Public debt and monetary policy in Korea

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Abstract

This note reviews Korea's fiscal policy and public debt management, and discusses some of the constraints that bind the Bank of Korea in its conduct of monetary policy. Fiscal prudence and low public debt in Korea have allowed monetary policymakers to focus on inflation control without worrying about public debt dynamics. Such fiscal prudence is mainly attributable to the strong and long-standing commitment to a balanced budget. However, recently, fiscal policy has been managed in a more countercyclical manner within the framework of medium-term fiscal planning. During the recent global financial crisis, Korea implemented large-scale countercyclical fiscal policies to counteract the contractionary effect of the crisis.

Meanwhile, the Korean government bond (TB) market has grown rapidly. Such a development can potentially be helpful for implementing countercyclical fiscal policy against crises, by acting as a low-cost funding source during crises. The Korean government has made various efforts to develop an efficient bond market, such as introducing a system of fungible issuance and opening the market to foreign investors. A recent phenomenon is the increase of official investment in TB by Asian countries, including China and Thailand. The opening-up of the financial market, however, has also complicated the implementation of monetary policy because capital flow also affects market liquidity and the exchange rate. A recent study on the transmission channel shows that the bank lending channel is the most effective one, while the scope for other channels to operate (eg through the yield curve) is limited. This result indicates that monetary policy may have been constrained in reacting to inflationary pressure after the global crisis.

While it is true that public debt sustainability is currently not an issue in Korea, it is also true that sovereign debt management could face significant challenges arising from population ageing and ballooning social welfare expenditures. Other risk factors for public debt dynamics are unfunded government liabilities, public agency or state-owned enterprise debt that is not counted as sovereign debt, and the cost of unification.

Keywords: Fiscal policy, public debt management, capital inflow, monetary policy

JEL classification: E61, E62, H60

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I. Introduction

Fiscal policy, public debt management, and monetary policy are closely interlinked. Both fiscal and monetary policy enter the government's inter-temporal budget constraint, and directly affect the dynamics of public debt. As proven by the recent euro zone debt crisis, public debt is a highly significant factor in financial stability particularly if it is unsustainably high and constitutes a significant part of bank assets. But the converse is also true, in that the euro zone debt crisis is in large part a legacy of the global crisis.

Public debt management and monetary policy have been fairly independent in Korea, and are expected to remain so in the foreseeable future. Fiscal prudence and low public debt has allowed monetary policy to focus on inflation control without concerns for public debt dynamics. Korea's fiscal policy and public debt management will pose no immediate threat to monetary policy and financial stability. But, in the long run, they do face significant challenges from population ageing and growing social demands for social welfare spending, among other factors.

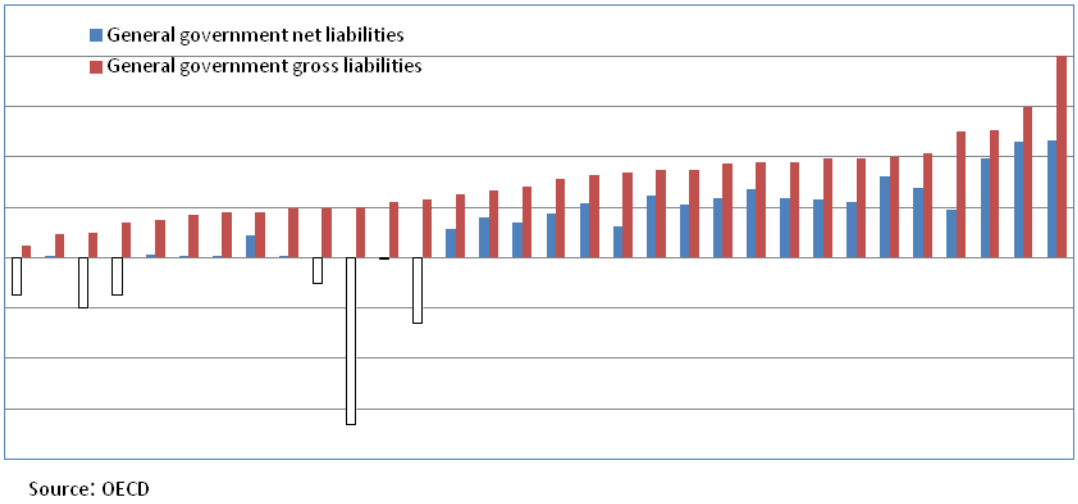
This note reviews Korea's fiscal policy and public debt management, and discusses the constraints faced by the Bank of Korea in conducting monetary policy.

II. Fiscal policy and public debt management: an overview

Institutional setup for fiscal policy

Korea's fiscal policy and public debt management have been prudent since the 1980s by any international standards. Indeed, Korea is one of the least indebted among the OECD countries with public debt standing at about 33.4% of GDP at end-2010 and with no signs of investor concerns over fiscal sustainability (Figure 1). Fiscal prudence has been aided by the sustained solid growth of the economy and by stable financial conditions.

Figure 1. General Government Liabilities of OECD Countries
(Percent of GDP, 2010)



Source: OECD

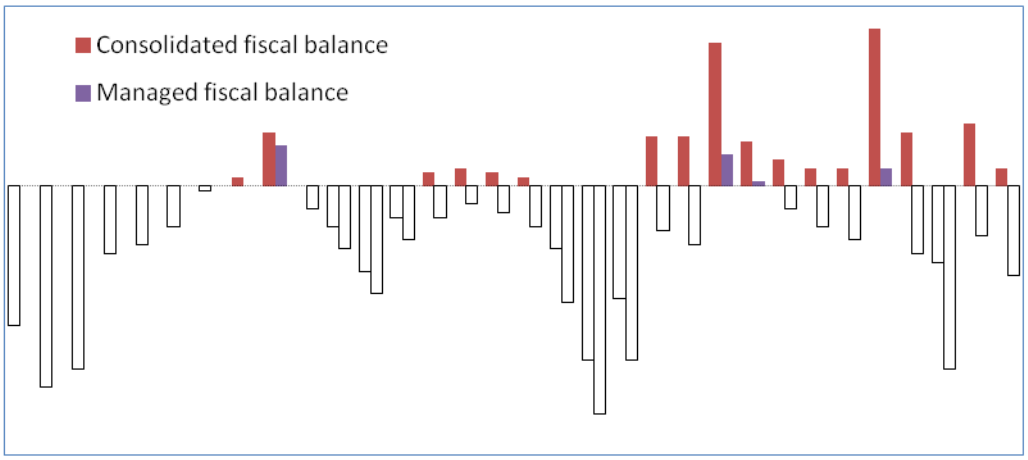
The backbone of fiscal prudence and transparency is the five-year medium-term fiscal plan first introduced in 2004. The plan serves not only as the basic framework for each year's budget formulation and fund management but also as a basis for establishing targets for fiscal balance and public debt over the medium term. Experts from the private sector

participate in the planning process, and the final plan is reported to the National Assembly not later than 90 days prior to the start of a new fiscal year (which coincides with the calendar year). Strictly speaking, the plan is not a fiscal rule as it is not legally binding. Rather, it is an apparatus for encouraging fiscal discipline.

For transparency and administrative efficiency, fiscal activities are categorised into three accounts: (1) the general account, (2) special accounts and (3) public funds accounts. The general account covers general fiscal activities while special and public funds accounts are for public projects funded by taxes and by levies earmarked for specific purposes. As of 2011, there were 18 special accounts and 64 public funds accounts. Public funds accounts had been allowed a relatively high level of flexibility and autonomy for efficiency reasons but only at the expense of reduced transparency and prudence in their management. For this reason, they have required the review and approval of the National Assembly since 2002. They are also subject to a need test every three years conducted by an evaluation committee comprising a group of civil experts.

The consolidated fiscal balance, which includes all three fiscal accounts, recorded a surplus in the mid-1980s after a series of deficits. Since then, it has fluctuated over the business cycle, but remains broadly balanced once adjusted for cyclical factors. The consolidated balance net of social security funds, which is known as the "managed fiscal balance", has remained close to a balance except for the periods of severe recession or financial crisis. According to the budget, the consolidated and managed fiscal balances are expected to record a surplus of 0.4% of GDP and a deficit of 2.0% of GDP, respectively, in 2011 (Figure 2).

Figure 2. Consolidated and Managed Fiscal Balance
(Percent of GDP)



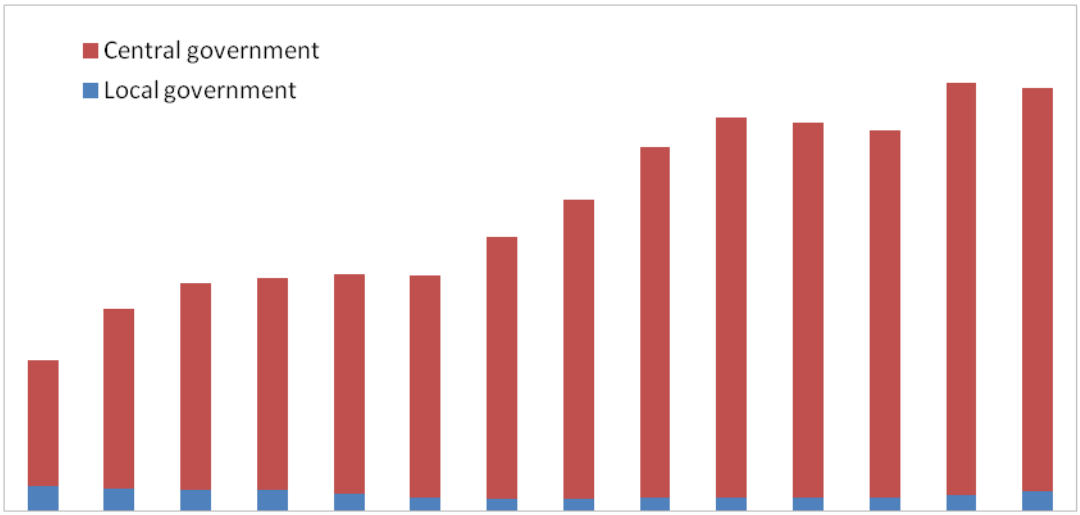
Source: Ministry of Strategy and Finance

Local governments enjoy only a limited degree of fiscal autonomy in their fiscal management, given their role in executing various policies on the central government's behalf in the area of education, social welfare and industrial policy. Nevertheless, their autonomy has recently been on the rise in line with growing fiscal decentralisation. Local governments' debt net of borrowing from the central government is only modest, standing at 1.6% of GDP or 18.4 trillion won at end-2010.

Prudent fiscal management, aided by solid economic growth and stable inflation, has resulted in low government indebtedness. Public debt stood at 33.4% of GDP (392.2 trillion won) in 2010, the majority of which is owed by the central government

(Figure 3). The debt ratio is low by international standards and also relative to the 60% threshold of danger zone for EMEs as estimated by Reinhart and Rogoff (2010). Foreign currency-denominated debt accounted for less than 3% of total public debt at end-2010, some 84% of which is denominated in US dollars.

Figure 3. Central and Local Government Debt
(Percent of GDP)



Source: Ministry of Strategy and Finance

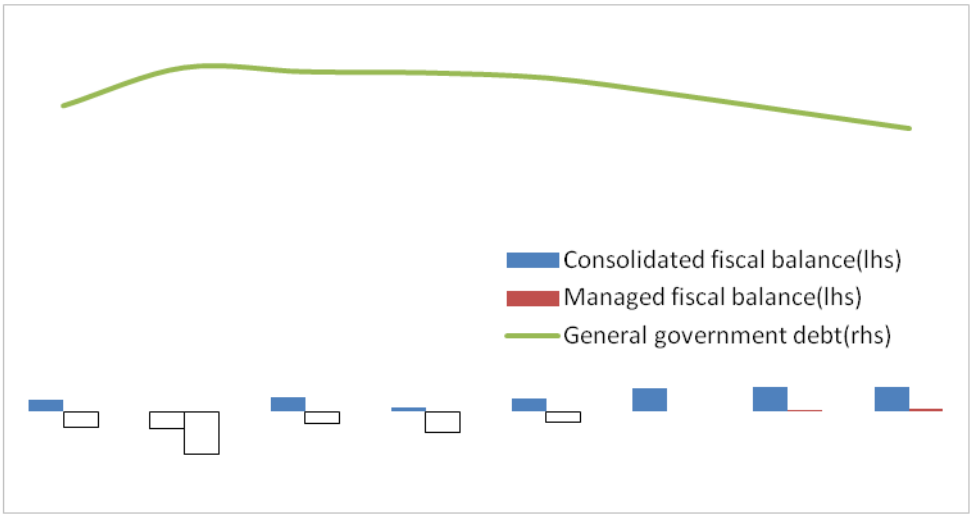
The general government's financial assets have increased rapidly since the mid-1990s, thanks to the surpluses of the national pension fund, and reached 73% of GDP by 2009, which is more than twice its debt. The general government remains a net creditor even if the assets of the national pension fund (which stood at 39.7% of GDP) are excluded. However, it should be noted that government assets in the form of loans, stocks and proprietary equities are illiquid.

Fiscal policy during crisis periods

Fiscal policy was procyclical until the 1997 crisis due mainly to a strong and long-standing commitment to a balanced budget. In view of the critical role it played in the recovery from the 1997 crisis, fiscal policy has since been managed in a more countercyclical manner and also within the framework of medium-term fiscal planning. During the more recent global crisis, Korea deployed a large-scale countercyclical fiscal policy to counteract the contractionary effects of the crisis. To be specific, discretionary government spending increased by 6% of GDP during 2008–10. This policy response proved successful in mitigating the fallout from the crisis – indeed, Korea recovered quickly from the global crisis with growth of more than 6% in 2010.

Success in crisis management was not free of cost, however. Public debt increased to 33.8% of GDP by 2009, up from 30.7% of GDP in 2007, largely driven by swollen deficits, before falling slightly to 33.4% in 2010 as the economy recovered. In order to strengthen fiscal discipline and prevent rapid increases in the public debt ratio, the medium-term fiscal plan for 2011–15 targeted a balanced budget by 2013 and restricted expenditure growth to 4 percentage points below revenue growth until 2013 (Figure 4).

Figure 4. Key Features of the Medium-Term Fiscal Plan for 2011-15
(Percent of GDP)



Source: Ministry of Strategy and Finance

III. Sovereign debt market

Sovereign debt market structure

The government issues several types of bonds for its financing, including treasury bonds (TBs), foreign exchange equalisation bonds (FEEBs), and national housing bonds (NHBs).

Table 1

Treasury bonds: maturities and issue/tender dates

Maturities	Three years	Five years	10 years[1]	20 years
Tender date	Monday of the first week	Monday of the second week	Monday of the third week	Monday of the fourth week
Issue dates for bonds	June 10 and December 10	March 10 and September 10	September 10	March 10

Note: (1) Inflation-linked bonds of 10-year maturity are issued on Wednesday in the third week of every month.

TBs are issued on a regular basis in four fixed maturities – for three, five, 10 and 20 years – at the market interest rate through public tender (Table 1). The terms of TB issuance are also standardised under the system of fungible issuance which was introduced in 2004 as part of a package of development measures for the domestic bond market. Fungible issuance has allowed the government to improve TB liquidity and cut its debt financing costs. FEEBs are issued at irregular intervals when the need arises to curb excessive volatility in the exchange rate. While they are typically issued overseas in foreign currency, the government issued them in the domestic market in 1998 after the crisis. The outstanding volume of FEEBs stood

at about $7 billion at end-2011 with debt service being well dispersed between $0.5 and $2.5 billion each year over the 2013–25 period (Table 2).

Table 2

Foreign exchange equalisation bonds: issuance and maturity

	2003	2004	2005		2006		2009	
Amount of issuance	$1 billion	$1 billion	$0.4 billion	€0.5 billion	$0.5 billion	€375 million	$1.5 billion	$1.5 billion
Maturity (year)	2013	2014	2025	2015	2016	2021	2014	2019

Source: Ministry of Strategy and Finance.

Since March 2007, the 10-year inflation-linked bond has been issued using the three-month-ahead consumer price index as the underlying index for inflation. This bond is also regularly issued through public tender. As the volume issued has not been large, however, inflation-linked bonds have only limited market liquidity and thus give little indication of inflation expectations. Inflation-linked issues accounted for less than 2% of total issuance of TBs in 2010, and none were issued in 2009 (Table 3).

Table 3

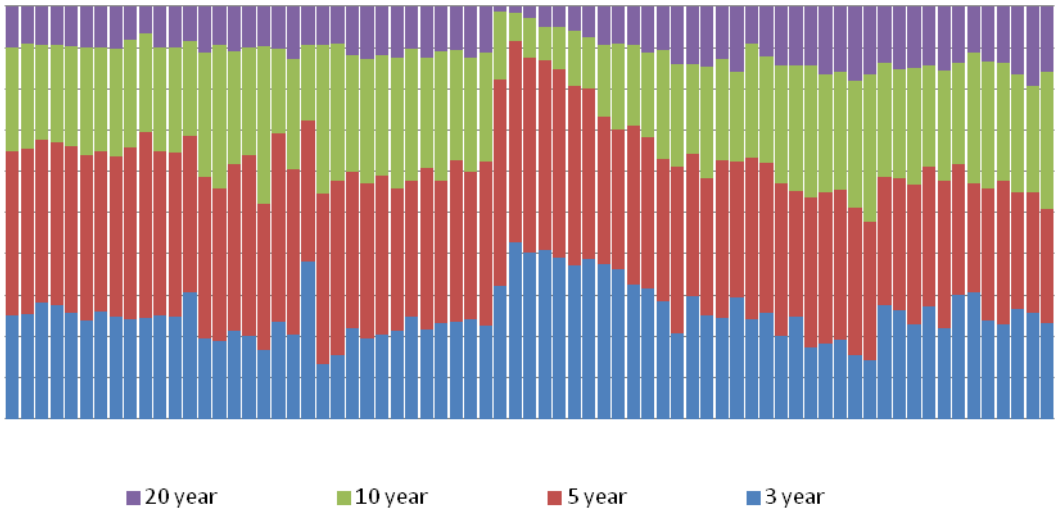
Inflation-linked bonds

	2007	2008	2009	2010	2011.1–11
Amount of issuance (trillion won)	1.9	0.8	0.0	1.3	1.1
Ratio to total issuance of TBs (%)	3.8	1.6	0.0	1.6	1.5

Source: Ministry of Strategy and Finance.

The volume of TBs issued increased somewhat after 2008 to finance the large-scale fiscal stimulus aimed at mitigating the recessionary impact of the global financial crisis. The amount of net issuance remained at 10–16 trillion won during 2007–08, but almost tripled to 30–45 trillion won in 2009–10. These large increases in TB issuance were accompanied by changes in the maturity composition. Following the collapse of Lehman Brothers, the share of TBs with maturity of five years or less jumped to from the previous 60% to 92% in November 2008 before falling back to the pre-Lehman level by 2010 when financial instability was largely resolved (Figure 5).

Figure 5. Issuance and Maturity Composition of Treasury Bonds
(Ratio to total issuance)



Source: Korea Securities Depository

Despite the large increase in shorter-term bond issuance immediately after the global crisis, the average remaining maturity of TBs increased rather than decreased. This was because the financial market had been stabilised in a relatively short period and because the 20-year bonds – first issued in 2006 – had increased as a share of total issuance. Nevertheless, the effective (average) interest rate on TBs has declined significantly, aided by the accommodative monetary policy stance after the global crisis (Table 4).

Table 4

Effective interest rate and average maturity of TBs

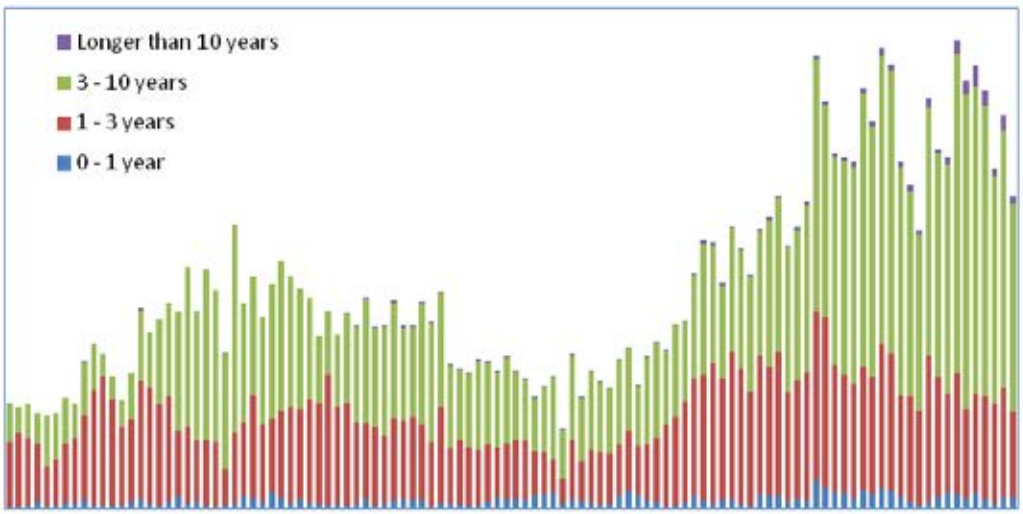
	2003	2004	2005	2006	2007	2008	2009	2010
Average interest payment (%)	4.76	4.38	4.57	5.05	5.18	5.37	4.64	4.48
Average remaining maturity (years)	3.73	4.04	4.17	4.55	4.68	4.85	4.96	5.33

Source: Ministry of Strategy and Finance.

The global crisis affected the secondary TB market only moderately. In fact, the monthly transaction volume of TBs in the OTC market increased sharply from about 100 trillion won during 2007–08 to more than 180 trillion won in 2009, against the backdrop of a tripled volume of new TB issuance in 2009 relative to previous years. It increased further to 266 trillion won in 2010–11, comprising mainly longer-term bonds with maturity of three years or longer (Figure 6). Underlying these sharp increases were continued foreign capital inflows into domestic bond markets after 2009.

Figure 6. Transaction Volume of TBs by Remaining Maturity

(Trillion won)

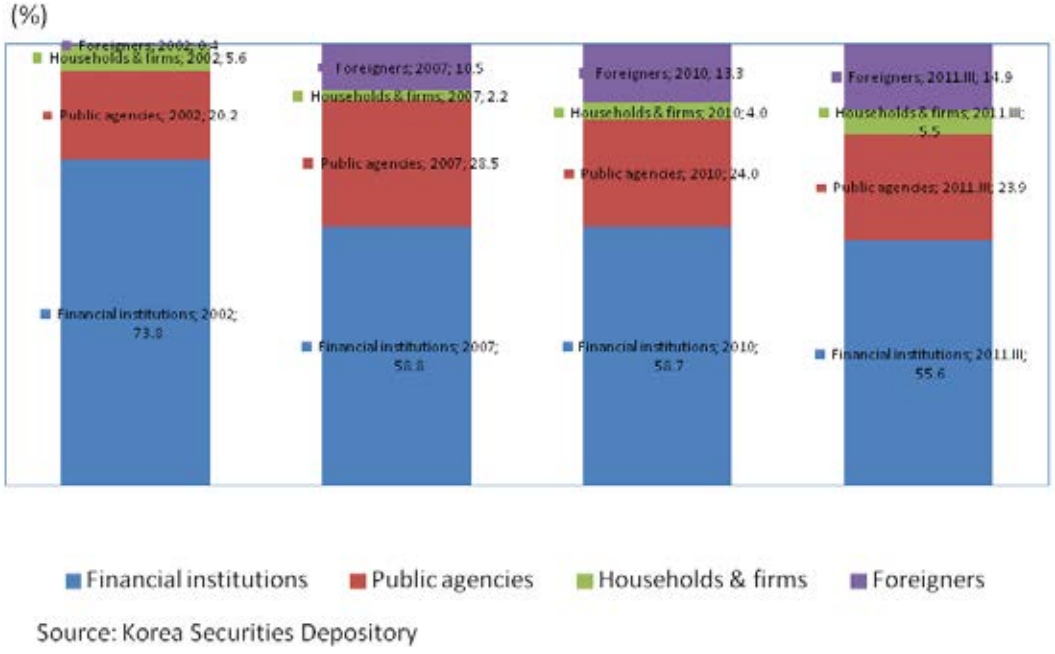


Source: Korea Securities Depository

The foreigners' share in the total outstanding volume of government debt has rapidly increased recently (Figure 7). Foreigners held 14.9% of the total or 58.8 trillion won at the end of the third quarter of 2011 (as compared to the similar share of 31.2% in the stock market in 2010). The remainder was split between financial institutions (55.6%) and public agencies including the national pension fund (23.9%). Foreigners purchased mainly TBs with maturities of three years or shorter in 2007 when foreign bond investment started to expand, after which they seem to have gradually increased the share of longer maturity bonds in their holdings (Figure 8).

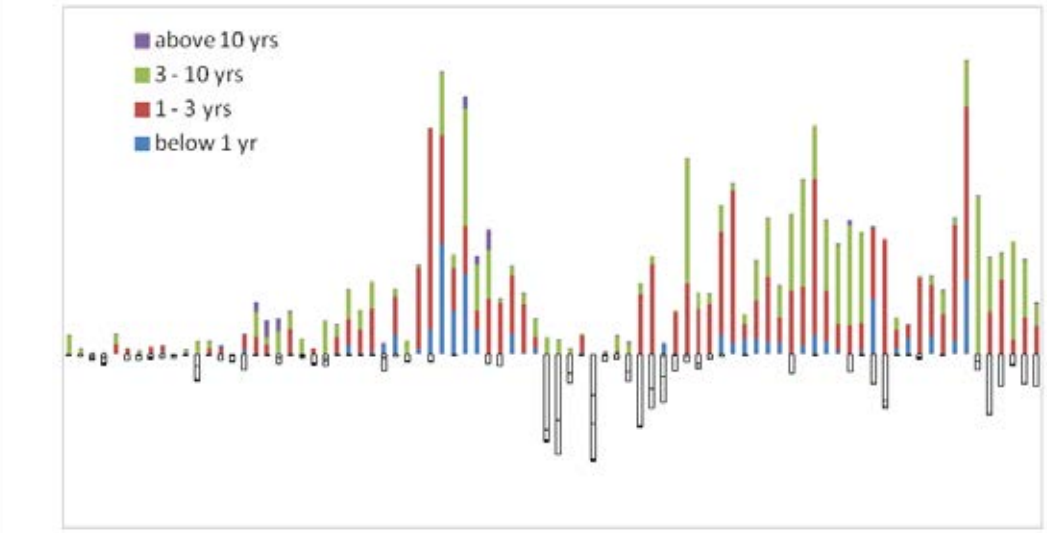
Figure 7. Investor Composition of TBs

(%)



Source: Korea Securities Depository

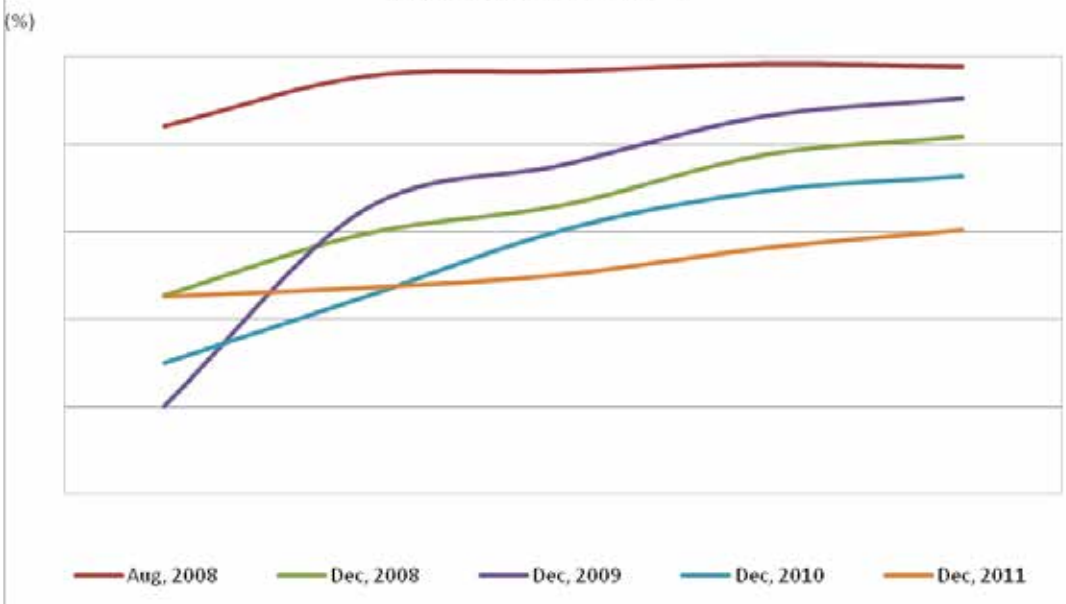
Figure 8. Foreigners' Net TB Purchase by Maturity



Source: Korea Financial Investment Association

Increased investor demand for TBs and the accommodative stance of the monetary policy after the global crisis has resulted in a downward shift of the yield curve (Figure 9). The yield curve became quite flat by the end of 2011, reflecting global economic woes and the influx of global liquidity into domestic markets.

Figure 9. Yield Curves of TBs



Source: Bank of Korea

Debt instruments of the central bank

The Bank of Korea (BOK) issues and purchases its own debt instrument – monetary stabilisation bonds (MSBs) – as part of its open market operations and liquidity control. The issuance is subject to the ceiling on total outstanding volume set every three months by the

Monetary Policy Committee, the supreme organ of monetary policy. MSBs are issued in 13 standardised maturities ranging from 14 days to two years. As of the end of 2010, the average remaining maturity is 0.8 years (Table 5). Short-term MSBs, which have maturity of less than 28 days, are issued at irregular intervals depending on market conditions, while the bidding date for MSBs with maturity of 28 days or longer is pre-fixed every month. Given that TBs and MSBs are close substitutes from the perspective of investors, the Ministry of Strategy and Finance (MOSF) and the BOK coordinate their issues to minimize any overlap in the maturity structure between the two debt instruments. At present, TBs are issued with maturities of three years or longer while MSBs are issued at shorter maturities.

Table 5

Remaining maturity distribution of MSBs

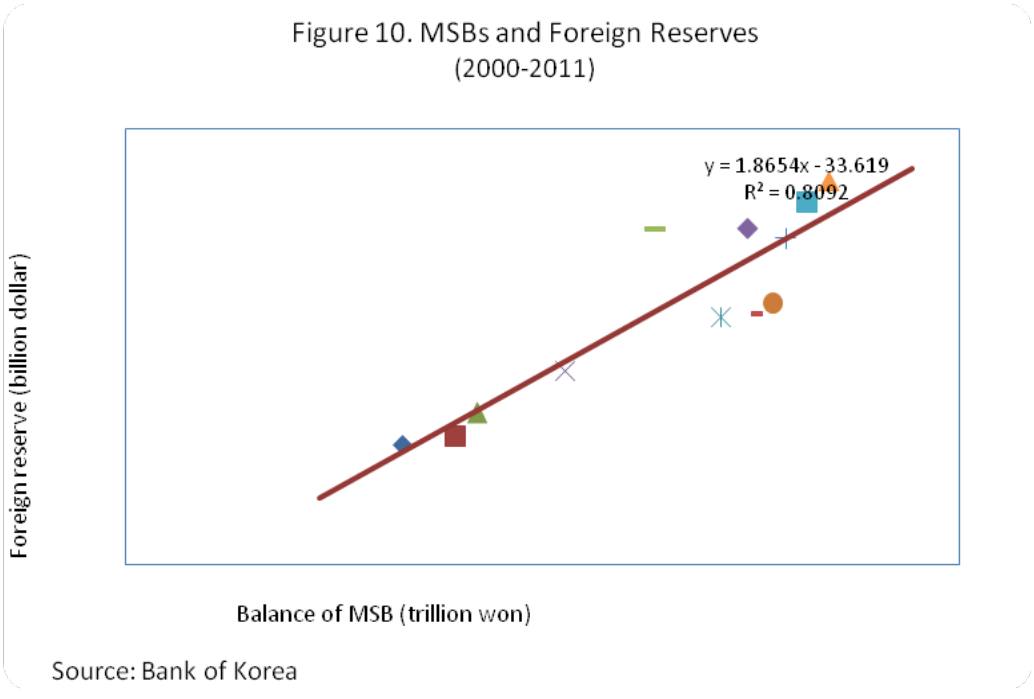
(End-2010)

Below one year (%)	Between one and three years (%)	Above three years (%)	Average remaining maturity (yr)
63.5	36.5	0.0	0.8

Source: Bank of Korea.

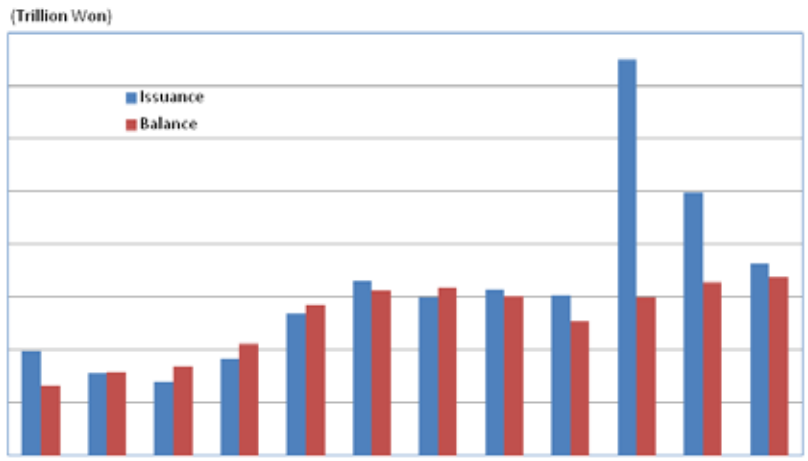
The outstanding volume of MSBs fell in 2008 but has been on the rise since 2009, reflecting the sterilisation operation against capital inflows to the stock market (Figure 10). The outstanding balance of MSBs amounted to 13.9 % of GDP, or 163.5 trillion won, at end-2010 (Figure 11).

Figure 10. MSBs and Foreign Reserves
(2000-2011)



Source: Bank of Korea

Figure 11. MSBs: Issuance and Outstanding Balance

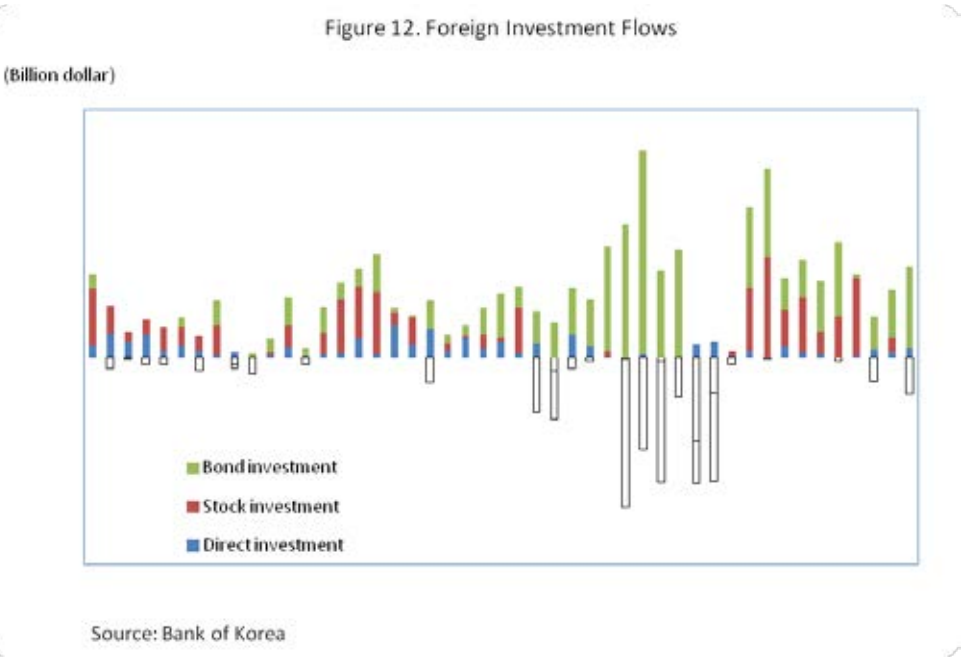


Source: Bank of Korea

IV. Capital flows and monetary policy

Following the 1997 financial crisis, the capital account was widely liberalised to a degree comparable to that of advanced economies. Since then, monetary policy has been increasingly subject to the influence of capital flows on market liquidity and the exchange rate. For example, monetary policy was tight during 2006–07 but asset price inflation remained high partly due to a surge in capital inflows driven by abundant global liquidity. The outbreak of the global crisis triggered an abrupt and sharp reversal in capital flows, which soon gave way in its turn to a renewed surge of inflows. Specifically, foreign investors withdrew $62.4 billion from the stock market during 2007–08 before reinvesting $48.5 billion over the next two years. Bond investment recorded net outflows during the second half of 2008 but these gave way to a $43.5 billion inflow during 2009–10. Such swings in capital flows were repeated in 2011, albeit to a lesser degree, in line with the heightened market uncertainty emanating from the euro area fiscal crisis (Figure 12).

Figure 12. Foreign Investment Flows

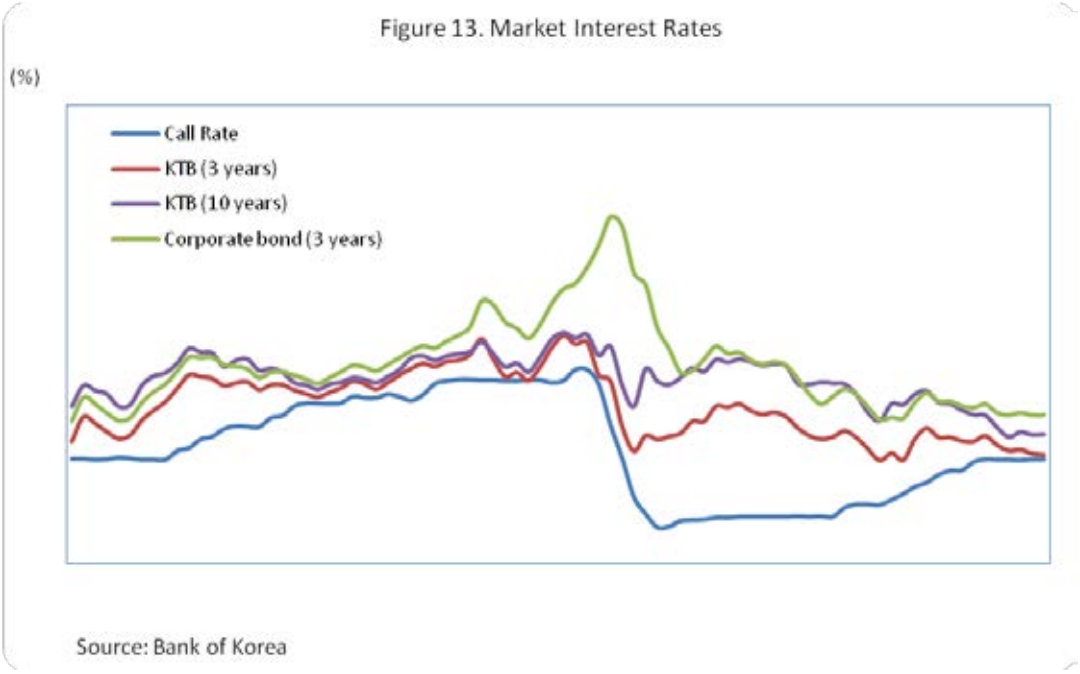


Source: Bank of Korea

More recently, official investment in TBs by Asian countries including China, Thailand, Malaysia and Singapore has increased, which has offset in part the bond outflows driven by European investors. This new development seems to reflect the interest rate differentials between home and abroad, the diversification needs of official investors related to foreign reserve management, and the positive market perception of the safety of Korean TBs. At the end of 2011, the outstanding balances of stock and bond investment funds stood at $41.3 billion and $25.0 billion (or 14% and 34% of total foreign investment), respectively.

Monetary policy was often complicated by these volatile and large capital flows, which distorted the transmission channel and created unpleasant policy trade-offs. While the policy rate (and the overnight call rate) have been raised several times since 2010, longer-term market interest rates have been on the decline since 2009. As a result, the spread between long and short rates narrowed to less than 1 percentage point by end-2011 – for example, the spread between the overnight call rate and the three-year TB yield fell from 0.64 percentage points in 2006 to 0.55 percent points in 2011, a level even lower than observed in the pre-crisis period. In contrast, the risk premium between three-year corporate and treasury bonds has remained significantly higher during the post-crisis period than in the pre-crisis period but nevertheless declined from 4.8 percentage points in December 2008 to less than 1 percentage point by 2011 (Figure 13).

Figure 13. Market Interest Rates



Source: Bank of Korea

While many factors including negative outlooks for the global economy may have contributed to the opposite movements in short and long rates, the prime suspect has been large capital inflows, suggesting that the so-called Greenspan conundrum is no longer a phenomenon confined to advanced countries. A recent study on the transmission channel shows that the bank lending channel (through changes in bank lending rates) is the most effective one while the scope for other channels (eg through the yield curve) to operate is limited. These results indicate that monetary policy has been constrained in reacting to inflationary pressure after the global crisis.

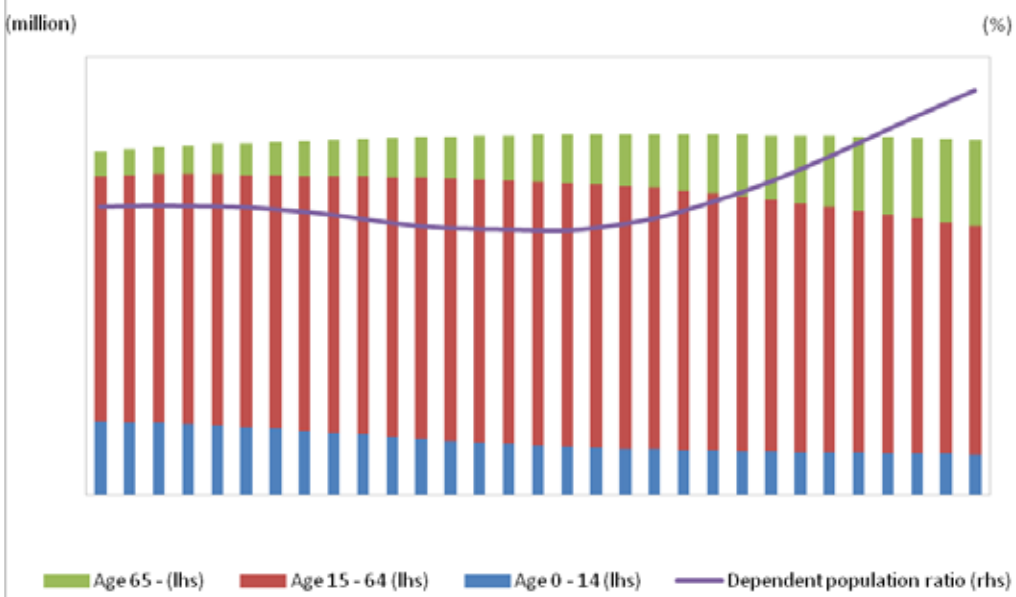
Though there have been huge inflows of foreign capital since the global financial crisis, there is no clear evidence that they have eroded Korea's international competiveness. The level of the effective exchange rate is somewhat lower compared with that of the pre-crisis period. The growth rates of the monetary aggregate, which have shown a downward trend, seem to indicate that the capital inflows have not expanded domestic liquidity to any great extent.

V. Further considerations

Long-run fiscal challenges

Public debt sustainability is currently not an issue which requires immediate policy attention or corrective action. And the risk of fiscal dominance is only a remote possibility. But sovereign debt management will face significant challenges arising from population ageing and ballooning social welfare expenditures (Figure 14). Social welfare expenditure has risen rapidly to almost 9% of GDP by 2010, up from less than 5% of GDP in the early 2000s while the dependency ratio is projected to rise above 50% by the late 2020s (Figure 15).

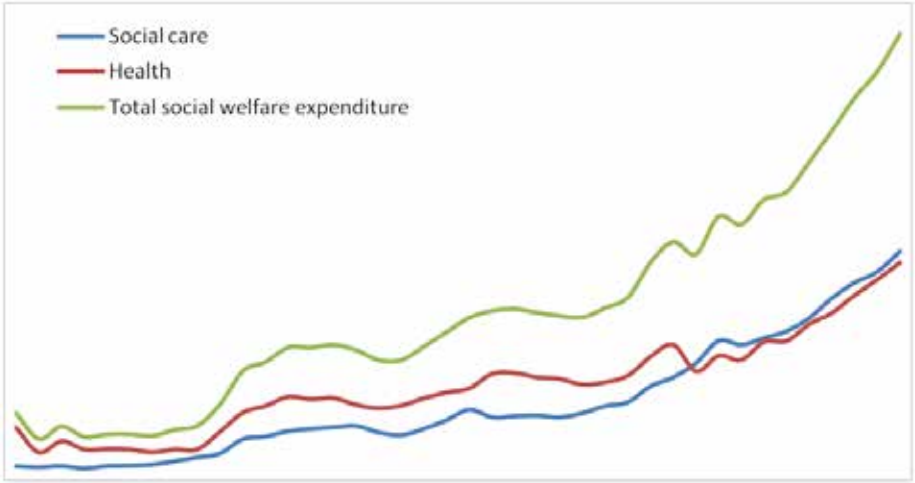
Figure 14. Projected Demographic Structure



Source: Korea Statistics Office

Figure 15. Social Welfare Expenditure

(Percent of GDP)



Source: Bank of Korea

Other risk factors to public debt dynamics are unfunded government liabilities (such as future pension payments), public agency or state-owned enterprise debt which is not counted as sovereign debt, and the cost of unification. It is very difficult, if not impossible, to estimate the cost of unification with any precision but the impact of unification on the government budget would in all likelihood be enormous.

The state-owned enterprises (SOEs) are making profits (eg 2.9 trillion won in 2010) and maintain a positive net asset position (assets 444.6 trillion won, debt 271.8 trillion won) and there is no sign of imminent financial problems. However, the SOEs have increased debt rapidly in recent years in order to finance large-scale multi-year investment in infrastructure and the energy sector. This may potentially give rise to a public debt problem and needs to be monitored carefully.

Financial risks to the Bank of Korea

The Bank of Korea is subject to financial risks as it issues its own debt in domestic currency and purchases foreign assets. Financial risks involve interest rate, credit and currency risks. Interest payments on MSBs have typically accounted for more than half of the total operation cost of the Bank (Table 6). Moreover, the Bank incurred a large loss in 2005–07 because of the Korean won's steep appreciation. Acknowledging such financial risks, the recent revision of the Bank of Korea Act allows the Bank to maintain a higher reserve balance (to be used to compensate for losses) by withholding up to 30% of its operational profit (previously 10%).

Table 6

Operation balance of BOK

(Billion won, %)

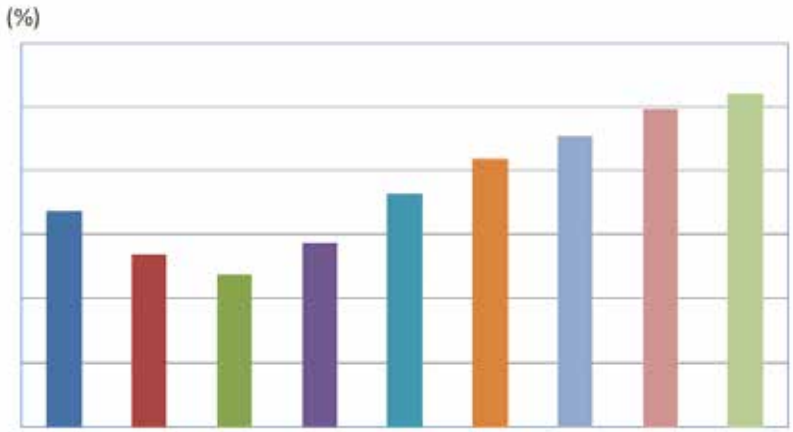
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Operation cost (A)	6,243	6,223	6,405	7,899	9,344	11,945	14,081	16,916	12,915	11,876
Interest payment for MSB (B)	4,873	4,802	4,963	5,584	6,144	6,806	7,478	7,200	6,228	6,010
(B/A, %)	(78)	(77)	(77)	(71)	(66)	(57)	(53)	(43)	(48)	(51)
Operation profit	6,124	4,149	3,198	35	–1,919	–1,762	–491	3,363	3,823	4,560
Appreciation rate of won to dollar	–14.2	3.1	4.7	4.0	10.5	6.7	2.8	–18.7	–15.8	9.4

Source: Bank of Korea.

Household debt and monetary policy

While sovereign debt is low by international standards, household debt has recently increased to an alarming level. The ratio of household debt to disposable income stood at 132% at the end of 2010, a level broadly comparable to the corresponding figures of many advanced economies, including the United States (Figure 16). In addition, the characteristics of this debt are less than benign. The majority of household debt comprises bullet loans from banks and non-banks at variable interest rates and a relatively short maturity (typically of three years). This suggests that households are exposed to liquidity risk and remain vulnerable to income shocks.

Figure 16. Ratio of Household Debt to Disposable Income

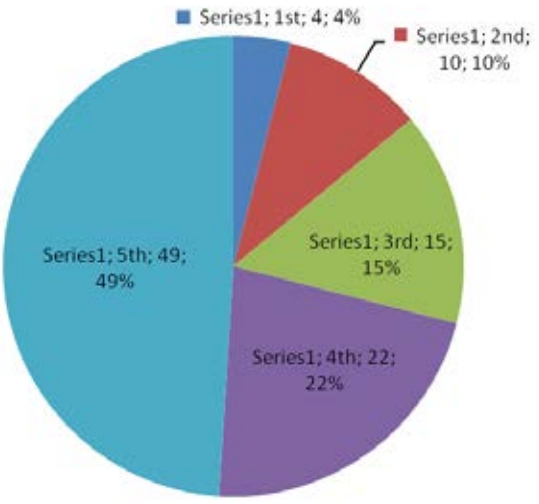


Source: Bank of Korea

The recent increases in the household debt ratio seem to reflect not only consumption smoothing at a time of sluggish income growth and low interest rates but also financing of home purchases in anticipation of rising housing prices (particularly in non-metropolitan areas). The accommodative monetary policy stance, maintained since the global crisis, may also have influenced the increase in household debt.

At present, the underlying macrofinancial risk related to high household indebtedness seems to be less than one would infer from the debt-to-disposable-income ratio itself. To be specific, according to a household financial survey data, most household debt is owed by middle- to high-income groups (ie the top three quintiles), whose repayment capacity is assessed as relatively strong (Figure 17). Moreover, these groups have financial assets that can be drawn down if necessary for debt repayment. Indeed, the household debt ratio is estimated to fall to below 80% if measured against the broader financial resource base comprising disposable income and long-term time deposits. Last but not least, housing loans have been subject to tight prudential regulations, including LTV and DTI restrictions since 2002.

Figure 17. Distribution of Household Debt by Income Quintile (2010)



Source: Korea Statistics Office

While there seems to be no immediate threat to financial stability at present, high and rising household debt, if persisting over a long period, would in all likelihood lead to increased systemic risk and undermine the scope for monetary policy to preserve price and financial stability. In view of the high uncertainty in global financial markets and real activities, Korea's monetary policy has so far remained accommodative despite a five-step increase in the policy interest rate since mid-2010. And the likelihood of monetary tightening in the near future seems low in view of the deteriorating global outlook. In this light, the supervisory authority has taken macroprudential action to slow the speed of household debt increases, if not prevent it from rising further.