Housing Finance in Korea
Evolution and Challenges

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Outline

- Introduction
  - The Korean economy
  - Housing in the Korean economy
- Evolution of housing finance in Korea
  - Evolution of the housing finance system
  - Current state of the housing finance system
  - Korea Housing Finance Corporation
- Housing and housing finance challenges
  - Household debt and financial stability
  - Housing affordability and housing inequity
  - Demographic transition and elderly poverty
  - Housing supply and green transition

Introduction

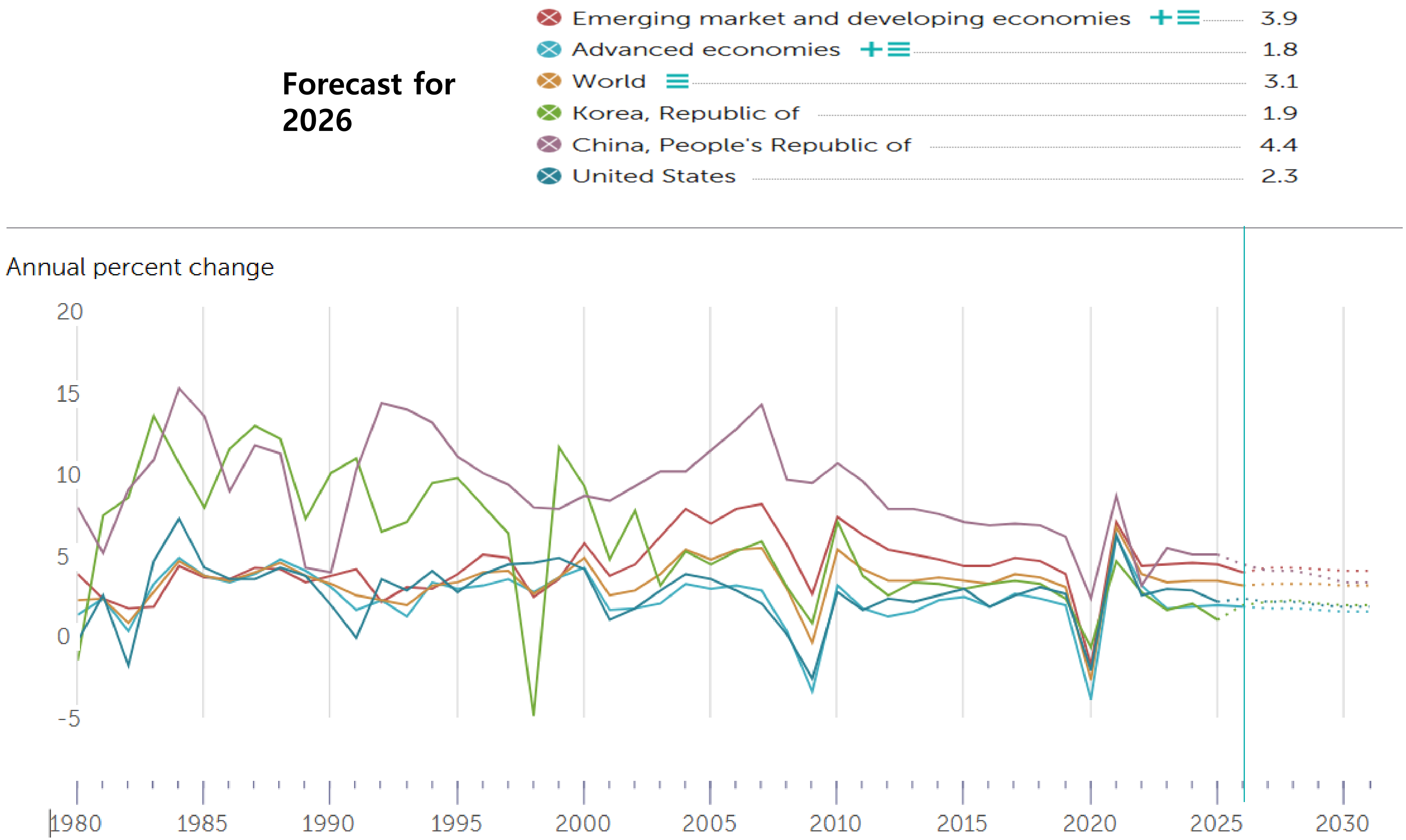
- “Cities develop the way they are financed.” (B. Renaud)
- Mass housing requires mass housing finance. (M. Hoek-Smit)
- The Korean housing finance system has evolved from one dominated by specialized institutions to a market-based system.
- Korea Housing Finance Corporation (KHFC), a quasi-government entity established with a mission of providing stable, long-term housing finance, has made contribution to the expansion of long-term fixed rate mortgages and to the development of reverse mortgages.
- Housing finance needs to contribute to financial stability, social inclusion, and sustainability in Korea faced with demographic shifts, climate change, and digital transformation.
- KHFC seeks to balance market efficiency with social responsibility, and to engage in global efforts to promote sustainability and financial stability.

The Korean Economy: A Snapshot

- Nominal GDP (2025): $1.78 trillion, 13th in the world,1.7% of world GDP
- Per capita nominal GDP (2025): $36,855, 37th in the world
- Exports (2025): $709.7 billion, 3.7% of G-20, 6th in the world
- Imports (2025): $631.7billion, 3.2% of the world, 9th in the world
- Population (2025): 51.6 million
- Urbanization rate (2024): 81% (91.4% in Korea's own definition)
- IMD World Competitiveness Ranking (2025): 27/69
- Heritage Economic Freedom Index (2021): Mostly free, 27/184
- UNDP Human Development Index (2025): 20/193
- World Happiness Ranking (2025): 58/147
- Gini coefficient in per capita disposable income (2024): 0.325
- Carbon footprint (2023), 550M TOE, 13th in the world

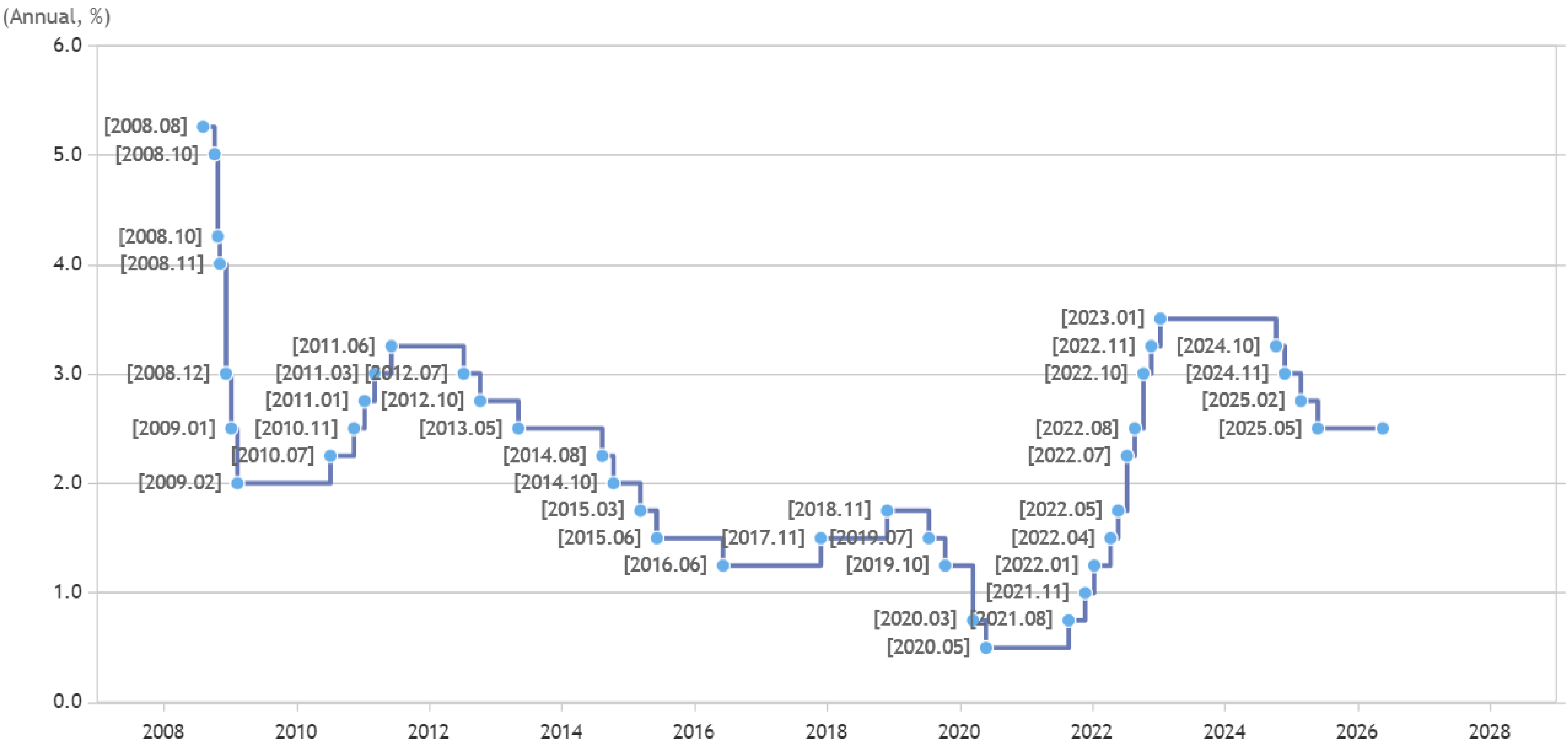
Real GDP Growth Slowdown

Forecast for 2026



[World Economic Outlook (April 2026) - Real GDP growth]

The Bank of Korea Base Rate



Note : 1) The overnight call rate target, until February 2008.

Important Features of Housing

- Dual nature of housing
  - Necessity of life : adequate and affordable shelter, housing welfare
  - Most important asset: ownership, wealth accumulation, inequality
- Owner-occupied housing and rental housing markets
  - House price and rents
  - Locational variation of house price and rents : location, location, location
- Housing and the wider economy
  - Wealth effect and consumption
  - Homebuilding, investment and employment
  - Mortgage markets and financial stability
  - Housing and the (global) financial crisis

Size of Real Estate and Housing in Korea

- Stock
  - National balance sheet 2024 (KRW trillion) ($1= KRW 1,500)
    - Total net wealth 24,104 (9.4 times GDP)
    - Real estate 17,164 (71.2% of total net wealth)
      - Land 12,139, residential buildings 2,588, non-residential buildings 2,438
      - Houses 7,158
  - 2025 household finance survey
    - 70.5% of household wealth consists of real estate, including owner-occupied housing (42.0%)
  - Size of the mortgage debt
    - Mortgage debt outstanding to GDP: 44% (2025)
- Flow
  - Housing investment/ GDP (%)
    - 1970-2024 average: 5.04%
    - Large fluctuation over business cycles

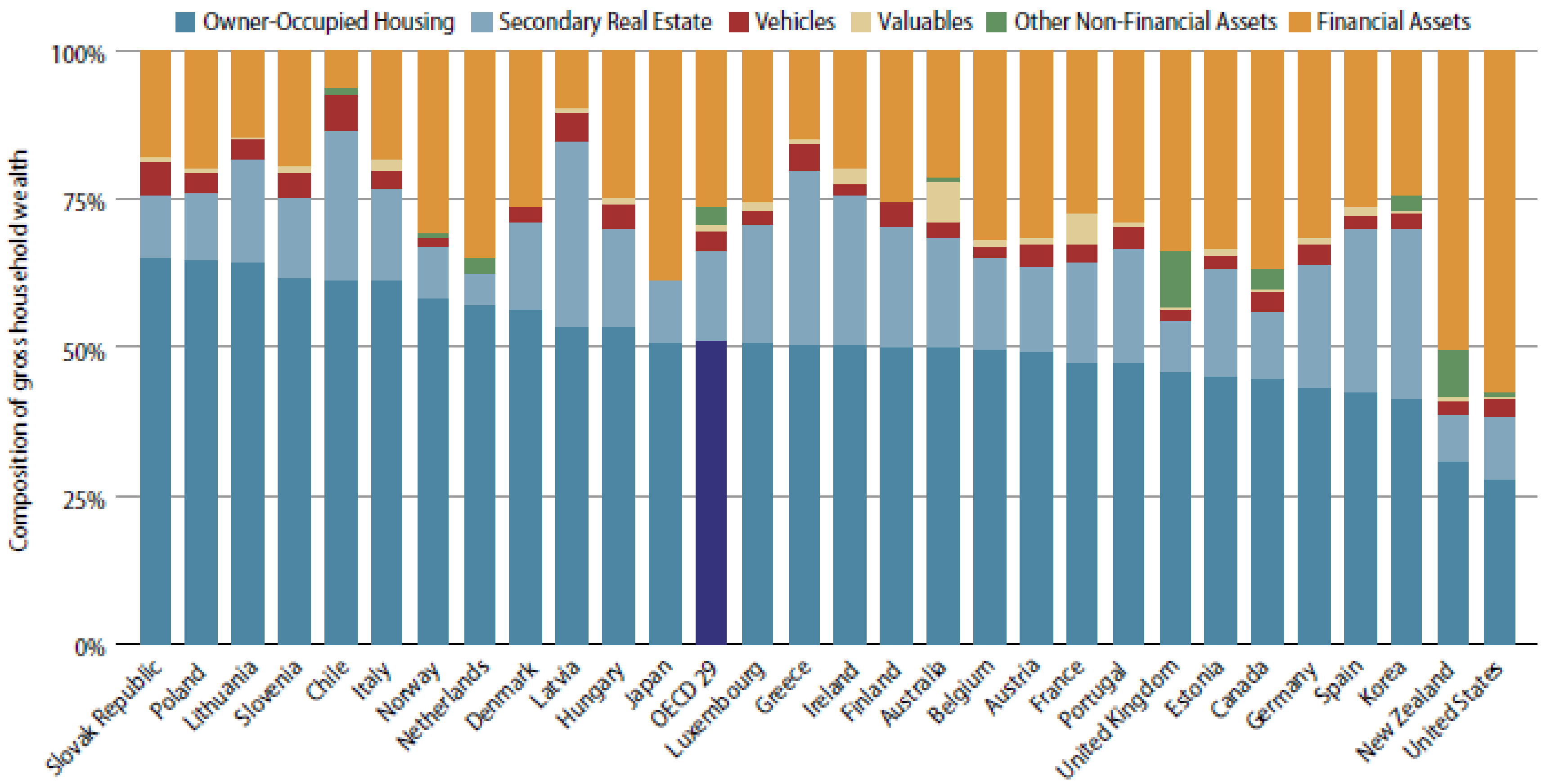
Housing Tenure Distribution, 2006-2024

	Korea				Seoul Metro Area			
	O-O	Renting	Free	Total	O-O	Renting	Free	Total
2006	55.6	41.4	3.1	100.0	50.2	47.7	2.0	100.0
2010	54.3	43.2	2.7	100.0	46.6	51.5	1.8	100.0
2014	53.6	43.5	2.8	100.0	45.9	52.1	2.0	100.0
2016	56.8	39.2	4.0	100.0	48.9	47.3	3.7	100.0
2017	57.7	38.5	3.9	100.0	49.7	46.6	3.7	100.0
2018	57.7	38.3	4.0	100.0	49.9	46.5	3.7	100.0
2019	58.0	38.1	3.9	100.0	50.0	46.4	3.7	100.0
2020	57.9	38.2	3.9	100.0	49.8	46.6	3.7	100.0
2021	57.3	39.0	3.7	100.0	51.3	45.7	2.9	100.0
2022	57.5	38.8	3.7	100.0	51.9	45.2	2.9	100.0
2023	57.4	38.8	3.7	100.0	51.9	45.2	2.9	100.0
2024	58.4	38.0	3.6	100.0	52.7	44.4	2.8	100.0

***O-O stands for the percentage of owner-occupied households.**
***Home ownership rate is substantially higher than the rate of owner-occupancy due to the separation of ownership and residence for some renters.**
-In 2024, the homeownership rate is 61.4%. Seoul's owner-occupation rate was 48%.

Source: MOLIT-KRIHS Annual housing survey

Composition of Household Assets (2019)



Source: OECD Wealth Distribution Database, oe.cd/wealth.

Housing Markets and Housing Policies: An Overview

- Housing markets
  - Markets for owner-occupied housing and rental housing are interconnected.
  - Most of rental housing supply comes from individuals who own two or more houses, rather than corporate rental housing providers.
    - Chonsei (Jeonse) is a lease contract whereby the tenant pays an upfront deposit (50-70% of price) to the landlord instead of monthly rents. The deposit is fully refunded at the end of the lease period. (It is an informal financing mechanism for those buying homes as investments)
    - Many tenants borrow from banks to finance their deposit with the public sector guarantee.
    - The tenant can be exposed to the risk of not getting the deposit back from the landlord at the end of the lease if the deposit price falls.
- Housing policies
  - National government employs various policy instruments.
    - Direct supply, taxes and subsidies, finance, and regulations.
  - House price stability has been the most important goal for housing policies for every administration.
    - Taxation at acquisition, holding and transfer is used to contain speculative demand.
    - Macroprudential policies are employed to enhance financial stability
  - Promoting housing affordability and welfare has become important over time.
    - Targeted policies for low-income groups, the young, and the aged

Changes in Housing Standards in Korea

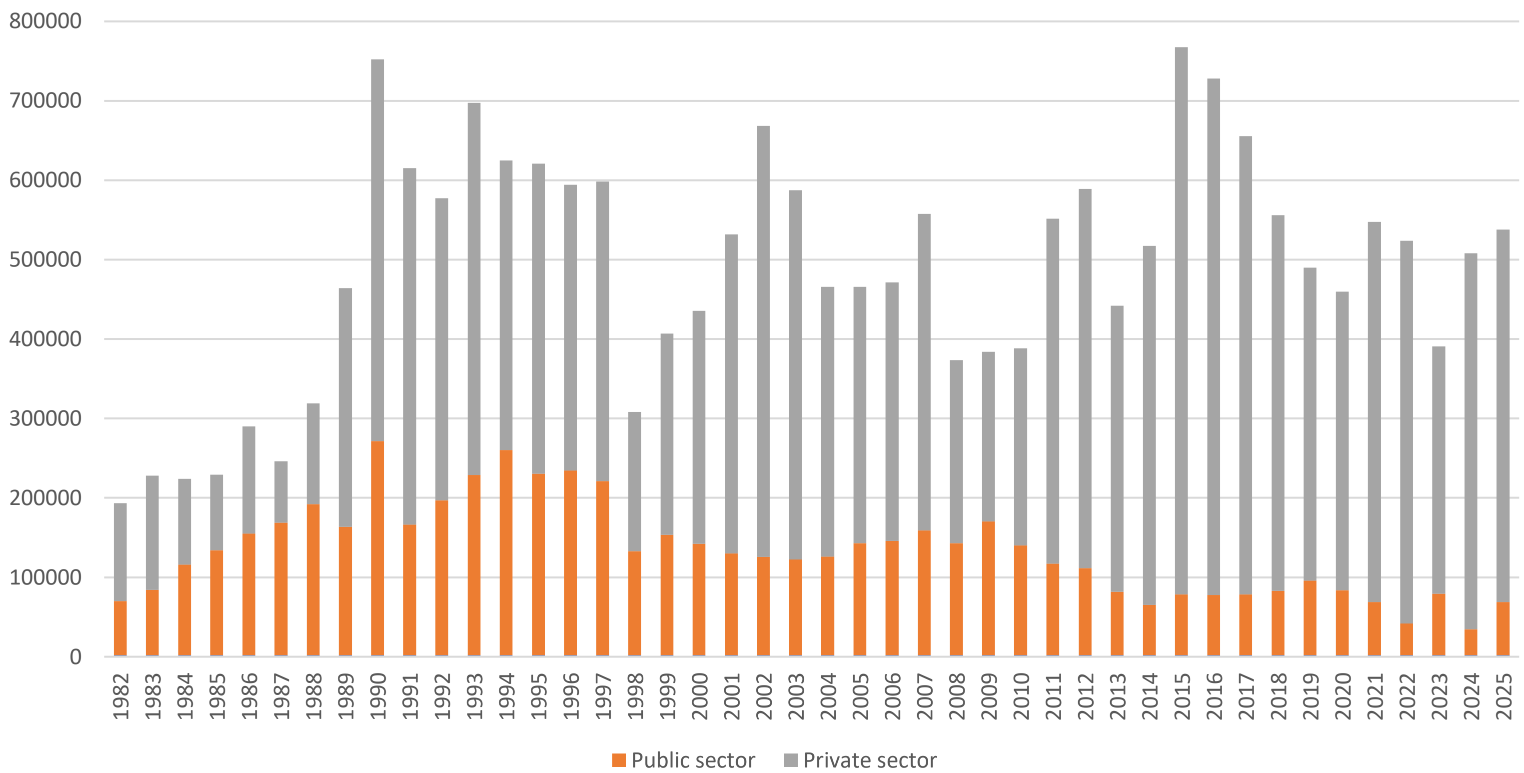
Overall housing standards have improved remarkably since 1980.

Indicator	1980	1990	2000	2005	2010	2015	2020
Household size	4.5	3.7	3.1	2.9	2.7	2.5	2.3
# of rooms per household	2.2	2.5	3.4	3.6	3.7	3.8	3.7
# of rooms per person	0.5	0.7	1.1	1.3	1.4	1.5	1.6
# of persons per room	2.0	1.5	0.9	0.8	0.7	0.7	0.6
Floor space per household(㎡)	45.8	51.0	62.4	66.3	67.4	68.4	70.1
Floor space per person(㎡)	10.1	14.0	19.8	23.1	25.0	26.9	29.7
Houses with piped water (%)	56.1	74.0	85.0	89.3	97.9	98.8	96.9
Houses with modern toilet (%)	18.4	51.3	86.9	94.0	97.0	97.3	98.9
Houses with bathroom (%)	22.1	44.1	89.1	96.2	98.4	98.6	99.2
Houses with hot bath (%)	9.9	34.1	87.4	95.8	96.9	99.8	99.5

Source: Statistics Korea

Housing Construction (building permits)

***New housing supply jumped around 1988 due to a five-year drive to build two million new units. The elevated level has been sustained except during AFC(1997) and GFC(2008).**
***The public sector includes Land and Housing Corporation and local government units.**



International comparison of housing indicators

	Korea	Japan	U.S.	U.K.	France
Dwellings per 1000 inhabitants	418 (‘20)	494 (18)	425 (‘20)	434 (‘20)	590 (‘20)
Floor space per person (m^2)	33.9 (20)	39.4 (19)	65.0 (16)	40.9 (16)	39.9 (06)
Owner-occupancy rate (%)	60.6 (20)	61.2 (18)	65.4 (20)	67.3 (20)	61.9 (18)
Public rental housing as a share of total housing stock (%)	8.0 (20)	3.1 (18)	3.6 (19)	16.7 (19)	14.0 (18)
Housing stock (thousand units)	2,167 (20)	6,242 (18)	137,400 (18)	2,417 (18)	3,633 (18)

Source : OECD affordable housing database

The Evolution and the Current State of Housing Finance

- A summary
- Key milestones
- Housing finance before and after the Asian Financial Crisis (AFC)
- Current state of the housing finance system
- The Korea Housing Finance Corporation

Core Functions Of Any Housing Finance System

1. **MORTGAGE ORIGINATION:** process through which mortgage debt is created. It is comparable to the underwriting function for other loans and capital market securities.

2. **MORTGAGE HOLDING:** the activity of institutions and other investors who own or hold mortgage debt. When the mortgage originator and the mortgage holder differ, it is necessary to transfer mortgage ownership. The high risk, high information costs, and small size of individual mortgages complicate the mortgage transfer process.

3. **MORTGAGE SERVICING** refers to a series of activities, including:
   - collecting the monthly payments from the borrowers and transmitting the funds to the mortgage holders,
   - confirming that the borrower maintains the property, has insurance
     and pays all relevant taxes
   - carrying out the foreclosure process in cases of default.

AN EFFICIENT HOUSING FINANCE SYSTEM IS ONE THAT ALLOCATES RISKS TO THOSE MOST ABLE TO BEAR AND MANAGE THEM

MORTGAGE HOLDING ;
THE STRATEGIC
FUNCTION
IN ANY H.F. SYSTEM.

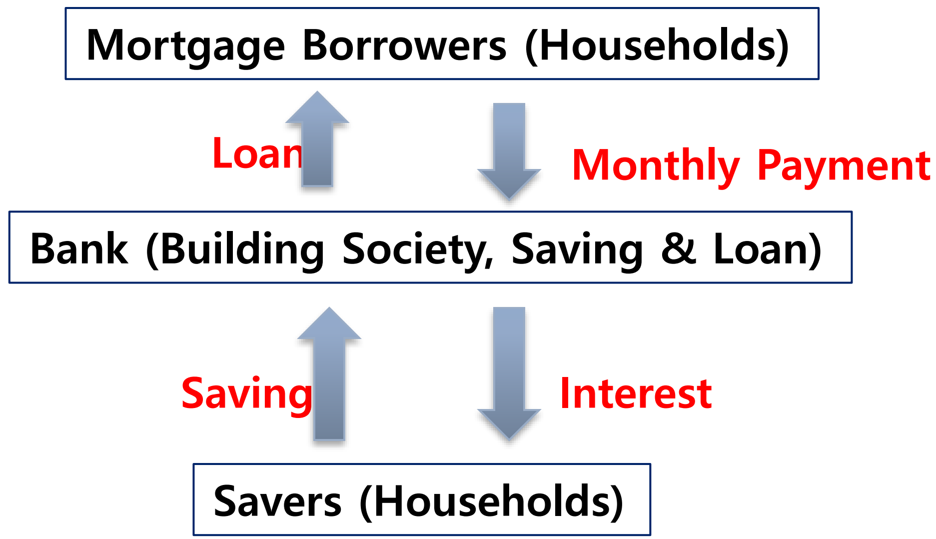
4 MAIN CLASSES OF RISKS:
Credit risk
Liquidity risk
Interest rate risk
Prepayment risk

Source: Bertrand Renaud, 2025

Effective Mortgage System Requirements

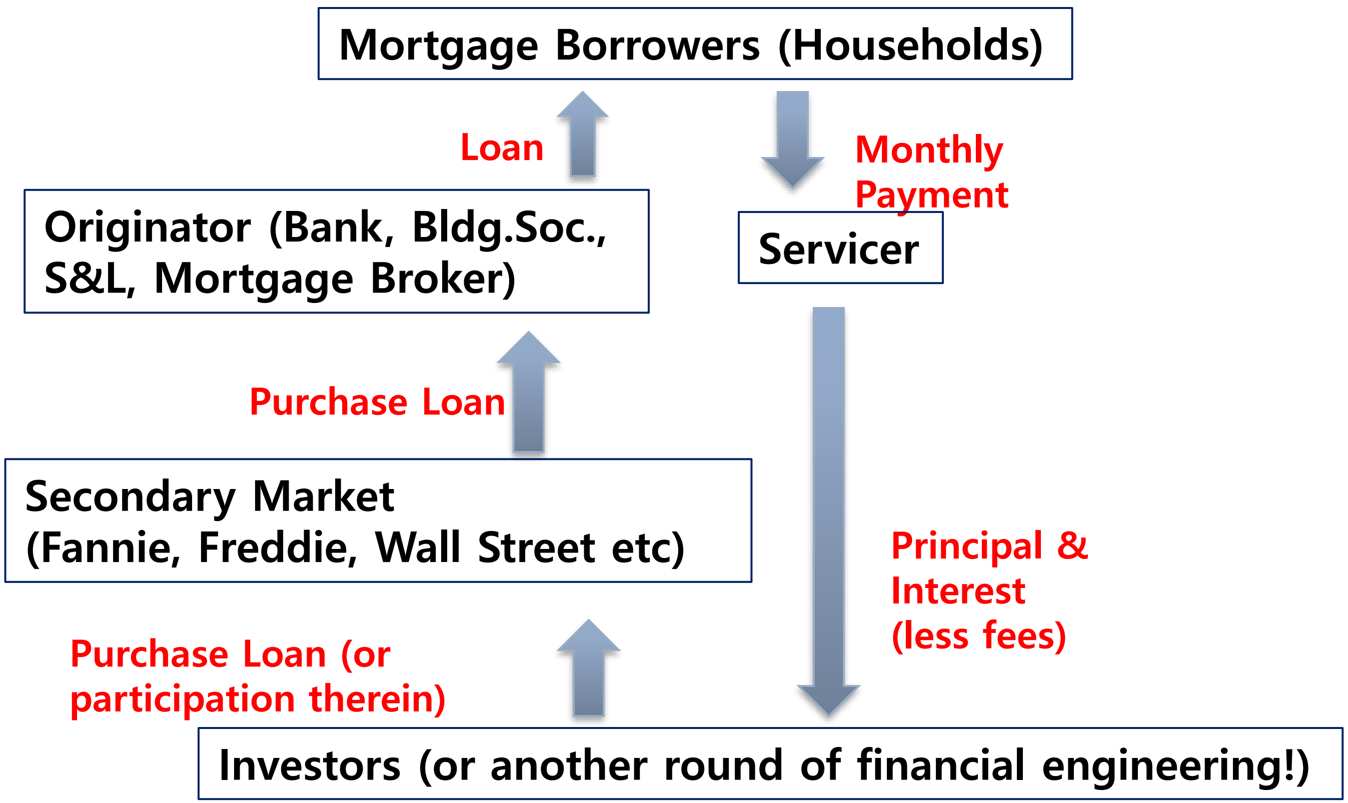
- Macroeconomic stability
- Stable property rights, title registration and transfer
- Enforcement of contracts; foreclosure when required
- Reliable information about borrowers (income, credit risk, other debts)
- Appraisal of property
- Financial markets that serve as benchmarks (government bonds at market prices)
- Lending institutions that can operate effectively and manage risks
- Stable funding sources for lenders
  - Deposits?
  - Capital markets?
- Mortgage servicing
- Risk management
- Regulators
- Separate subsidies from the financial system and put them on budget.

Depository Model



“Bank” originate, services, and holds loans.
Borrower repays bank.
Bank pays interest to savers, profit is spread.

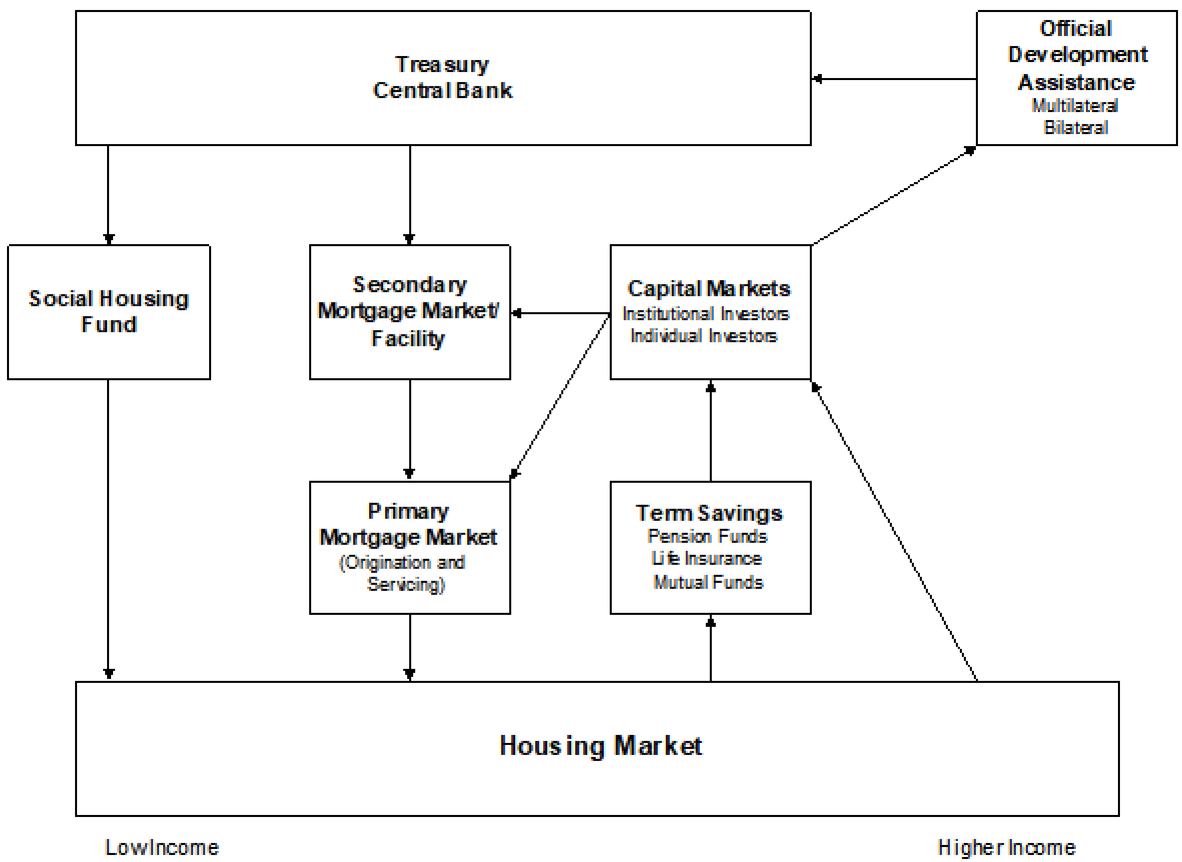
Capital Markets (Unbundled) Model



Origination, servicing, and holding loan has been "unbundled."
Those closest to the mortgage holder are mostly making fees.

Stylized Modern Housing Finance System

Whichever basic model you choose – often a blend – you need some specialization.



Source: Bertrand Renaud, 1997

The Evolution of the Housing Finance System in Korea

- Korean housing finance system comprises both the public and the private sector institutions.
- Prior to the 1997 Asian Financial Crisis, the two public sector institutions, the Korea Housing Bank (a state bank created in 1967) and the National Housing Fund (a government fund established in the Ministry of Construction in 1981, and restructured as Housing and Urban Guarantee Fund since 2015) dominated the mortgage market. Their combined mortgage share in total mortgage debt outstanding was about 85%.
- Thanks to interest deregulation and the increased credit risk in corporate lending, commercial banks expanded housing loans to consumers, mostly short-term floating rate bullet mortgages.
- The Korea Housing Finance Corporation was established to strengthen the housing finance system by spearheading the development of long-term fixed rate mortgages.
- Currently, commercial banks represent the largest share of the residential mortgage market, but HF is the single largest provider of mortgages, entirely FRM.

Key Milestones in Korea's Housing Finance History

- Establishment of the Korea Housing Fund (1967)
- Establishment of the Korea Housing Bank (1969)
- Establishment of the National Housing Fund (1981)
- Privatization of the Korea Housing Bank (August 1997)
- Fourth(and final) stage interest rate liberalization (July 1997)
- Asian Financial Crisis (November 1997)
- Establishment of KoMoCo (1999)
- First MBS Issuance by KoMoKo (April 2000)
- Establishment of the Korea Housing Finance Corporation (March 2004)
- Introduction of the Home Pension System (July 2007)
- Establishment of the Housing and Urban Fund and the Housing & Urban Guarantee Corporation (HUG) (September 2015)

Housing Finance Before and After the Asian Financial Crisis

In the aftermath of the Asian Financial Crisis: Interest rate liberalization, declining corporate loan demand due to restructuring, expansion of consumer finance, and increased housing demand fundamentally transformed Korea's housing finance system

	Before the Asian Financial Crisis	Present
Characteristic	Closed system dominated by specialized institutions	Market-based, open system
Major Lending Institutions	National Housing Fund Korea Housing Bank	Commercial banks
Interest Rates	Regulated	Liberalized
Non-price Credit Allocation	Loan eligibility, loan amount, eligible housing for collateral	Regulations on LTV, DTI, and DSR
Loan Maturity and Interest Rates	Mostly over 10 years, limited interest rate fluctuations	ARMs, FRMs, hybrids
Loan Amount and LTV	Per-household loan limits, LTV below 30%	Policy mortgage LTV 55–70% (up to 80%) / Banking sector LTV around 50% (of total outstanding balance)
MDO/GDP	11% (1997)	44% (2025)
Secondary Market	Nonexistent	MBS issuance by KHFC
Informal Finance / Jeonse	Total Jeonse deposits were approximately equal to MDO	The share of jeonse on the decline

*** MDO=Mortgage Debt Outstanding**

Mortgage Lending Since the Mid-2000s

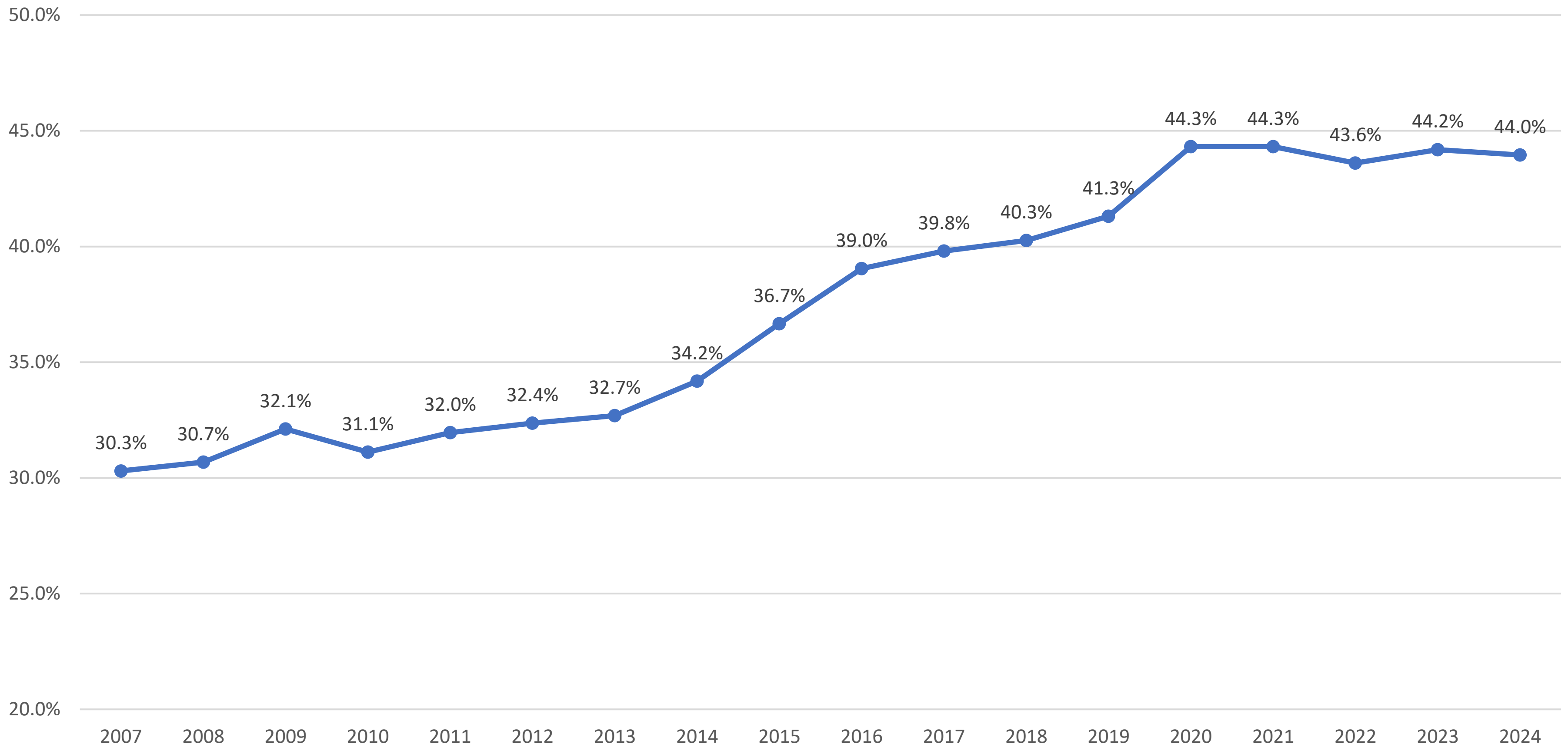
Size and composition

- The growth rate of household credit exceeded that of nominal GDP.
- Mortgage debt outstanding (MDO) to GDP ratio increased from 30% in 2007 to 44% in 2024, about the EU average.
- The share of mortgage lending within household credit remained relatively stable; in other words, the increase in mortgage lending generally followed the overall growth trend of household credit
- The share of loans provided by the Korea Housing Finance Corporation and the Housing and Urban Fund within total mortgage lending increased from approximately 10% to 20% during the period from 2007 to 2023

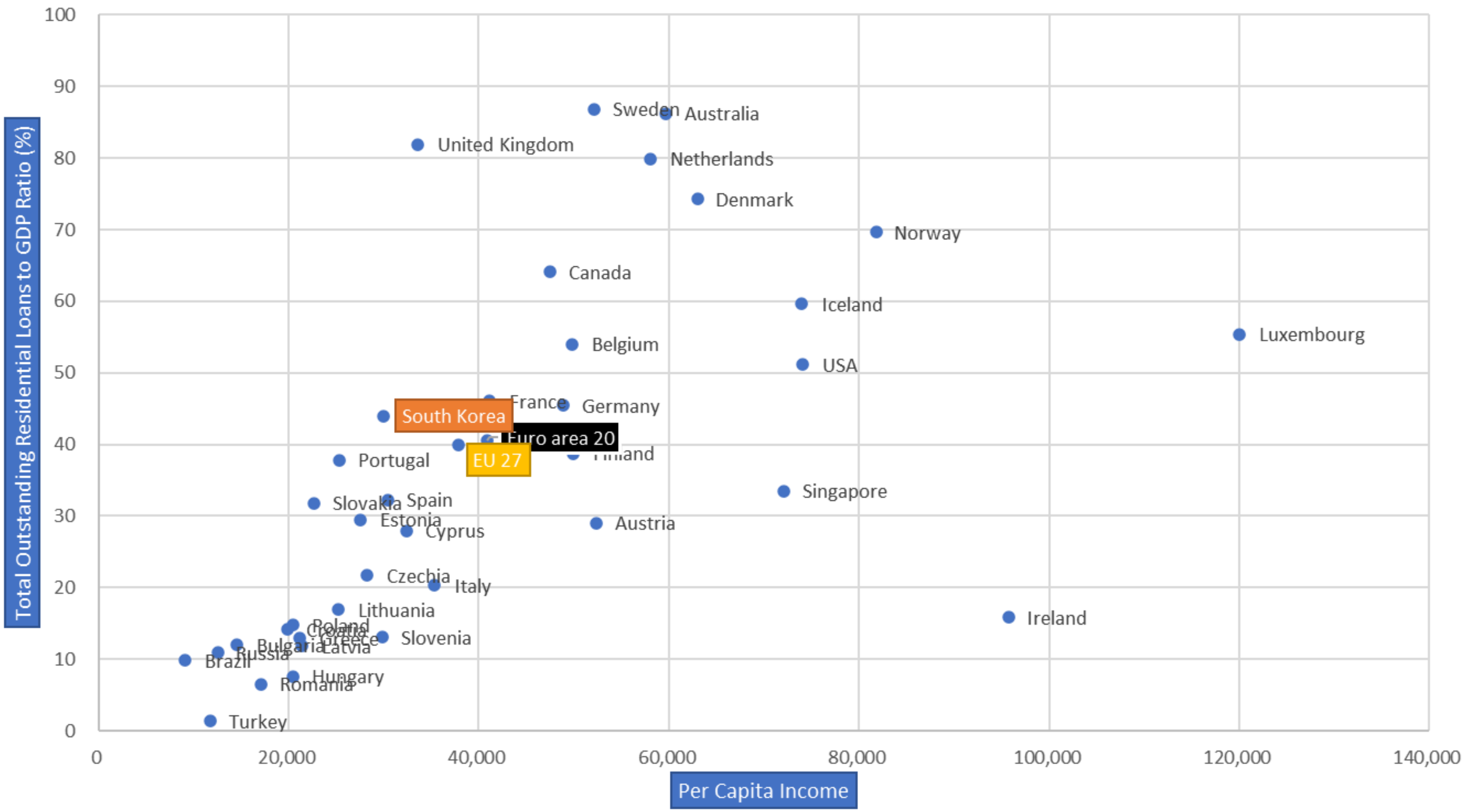
Risk characteristics

- The average loan-to-value (LTV) ratio of mortgage lending in the banking sector has shown a declining trend, reaching 39.2% at the end of 2021
- The share of fixed-rate mortgages has gradually increased within a mortgage market traditionally dominated by variable-rate loans.
- Among household debts, mortgage loans continue to exhibit the lowest delinquency rate.

Growth of mortgage debt outstanding to GDP



Housing Loans Outstanding to GDP



Source: Created from EMF data

The Current Structure of the Housing Finance System

- The housing finance system consists of the public sector and the private sector institutions
- Commercial banks are the largest provider of mortgages in the private sector.
- KHFC is a dominant supplier of fixed rate mortgages of 10 years and longer maturity.
- HUG provides mortgages to lower income and policy target households.
- KHFC is virtually the only issuer of mortgage-backed securities.

Public sector

- **Korea Housing Finance Corporation manages Housing Finance Credit Guarantee Funds**
- **Korea Housing & Urban Guarantee Corporation(HUG) manages National Housing and Urban Fund**

Private sector

- **Commercial banks**
- **Mutual savings banks**
- **Credit unions**
- **Insurance companies**
- **Community credit cooperatives**
- Postal service

KHFC in the primary and secondary markets

- KHFC originates its own long-term fixed-rate fully amortizing mortgages through participating banks, and HF’s share in MDO is nearly 20%.
- It has played a pivotal role in transforming household debt structure from predominantly floating rate bullet loans to FRM.
- KHFC raises funds through securitization, issuing Mortgage-Backed Securities (MBS) in Korea and covered bonds overseas.
- The share of MDO securitized by MBS and covered bonds rose from 2.6% in 2007 to 14.4% in 2024, about the level of U.K.

Comparison of FRMs and ARMs

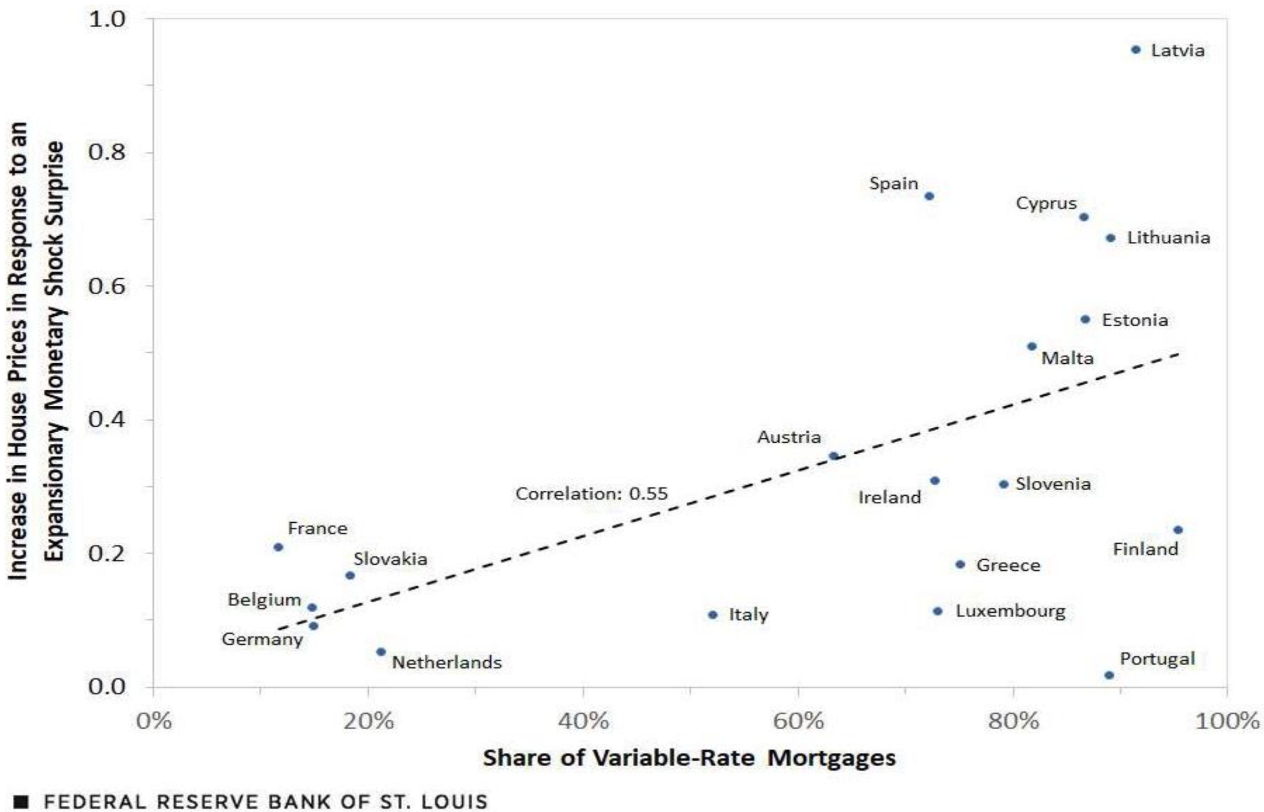
KOREA HOUSING-FINANCE CORPORATION

Category	Fixed-Rate Mortgage (FRM)	Adjustable-Rate Mortgage (ARM)
Impact on Borrowers	**Advantage:** Predictable monthly payments; protection against inflation/rate hikes. **Disadvantage:** Higher initial interest rates; "lock-in" effect limits mobility.	**Advantage:** Lower initial "teaser" rates; immediate benefit if market rates fall. **Disadvantage:** Payment shock during rate hikes; difficult long-term budgeting.
Impact on Lenders	**Advantage:** Stable long-term asset yields. **Disadvantage:** Bears "interest rate risk"; profitability drops if funding costs (deposits) rise .	**Advantage:** Shifts rate risk to borrower; maintains profit margins (spread) as rates rise. **Disadvantage:** Higher "credit risk" (default) if borrowers can't afford spiked payments.
Housing Price Stability	**High Stability:** Reduces forced sales during rate hikes; prevents rapid price crashes	**Low Stability:** Highly sensitive to monetary policy; can lead to rapid price bubbles (low rates) and cra shes (high rates).
Financial Stability	**Higher Stability:** Protects household consumpti on from rate shocks; reduces systemic default w aves.	**Lower Stability:** Creates "pro-cyclical" volatility; rat e hikes can lead to mass defaults and banking sect or stress.

The share of FRMs varies across countries. U.S., Germany, France have highest shares.

Share of Variable Rate Mortgages vs Housing Price Volatility

KOREA HOUSING-FINANCE CORPORATION



Source: Ozkan, "Why U.S. House Prices Stayed Resilient While Prices Fell in other countries", FRB St Louis 2025

Ownership Structure and Key Functions of KHFC

- **KHFC is owned by government (64%) and the Bank of Korea (36%).**
- **KHFC serves as a housing finance partner of the Korean population through their life cycle.**
- **It underwrites HF mortgages, issues covered bonds & mortgage-backed securities (MBS), provides guarantees on loans for Jeonse deposit, project finance, and reverse mortgages.**

Key Functions

Provision of KHFC Mortgages

- Long-term fixed-rate mortgage Bogeumjari Loan(HF Mortgage) for homebuyers for owner occupation

Issuance of Covered Bonds & MBS

- Securities backed by HF mortgages as underlying assets

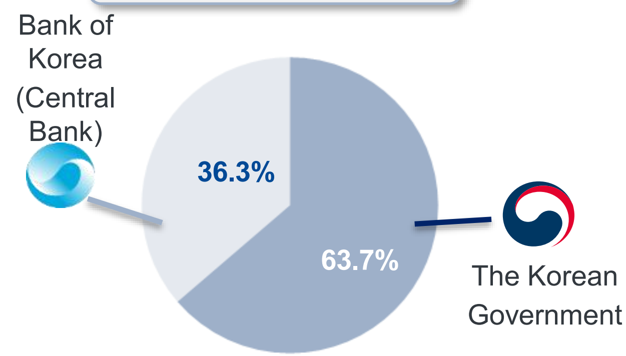
Provision of Housing Guarantees

- Jeonse deposit/ home purchase loans
- Guarantee for PF loans for developers

Provision of Reverse Mortgage Guarantees

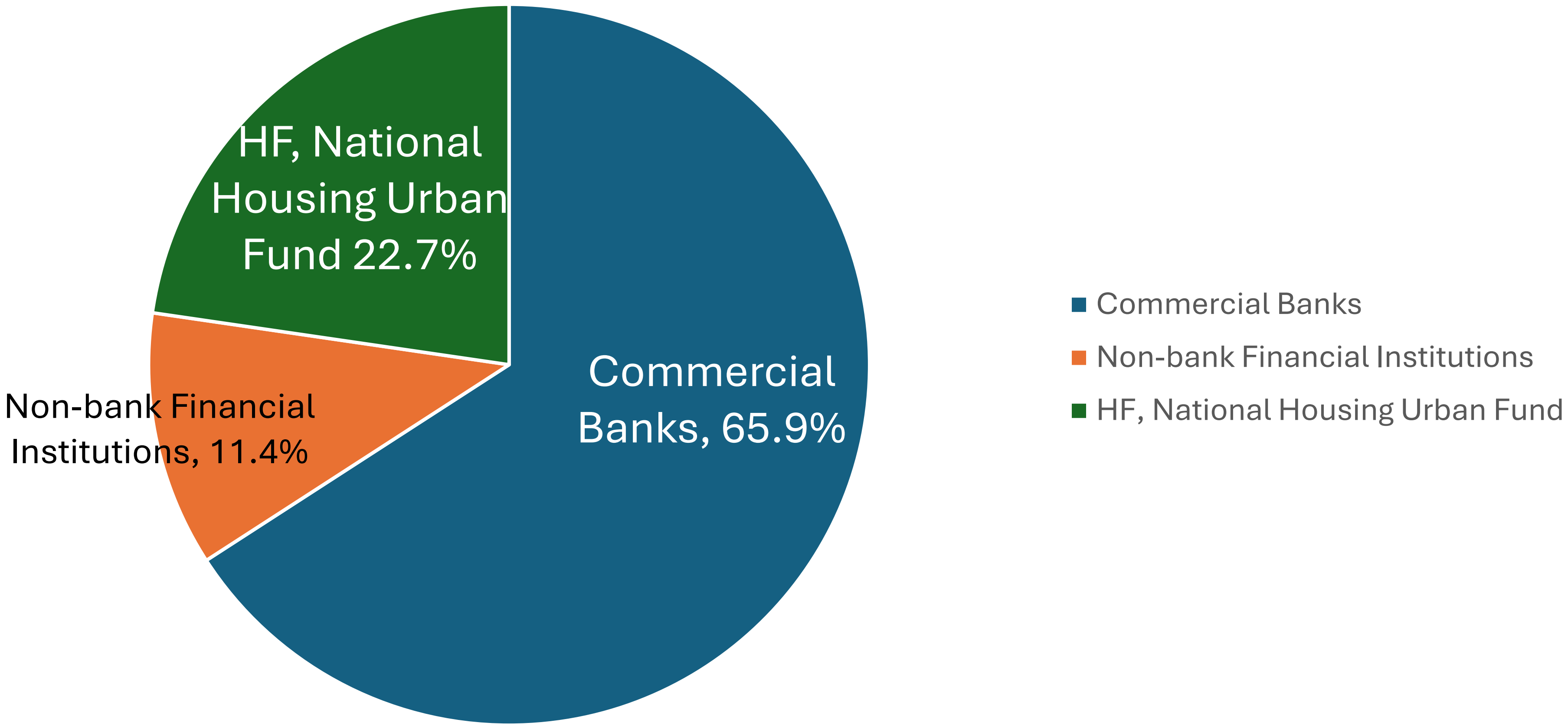
- For home owners aged 55+ to receive monthly payments during their life time.

Ownership structure

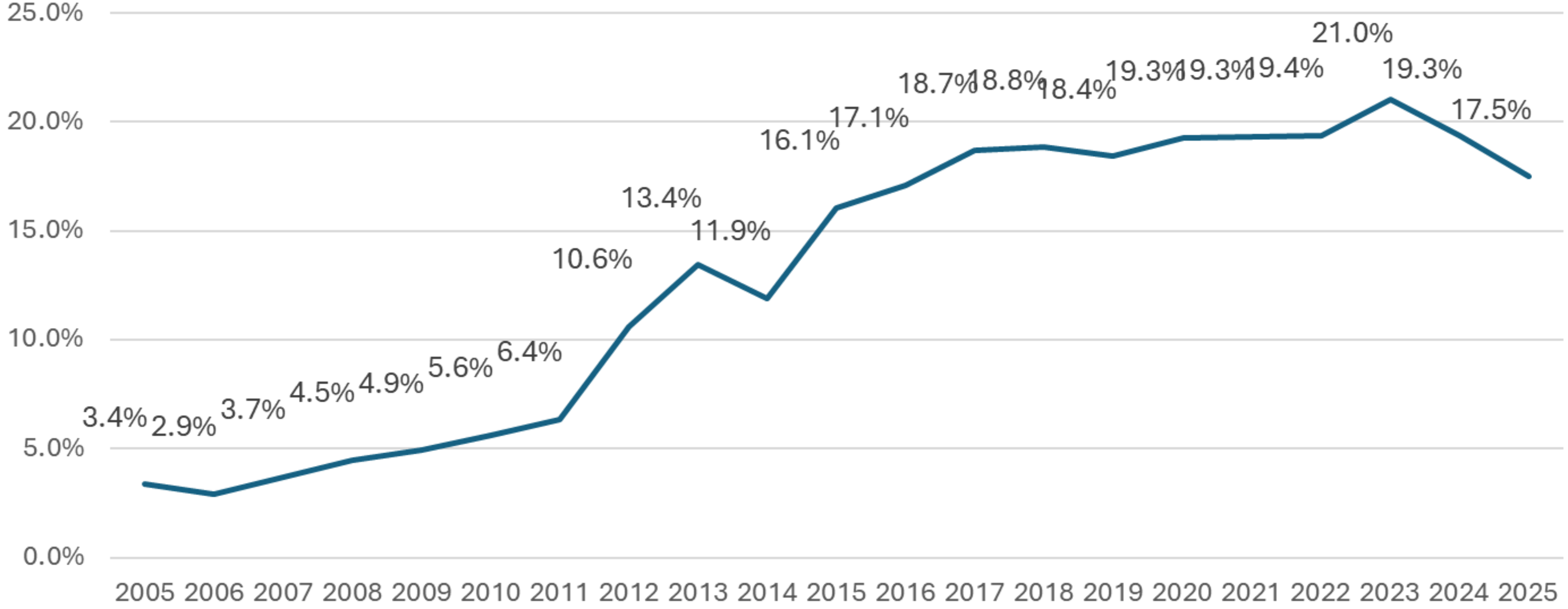


Composition of Mortgage Market Shares (2025)

Total MDO : KRW 935.0 trillion (EUR 552.3 billion)
HF mortgages: KRW 163.6 trillion (EUR 96.2 billion), market share: 17.5%

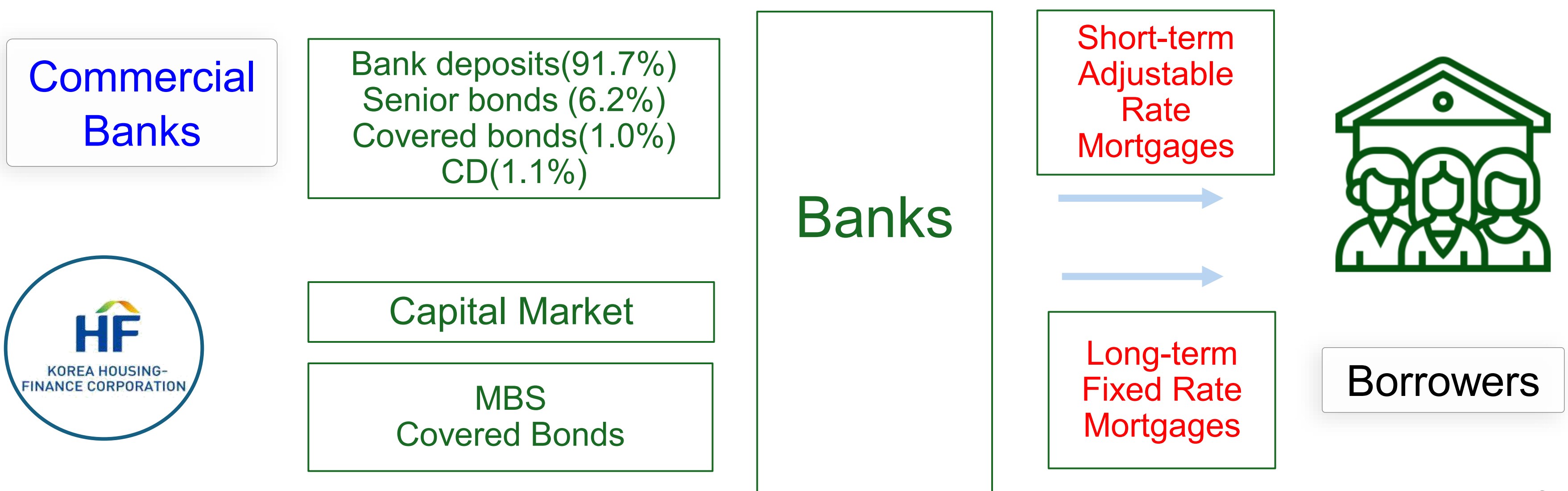


KHFC's Share in the Mortgage Market



Funding Sources of Mortgages

- Commercial banks lend mainly short-term adjustable-rate mortgages funded by deposits (and senior bonds). Currently, they also provide mortgages with a fixed rate for five years extendable for 5 years at a different (fixed) rate.
- KHFC funds its long-term fixed-rate mortgages by issuing MBS (domestic markets) and covered bonds (mainly overseas) , thereby establishing secondary markets.

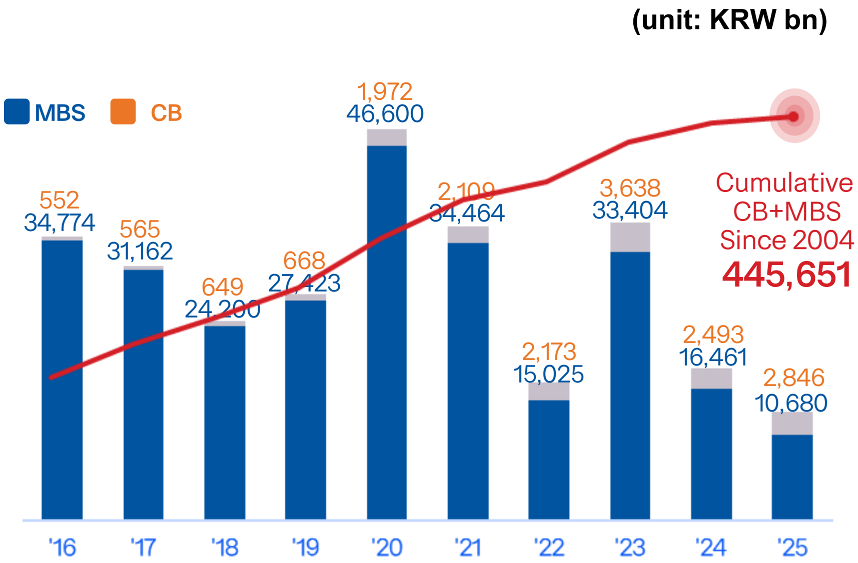


Comparison of MBS and Covered Bonds

Feature	**Mortgage-Backed Securities (MBS)**	**Covered Bonds (CB)**
Balance Sheet	**Off-balance sheet**: Assets are sold to a Special Purpose Vehicle (SPV).	**On-balance sheet**: The mortgage pool remains on the bank's books.
Recourse	**Asset-only**: Investors have a claim only on the collateral pool.	**Dual recourse**: Investors have a claim on the bank *and* the collateral pool.
Credit Risk	**Investor bears**: If the mortgage borrower defaults, the investor takes the loss.	**Issuer bears**: The bank must replace defaulted loans in the pool (dynamic pool).
Interest Rate Risk	**Investor bears**: Rate changes directly affect the value of the security.	**Issuer bears**: The bank must pay the bond's fixed rate regardless of mortgage income.*
Prepayment Risk	**Investor bears**: If homeowners refinance early, investors receive principal back sooner.	**Issuer bears**: Prepayments do not change the bond's fixed maturity (bullet maturity).
Collateral Pool	**Static**: The pool is fixed at issuance and shrinks as loans pay down.	**Dynamic**: The issuer replaces non-performing or prepaid loans to maintain quality.
Primary Goal	**Risk management**: To remove risk and capital requirements from the bank.	**Liquidity**: To raise cheaper funding while keeping assets on the books.

Combined Volume of KHFC MBS & CB Issuances

■ **MBS issued in the domestic market, CB in both the domestic and the global markets**



① **Cumulative issuance through Dec 2025: KRW 445.6 tr**

- MBS : KRW 424.3 tr
- CB : KRW 21.3 tr

② **Incentives for MBS investors**

- **(Mar. 2014)** Became eligible securities in the Bank of Korea's Open Market Operations (Repo Transactions)
- **(Jan. 2015)** Recognized as High-Quality Liquid Assets(Level 1) under Basel III LCR rule
- **(Jan. 2016)** Recognized as eligible collateral for Bank of Korea's lending and settlement operations
- **(Jan. 2020)** Recognized as eligible collateral for OTC derivatives margin transactions

Composition of Investors in KHFC MBS

K-MBS Investors and their shares (%)

Investors	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Banks	17%	18%	29%	35%	49%	44%	48%	48%	37%	51%
Pension Funds	19%	29%	27%	20%	14%	17%	7%	21%	17%	9%
Insurance Companies	21%	23%	15%	10%	11%	13%	17%	9%	8%	13%
Securities Companies	26%	16%	15%	14%	13%	14%	20%	9%	8%	8%
Asset Management Companies	11%	11%	4%	4%	3%	5%	3%	2%	8%	2%
Mutual Finance Institutions	7%	3%	9%	17%	9%	4%	1%	9%	14%	7%
Foreign Investors	0%	0%	0%	0%	1%	3%	5%	1%	8%	9%

Source: KHFC, 2025

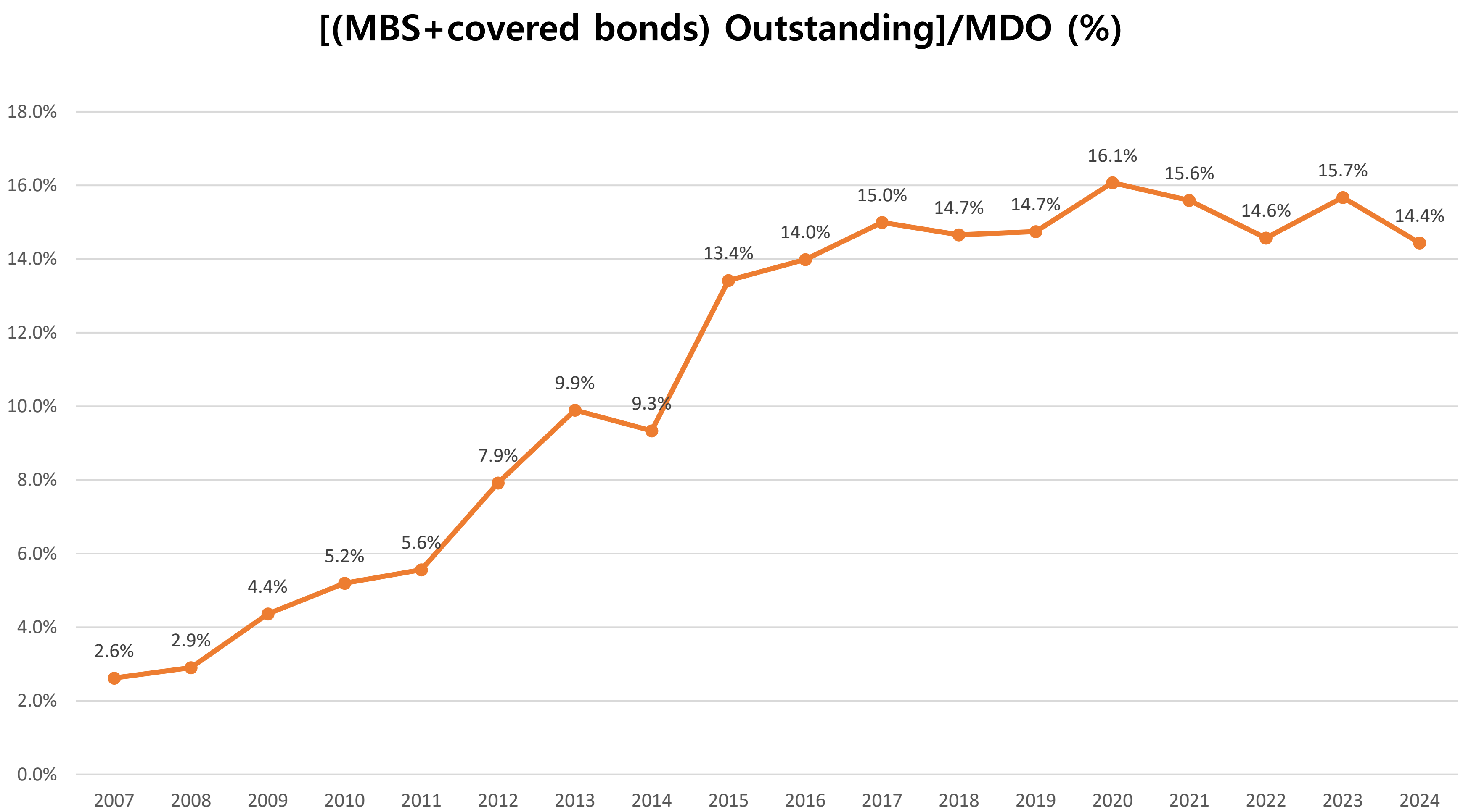
Composition of Investors in KHFC CBs Issued Overseas

Investors in KHFC Covered Bonds Issued Overseas (2025)

		MBB25-1 (Feb, 2025)	MBB25-2 (Apr, 2025)	MBB25-4 (Aug, 2025)	MBB25-3 (Sep, 2025)	Weighted Avg
Volume		€600MN	$400MN	€500MN	£ 300MN	-
No. of Investors		48	53	57	24	-
Region	Europe	95%	23%	90%	95%	**80%**
	Asia	5%	77%	10%	5%	**20%**
Types of Investors	Central Bank	35%	6%	26%	5%	**21%**
	Asset Management	38%	5%	47%	66%	**40%**
	Banks	24%	41%	23%	27%	**28%**
	Insurance, Pension	3%	48%	4%	2%	**12%**

Source: KHFC, 2025

Share of Mortgage Debt Securitized



Housing and Housing Finance Challenges

- Household debt and financial stability
- Housing affordability and housing inequity
- Demographic transition and elderly poverty
- Housing supply and green transition

Household Debt and Macroprudential Regulation

- Housing and household debt
  - Rapid expansion of consumer finance, particularly the mortgage market, following the Asian financial crisis
  - The outstanding balance of household debt relative to disposable income is higher than most OECD countries
  - However, the outstanding balance of mortgages relative to GDP is about the EU average.
  - The share of FRM(Fixed rate mortgages) is on the rise.
- The concern about the large household debt
  - Consumption contraction due to increased burden of principal and interest repayment
  - If real estate prices skyrocket followed by a sharp decline, the increase in non-performing loans at lending institutions undermines the stability of the financial system (systemic risk)
  - There is a positive correlation between the increase in household loans and housing prices.
- Macroprudential regulation: The primary purpose is to prevent systemic risk
  - LTV (loan to value ratio)
  - DTI (debt to income ratio): (Interest and principal repayment on mortgages+ interest payment on other debts)/income
  - DSR (total debt service ratio: interest and principal repayment on all loans/income

Household Credit and Mortgage Debt

Unit: KRW trn

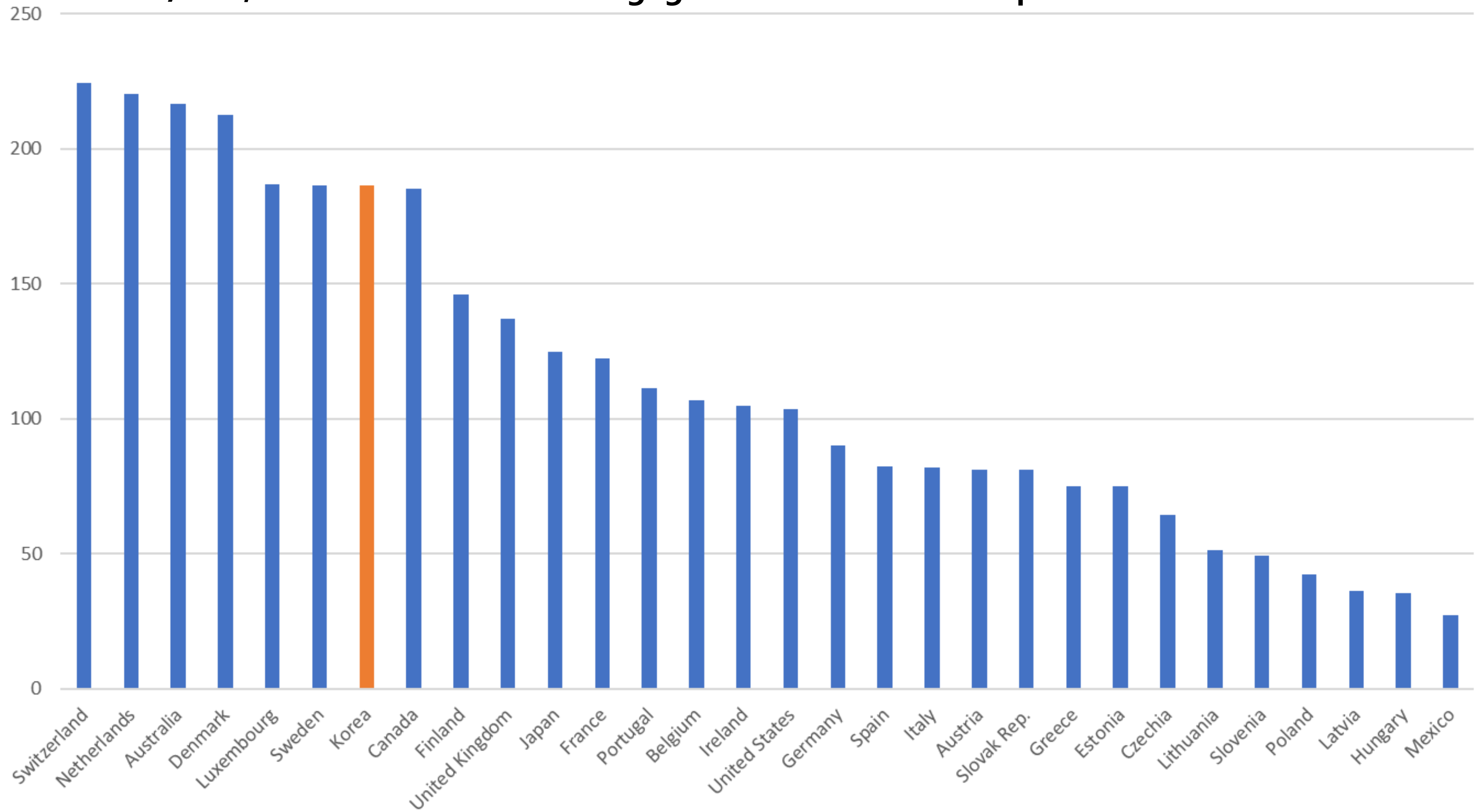
	2007	2010	2015	2017	2020	2021	2022	2023	2024	2025
Household credit (A)	665.4	843.2	1,203.1	1,450.6	1,728.5	1,861.3	1,865.4	1,882.6	1,922.7	1,978.8
Household loans (B)	630.1	793.8	1,138.0	1,369.8	1,632.6	1,755.5	1,747.7	1,764.4	1,802.3	1,852.7
Mortgage debt outstanding(C)	343.8	429.3	638.3	770.0	912.9	985.4	1,014.9	1,066.2	1,125.8	1,170.7
Deposit-taking FIs	291.1	359.8	490.8	578.3	680.4	735.3	756.3	779.6	841.8	905.0
Banks	245.8	289.6	401.7	464.2	583.9	629.6	644.1	672.1	727.8	771.1
Nonbank FIs	45.3	70.2	89.1	114.1	96.5	105.8	112.2	107.5	114.0	133.9
Non deposit-taking FIs	52.7	69.4	147.5	191.7	232.6	250.1	258.5	286.6	284.0	265.7
Other loans outstanding	286.3	364.5	499.6	599.9	719.7	770.1	732.8	698.2	676.5	682.1
Credit card loans	35.3	49.4	65.1	80.8	95.9	105.8	117.7	118.2	120.4	126.0
KHFC and HUG(D)	-	-	121.3	152.7	210.8	224.8	242.8	302.9	324.2	334.4
Nominal GDP (E)	1,134.5	1,379.5	1,740.8	1,934.2	2,058.5	2,221.9	2,323.8	2,408.7	2,556.9	2,663.3
A/E (%)	**58.6**	**61.1**	**69.1**	**75.0**	**84.0**	**83.8**	**80.3**	**78.2**	**75.2**	**74.3**
C/B (%)	**54.6**	**54.1**	**56.1**	**56.2**	**55.9**	**56.1**	**58.1**	**60.4**	**62.5**	**63.2**
C/E (%)	**30.3**	**31.1**	**36.7**	**39.8**	**44.4**	**44.3**	**43.7**	**44.3**	**44.0**	**44.0**
D/B (%)			**19.0**	**19.8**	**23.1**	**22.8**	**23.9**	**28.4**	**28.8**	**28.6**

FI: financial institutions

Source : Bank of Korea

Household Debt to Disposable Income Ratio 2023

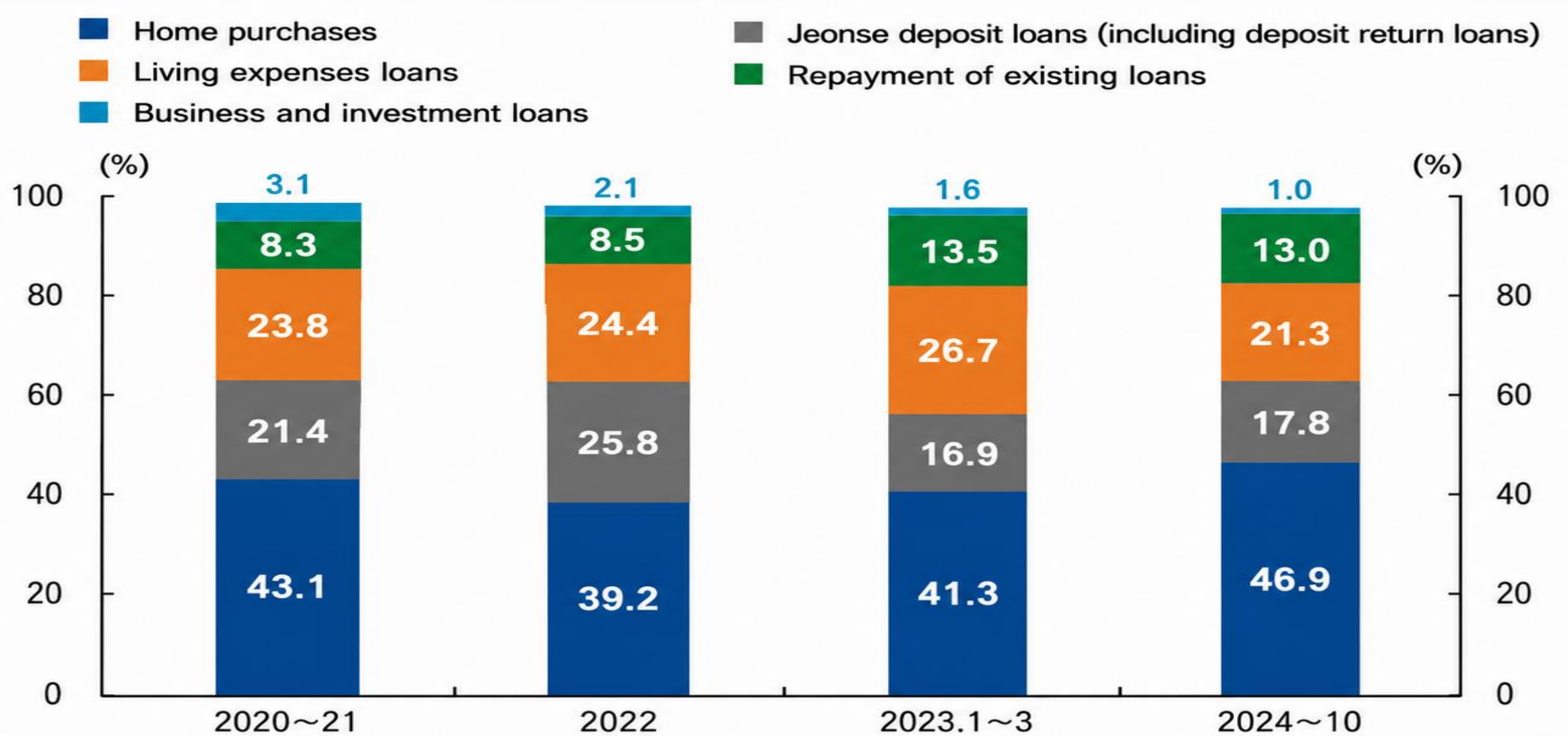
Korea: high household debt/disposable income, but low mortgage debt/GDP, and about 50% of mortgage loans are for home purchases.



Source: Household accounts - Household debt - OECD Data

Composition of Newly Originated Household Loans by Purpose

Composition of Newly Originated Household Loans by Purpose[1),2)]



Note: 1) Based on the Bank of Korea data
2) Share of newly originated household loans relative to the total amount of new loans attributable to instruments with available funding

Source: Financial Institutions Business Report

2023.12 Source: Bank of Korea, Financial Stability Report (December 2023)

Housing Affordability and Housing Finance

- Housing affordability is a big issue in Seoul and also globally as increases in housing prices outpaced income growth in many big cities.
- An important reason for inadequate supply of (affordable) housing and hence high and rising prices is land use and building regulations, creating a mismatch between demand and supply.
- It is important to make housing supply responsive to demand in order to make housing more affordable.
- If housing is too expensive compared with household income, increasing access to credit will have little impact on making housing affordable.

Average house price, March 2026 (KRW 10,000)

$1=KRW 1,500, 1Euro=KRW 1,745

	Type	Korea	Seoul	Incheon	5 Metro cities	Seoul Metro Area	Gyeonggi	Others
Purchase price	All types	49,677	112,502	34,527	33,507	71,535	53,104	24,045
	Condos	56,802	155,454	42,196	36,298	84,958	59,268	24,143
Chonsei deposit	All types	27,832	51,724	22,253	20,692	37,746	32,171	16,082
	Condos	32,190	67,695	27,600	23,864	44,344	36,422	17,717

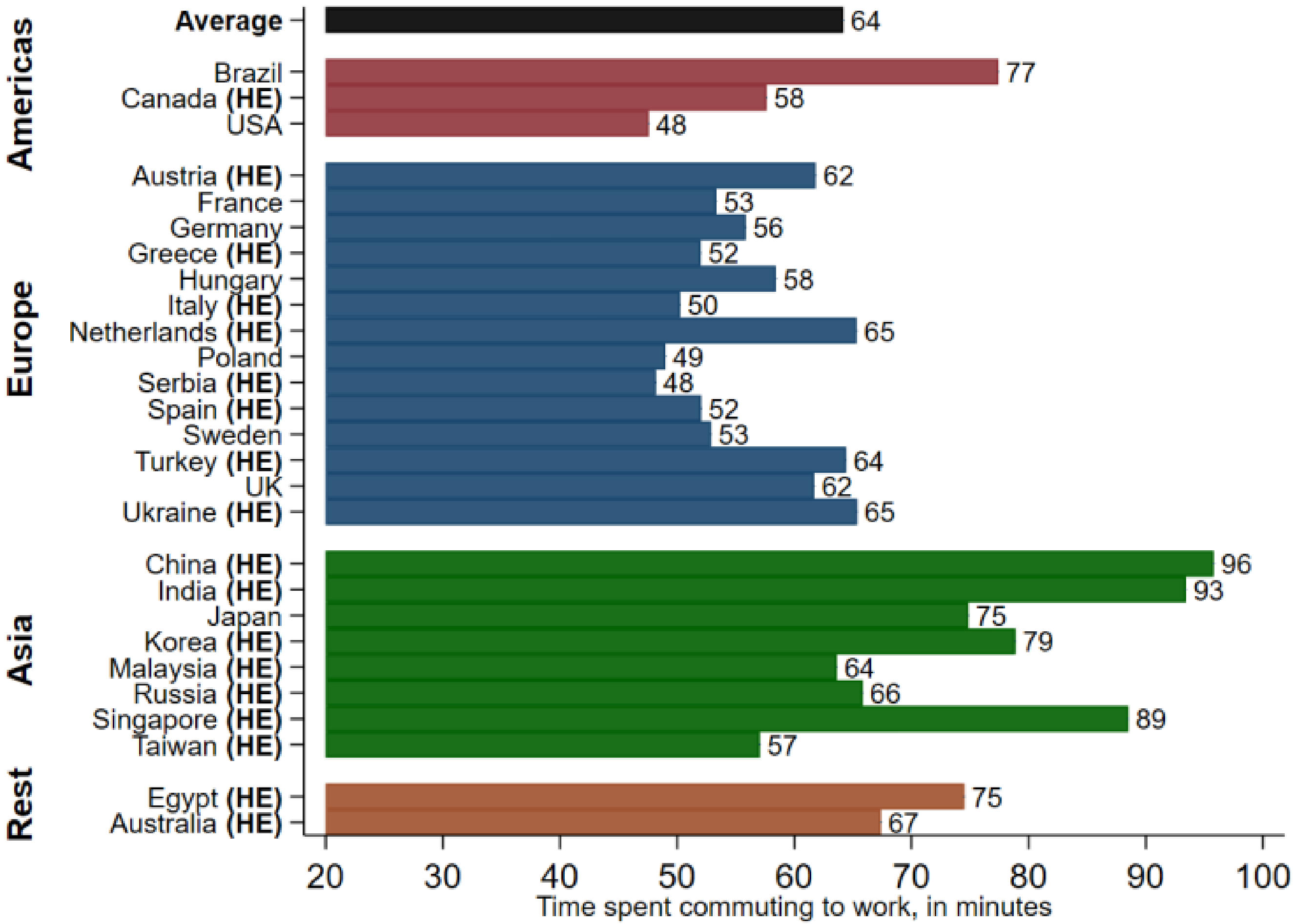
Source: KB Kookmin Bank

Popular Indicators of Housing Affordability

- Capacity to purchase: PIR
  - House price to income ratio (PIR) : median house price/ median household income
    - PIR = P/Y
    - Most popular indicator, but with some limitations. (e.g. commuting cost)
- Capacity to service a mortgage debt: DSR or HAI
  - Debt service cost/household income (DSR)
    - DSR = iM/Y = i*(M/P)*(P/Y) = i* LTV * PIR

    where LTV= loan to value ratio, M= mortgage loan, i= interest rate
- Capacity to pay rents
  - Rent to income ratio (RIR): median rent/median household income
- Deviation from the cost of replacement
  - Glaeser and Gyourko (2003, 2008): Median house price/construction cost

Average Commuting Time Prior to COVID-19



Source: Aksoy et al, "Working from home around the world", BPEA, 2022

House Price-to-income Ratio (PIR), Q3 2024

Cities with one million or more inhabitants

	Affordable (~3.0)	Moderately Unaffordable (3.1-4.0)	Seriously Unaffordable (4.1-5.0)	Severely Unaffordable (5.1-8.9)	Impossibly Unaffordable (9.0 ~)	Total	Median of PIR
Australia	0	0	0	1	4	5	9.7
Canada	0	1	2	2	1	6	5.4
Hong Kong	0	0	0	0	1	1	14.4
Ireland	0	0	0	1	0	1	5.1
New Zealand	0	0	0	1	0	1	7.7
Singapore	0	0	1	0	0	1	4.2
U.K.	0	2	7	13	1	23	5.6
U.S.	0	11	21	20	5	57	4.8
Total	0	14	31	38	12	95	5.1

Source: Demographia, international Housing Affordability Survey 2025

PIR trend 2013-2025

Year	2013	2014	2015	2016	2017	2018	2019
Korea	4.9	5.0	5.3	5.7	5.7	5.7	5.4
Seoul	9.0	9.2	9.6	10.8	11.5	14.3	14.5
Year	2019*	2020	2021	2022*	2023	2024	2025
Korea	5.1	6.0	7.6	5.3	4.8	4.6	4.6
Seoul	13.6	16.8	19.0	11.9	10.4	10.1	10.3

- indicates the discontinuity due to the modification of the sample for computing median house price in 2019 and 2022.
- PIR for Seoul is 13.9, and that for the Seoul Metropolitan Area is 8.7 according to the 2024 annual housing survey.

Source: KB Kookmin Bank

Why Should We Mind the Housing Gap?

- Availability of affordable housing is a prerequisite for inclusive and diverse cities.
- Housing comprises the largest share in the asset portfolio of a typical household in many countries.
- Homeownership rate among the younger generation is falling.
- Housing wealth can be passed onto the next generation.
- Intergenerational transfers affect homeownership.
- Homeownership affects education and therefore future income and living standards. (Boehm and Schlottmann 1999)
- Korea has a problem of elderly poverty as well.

Housing As An Intergenerational Issue

- Homeownership
  - Younger generations face rising housing costs and find homeownership less attainable, and the age of first home purchases increases.
  - Homeownership rate increases until 70+ years of age.
- House price hike and housing wealth inequity
  - Housing wealth of the age groups (that of the fifties as 100)
    - 21 for the 20s, 70 for the 30s, and 60+ 84
  - Many older homeowners have their wealth is locked in housing.
  - Intergenerational transfer of intragenerational housing inequality.
- Downsizing vs aging in place
  - Downsizing: liquidate housing wealth but entails transactions costs
  - Aging in place: preferred but generates no cash flow

Owner-Occupancy By Age Groups, 2024

Owner occupancy rate increases with age, peaking in the seventies.

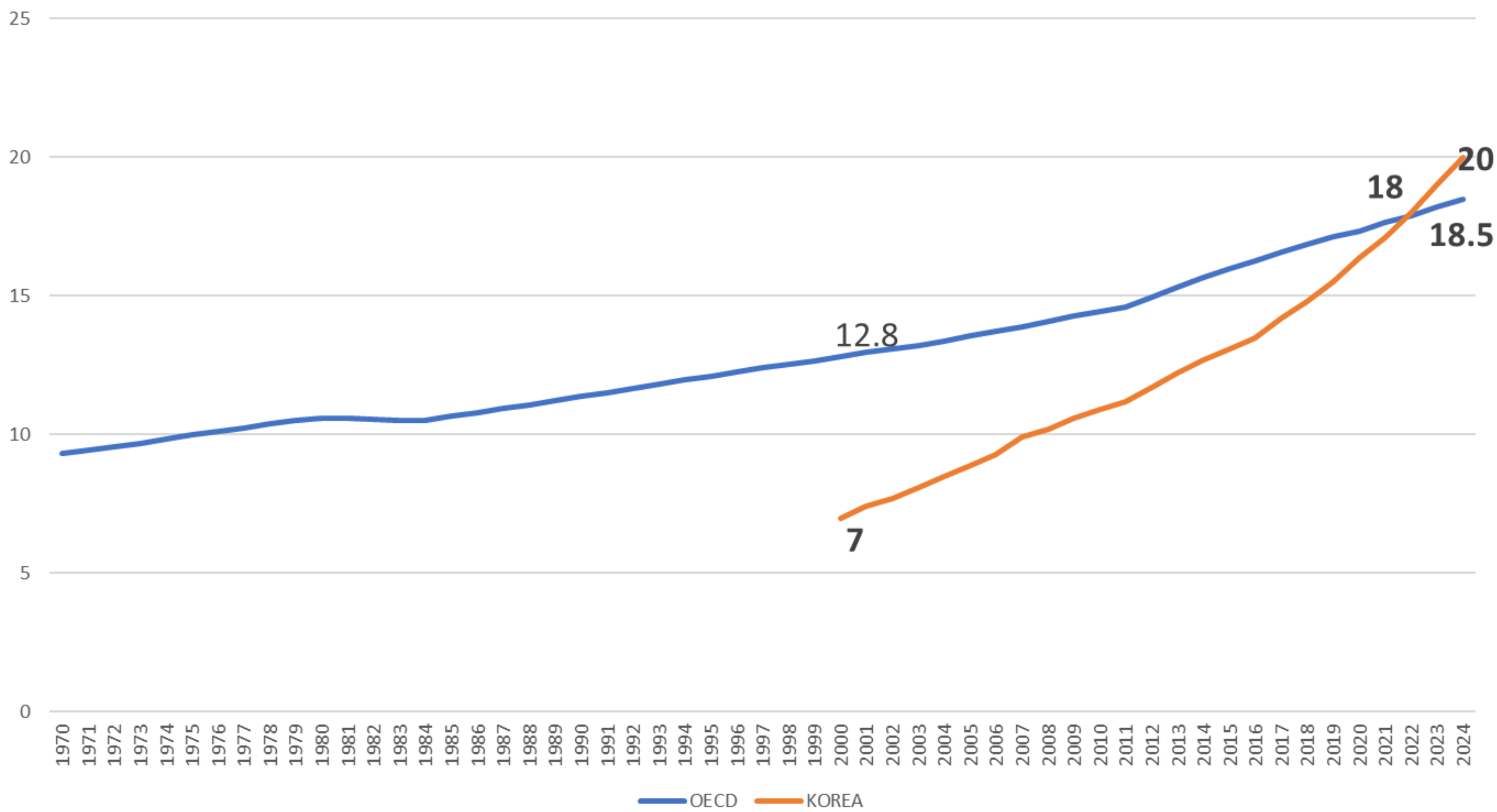
Age	O-O	Rental	Free	Total
~20		93.6	6.4	100
20~29	5.3	90.0	4.7	100
30~39	32.3	63.0	4.7	100
40~49	59.2	38.1	2.7	100
50~59	66.2	31.2	2.6	100
60~69	74.4	23.2	2.4	100
70~79	76.9	19.1	4.0	100
80~	75.7	15.3	9.0	100

Source: Annual Hosing Survey 2023, Stat. report, p.24

Aging Population and Home Pension

- Korea is one of the fastest-aging societies globally, with profound implications for housing markets and intergenerational housing equity.
- KHFC’s Home Pension program under government leadership allows elderly homeowners to convert they home equity into retirement income, enabling them to attain financial security without having to leave their homes.
- This model might offer insights for other aging economies.

Population aging in OECD and Korea



Happiness ranking by age group

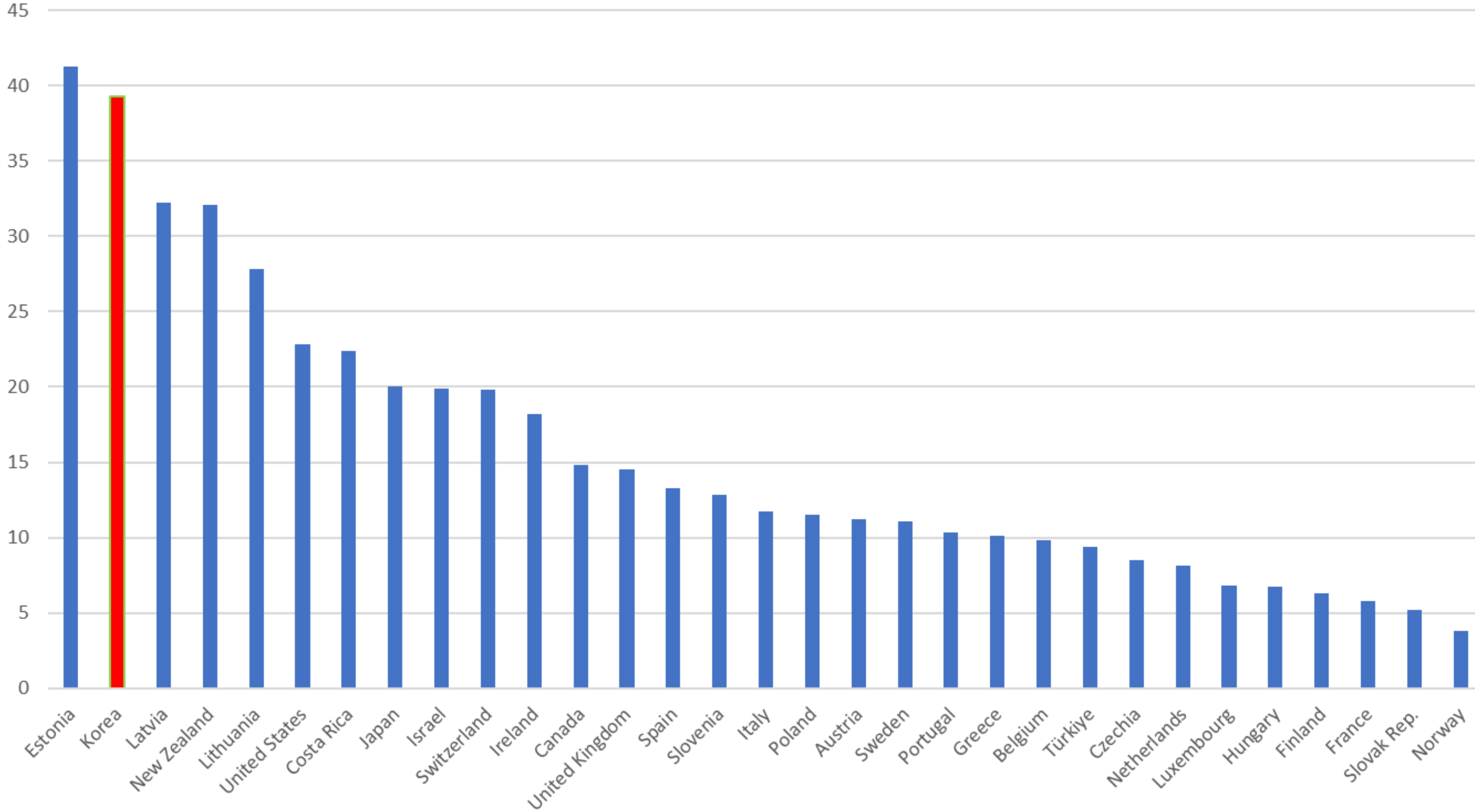
Contrast between Korea and Japan.

	Total score	Overall rank	Youth	rank	Elderly	rank
Finland	7.741	1	7.3	7	7.912	2
Denmark	7.583	2	7.329	5	7.916	1
Iceland	7.525	3	7.598	4	7.585	5
Sweden	7.344	4	7.026	18	7.588	4
Israel	7.341	5	7.667	2	6.854	18
Netherlands	7.319	6	7.248	9	7.36	7
Norway	7.302	7	6.995	20	7.66	3
Luxembourg	7.122	8	7.301	6	7.214	12
Switzerland	7.060	9	7.138	13	7.084	14
Australia	7.057	10	7.013	19	7.304	9
New Zealand	7.029	11	6.859	27	7.39	6
Austria	6.905	14	7.142	12	6.939	15
Canada	6.900	15	6.439	58	7.343	8
Belgium	6.894	16	6.947	24	6.842	19
Ireland	6.838	17	6.954	21	6.932	16
United Kingdom	6.749	20	6.754	32	6.812	20
United States	6.725	23	6.392	62	7.258	10
Germany	6.719	24	6.578	47	6.734	21
Mexico	6.678	25	6.954	22	6.287	33
France	6.609	26	6.561	48	6.524	25
Singapore	6.523	30	6.484	54	6.477	26
Taiwan	6.503	31	6.908	25	6.284	34
Spain	6.421	36	6.463	55	6.363	29
Italy	6.324	41	6.618	41	6.119	38
Japan	6.060	51	6.232	73	6.146	36
South Korea	6.058	52	6.503	52	5.642	59
China	5.973	60	5.949	79	6.359	30
Hong Kong	5.316	86	5.329	97	5.297	74
India	4.054	126	4.281	127	4.095	121

Source: World Happiness Report 2024

Elderly poverty rate in OECD countries

Poverty rate: percentage of the elderly (aged 65+) with an income less that 50% of the median income.



Poverty rate | OECD

Reverse Mortgages in Korea: An International Comparative Perspective

by: Kyung-Hwan Kim (CEO, the Korean Housing Finance Corporation) and
Yoon-Su Kim (Head, Reverse Mortgage Department, KHFC)

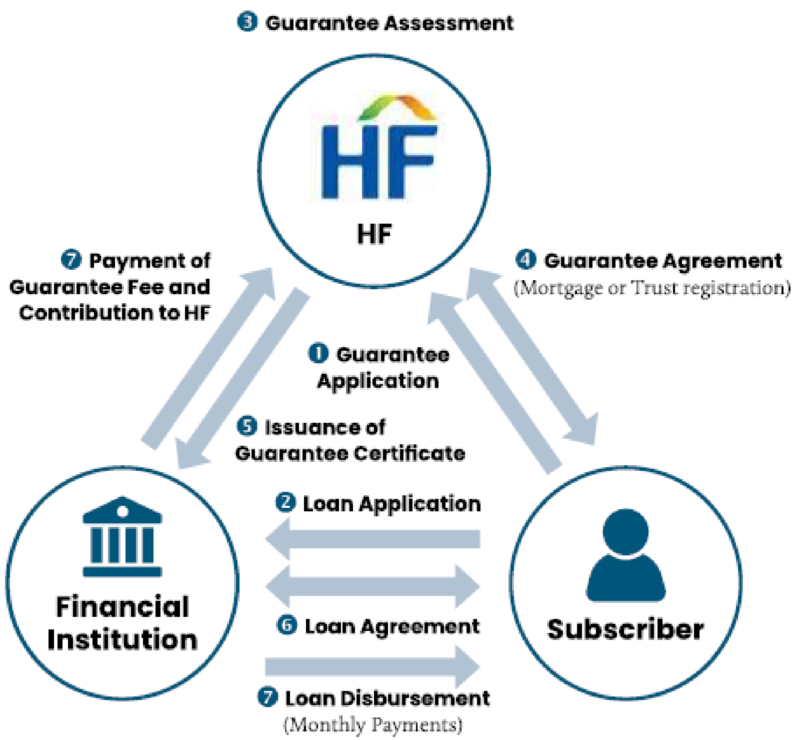
"Global aging is accelerating, with seniors projected to make up over 20% of the world's population by 2070 — and Korea is already there. Many elderly homeowners are house-rich but cash-poor, making downsizing a smart way to unlock retirement funds. Yet most resist the move, held back by high costs and a strong preference for staying in the home they know. Reverse mortgages (RM hereafter) offer an alternative, a proactive "stay-in-place" strategy. Kyung-Hwan Kim (CEO, the Korean Housing Finance Corporation) and Yoon-Su Kim (Head, Reverse Mortgage Department, KHFC) examine Korea's existing frameworks and draw on international examples to explore how other aging countries are tackling the same challenge."

Source: Quarterly Review of European Mortgage and Housing Maekets, European Mortgage Federation, Q$, 2025

The Structure of the Korean Home Pension

Korean Home Pension is a government-guaranteed reverse mortgage product in which seniors use their home as collateral to receive stable monthly retirement income for life.

The number of cumulative subscribers is just over 150,000.



Housing Supply, Net-Zero Transition, and Green Finance

- Finding land for residential development in Seoul is a challenge.
- Housing stock is aging on a large scale, and requires redevelopment, upgrading and retrofitting.
- Residential buildings are a major contributor to energy consumption and carbon emissions.
- Korea's national strategy prioritizes green transition, with housing as a key sector.
- KHFC supports this through geen finance, green mortgages and green MBS and green covered bonds.

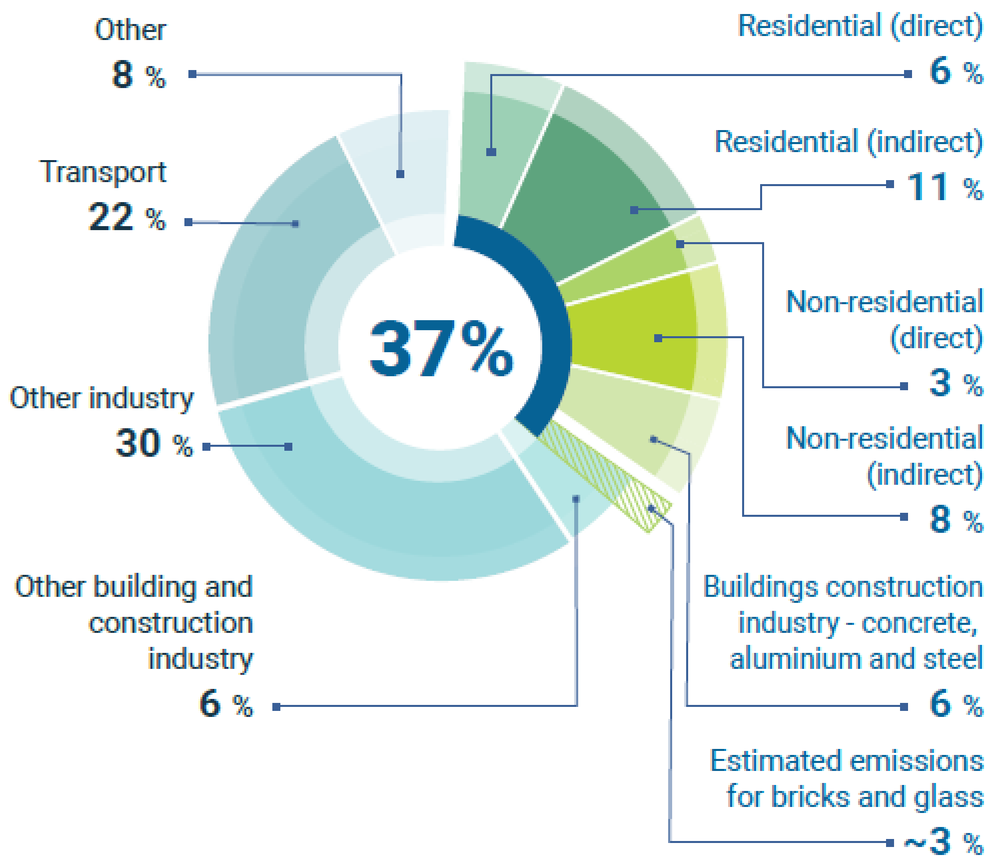
New supply via redevelopment and reconstruction

*As of 2023, 52% of multifamily units in Korea and 57% in Seoul are 30 years or older.

*Redevelopment and reconstruction are the only practical ways to increase new housing supply in Seoul.

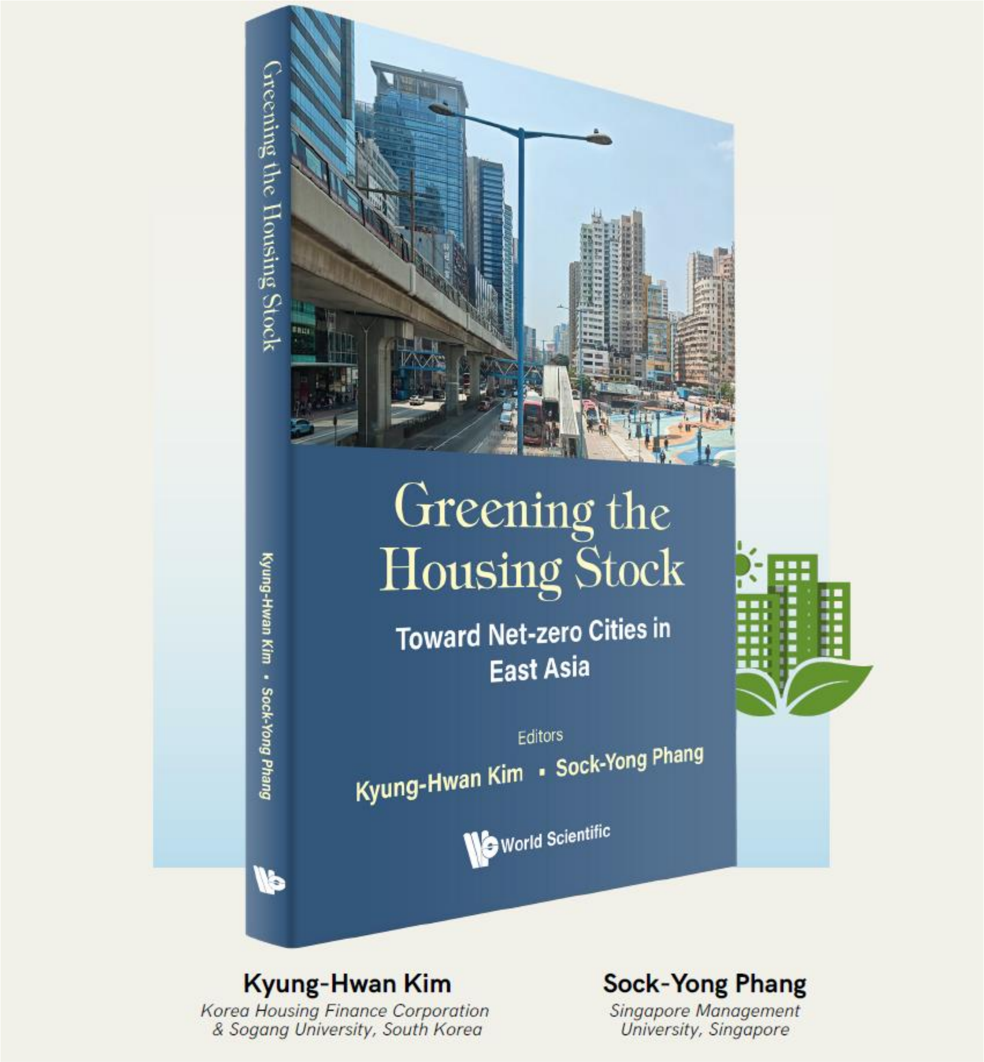
Housing is A Major Contributor to Carbon emissions

Housing accounts for 17% of total carbon emissions in 2021.



Source: UNEP, Accounting and reporting GHG emissions from real estate operations, 2022

Greening the Housing Stock in East Asian Cities



About the book edited by Kim and Phang

This book provides a comprehensive assessment of the current state of greening the housing sector in five East Asian cities, namely, Tokyo, Beijing, Seoul, Hong Kong and Singapore. For each city, an overview of the housing sector is presented, followed by detailed analysis of green building schemes, as well as regulations and incentives that have been implemented. In addition, challenges that the city's government faced in driving retrofitting and redevelopment of the housing sector are highlighted since they are critical in meeting the net-zero targets as well as increasing new housing supply in these cities. Each chapter also provides examples of successful green residential projects and the role that green finance plays in the transition. The findings and lessons that are drawn from the case studies will allow for identification of obstacles, proposals for new policies and/or the redesign of existing policies and urban regeneration frameworks for each city. These findings and lessons will also inform other cities facing similar challenges either currently or in the future.

Contents:

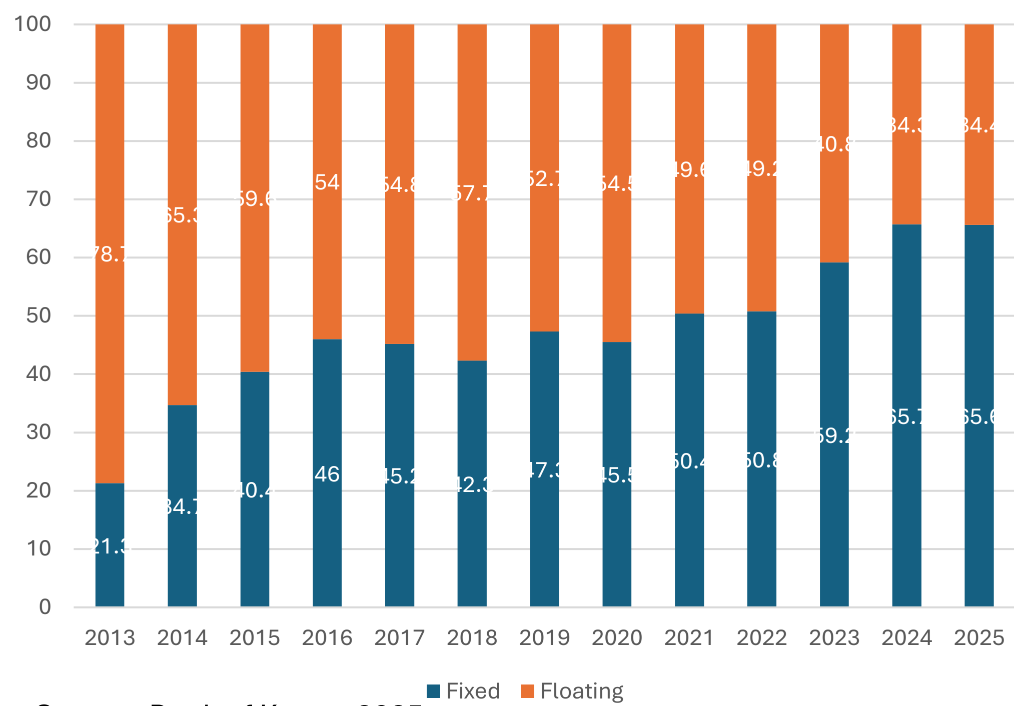
KHFC' Contribution to Sustainable Housing Finance in Korea

- Played a pivotal role in creating and operating mortgage securitization, securing stable funding sources for long-term fixed rate mortgages.
- Spearheaded the efforts to increase the share of FRM.
- Helped lower funding costs and hence lower the mortgage interest rate for moderate to lower income households.
- Broadened the funding source by tapping the global capital markets by issuing covered bonds.
- Pioneered in green finance by introducing green HF mortgages and issuing green bonds.
- Enhanced liquidity in the long-term bond market as HF MBS has become the second-largest issuer after Korean Treasury Bonds.
- Created the reverse mortgage guarantee program to support 'Home Pension' to enable elderly home owners to finance their retirement.

Transformation in the Composition of Mortgage Products

- The share of FRM in total MDO increased from 21.3% to 65.6% between 2013 and 2025.
- FRM is defined as a mortgage with a fixed rate for a minimum of 5 years.

Fixed Interest Rate Mortgage (%, Loan Balance)



Source: Bank of Korea, 2025