LAPSE OF TIME

SM/20/65
Correction 2

March 23, 2020

To: Members of the Executive Board

From: The Secretary

Subject: **Republic of Korea—Financial System Stability Assessment**

Board Action:	The attached corrections to SM/20/65 (3/10/20) have been provided by the staff:
Evident Ambiguity	**Pages 16, 21, 52 (para. 61)**
Factual Errors Not Affecting the Presentation of Staff's Analysis or Views	**Pages 9, 11, 13, 15, 17, 23, 24, 25, 26, 27, 29, 30, 32, 49, 52 (para. 62), 55**
Questions:	Mr. Das, MCM (ext. 36330)

Table 1. Korea: FSAP Key Recommendations

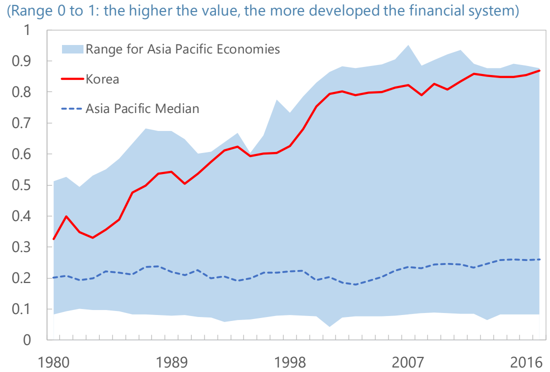
I= immediate (within one year), NT= near term (1–3 years), MT= medium term (3–5 years)

Recommendations	Agency	Timing
More Robust Identification of Systemic Risk Conditions		
Conduct an impact assessment of the 'open banking system' and e-money on security and operational risks and market structure	FSC/FSS and BoK	I
Assess the potential rollover risk implied by the *Jeonse* leasehold system and its connectedness to securities companies	FSC/FSS and BoK	NT
Enhance stress testing practices to better estimate vulnerabilities relating to nonperforming loan (NPL) sales, FX and domestic household liquidity, SME loans, securities intermediaries activities, and sovereign contingent liabilities	BoK and FSC/FSS	MT
Strengthening the Preemptive Management of Systemic Vulnerabilities		
Strengthen the institutional framework for financial stability by assigning the MEFM (or a body empowered for the equivalent purpose) macroprudential oversight as its sole primary objective	MOEF, FSC and BoK	I
Widen the definition of financial holding company and enhance legal powers to cover all financial conglomerates including requirements for group-wide liquidity risks and contingency plans	MOEF and FSC/FSS	I
Implement a Sectoral CCyB framework for secured and unsecured household exposures of the banking sector	FSC/FSS and BoK	NT
Intensifying Supervision and Promoting a Level Playing Field		
Review the role of state-controlled banks and ensure that their commercial lending and investment activities conform, at a minimum, with prudential requirements for nationwide banks	FSC/FSS	I
Increase risk-based supervisory intensity of insurers, ensure a prudent and proportionate implementation of Korea Insurance Capital Standard (K-ICS) (solvency regime) and design of the capital charge for longevity risks	FSC/FSS	I
Focus the role of FSC towards strategy, addressing nonbank data gaps, market development policies, and crisis preparedness while assigning greater operational and enforcement authority to the FSS	MOEF and FSC/FSS ~~OGC~~	NT
Support the development of pension and contractual savings products by introducing multi-employer pension schemes and building further capacity for oversight of pension funds market	FSC/FSS / MOEL	MT
Reinforcing Crisis Management, Safety Nets, Resolution Arrangements		
Include cross-border activities and overseas operations of financial conglomerates in resolution plans, clarify issues relating to resolvability, and relationship between ELA and resolution funding	FSC/FSS	NT
Strengthen the insolvency and creditor's **rights regime** through well-resourced courts and a functioning insolvency practitioners' profession	MoJ	MT

Figure 1. Korea: Financial System Structure

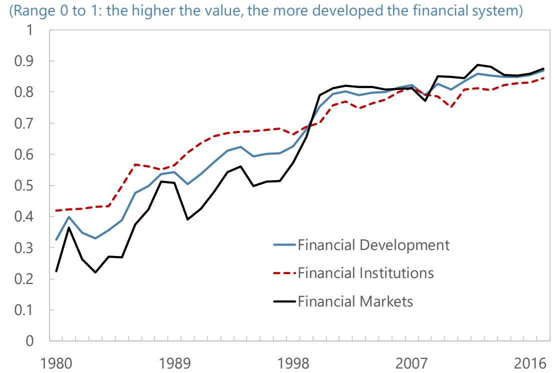
Korea's financial system is among the most-developed in Asia[1]*...*

Financial Development Index, 1980-2017
(Range 0 to 1: the higher the value, the more developed the financial system)



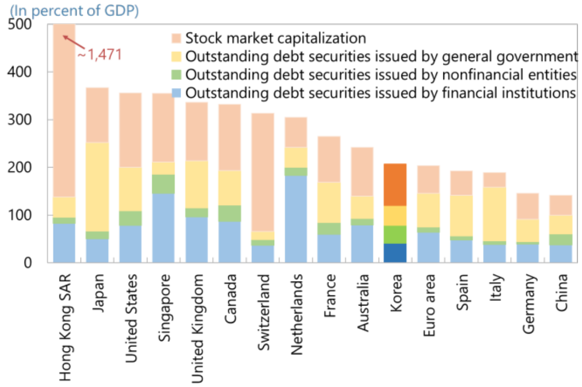
...with both financial markets and institutions broadly - developed.

Financial Development Index, 1980-2017
(Range 0 to 1: the higher the value, the more developed the financial system)



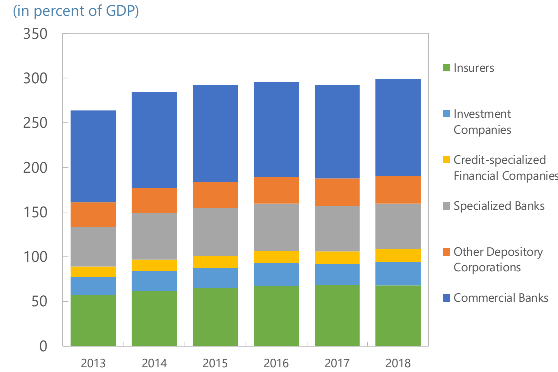
Market-based financing is low but compares well with other advanced economies...

Value of Financial Markets, 2018
(In percent of GDP)



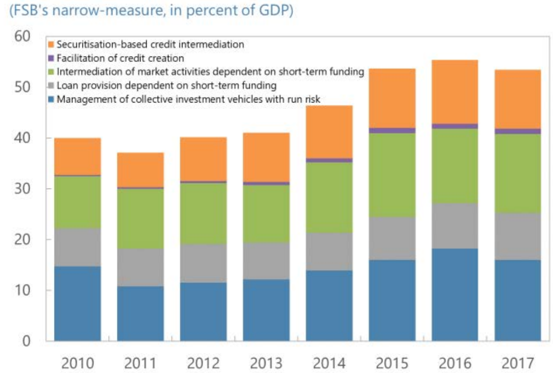
...while banks and other depository institutions hold most financial institutions' assets

Financial Institutions' Assets
(in percent of GDP)



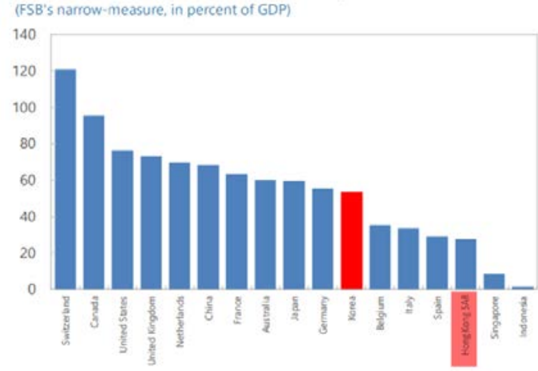
Nonbank financial intermediation is dependent on short-term funding...

Non-Bank Financial Intermediation Korea
(FSB's narrow-measure, in percent of GDP)



...but remains relatively small compared to other major jurisdictions.

Non-Bank Financial Intermediation, 2017
(FSB's narrow-measure, in percent of GDP)



Sources: Bloomberg, IMF Financial Development Index, IMF World Economic Outlook, FSB Global Monitoring Report on Nonbank Financial Intermediation 2018, FSS. 1/ For more details about the financial development index and its financial institutions and markets subcomponents see IMF SDN/15/08 and IMF WP/16/5.

bank loans to SMEs. Most SME loans are collateralized against real estate and linked to floating rates. Commercial banks have a relatively diversified loan portfolio and securities' holdings while the lending activities of state-owned banks are focused on SMEs and the ailing shipbuilding sector driven by Korea's economic policy priorities. The share of foreign business in total assets remains relatively small at about 6 percent, up from 4 percent in 2013[3].

5. The insurance sector is large, highly concentrated, and saturated (Figure 3). Insurance penetration (premiums to GDP) is one of the highest in the world, exceeded only by Taiwan Province of China and Hong Kong SAR. This reflects, in part, the central role that life insurance has played as a conduit of savings in Korea with insurers typically offering financial consulting services and involved in asset management.[4] The market is dominated by large firms owned by FHCs and Korea's large conglomerates.

6. The Korean capital market is one of the active markets in Asia. The equity market has a market capitalization of around $1.8 trillion with foreigners holding around 35 percent of the listed Korean stocks. The five large conglomerates account for over 50 percent of market capitalization. Compared with major advanced and emerging market economies, the price-to-book and price-to-earnings rates of Korean companies are significantly lower—this has been coined the "Korea discount" and attributed to the complicated ownership and governance structure of many Korean corporates and especially conglomerates.

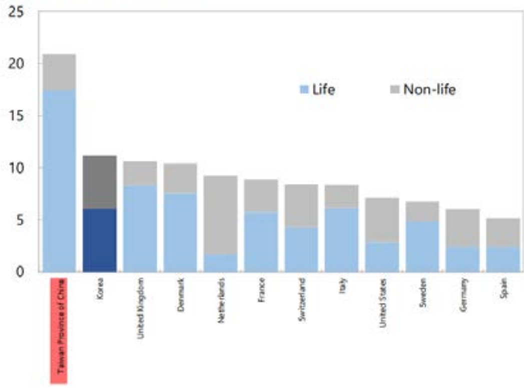
7. The Korean bond market is dominated by government and other public debt and includes green or environmental, social and governance (ESG) bonds. Korea's asset management industry has experienced robust growth over the past few years reflecting changing saving patterns but also a search for yield by households and other investors frustrated by low bank deposit rates and yields for other traditional savings products. Assets under the management of privately placed funds, derivatives-linked securities and products such as equity-linked securities all grew fast and now amount to about KRW 500 trillion, roughly 30 percent of GDP.

[3] Nation-wide banks' largest exposure is to China, amounting to 1.7 percent of total assets in 2018 (1.1 percent in 2013).
[4] The bancassurance market is well developed and 50 percent of new business in life is sold via banks.

Figure 3. Korea: Structure of the Insurance Sector

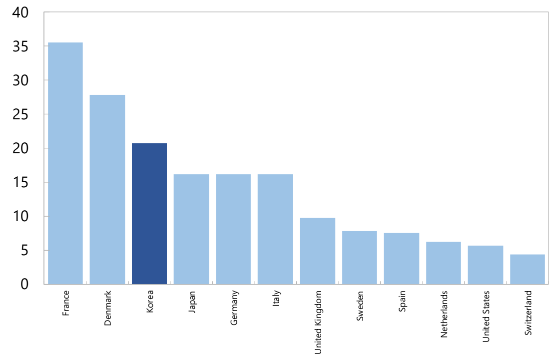
Insurance penetration in Korea is amongst the highest in the world…

Insurance Penetration
(premiums in percent of GDP)



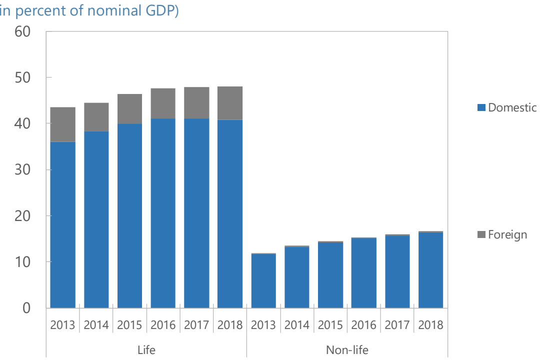
…as insurers play an important role in household wealth management, with a life insurance reserves representing a significant share of household financial assets

Life Insurance Reserves
(In percent of total household financial assets)



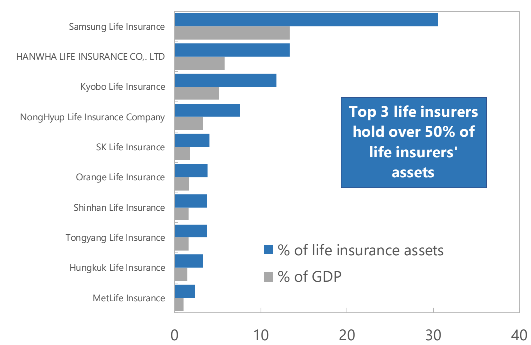
Total assets of the insurance account are sizeable, with limited foreign ownership.

Insurance Assets by Ownership, 2013-18
(in percent of nominal GDP)



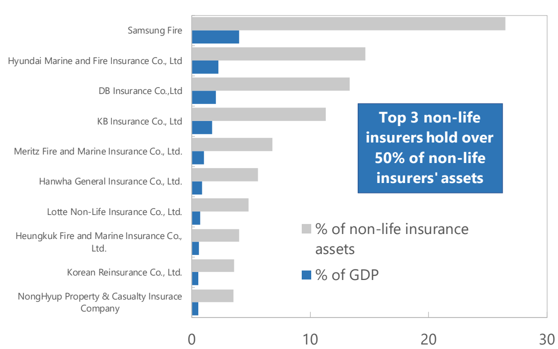
The top 3 life insurers hold over 50 percent of the life sector's assets…

Top Ten Life Insurers by Asset Size
(in percent of life insurance assets & GDP)



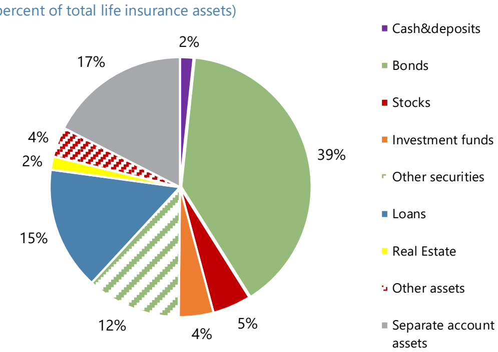
…as do the top 3 non-life insurers.

Top Ten Non-Life Insurers by Asset Size
(in percent of non-life insurance assets & GDP)



Assets are concentrated in bonds, but loans are also sizeable.

Life Insurance Assets
(in percent of total life insurance assets)



Sources: FSS, IMF World Economic Outlook Database, and IMF staff calculations.

B. Macrofinancial Developments and Demographic Rotation

8. Korea's open economy has performed well since the last FSAP but remains vulnerable to external shocks. The export-oriented manufacturing sector, closely integrated into international supply chains and accounting for approximately a quarter of GDP, includes Korea's steel, telecommunications equipment, electronics, auto, and shipbuilding industries. Production is concentrated, with the top five conglomerates dominating the Korean stock index. Growth slowed to about 2 percent last year as Korea's large semiconductor industry experienced a cyclical slowdown. While cross-border financial flows have remained resilient, the KRW has depreciated partly on the back of trade ~~and political~~ tensions between the United States and China (Table 3).

9. The financial cycle has reached an advanced phase with household debt among the highest for OECD countries. The ratio of total non-financial private sector debt to GDP has reached an elevated level—to stand close to 200 percent—and core debt (debt of the non-financial sector owed to banks) amounts to about 130 percent of GDP, which is high in international comparison. After some deleveraging, corporate credit has picked up again, particularly to the SME sector and often secured by lending against real estate. The upward trend in house prices has moderated, but household leverage in real estate remains high. More broadly, large sections of the financial sector are exposed to the housing market. Household lending growth, primarily related to housing, has slowed but remains above nominal GDP growth while household debt as a ratio of disposable income stands at about 180 percent among the highest in OECD countries.

10. Demographic rotation is starting to pose a long-term challenge for the Korean financial sector (Figure 5). It is one of the most adverse world-wide and old-age poverty in Korea is highest among OECD countries**.** This demographic shift is raising concerns that Korea might be destined for low levels of capital formation and a prolonged period of low growth and inflation with an erosion of its financial buffers. The negative impact of demographics would typically transmit through several channels relevant for financial stability (Figure 6). The impact on banks stems from lower interest rates, a flatter yield curve, resulting in structural downward pressure on net interest income. Demand for long duration loans (mortgages) could fall due to a shrinking young population cohort. Banks would likely need to shrink their branch structure networks to reduce cost structure and offset falling interest income and increased nonbank activities.

11. Long-term scenarios used to derive long-term forecasts show that all financial sector components except pension funds are likely to shrink or stagnate eventually. Nation-wide, regional and specialized banks are expected to move sideward in terms of size. Non-life insurers and pension funds appear to be most dependent on the demographic scenario assumptions and may still grow somewhat. Another major implication is that the proportion of debt held by older households will increase, also reflecting reverse mortgages promoted by the KHFC, and the debt service-to-income ratio of older cohorts will rise significantly.

Table 3. Korea: Selected Economic Indicators, 2017–23

			Projections				
	2017	2018	2019	2020	2021	2022	2023
Real GDP (percent change)	3.2	2.7	2.0	2.2	2.7	2.9	2.9
Total domestic demand	5.6	1.7	2.0	1.8	2.9	3.1	3.1
Final domestic demand	5.2	1.5	1.2	3.0	2.9	3.1	3.1
Consumption	3.1	3.5	3.0	3.3	3.0	3.2	3.2
Gross fixed investment	9.8	-2.4	-2.6	2.3	2.7	2.8	2.8
Stock building 1/	0.4	0.2	0.7	-1.1	0.0	0.0	0.0
Net foreign balance 1/	-2.2	1.2	0.0	0.5	0.0	0.0	-0.1
Output gap (percent of potential GDP)	-0.7	-0.7	-1.2	-1.5	-1.3	-0.9	-0.5
Saving and investment (in percent of GDP)							
Gross national saving	36.9	35.8	34.6	33.5	33.3	33.0	32.7
Gross domestic investment	32.3	31.3	31.4	30.6	30.4	30.1	29.8
Current account balance	4.6	4.4	3.2	2.9	2.9	2.9	2.9
Prices (percent change)							
CPI inflation (end of period)	1.4	1.3	0.7	0.9	1.4	1.8	1.9
CPI inflation (average)	1.9	1.5	0.4	0.9	1.4	1.8	1.9
Core inflation (average)	1.5	1.2	...	...	...	...	...
GDP deflator	2.2	0.5	-0.9	0.1	1.1	1.6	1.8
Real effective exchange rate	3.1	0.9	...	...	...	...	...
Consolidated central government (in percent of GDP)							
Revenue	21.8	23.0	22.9	22.6	22.7	22.8	22.8
Expenditure	19.6	20.4	22.1	23.4	24.0	24.1	24.2
Net lending (+) / borrowing (-)	2.2	2.6	0.7	-0.8	-1.3	-1.3	-1.4
Overall balance	1.3	1.6	-0.3	-1.8	-2.4	-2.4	-2.5
Excluding Social Security Funds	-1.0	-0.6	-2.6	-4.1	-4.5	-4.4	-4.4
Structural primary balance	1.4	1.7	0.3	-0.9	-1.3	-1.3	-1.3
Fiscal impulse (+ expansionary)	-0.3	-0.4	1.4	1.2	0.4	0.0	0.0
General government debt	37.7	37.9	40.1	43.4	46.4	49.0	51.3
Money and credit (end of period)							
Overnight call rate	1.6	1.9	...	...	...	...	...
Three-year AA- corporate bond yield	2.7	2.3	...	...	...	...	...
Credit growth	6.3	6.1	5.9	5.9	5.9	5.9	5.9
M3 growth	6.6	7.2	...	...	...	...	...
Balance of payments (in billions of U.S. dollars)							
Exports, f.o.b.	580.3	625.4	578.0	570.1	592.2	619.6	648.1
Imports, f.o.b.	466.7	513.6	500.7	501.2	521.8	545.3	571.4
Current account balance	75.2	76.4	52.8	46.4	49.5	51.5	55.0
Export volumes	5.3	6.1	-2.4	3.0	3.5	3.6	
Import volumes	8.6	1.6	-1.9	1.7	3.9	4.0	
Terms of trade	-0.4	-5.9	-4.8	-2.7	0.2	0.5	0.3
Gross international reserves (eop; excl. gold)	384.5	398.9	399.9	396.4	400.8	410.1	424.9
In percent of short-term debt (residual maturity)	227.2	226.8	220.5	212.2	207.5	205.7	206.8
External debt (in billions of U.S. dollars)							
Total external debt (end of period)	412.0	448.8	487.8	530.1	576.5	626.1	678.8
Total external debt (in percent of GDP)	25.4	26.1	29.9	32.6	33.9	35.0	36.0
Debt service ratio 2/	8.2	8.8	10.1	10.9	11.6	12.3	12.8

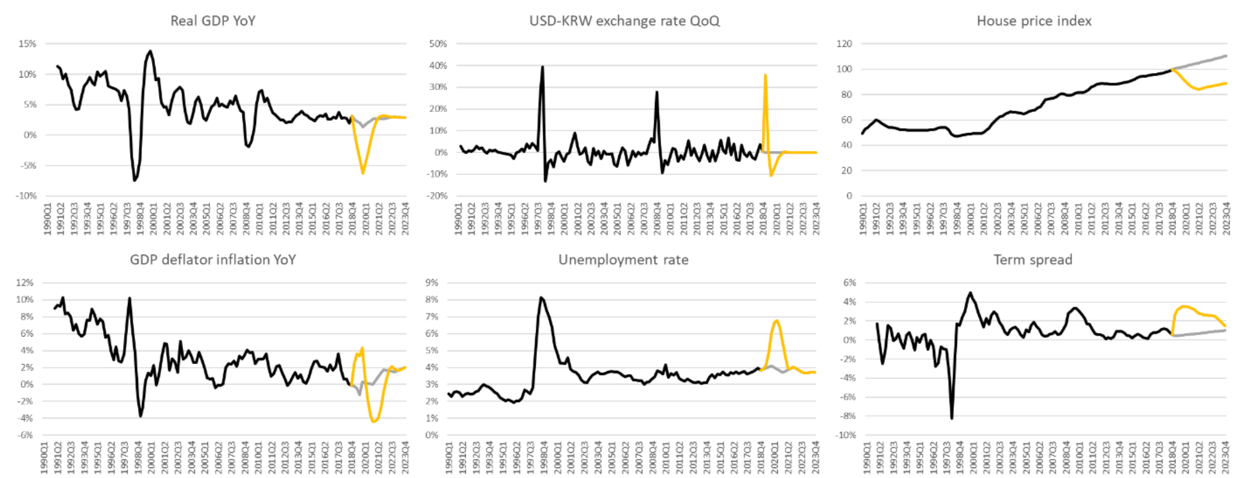
Sources: Korean authorities; and IMF staff estimates and projections, as of October 2019.

1/ Contribution to GDP growth.

2/ Debt service on medium- and long-term debt in percent of exports of goods and services.

taken bold steps to contain the COVID-19 outbreak and mitigate its impact on the population, including through large-scale testing of the population to rapidly identify, isolate, and treat infected patients. The government is also using its fiscal space to mitigate the macroeconomic impact of the outbreak, including through a proposed KRW 11.7trn (0.6 percent of GDP) supplementary budget that provides resources to step up disease control efforts, support small merchants and SMEs, provide transfers to sustain consumption and employment, and support local economies hit hardest by the spread of COVID-19. The FSAP team's assessment is that the adverse FSAP macro-financial scenario is severe enough to encapsulate a COVID-19 implied fallout on economic activity, both in terms of depth and duration of the shock (the scenario's deep downturn spans over two full years before normalizing).

Figure 7. Korea: Baseline and Adverse Scenario Paths for Selected Macro-financial Variables



Sources: BoK, and IMF staff calculations/projections. Term spread defined as long-term sovereign bond yield minus 3-month money market rate.

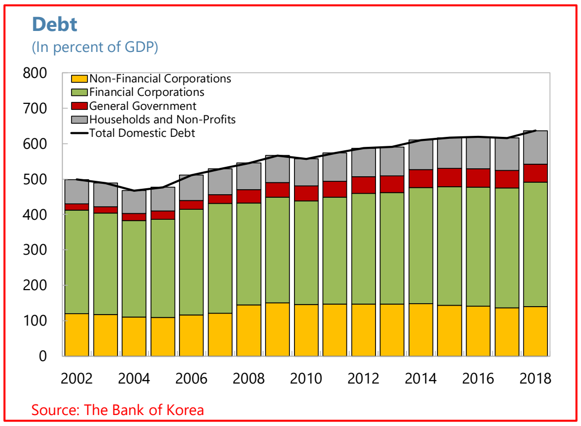
A. Household Debt and the Housing Market

15. Over the medium term, elevated household debt and growing balance sheet vulnerabilities pose a risk to financial stability. First, approximately 50 percent of household debt is linked to floating interest rates and structured as bullet payments. Bullet loans are riskier than traditional installment loans because of the large payment due at the end. Second, according to the KOSTAT data, over 30 percent of debt is held by households that have a debt service ratio above 40 percent. Third, household balance sheets have weakened since 2010 as leverage and debt service ratios have risen. Fourth, on both the asset (via real-estate investments) and liability side (via a Jeonse deposits), household balance sheets are vulnerable to real-estate price fluctuations. Fifth, around one-quarter of the total stock of debt is held by households who are retired or close to retirement. Finally, a significant share of household debt is secured against a non-primary residence.

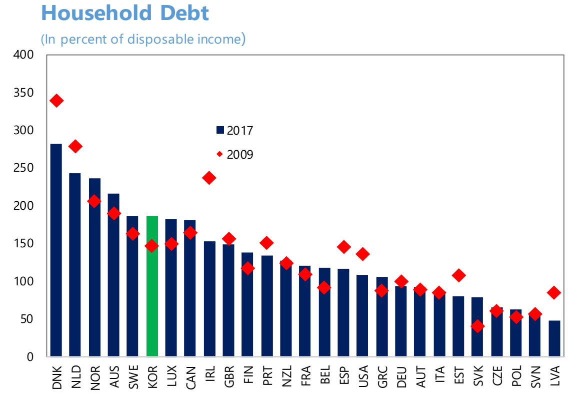
16. House prices, thus far, appear to have developed in line with fundamentals at the national level, but regional pockets of vulnerabilities are on the rise. While price-to-income

Figure 8. Korea: Household Balance Sheet and House Price Developments

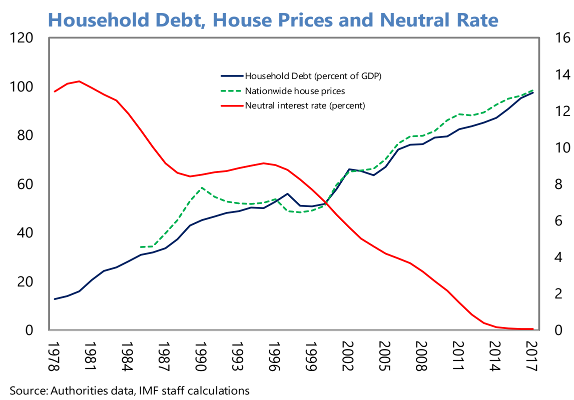
Korean leverage has risen due to higher HH debt…



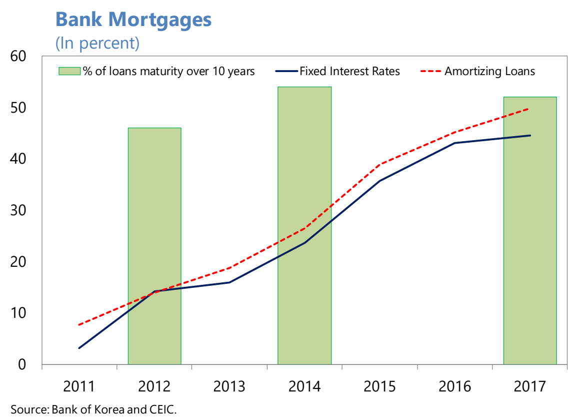
…which is higher than the OECD average….



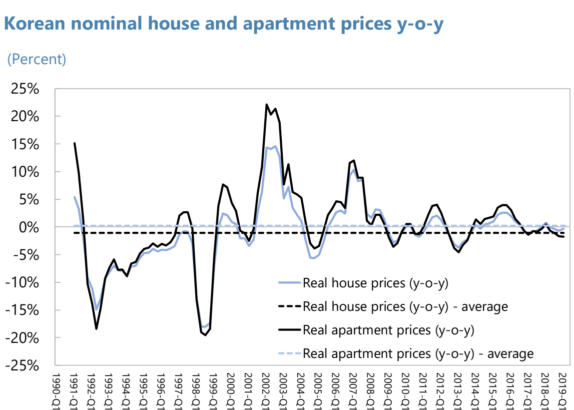
HH debt is closely tied to real-estate…



…and around 50 percent of mortgages have floating rates, and bullet payment structures.



National house price growth has stabilized since the GFC…



…but house prices could be overvalued in some regions.

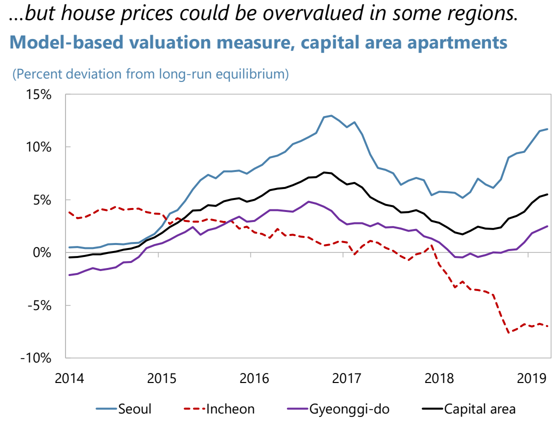
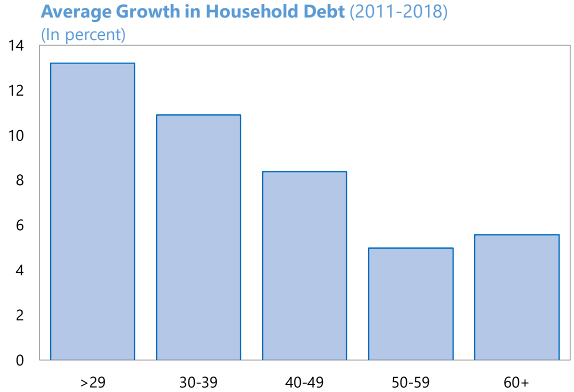


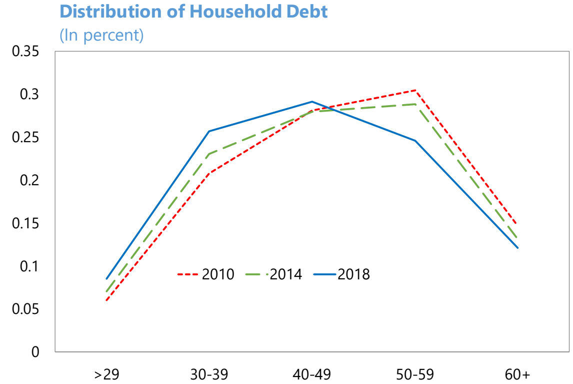
Figure 9. Korea: Household Balance Sheet Vulnerabilities and Demographics

Since 2011 HH debt has grown quickest for younger age groups...



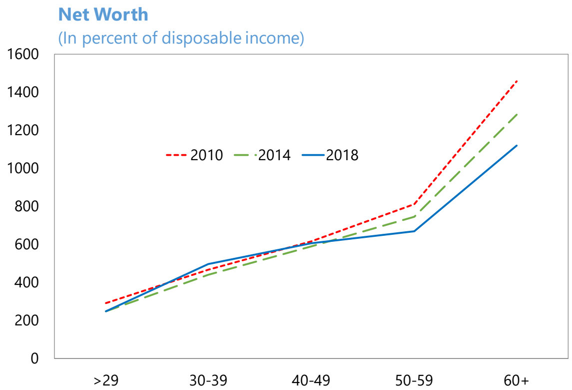
Source: Korea Survey of Household and Living Conditions and IMF staff calculations.

... which has shifted the distribution of household debt.



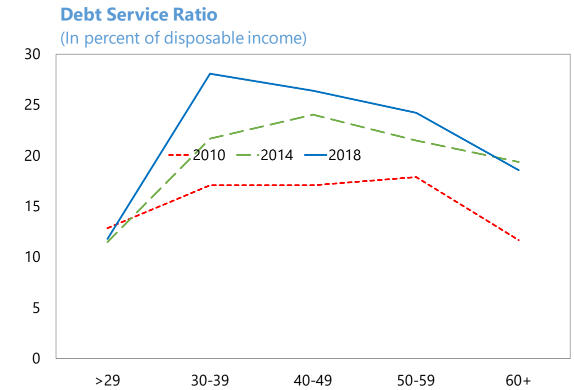
Source: Korea Survey of Household and Living Conditions and IMF staff calculations.

Household net worth has risen greatest for younger aged households and fallen most for older aged households.



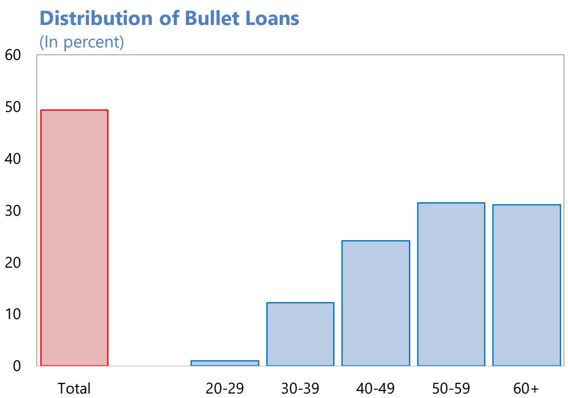
Source: Korea Survey of Household and Living Conditions and IMF staff calculations.

Since 2010 household debt servicing has risen for all age groups, reflecting higher leverage.



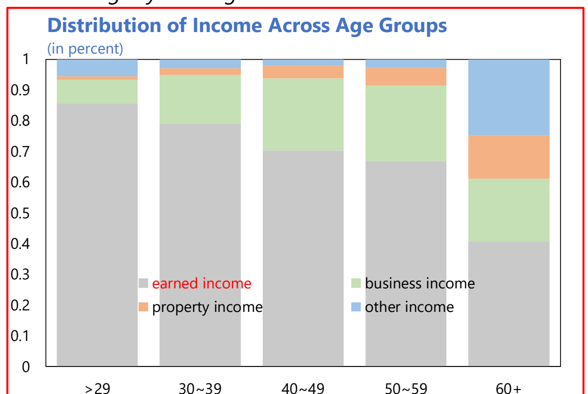
Source: Korea Survey of Household and Living Conditions and IMF staff calculations.

Around 50 percent of loans are structured as bullet payments and are concentrated in older aged cohorts.



Source: Korea Household Expenditure Survey and IMF staff calculations.

Households are mainly reliant on salaried income, but this declines slightly with age.



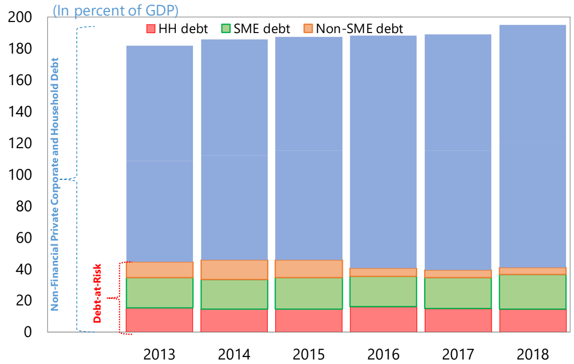
Sources: Korea Survey of Household Finances and Living Conditions and IMF staff calculations.

Figure 10. Korea: Household Debt-at-Risk

Around one-third of the share of total non-financial debt at-risk is held by the household sector.

Korea Private Sector Debt-at-Risk

(In percent of GDP)

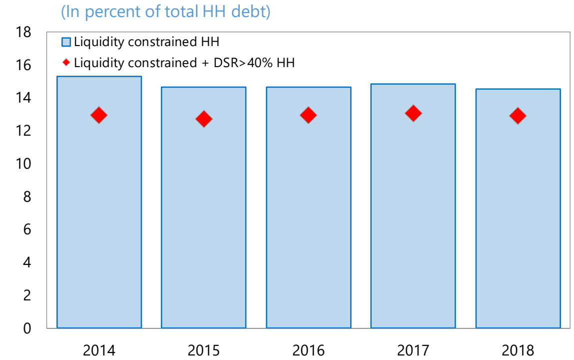


Source: KIS Value, Orbis, BIS, Korea Survey of Household and Living Conditions and IMF staff calculations.

Around 15 percent of HH debt is registered at-risk…

HH Debt, By Liquidity Constrained HHs

(In percent of total HH debt)

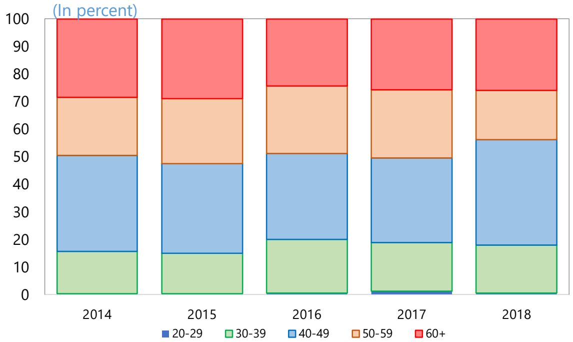


Source: Korea Survey of Household and Living Conditions and IMF staff calculations.

…of which around one-quarter is held by retirees.

Distribution of Debt with Liquidity Constrained HH, by Age

(In percent)

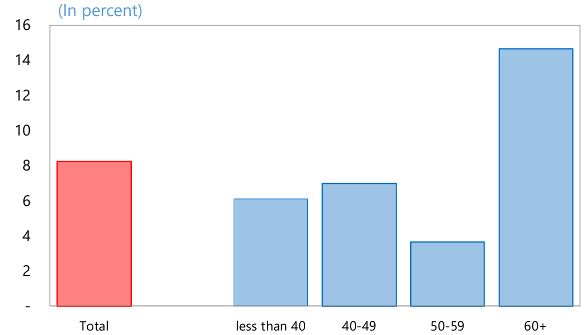


Source: Korea Survey of Household and Living Conditions and IMF staff calculations.

Around 50 percent of debt-at-risk HH's have unsecured borrowing for living and property expenses…

Secured and Unsecured Lending for Living, by Liquidity Risk HHs

(In percent)

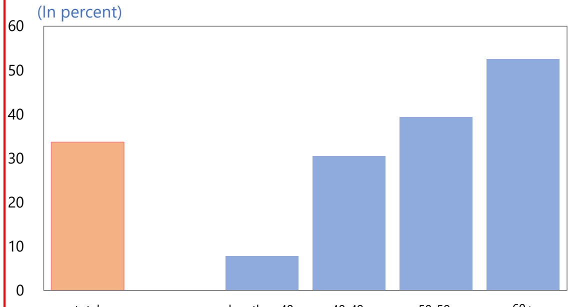


Source: Korea Survey of Household Finances and Living Conditions and IMF staff calculations.

…and loans secured against a second property, and once again mostly retirees.

Distribution of HH Liquidity Borrowers-at-Risk With Loan Secured Against Second Property

(In percent)



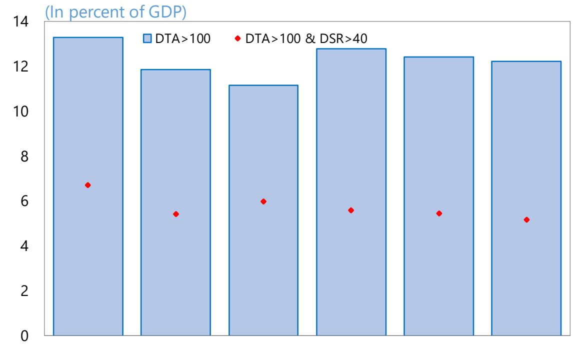
Sources: Korea Survey of Household Finances and Living Conditions and IMF staff calculations.

Note: Borrowers-at-risk are defined as having a negative financial margin defined as being unable to finance consumption and debt servicing from disposable income.

Around 13 percent of household debt is held with households that have a debt-to-asset ratio above 100%.

Household Debt Held by Insolvent Households

(In percent of GDP)



Source: Korea Survey of Household Finances and Living Conditions and IMF staff calculations.

20. Around 156 percent of total household debt is currently registered 'at-risk' and around 113 percent at immediate solvency risk. Around 4 percent of household debt is held by households who are both at solvency risk (defined as having a debt-to-asset ratio above 100) and liquidity constrained.[6] Higher household leverage ratios—debt-to-income and loan-to-value ratios, collectively known as the double trigger of mortgage default—are associated with a higher probability that a household's debt is at-risk. Household stress tests, done jointly with the BoK, suggest that the amount of debt held with liquidity constrained insolvent households will rise following an adverse income (house price) shock from around 4 to 5.36 (6.67.1) percent of GDP. The impact of shocks on household balance sheets grow with age, with retiree households most at risk from a hike in interest rates.

B. Non-Financial Corporate Sector Vulnerabilities

21. Korean non-financial corporate debt (about 100 percent of GDP) is higher than the G20 average and one quarter appears "at-risk", which mostly resides with SMEs (Figure 11). The debt of larger firms is concentrated in market-based instruments, while SMEs (about 35 percent of total corporate debt) are largely funded by bank credit. Despite strong global trade growth since 2013 there has been an increase in the number of firms reporting (i) a negative ROA, (ii) negative revenue growth, (iii) insufficient liquidity and (iv) an interest coverage ratio below 1. Corporates are most vulnerable to a slowdown in global growth coupled with higher funding costs, while a weaker exchange rate would have a limited impact on corporate balance sheets, given low FX debt and natural hedges.[7] Balance sheet stress tests show a rise in corporate debt-at-risk (where earnings before interest and taxes are less than their interest expenses) under the adverse scenario, although total credit losses would likely remain contained reflecting large cash buffers.[8]

22. The statutory framework for corporate debt resolution (including for SMEs) could be a mitigating factor in an adverse scenario. The efficiency of in-court procedures has improved with the establishment of the Seoul Bankruptcy Court in 2017. Key challenges to effective reorganization are delays in filing which negatively impact the possibility of successful business rescue; and the difficulties in securing post-commencement financing for companies undergoing rehabilitation. The framework could benefit from establishing an insolvency practitioner profession, including to ensure that the highly supervised judge-led institutional framework does not become gridlocked with a high volume of cases in a crisis.

[6] Debt is considered "at-risk" if held by liquidity constrained households, defined as being unable to meet consumption, debt servicing payments, and monthly rent from disposable income and highly liquid savings.

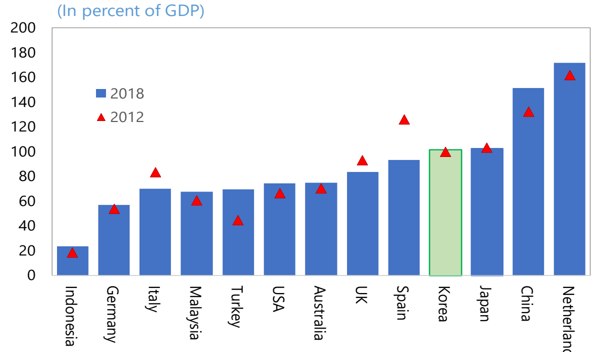
[7] Since the GFC, FX onshore corporate debt has declined to about 4 percent of bank loans and 11 percent of market-based debt.

[8] Based on data for listed corporates. There are some concerns about the reliability of SME balance sheet data and profit and loss statements.

Figure 11. Korea: Corporate Leverage and Debt Structure

Corporate debt is slightly higher than peers.

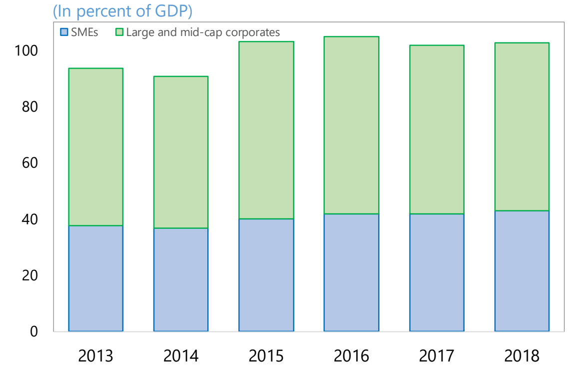
Private Non-Financial Corporate Core Debt
(In percent of GDP)



Source: BIS.

Most debt is held by large firms relying on market finance.

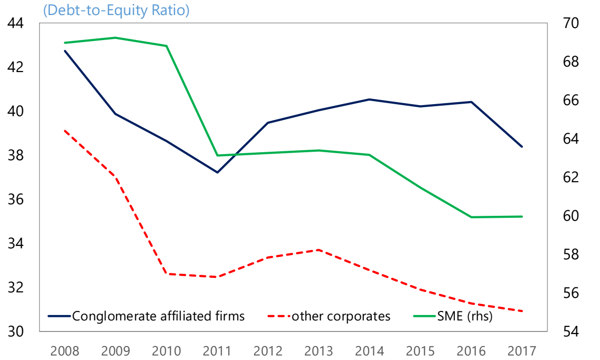
Corporate Debt
(In percent of GDP)



Source: Orbis, Bank of Korea and IMF staff calculations.

Leverage is higher among conglomerate-affiliated firms.

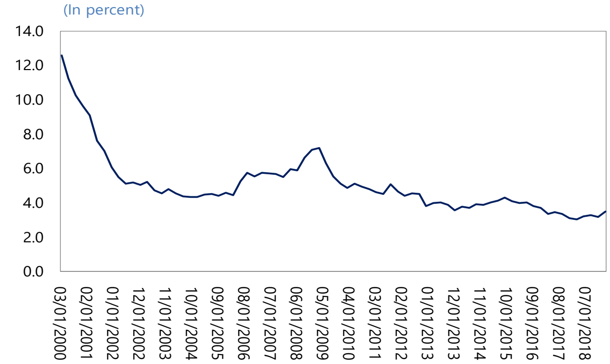
Firm Leverage
(Debt-to-Equity Ratio)



Source: Orbis, KIS Value and IMF staff calculations

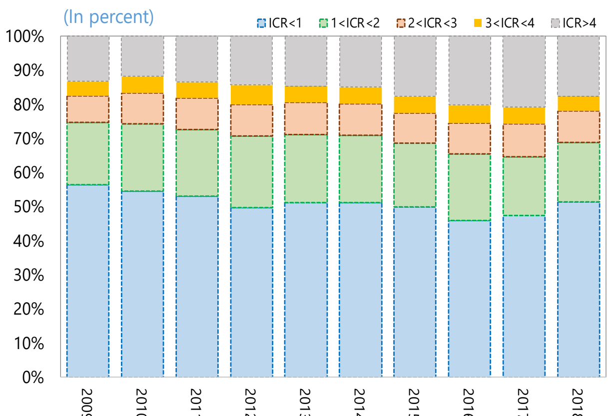
Corporate FX borrowing is low.

Share of FX Credit in Total Bank Credit
(In percent)



Around 40~~50~~ percent of SME debt is at-risk…

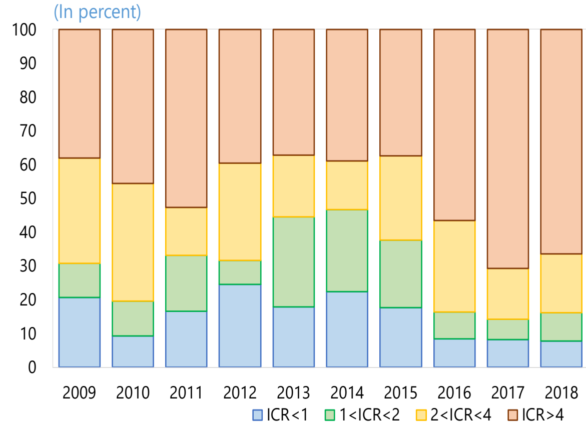
SME Debt-at-Risk
(In percent)



Source: KIS Value and IMF staff calculations.

…with the share much lower for listed firms.

Distribution of Debt by ICR
(In percent)



Source: Orbis and IMF staff calculations.

CET1 ratios of nation-wide, regional, and specialized banks fall by 3.4, 3.~~5~~4 and 4.7~~9~~ percentage points up to the low point. The banking system-wide loss shares under the adverse scenario amount to 60, 30, 2, and 8 percent, for corporates, households, the sovereign, and a residual category, respectively. The lower share for households reflects partly the mortgage insurance schemes which protect the banks' capital and provide relief in terms of risk weight densities.

27. Pressure on bank profitability and eventually capital ratios, however, may grow as competition with Fintech intensifies while demographic rotation becomes firmer. A "Fintech Overlay" (Box 1) to the solvency analysis shows that regional banks, ODIs and selected specialized banks would be most adversely affected by intensifying competition due to the "Open Banking" and e-money developments with regional banks' capital ratios falling by 0.6 to 1.3 percentage points below the baseline. In the longer term, an aging population may require further adjustment of bank business models and possibly more consolidation as savings and lending patterns change.

Table 4. Korea: Core Financial Soundness Indicators, 2013–18

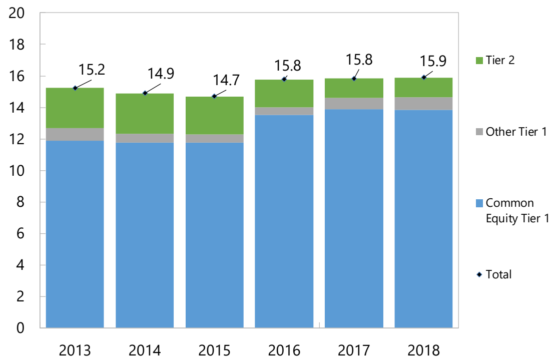
	2013	2014	2015	2016	2017	2018
			(In percent)			
Core FSIs						
Regulatory capital to risk weighted assets	14.5	14.0	13.9	14.8	15.2	15.4
Regulatory Tier 1 capital to risk-weighted assets	11.4	11.4	11.7	13.1	13.1	13.3
Non-performing loans net of provisions to capital	3.6	2.8	2.1	2.1	1.7	1.3
Non-performing loans to total gross loans	0.6	0.5	0.5	0.5	0.4	0.3
Return on assets	0.3	0.5	0.5	...	0.7	0.8
Return on equity	4.0	6.0	6.6	...	8.5	9.8
Interest margin to gross income	82.2	62.1	62.9	65.0	58.7	65.1
Non-interest expenses to gross income	75.3	73.5	59.6	65.4	65.6	63.2
Liquid assets to total assets	33.8	37.9	34.4	32.9	29.9	31.2
Liquid assets to short-term liabilities	107.9	122.0	105.0	102.6	101.2	114.5
Net open position in FX to capital	-0.2	0.5	0.0	0.0	-1.0	0.0
Sectoral distribution of loans						
Domestic residents	92.5	92.5	91.0	92.6	92.6	92.7
Deposit takers	3.5	4.0	3.7	3.6	4.3	3.7
Central bank	0.4	0.6	0.5	1.2	0.5	0.2
Other financial corporations	0.8	0.7	0.8	0.9	1.1	1.5
General government	0.6	0.8	1.0	2.0	0.7	0.5
Nonfinancial corporations	50.7	50.0	48.7	49.5	46.1	45.4
Households	36.5	36.3	36.3	35.3	39.9	41.3
Nonresidents	7.5	7.5	9.0	7.4	7.4	7.3
Additional FSIs						
Capital to assets (leverage ratio)	8.3	8.1	8.0	7.9	8.0	8.0
Large exposures to capital	72.9	64.4	70.0	46.6	37.9	34.7
Gross assets position in derivatives to capital	15.0	16.6	17.0	20.2	17.1	9.9
Gross liabilities position in derivatives to capital	16.8	17.8	18.5	21.9	18.0	10.9
Trading income to total income	2.5	5.8	9.3	8.4	6.2	6.0
Personnel expenses to total income	32.2	32.5	41.5	38.2	31.6	34.3
Customer deposits to total non-interbank loans	84.1	81.6	76.0	71.2	75.4	74.0
FX loans to total loans	12.8	13.4	12.2	11.7	10.9	10.9
FX liabilities to total liabilities	14.3	14.6	13.7	11.6	13.2	13.0

Sources: Korean Ministry of Economy and Finances

Figure 12. Korea: Financial System Performance

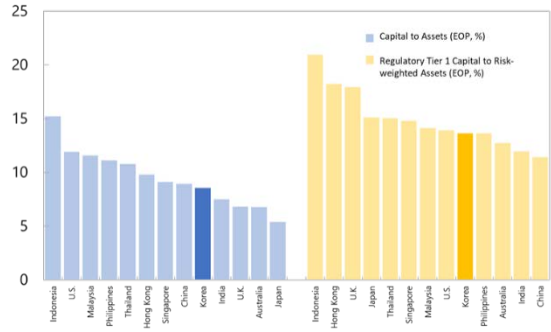
Capitalization of Korean banks has improved with the implementation of Basel III…

Capital Adequacy
(Commercial banks, in percent of risk-weighted assets)



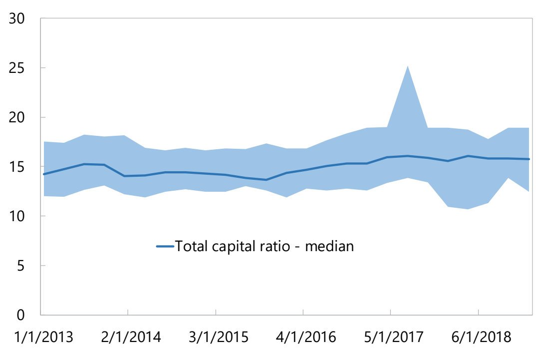
…and capital is of high quality compared to a broad set of comparator countries.

Capital Adequacy and Leverage
(Commercial banks, 2019Q2 or latest, in percent)



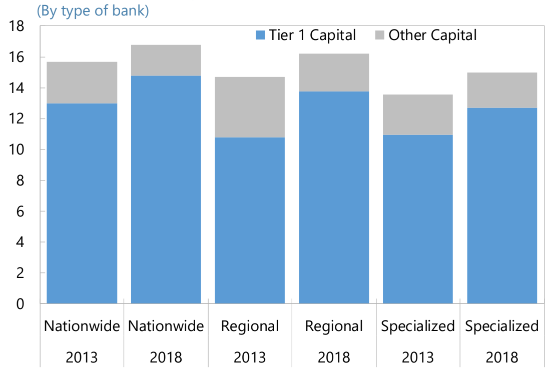
…and across Korean commercial banks.

Capital Adequacy
(Commercial Banks, total capital in percent of risk-weighted assets)



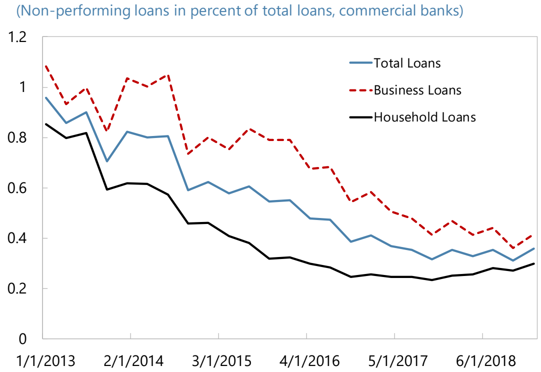
Specialized banks have seen also some improvement in capital adequacy but from a lower base.

Capital Adequacy
(By type of bank)



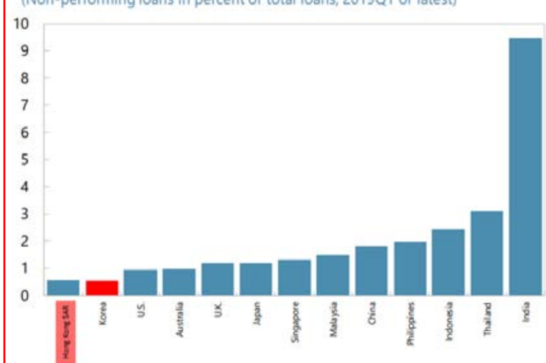
NPLs are low across all loan categories…

Bank Asset Quality
(Non-performing loans in percent of total loans, commercial banks)



…and in comparison~~,~~ to other ~~countries~~ jurisdictions reflective of rapid disposable of bad loans to asset management companies.

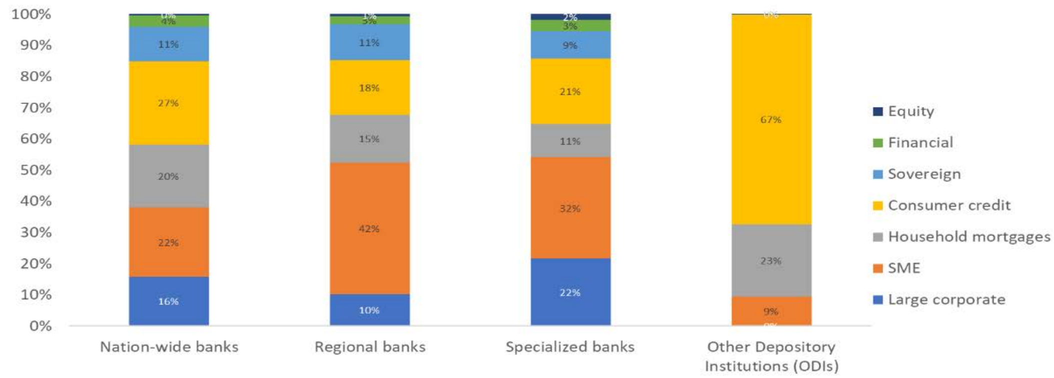
Bank Asset Quality 1/
(Non-performing loans in percent of total loans, 2019Q1 or latest)



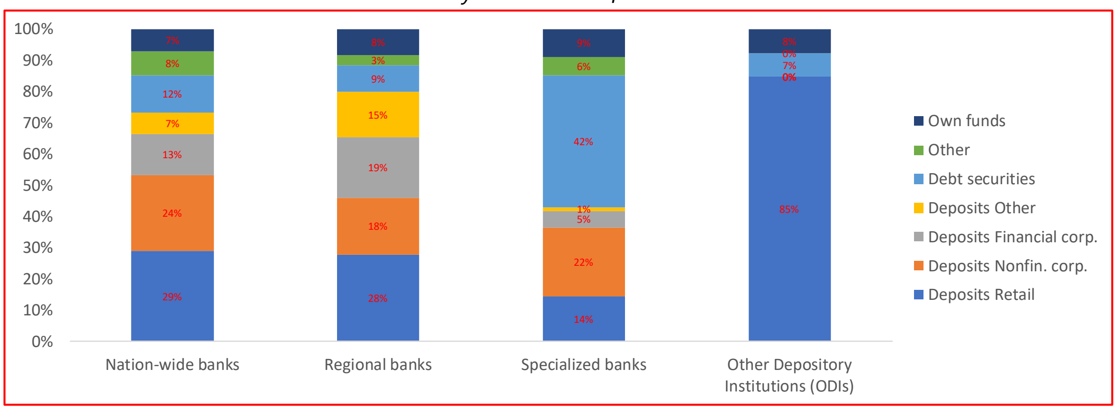
Sources: FSS, Haver, and IMF staff calculations.
[1] Korea data is for commercial banks.

Figure 14. Korea: Korean Banks' Asset Portfolio Structure, Liability Structure, and P&L Components

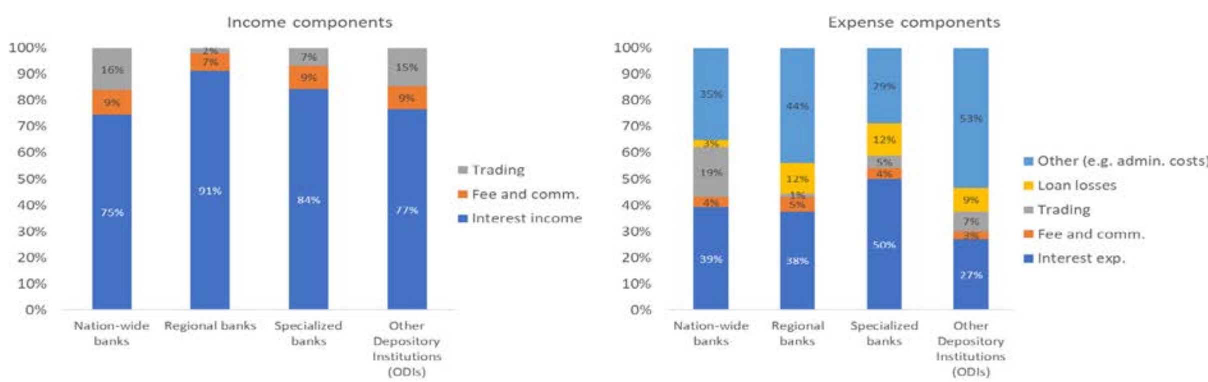
Korean banks' asset portfolio structure as of end-2018



Liability structure as of end-2018



P&L as of 2018



Sources: Supervisory data from the FSS, publicly available data for banks (FISIS), and IMF staff calculations. Based on data for underlying 8 nation-wide banks, 5 regional banks, 6 specialized banks, and 2,316 ODIs (888 Credit Unions, 79 Mutual Savings Banks, 1,122 Agricultural Cooperatives, 90 Fisheries Cooperatives, 137 Forestry Cooperatives).

translated to a rules-based system with regulatory requirements implemented broadly in line with international standards. As a result, however, the system misses a 'forward looking' character and hampers the ability of supervisors to proactively address buildup of risks.[22] The remit of financial conglomerates supervision covers only groups dominated by banking business which implies that a significant component of risk is not yet fully covered given the significance of nonbanking activities. Moreover, group-level supervisory approaches miss a consistent application across financial holding groups.[23] The non-existence of a modern resolution and recovery framework increases costs for handling financial stress in complex groups and implies significant fiscal risks. The prudential and supervisory regime needs to evolve to place greater emphasis on risk management capabilities in firms, on-site examinations could be more targeted at the key risks while the judgmental component of the assessments could be strengthened.

49. Given the plans of large Korean financial institutions to continue overseas expansion, cross-border supervisory activities would benefit from enhanced cooperation. The FSC/FSS perform examinations of foreign branches and subsidiaries of banks and insurers. Also, visiting programs and conferences are organized for foreign supervisors. Closer and intensified monitoring of overseas expansion, closer cooperation with host authorities at the working level, and setting up supervisory colleges is warranted.

50. The awareness of climate risk is rising. The first ESG foreign currency bonds were issued in 2013~~7~~ and Korea has reportedly become a large supplier of such bonds. Banks and financial groups have subscribed to the ESG principles and founded the Sustainable Climate Finance Forum in Korea. The BoK joined the Network for Greening the Financial System (NFGS) in 2019, and other authorities are considering membership. The FSC/FSS focused on climate risk in its latest survey of the banking system, as well as the BoK in its estimates of potential losses. Korea would benefit from a comprehensive action plan and interagency coordination on climate risk to assess climate or green finance trends, disclosure aspects, stress testing, and climate-related capital market reforms.

Banking and Insurance

51. Korea has a solid, rules-based regulatory and supervisory regime largely in line with international standards. Credit risk management is a key focus for bank supervisors, and offsite monitoring of banks' credit risks is adequately robust, including the verification of provisioning levels. While capital requirements are in place at the holding company level, liquidity requirements currently apply only at banks and other financial subsidiaries. This is an important gap that should be addressed given the growth of non-banking activities in DSIB banking groups. In some areas, such as concentration and large exposure restrictions, the authorities are piloting some thresholds but are still considering the best approach for the Korean banking system.

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[22] Approaches like Pillar 2 or an Own Risk and Solvency Assessment (ORSA) are not fully adopted in supervisory practice. The tools used by supervisors do not have a preemptive effect and only ex-post follow up on identified risks and shortcomings.

[23] E.g. group level boards' accountability, group-level capital planning.

these groups and that growth is being driven largely by non-bank activities, the authorities will need to continue to develop and implement more group-wide supervision practices. The authorities should further elaborate their supervisory approaches to capture additional dimensions of group organizations' risks. Multilayer analyses of conglomerate maps, which captures the relationships between the group structure, the quality of capital and risks' dynamics within the groups, including for the cases of crisis situations, would significantly elevate supervisory outcomes.

Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT)

61. Korea's AML/CFT regime is currently being assessed by the Financial Action Task Force and Asia/Pacific Group (APG) on Money Laundering. This assessment will establish Korea's level of compliance with the AML/CFT standard (the FATF 40 recommendations) and the effectiveness of AML/CFT measures. The onsite assessment took place in June/July 2019 and the draft report was adopted by the FATF plenary in February 2020 and is scheduled for the adoption by the APG plenary in July 2020.

CRISIS MANAGEMENT, RESOLUTION, SAFETY NETS AND FINANCIAL INTEGRITY

62. Korea has a well-established financial safety net. It includes a special resolution regime for financial institutions, an ELA facility at the central bank, a deposit insurance system, a policy-holder protection scheme for insurance products and an investor protection scheme for household holdings in investment and trust funds. Korea also has several legacy funds ~~(such as the Bank Recapitalization Fund and the Financial Stabilization Fund)~~ that were established to assist the financial industry during past crises and whose existence should be reassessed given their potentially distortionary and moral hazard effects.

63. The resolution regime has many elements found in the *Key Attributes* but there is scope for improvements. The Act on Structural Improvement of the Financial Industry (ASIFI) provides the special resolution regime for financial sector entities, including banks, insurance companies, and FHCs, among others. The regime incorporates transfer powers for assets and liabilities, and powers to establish temporary bridge institutions. Since the 2013 FSAP, operational arrangements were strengthened, including as regards the preparation of crisis manuals and simulation exercises. The planned amendments to ASIFI would also introduce a power to impose a temporary stay on the exercise of early termination rights and formalize requirements for recovery and resolution plans (RRPs). The authorities should consider additional legal amendments to introduce statutory bail-in powers and ensure that resolution can be triggered sufficiently early and well before insolvency—i.e., when a financial firm is not viable or unlikely to be viable.

64. Key challenges include preparing to deal with failure of a financial group and ensuring orderly resolution of D-SIBs without recourse to public solvency support. In the medium term, RRP exercises should incorporate the intra-group dimension, given the relevance of financial groups in Korea. Moreover, it is critical that resolution strategies be developed, as a priority for D-SIBs, that

Appendix II. Implementation of 2013 FSAP Recommendations—Preliminary Assessment

Key Recommendations	Implementation Status D—Done / LD—Largely Done / PD—Partly Done / NA—No Action
Overall Financial Sector Oversight and Coordination	
Establish a dedicated and formal macroprudential council, with a stronger role for the BOK, the power to recommend regulatory action from other bodies, and transparency over policy deliberations.	**PD** The authorities have maintained a multi-agency framework in which responsibility for systemic oversight is a shared, and decisions are principally taken by the FSC. There are no plans to establish a macroprudential council. The BOK's risk assessments and policy directions are disseminated through their FSR, published minutes of the monetary policy board's Financial Stability Meetings, and summaries of the Macroeconomic and Finance Meetings.
Strengthen the independence of the FSC and FSS and increase transparency of the allocation of decision-making responsibilities among the two authorities.	**PD** The FSC/FSS has implemented the principles on division of tasks in enforcement. The decision-making process is steered by a committee composed by internal and external members, delegated by the FSC/FSS. The coordination is framed by the MOU. Although the FSC/FSS has taken steps to foster operational independence of supervision, there is still room for further improvement, specifically in these areas (i) establishing pre-conditions for the implementation of long-term strategy, (ii) clarifying budgetary arrangements, (iii) fostering regulatory processes, (iv) further streamlining of enforcement processes and elaborating enforcement policies, (v) clarifying the position of supervision vis-à-vis the goals of the Government.
Enhance enforcement effectiveness by broadening the range of administrative and civil penalties and increasing the number of administrative fines and civil penalties.	**PD** Eleven laws governing the financial sector were amended, which include an expanded scope of imposing monetary penalties and fines as well as the higher levies (went into effect on 19 October 2017).
Financial Stability Analysis, Stress Tests, and Financial Supervision	
Enhance coordination among agencies involved in stress testing (FSS and BOK).	**D** A working group that joins BOK and FSS staff was set up in 2015. Since then, the FSS and BOK regularly meet with this group to discuss and agree on scenarios for solvency and liquidity stress testing and compare results from their respective model frameworks.
FSS should carry out a comprehensive validation of banks' stress testing exercise.	**~~L~~D** An internal assessment of the FSS' and BOK' bank stress test methodologies is conducted on a regular basis. The bottom-up stress test exercises coordinated by the FSS are evaluated based on the top-down stress test results on the side of the FSS. [selected additional information pending]
Disclose to the public the results of the stress tests conducted by the authorities.	**D** The BOK conducts macro stress tests on a regular basis and publishes the results through its Financial Stability Report.