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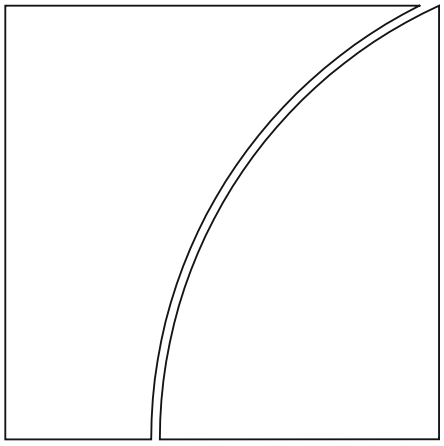

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Macroprudential policies to mitigate housing market risks

Country case study: Singapore

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Macroprudential policies to mitigate housing market risks Case study – Singapore

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Background

This note discusses Singapore's experience with macroprudential polices in relation to the housing market. First, it highlights the centrality of the housing market in domestic financial stability assessments. Second, it illustrates how responsibility over mandates and the institutional set-up are reflected in governance arrangements, with implications for the macroprudential policy approach and its implementation. Finally, it provides an assessment of the effectiveness of policy measures and discusses potential trade-offs, including an evaluation of policy leakages.

1. Housing as a source of risk

In Singapore, housing market stability is closely linked to macroeconomic and financial stability, given the significant share of housing on households' balance sheets. Housing constitutes about 40% of total household assets and almost 75% of total household liabilities, making homeowners and housing-related borrowers rather susceptible to event risks in the housing sector. Private homeowners are also able to use their properties as collateral for other loans. Housing market-related risks are significant in Singapore's financial sector too, as property-related loans account for about 20% of total non-bank loans extended by financial institutions, with the bulk of them extended to the private housing sector. Thus, a sustainable property market is critical to ensure the resilience of households and financial institutions against shocks and thus enhance the country's overall macroeconomic and financial sector stability.

Singapore's housing market is unique internationally. Unlike any other jurisdiction, Singapore's housing market largely comprises public housing, with a significantly smaller share of private housing. The vast majority or about 80% of residents own and live in public housing. The public housing market is catered for and developed by Singapore's public housing authority (the Housing Development Board or HDB), which also provides housing loans to owners of public housing at almost fixed long-term mortgage rates. This arrangement has helped to cushion vulnerable households living in public housing during periods of rising interest rates or economic difficulties. That said, homeowners of public housing can also opt to take a loan from financial institutions at market-based rates, although the majority of public housing owners take a loan from the HDB. However, about 85% of the total housing loan volume is extended by financial institutions, with 84% of this being used for private housing and 16% for public housing. This context is important because the risks and policy measures covered in the rest of this paper relate largely to issues in the private housing market.

The macro-financial linkages between the housing market, the financial system and the real economy are underpinned by two main channels of risk – asset price inflation risk[1] and credit/leverage risk,[2] as summarised in Figure 1.

The Singapore private housing market is susceptible to pressures from global and regional demand, in view of the scarce land supply in a city and island state that is also the financial and business hub for Asia. Further, the supply of private housing units, which may be purchased by non-residents, is a fraction of the total housing market (note: non-residents are not allowed to buy public housing and can only make purchases in the smaller private housing market). At its peak, non-resident purchases in Singapore accounted for close to a fifth of all private residential property purchases in 2011. As future valuations tend to be based on previous transaction prices, the greater "willingness to pay" of non-resident investors has raised residential property prices, as reflected by the large degree of co-movement between the share of residential real estate transactions associated with non-residents and local house prices.[3] From a broader perspective, real estate and residential properties are increasingly viewed as a core part of investment portfolio allocations by international investors, such that global factors have become significant drivers of residential prices in Singapore. Empirical analysis has shown that higher growth in global house prices tends to lead to an increase in Singapore's (private) property prices.[4]

2. Institutional arrangements and interactions with other mandates

2.1 Governance arrangements

The governance arrangements for macroprudential policy reflect the Monetary Authority of Singapore's (MAS) mandates for financial stability, price stability and a sound financial services sector. The MAS is the central bank and integrated financial regulator in Singapore. Placing both functions under the same authority provides multiple vantage points to assess the soundness of both the financial system as a whole

1 The asset price inflation risk channel can be demonstrated by considering a scenario of a housing market downturn. For example, a fall in house prices results in a decline in the value of property pledged as collateral, which adversely affects financial institutions' willingness to lend to households and housing market participants, such as property developers and construction firms. The ensuing pullback in credit compounds the decline in house prices through a fall in housing demand as households find it more challenging to obtain financing for their housing purchases. From the perspective of the real economy, household consumption is impacted by the negative wealth effect from the fall in house prices. Construction and real estate activity also come under pressure amid tighter lending standards and the decline in housing demand. The attendant impact on GDP growth, income and employment affect household debt servicing ability, exacerbating financial institutions' concerns about the credit risk of households. These linkages could lead to negative feedback loops that compromise macroeconomic and financial stability.

2 The credit/leverage risk channel can be demonstrated by considering a scenario of a sudden sharp increase in mortgage rates. Rising mortgage rates affect the debt servicing ability of overextended households and more generally curtail housing demand due to the higher cost of financing. In response, banks reduce lending to households and housing market participants given the concerns about rising credit risk. The ensuing decline in credit to housing market participants and the attendant impact on housing demand cause a decline in house prices, exacerbating the credit risk of households and housing market participants. As with the asset price inflation risk channel, the dynamics can be destabilising, given the potential negative feedback effects on the balance sheets of households, companies and financial institutions.

3 See Bank of International Settlements, "Property price dynamics: domestic and international drivers", *CGFS Papers No 64*, February 2020.

4 See Ramkishen R, Robinson E and Lim R, "Macroprudential Policies and Financial Stability in a Small and Open Economy: The Case of Singapore", Macro-financial Stability Policy in a Globalised World: Lessons from International Experience: *Selected Papers from the Asian Monetary Policy Forum,* 2021.

and individual institutions and thus identify potential risks that could arise from developments in the global and domestic financial systems. The aim is to have the different arms of policy – macroprudential, microprudential and monetary – working together to secure overall macroeconomic and financial stability objectives through an integrated institutional set-up that facilitates information-sharing and decision-making.

Macroprudential policy and monetary policy are approved by separate committees, but with overlapping membership. While each committee has its own expertise in its policy domain (alongside its own toolkit) and is held accountable for its performance, both committees recognise the interactions between price and financial stability, as well as interdependencies and implications for both sets of policies. This approach enables each committee to have an added understanding of financial systemic issues and macroeconomic developments, while still allowing them the requisite focus to frame their assessment and potential policy response in line with their core objectives.

Given the systemic risks posed by the property sector, macroprudential policy requires coordination not only within the MAS but also with other government agencies. For this reason, an inter-agency working group has been set up to promote the sharing of surveillance findings and policy coordination across the relevant agencies. The working group comprises representatives from the MAS, the Ministry of Finance (MOF) and the Ministry of National Development (MND). The MAS administers credit-based macroprudential tools, such as a debt service-to-income (DSTI) framework,[5] loan-to-value (LTV) ratios and loan term limits. MOF is responsible for fiscal measures, including the Additional Buyer's Stamp Duty (ABSD) and Seller's Stamp Duty (SSD), while MND implements supply side measures (eg government land sales, GLS) (Table 1). While each agency retains ultimate authority and accountability for its respective tools, the working group provides a forum for discussing potential policy interactions and coordinating policy measures to achieve the common objective of promoting a sustainable private property market.

2.2 Macroprudential policy and microprudential supervision

The MAS is both the microprudential and macroprudential supervisor of the financial sector in Singapore. The two mandates complement each other. Policy measures that serve macroprudential objectives can also yield microprudential benefits and vice versa. For instance, LTV limits address systemic risk associated with credit excesses and also mitigate potential credit losses for individual financial institutions.

Having both the macroprudential and microprudential mandates with the MAS helps to highlight synergies and address possible tensions. For example, housing loans are typically regarded as lower-risk exposures and may not receive as much supervisory attention as other loan portfolios, such as corporate loans, which are generally larger in size and pose greater default risks. Yet, poor underwriting standards for housing loans could contribute to systemic risk if housing credit growth and property price increases were to become unsustainable. Balancing these perspectives, the MAS conducted a thematic inspection of banks' residential property loans business in 2012. The inspection findings supported MAS's subsequent introduction of a Total Debt Servicing Ratio requirement and publication of industry guidance on housing loan underwriting practices.

[5] In Singapore, the DSTI framework is officially known as the Debt Service Ratio (TDSR) framework.

2.3 Macroprudential policy and monetary policy

The role of the MAS as the central bank as well as the integrated financial supervisor in Singapore puts it in a unique position to ensure that monetary policy works in concert with macroprudential policy and microprudential supervision to secure overall macroeconomic and financial stability objectives.

Both monetary and macroprudential policies can promote price and financial stability conditions in a coherent manner. Policy formulation can be optimised when both functions are placed under the same authority. The MAS determines its monetary policy based on price stability considerations, while being aware of the effects of existing macroprudential policies. The MAS's exchange rate-centred monetary policy has served Singapore well in achieving price stability. However, in view of free capital movements, domestic interest rates are largely determined by foreign interest rates and investor expectations of the Singapore dollar exchange rate. This limits the MAS's ability to use monetary policy to independently manage domestic financial conditions, especially when the fluctuations are externally driven and only in particular sectors.

Attempting to moderate the specific cyclical conditions in the property sector using a blunt instrument like monetary policy would require very significant adjustments to the exchange rate, with an ensuing unintended negative impact on other sectors of the economy. By contrast, macroprudential policy can be more targeted than monetary policy and calibrated to curb specific sources of risks, such as unsustainable dynamics in the property market, while avoiding unintended negative consequences in other sectors of the economy.

3. Objectives

The objective of macroprudential measures in Singapore is to safeguard financial stability. Unsustainably high and rising property prices relative to income could create financial stability risks, given the significant property exposure of the balance sheets of households and the banking system. In particular, elevated house prices could lead to some households overextending themselves financially when purchasing property without sufficient regard to their longer-term debt-servicing ability. In this regard, macroprudential measures ensure that financial institutions follow sound credit underwriting standards and encourage households to exercise financial prudence. They also promote a sustainable property market in which property prices are aligned with broader income trends in the economy over the medium term.

Table 1: Existing macroprudential measures

ABSD	
Profile of Buyer	**ABSD Rates on or after 27 Apr 2023**
Singapore citizens (SCs) buying first residential property	Not applicable
SCs buying second residential property	20%
SCs buying third and subsequent residential property	30%
Singapore permanent residents (SPRs) buying first residential property	5%
SPRs buying second residential property	30%
SPRs buying third and subsequent residential property	35%
Foreigners (FRs) buying any residential property	60%
Entities buying any residential property	65%
Housing developers buying any residential property	35% plus additional 5% (non-remittable)
Trustee buying any residential property	65%

BSD (on or after 15 February 2023)		
Purchase price or market value of the property	**BSD rates for residential properties**	**BSD rates for non-residential properties**
First $180,000	1%	1%
Next $180,000	2%	2%
Next $640,000	3%	3%
Next $500,000	4%	4%
Next $1,500,000	5%	5%
Remaining amount	6%	

SSD (on or after 11 March 2017)	
Holding period	**SSD rate (on the actual price or market value, whichever is higher)**
Up to 1 year	12%
More than 1 year and up to 2 years	8%
More than 2 years and up to 3 years	4%
More than 3 years	No SSD payable

LTV limits and minimum down payment for individuals (from financial institutions)		
Outstanding housing loans	**LTV limit**	**Minimum cash downpayment**
None	75% or 55%	5% (for LTV of 75%) 10% (for LTV of 55%)
1	45% or 25%	25%
2 or more	35% or 15%	25%

4. Macroprudential instruments in practice

Singapore's property market measures date back to the 1990s. A package of property market measures was announced in 1996 after the private residential property price index (PPI) more than doubled between 1990 and 1996. Seller's Stamp Duties (SSD) and income tax on gains were applied on property purchases, and a housing LTV limit was introduced. Foreigners were prohibited from taking out loans in Singapore dollars (SGD) for property purchases. Land supply for property development was also increased. The measures had an immediate effect in cooling the property market in 1996–97. They were eased following the onset of the Asian financial crisis, with the PPI hitting a trough in the fourth quarter of 1998.[6]

In the period after the great financial crisis, the property market began to show signs of an upswing in mid-2009 as the economy began to recover and global interest rates remained at exceptionally low levels. Prices rose by almost 16% in the third quarter of 2009, the largest quarter-on-quarter increase since 1981. A mixture of lending and tax measures was progressively introduced and tightened to stabilise the market. The LTV limit was lowered to 80% and progressively tightened for companies and borrowers with multiple loans. Loan terms were capped in October 2012. In June 2013, the DSTI was introduced for all property loans to promote financial prudence among borrowers and strengthen credit underwriting practices by financial intermediaries. A seller's stamp duty was introduced in 2010 to discourage speculative selling of properties, followed by an Additional Buyer's Stamp Duty (ABSD) in 2011 to curb overinvestment in property. The Singapore government also increased land supply for property development to meet the demand for housing, although such supply side measures typically come with significant lags. This series of measures stabilised the market in the interim while allowing time for more supply to come onboard.

The period 2013–2017 saw stagnant transaction volumes and a gradual correction in prices in Singapore's private housing sector. Subsequently, on the back of a strong global economic recovery, the PPI recorded an upswing of almost 10% from the second quarter of 2017 to the second quarter of 2018. This prompted a further tightening of the LTV ratio from 80 to 75%. Fiscal measures were also tightened via higher ABSD rates for resident buyers of a second and subsequent private residential housing property as well as for non-resident buyers.

Despite the uncertainty over Covid-19 risks in 2020–2021, the property market was remarkably resilient. While nominal GDP contracted by about 8% in 2020, the residential property price index rose by 1.6% during the year. Lending and tax measures were tightened further between 2021 and 2023: the DSTI threshold and the medium-term interest rate framework were tightened, and ABSD rates were increased for resident buyers of a second and subsequent private residential housing property, and for non-residents. The specific chronology of policy actions is illustrated in Graph 1.

4.1 Policy approach

There are several important principles underpinning the design and implementation of macroprudential policies.

[6] The Singapore government introduced stamp duty concessions, including allowing buyers to delay paying stamp duties until their properties were completed. In 2003, the income tax on gains was lifted, and foreigners were allowed access to SGD property loans. The LTV limit was raised from 80% to 90%, and the minimum cash down payment was reduced from 10% to 5% in July 2005.

First, the MAS aims to **pre-empt** risks and their associated systemic effects. Given the high costs of financial crises and the protracted nature of post-crisis recoveries, it is preferable to take preventive measures to reduce the probability and potential impact of a crisis-like situation than to take corrective actions. For example, the MAS has pre-emptively tightened housing credit measures early in the housing cycle to promote responsible borrowing and lending behaviour, ensuring that borrowers avoid taking on excessive leverage, which could lead to a build-up of financial vulnerabilities.

Second, the MAS's macroprudential policies are **targeted** at specific systemic risks. Financial vulnerabilities are not spread evenly across the economy. They tend to be concentrated in certain sectors. Targeted policy measures aim to address the sources of vulnerabilities while minimising unintended spill-over effects to other areas that are not at risk. Policy calibration can also be varied according to the degree of risk posed by different sectors or market segments. For example, to stabilise the property market, the MAS has applied credit measures, such as LTV and DSTI requirements, to property loans only, so as not to disrupt credit to other sectors of the economy. Within the property sector, policy measures have been targeted at customer segments that are contributing to excessive investment demand or speculation. Non-residents pay higher stamp duties than residents. The differentiated application of ABSD rates to non-residents – for whom credit measures are not as effective – is necessary in view of Singapore's relative scarcity of land, juxtaposed with the large pool of external liquidity searching for yields in global and regional asset markets, including the property market.

Third, the MAS has adopted a **calibrated and gradual** approach to implementing macroprudential policy. This approach allows the MAS to review the policy impact, monitor for any unintended consequences and make policy adjustments as appropriate, while minimising the risk of overshooting macroprudential objectives and destabilising the market. For example, the MAS has tightened LTV limits on borrowers with multiple housing loans progressively over time to moderate investment demand for properties. The holding period and rates for the seller's stamp duty have also been increased gradually to discourage short-term holding of properties. Conversely, the MAS has fine-tuned the DSTI framework by exempting owner-occupiers who are refinancing their housing loans to help ease the debt servicing burdens of these borrowers.

Fourth, the MAS adopts a **multi-pronged** strategy by using a variety of macroprudential policy tools in a complementary fashion. As financial vulnerabilities may arise from different sources of risk, a diverse toolkit enables targeted policy measures to be taken against specific risks. For example, in the case of property market measures in Singapore, it has been found that the lending measures (eg LTV, DSTI) work by mitigating the pro-cyclical feedback loop between housing credit on one hand, and property transactions and property prices on the other. By contrast, tax measures (eg additional buyer's stamp duty, seller's stamp duty) and land supply have been shown to impact property prices more directly.

A multi-pronged policy strategy requires proper coordination of the components to avoid policy conflicts. This is especially important where the policy instruments are under the purview of different authorities. For instance, the macroprudential policies targeted at the property market in Singapore include lending policies (eg LTV, DSTI, loan term limits) managed by the MAS, tax measures like stamp duties under the Ministry of Finance, and other administrative measures (eg land supply) controlled by the Ministry of National Development. The agencies share information and analyses of the property market and coordinate policy actions through an interagency taskforce. The collective aim of the taskforce is to align the objectives of each authority under the overarching goal of promoting a sustainable property market. Furthermore, coordinated announcements by the authorities of their policy measures send a strong signal that the authorities are committed to addressing systemic risks in the property market.

5. Effectiveness

5.1 Credit profile of borrowers and lender resilience

Micro-level credit data show that the risk profile of borrowers has improved. This has also increased the resilience of financial institutions extending these loans. Indeed, the number of borrowers with multiple housing loans has declined as the LTV limit for such borrowers has progressively tightened. The LTV is now lower for both new and outstanding mortgage loans. The share of new mortgage loans with LTVs above 70% has fallen from a peak of 77% in the second quarter of 2010 to around 65% in 2022. In the first quarter of 2023, the average LTV on outstanding loans was 42%, with property values significantly exceeding their loan amounts, suggesting that FIs and borrowers have significant buffers against falling property valuations. This reflects in part the measures the MAS has put in place over the years to limit the amount of borrowing for property purchases, including the more recent adjustments to the DSTI framework in 2021 and 2022. The average loan term for housing loans has also stabilised at about 24 years, down from 30 years in 2012.

In addition, the credit quality of housing loans has strengthened further. Non-performing loans (NPL) for housing have declined to 0.2%, a decade-low level, while the number of foreclosures remains low.

5.2 Household debt situation

The household debt situation in Singapore has remained healthy, with the median DSTI at 43% among new loans issued over the past year, compared with the regulatory limit of 55%. Household net wealth continued to grow in the first quarter of 2023, with liquid assets continuing to exceed total liabilities, reflecting to some extent the healthy personal savings rate. Aggregate household sector debt eased further to 1.2 times personal disposable income in the first quarter of 2023, driven by strong wage growth relative to the increase in household debt.

5.3 Credit growth, property market activity and price growth

Empirical results based on a model of drivers and transmission channels in Singapore's residential property market[7] indicate that lending measures, such as LTV limits and the DSTI framework, directly constrain mortgage loans and impact property transactions and prices through the credit channel. Tax measures, i.e. SSD and ABSD, are assessed to have reduced property transactions, with attendant effects on property prices and mortgage loans. Similarly, the government land sales programme has significantly moderated property prices, with spillover effects on property transactions and mortgage loans. Counterfactual simulations[8] suggest that property transactions, property prices and mortgage loans could have been as much as a third higher if the various measures had not been implemented.

[7] See Monetary Authority of Singapore, "Box R: Macroprudential Policies to Address Systemic Risks in the Housing Market", *Financial Stability Review*, 2015.

[8] The counterfactual scenarios estimate the impact on property prices, transactions and mortgage loans under the assumption that different combinations of the property measures introduced from the first quarter of 2010 to the second quarter of 2014 had not been implemented.

More recently, empirical analysis on Singapore's housing price growth and global house prices has also shown that the different macroprudential policy instruments have effected a decoupling of Singapore's property prices from global price movements, as well as dampening growth in property prices.[9]

A regression analysis has also confirmed that residential property prices in Singapore are significantly related to speculative activity and to purchases by foreigners and companies. The study[10] showed that the effects are economically significant, with a one-standard-deviation rise in the share of short-term resales, foreigner's purchases and corporate purchases associated with increases in the quarterly growth rate of private residential property prices of 0.4, 1.2 and 0.5 percentage points, respectively. Consequently, by targeting sources of risks, such as transactions by speculators, foreigners and companies with stamp duties, property market related measures have limited excessive property price increases and contributed to improving the resilience of households and financial institutions against shocks.

6. Leakages, costs/benefits and unintended consequences

A diversified policy strategy helps limit leakages and ensures the effectiveness of macroprudential policy measures. It reduces the risk of over-reliance on one single policy instrument, thus avoiding excessively stringent settings in any one tool and limiting the risk of unintended consequences. A diversified policy strategy can also guard against regulatory arbitrage. For example, the MAS's loan term limit prevents borrowers from circumventing the DSTI requirement by lengthening their loan terms to reduce monthly loan repayments.

The use of fiscal measures, such as the ABSD complements the effectiveness of credit measures, as they apply across the board, addressing speculative buyers with external sources of funding, including cash-rich investors, who are less reliant on credit. This effectively reduces reliance on credit-based measures in addressing broader investment demand. Hence, credit-based measures can be reserved more specifically to encourage prudence among borrowers.

Policy design can also help limit unintended consequences. Policy measures target customer segments that have been contributing to excessive investment demand or speculation, while minimising the impact on owner-occupiers and first-time buyers. For example, the ABSD has been set at 0% for Singaporeans buying their first homes. For those buying their second or subsequent properties, the stamp duty rates are tiered according to the number of properties already owned by the buyer (eg a Singaporean purchasing a third property pays higher stamp duties than one buying a second property). Similarly, borrowers taking on their second or subsequent housing loans are subject to tighter LTV limits. Careful policy design can also limit circumvention. For instance, vehicles that are set up to purchase properties are also subject to loan requirements. This pre-empts individuals from specifically forming companies to purchase properties.

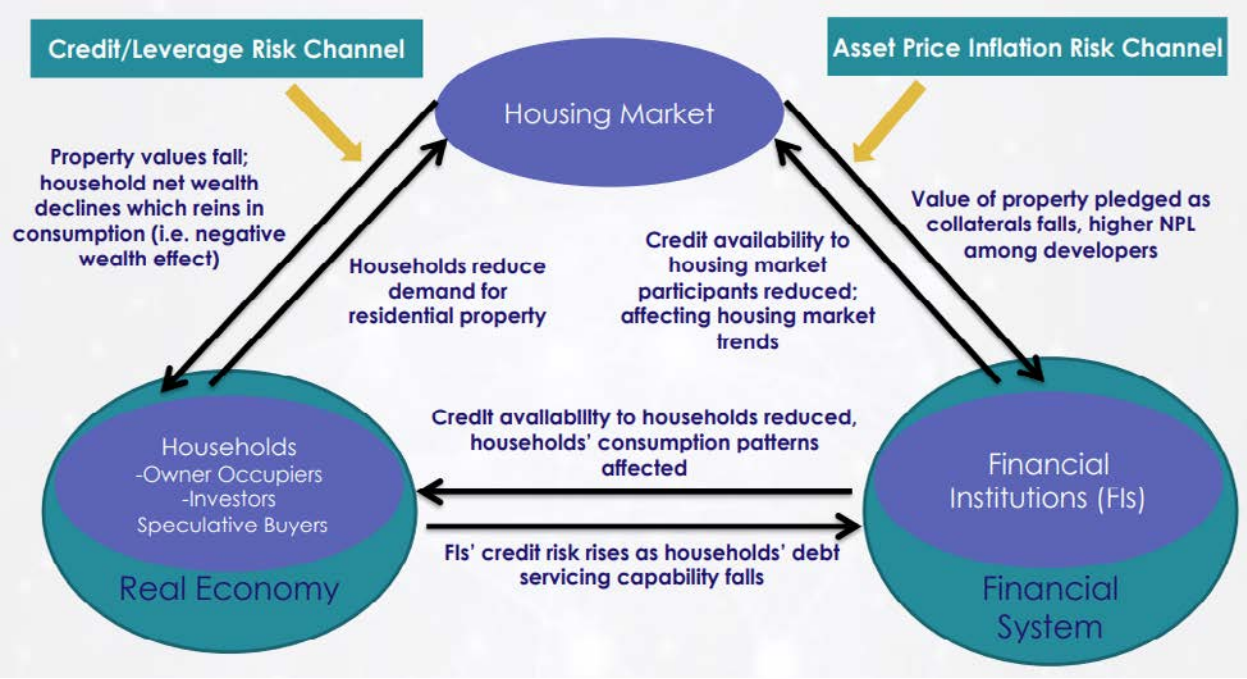
[9] See Ramkishen R, Robinson E and Lim R, "Macroprudential Policies and Financial Stability in a Small and Open Economy: The Case of Singapore", *Macro-financial Stability Policy in a Globalised World: Lessons from International Experience: Selected Papers from the Asian Monetary Policy Forum,* 2021.

[10] See Monetary Authority of Singapore, "Special Study 3: The Effects of Speculative Activity, and Transaction Types on Private Residential Property Prices in Singapore", *Financial Stability Review*, 2019.

7. Conclusion

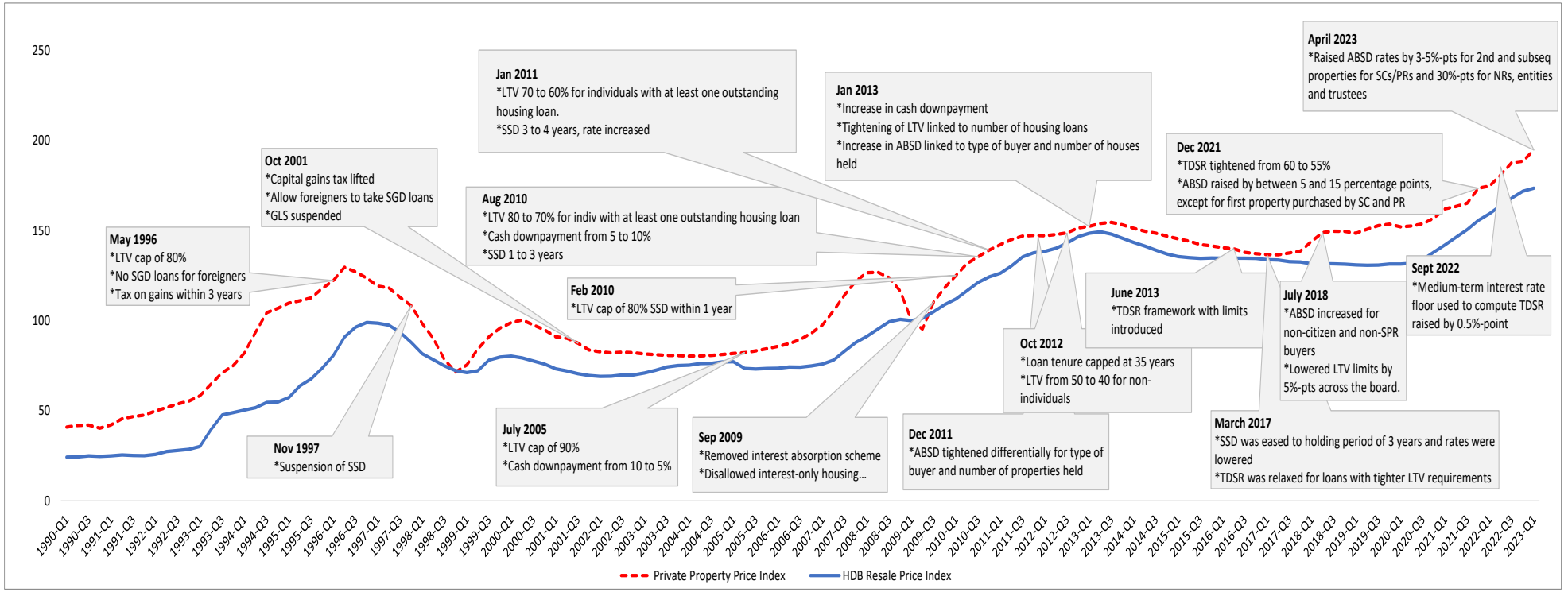
Singapore's experience has illustrated the benefits of having a wide range of macroprudential policy tools to target the specific risks posed by the private residential property sector. The city state takes a whole-of-government approach that necessitates close coordination between different parts of government. That said, the design of an appropriate policy mix (including credit-based, fiscal and land sale policies), the effective public communication of policy moves and the risk of mistimed policy relaxation to build policy space, remain key challenges for Singapore. Consequently, the relevant authorities will continue to monitor market developments with the ongoing objective of promoting sustainable conditions in the property market.

Figure 1: Systematic linkages between the housing market, the financial system and the real economy



Source: MAS (2011)

Graph 1: Property-related macroprudential measures



Source: MAS