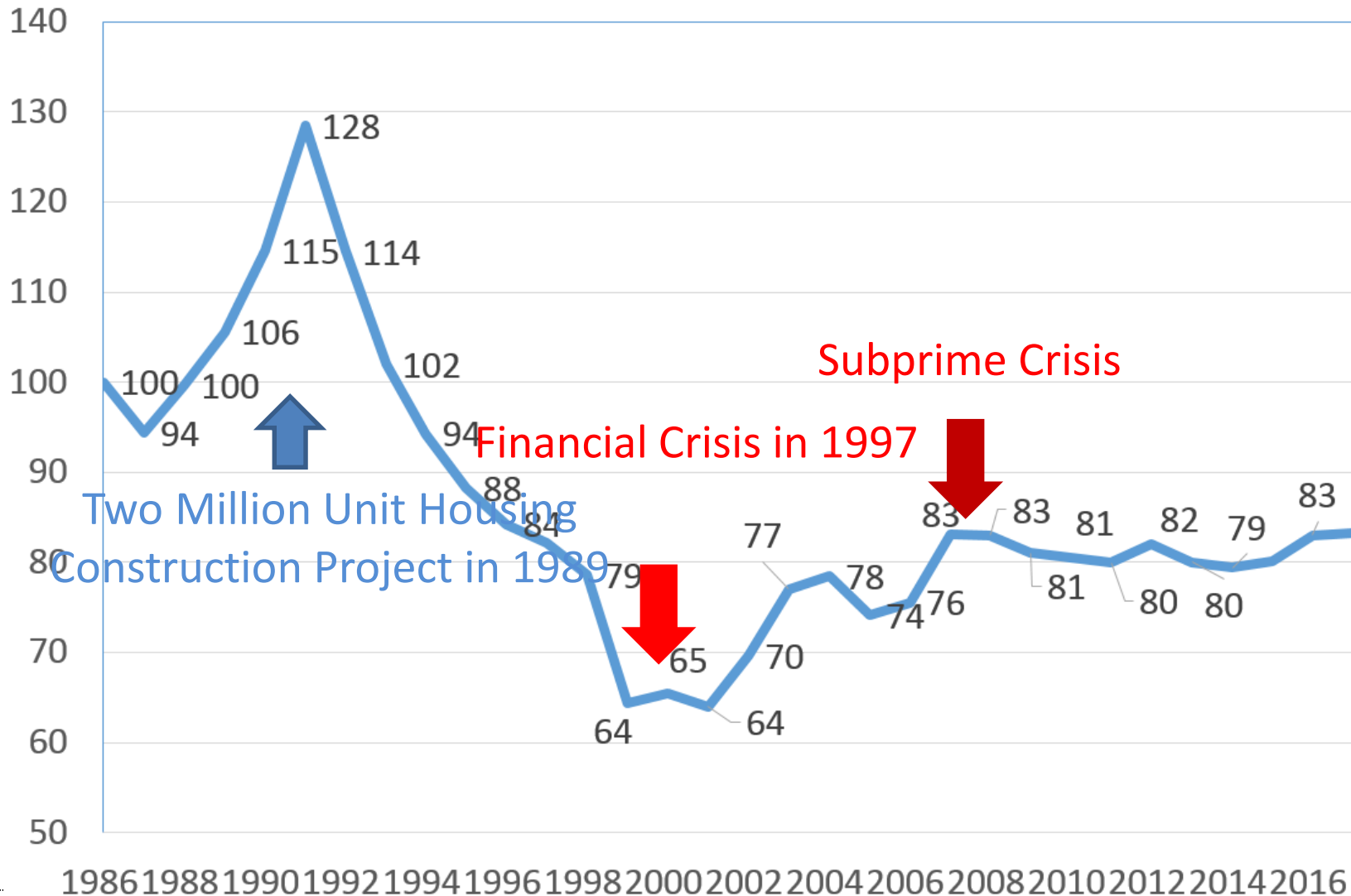


Financial Crisis

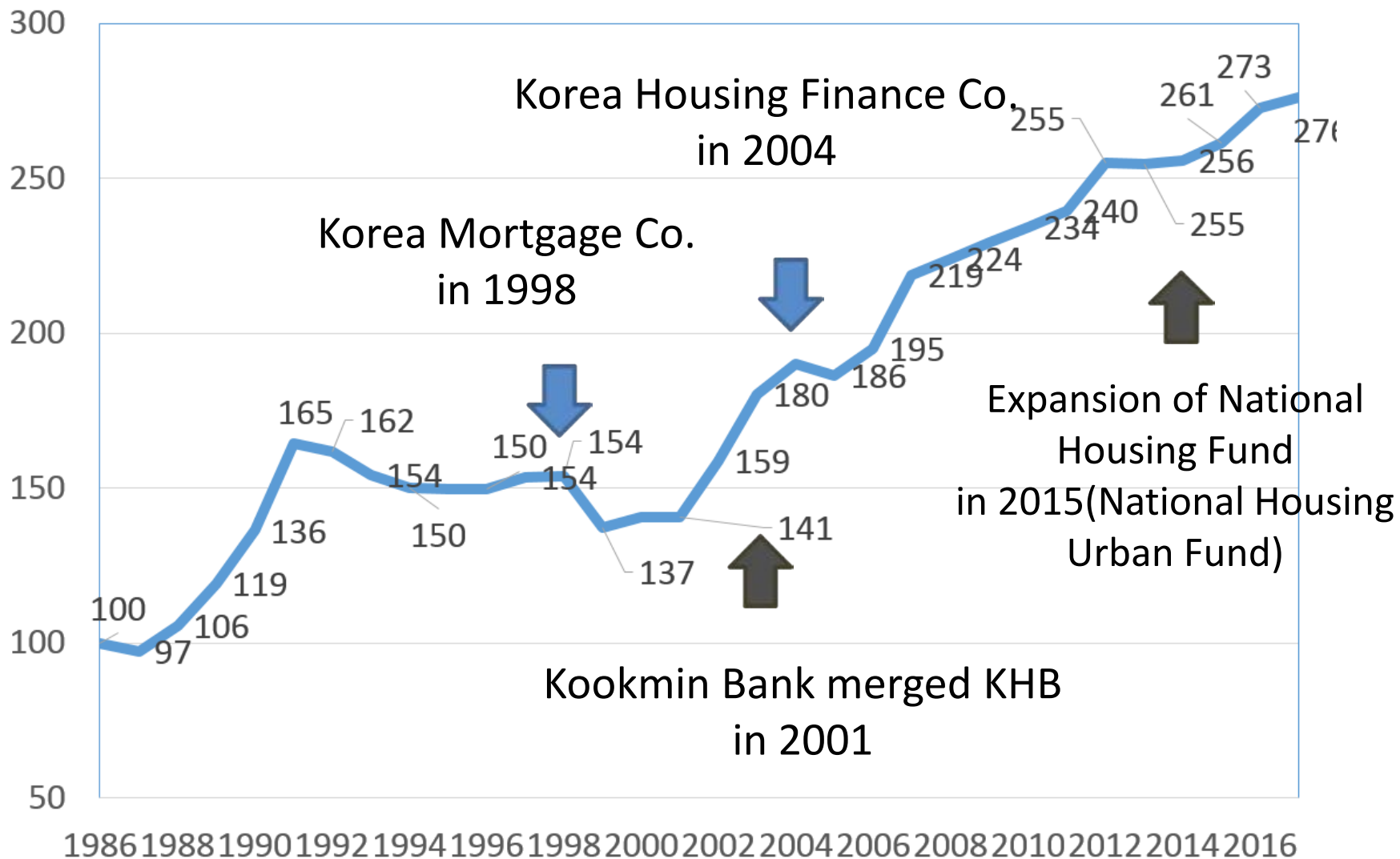
- Privatization of the Korea Housing Bank in 1997
- Competition in the primary mortgage market
 - “War” by Lee (2003)
- Introduction of Securization systems
 - Secondary mortgage market

Trend in Real Housing Purchase Composite Price Index

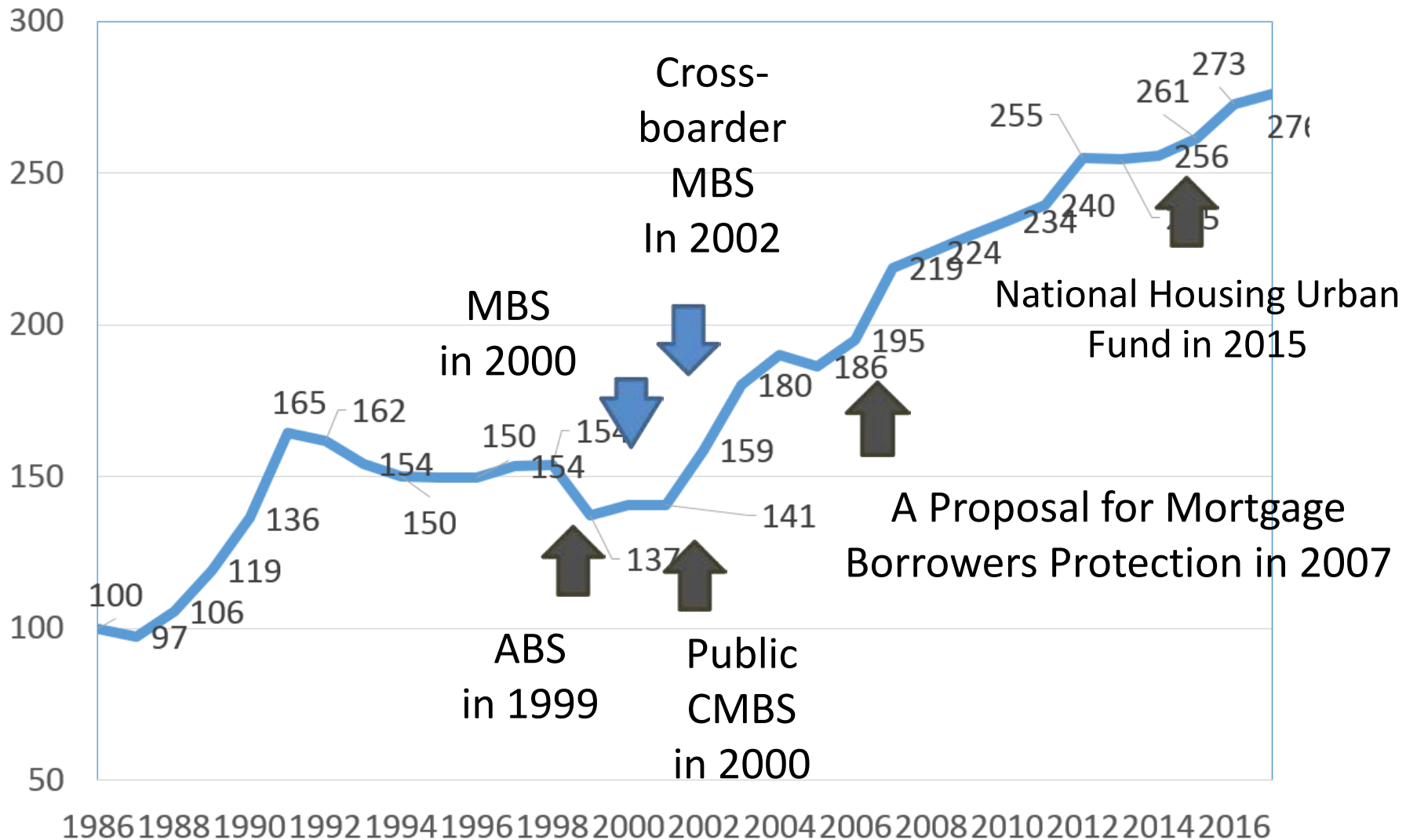
(Condominium: 1986=100)



Housing Finance after the Financial Crisis

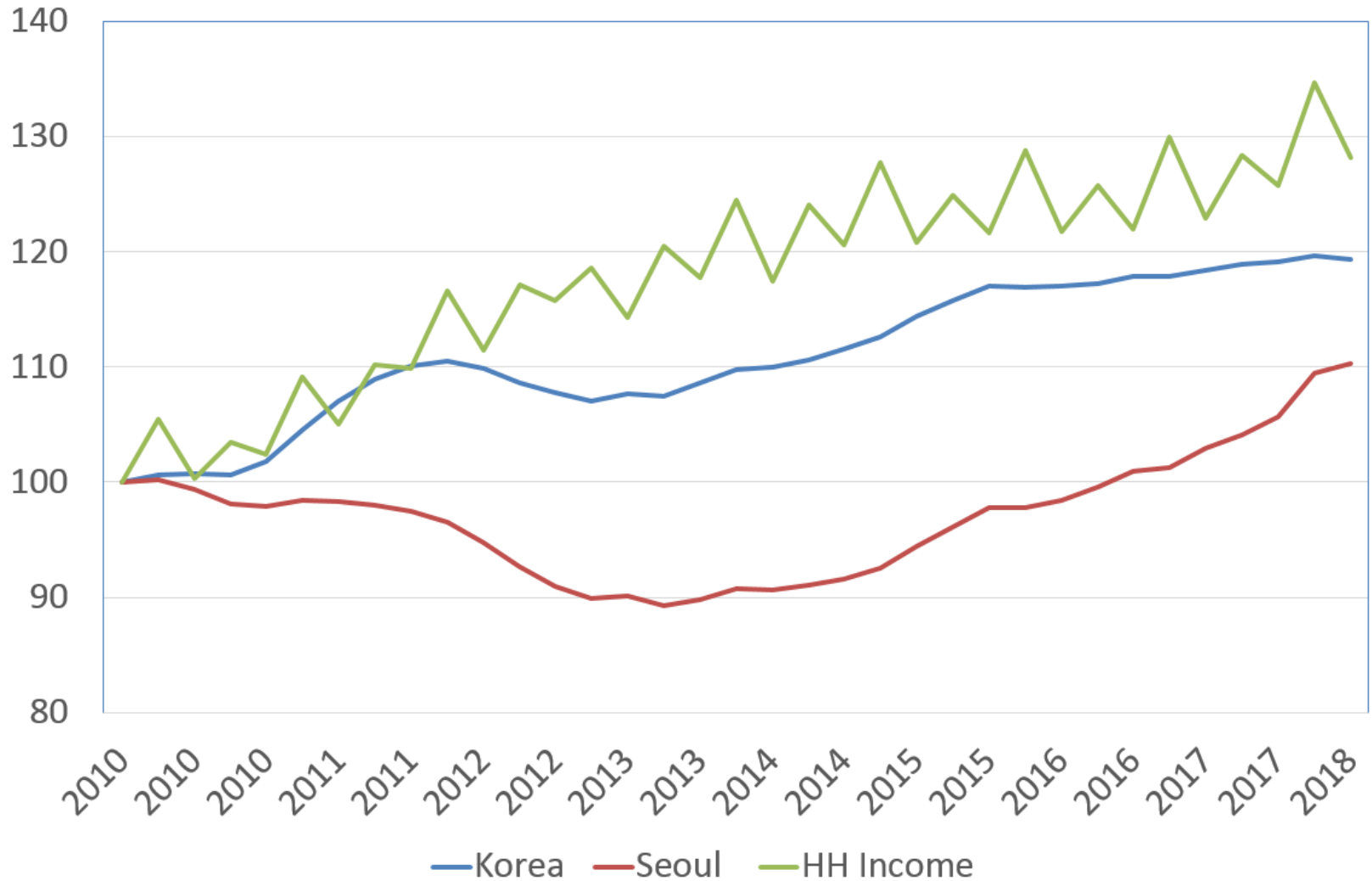


Housing Finance in the 2000s



Nominal Prices in the 2010s

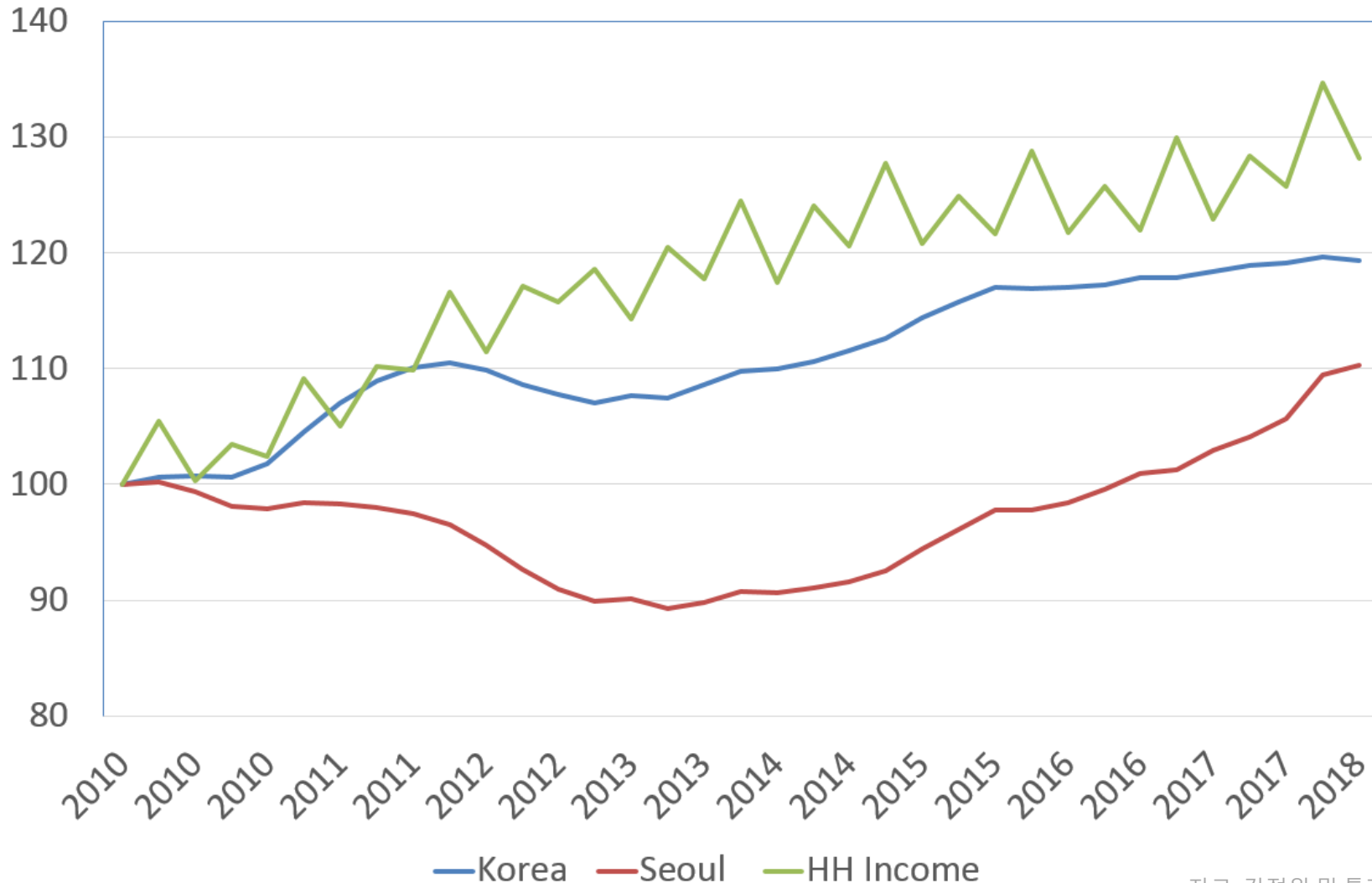
(condominium and household incomes: 2010.1=100)



자료: 감정원 및 통계청

Real Prices in the 2010s

(condominium and household incomes: 2010.1=100)

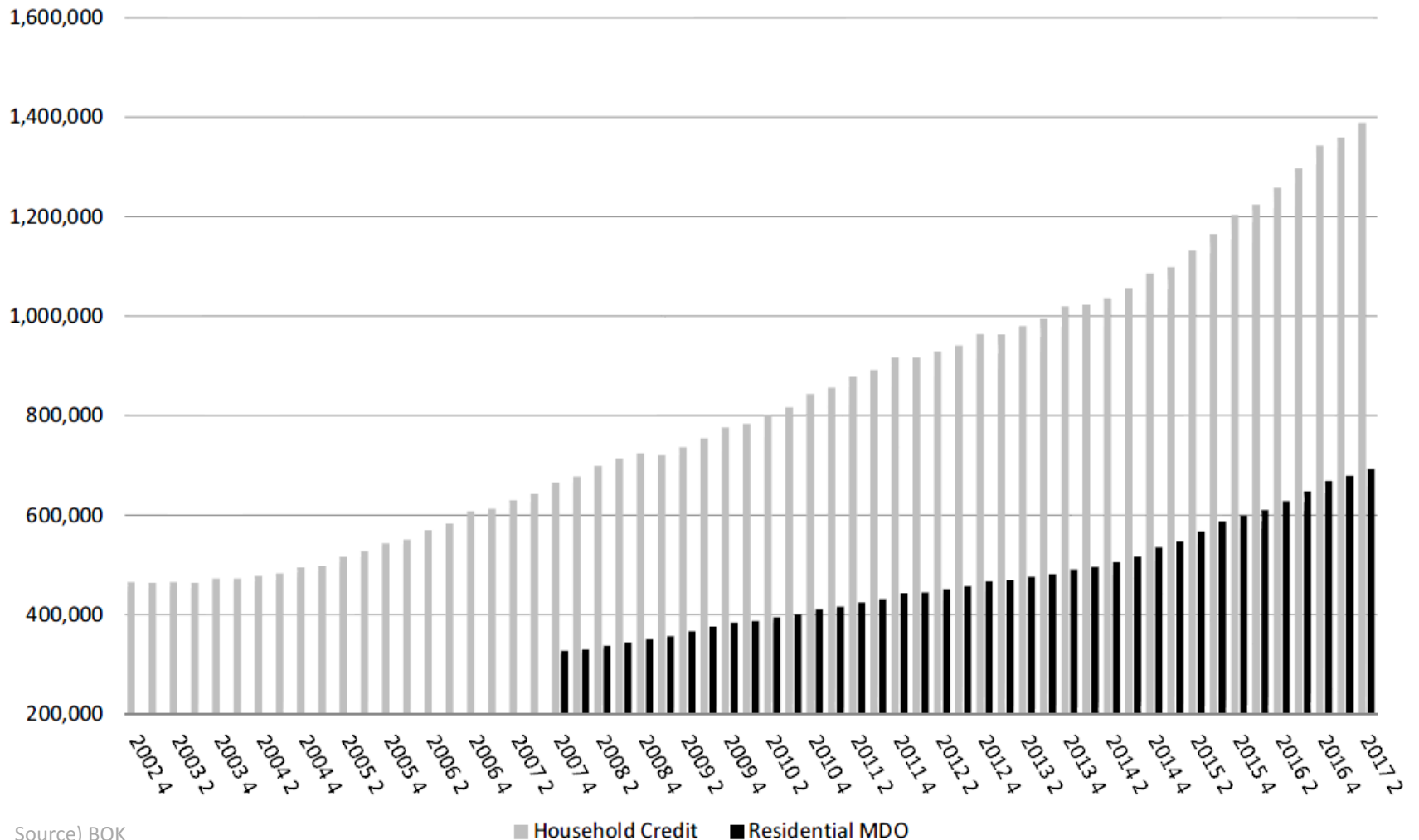


자료: 감정원 및 통계청

Primary Mortgage Market

Household Debt

Unit: KRW billions



Source) BOK

Household Debt

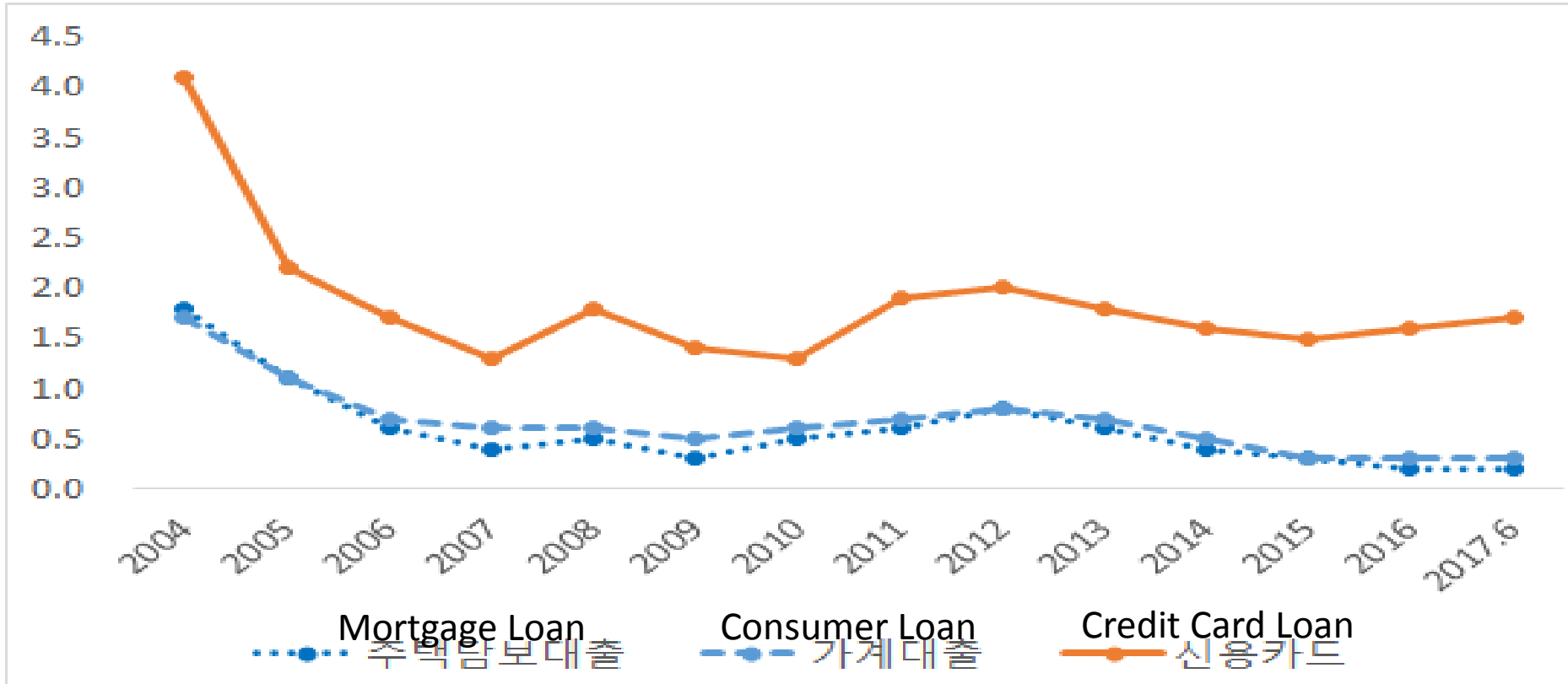
Unit: KRW Trillions

구분	2011	2012	2013	2014	2015	2016	2017.6
Household Debt	916	964	1,019	1,085	1,203	1,344	1,388
Mortgage(A=a+b)	442	467	491	535	598	669	693
Mortgage from FIs (a)	392	404	418	461	491	546	560
Saving Banks	309	318	329	366	402	443	449
Non banks	83	86	89	95	89	103	111
Mortgage from pub orgs(b)	50	63	73	75	108	123	133
Fraction of Mortgage	48%	48%	48%	49%	50%	50%	50%

Source) BOK

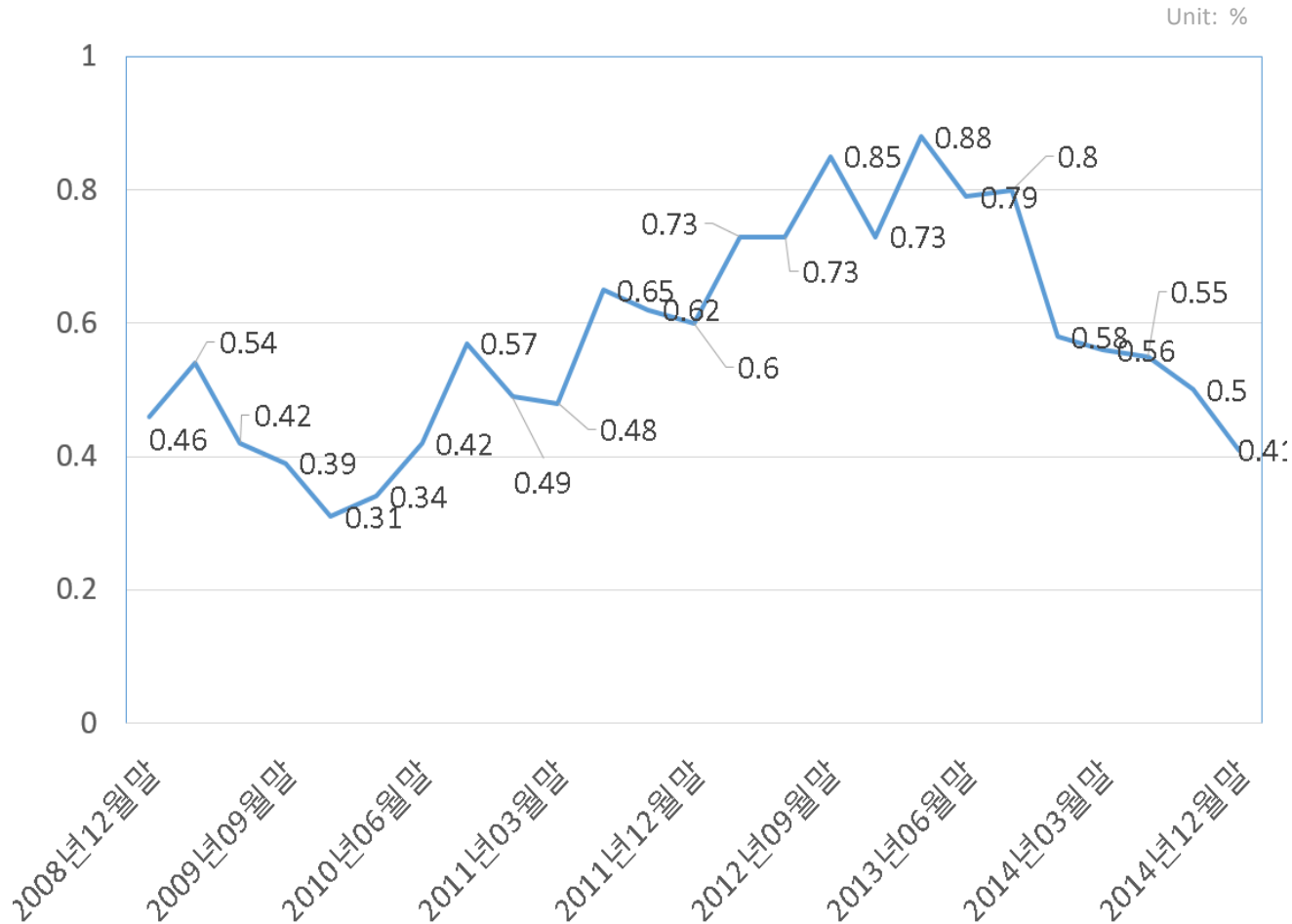
Delinquency rates

단위: %



Source) FSC and FSS

Delinquency Rate (delinquent for more than 1 month)



Data: NFS

Key Players in the Primary Market

- Commercial banks
 - Leading the mortgage market
 - Mortgage debt
 - 49% of outstanding household debt(Jun 2017)
 - 61% of outstanding household debt (Mar 2013)
- Housing Urban Fund
 - Established in 1973 as the National Housing Account
 - Low income households (consumers and producers)
 - Funding: National Housing Bonds, interest income and borrowing form Special National Accounts

Key Players in the Primary Market

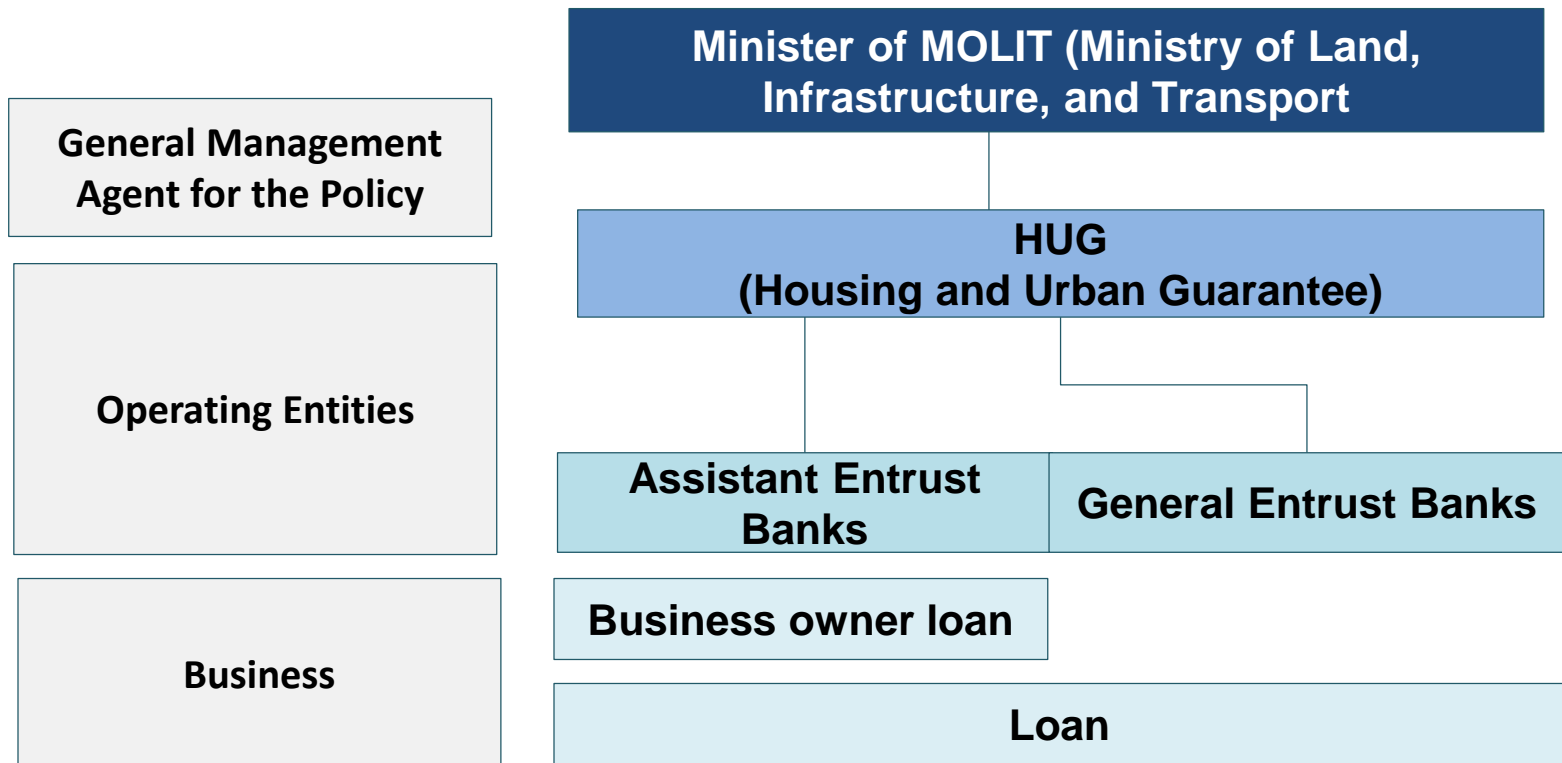
- Korea Housing Finance Corp.
 - Established in 2004 by merging KoMoCo
 - Operating two funds: Housing Finance Credit Guarantee Fund and Reverse Mortgage Guarantee Fund
 - Securitization commitment program: KRW 9.4 T in 2011
 - Shareholders: National account (54.5%), BOK(36.7%), and National Housing Fund (8.8%)

History of NHUF



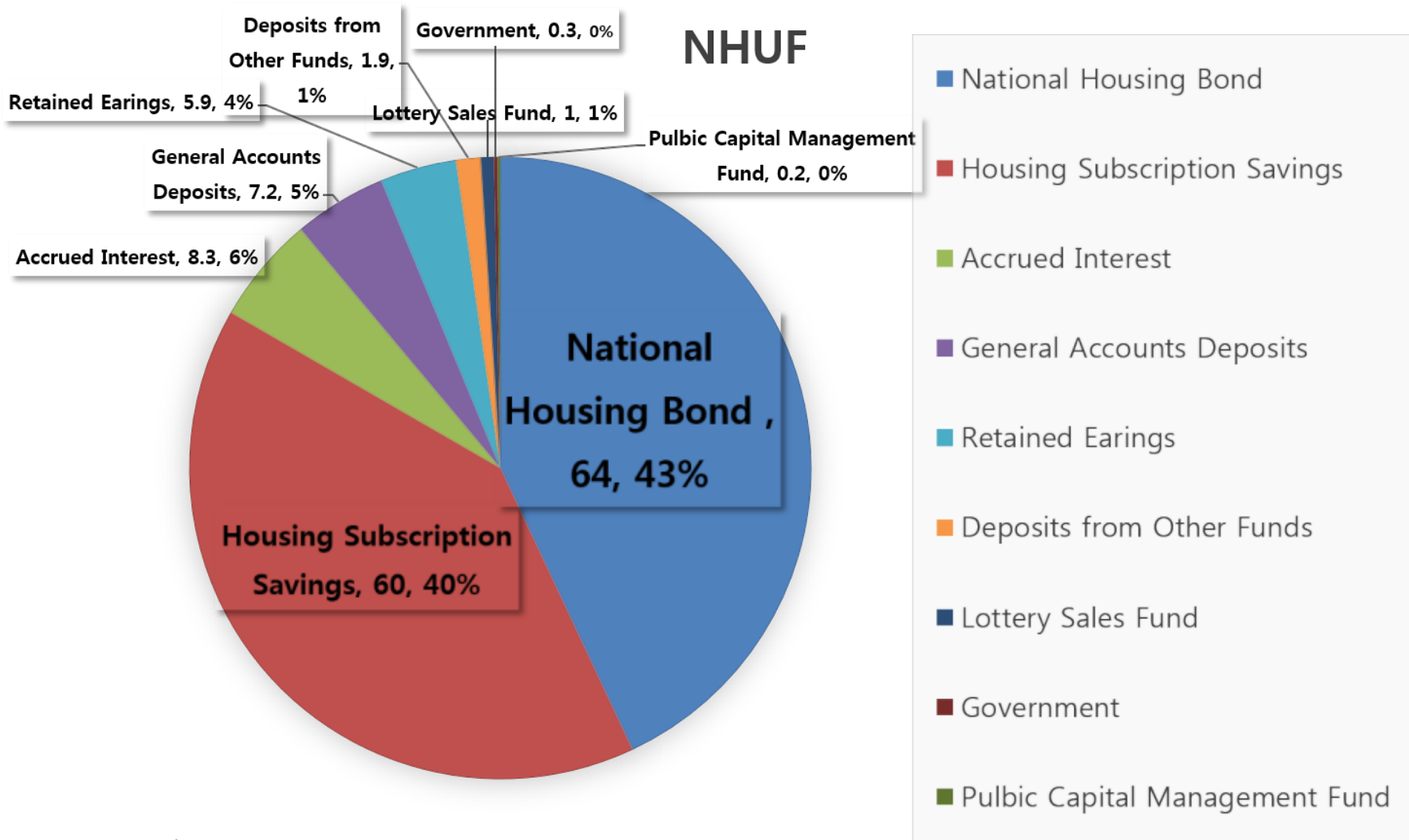
Source) NHUF

NHUF Management



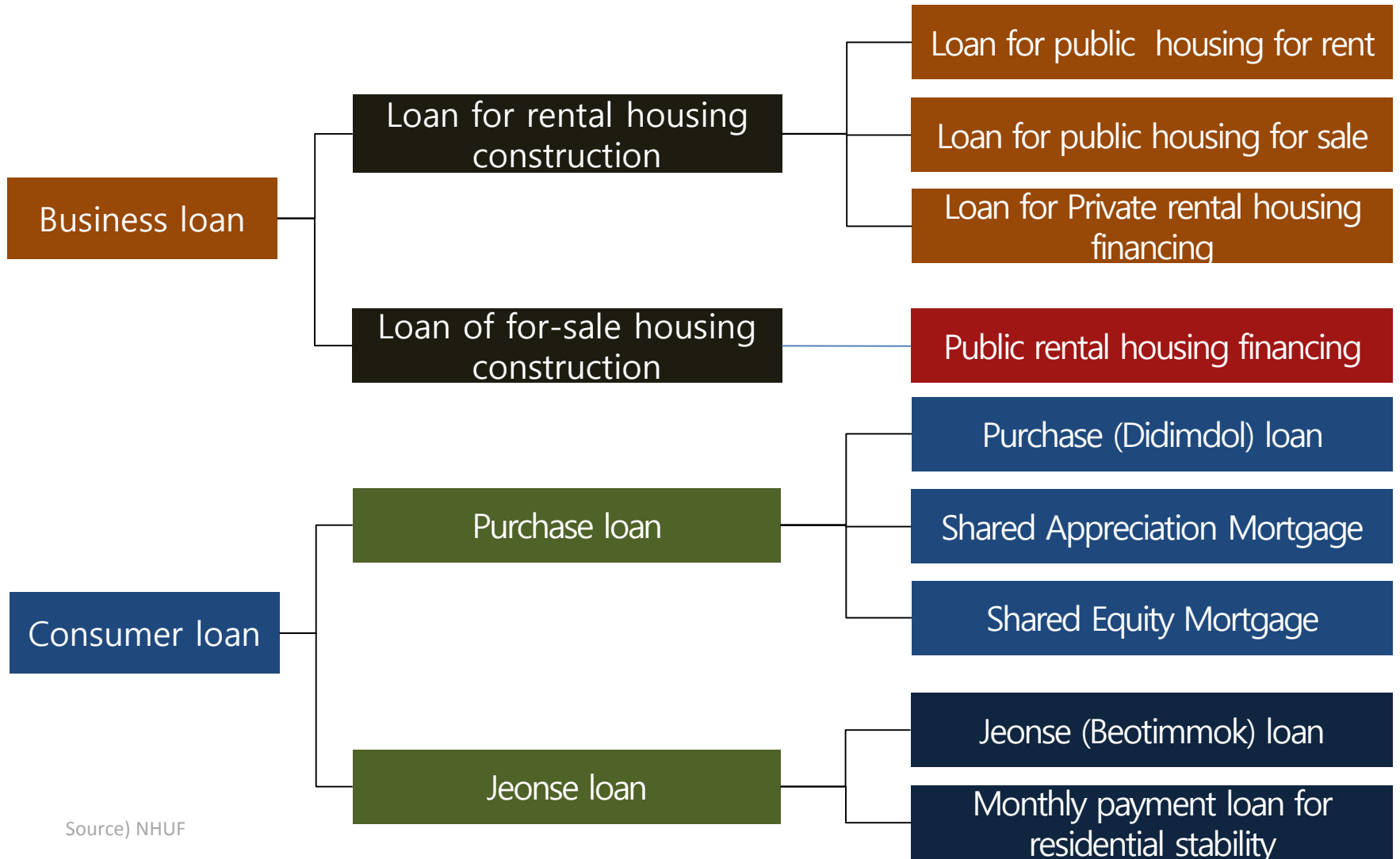
Source) NHUF

Financial Status of NHUF



Source) NHUF

Operations of NHUF



Source) NHUF

Korea Housing Finance Corporation

Government Controlled Entity

KHFC is 100% owned by the Korean Government

History

Established with the merger and integration of two Government entities to implement the Government's housing finance policy.

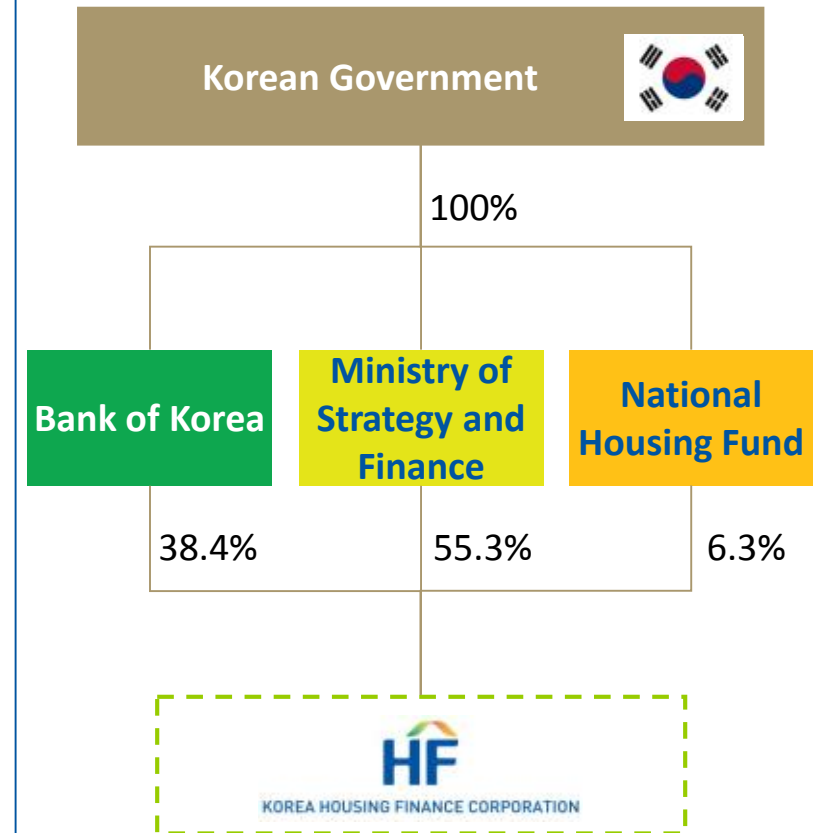
Corporate Governance

The president is appointed by the President of Korea

Support of the housing sector

Helped 800 thousands families with the purchase of their homes. (As of Aug.2015)

Government ownership structure



Source: KHFC

KHFC Business Lines

Long-term Fixed Rate Amortized Mortgage

- Supply long-term, fixed rate, amortized mortgage loans known as Bogeumjari Loans and Conforming Loan

Issuance of MBS and Covered Bond

- Issue domestic MBS and cross-border Covered Bond market

Improve the Nation's Housing Welfare and Advance the Housing Finance Industry

Reverse Mortgage Guarantee

- Grant pension to senior citizens by Reverse Mortgage

Guarantees for Housing Finance

- Issue letters of guarantees to eligible rentees and home builders

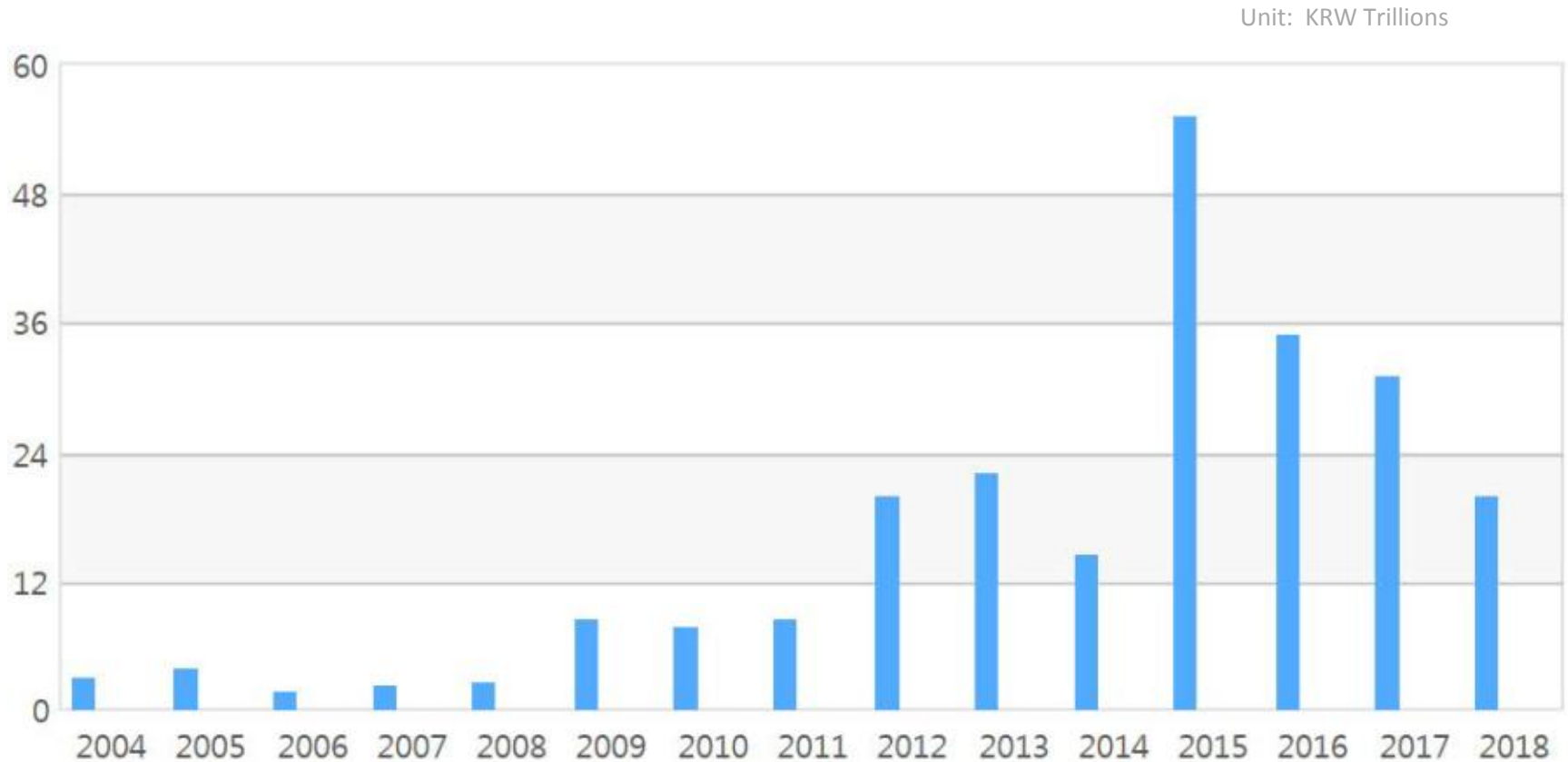
Source: KHFC

Secondary Mortgage Market

Three Types of Mortgage Backed Products

- MBS (Mortgage Backed Securities)
 - By the KHFC law, KHFC can issue MBS
 - Issue MBS by the securitization commitment program
 - KRW 300-600 B by issuance
- MBB (Mortgage Backed Bond)
 - The Covered Bond Act is to be enacted
 - Financial institutions hold mortgage debt in their balance sheet
- ABS (Asset Backed Securities) including Cross-boarder MBS
 - Financial institutions
 - Cross-boarder transactions: Samsung Life Insurance Co. Ltd (2002), SC First Bank (6 issuance from 2004 to 2006)

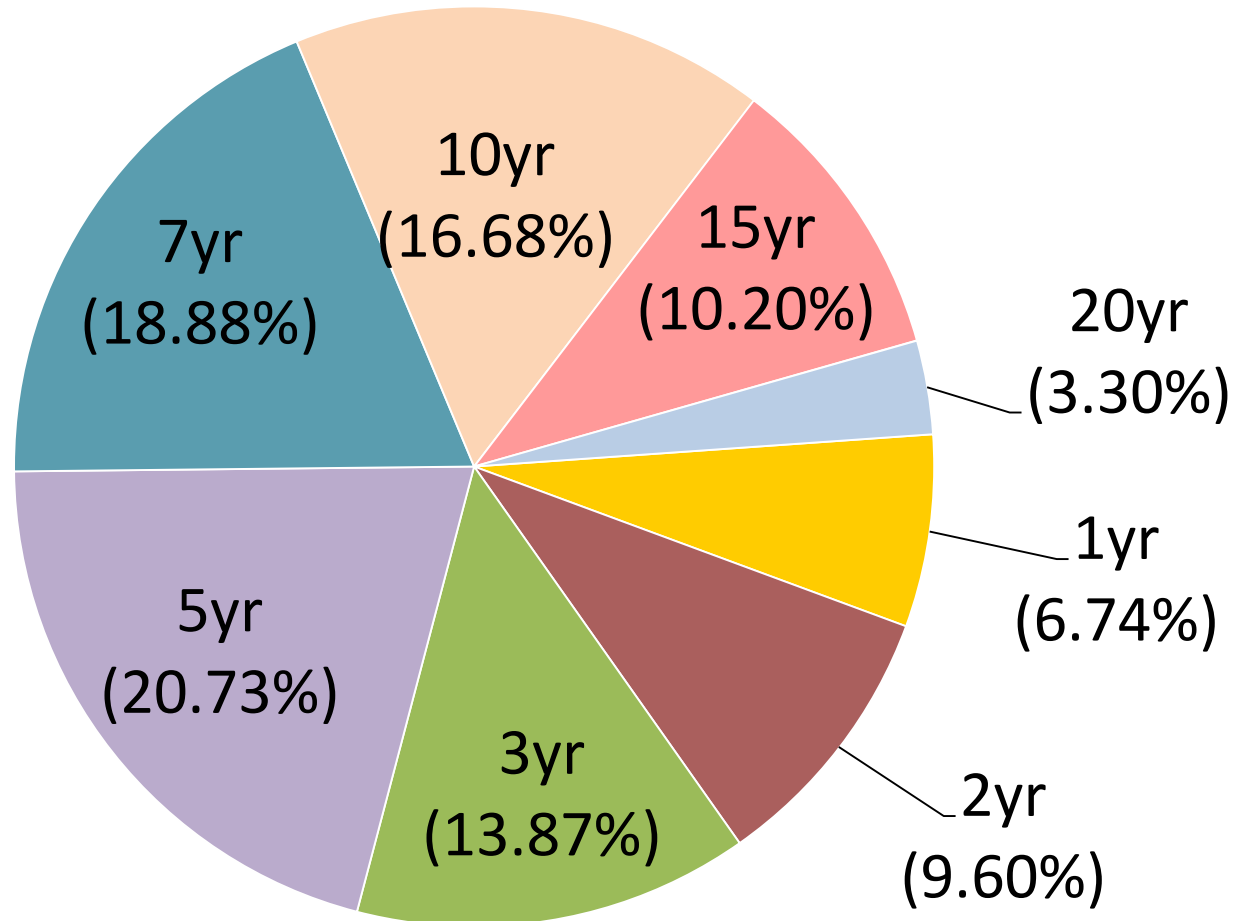
MBS Issuance by Year



Note : MBB is included

Data: KHFC

MBS Issuance by Maturity



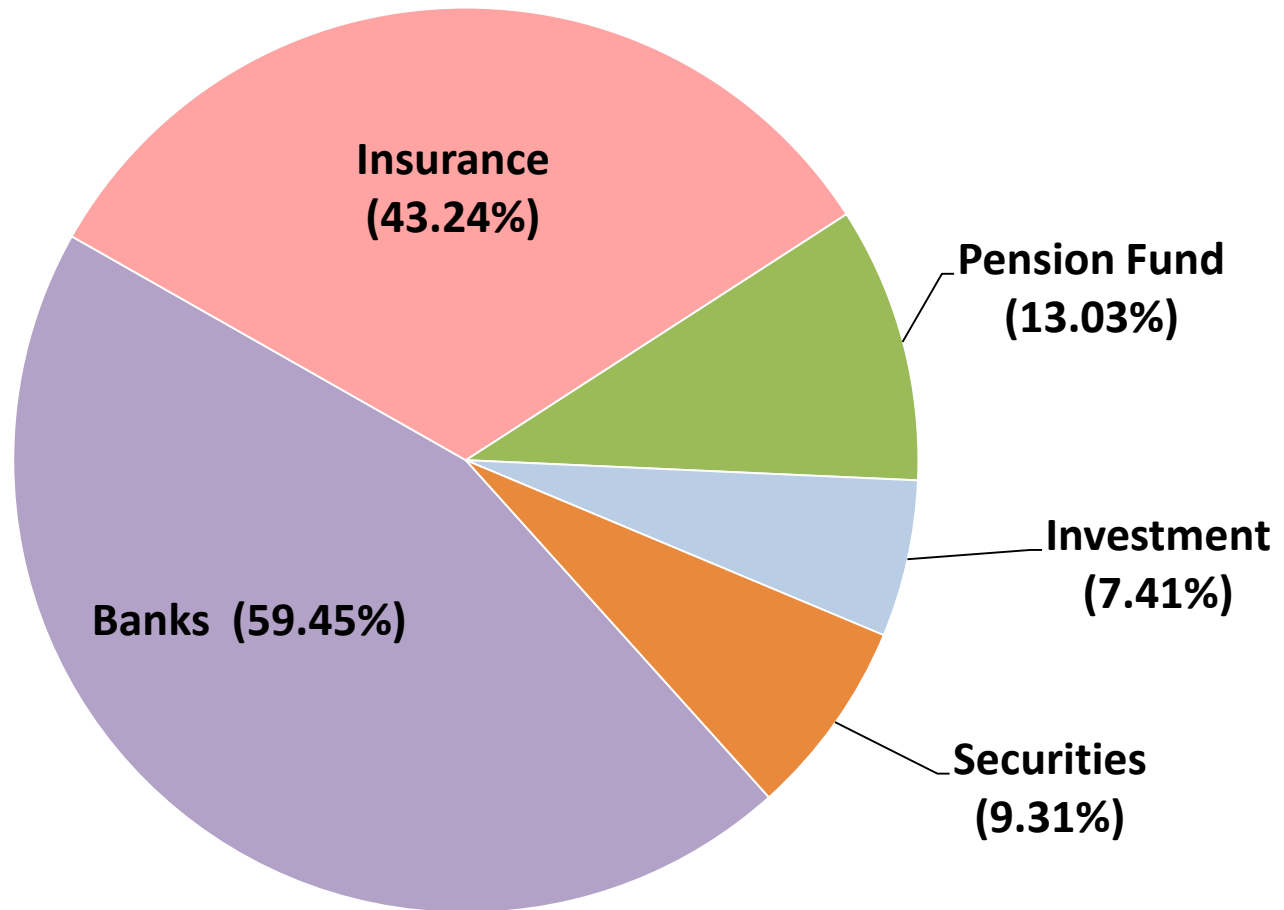
Note :1) Mortgage-MBS Swap (Total KRW 6.6 trillion) & Cross-border CB (KRW 0.6 trillion) not included

2) Purchase from insurance account of banks classified as insurance companies

3) June 2004 ~ Aug. 2010

Data: KHFC

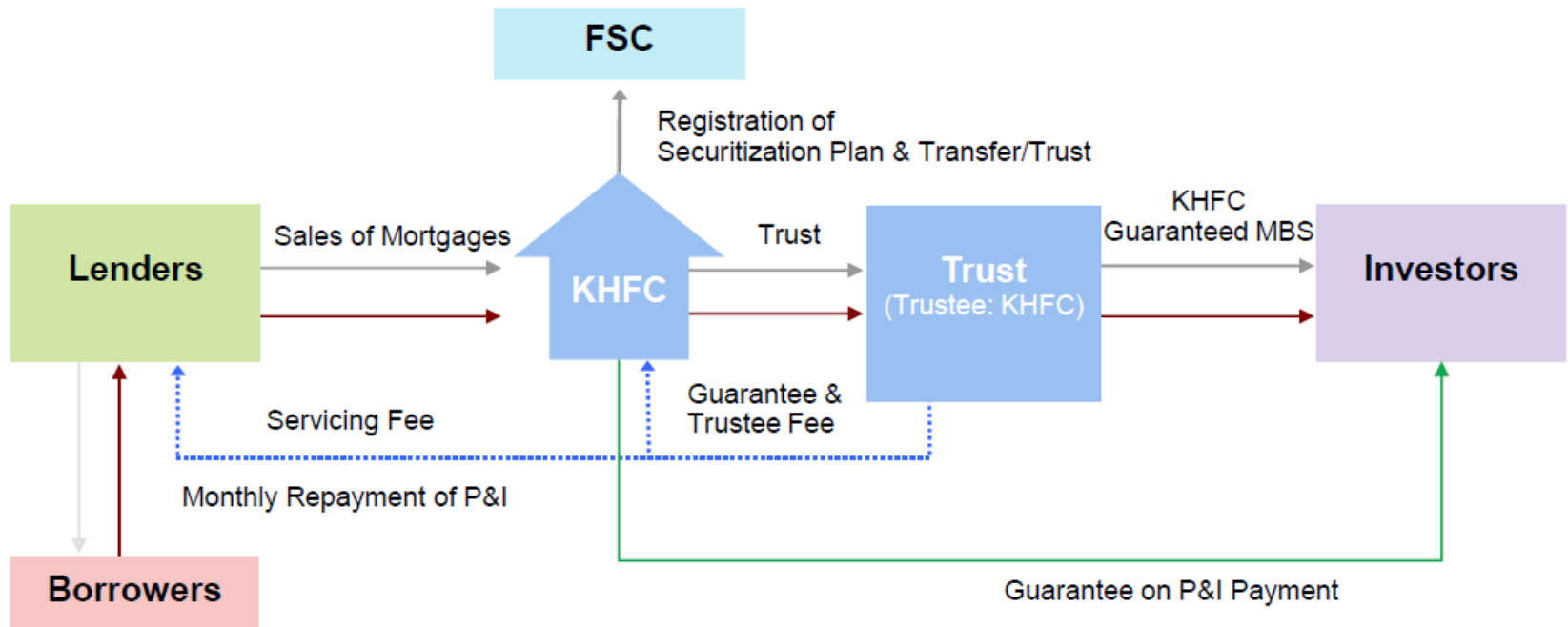
MBS Placements



Note :1) Mortgage-MBS Swap (Total KRW 6.6 trillion) & Cross-border CB (KRW 0.6 trillion) not included
2) Purchase from insurance account of banks classified as insurance companies
3) June 2004 ~ Aug. 2010

Data: KHFC

MBS Structure



Issuance Amount	<ul style="list-style-type: none"> ▪ KRW 500 billion ~ 1 trillion (per issuance)
Issuance Structure	<ul style="list-style-type: none"> ▪ Multiple tranches with each tranche having a different tenor ▪ Sequentially Partially Callable tranches (except 1~3 years maturities)
Servicer	<ul style="list-style-type: none"> ▪ Participating Lenders (or KHFC in case of u-Bogejumjari Loans)

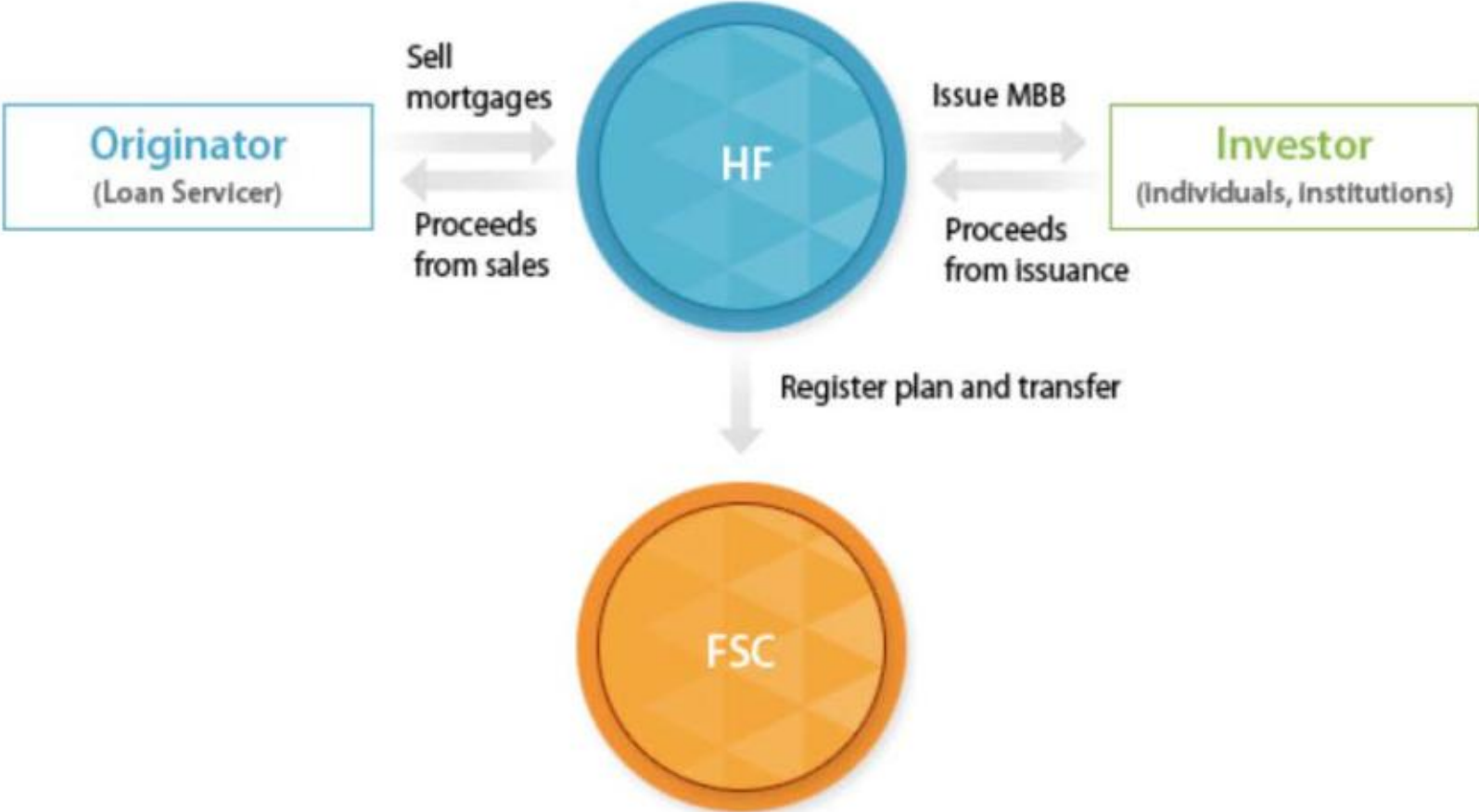
Source: KHFC

MBS Issuance Information

Underlying Assets	<ul style="list-style-type: none"> ▪ KHFC Mortgage Loans & Conforming Loans
Issuance Amount	<ul style="list-style-type: none"> ▪ KRW 400~600 billion (per issuance)
Issuer	<ul style="list-style-type: none"> ▪ Trust (Trustee: KHFC)
Issuance Structure	<ul style="list-style-type: none"> ▪ Multiple tranches with each tranche having a different tenor ▪ 1, 2, 3yr tranches are not callable ▪ Sequentially Partially Callable tranches
MBS Coupon & Issuance procedure	<ul style="list-style-type: none"> ▪ Fixed-rate Coupon ▪ AAA Credit rating, Deposited in KSD, Listed in KRX
Servicer	<ul style="list-style-type: none"> ▪ Participating Lenders (or KHFC in case of u-Bogeumjari Loans)

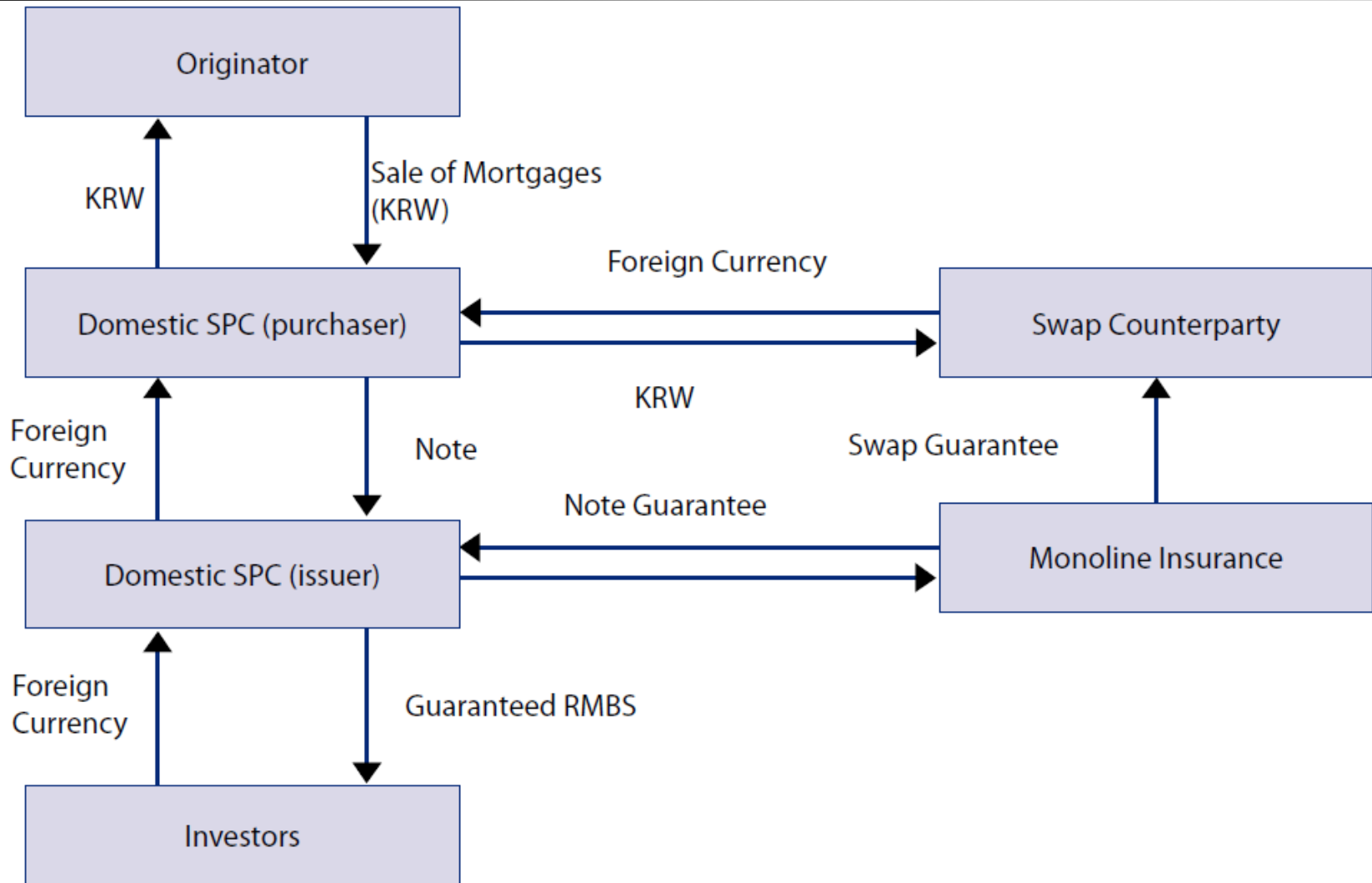
Source: KHFC

MBB Structure



Source: KHFC

Cross Border MBS



Source: You (2005: 33).

Implications to Emerging Markets

- Importance of housing markets
 - Housing is an underlying asset: macroeconomic policy and housing policy
 - Housing market indicators and housing finance statistics
- Conflict between public interest and private profits
- Financial stability and housing finance
 - The financial accelerator by Almeida, Campello and Liu (2006)

A Case Study: Reverse Mortgage Program

This chapter was presented in Manila, Philippines in April 2008 as a part of the 2017/18 Knowledge Sharing Program conducted by the Ministry of Strategy and Finance, the Korea Development Institute, and National Home Mortgage Finance Corporations.

The *views* and opinions expressed in the chapter are those of the *author* and do *not* necessarily reflect the official policy or position of the above mentioned agencies.

Research Objective

- **Many countries with aging societies are seeking alternative policy tools to cover up a deficiency in traditional welfare systems for senior citizens**

- **Asset-based welfare systems**
 - “HECM”(US) in 1989
 - “JTYK” (Korea) in 2007
 - “MaBuHay” (Philippines) in 2016

- **Policy implication to the Philippines**
 - Academic theories and concepts
 - Experience in Korea and other countries such as US and UK
 - Operational characteristics of RM
 - Philippine market environments and experience
 - Policy suggestions

Global Trend of Ageing and Reverse Mortgages

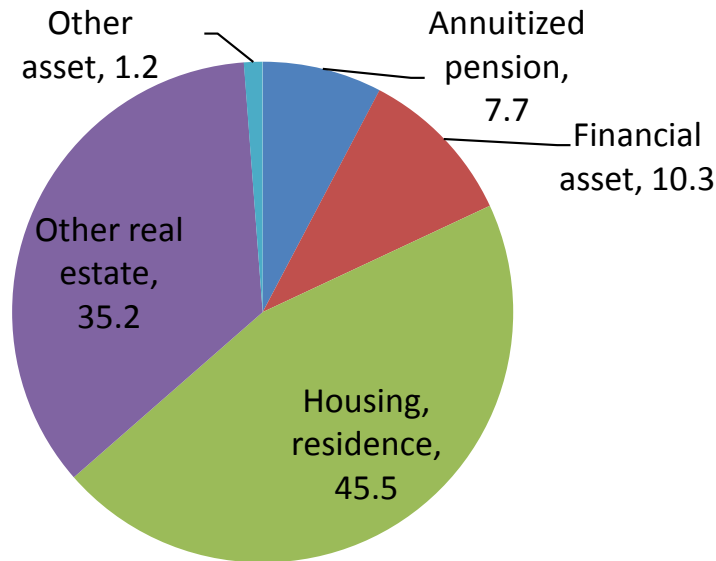
- **Portion of people aged 60 years or over will grow by 56% between 2015 and 2030 according to the United Nations**
 - Imminent issue on promote financial security for senior citizens
 - At the same time, public debt could rise sharply

- **Three options to unlock home equity**
 - Downsizing the house (but preference for aging in place)
 - Renting the house (but not preferred)
 - Cash-out financing (traditional forward mortgage but repayment burdens remain)
 - Reverse mortgages

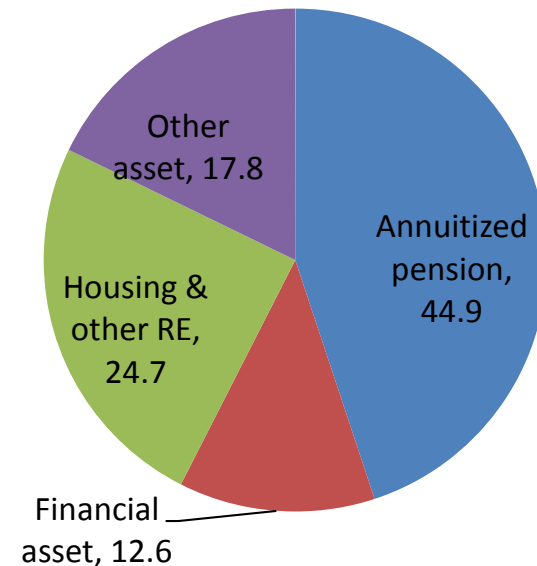
- **An option for ageing societies: reverse mortgages**
 - Traditional asset-based welfare: homeownership promotion
 - In ageing societies, tapping housing equity can be a solution for both senior citizens and their government

Asset Composition for Retired Households

Composition of household wealth (%), Korea
(Married couple at retirement age)

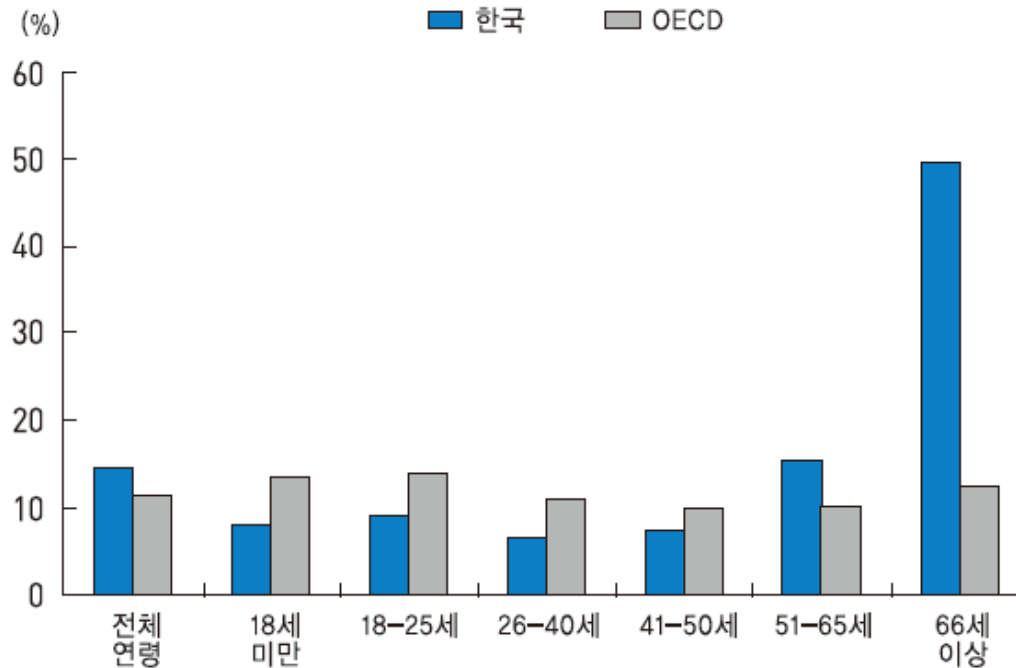


Composition of household wealth (%), U.S.A
(Married couple at retirement age)



Sources: Poterba, Venti, Weiss (2011), and Kim, Kim, Lee, and Cho (2016)

Relative Poverty Rate in Korea (OECD:2013)



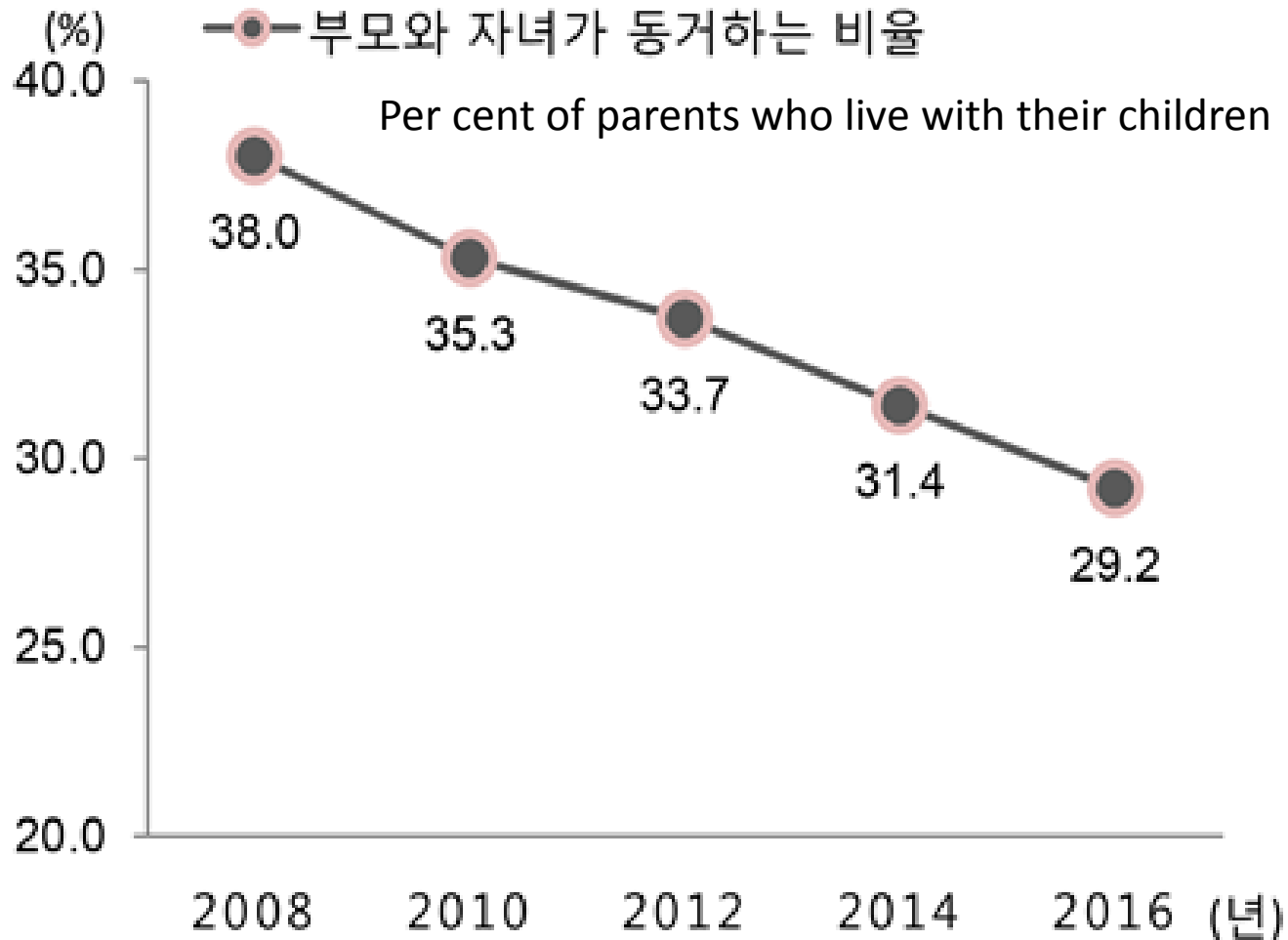
주: 1) 상대적 빈곤율은 국가 전체 중위소득의 절반에 미치지 못하는 소득을 가진 인구의 비중임.

2) 상대적 빈곤율은 가계의 자산과 부채를 고려하지 않고, 중위소득에 대한 자료를 통해서 추정됨.

출처: OECD, OECD Economic Surveys: Korea 2016, 2016.

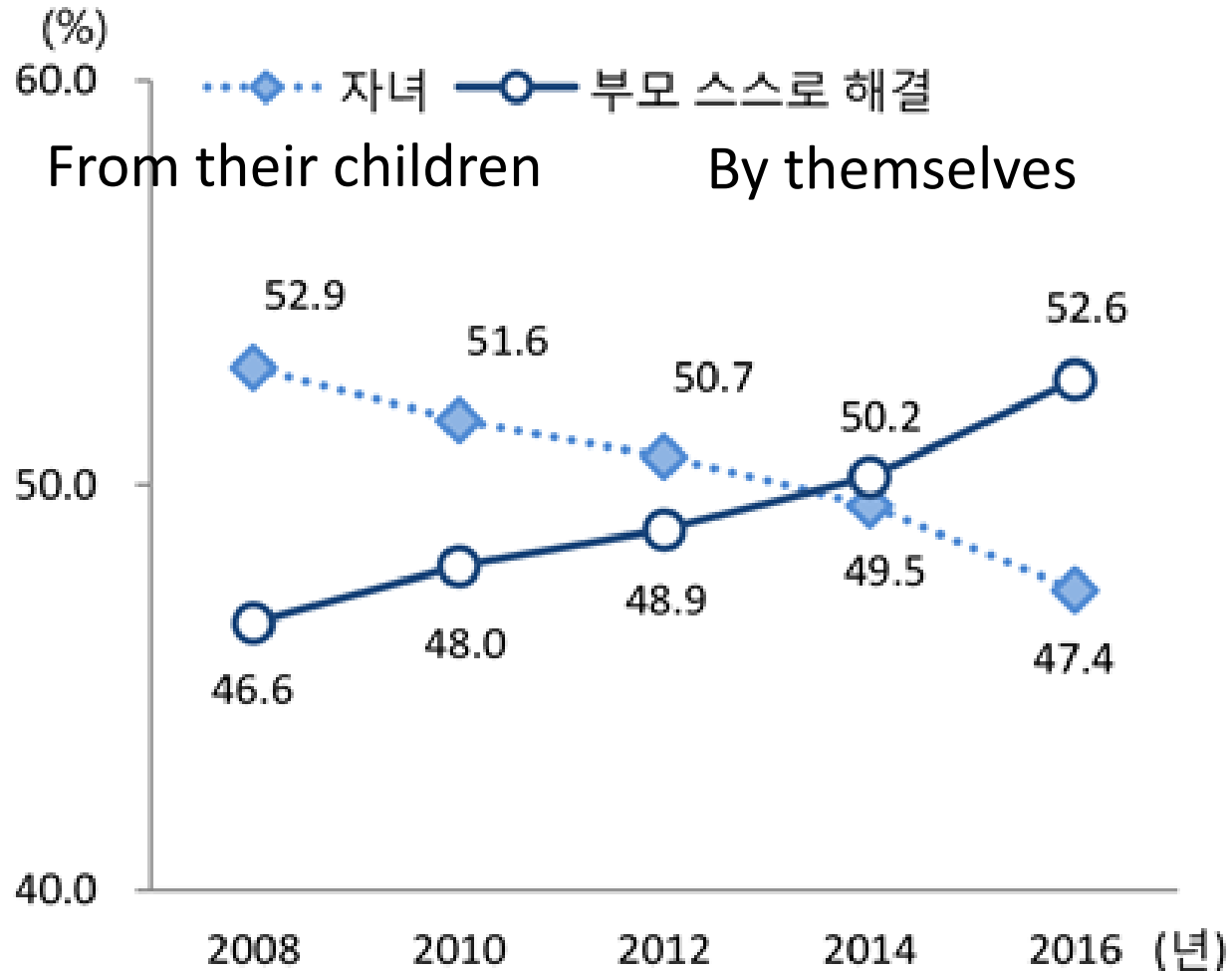
You (2017), Social Trend

Parents who Live with Their Children



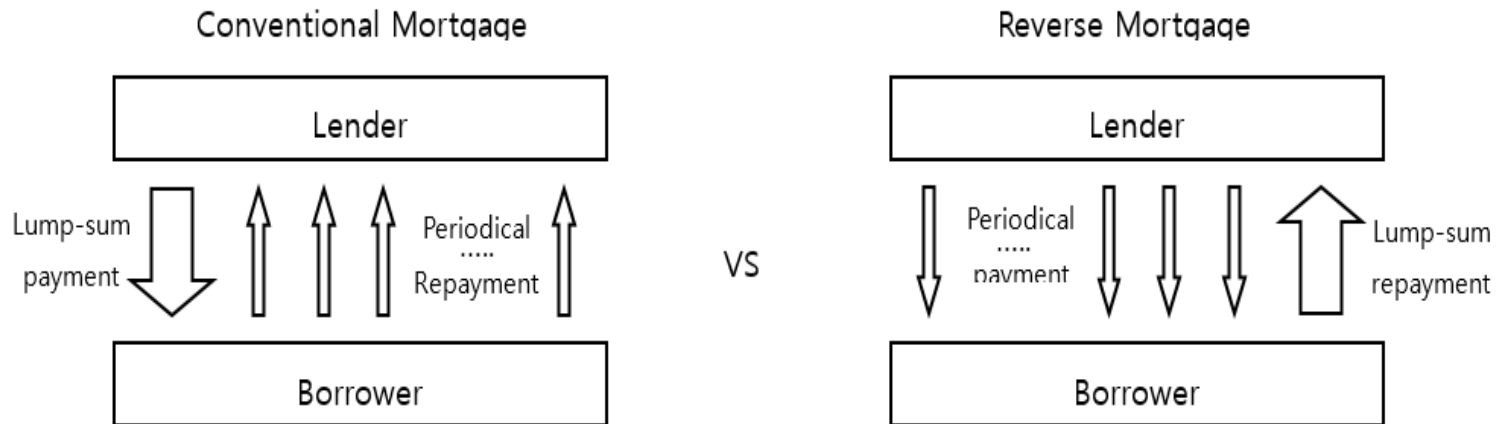
You (2017), Social Trend

Sources of Living Expenses



You (2017), Social Trend

Reverse Mortgage vs Forward (Conventional) Mortgage



- **Housing equity that elderly citizens have accumulated over their lifecycle can be liquidated into (periodic) payments**
- Elderly homeowners can live in their home, sweet home until they pass away, move away, or sell the house

JTYK History in Korea

- **Private RM products developed in the mid-1990s**
 - Conservative marketing and extremely low demand

- **‘The Way to Activate Reverse Mortgage’ in 2006 by MoSF**
 - Public RM products
 - Guarantee program
 - Risks (interest rate, house price, and longevity) associated with RM:
managed by the public entity

- **Public guaranteed RM program in 2007 by KHFC**
 - JTYK can be literally translated into Housing Pension
 - KHFC is operating the program and also manages the JTYK Guarantee Fund

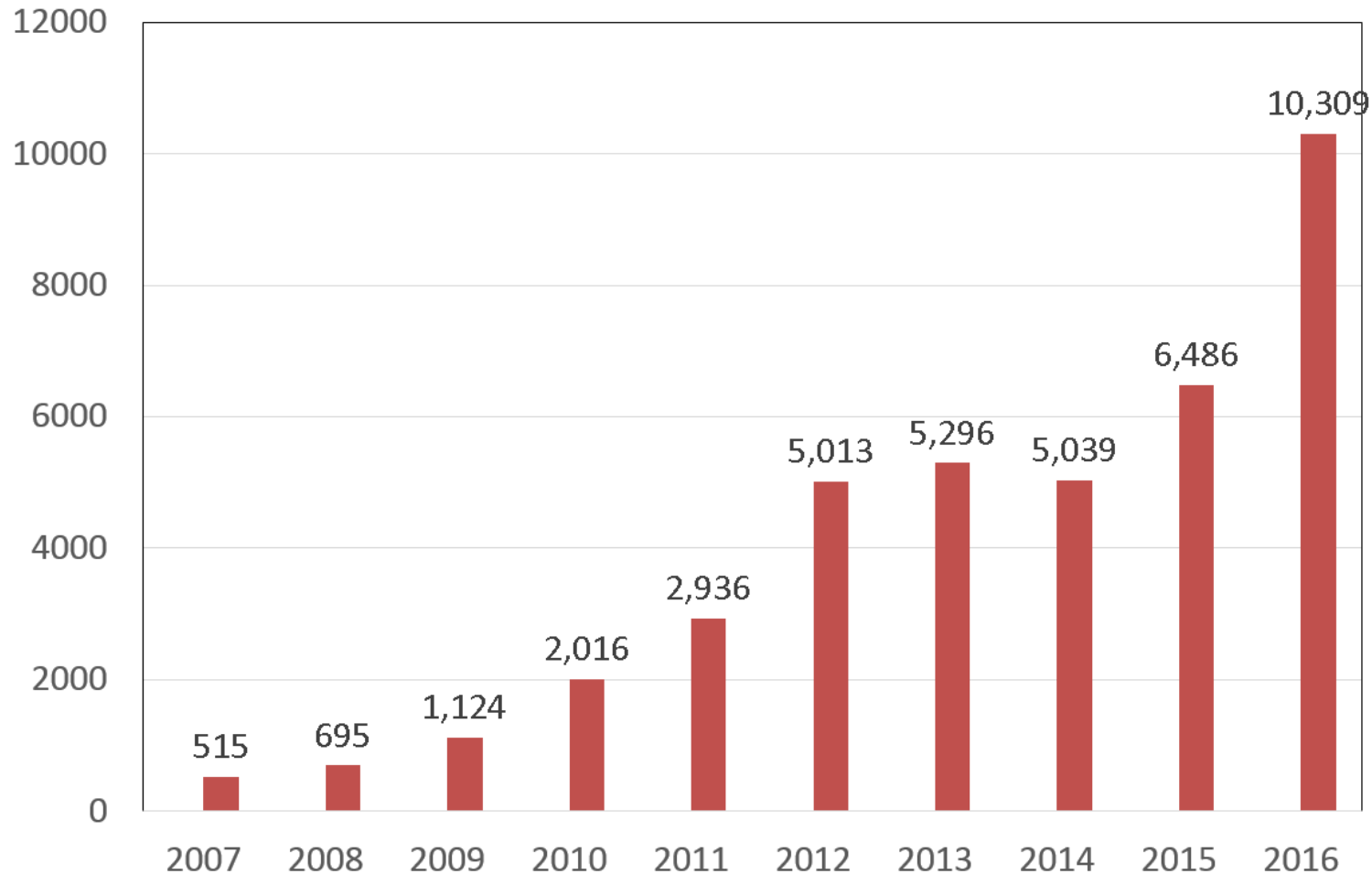
JTYK Characteristics

- **Property requirement**
 - House, condominium, and nursing home
 - Any existing mortgages on the house must be paid off
 - The value of house is less than KRW 900 M (about US \$850 K)

- **Loan limit: KRW 500 M (About US \$470 K)**

- **Borrower's obligations**
 - Principal residence
 - Maintenance and taxes

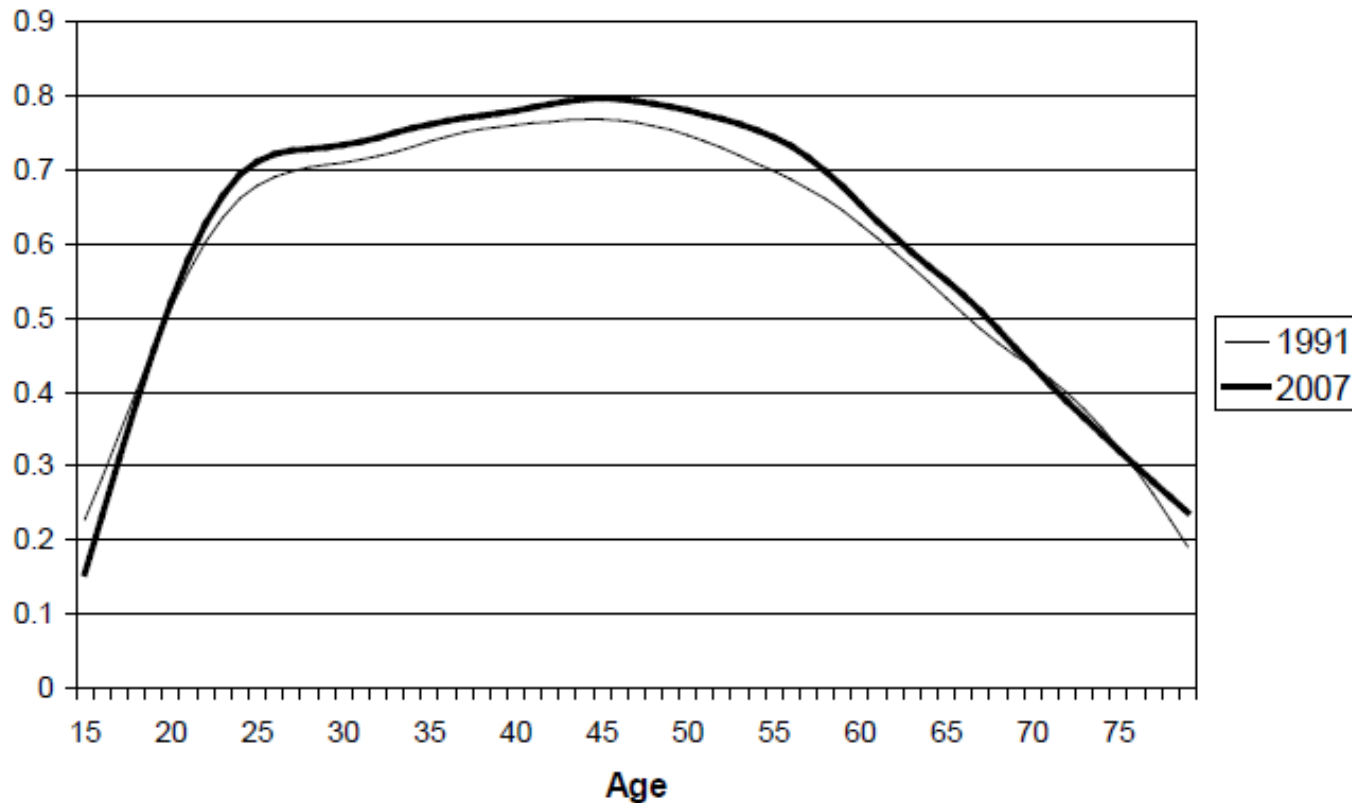
JTYK Endorsements



Source: Korea Housing Finance Corp

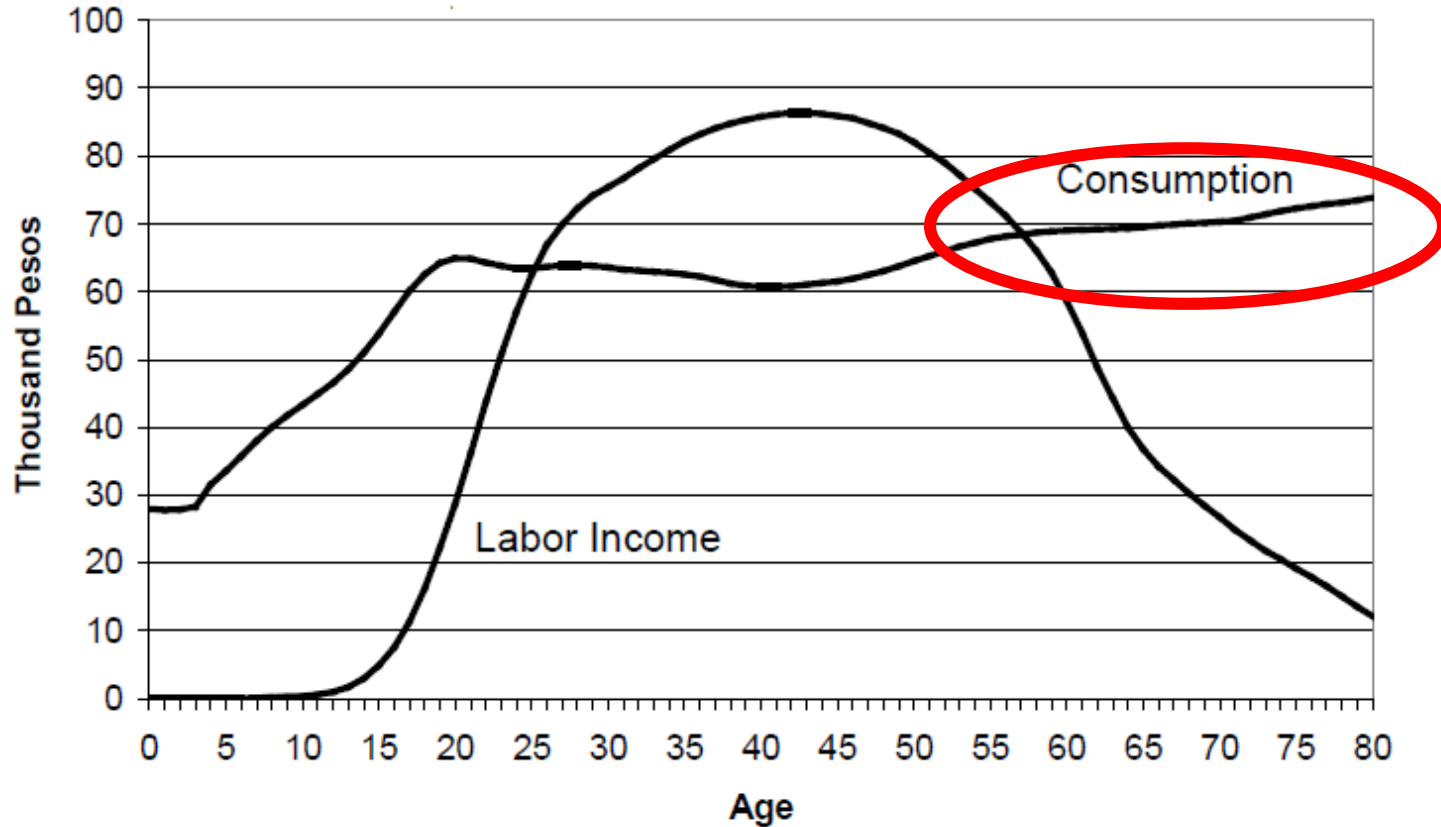
Philippine Market Environments

Labor Participation in the Philippines



Source) Rachel H. Racelis, Michael Ralph M. Abrigo and J.M. Ian S. Salas (2012), "Filipino Elderly Living Arrangements, Work Activity, and Labor Income as Old-age Support," Philippine Institute for Development Studies

Consumption vs. Labor income



Source) Rachel H. Racelis, Michael Ralph M. Abrigo and J.M. Ian S. Salas (2012), "Filipino Elderly Living Arrangements, Work Activity, and Labor Income as Old-age Support," Philippine Institute for Development Studies

Population Structure Changes in the Philippines

Particulars		ACTUAL		PROJECTION				
		2010	2015	2020	2025	2030	2035	2040
Senior Citizens (60 & above)	No.	6,367	7,843	9,741	11,922	14,327	16,769	19,612
	Growth Rate	-	18.82%	19.48%	18.29%	16.79%	14.56%	14.50%
Senior Citizens (65 & above)	No.	4,060	5,000	6,232	7,823	9,636	11,607	13,580
	Growth Rate	-	19.80%	19.77%	20.34%	18.81%	16.98%	14.53%
Total Population	No.	94,013	102,965	111,784	120,224	128,110	135,301	141,669
	Growth Rate	-	9.52%	8.57%	7.55%	6.56%	5.61%	4.71%
% of SC (60 & above) in Total Population		6.77%	7.62%	8.71%	9.92%	11.18%	12.39%	13.84%
% of SC (65 & above) in Total Population		4.32%	4.86%	5.58%	6.51%	7.52%	8.58%	9.59%

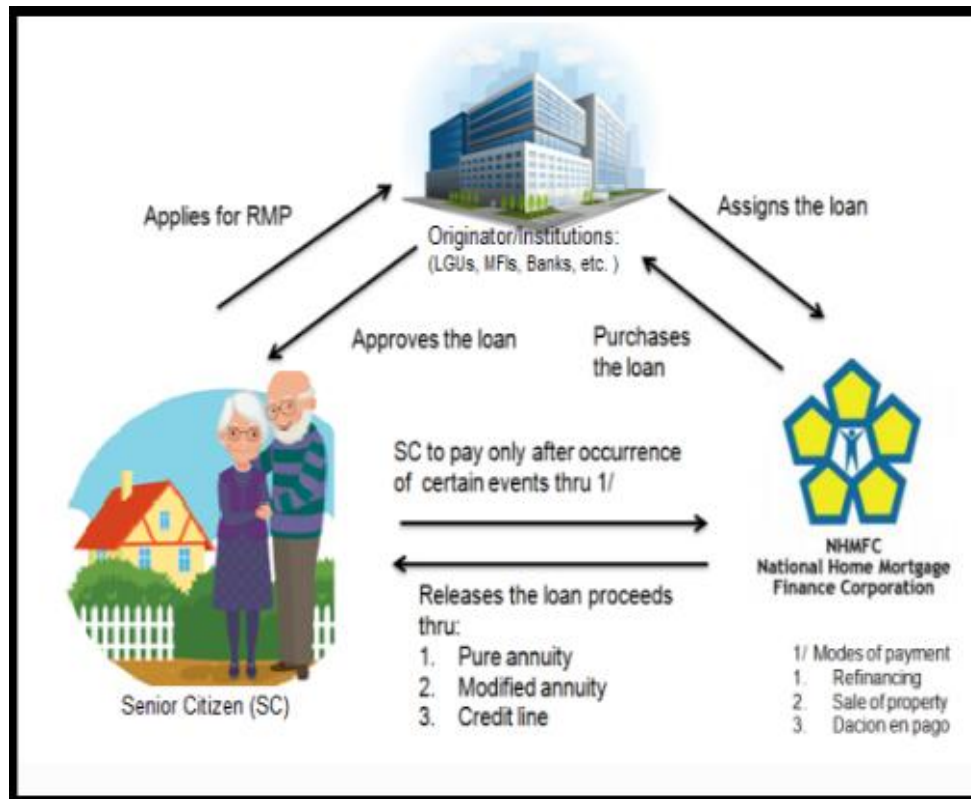
Source: Philippine Statistics Authority (2015).

MaBuHay program

- **Market survey for 356 senior citizens**
 - Homeownership rate (78.3%)
 - Cash poor (60.3%)
 - Interests in the program (45%)

- **The MaBuHay program approved in November 2016**
 - “To help the senior citizens/retirement with limited income to use their properties as a source of additional income”
 - “The NHMFC board of directors approved the program as a rehabilitation program for housing loan accounts of elderly (mortgage) borrowers”

- **Basic structure and operations**
 - 60 years and older
 - “Additional income” to cover daily living expense
 - Borrowers need to pay the existing debt off “completely”
 - Right to stay in the house
 - Counselling



Source: NHMFC

HECMs in the US

- **Home Equity Conversion Mortgage**
 - First introduced as a pilot program in 1989 to fix the flaws that private RMs had under unstable market conditions
 - Life time residence and non-recourse features
 - Became permanent in 1998 by the HUD Appropriations Act

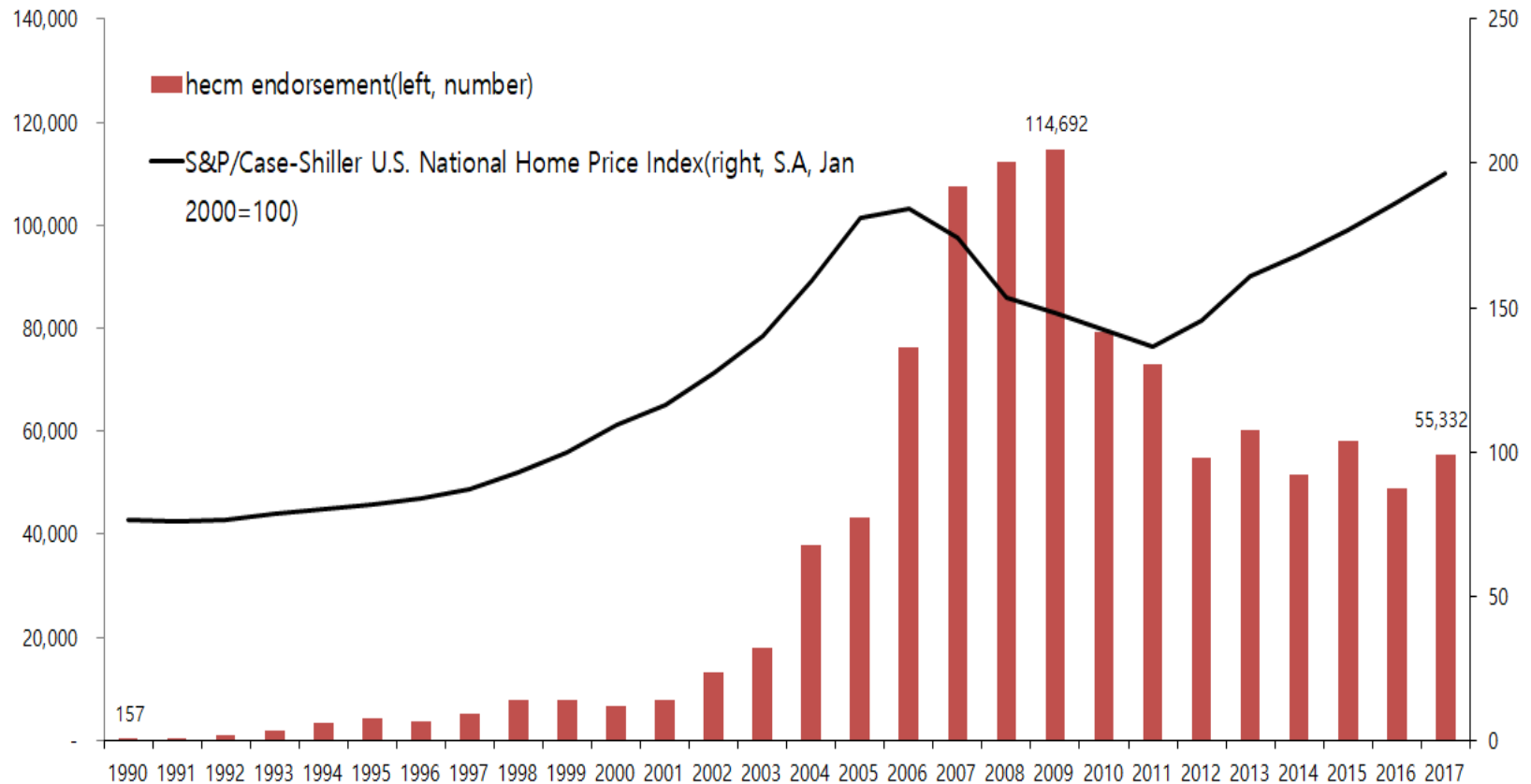
- **100% guaranteed by Housing and Urban Development (HUD)**
 - FHA(Federal Housing Agency) takes all the risks instead of lenders.
 - RM borrowers can stay in the house until the house is sold or the borrower moves out or passes away

- **Property requirement**
 - Single family or 2-4 unit home, HUD approved condo, and manufactured home
 - Any existing mortgages on the house must be paid off

- **Loan limit: \$625,000**

- **Borrower's obligations**
 - Principal residence
 - Maintenance and taxes

HECM Endorsements



Source: Source: NRMLA and Federal Reserve Bank of St, Louis Homepages

Policy Recommendation: General Characteristics

- **Alternative policy tool for ageing societies**
 - A reverse mortgage program can be complement to insufficient pension system
 - It helps senior citizens to smooth their consumption (Venti and Wise, 2002)
 - Asian countries have LARGE potential markets (Merton and Lai, 2016)

- **Most reverse mortgage programs have age requirements**
 - 62 years of age and more (HECM), 60 years of age and more (JTYK and Mabuhay)
 - 55 or 60 in UK and other private programs
 - Reverse mortgages are for house rich, but cash poor elderly homeowners (Mayer and Simons, 1999; Davidoff and Welke, 2004; Tsay, et al., 2014 ; You, 2017)

- **Reverse mortgage programs help seniors to overcome urgent financial needs**

- Medical expenses (Caplin, 2002)
- No FICO score and no income (Bhuyan, 2011)
- Financial troubles and health issues (Nakajima and Telyukova, 2017)

- **Policy Issues involved with RM**

- Senior homeowners could pay no payments during the loan term
- Non-recourse loans are preferred
- Social welfare program: special tax treatment
- Risk management and consumer protection are critical issues

Other suggestions

- **Long-term views**
 - Experience in other countries

- **Risk management**
 - Housing finance market information and infrastructure
 - House price indices

- **Legal and regulatory frameworks**
 - From lending model to guarantee model (or modified lending model)

My Recent Research

This chapter was presented at the International Forum for Financial Consumer in Shanghai, China in 2017.

Reverse Mortgages (RM)

- RM are for elderly homeowners
 - 62 years or older (in US) and 60 years or older (in Korea)
 - Allowing to convert their home equity into cash
 - Aging in place
- Cash poor but house rich
 - Mayer and Simons (1994), Davidoff and Welke (2004), Frantantoni (1999), Haurin, et al. (2014), Shan (2011), and Tsay et al. (2014)
 - US, Korea, Hong Kong, Singapore, Japan, UK, ...

Research Question and Contribution

- Are RMs financial products for the house-rich and cash- poor?
 - Little empirical evidence
 - But, too much discussion and a series of policies in many countries
 - What if RMs are for house rich and cash rich ?
 - Bequest incentive (Mayer and Smith, 1995)
- Empirical evidence with a household-level data set
 - Korean RMs (*aka* housing pensions) : non-US evidence
 - Labour income vs. non labour income

Literature Review

- Trend of previous research(Tsay et al., 2014)
 - Pricing mechanisms
 - Introduction of RM systems
- Chou et al (2006: *Habitat Int'l*): an imaginary product in HK
 - 1867 middle-aged adult and 663 of them are owners
 - Willingness to consider apply for reverse mortgage (5-point scale)
 - 11 percent of definitely would or probability would
 - 32.6 percent are neutral
 - Childless (+), amount of financial assets (+)
 - Self-evaluated financial strains: insignificant

Literature Review

- Frantantoni (1999: JHR)
 - Reverse mortgage product choice, payment duration choice
 - tenure, fixed-term, line of credit, combinations
 - Business and marketing purpose

- This study: choice b/w RM borrowers and non borrowers

US Markets

- Shan (2011, REE) : Reverting the Trend
 - The size of the US market is smaller than expected
 - Demand side: bequest, medical expense, interaction with welfare program, complex financial product
 - Supply side: document requirements, regulations, difficult to securitize and finance
 - Zip-code data: 1987-2007
 - Missing age, gender, marital status, income or demographic characteristics
 - RM take-out when the local housing market at its peak
 - Borrowers' behaviors vary across time
 - 2000-2005 housing boom is partially responsible for the rapid growth (one year house appreciation rate)
 - Income-poor but housing-rich areas

-
- Haurin *et al.* (2014, JRFE): Local Variation in Reverse Mortgage Usage
 - State-level variation
 - Lock-in their equity gain by obtaining reverse mortgages
 - Seniors rationally anticipate future reductions in house prices
 - House price volatility are critical and their prices are higher than an average: insurance motive

-
- **No research with a micro-level data**
 - Nakajima and Telyukova (2017:JoF)
 - Household-level decisions
 - Households with low income and low wealth
 - Low wealth represents more outstanding mortgage(hard to measure)
 - Low bequest motives and poor health
 - Singles
 - More medical expenditure
 - Expectation on future house prices

Data

- 2012 KHFC HP Survey
 - 600 HP borrowers and 2,000 non-borrowers
 - The non-borrowers are locally distributed according to the 2010 Census
 - More than 60 years or older
 - Eligible borrowers
 - Face-to-face interviews (rationality)

Key Variables

	Variables	Definition
Dependent variables	rev	1 if the household subscribed to a housing pension, 0 otherwise
Wealth	Ltw	Log(total wealth+1)
	Lnonhouse	Log(nonhousing wealth +1)
	Lhouse	Log(housing wealth +1)
Income per a year	Linc	Log(income+1)
	Llabinc	Log(labor income+1)
	Lnonlaborinc	Log(nonlabor income+1)
	Lincpen	Log(pension income+1)
	Lincfinre	Log(income from financial assets or real assets+1)

Other Covariates

	Variables	Definition
Household head's characteristics	Age	Household head's age
	<u>Dage</u>	Age*age
	Female	1 if the household head is female, 0 otherwise
	Col	1 if the household head holds a college degree, 0 otherwise
	Ret	1 if the household head is retired, 0 otherwise
Household's characteristics	Dep	No of dependents (including the spouse)
	<u>Lmed</u>	Log(yearly medical expense +1)
	<u>Ldebt</u>	Log(yearly debt payment +1)
House characteristics	Apt	1 if the household head lives in a condominium, 0 otherwise
	<u>Lsize</u>	Log(house size)
	Area	Provinces in Korea

Variable	Obs	Unit	Mean	Std. Dev.	Min	Max
rev	2574	binary	0.23	0.42	0	1
tw(total wealth)	2574	KRW M	439.33	2887.66	10	99990
nonhouse	2574	KRW M	218.61	2881.65	0	99910
house	2574	KRW M	223.39	169.87	10	900
inc	2574	KRW M	16.66	14.70	0	180
laborinc	2574	KRW M	8.64	12.78	0	135
nonlabinc	2574	KRW M	8.02	9.25	0	120
incpen	2574	KRW M	3.53	6.46	0	60
incfinre	2574	KRW M	2.24	5.75	0	120
age	2574	age	70.26	6.64	60	88
female	2574	binary	0.50	0.50	0	1
col	2574	binary	0.11	0.31	0	1
ret	2574	binary	0.59	0.49	0	1
dep	2574	binary	1.27	1.11	0	8
med	2574	KRW M	2.11	2.20	0	24
debt	2574	KRW M	0.32	1.43	0	25.704
apt	2574	binary	0.52	0.50	0	1
size	2574	m2	101.09	71.85	13.2	1623.60

Empirical Evidence

	Model 1	Model 2	Model 3	Model 4
ltw	1.0925***	0.8403***		
	(0.12)	(0.11)		
nonhouse			0.0404	0.2117***
			(0.03)	(0.04)
house			1.2794***	1.2730***
			(0.13)	(0.14)
linc	-2.0510***			
	(0.13)			
		-0.3492***	-0.3316***	-0.3526***
		(0.04)	(0.04)	(0.04)
		-0.4260***	-0.3921***	
	(0.04)	(0.04)		
lincpen				-0.2489***
				(0.03)
lincfinre				-0.3893***
				(0.03)
age	0.0310**	0.0876***	0.0918***	0.0733***
	(0.01)	(0.01)	(0.01)	(0.01)
female	0.7382***	0.4090***	0.4498***	0.5995***
	(0.18)	(0.15)	(0.15)	(0.16)
col	1.7425***	1.2416***	1.1177***	1.1904***
	(0.24)	(0.21)	(0.22)	(0.23)
ret	1.2158***	0.6798**	0.6068*	0.41
	(0.23)	(0.32)	(0.32)	(0.33)
dep	-0.2541***	-0.2364***	-0.2770***	-0.3365***
	(0.08)	(0.07)	(0.07)	(0.07)
lmed	0.4136***	0.1974***	0.1662***	0.1834***
	(0.07)	(0.05)	(0.05)	(0.05)
ldebt	-0.1553**	-0.1985***	-0.1897***	-0.1802***
	(0.08)	(0.06)	(0.06)	(0.07)
apt	1.9604***	1.8322***	1.6724***	1.7287***
	(0.20)	(0.17)	(0.17)	(0.18)
lsize	-1.4850***	-1.9409***	-2.3310***	-2.0816***
	(0.26)	(0.24)	(0.25)	(0.27)
cons	6.5631***	-3.1072**	-3.7808***	-4.5833***
	(1.67)	(1.35)	(1.39)	(1.48)
N	2574	2574	2574	2574

Empirical Evidence

	Model 1	Model 2	Model 3	Model 4	
ltw	1.0925***	0.8403***			
	(0.12)	(0.11)			
	Inonhouse			0.0404	0.2117***
				(0.03)	(0.04)
Ihouse			1.2794***	1.2730***	
			(0.13)	(0.14)	
linc	-2.0510***		House Rich		
	(0.13)				
	llabinc		-0.3492***	-0.3316***	-0.3526***
			(0.04)	(0.04)	(0.04)
	Inonlabinc		-0.4260***	-0.3921***	
			(0.04)	(0.04)	
	lincpen				-0.2488***
					(0.03)
	lincfinre				-0.3893***
					(0.03)

Cash Poor

For the old

Knowledge

Bequest motives

Medical expense

age	0.0310**	0.0876***	0.0918***	0.0733***
	(0.01)	(0.01)	(0.01)	(0.01)
female	0.7382***	0.4090***	0.4498***	0.5995***
	(0.18)	(0.15)	(0.15)	(0.16)
col	1.7425***	1.2416***	1.1177***	1.1904***
	(0.24)	(0.21)	(0.22)	(0.23)
ret	1.2158***	0.6798**	0.6068*	0.41
	(0.23)	(0.32)	(0.32)	(0.33)
dep	-0.2541***	-0.2364***	-0.2770***	-0.3365***
	(0.08)	(0.07)	(0.07)	(0.07)
lmed	0.4136***	0.1974***	0.1662***	0.1834***
	(0.07)	(0.05)	(0.05)	(0.05)
ldebt	-0.1553**	-0.1985***	-0.1897***	-0.1802***
	(0.08)	(0.06)	(0.06)	(0.07)
apt	1.9604***	1.8322***	1.6724***	1.7287***
	(0.20)	(0.17)	(0.17)	(0.18)
lsize	-1.4850***	-1.9409***	-2.3310***	-2.0816***
	(0.26)	(0.24)	(0.25)	(0.27)
cons	6.5631***	-3.1072**	-3.7808***	-4.5833***
	(1.67)	(1.35)	(1.39)	(1.48)
N	2574	2574	2574	2574

Conclusion

- HP is for house rich and cash poor
 - A micro data set
 - Heterogeneous wealth and income
 - Other variables such as education, medical expense..
 - Policy implications
 - Asset-based welfare
 - Marketing strategies
 - Limitation
 - No price dynamics and robustness check(controlled for a province dummy)

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