

Policy Panel

1. Carlos Araújo

Housing Policy in Brazil

Thank you to the organisers for the invitation – this is my second trip to Sydney and it is a pleasure to be here.

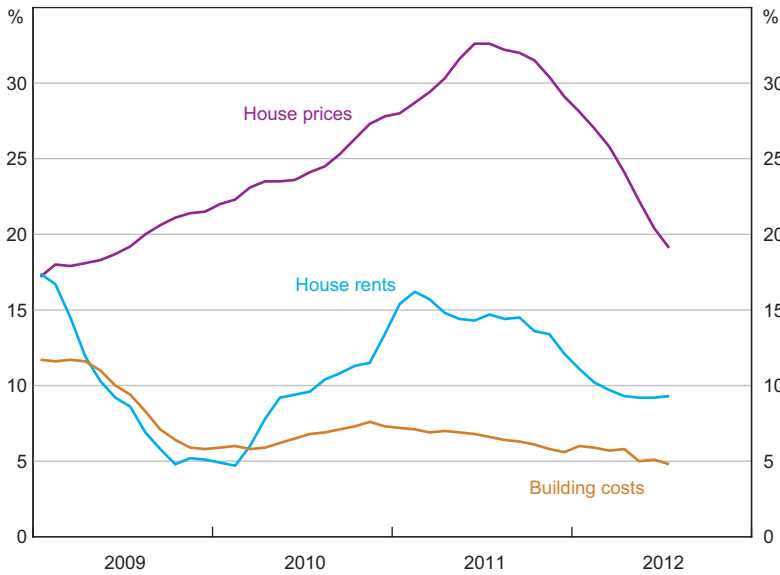
I shall start by presenting some developments in the Brazilian housing sector as well as in Brazilian housing credit. Then, considering that these developments have occasionally been seen as signals of overheating, I will place them in a broader perspective and, in doing so, will present two arguments. First, that developments in the housing sector have been supported by solid microeconomic foundations and institutional improvements. Second, that we have built solid lines of defence against excesses in the credit market.

Developments in the housing sector

Focusing on Rio de Janeiro and São Paulo, between January 2009 and January 2011 the year-ended growth rates in the asking price for houses nearly doubled from 17 per cent to around 32½ per cent (Figure 1). More recently, we have observed a substantial moderation in house price growth although it is still high. Likewise, the house rents line shows that after a period of high growth – reaching a local peak of 16.2 per cent in year-ended terms – growth in house rents has also moderated. Building costs have evolved roughly in line with overall prices in the economy.

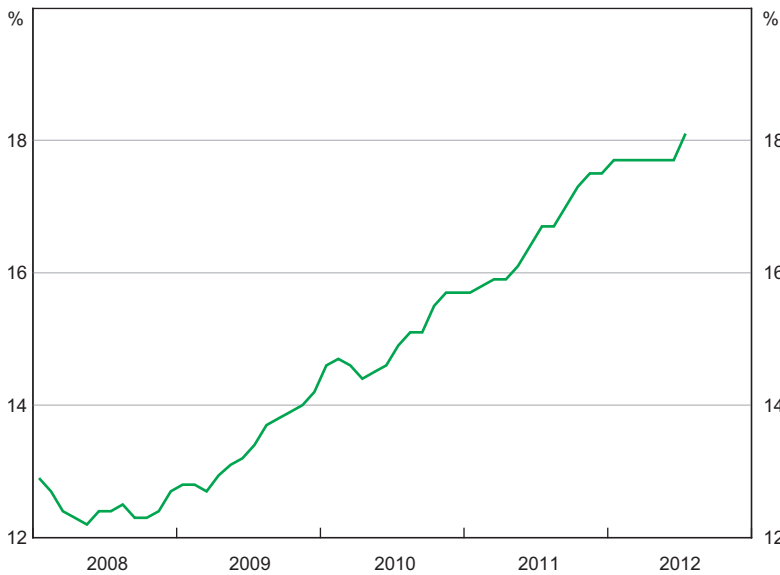
Putting together price and rent indicators, the price-to-rent ratio has gone up (Figure 2), but it has not moved away from international standards. In fact, if you consider Rio de Janeiro and São Paulo as good proxies for the whole country, price-to-rent ratios in Brazil would be placed above those recorded in other emerging economies in the Americas, but far below those recorded in the more developed economies of Canada and the United States (Figure 3).

Figure 1: Growth in House Prices, Rents and Building Costs
Year-ended

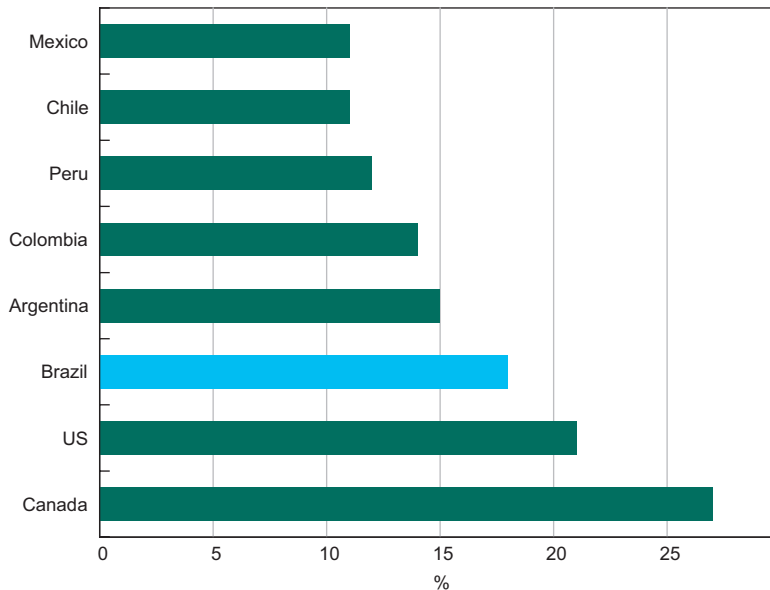


Note: House prices and rents show the asking prices for a large sample of houses in Rio de Janeiro and São Paulo
Sources: Fundação Instituto de Pesquisas Econômicas (Fipe); Instituto Brasileiro de Geografia e Estatística

Figure 2: Price-to-rent Ratio



Note: House prices and rents refer to asking prices for a large sample of houses in Rio de Janeiro and São Paulo
Source: Fipe

Figure 3: International Price-to-rent Ratios

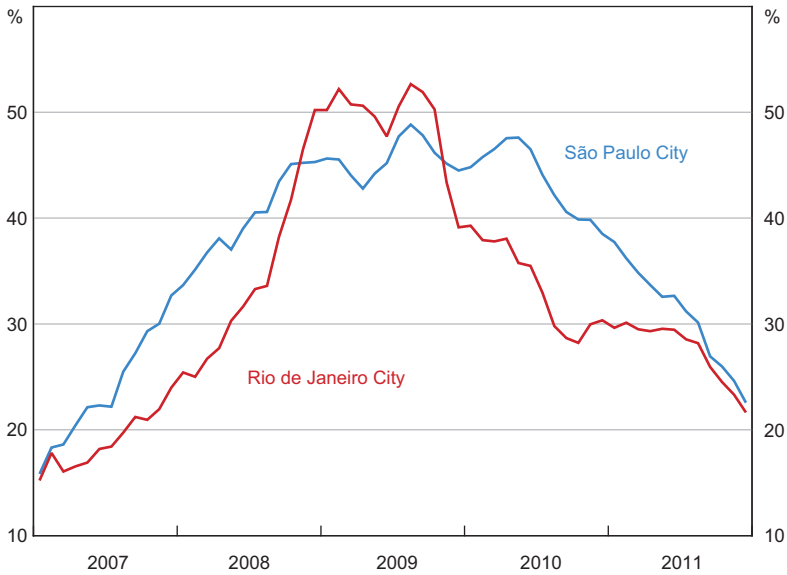
Notes: Price-to-rent ratio for Brazil is for Rio de Janeiro and São Paulo for July 2012; ratios for the remaining countries are for November 2011

Sources: Fipe; Global Property Guide

Turning to housing credit, we also see significant growth rates followed by some moderation (Figure 4). For Rio de Janeiro, the path was particularly steep in 2008, which may have been associated with the announcement of the Olympic Games and, perhaps more importantly, of major oil discoveries in the region. An examination of the flow of new housing loans shows that, after a phase of strong growth, the growth in the number of new loans fell and, today, is back to levels recorded in 2007–2008 (Figure 5). To a large extent, the same evaluation applies to the growth in the average value of new loans.

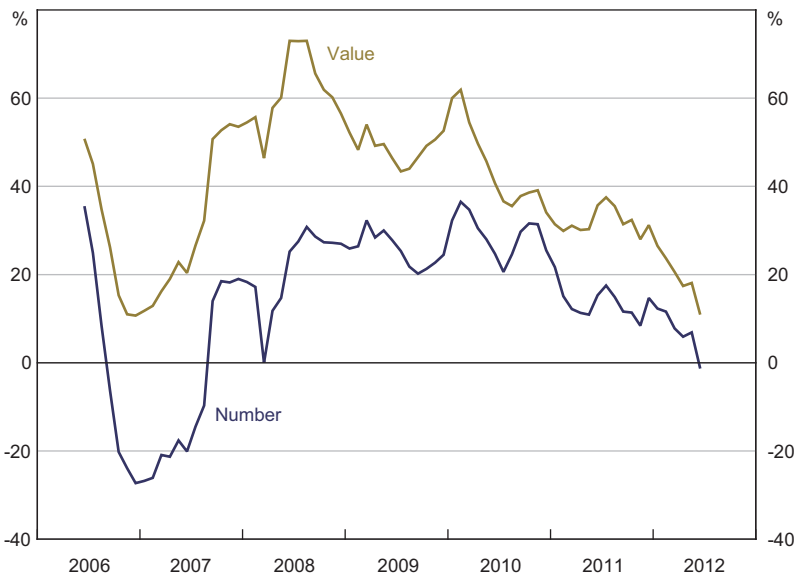
In sum, in Brazil a period of steep increases in prices, rents and credit was followed by a period of slowdown. Nevertheless, these three variables are still growing at a significant pace. What underlies this housing sector performance?

Figure 4: Growth in Housing Credit
Year-ended



Source: Banco Central do Brasil

Figure 5: Growth in New Housing Loans
Year-ended, five-month moving average



Note: New housing loans originated under the Housing Finance System (SFH)
Source: Banco Central do Brasil

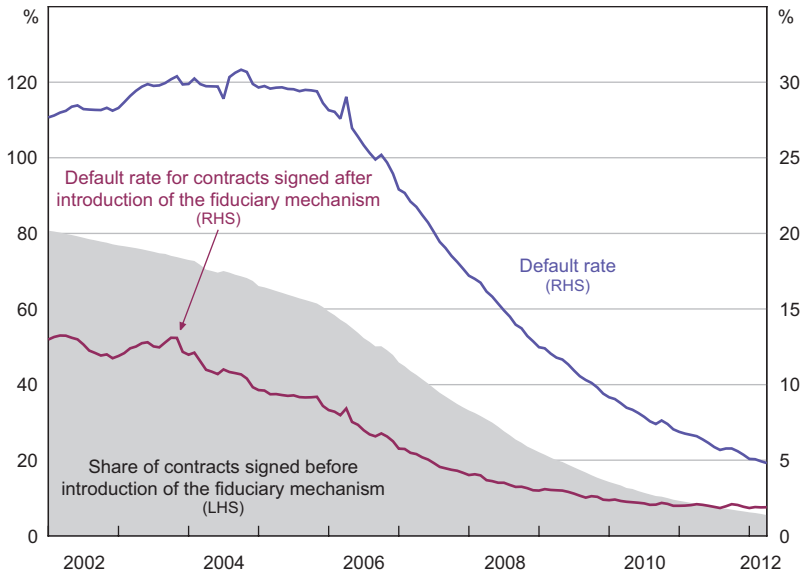
Fundamentals behind the housing boom

In their paper in this volume, Frank and Veronica Warnock assert that the Brazilian housing finance system is small, in part, because of four factors: first, its legal system still provides little protection for borrowers and lenders; second, its credit information systems are less informative than they could be; third, its property registration process is onerous and time consuming; and fourth, the economy still has remnants of past macroeconomic instability.

I am inclined to support their views; they make it clear they are referring to a situation which prevailed in the first half of the last decade. My understanding is that all these impairments – with the exception of the third, which is only partially resolved – are not present in Brazil today. Moreover, I conjecture, their removal helps to explain the boom observed over the last six or seven years in the housing sector.

Let us now examine what is behind the recent housing sector performance. Macroeconomic stability has been a major driver of growth in the housing sector. Higher GDP growth rates, lower unemployment, controlled inflation, fiscal discipline and the decline in interest rates have contributed to longer-run planning, borrowing and lending. Another important aspect is institutional improvements: recent years have seen the creation of a credit protection bureau, a credit protection law and a general reorganisation of the financial system. In 2002, the Banco Central do Brasil set up a comprehensive system of credit information. Today it covers 100 per cent of housing loans and 99 per cent of the stock of bank loans in general. More importantly, in 2004 the real estate fiduciary assignment mechanism, created in 1997 with the Real Estate Financing System, was incorporated into the civil code. Under this new arrangement, the ownership of the property remains with the lender until full repayment of the mortgage. As a result of these reforms, we have seen a dramatic decline in non-performing loans and the phasing out of contracts that were signed before the introduction of the fiduciary mechanism (Figure 6).

Figure 6: Impact of Creditor Protection Legislation



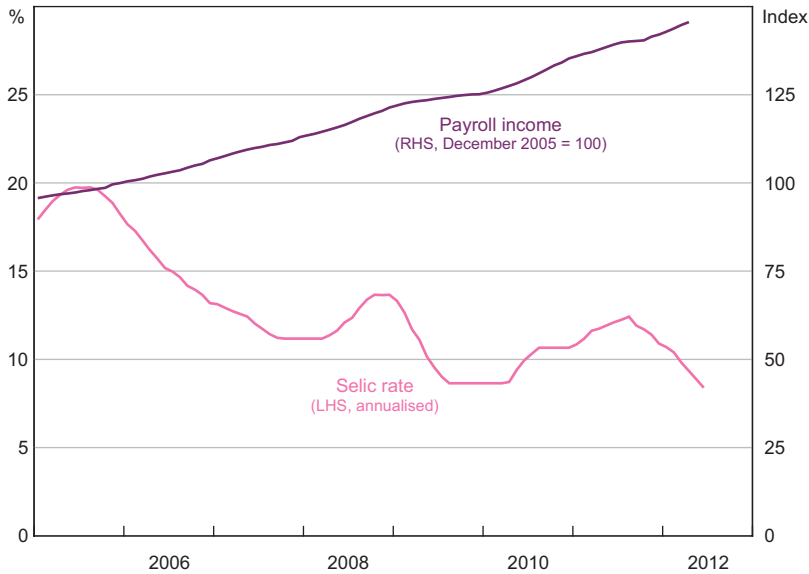
Source: Banco Central do Brasil

Another important determinant of recent housing sector developments is the size of the housing deficit, which means there is strong non-speculative demand for homes. This deficit is estimated to be 5.6 million homes for the country as a whole and 1.5 million homes in the metropolitan regions. This means that today 80 to 90 per cent of units sold are to first-time home buyers.

Affordability

I would also like to say a few things about affordability. First, mortgage payments in general represent less than 30 per cent of a family's income in Brazil. Second, according to estimates by JPMorgan, the ratio of house prices to income is relatively low in Brazil, at around 6 in the city of São Paulo against, for example, 13½ in Hong Kong and Singapore; 13 in Beijing; and 7 in Mumbai. Third, banks in general have strict policies, with a maximum loan-to-value (LTV) ratio at around 80 per cent (it can be up to 100 per cent but only for the cheapest segment and, in most cases, the buyer receives an up-front cash subsidy from the Federal Government to make the down payment).

In Figure 7 we see a combination of falling interest rates and increasing household income over the last six to seven years. This virtuous combination strongly supports the hypothesis of no affordability problems – at least so far.

Figure 7: Affordability

Note: Selic rate refers to the overnight rate of the Banco Central do Brasil.
 Source: Banco Central do Brasil

A little more about the fundamentals behind the housing boom

Another pillar of housing sector performance is prudential policy. Brazilian regulations have been generally conservative with high capital adequacy ratios (the minimum level in Brazil is 11 per cent against the 8 per cent established by Basel II); high liquidity buffers, in particular high reserve requirements; origination practices that respect the recommendations of the Financial Stability Board; and a risk-based approach with a high degree of compliance with the Basel core principles.

With regard to housing finance, the primary source of loans in Brazil is the Housing Finance System (SFH), which is aimed at lower-income groups. Earmarked lending schemes assign 65 per cent of savings deposits to housing credit (the institutions have to assign no less than 80 per cent of it to the SFH, and the rest to market-based schemes). There are interest rate limits and price ceilings for eligible homes (financed with earmarked money). In the first quarter of 2012, 84 per cent of loans with controlled interest rate and price ceilings (68 per cent in terms of volume) were set with low-income clients; 58 per cent of loans with no constraints (74 per cent in terms of volume) were arranged with high-income clients. Another source of funding is securitised funding, which makes up around 20 per cent of the funds provided by savings accounts.

Conclusion

In summary, housing prices and housing credit have experienced a period of rapid growth. This has been driven by good macroeconomic and institutional fundamentals, growth and stability, information and creditor protection. And, importantly, Brazil has adequate regulation and supervision which provides lines of defence to protect against occasional excesses in the credit market.

2. Per Jansson

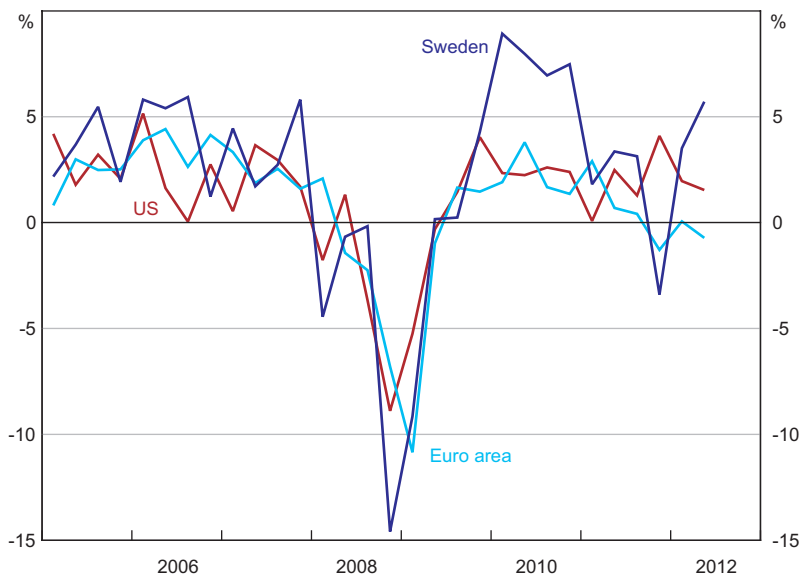
The Experience of Sweden

Sweden – relatively unscathed through the crisis

First I would like to clarify that the views I express here are my own and are not necessarily shared by my colleagues on the Riksbank's Executive Board. I do believe, however, that most of my colleagues share a similar view to mine in the issues I raise.

Sweden is one of the countries to have made it through the crisis relatively unscathed. After initially being hit quite hard – GDP shrank by 5 per cent in 2009 – the Swedish economy bounced back swiftly, with growth rates of around 6 and 4 per cent in 2010 and 2011, respectively (Figure 1).

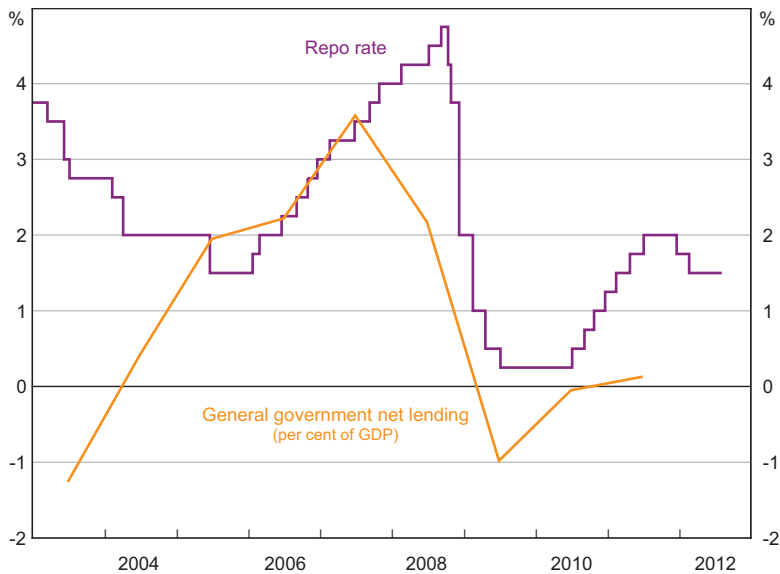
Figure 1: GDP Growth
Quarterly annualised terms, seasonally adjusted



Sources: Bureau of Economic Analysis; Eurostat; Statistics Sweden

Against this background, the Riksbank was one of relatively few central banks to raise its policy rate, increasing it from 0.25 per cent in July 2010 to 2 per cent by July 2011 (Figure 2). It was later cut by 0.25 percentage points in December 2011 and February 2012 but is still well above zero and higher than in many comparable economies. This, and the fact that the public finances are in good order, means that there is some 'dry powder' left, should any further stimulus be required.

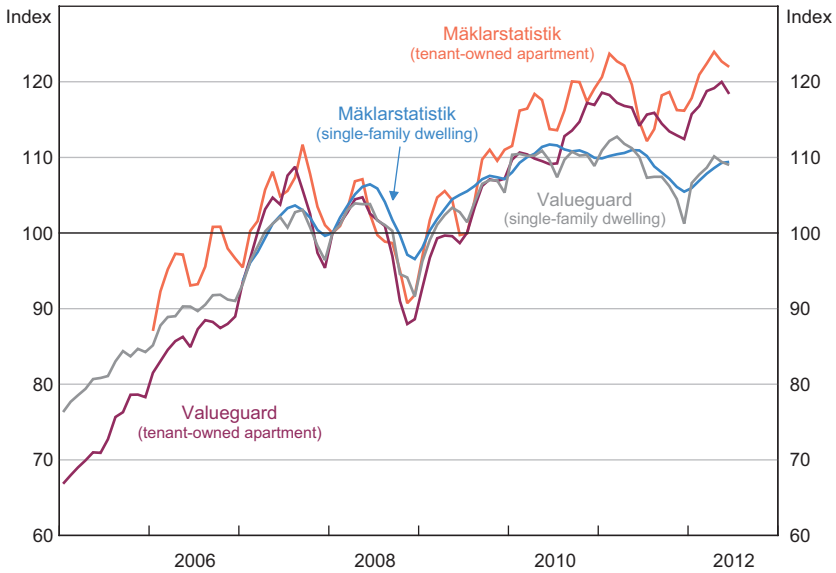
Figure 2: Repo Rate and General Government Net Lending



Sources: Reuters EcoWin; Sveriges Riksbank

In contrast to developments in many countries, housing prices have not fallen dramatically. However, due to factors such as higher interest rates and the introduction of a limit on the loan-to-value ratio of homes (or mortgage cap) by the Swedish Financial Supervisory Authority, the credit and housing markets have entered a calmer phase (Figures 3 and 4).

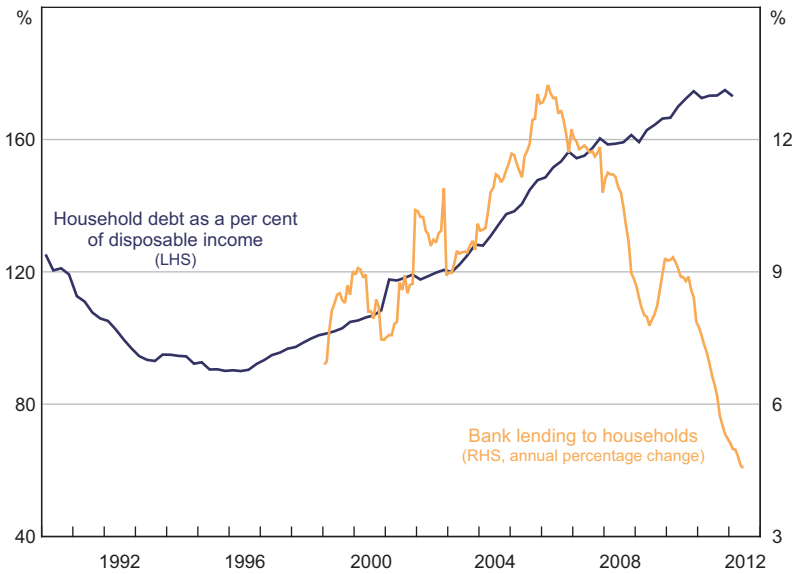
Figure 3: Housing Prices
January 2008 = 100



Notes: Valueguard are hedonic price indices, Mäklarstatistik (tenant-owned apartment) is an index on price per square metre and Mäklarstatistik (single-family dwelling) is an index on the ratio of transaction price to tax assessment value

Sources: Mäklarstatistik; Valueguard

Figure 4: Household Borrowing and Debt



Sources: Statistics Sweden; Sveriges Riksbank

Lessons from the 1990s

There are several explanations for this favourable development. For my part, I believe that the fact that things went so well – comparatively – this time is largely because they went so *badly* at the beginning of the 1990s, when Sweden was going through a severe and largely ‘homemade’ crisis. Many of the lessons we learned then and the changes we made since have been useful in the current crisis.

During the crisis of the 1990s, the budget deficit rose to such high levels that Sweden had trouble borrowing money. To secure the future stability of our public finances, we reformed the budgetary process and put in place different fiscal policy targets which, on the whole, we have managed to fulfil. The fact that we have been able to keep our public finances in good order has granted us a larger degree of freedom in this crisis. It deserves to be emphasised that gaining credibility was a lengthy and difficult process; it took around a decade to eliminate the interest-rate premium on Swedish 10-year government bonds compared with German 10-year bonds.

Another result of the crisis of the 1990s was that the fixed exchange rate policy was abandoned and we instead introduced flexible inflation targeting. We have spent almost 20 years building credibility for this policy and I think we have succeeded quite well. So instead of raising the policy rate to defend the fixed exchange rate, as we did during the crisis of the 1990s (when the policy rate was briefly raised to an astonishing 500 per cent), the Riksbank was able, this time, to move aggressively to stimulate the economy during the downturn.

As for the Swedish banks, they have not come through the crisis without losses this time either. But, because of the scars they received in the early 1990s, they were, on the whole, probably somewhat more cautious than banks in many other countries. One piece of evidence that supports this is the Swedish banks’ noticeable lack of involvement in businesses dealing with so-called structured products prior to the financial crisis.

Strokes of luck

But the Swedish economy has also benefited from some elements of luck. One such stroke of luck is that Sweden, unlike many other countries, did not have a boom in housing construction in the years prior to the crisis and hence avoided a build-up of an excess supply that would have made prices fall even more once the market turned. On the contrary, housing investment in Sweden has been surprisingly low for a long time despite increasing housing prices. The reasons for this are not fully clear – factors such as the lingering effects of excessive construction in the 1990s and weak competition keeping costs high have been suggested. Be that as it may, the fact that there was no excess supply in the housing market was more a coincidence than a result of an intentional and well-thought-out policy.

Another circumstance that, at least in part, must be considered a stroke of luck was that the Baltic countries did not devalue their currencies. If they had, the Swedish banking sector would have been hit much harder than it was due to the extensive lending carried out by Swedish banks in these countries. The loans the banks had granted were in euro and devaluations would have made the situation of the borrowers, who earned their income in the local currencies, problematic – and this would have caused bigger credit losses for Swedish banks.

Some reflections for the future

Of course, the fact that the Swedish economy has come through the crisis quite well this time does not guarantee that it will cope as well next time – all crises are different, after all. Like any other country, we need to do our uttermost to ensure that our domestic financial system remains stable and that we participate in the international reform process. Let me give some examples of issues that I, as a policymaker, find important to consider in this process, but that have perhaps not been the focus of all that much discussion.

Do not lose momentum!

One thing that I would like to stress is the importance of not losing momentum in the process of making the financial system more stable. This is, in fact, another lesson from the Swedish crisis of the 1990s – and, I suppose, from reform work in general. Even though Swedish policymakers learned a lot from the crisis of the 1990s and did make some important structural changes, some regulatory changes in the area of financial stability that, in retrospect, should have been made – and indeed were much discussed at the time – sank into oblivion as the economic situation improved. For example, a framework for crisis management was never put in place. In addition, much of the regulatory framework that was launched had sunset clauses; that is, it was decided that its effects would cease after a number of years.

As a result, there was no clear regulatory road map when the global financial crisis hit in 2008. In a few weeks, we had to put the whole regulatory framework back in place again. As there were enough people around who had done this work before, we knew where to start and we could rather quickly write up the draft legislation. But this was no ideal way to do things. It is, of course, much better to have a reasonable crisis management framework in place *ex ante*. Given that such events are rare, you cannot, in general, count upon having people with hands-on experience of crisis management around when a crisis occurs. This makes it important to be able to get guidance from some kind of existing regulatory framework, which tells you what you are allowed to do and who has the authorisation and responsibility to do it. In Sweden, a government inquiry is currently looking into how to revise and refine the framework that was rather hastily put in place a couple of years ago.

An important reason for why certain reforms were not implemented in Sweden in the 1990s, even though they should have been, was that the economy recovered relatively quickly from the crisis. The fact that the worldwide recovery from the recent crisis is taking place slowly may perhaps imply that there is less risk that the reform process will lose momentum and that proper regulatory frameworks will eventually be implemented at domestic and international levels. But, as we all can see, it is not so easy to make progress in this area and I still think a warning is warranted.

Macroprudential policy will not solve everything

Even if we are able to keep up the momentum of the reform process, we should probably not have too-high expectations of its final outcome. Ideally, of course, macroprudential policy will take care of all financial stability issues and monetary policy will be able to carry on pretty much as it did before the crisis – focusing on keeping inflation low and stable, anchoring expectations, and making the economy operate close to full capacity.

However, I personally doubt that this is the way things will evolve. I am quite sure that we will not be totally immune to financial crises in the future either. What we hopefully can achieve is to make crises rarer and less severe.

Nor do I think that we will reach a state where it will be possible to have such a strict division of labour between monetary and macroprudential policies. I suspect that it will not be possible to totally exclude the policy rate from the financial stability toolbox. There will probably always be situations in which a macroprudential policy will require support from a monetary policy that, to some extent, 'leans against the wind'. One reason is that it is difficult to construct regulations that cannot be circumvented in one way or another. The policy rate is certainly a blunt instrument, as it affects all lending in the economy. But, at the same time, this may be a strength compared with regulations, simply because it is difficult to 'circumvent' an interest rate increase.

I am also convinced that, regardless of the *formal* responsibility the central bank bears for financial stability, it will always receive a large share of the blame if a financial crisis arises. When all is said and done, the market interest rate is the price of credit and, as the central bank controls a component of this price, I believe that the general public will hardly absolve the central bank of blame if a financial crisis arises after a period of cheap credit.

Difficult political economy aspects

One reason why the reform process is complicated and may not go so smoothly is the difficult political economy aspects of financial supervision and regulation. Politicians often tend to be ambivalent. While they like to show that they are strong and able to act, in particular in critical situations like the present one, they are probably less keen to announce their willingness to 'take away the punchbowl' next time, by using the tools at their disposal to curb a credit boom – for instance by changing the ability to deduct interest rate payments on housing loans.

In addition, they are also likely to be reluctant to give away more power than they already have done. After all, not long ago, they gave away their power over monetary policy to the central banks. Even though this has been regarded as a success in that it achieved low and stable inflation, it did not prevent the global financial crisis. Should they now give away their power over macroprudential policy – and perhaps this too to the central banks? I can certainly understand that these are difficult issues for politicians to deal with. But this will not make the reform process easier.

How to best design the institutional arrangements regarding macroprudential policy is indeed a complicated issue with no easy answers. It is tempting to draw parallels to the literature on time inconsistency. In doing so, a seemingly straightforward conclusion would be that the responsibility for macroprudential policy should be delegated to the central bank, since it is already politically independent – at least more independent than most other institutional alternatives.

But a question that may be raised in the wake of recent developments is that of how independent central banks really are at the end of the day. Even though they were, perhaps, left with little option to do otherwise, many central banks have taken measures that, before the financial crisis, would have been regarded as more or less in direct conflict with the idea of being politically independent. Before the crisis, it was perceived as critical that central banks should not help to mitigate governments' fiscal problems, since this would relieve the pressure on governments to conduct fiscal policy in a sound and sustainable way. Today, some debaters even seem to be

suggesting that it is a *problem* if central banks' printing presses are not perceived by the markets and the public as a solution to governments' fiscal troubles.

This development suggests that central bank independence is a rather relative concept and that independence may well be surrendered if political pressure becomes sufficiently high. So the case for delegating macroprudential policy to the central bank may not be that strong after all. It may even be counterproductive if the probability that the central bank will be put under pressure increases if macroprudential policy is also added to its responsibilities. Under such circumstances, the overall credibility of the central bank may be called into question, including the credibility it has established for keeping prices stable. This would, of course, not be desirable.

Much remains to be seen

To somewhat offset the rather pessimistic message so far and conclude in a more optimistic tone, I would like to add that the very strong recent focus on macroprudential policy might, after all, have been excessively coloured by recent events. At the end of the day, problems from too much credit do not arise in every economic cycle – most cycles are 'normal' ones. Of course, one must remain vigilant and constantly assess the risks – and try to reduce them when necessary. But macroprudential tools, or the policy rate, will probably not have to be used all that often to subdue a credit boom and thus reduce the risk of a crisis.

It is, of course, difficult to say how often problems may arise. In Sweden, for instance, we have experienced two financial crises with around 20 years between them, and this is regarded as unusually often. So, most of the time, monetary policy will probably just be 'business as usual'. However, one thing that needs to be done in any event is to enlarge the flexible inflation-targeting framework to include a more elaborate analysis of various financial aspects. Examples include developing analytical tools that can help assess the probability of financial crises in the future and models that provide a more comprehensive picture of 'financial conditions' than just the shortest risk-free interest rate, that is, the policy rate (and the exchange rate in the case of a small open economy with currency autonomy).

Where the macroprudential policy agenda will eventually end up remains to be seen and it would certainly be wise to keep an open mind. What we can say for sure is that researchers, central banks, supervisory authorities and legislators will be kept busy for quite some time in trying to figure out, for example, how effective different macroprudential tools are and what the best institutional arrangements would be.

3. Tae Soo Kang

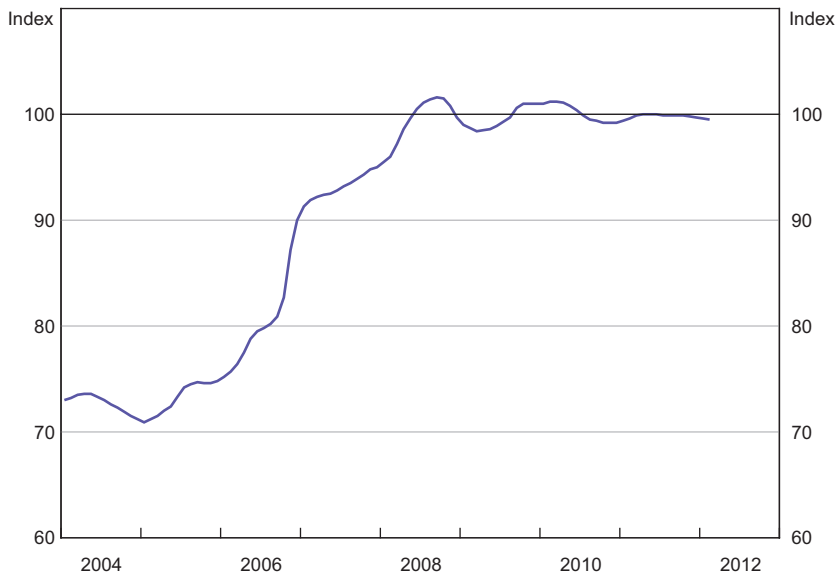
The Experience of South Korea

Review of real estate price movements over the past decade

First, I wish to express my gratitude and thanks to the Reserve Bank of Australia and the Bank for International Settlements for inviting me to the Conference. I would like to clarify that the views I express here are my own and do not necessarily represent those of the Bank of Korea.

During most of the past decade, housing prices in Korea rose continuously, surging especially rapidly between 2005 and 2008. The run-up in property prices was particularly prominent in the Seoul metropolitan area where housing prices increased by 33.4 per cent from the end of 2005 to the end of 2008 (Figure 1).

Figure 1: Housing Purchase Price – Seoul Metropolitan Area
June 2011 = 100



Source: KB Kookmin Bank

These increases in housing prices were driven mainly by the housing credit cycle. Housing price growth was closely accompanied by growth of household debt (Figure 2).

Figure 2: Growth in Household Debt and Housing Prices
Year-ended

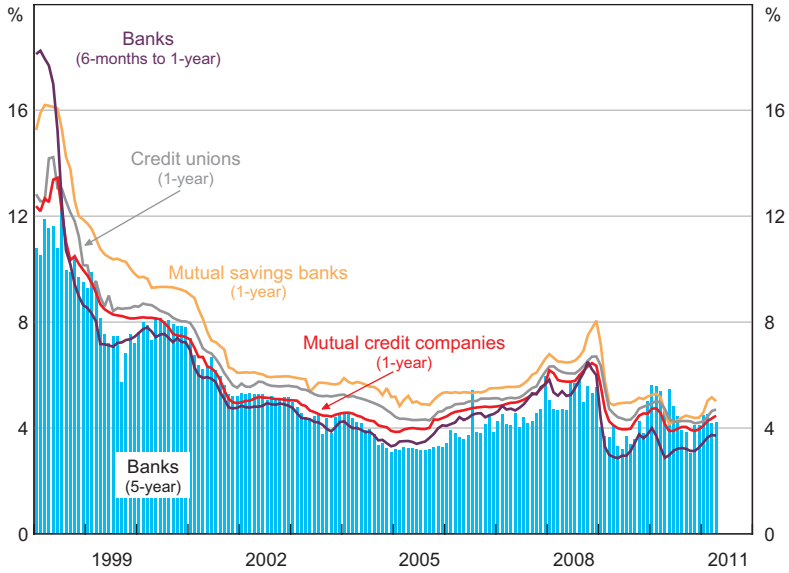


There were two main factors that led to these significant increases in housing prices: low interest rates over long periods; and growth in the segment of the population aged 40 to 54 years, which comprises a major source of demand for real estate.

In the early to mid 2000s, inflation rates were low and there was abundant liquidity in the financial markets. These factors contributed to low real interest rates over a significant period of time (Figure 3). Low interest rates caused a reduction in financing costs for home buyers, who responded by increasing their borrowings from financial institutions. In addition, domestic banks had incentives to increase mortgage lending. As housing prices increased, the value of collateral rose, reducing banks' loan losses if borrowers defaulted. And banks could not expand loans to large corporates because these corporations preferred to fund themselves from the financial markets rather than using bank loans. At the same time, banks were reluctant to significantly increase loans to small- and medium-sized enterprises as the credit risk of these enterprises remained relatively high. Because banks faced difficulty in expanding their corporate lending, they focused on the household loan market, especially the mortgage loan market.

Changes in demographic structure are of similar importance to low interest rates in increasing housing prices and housing loans. The population group in their forties and early fifties are the main buyers in the housing market. The numbers in that group have increased and the share of this group in the total population reached its peak in early 2010 (Figure 4). As the numbers in that age bracket increased, the demand for housing expanded as well.

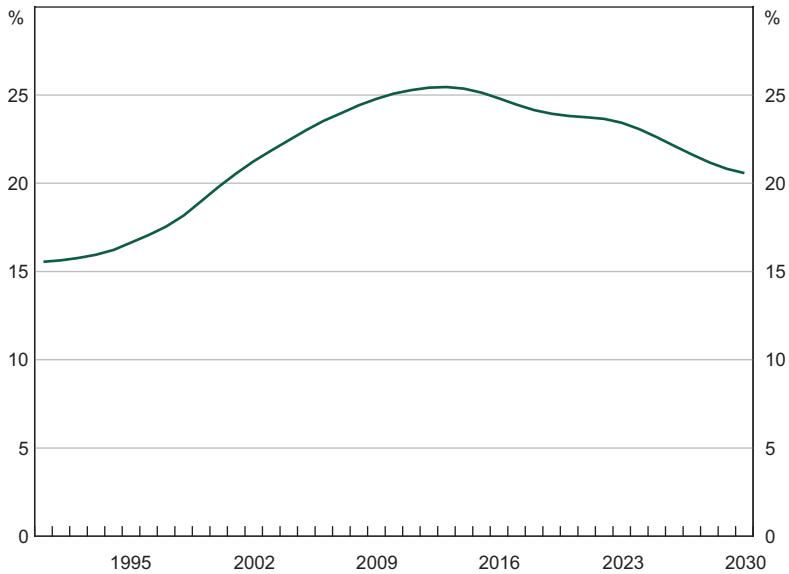
Figure 3: Bank and Non-bank Time Deposit Rates



Source: Bank of Korea

Figure 4: Demographic Change

Share of the population aged 40–54



Source: Statistics Korea

Prudential policy responses: fiscal and macroprudential policy

From the early stages of the increases in housing prices and residential mortgage loans, the policy authorities tried to dampen the exuberance of the markets by implementing various prudential policy measures. The policy responses can be divided into two categories: fiscal tools and macroprudential regulations (Table 1). As for fiscal tools, since 2003 heavier taxation has been levied on capital gains from real estate transactions by households owning more than one property. The introduction of the Comprehensive Real Estate Tax was rescheduled to 2005, earlier than the initially planned start date of 2006, to blunt housing price increases. In 2005 the tax base for the Comprehensive Real Estate Tax was broadened to capture purchases of more than 600 million won from more than 900 million won. As housing prices increased, an owner of an old apartment block could generate capital gains by constructing multiple new apartments, which prompted their prices to rise further. To restrain this, the Restitution of Development Gains was introduced in 2006, and a ceiling on the price of newly built apartments was introduced in 2007 to stabilise the prices of both new and existing apartments.

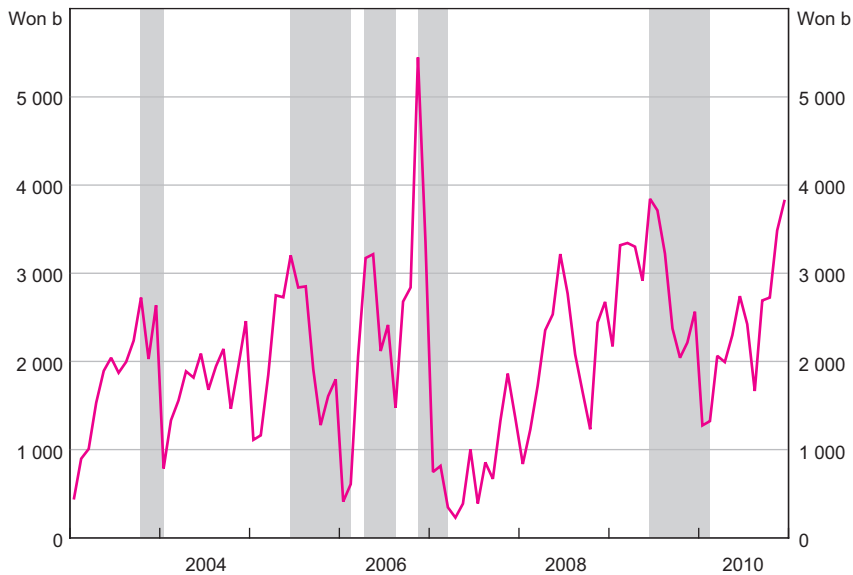
Table 1: Fiscal Tools and Macroprudential Regulations

	Fiscal tools	Macroprudential regulations
2003	Heavy taxation of capital gains by households that own more than one property Announcement of early introduction of the Comprehensive Real Estate Tax (from 2006 to 2005)	Lowering LTV ratio in speculation-prone areas from 50 to 40 per cent
2005	Broadening of base for the Comprehensive Real Estate tax (900 million won to 600 million won)	DTI ratios introduced as a limit of 40 per cent in areas with significant speculative investments (August)
2006	Introduction of the Restitution of Development Gains (0 to 50 per cent of development gain)	Expansion of areas subject to DTI regulation to include the Seoul metropolitan area Lowering non-banking sector's LTV ratio from between 60 and 70 per cent to 50 per cent
2007	Ceiling on the price of newly built apartments imposed	Restriction of housing loans to one per person
2009		Expansion of financial institutions and areas subject to DTI regulation

The impact of fiscal tools on the property markets was reinforced by macroprudential regulations such as limits on loan-to-value (LTV) and debt-to-income (DTI) ratios. The LTV cap, introduced in the early 2000s, was lowered from 50 per cent to 40 per cent in speculation-prone areas in 2003. DTI limits were first introduced in areas where speculation was rife in 2005. In 2006, the areas subject to DTI limits were extended to the whole of the Seoul metropolitan area and the LTV regulation was applied to non-bank financial institutions as well as banks. Although housing markets in many countries were suffering in the aftermath of the global financial crisis, the Korean

housing market seemed to still be in a boom phase despite a slight decline in housing prices in early 2009. To stabilise the market again, DTI regulation was extended to non-bank financial institutions and a broader geographic area in 2009. Whenever such policies were introduced, mortgage loans decreased significantly (Figure 5).

Figure 5: Housing Credit Cycle
Mortgage loans



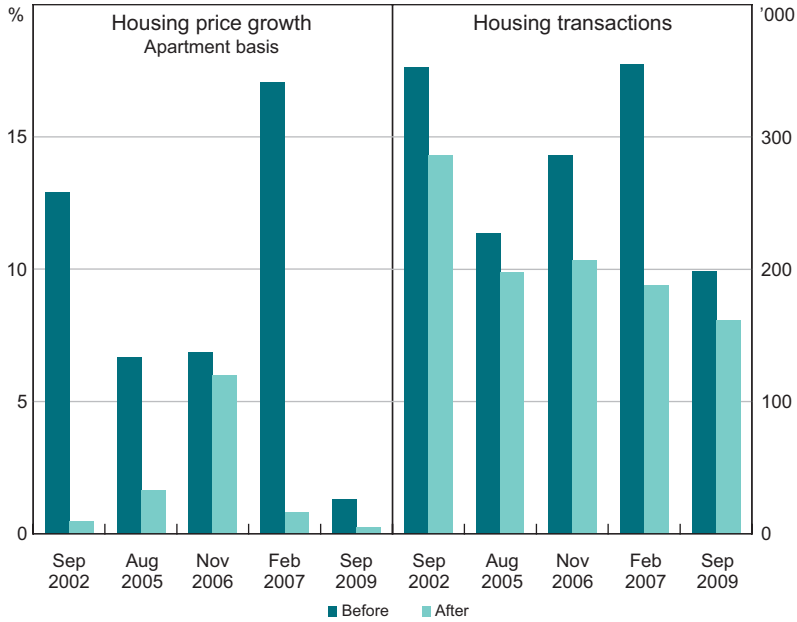
Note: Shaded areas show the decline in the value of mortgage loans following the introduction of fiscal tools and macroprudential regulations highlighted in Table 1

Source: Bank of Korea

Apparently these policy measures were effective in stabilising housing prices and the housing credit cycle. Housing price growth and the number of housing transactions decreased greatly after the tightening of regulations as property market sentiment was dampened (Figure 6).

Helped by these policy efforts, the mortgage delinquency rate was kept at a relatively low level during the height of the global financial crisis around the time of Lehman Brothers' collapse, and thereafter (Figure 7). Thus, macroprudential measures, such as LTV and DTI ratios, contributed greatly to maintaining financial stability in Korea.

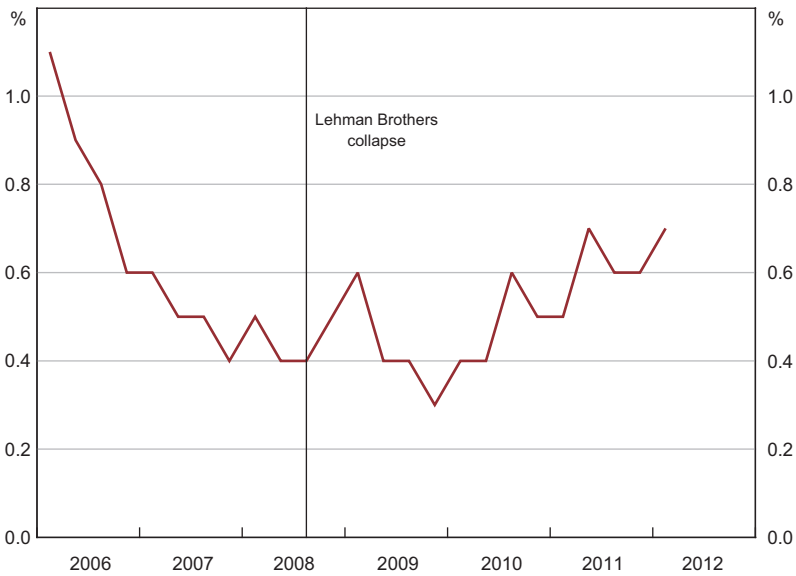
Figure 6: Housing Indicators Before and After Regulatory Tightening



Note: Comparison between six-month periods before and after tightening of loan regulations for Seoul metropolitan area

Sources: KB Kookmin Bank; Ministry of Land, Transport and Maritime Affairs

Figure 7: Mortgage Delinquency Rates



Source: Financial Supervisory Service

Unintended side effects and circumvention attempts

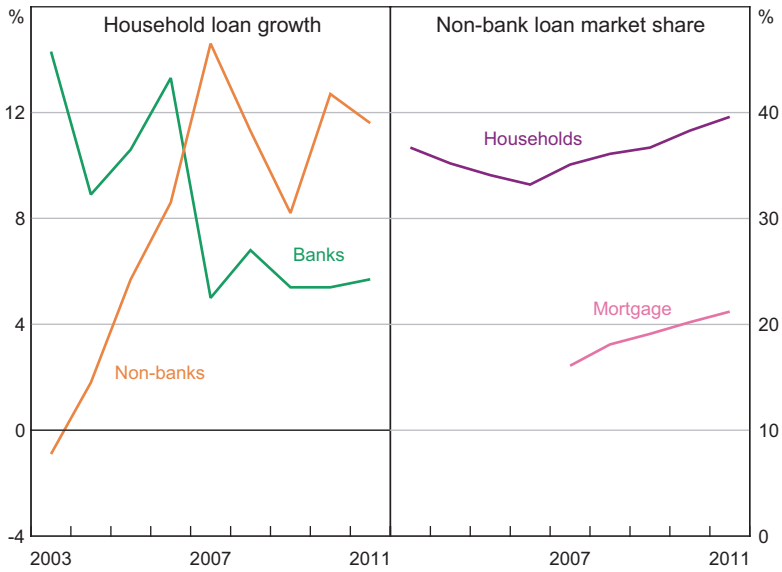
In reality, any policy measure will have some form of side effect. LTV and DTI regulations are no exception. In the Korean case, we can cite three unintended consequences of attempts made by financial institutions and borrowers to circumvent the policy measures undertaken by the Korean authorities.

Marginal extension of maturity to get regulatory advantage

After the introduction of the 50 per cent LTV cap, the regulatory authority gave a 10 per cent LTV cap advantage to mortgage loans with maturities longer than three years. To take advantage of this, domestic banks offered mortgage loans with a 37-month maturity. However, these attempts to get around the regulations could not be sustained when the regulatory authority picked up on them and carried out special examinations to ensure compliance with the spirit of the regulation.

Balloon effect

Mortgage loans by banks were tightly regulated and the regulations were effective in containing rapid expansion of their mortgage lending. As the regulations mainly targeted the banking sector, mortgage lending tended to move instead to non-bank financial institutions. Reflecting this so-called 'balloon effect', since 2007 household loan growth in the banking sector has remained at a low level while that in the non-banking sector has been higher (Figure 8). As a result, the market shares of non-banks in the overall household loan market and the mortgage loan market were on an increasing trend after 2007. To deal with these unintended consequences, the regulatory authority extended the regulation to non-bank financial institutions and lowered the caps.

Figure 8: Lending by Banks and Non-banks

Note: Non-banks are mutual credit institutions (including credit unions and community credit cooperatives), credit-specialised financial institutions, mutual savings banks and insurance companies

Source: Bank of Korea

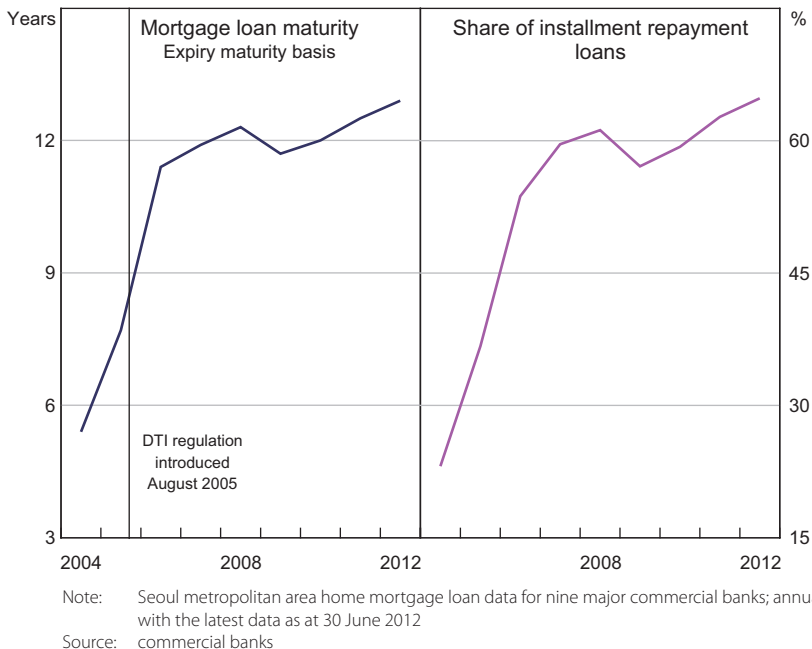
Maturity mismatch and de facto bullet payment loans

The LTV and DTI regulations in Korea were designed to advantage longer-maturity and installment-payment loans. To see this, consider the DTI ratio formula:

$$\text{simplified DTI ratio} = \left[\frac{\text{annual redemption} \left(= \frac{\text{mortgage loan}}{\text{maturity}} \right)}{\text{annual income}} \right] \times 100 \quad (1)$$

The longer the maturity, the smaller is the annual redemption. This results in a lowering of the DTI ratio and an expansion of borrowing capacity. The policy authorities' effort was successful in that the average maturity of mortgage loans greatly lengthened following the measures. As shown in Figure 9, at the end of 2005, the year when the DTI regulation was first introduced, the average maturity of mortgage loans was 7.7 years, but by the end of June 2012, it was 12.9 years. And the proportion of installment-repayment loans to total mortgage loans increased from 23.1 per cent in 2004 to 64.8 per cent in June 2012.

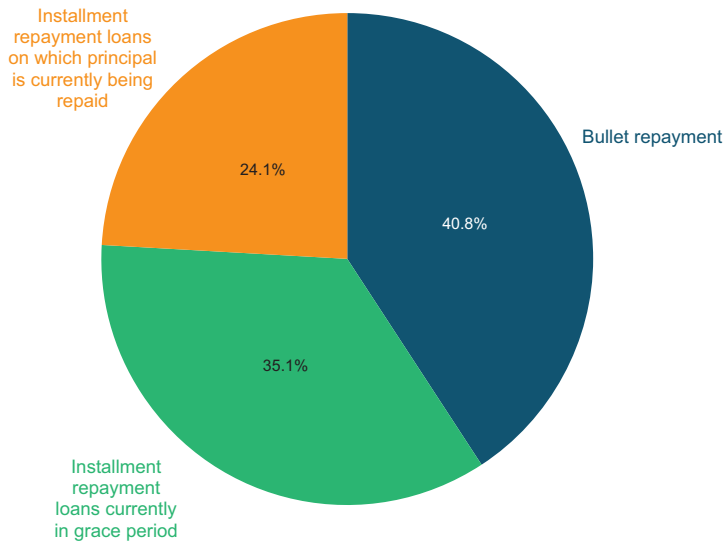
Figure 9: Mortgage Loan Maturity and Repayment
Domestic banks



However, the maturity mismatch between funding and lending widened, resulting in an increase of liquidity risk in financial institutions. Partly as a result of the expansion of average mortgage loan maturity, the overall asset maturity of banks had increased greatly from 2.8 years at the end of 2005 to 3.5 years at the end of 2008. The liability maturity, however, had only increased slightly from 1.3 years to 1.5 years, widening the maturity mismatch between the assets and liabilities of banks from 1.5 years to 2 years over the same period.

The policy authorities tried to increase the use of installment-payment loans by giving them a 5 per cent LTV advantage so that borrowers' redemption burdens could be spread out over a longer period of time and borrowers' default risk could be reduced. However, as shown in Figure 10, the principal is currently only being repaid on 24.1 per cent of mortgage loans. A further 35.1 per cent of mortgage loans are installment loans that are currently in a grace period with zero principal repayment and the remaining 40.8 per cent are bullet repayment loans. When the expiration date arrives, domestic banks tend to either extend the grace period or to renew the bullet repayment loan. Therefore, a significant part of mortgage lending remains *de facto* bullet repayment type lending despite the policy efforts to expand installment loans.

Figure 10: Mortgage Loans by Repayments Type
As at 30 June 2012

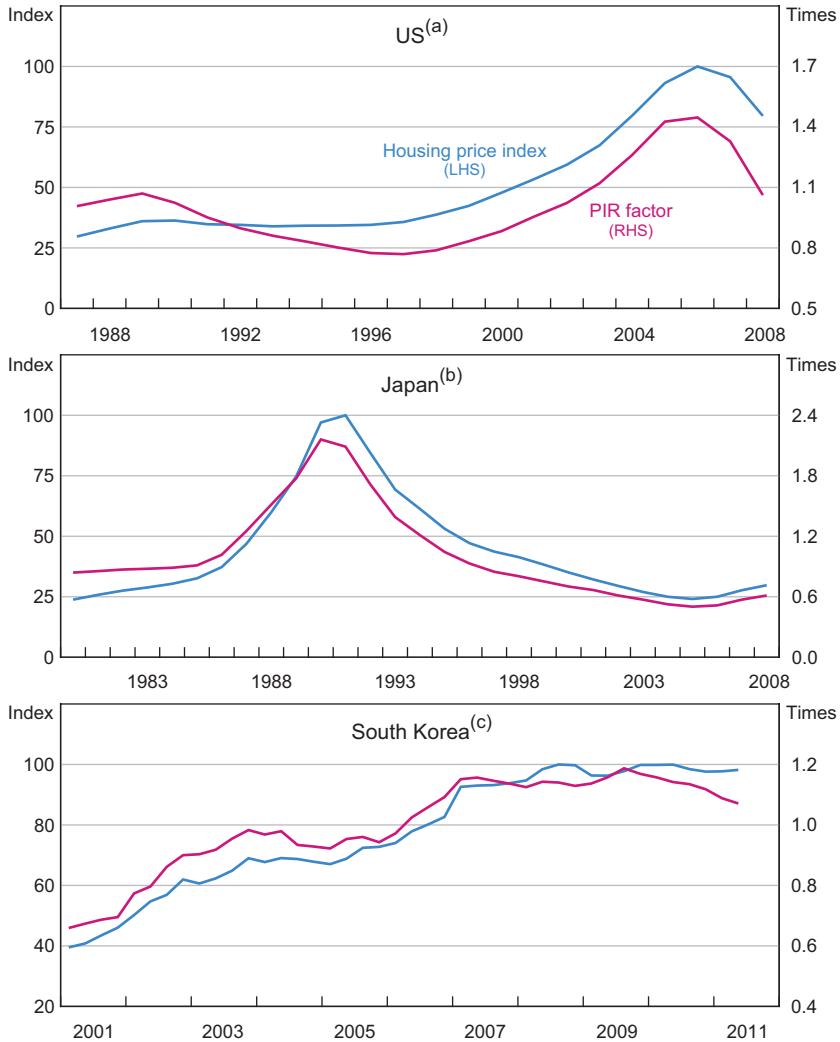


Note: Seoul metropolitan area home mortgage loan data for nine major commercial banks
Source: commercial banks

Recent concerns

From the experience of the United States and Japan, housing prices tend to decline over a significant period of time after the housing price-to-income ratio (PIR) has passed its peak (Figure 11). The housing price index and PIR reached their peaks in the late 1980s in Japan and in the mid 2000s in the United States and, shortly after reaching their peaks, they started declining sharply. In Korea, the housing price index and PIR had increased continuously up until 2010 but then dropped slightly. It is difficult to say whether they have entered a fully-fledged downturn.

Figure 11: Housing Markets



Notes: PIR factor is equal to the current PIR divided by the long-term average PIR, where PIR is defined as the ratio of housing prices to disposable income per capita

(a) S&P/Case-Shiller 10 Cities Home Price Index, peak (2006) = 100; long-term average PIR from 1987 to 2009

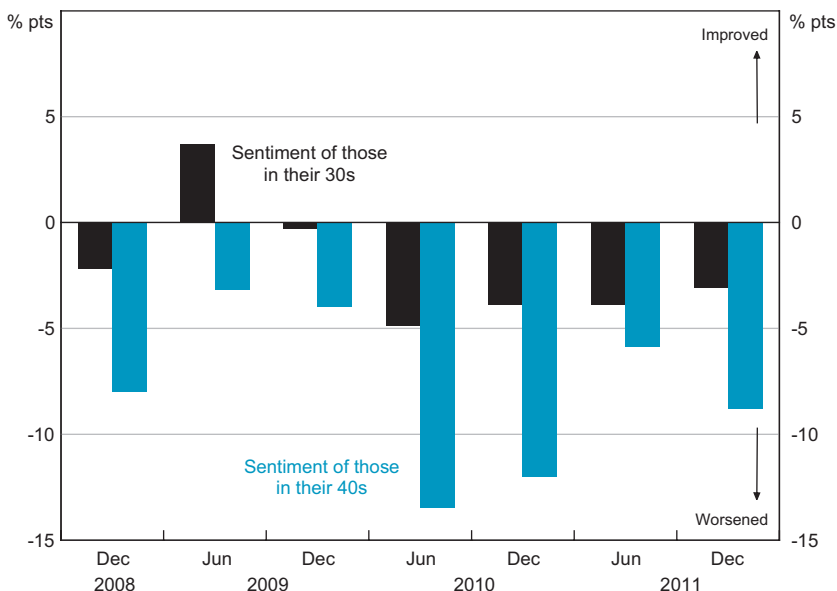
(b) Land price index (six major cities), peak (1991) = 100; long-term average PIR from 1980 to 2009

(c) Apartment purchase price index (Seoul area); peak (2008:Q3) = 100; long-term average PIR from 2001 to 2011

Sources: Japan Real Estate Institute; Standard & Poor's; Statistics Korea

Several factors are likely to be weighing on housing prices. First, there is weak home-buying sentiment among those in their thirties and forties, many of whom will be first home buyers (Figure 12).

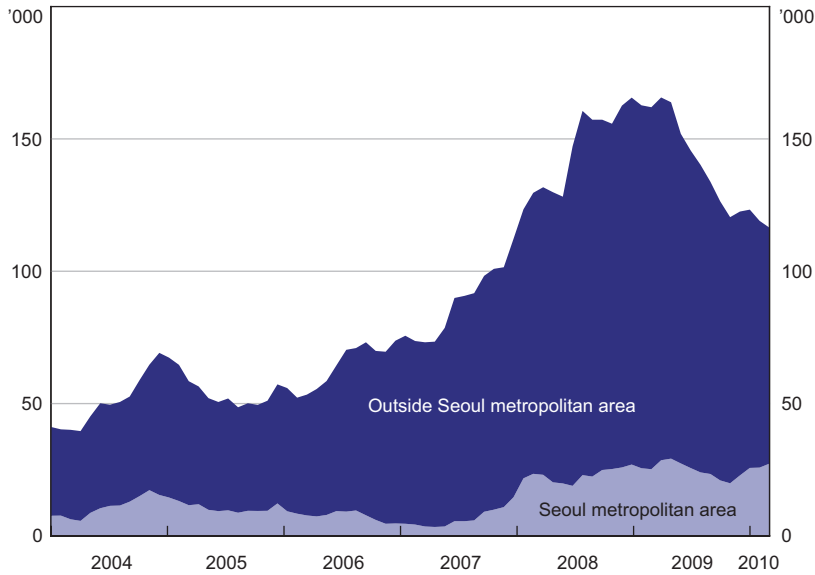
Figure 12: Home Buying and Selling Sentiment Indices
By age cohort



Note: The change in the percentage of hopeful buyers (sellers) that answer they currently have the intention to buy (sell) a home within the next six months compared with the previous quarter

Source: Budongsan 114

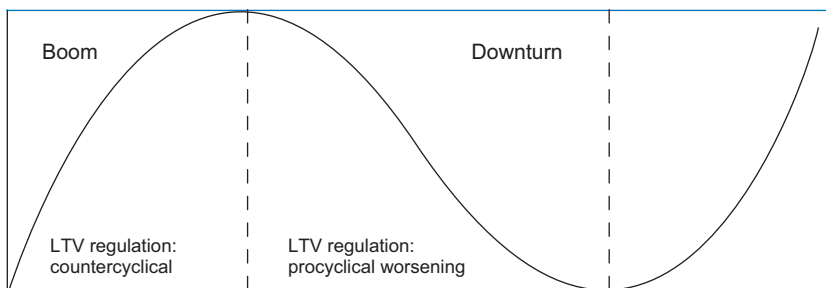
Second, the share of the population aged 40 to 54 years, which is most likely to join the housing market, is expected to decrease as mentioned earlier. Finally, a backlog of unsold houses has accumulated (Figure 13). Combining all these factors – weak home buying sentiment, demographic structural changes, and the large unsold housing inventory – housing prices are more likely to decline than to rise. This implies the need for a shift in the focus of current policy concerns toward reducing downside pressure on housing prices.

Figure 13: Inventory of Unsold Homes

Source: Ministry of Land, Transport and Maritime Affairs

3.4.1 Asymmetric effects of LTV regulation

Declining housing prices cause significant concerns to authorities in charge of macroeconomic and financial stability. What is worse, in the downturn phase of housing prices, LTV regulations may contribute to further housing price declines. This is because the effects of LTV regulations can be inherently asymmetric (Figure 14).

Figure 14: Housing Price Cycle and the Role of LTV Regulation

As mentioned earlier, tightening LTV regulations in a boom period is likely to decrease borrowers' funding capacity, contributing to the stabilisation of housing prices. In short, the tightening of LTV regulations acts to dampen housing prices in a boom period. However, in a downturn when housing prices are falling, a borrower's LTV ratio is likely to move above the regulated level and the repayment burden can increase. Under this situation, borrowers may try to sell properties to repay the loans and this decision may cause a fire sale of housing and an oversupply in the

property market, resulting in a sharper decline of housing prices. This implies that in a downturn period, LTV regulations can amplify housing price movements, which may become a potential source of increasing systemic risk. Currently, borrowers' LTV ratios are relatively low in the domestic banking sector as overall housing prices have not decreased greatly, and thus selling pressure is not high. Nevertheless, as housing prices in some areas have decreased significantly, there is a growing number of cases where it is necessary for borrowers to repay some of their loans to meet the regulatory level of the LTV ratio. The increase in borrowers' repayment burdens can reduce household consumption, thus dampening economic growth and increasing the possibility of macroeconomic and financial instability. When housing prices start to decline rapidly, a temporary suspension of LTV regulations could be one of the policy options for sustaining financial stability.

4. Kiyohiko G Nishimura

How to Detect and Respond to Property Bubbles: Challenges for Policymakers

Let me begin by commending the impressive achievements of the BIS project, as exemplified by the presentations yesterday and this morning. In this regard, I am sure you will join me in applauding the efforts of Frank Packer and his accomplished colleagues at the BIS Asian Office. In spite of this impressive progress, however, I still think that we are only at the starting line: many problems remain to be solved before this project can provide guidelines for policymaking. Learned academics may be experts in 'explaining' the causes and effects of past events that have shaken the world. To put it metaphorically, failures in the last war are always scrutinised thoroughly, and their lessons are presented. In contrast, we policymakers should be looking forward into the future. We should not be fighting the last war when things are changing rapidly, no matter how well we may have learned their lessons.

The two main questions from the policymaker's point of view are: how can we detect malign property bubbles, and how should we respond to them?

How to detect malign property bubbles

Let me start with the first question: how can we detect malign property bubbles? Here we should be aware that not all property bubbles lead to financial crises, and not all financial crises are preceded by property bubbles. International panel studies have shown that two-thirds of 46 systemic banking crises were preceded by housing price boom-bust patterns, while 35 out of 51 housing price bust episodes were followed by a crisis (Claessens, Kose and Terrones 2008; Claessens *et al* 2010). So there are both malign bubbles and benign ones.

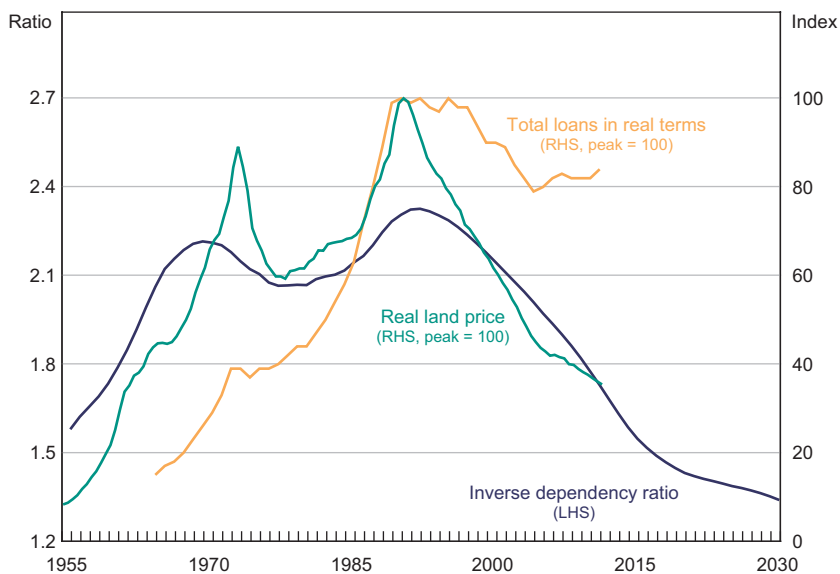
Then, what leads to a malign bubble? Looking back at the past experience of malign bubbles, we find another factor which has not been touched upon by the presentations so far: the demographic transition from a 'population dividend' to the 'burden of an ageing population'.

Let us compare the Japanese property bubble of the 1990s, the US housing price bubble of the 2000s, and the possible Chinese property bubble (Figures 1 to 3). In these three figures, I juxtapose,

first, the ratio of working-age population to the rest (the inverse dependency ratio, also referred to as the working-age population ratio), second, the real property price index, and third, total loans in real terms.

In Japan, we have two peaks in the working-age population ratio, accompanied by two peaks in the real property price index, which is the real land price index (Figure 1). Of these peaks, only the second one, around 1991 was a malign bubble which triggered a subsequent long period of stagnation. Then, what is the difference between the two? The volume of total loans in real terms may suggest an answer. Real loans were increasing at the time of the first peak, but their level was not as high as during the second peak.

Figure 1: Japan – Demographic Change, Credit and Property Prices



Notes: 'Real land price' is the total average urban land nationwide, urban land price index; 'Total loans in real terms' are the loans of depository corporations from the flow of funds, adjusted by the CPI

Sources: Bank of Japan; Japan Real Estate Institute; Ministry of Internal Affairs and Communications; United Nations

A remarkably similar picture is found in the United States (Figure 2). There we have two peaks in the working-age population ratio, though not as pronounced as in Japan. And the real property price index, which is the real home price index, seems to have two peaks, roughly coinciding with demographic change. Again, the second peak triggered the financial crisis of 2008, though the first peak coincided with the savings and loans crisis, which had a far less severe effect on the economy. Adding real total loans to the chart, we find quite a similar pattern to the Japanese case. The level of real total loans in the first peak was high, but far lower than in the second peak.

Figure 2: United States – Demographic Change, Credit and Property Prices

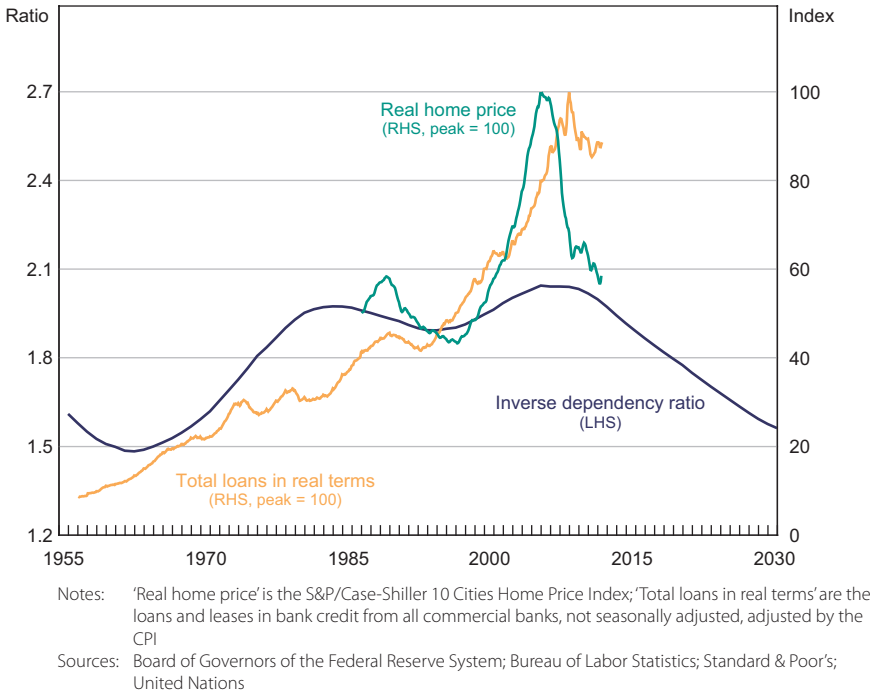
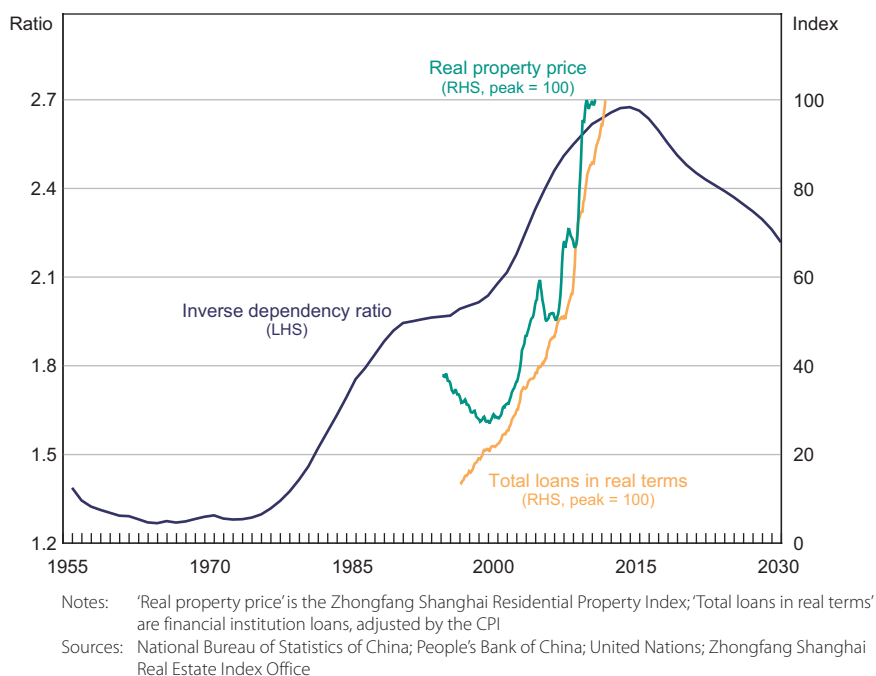


Figure 3 shows that China has not yet peaked with respect to the working-age population ratio, but it is close. The property price index was taken from the website of a Shanghai index provider, which unfortunately and unexpectedly shut down their site and vanished about a year ago (June 2011). I tentatively use this index since it has a longer span than other indices, although I am not entirely sure how it was constructed. Figure 3 shows a clear upsurge in property prices up to 2010. Again the level of real total loans shows a tremendous increase along with the working-age population ratio and the property price index.

Figure 3: China – Demographic Change, Credit and Property Prices

What lessons can we learn from this rather cursory examination of the recent history of two advanced economies and the present situation of one emerging economy? It is clear that not every boom-bust episode leads to a financial crisis. However, if demographic change, a property price bubble and a steep increase in loans coincide, then a financial crisis seems more likely. And China is now entering the 'danger zone'.

Although demographic factors are not the subject of the studies in this Conference, there is a growing body of cross-national evidence that compositional change in population has a significant effect on property prices (especially the land component).¹ This comes as no surprise since, in the population-dividend phase, young baby boomers want to buy more land and save more real money for their retirement. Since the supply of land is physically limited, the real price of land will go up. Similarly, if the nominal money supply is held constant, the 'price' of real money holdings, which is the inverse of the price level, should also go up, implying deflation. Being mandated to maintain price stability, the central bank is then likely to increase nominal money to keep prices stable. The result is an increase in property prices while general price levels remain stable (Nishimura and Takáts 2012).²

However, this raises the problem of quantitative significance. Although this hypothesis can explain 'correlation' qualitatively, it is not sufficient to explain these malign property price bubbles quantitatively. The magnitude of these bubbles is simply mind-boggling. Also, not every country

1 See, for example, Nishimura (2011b) and Takáts (2012).

2 This paper includes both theory and an empirical analysis of a panel of 22 advanced economies.

experiencing this sort of demographic change has a malign property bubble and a financial crisis. Therefore, we should not think of this strong positive correlation between demographic factors and malign bubbles as a strict causal relationship. Rather we should regard the demographic conditions of the population dividend as ‘fertile ground’ for malign property bubbles.

In the final analysis, malign property bubbles can be considered a manifestation of overly optimistic expectations at their extreme.³ Since the financial crisis, many attempts have been made in the economics profession to explain malign bubbles as the consequence of rational economic agents acting under circumstances of asymmetric information and certain not-so-efficient regulatory conditions. These explanations are quite ingenious, using arrays of sophisticated neoclassical apparatus. However, from the practitioner’s viewpoint, it is more helpful simply to admit the frailties of human nature whereby we are so prone to be overly optimistic in some cases (and overly pessimistic in others) and our decisions are so easily influenced by other people’s opinions, especially the opinions of those in the higher realms of policymaking. I will come back to this point later.

How should we respond to a malign bubble?

Let me now turn to the second issue, which is how we should respond to a malign bubble. Fundamentally, we should distinguish two stages in the life of a malign bubble. The first is the early or prevention stage of the bubble, while the second is the late or collapsing stage.

When considering our response to the early or prevention stage of a bubble, a consensus seems to have emerged in favour of the so-called BIS view. First, use various macroprudential policies to rein in overly optimistic expectations in the market. Second, if the bubble is truly malign, we should not hesitate to use monetary policy as well. Third, in using macroprudential measures we should be aware of the long-run consequences of their distorting effects on resource allocation.

In practice, I have strong reservations about the effectiveness of some macroprudential measures in a malign bubble. Take the loan-to-value (LTV) ratio as an example. In the heyday of a ballooning bubble, the denominator of the LTV ratio, that is the market value of property, goes up higher and higher. Thus, the LTV ratio that seemed sufficient to cap loan volumes becomes grossly insufficient in a few months or even weeks. The same is true for quantitative constraints on loans, since instruments bypassing the constraints emerge, as exemplified in the experience of the Japanese property bubble of the 1990s.⁴ Moreover, macroprudential measures are sometimes used to halt the advance of a bubble only temporarily, and it eventually comes to the surface again later with greater force than before. So an apparent success in the present may be an omen of failure in the future.

There is another issue which has been unfortunately overlooked in the discussion of dealing with a bubble, but is potentially most problematic of all: communication with the public. How can policymakers convince the public that we are facing a ballooning malign bubble when there is no apparently imminent threat to the system? It is extremely difficult to persuade people who

³ From this perspective, both the malign property bubbles of Japan and the United States, and the European sovereign crisis have a similar origin: overly optimistic expectations of the future during the population-dividend phase.

⁴ For more detailed discussion on macroprudential policies in the case of the Japanese property bubble, see Nishimura (2011a).

(want to) believe 'this time is different' and are convinced they are now on the foothills of eternal prosperity, just as long as their path is not blocked by some stupid policymaker. In retrospect, I have to point out, sadly, that the public sector is often partly responsible for nourishing such overly optimistic expectations in the public at large.⁵

Although I have expressed some reservations so far about the emerging policy consensus in the early or prevention stage of a malign bubble, these problems are almost trifling in comparison with the daunting policy difficulties faced in the late or collapsing stage. To my disappointment, there has been little discussion dealing squarely with these difficulties.

In the late stage of a bubble, there is, on the one hand, a danger of restraining policy being 'too little, too late', and just postponing the collapse until a later stage and on a larger scale. On the other hand, however, there is also the danger of too bold a policy leading to an 'overkill' of the economy.

Most difficult, however, is the appropriate response during the collapsing stage of malign bubbles. First, the magnitude of the collapse can be mind-boggling. Figure 4 shows first the real property prices in Japan during its build-up and collapsing phases. Here I use the Recruit Residential Price Index (RRPI) for greater Tokyo (roughly 10 per cent of the total population), which is the quality-adjusted condominium price index. Then I have added the US real property prices in 10 cities (again roughly 10 per cent of the total population), which is based on the S&P/Case-Shiller index. These series are positioned so that their peaks coincide. The magnitudes of the price declines are clear: Japanese real residential property prices at their lowest point were only one-third of their peak; in the United States, real residential property prices are currently less than 60 per cent of their peak. At this moment, it is not clear whether US prices have hit the bottom. In any case, a decline of this magnitude, while less than that experienced in Japan, still implies a severe balance sheet adjustment for the US economy.

Moreover, this severe balance sheet adjustment in the United States, which is necessary for sustained recovery, is taking place when demographic factors are changing from positive (population dividend) to negative (burden of an ageing population), as they did earlier in Japan, as already shown in Figures 1 and 2. A severe balance sheet adjustment under population ageing hampers the effectiveness of conventional policy tools. Moreover, seemingly overly pessimistic expectations aggravate the problem of policy effectiveness.

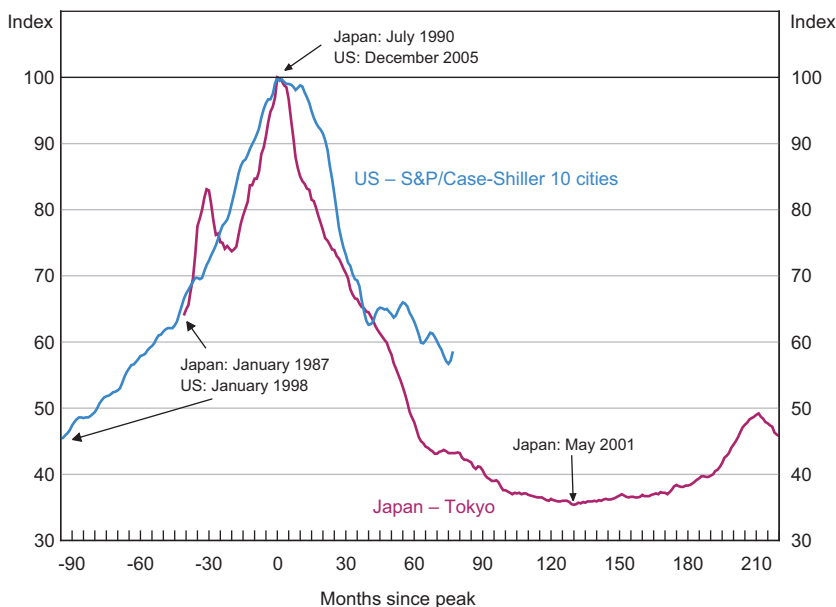
The disturbing fact is that little is known about the appropriate policy for the late or collapsing stage of a malign bubble. What tools are available? What are the pros and cons of their use? These are the most pressing challenges for policymakers, and they should form the research agenda of the immediate future.

So in conclusion, I would like to reiterate that we are still only at the starting line. Thank you for your kind attention.

⁵ See Nishimura (2011a) about the report of one Japanese government agency which became the foundation of an overly optimistic view about office space demand in Tokyo in the late 1980s.

Figure 4: Real Property Prices

Peak = 100



Sources: Japan Real Estate Institute; Standard & Poor's; author's calculations

References

Claessens S, G Dell'Ariccia, D Igan and L Laeven (2010), 'Cross-Country Experiences and Policy Implications from the Global Financial Crisis', *Economic Policy*, 25(62), pp 267–293.

Claessens S, MA Kose and ME Terrones (2008), 'What Happens During Recessions, Crunches and Busts?', IMF Working Paper No WP/08/274.

Nishimura KG (2011a), 'Macroprudential Lessons from the Financial Crisis: A Practitioner's View', in MM Kawai and E Prasad (eds), *Asian Perspectives on Financial Sector Reforms and Regulation*, Brookings Institution Press, Washington DC, pp 180–195.

Nishimura KG (2011b), 'Population Ageing, Macroeconomic Crisis, and Policy Challenges', Prepared for the Panel 'The General Theory and Policy Responses to Macroeconomic Crisis' at the 75th Anniversary Conference of Keynes' General Theory, University of Cambridge, 19–21 June.

Nishimura KG and E Takáts (2012), 'Ageing, Property Prices, and Money Demand', BIS Working Paper No 385.

Takáts E (2012), 'Ageing and House Prices', *Journal of Housing Economics*, 21(2), pp 131–141.

5. General Discussion

The policy discussion began with the question of whether interest rates can be used pre-emptively to moderate strong credit growth and increasing asset prices in a low inflation environment. One participant said it would be difficult for a central bank to raise rates against this background, but not impossible or without precedent. The effectiveness of monetary policy in this situation depended critically on the central bank's communication strategy in the lead-up to an increase in interest rates. The Australian experience of the early 2000s was used as a case study. One participant said the RBA's two modest 25 basis point increases in November and December 2003 were more effective because they were preceded by open dialogue with the public on the dangers of an overheating housing market.

The importance of not lowering rates in a benign inflation environment with strong asset price growth was emphasised. One participant said the lowering of interest rates by monetary policy authorities in the decade before the crisis was a policy mistake. The participant argued that if central banks collectively had not lowered interest rates in the face of a global supply shock (caused by the emergence of China) and lower long-term interest rates (caused by higher net saving in Asia), then the credit and asset price boom experienced in many countries would not have been as damaging. They noted that communicating the decision not to lower rates in this situation was easy, particularly if the foundations for the public's understanding of monetary policy had been laid.

Another participant agreed, but sought to provide a more nuanced explanation for the rationale behind not lowering rates in a benign inflation environment with strong asset price growth. They said policymakers needed to take an extra step and show what negative externality higher property prices cause. Without this, they argued that any sensible monetary policy rule – be it inflation targeting or not – recommends that monetary policymakers should accommodate the decline in the natural interest rate (caused, for example, by higher net saving in Asia) by reducing nominal rates.

Another participant argued that it was very difficult to make the case that monetary policy was the prime driver of credit and asset price booms in the lead-up to the crisis. For example, it was noted that there were completely different real estate price dynamics across the euro area despite the presence of a common monetary policy. The participant acknowledged that low interest rates may help fuel an established boom.

The (perceived) difficulty in communicating the rationale for activist policy targeting asset prices (so-called leaning) was the next subject discussed. To begin, one participant highlighted two concerns they said made them pessimistic about the success of activist policy. First, they argued it would be difficult to communicate to the public that the market is not working while the public's wealth was increasing. Second, they argued that, assuming activist policy had worked in an earlier period, it would be difficult to convince the public that policy had been a success. In particular, real costs were borne by society with no observable change in the macroeconomic environment and no counterfactual analysis would be available to argue that the policy had worked. In light of

these communication problems, they said policymakers should focus on creating resilient systems and rely less on discretionary actions.

Several participants disagreed with this view. In regard to the first concern, one participant argued that when policymakers approach the public they are not saying they know asset prices are overvalued or that credit growth is too high. Instead, they are communicating about potential risks and bringing these risks to the public's attention with a view to changing private sector behaviour and, absent that, communicating the preparedness of the central bank to change policy. The Australian experience in late 2003 was again invoked as an example. Monetary policy was set higher than it otherwise would have been, imposing a cost on home buyers; however, from the perspective of history, macroeconomic conditions were satisfactory and the public accepted that this policy was prudent. Another participant added that in the Australian experience, the RBA was supported in its communications by the Australian Securities and Investment Commission as well as the Australian Tax Office.

Another participant agreed with what they referred to as the 'Australian position'. While accepting that creating a resilient system was vital, they stressed that the case put forth against activist policy was incorrect. In particular, the general public will realise what the risks would have been if policymakers had not pursued activist policy. More generally, another participant noted that central banking is not a zero-risk business. Policymakers have to take risks in setting monetary policy and macroprudential tools. They argued that policymakers taking bold decisions should be encouraged, all the while accepting that sometimes errors will happen and society will have to bear the costs.

Another participant suggested that policymakers need to continue working on coordinating communication across different policy agencies. They said a large part of the financial stability policymaking of a non-supervisory central bank is providing rhetorical support for the prudential regulator. A discussion of the institutional arrangements that best facilitate effective communication across agencies followed. One participant noted that institutional arrangements were particularly important for countries that are yet to establish their own macroprudential framework. In those countries, policymakers are being exposed to a very risky situation because monetary policy is set without any information about regulators' behaviour. In the case of Korea, it was noted that this problem is being addressed by establishing formal communication channels between the prudential regulator and the central bank. Another participant suggested informal communication arrangements were more likely to be effective. Another participant agreed, and noted that in Australia there are not a lot of formal rules of engagement between regulators, but rather informal communications guided by a common purpose. This arrangement had proved very useful, but participants noted that the historical legacy of institutional arrangements matter and, absent a history of informal communications, rules of engagement may be necessary to build relationships.

Looking forward, another participant cautioned policymakers not to learn the wrong lessons from the past and to take in to account heterogeneity across countries in the monetary policy transmission mechanism. To illustrate this point they referred to the US experience of the early 2000s, arguing that policy in the United States at the time was too heavily influenced by the Japanese lost decade. They argued that differences in the monetary transmission mechanisms

in Japan and the United States had not been taken into account. For example, the marginal propensity to consume out of wealth is absent in Japan and credit liberalisation only affected the corporate sector there. It was suggested that if the Federal Reserve had realised the lessons of Japan were not relevant they would have normalised interest rates more quickly in response to increasing credit growth and strong activity in housing.

Finally, one participant suggested two areas for further consideration in the policy sphere. First, they said policymakers need more understanding of the effect urban structure has on supply dynamics. For example, it was noted that in Korea the housing market is characterised by very different supply dynamics compared with countries such as Germany or the United States where urban centres are more diffuse. Second, they said macroprudential policymakers need to think more about financial stability policy in terms of specific targets or goal variables.

