Executive summaries

"The international financial crisis: timeline, impact and policy responses in Asia and the Pacific" by Andrew Filardo, Jason George, Mico Loretan, Guonan Ma, Anella Munro, Ilhyock Shim, Philip Wooldridge, James Yetman and Haibin Zhu[1]

The international financial crisis has become a defining event in economic history and will probably cast a long shadow over policymaking for years to come. Even though it may be risky to draw firm conclusions from this event for Asia and the Pacific before the cessation of the financial market headwinds, a number of lessons have already emerged for Asia-Pacific central banks that are likely to stand the test of time. Such lessons learned, though naturally still tentative, can contribute to the ongoing discussions in various national, regional and international forums. In particular, these lessons should help guide discussions about possible reforms of the financial system and also about the design of exit strategies to help ensure a return to sustainable and less crisis-prone growth while maintaining price stability.

To that end, the special background paper prepared for the conference examines the impact of the international financial crisis on Asia and the Pacific and the implications of this episode in economic history for central banks in the region. Part I presents a stylised timeline of the spillovers to the region, as well as key factors that account for the cross-country variations in the impact of the crisis. Part II explores some of the policy challenges posed by the crisis, through three lenses that correspond to the research priorities of the BIS Asian Research Programme: development of financial markets; monetary policy and exchange rates; and financial stability. Annex A details the range of actions taken by authorities in Asia and the Pacific since September 2008 to stimulate growth and stabilise financial markets and institutions.

Part I: Timeline

Pre-crisis conditions. Most countries in Asia and the Pacific entered the 2007–09 period with a sound set of economic and financial fundamentals. Standards of living were significantly higher after years of robust growth, inflation fairly well behaved, banking systems healthy, government fiscal positions sustainable, and foreign exchange reserves sizeable. In part, the region's success can be attributed to many of the lessons learned from the Asian financial crisis of the late 1990s.

In spite of the underlying strength of the fundamentals, there were of course vulnerabilities, not least those arising from the increased financial and trade openness that was part and parcel of the growth story. Greater openness had not only helped to propel robust economic activity in the decade but had also widened channels through which the unexpected spillovers from the international financial crisis in the west could affect the region. For example, these financial vulnerabilities were eventually realised in the large portfolio flows, such as in Korea, Malaysia and Singapore, and fragility of household balance sheets owing to rising indebtedness, such as in Australia, Korea and New Zealand.

Phase 1. When the international financial crisis began in mid-2007, the initial impact on the Asia-Pacific region was limited in scale and severity. Financial markets were mildly disrupted in Australia and New Zealand, owing to those countries' large external borrowing

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requirements, and Japan, owing to its close links to dollar and euro markets. In most other Asia-Pacific countries, banks were neither exposed to the structured credit products that caused so many problems for US and European institutions nor reliant on interbank or capital markets for funding. The region was nonetheless vulnerable to the decline in the risk appetite of global investors, and less creditworthy borrowers, for example in India and Indonesia, encountered difficulties accessing markets. Nevertheless, the strength of economic and financial fundamentals insulated the region from the worst of the spillovers and even led some to initially suggest that Asia and the Pacific had the ability to effectively decouple from economic and financial developments in the United States and Europe. Indeed, high commodity prices and building inflationary pressures continued to weigh heavily on the minds of many Asia-Pacific central bankers through the middle of 2008, despite the extent of the early financial headwinds coming from the west.

Phase 2. Together with the rest of the world, prospects for Asia and the Pacific abruptly changed in mid-September 2008 following the bankruptcy of US investment bank Lehman Brothers. The region experienced large capital outflows and serious difficulties refinancing US dollar liabilities. Most Asia-Pacific currencies depreciated, although an unwinding of carry trades contributed to an appreciation of the yen and the Hong Kong dollar. Asia-Pacific authorities responded by easing monetary policy aggressively and by intervening to stabilise financial markets. Liquidity assistance in local currency and in foreign currency along with government guarantees and recapitalisation schemes (see Annex A for detailed programmes across the region) significantly relieved financial market stresses and helped to prevent the metastasising of liquidity problems in the region into a full blown solvency crisis.

Phase 3. Towards the end of 2008, financial markets showed tentative signs of stabilising, albeit at a low level, and the attention of policymakers shifted to the rapidly deteriorating outlook for economic growth. Exports and industrial production plummeted in late 2008, leading to a pronounced deceleration of GDP growth, or outright economic contraction in some economies. The downturn was especially severe in the highly open economies such as Hong Kong SAR and Singapore. Monetary policies were eased further and special fiscal stimulus packages were passed across most of the region to support growth. Having reached the effective zero lower bound for the policy rate, Japan adopted unconventional monetary policy measures to stimulate financial conditions and economic activity while policy rates elsewhere in the region remained comfortably above the zero lower bound.

Phase 4 and beyond. From March 2009 onwards, policymakers and market participants appeared increasingly confident that the worst possibilities (ie tail risks) of the financial crisis and economic downturn had been avoided. Conditions in financial markets then improved significantly, and capital inflows to the Asia-Pacific region resumed. While the economic outlook for the global economy remained grim, it was no longer deteriorating. Tentative signs of a recovery in economic activity emerged in Asia and the Pacific towards the end of the first quarter of 2009, a few months earlier than in the United States and Europe. Indeed, growth in China appeared to rebound especially quickly, owing in large part to the effects of the country's large fiscal package. Policymakers thus increasingly turned their attention to strategies for exiting from the exceptional measures taken in late 2008 as well as reforms to mitigate the risk of future financial crises.

Part II: Policy challenges in Asia and the Pacific

The international financial crisis created immediate policy challenges in the region as central banks and other governmental authorities dealt with the spillovers. The underlying nature of the crisis also presented longer-term challenges concerning the possible need to adapt financial institutional structures and monetary policy frameworks to the changing policy environment. This part of the special background paper focuses on the effects of the crisis, the policy responses and the lessons for Asia-Pacific central banks in the decade ahead.

II.1 *Monetary policy and exchange rates*

The Asia-Pacific region had achieved considerable monetary stability with robust growth in the decade prior to the crisis, and this inflation-fighting credibility undoubtedly contributed to the resiliency of the region. During the first year of the international financial crisis, most central banks were still focused on rising inflationary pressures driven by food and energy prices and strong domestic demand, as the spillovers to the region were limited in scale and scope.

However, in September 2008 it was recognised that a different strategy was needed. As the outlook deteriorated rapidly after the collapse of Lehman Brothers, central banks reacted quickly and aggressively as tail risks (low probability, high impact) spiked. Monetary policymakers addressed the extreme financial and macroeconomic conditions with a diverse set of policy tools. Complementing fiscal and prudential policies adopted at the time, monetary policy actions included interest rate cuts, reduced reserve requirements, use of official reserves to stabilise foreign exchange markets, and policies to expand domestic credit. Together these various actions greatly mitigated the impact of the crisis on Asia-Pacific economies and financial systems. However, the effects of these actions were compromised to some degree by financial headwinds including higher risk premia, liquidity pressures and lower asset prices.

Looking forward, central banks in the region face several challenges. As financial markets normalise and economies recover, the timing and pace of the withdrawal of the monetary stimulus will require a familiar balancing act, but with greater complexity: an overly hasty exit could contribute to an economic and financial relapse; an overly late exit could feed inflation pressures and/or financial excesses that could provide the seeds for a future crisis. Indeed, some recent anecdotal evidence about frothy asset markets has raised the stakes of staying too low for too long. Complicating the domestic trade-offs in the region is the considerable uncertainty about prospects for recovery abroad. Adding to that uncertainty is concern about the impact of fiscal stimulus, a serious relaxation of fiscal discipline here in the region and abroad, and the possibility of a disorderly unwinding of global imbalances.

The international financial crisis may offer lessons about monetary policy frameworks. While the diverse monetary policy frameworks in the region served the respective central banks well, there are nonetheless questions about whether improvements can be made. Should central banks pay more attention to financial stability in the future? Should financial stability concerns – and in particular boom-bust dynamics, both home-grown and external – play a bigger role in monetary policy risk assessments? How explicitly should these concerns be articulated in formal monetary policy frameworks and emphasised in central bank communications? Finally, questions about the benefits of smoothing exchange rate volatility through central bank intervention may take on increasing significance with the enhancement of regional reserve pooling and with the possibility of the unwinding of unsustainable global imbalances.

II.2 *Development of financial markets*

The development of financial markets in Asia and the Pacific was supposed to reduce the fragility of financial intermediation. The experience over the past two years lends support, though qualified, to this hypothesis. In particular, initiatives taken to develop local financial markets helped mitigate the initial impact of the international crisis on the region. Local currency markets better fulfilled their role as a "spare tyre" in 2007–09, open to borrowers when other funding sources were not available.

At the same time, the region was fortunate in that its financial markets were less developed and integrated than those in the United States and Europe. For example, structured credit markets, where problems first emerged in the United States, were in their infancy in Asia and the Pacific. Also, while Asia-Pacific markets were gradually opened to foreign participants, remaining restrictions on transactions with non-residents partly insulated domestic financial markets from disruptions occurring abroad. Nevertheless, when the dislocations in US dollar markets intensified after the Lehman bankruptcy, even less-open financial markets experienced pressures.

Looking forward, a key question for policymakers is how and when to scale back the relief efforts they put in place to support financial markets, particularly the extensive liquidity support offered in both local and foreign currencies. Clear communication can help in this regard, especially in the case of discontinuing special facilities that were not designed to naturally unwind as markets normalise.

A longer-term question is how to realise the benefits of further development of financial markets while managing vulnerabilities to external shocks transmitted through financial markets. The breadth and severity of the deterioration in market liquidity during the current crisis surprised many, and while financial markets were not necessarily a source of shocks, they were an important propagator. Reforms that could help to strengthen the capacity of markets to absorb shocks include: increasing the flexibility of monetary policy operating procedures and the capacity of standing facilities; reducing counterparty and operational risks in over-the-counter markets; and increasing transparency about trading activity, prices and exposures.

Further opening of financial markets in Asia to foreign participants still offers the potential for promoting stability by adding diversity, but the appropriate policy approach to cross-border financial integration is likely to differ across countries depending on the stage of market development, the state of private sector risk management practices and the inherent stability of the financial system.

II.3 Financial stability

In the years preceding the international crisis, banking systems in the Asia-Pacific region performed quite well. Banks in most jurisdictions had adopted fairly conventional business models, had manageable levels of risk on their balance sheets, were well capitalised and maintained sufficient liquidity. Developments in the region's credit and asset markets further contributed to the stability of the banking systems. As a consequence, when the international crisis unfolded, Asia-Pacific banking systems were able to absorb the impact quite resiliently, though with help from government backstops. In fact, local banks are now in a position to capitalise on a financing gap in certain financial products and services created by the retreat from the region of many foreign institutions.

Looking ahead over the near term, the design of credible exit strategies for the various stabilisation programmes, as well as dialogue among countries, will be important to maintain the stability of financial systems. Authorities have already taken stock of the range of vulnerabilities that in many respects were not fully appreciated and adopted various policy measures designed to mitigate the risk of spillovers to the financial sector and reduce the likelihood that a credit crunch could induce or exacerbate a recession.

More broadly, the international crisis may give cause to authorities to adopt additional reforms to institutional frameworks for oversight and stability of their financial system.

At an international level, the G20 and Financial Stability Board have put forth recommendations covering various aspects of financial regulation and supervision. While the proposals have been designed to contribute to global financial stability, some of them are particularly relevant for Asia and the Pacific. In the light of recent experiences, the key proposals include: further resources to operationalise a macroprudential approach to supervision and regulation; further efforts to strengthen banks' risk management practices, particularly in the context of Basel II; implementation of an effective liquidity risk management framework, including reserve pooling mechanisms for foreign currency liquidity such as the Chiang Mai Initiative Multilateralisation; and enhanced home-host banking regulations.

“Internationalisation of Asia-Pacific bond markets” by Susan Black, Anella Munro and Philip Wooldridge

In the past decade, Asia-Pacific bond markets have seen a significant increase in both non-resident involvement in local currency markets and offshore activity. The motivations underlying these trends in bond issuance are explored in two papers. Together they provide a regional perspective on the evolution of local currency bond markets and point to how international bond markets can facilitate the development of local currency bond markets.

The first paper, “Motivations for swap-covered foreign currency borrowing”, by Anella Munro and Philip Wooldridge, asks why residents issue foreign currency debt and swap the proceeds for local currency funding instead of simply issuing local currency debt. The volume of swap-covered borrowing is large in some countries, including Australia and New Zealand, and it is growing in some others. The existing literature does not adequately explain either phenomenon. The authors compare the characteristics of bonds issued by swap counterparties and conclude that market frictions – including transactions costs, information asymmetries, regulatory frictions and the scope for unbundling risks – give different borrowers a comparative advantage in different markets, which makes swap-covered borrowing a cost-effective means of raising domestic currency funding.

The second paper, “Why issue bonds offshore?”, by Susan Black and Anella Munro, examines the motivations for onshore and offshore bond issuance by residents of Australia, Hong Kong SAR, Japan, Korea and Singapore. Issuers in these five economies are found to actively arbitrage cost differences between direct and swap-covered borrowing. The results indicate that the use of offshore markets has offered a cost-effective way to secure funding, especially for those issuers that have relatively low credit ratings, large local currency funding needs and a preference for long-term borrowing. In this way, offshore issuance can complement national and regional initiatives to enhance local currency funding opportunities.

The papers recognise that these types of issuance are not risk-free from a public policy standpoint. With the benefits come risks to both financial stability and market development. Mismatched hedging structures and increased exposure to potentially volatile wholesale funding markets could increase the vulnerability of the corporate and banking sectors to shocks. Fragmentation of liquidity between onshore and offshore markets could retard the development of local currency markets. In spite of this, the experience of some countries during the recent crisis, particularly Australia, indicates that these risks can be well managed even during extreme periods. In large part this is because swap-covered borrowing is effectively denominated in local currency. That said, risks may loom larger in countries with less developed financial markets and weak risk management practices.

In the light of the trends in Asia and the Pacific towards financial liberalisation and cross-border integration, the functioning of bond markets warrants further study. Key questions include the obstacles to onshore issuance by lower-quality borrowers; the benefits and risks of securitisation and other forms of credit enhancement; the role of financial centres in market development; and the reasons that issuers rather than investors seem to be the dominant arbitrageurs in international bond markets. Better understanding may help the authorities guide the future development of local currency bond markets.

“Private information, stock markets and exchange rates” by Jacob Gyntelberg, Mico Loretan, Tientip Subhanij and Eric Chan

From 2004 to 2007, foreign exchange trading volumes in Asian currencies more than doubled, and gross capital flows to and from the region grew rapidly. At the same time, net capital flows to the region were strong. Since the onset of the international financial crisis, however, net capital flows and exchange rates have been quite volatile. The potential for significant reversals in capital flows indicates that a better understanding of the relationships between capital flows and exchange rates would enhance the ability of policymakers to achieve their economic and financial stability objectives.

Traditional open economy macroeconomics does not offer much guidance on these issues. In contrast, according to the market microstructure literature, international capital flows that convey new information about investors' return expectations should have a permanent influence on exchange rates, while other types of flows should have a short-term or transitory impact. The authors find empirical support for this theory.

The authors examine a unique set of daily data to distinguish exchange rate fluctuations driven by private information of investors from those driven by macroeconomic and other public data. The dataset covers the net flows arising from the activities of non-resident investors, and returns, in the foreign exchange, stock, and government bond markets in Thailand in 2005–06. The authors find that non-residents' equity transactions are driven primarily by private information and that only the relatively small portion of the net capital flows linked to these equity transactions has a permanent impact on the exchange rate. Other external capital flows, such as those generated by bond transactions, have effects that are numerically smaller, generally statistically insignificant and transitory.

These results suggest that close monitoring of foreign exchange and capital markets and interactions across those markets can yield important information to policymakers. Armed with better information about the links between fundamentals and different types of capital flows, authorities might be better able to smooth transitory exchange rate volatility by being more discriminating in foreign exchange interventions.

Developing readily available and comprehensive high-frequency data for Asia-Pacific economies would have important benefits. It would allow extension of this research to other Asia-Pacific economies and over longer periods to improve our understanding of the relationship between types of capital flows and exchange rates. Additionally, expanding the coverage of the data to include transactions of resident investors would allow an assessment of the extent to which foreign exchange markets and equity markets efficiently serve both types of investors. And using high-frequency data to analyse capital flows from resident as well as non-resident investors may also reveal new ways in which central banks and other government authorities can further develop financial markets to promote efficient risk sharing and sustainable economic growth.

"Targeting inflation in Asia and the Pacific: lessons from the recent past" by Andrew Filardo and Hans Genberg

Central banks in Asia and the Pacific have overwhelmingly chosen inflation control as the principal objective of monetary policy. Some of these monetary authorities have declared themselves to be formal inflation targeters, while others have pursued their objective without adopting this particular label. And central banks in the region have chosen diverse policy options to achieve their inflation goals – the chosen options vary according to such features as the explicitness of the inflation target, the choice of headline inflation indicator and the choice of policy instruments. These observations suggest that the region is a good "laboratory" in which to draw lessons about the effectiveness of different monetary policy frameworks in pursuit of the control of inflation.

In this paper, the authors study the experiences of six Asia-Pacific central banks that have adopted formal inflation targeting and compare them with six Asia-Pacific central banks that have adopted more eclectic approaches. The authors focus on how the various monetary policy frameworks have affected inflation forecasts by the private sector, taking into account amongst other things different levels of institutional independence and policy transparency.

Despite the considerable diversity of policy regimes in Asia and the Pacific, the empirical results indicate that the decision to adopt *formal* inflation targeting has not been the dominant factor accounting for differences in cross-country inflation performance since the 1990s. Put another way, the findings add to the growing body of evidence that formal inflation targeting is not the only monetary policy framework capable of delivering price stability. This conclusion is consistent with Asia-Pacific experiences during the recent commodity price cycle and international financial crisis.

The final section of the paper addresses policy implications for regional central banks. One issue of immediate relevance is how central banks should trade off inflation control and financial stability. The results of the paper suggest that the pursuit of inflation control and actions taken to support financial stability can reinforce each other provided that monetary policy frameworks are properly designed. Underlying this perspective is the argument that the classic assignment problem – the oft-mentioned requirement that each policy goal requires an independent policy tool to assure success – may be less constraining in practice than theory would suggest.

With respect to lessons learned about monetary policy frameworks, the paper's implications are consistent with the explicit multi-perspective or multi-pillar approaches such as those at the Bank of Japan and the ECB. Those frameworks may offer advantages in communicating key policy risks, both during normal times and during crisis periods. One issue of relevance is whether they could simplify the communication challenges faced by a central bank trying to explain why its exit strategy might require monetary policy to be tightened even though inflation pressures are subdued. Further research is called for on the conceptual underpinnings of such approaches and on their broad applicability in Asia and the Pacific.

"Financial deleveraging and the international transmission of shocks" by Michael B Devereux and James Yetman

The international financial crisis has spread across the world through a variety of real economy and financial channels. For the major European economies and the United States, there was a clear transmission path from losses on toxic assets, increasing fragility of bank balance sheets, disintermediation of the financial system, and finally rapid deleveraging of various sectors of the economy. For many Asian economies, the story was very different. The exposure of domestic banks to toxic assets was limited, and banks generally remained well capitalised. Yet the region still experienced a significant slowdown. A complicating factor in calibrating central bank policy responses in Asia and the Pacific to such events is the difficulty in adequately modelling the nature of the transmission mechanism associated with the international financial crisis.

The authors make progress in modelling the international propagation of shocks to the Asia-Pacific region through a new financial channel. A key aspect of their approach is that fluctuations in asset prices affect investment and the real economy via financial linkages *between* countries. In particular, asset price declines that lead to a severe deterioration of bank balance sheets in one country can then spill over to financial institutions in other countries. During normal times, when shocks are small, balance sheet considerations have little effect on macroeconomic outcomes, and financial market developments are relatively independent across countries. But during periods of financial turmoil, a collapse in asset prices and impaired balance sheets in one country can lead, through a negative "international finance multiplier," to a vicious circle of asset price declines across countries.

While stylised, the model has important implications for the conduct of monetary policy. The results of the model provide a justification for the view that central banks should lean against the wind. That is, central banks may wish to increase policy rates as financial system leverage increases, so as to mitigate the potential size of international deleveraging cycles. Moreover, in the event of a deleveraging cycle, this model calls for a more aggressive monetary policy response than does a model without an international finance multiplier. In this sense, monetary policy recommendations should be state-dependent, calling for proportionally more aggressive responses in periods of financial turmoil than in normal times. Arguably, the behaviour of central banks in the Asian Consultative Council during the international financial crisis has been consistent with this theoretical prescription.

The results highlight the importance of paying greater attention to vulnerabilities potentially created in one region by financial disruptions emanating from another. The Asian financial crisis in the 1990s and the experience of Asia and the Pacific during the current international financial crisis underscore the value of improving the conceptual foundations of international macroeconomic models along this dimension. Current international efforts to identify systemically important financial institutions and to develop early warning indicators of financial instability along the lines of those being pursued by the Financial Stability Board and the International Monetary Fund would be consistent with the nature of the transmission mechanism modelled in the paper.

Further efforts to operationalise the model for policymaking can undoubtedly contribute to the development of central bank policies in the region. A more satisfactory model would include greater attention to the interplay of monetary policy and macroprudential regulatory frameworks in the region, as well as the interaction of such policies across borders.

"Contagion and risk premia in the amplification of crisis: evidence from Asian names in the global CDS market" by Don H Kim, Mico Loretan and Eli Remolona

In the financial turmoil of 2007–09, troubles in a corner of the US mortgage market escalated into a crisis of global proportions. A striking feature of the crisis has been the contagion that spread across Asia. In a region where exposure to subprime mortgages and toxic financial instruments was minimal, it is remarkable that credit spreads for Asian borrowers widened as much as they did in Europe and the United States. The authors argue that contagion in Asian credit markets stemmed not only from a reassessment of credit risks but also more importantly from a global repricing of risk; the higher price of risk reflected heightened risk aversion and resulted in higher risk premia.

The authors analyse the key factors that led to valuation losses on debt securities issued by major Asian firms. Their analysis of valuation losses is based on prices of credit default swap (CDS) contracts rather than on prices of the underlying bonds, owing largely to the fact that the CDS markets remained reasonably liquid even during the crisis. Using asset pricing theory, the authors distinguish the part of the losses due to higher default risks and the part due to the higher global price of risk. The default risks are measured by expected default frequencies (EDFs), which are forward-looking measures of borrowers' credit quality. The global repricing of risk is estimated by extracting principal components from several major CDS indexes for Europe, the United States and Asia. The authors argue that the largest principal component can be best thought of as a measure of the global price of risk.

Given the monthly variation in the components over the past few years, the authors conclude that the spread of the international financial crisis to Asia was mainly driven by a rise in global risk premia and only to a small extent by the deterioration in the credit quality of the Asian firms associated with the global slowdown.

The paper offers a framework of analysis for macroprudential policy and tools that can be used by the authorities. First, the paper shows that it is important to distinguish between risk and risk premia and that it is movements in the latter that tend to account for procyclicality. Indeed, low global risk premia during periods of rapid credit growth and high global risk premia during periods of deleveraging have been an important part of boom-bust behaviour in financial markets. Second, the paper offers a new set of tools to measure the variation of default risk and the variation of risk premia, which can complement each other as early warning indicators of financial instability. Third, a better understanding of the factors driving valuation losses should improve our ability to appreciate the implications of mark to market rules for spillover risks. Fourth, risk premia as measured in this paper may also be used as a means to calibrate capital standards over the cycle and therefore help financial sector supervisors mitigate procyclicality. Finally, the ability to distinguish the factors driving valuation losses opens up the possibility of future research into the interactions of risk premia, default probabilities and the systemic health of financial institutions.

"Determinants of house prices in nine Asia-Pacific economies" by Eloisa Glindro, Tientip Subhanij, Jessica Szeto and Haibin Zhu

Throughout history, boom-bust cycles have been a major cause of financial instability in the region and elsewhere. Indeed, experiences from the 1997 Asian crisis, from the lost decade of the Japanese economy and from the current international financial crisis all attest to the enduring relevance of such cycles in modern economies. One theme found in most destabilising boom-bust episodes is large swings in house prices. It has become generally accepted that policymakers armed with a macroprudential orientation and knowledge of unsustainable house prices could adopt policies to rein in perceived excesses, possibly preventing a disorderly unwinding or, at least, reducing the size of the fallout. But an important policy question is how to assess whether the level of house prices is well out of line with fundamentals.

Using a statistical methodology to estimate house price dynamics in Asia and the Pacific, this paper characterises house price movements as the sum of three separate factors: (i) the fundamental value of housing (a trend term) that is determined by longer-term economic conditions and institutional arrangements; (ii) the deviation from fundamental values that is attributable to frictions in the housing market (a cyclical term); and (iii) an irrational or "bubble" component that is likely to be driven by overly optimistic expectations (an error term). Applying this approach to nine economies in Asia and the Pacific, the authors found that national house price movements before the onset of the current international financial crisis mainly reflected adjustments in fundamental values. Cross-country differences in land supply and business environments largely explained distinctive national patterns of house price dynamics across the region.

The authors' approach highlights two empirical issues that are important for assessing asset prices. First, institutional factors matter. The liberalisation of housing markets and housing finance systems affect both the fundamental value of houses and the short-term dynamics of house prices. Second, all three sources of house price movements – fundamentals, frictions and bubbles – are important in calibrating macroprudential policy responses. For example, a run-up in house prices that reflects improved fundamentals would not call for a tightening of regulatory measures or an increase in policy rates. And a cyclical run-up due to market imperfections may call for actions that differ from those needed to deflate asset price bubbles.

The authors' assessment of the risks of boom-bust housing dynamics in Asia and the Pacific is consistent with the fact that sharp downward revisions in the economic and financial outlooks did not lead to a collapse of houses prices and bouts of home-grown financial instability. This suggests that the authors' approach to identifying components of disruptive house price dynamics may deserve greater weight in policy deliberations. Financial sector supervisors at both the national and subnational levels can use the methodology more generally to monitor property market developments (residential and commercial) as part of a general policy toolbox to assess financial sector vulnerabilities. In the medium term, such assessments could also provide valuable insights into policy trade-offs associated with exit strategies.

More broadly, this study calls for continued research to develop a deeper understanding of the roles of liquidity and risk-taking in generating asset price bubbles and of the implications of these factors for the transmission mechanisms of monetary policy and the design of macroprudential frameworks.