

Asset Prices and Monetary Policy

On 18–19 August, the Bank held a conference on ‘Asset Prices and Monetary Policy’. The papers presented at the conference are available on the Bank’s website. The conference volume, which includes revised papers and discussion, will be available on 21 November. The following is the introductory chapter of the volume by Tony Richards, Head of Economic Research Department.

The Bank’s annual conference has now been held continuously since 1989 and aims to address topics of reasonably general interest to policy-makers, academics, the financial markets and the general public. However, it is rare that a conference has been as timely as this year’s, ‘Asset Prices and Monetary Policy’. This introduction provides an overview of some of the main themes that emerge from the papers presented at the conference, and included in the volume.

Presentations on Some Historical Episodes

A number of papers examine various historical episodes of turbulence in asset prices. John Simon’s paper provides an overview of three episodes in Australian economic history which he describes as bubbles – the 1890s Melbourne land boom,

the Poseidon nickel boom, and the equity and property market episodes of the late 1980s. Simon characterises bubbles as typically being episodes where fundamental factors bring about an initial price increase, which is magnified through subsequent speculative activity into further sharp price increases, and then followed by a dramatic fall that occurs with no obvious changes to fundamentals. He notes that such episodes usually occur in periods of general optimism following long periods of expansion, and are often accompanied by easy availability of credit and substantial use of leverage. While most conference participants thought that any definition of a bubble is highly subjective, most concurred with the designation of the three Australian episodes as bubbles.

In his comments on Simon’s paper, David Merrett notes the differences in the causation, frequency and impact of ‘bubbles’ in Australia over the past 200 years. Nineteenth century Australia was characterised by frequent ‘bubbles’, but these tended to be local, rather than colonial or national in scope. Several factors may have contributed to the shift to more synchronised (albeit less frequent) misalignments in asset prices over the past 100 years. These include the growing size of financial markets relative to the real economy, and the increased flow of information between regions and agents. In a related vein, several participants speculated that increasing

globalisation, including of banking practices, may be leading to greater synchronisation of asset-price bubbles across the world. The simultaneous commercial property market booms of the late 1980s in the US, Europe, Asia and Australia was cited as a possible example of this phenomenon.

The paper presented by Barry Eichengreen (co-authored with Hui Tong) uses data for 12 countries over a century or more to measure volatility in equity prices as a proxy for general asset-price volatility. The authors then examine the relationship between asset market volatility and possible underlying determinants of volatility, such as monetary volatility, capital account openness, and the choice of exchange rate regime. The most promising determinant appears to be monetary volatility, which is estimated to be positively related to asset-price volatility in almost every country studied. This suggests that the unstable monetary policies of the Great Depression and the 1970s and 1980s are likely to have contributed to the observed higher volatility in equity prices in these periods. Hence Eichengreen concludes that shifts to more stable monetary regimes, such as Australia's inflation-targeting regime, should have contributed to reduced volatility in asset prices.

The paper presented by Karl Case (co-authored with John Quigley and Robert Shiller) looks at the recent history of the US housing market. This paper presents data on the size of price cycles in the US, and results from a survey of home-buyers. The price data show that while house price growth in some US cities has been very stable over many decades, other regions have seen extremely volatile price cycles, with prices sometimes falling substantially in downswings. A major factor in this different behaviour appears to be the elasticity of housing supply, with cities with fewer constraints on expansion (either physical or legal) experiencing smaller cycles.

The survey results presented by Case suggest that even after the recent long boom in US house prices, which has taken prices to record-high levels, buyers are still expecting double-digit average annual price growth over the next decade. The survey suggests that price expectations are highly extrapolative (i.e., past increases lead to expectations of future increases), and that this contributes to the observed swings in prices.¹ The paper also suggests that these swings in prices have a substantial effect on the macroeconomy via their impact on household wealth. The implication for the US (and Australia) is that if a substantial fall in housing prices were to occur, growth in private consumption (which accounts for around 60 per cent of aggregate expenditures) could slow sharply.

An additional historical assessment is provided by Adam Posen in his paper on the Japanese experience following the bubble of the late 1980s. Posen first addresses the argument that is often made that excessively easy monetary policy was a major contributor to the bubble. He presents cross-country evidence that periods of sustained ease in monetary policy do not necessarily result in asset-price booms, and also that asset-price booms are frequently *not* preceded by periods of monetary ease. Accordingly he argues that lax monetary policy is by no means a prerequisite for an asset-price boom, and his assessment of Japanese monetary policy during the boom phase suggests that monetary policy played only a small role in contributing to the bubble, with poor financial sector practices much more to blame. In addition, his cross-country analysis suggests that sharp falls in asset prices have historically not been followed by CPI deflation, and that periods of deflation are typically not preceded by sharp falls in asset prices. This, plus the fact that Japan had positive inflation and only a modest recession in the initial aftermath of the bursting of the Japanese bubble, prompts

1. Interestingly, the survey results for the housing market are remarkably similar to related survey results for the US equity market. A paper by Fisher and Statman (2002) suggests that around half of respondents to their survey of individual investors thought that the stock market was overvalued in the late 1990s and in early 2000, but that they continued to expect very high stock returns (with these expectations driven largely by recent price movements).

Posen to argue that the subsequent 'Great Recession' that Japan suffered was not inevitable, but was the result of subsequent policy mistakes (in the mid 1990s) and structural weaknesses in the financial sector.

Several participants noted that the historical record of booms and busts in asset prices suggests that the impact on the real economy varies markedly between episodes. The episodes that have been most costly in social and economic terms have typically been those which have been accompanied by high leverage and a large build-up in credit. On average, it appears that property market booms and busts are more costly than equity market bubbles, which many conference participants attributed to the greater use of leverage often associated with property. However, as John Plender notes in his comments in the concluding session, equity market bubbles could also be very costly to the extent that they encourage excessive investment in sub-optimal projects. He notes that the fallout from the 2000–2002 fall in global equity prices does not thus far appear to be as large as might have been expected, which he attributes to the healthy capitalisation of banking systems and the fact that there was no boom and bust in commercial property in this episode. In his comments on the papers by Charles Bean and Stephen Cecchetti, Warwick McKibbin also presents simulations from the G-cubed model suggesting that the major effects of asset-price misalignments on the real economy stem from over-investment, and that these effects could be very persistent.

Presentations on Monetary Policy Issues

The discussion at the conference addressed the role of monetary policy both in the upswing of asset-price booms and in the aftermath. There was substantial agreement that monetary policy should respond

aggressively to the contractionary effects of sharp falls in asset prices, particularly as the risks of deflation increase. This is one of the messages in Posen's paper, although he also points to the need for fiscal policy to work in tandem with monetary policy, and for policy-makers to be aware of weaknesses in the financial and corporate sectors.

Given this agreement on the role of monetary policy in the aftermath of booms, most of the discussion on monetary policy focused on its role during upswings in asset prices, especially when there are concerns that these swings may not be fully justified by fundamentals. A few years ago, views tended to be polarised on this issue. On the one hand, it was argued by some academics (e.g., Bernanke and Gertler (2001)) that monetary policy should ignore developments in asset markets, except insofar as they affect forecasts of inflation at the horizon at which the central bank targets inflation. On the other hand, some academics and practitioners (e.g., Cecchetti, Genberg and Wadhvani (2003)) argued that monetary policy should instead respond pre-emptively by increasing interest rates to try to head off misalignments in asset prices as they emerge.

It appears, however, that more recently debate has shifted towards the middle ground between these two positions. This would argue that monetary policy should not aggressively attempt to burst perceived asset-price bubbles, but should take account of asset-price fluctuations, to the extent that they provide information about the shocks affecting the economy, or have possible implications for output and inflation in the medium term, beyond the usual inflation-targeting horizon. This position would emphasise the need for some flexibility in an inflation-targeting framework, echoing some of the themes on this score from the Bank's 1997 conference on 'Monetary Policy and Inflation Targeting'.²

This shift to the middle is implicit in the paper by Charles Bean, who argues that a forward-looking 'flexible inflation-targeting' framework should indeed bear in mind the

2. See, for example, the 'Round-up' discussion by Ball (1997).

longer-run consequences of asset prices and financial imbalances in setting interest rates. Rather than considering if asset prices should enter directly into Taylor-type rules or inflation-targeting rules, Bean's paper considers how asset prices might enter into an optimal monetary policy rule, given an objective function that minimises output gaps and deviations from the inflation target. His framework suggests a role for monetary policy that is a little broader than implied by the narrow view described above – that is, monetary policy should respond to asset prices if they signal changes in expected inflation *or activity*. Furthermore, he suggests that such an approach is consistent with the way that many central banks already act. For example, although their 'first-level' target is the inflation rate, many inflation-targeting central banks (including the Bank of England and Reserve Bank of Australia) have broader mandates which include paying attention to employment and economic growth.

Bean emphasises that an automatic response to any single asset price would not be appropriate, but that the central bank should attempt to extract information from asset prices and other variables about the shocks that are influencing the economy and their implications for future inflation and growth. If this analysis signals that the economy is overheating, increasing the risk of subsequent financial instability, this would have implications for future activity and inflation. Hence, an inflation-targeting regime should pay attention to asset prices and their implications for the medium-term risks facing the economy.

In their paper, David Gruen, Michael Plumb and Andrew Stone provide further evidence to support Bean's notion that there is no single automatic policy response to asset-price developments or misalignments. Gruen *et al* consider the case of an economy where an asset-price bubble is boosting aggregate output and inflation, and where in each future period this bubble will either continue to grow or burst, with known probabilities. A policy-maker who can only affect this economy with a lag faces two

countervailing influences: the desire to tighten policy to dampen output and inflationary pressures (and perhaps help burst the bubble), versus the desire to ease policy to prepare for the eventual bursting of the bubble. The optimal policy in their model will depend upon the characteristics of the bubble process and the nature of the costs associated with the bubble bursting. Of course, as emphasised by David Stockton in his comments on the paper, in the real world it is unlikely that the informational requirements for optimal policy will be satisfied – policy-makers face great uncertainty about the existence of bubbles, let alone their precise stochastic characteristics. The authors conclude that the appropriate policy strategy will be a matter for judgement, with some cases where activist policy is warranted (the central bank should lean against the bubble) and others where such a response would be counterproductive. They note that in practice it may be difficult for the central bank to distinguish between these cases given the information available.

The paper by Stephen Cecchetti argues more strongly for monetary policy to respond, albeit cautiously, to developments in asset markets. He responds to three points made by those who oppose using monetary policy to combat the instability caused by asset-price bubbles. First, although it may be difficult to estimate equilibrium asset values, he argues that this does not mean that policy-makers should not try to identify misalignments in asset prices – other variables, such as potential GDP, are also difficult to estimate, but are routinely estimated by central banks. Nor should policy-makers simply ignore the possibility of asset market bubbles by appealing to the idea that efficient financial markets would eliminate them. Second, he argues that the possibility that excessively activist monetary policy might destabilise the economy does not justify the absence of any action – rather it calls for caution in the extent of the action. Third, he argues that communication problems facing a central bank in justifying a monetary policy response to a potential bubble are no different from the communication issues associated with

normal interest rate increases to stabilise prices and growth in the medium term.

Cecchetti's paper then presents some novel empirical evidence on the conduct of monetary policy in the United States. He examines minutes and transcripts of the policy-setting Federal Open Market Committee (FOMC) for references to keywords concerning asset market valuations. He finds that the frequency of such references is correlated with a measure of the overvaluation of the equity market, and that as equity market valuations boomed in the 1990s, the frequency with which the FOMC discussed the equity market rose dramatically. In addition, Cecchetti estimates a policy reaction function for the US and finds some evidence that the level of interest rates over 1990–2003 was positively correlated with a measure of equity market overvaluation and negatively correlated with a measure of banking system stress. Cecchetti's results imply that Federal Reserve officials were talking more about asset prices as valuations rose in the 1990s, and perhaps also adjusting policy to lean against the bubble. He contrasts these results with recent public statements by Federal Reserve officials that there is little evidence that monetary policy can be used to limit the size of bubbles and their destructive fallout.³

Conference Discussions

The fact that each asset-price boom has different causes and consequences implies that there is no single appropriate monetary policy response to a boom. This observation prompted some conference participants to note that there might be scope for other arms of policy, including tax and regulatory policies, to respond to asset-price developments.

Jeff Carmichael's comments in the concluding session note that if developments in asset markets imply an increasing level of risk in the financial system, this should be of concern to the financial regulator, which should assess whether the level of capital being held by banks should be increased. However, regulators may be no better at spotting bubbles than others. Furthermore, as Gordon de Brouwer notes in his comments, policy-makers need to be wary that interventions to limit speculative activity in one asset class do not simply push the problem elsewhere. More generally, conference participants noted that there was not yet a consensus among the regulatory authorities that they should be using capital requirements to respond to credit booms or possible asset-price imbalances. It is likely that there will be ongoing discussions on this topic, especially in the lead-up to the introduction of the revised Basel Capital Accord.

Regarding the role of monetary policy itself, there was broad consensus at the conference that policy-makers should not attempt to *target* asset prices, but that they also should not ignore them. Many of the participants seemed to support the view expressed by Philip Lowe, in his comments on the papers by Bean and Cecchetti, that central banks should focus on whether developments in credit and asset markets are materially increasing financial system risk and broader risks to the macroeconomy.

The question is then how an inflation-targeting regime should take these risks into account, given the general goals in terms of inflation and economic activity. The challenge in this regard is that the risks engendered by developments in asset markets are most often low-probability, medium-horizon events that do not lend themselves to easy inclusion in standard short-term forecasts. In particular, the risk of a substantial asset-price correction may be sufficiently low or hard to quantify as

3. For example, at the August 2002 Jackson Hole Conference, the Federal Reserve Chairman concluded (see Greenspan (2002, p 5)) that 'It seems reasonable to generalize from our recent experience that no low-risk, low-cost, incremental monetary tightening exists that can reliably deflate a bubble. But is there some policy that can at least limit the size of the bubble and, hence, its destructive fallout? From the evidence to date, the answer appears to be no'.

to be excluded from any central forecast, particularly at a horizon of only one or two years. But that does not mean that it can be ignored. Rather, these considerations highlight

the need for monetary policy to maintain a medium-term perspective and to take into account an assessment of risks to the outlook, not just the central forecast.

References

Ball L (1997), 'Round-up', in P Lowe (ed), *Monetary policy and inflation targeting*, Proceedings of a Conference, Reserve Bank of Australia, Sydney, pp 320–324.

Bernanke BS and M Gertler (2001), 'Should central banks respond to movements in asset prices?', *American Economic Review*, 91(2), pp 253–257.

Cecchetti SG, H Genberg and S Wadhvani (2003), 'Asset prices in a flexible inflation targeting framework', in WC Hunter,

GG Kaufman and M Pomerleano (eds), *Asset price bubbles: the implications for monetary, regulatory, and international policies*, MIT Press, Cambridge, Mass, pp 427–444.

Fisher KL and M Statman (2002), 'Blowing bubbles', *The Journal of Psychology and Financial Markets*, 3(1), pp 53–65.

Greenspan A (2002), 'Economic volatility', remarks at a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, 28–30 August. √