

# *Discussion*

---

## **1. Gordon de Brouwer<sup>1</sup>**

Adam Posen raises some big questions about the interaction of asset-price bubbles, economic growth and deflation, and the scope for monetary policy to respond. He has some answers and I broadly agree with his diagnosis and assessment.

Certainly there are few more interesting case studies than Japan on the interaction of asset prices, the macroeconomy, and policy. Japan stands out as the most serious example in the past two decades of how rises and collapses in asset prices can have a devastating impact on the economy. As Adam shows, it is a complex story. This complexity means that many, not just one, factors are at play and that the resolution of the problems requires a set of policy responses.

The focus on Japan in this conference serves two purposes. The first is to highlight the cost of bubbles and examine the place for policy action to limit the worst of excesses in asset-price bubbles. This is obviously important to the debate now occurring in Australia. The second purpose is to focus on the problems of a sustained collapse in asset prices and how to deal with them. Japan matters to the global economy and the sooner it gets its economic act together the better for us all. Adam's paper serves both these purposes.

But discussants are not invited just to say how great a paper is. They are there for debate and testing ideas. To this end, I will revisit the question of the lessons of Japan's experience for other countries, and focus especially on the place of targeted interventions in asset markets. Before I get to this, I would like to look at two structural issues in Japan that may be useful in addressing the lessons from Japan's experience. The first issue is the interplay and connections between the prices of various asset classes. If asset market spillovers exist, policies specifically directed to one asset class may have unintended spillover effects to other asset classes. The second issue is the degree to which asset prices matter to economic activity. If asset prices are particularly important to private decision-makers, then the argument may be stronger for policy actions which address directly the disequilibrium in asset prices.

### **Structural issue #1: the twin-peaks phenomenon in Japan**

It is very well known that asset prices share many common characteristics, including speculative dynamics and herding,<sup>2</sup> and that there are spillovers between assets, both contemporaneously and over time.<sup>3</sup>

---

1. Professor of Economics and Executive Director Australia-Japan Research Centre, Asia Pacific School of Economics and Government, Australian National University. Comments welcome to [gordon.debrouwer@anu.edu.au](mailto:gordon.debrouwer@anu.edu.au).

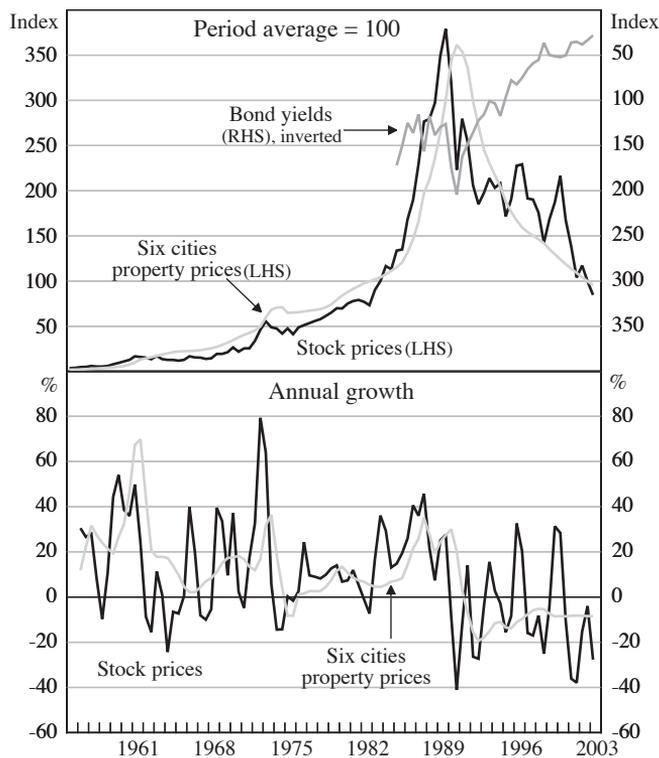
2. See, for example, Cutler, Poterba and Summers (1990) and Devenow and Welch (1996).

3. See, for example, Rigobon and Sack (2003).

One of these spillovers is the passing of speculative activity from one asset class to another, leading to twin or multiple peaks in the various asset prices. Speculative pressures based on herding behaviour, for example, can build up in one asset class. The collapse of the bubble in that market may lead investors to shift to another asset class, effectively passing bubbles on to the range of different asset classes. A common example is the shift of investment (and speculative dynamics) between stock markets and property markets. A familiar phenomenon in a number of industrial countries in the late 1980s, late 1990s, and early 2000s has been for investors to shift from a falling stock market to property or fixed-interest investments, causing prices in these markets to rise as a result.

Are there twin or multiple peaks in Japanese asset prices? Figure 1 shows measures of stock, property, and bond prices for Japan on a six-month frequency over the past 50 years or so. This is a fairly low frequency over a long period of time.

**Figure 1: Classes of Asset Prices in Japan**  
Six-month frequency



Notes: The stock price is the Nikkei 225, the Real Estate Institute property price series is the six cities average property price (average of residential, commercial and industrial), and 10-year future bond yield. The data are from CEIC, codes JZIA, JELBAA and JZCA respectively. They are indexed in Figure 1 with the base equal to the period average. Bond yields are shown in reverse scale to proxy bond prices.

Source: CEIC

The first point to note is that bubbles (defined as a ‘substantial’ rise followed by a ‘substantial’ fall) are not coincident in Japan although they are correlated. The rise (and fall) in stock prices in the early 1960s, mid 1970s and the late 1980s preceded the rise (and fall) in property prices. Both series experienced substantial falls in the 1990s and it is hard, at least by eyeballing the data, to discern which series has led since then. Overall asset-price deflation appears to have dominated price movements in the past decade or so.

The spillover effects at low frequency suggest that the interaction of asset prices over time may be predictable, at least to a limited degree. Table 1 presents a simple probit model to estimate influences on the probability of a price rise in one market. These influences are the recent economic cycle, past price movements in the asset class under consideration, and past price movements in other asset classes.<sup>4</sup>

Not surprisingly, the model for stock prices is particularly weak. But it suggests that past price rises in property prices raise the probability of a rise in stock prices in Japan. The results for modelling property prices are much more robust: past price rises in both property and stocks raise the probability that property prices will rise over a six-month period.

The potential for low-frequency spillover of price changes between different asset classes has an important implication for how and whether policy-makers should try to respond to asset-price movements. If policy-makers choose to respond to what they perceive to be an asset-price bubble, they can do so by using a general instrument – interest rates, or a specific instrument, like tax arrangements or margining

**Table 1: Estimated Probabilities of Rising Asset Prices**  
Probit model of the rise in asset prices

	Tendency for property prices to rise		Tendency for stock prices to rise	
Constant	0.22	[0.52]	0.47	
$\Delta$ private final demand ( $t-1$ )	0.07	[0.60]	-0.11	[0.13]
$\Delta$ property prices ( $t-1$ )	<b>0.36</b>	<b>[0.00]</b>	<b>0.08</b>	<b>[0.05]</b>
$\Delta$ property prices ( $t-2$ )			-0.06	[0.10]
$\Delta$ stock prices ( $t-1$ )	<b>0.06</b>	<b>[0.01]</b>	0.01	[0.54]
McFadden R <sup>2</sup>	0.76		0.05	
No of observations	94		93	

Notes: Marginal significance shown in square brackets; bold indicates significant at the 5 per cent level.

4. The probit model assumes a normal distribution. This is satisfied for six-monthly changes in equity prices but not six-monthly changes in average property prices (although it is not an egregious failure).

requirements. There is a risk in using either of these sets of instruments to ‘prick’ a bubble in that it may just end up shifting the bubble from one asset class to another. The risk of this happening is higher if policy-makers use a market-specific instrument when the initial bubble is the result of easy financial conditions. But Japan is dealing with damaging asset-price deflation. If the correlation between asset markets is structural in nature, say because of arbitrage, then intervention to shift prices up in one market may spill over, happily, to other asset markets.

## **Structural issue #2: asset prices, the economy and the business cycle**

There is a solid ground for thinking that asset prices are important in explaining economic activity. There are obvious mechanisms through which this occurs. Wealth is important in explaining consumption in permanent-income and life-cycle models, and in reducing the bind of liquidity constraints. Higher stock values make it easier for firms to fund investment, all else given. Damaging negative wealth effects occur when the prices of goods, labour and assets are falling but the price of liabilities (like intermediated debt) is fixed in nominal terms.

Asset prices are also important in predicting the economic cycle. Contemporary economics has long analysed asset prices as forward-looking ‘jumping’ variables driven by expectations about the future. These expectations about the future can extend to the economic cycle. For example, if stock prices are characterised as the present discounted value of future dividends, then the current stock price will be sensitive to expectations about the business cycle, since this affects both the future dividend stream and the discount rate. If expectations are not systematically wrong, it is natural to examine whether asset prices have predictive value in forecasting the economic cycle.

We need to know the evidence for Japan. Do asset prices in Japan help predict Japan’s economy and economic cycle? Has this changed over time, especially in the 1990s and early 2000s? We need structural models to address this properly, but a quick and dirty way to assess this is simply to see if changes in stock prices and property prices help predict economic activity. Table 2 sets out Granger causality results for interactions between these asset prices and economic activity. Economic activity is defined as GDP, private final demand, private consumption, private residential investment, private non-residential investment, the Tankan survey measure of actual business conditions, and CPI inflation.

The results are striking. Over the past four and a half decades, domestic property prices and stock prices have been a strong and systematic predictor of Japan’s economic cycle. This is most apparent in investment, with stock prices a notably strong predictor of private non-residential investment and property prices a notably strong predictor of private residential investment. While the coefficients are not reported in Table 2, the sum of coefficients is always positive, so rises (falls) in asset

**Table 2: Using Asset Prices to Predict Economic Activity**  
Granger causality tests, six-monthly

Variable doing the predicting	Variable being predicted	Marginal significance	
		1955:Q2–2003:Q1	1990:Q1–2003:Q1
Property prices	GDP	0.10	0.27
	Private final demand	<b>0.04</b>	0.37
	Private consumption	0.42	0.40
	Private residential investment	<b>0.05</b>	0.55
	Private non-residential investment	<b>0.00</b>	0.38
	Tankan business conditions	<b>0.00</b>	0.18
	CPI inflation	<b>0.00</b>	0.08
Stock prices	GDP	<b>0.00</b>	0.91
	Private final demand	<b>0.00</b>	0.59
	Private consumption	0.16	0.91
	Private residential investment	0.06	<b>0.02</b>
	Private non-residential investment	<b>0.00</b>	0.12
	Tankan business conditions	<b>0.00</b>	0.22
	CPI inflation	<b>0.00</b>	0.58

Notes: National accounts data are in constant 1995 prices from 1980–2003 and 1990 prices before then; all variables are percentage change except the Tankan survey of actual business conditions; Granger causality tests conducted in a VAR model with three lags of each variable; bold indicates significant at the 5 per cent level. Tankan is only available from 1974:Q2. The CPI is only available from 1970:Q1.

Source: Author's calculations using data from the CEIC database.

prices are associated with stronger (weaker) economic activity.<sup>5</sup> The implication of this is that an effective policy response to Japan's crisis should aim at breaking the ongoing decline in asset prices.

But there is a big change in these relationships when it comes to the 1990s and early 2000s. As shown in the last column of Table 2, in this case, asset prices no longer have general predictive value in non-structural models. There is one exception: the effect of stock prices on private residential investment and, more marginally, private non-residential investment. Horioka (2003) points out that these are the components of private expenditure in Japan that have performed the worst in the past decade.

5. Oddly enough neither stock prices nor property prices (either average or residential property prices) help predict personal consumption. This does not fit with structural modelling in standard life-cycle representations of consumption in Japan which finds a positive wealth effect on consumption, including from real estate wealth; see, for example, Horioka (2003).

## Lessons for other countries from Japan's experience

The depth and breadth of Japan's asset-price collapse are full of lessons for other countries, including those facing bubbles of their own. There are four key points from Japan's experience.

### *1. The scale of asset-price swings is so great that monetary policy cannot respond directly to them without destabilising output and general prices*

As shown in Figure 1, there are huge swings in asset prices over the cycle, by as much as 80 per cent in a half year. The magnitude of these swings is such that they are not something that monetary policy can directly address without causing severe instability in output and general prices.

### *2. Like the poor, asset-price swings are with us always*

Asset-price swings are a permanent feature of the landscape: cycles and bubbles in asset prices in Japan have not diminished or accelerated in the post-war period. Generally speaking, it is hard to accept that policy-makers under a new (enlightened) regime would be able to dampen or eliminate asset-price cycles. If this is right, the key is to minimise the damage from the big swings in asset prices on the balance sheets of households, firms, financial institutions and governments, and, when they do cause harm, dealing with the problems as quickly as is practicable.

### *3. Targeted interventions to limit asset-price rises or falls may or may not work ...*

A valuable insight of economics is the importance of assigning the right instrument to the problem at hand. If there is a problem in a specific asset market, the ideal approach is to use the specific instrument that most effectively deals with the problem.

If, for example, policy-makers are concerned that rising asset prices are unsustainable and are artificially and temporarily boosting collateral and borrowing (with the threat of creating debt overhang and weak balance sheets when the bubble bursts), then there is some (at least initial) appeal in the argument that they should raise capital or margin charges on, or otherwise limit, particular forms of borrowing. As Adam says, policy should focus on ensuring the stability of the lending channel.

Similarly, targeted interventions in markets after an asset-price collapse may be appropriate. Consider the arguments in Japan for dealing with deflation. The approach favoured by the economic ministries in Kasumigaseki (and so far resisted by Nihonbashi) is for more aggressive monetisation of central government debt and fiscal deficits. An alternative, and possibly complementary, approach is for official purchases of other assets, including shares and property. The appeal of this latter argument is that if the profound collapse of asset prices has forced households and firms to cut spending to reduce debt and stabilise their balance sheets, then breaking and reversing the downward spiral in asset prices may help stimulate

private spending in the economy. The partial evidence presented above may support such a targeted intervention.

If current asset prices are too low, this intervention will be stabilising and will end up being profitable for the authorities. And if the correlations between asset markets reflect structural links, then interventions in one market will spread to others.

#### *4. ... but institutions and credibility matter to the effectiveness of policy interventions, be they targeted or general*

The success of interventions depends directly on the capacity of institutions to deliver them effectively and the credibility of the policy regime and policy-makers. Having just said that there are arguments for targeted intervention in principle, let me use Japan's experience to outline the practical limitations to such interventions.

Consider, first, targeted interventions to slow down the rise of asset prices. There are two reasons to be cautious about targeted interventions in the upward phase of the asset-price bubble. In the first place, as shown above, the prospect of generating twin or multiple bubble peaks in asset prices is a real one. Dumping on one asset market may just result in shifting speculative activity to another market.

Furthermore, Japan's experience shows just how hard it is to contain a rise in a particular market in practice. The Japanese monetary authorities were deeply concerned in the late 1980s with the sharp rise in speculative activity in property and stock markets. They sought to limit access to finance by imposing lending limits on banks. This was largely unsuccessful because funding was fungible and led to disintermediation from the domestic banking sector. Borrowers were directed to non-bank financial intermediaries, notably the housing loan financial institutions (*jusen*), and to foreign banks which the authorities were reluctant to control for fear of inducing foreign, especially US, criticism. There were also big gaps in the regulatory net, with different institutions regulated and supervised by different government agencies; the Ministry of Agriculture, Forestry and Fisheries (MAFF) in particular was reluctant to impede the activities of agricultural cooperatives.<sup>6</sup> The upshot was the failure of the regulatory system to deliver. This does not necessarily mean that prudential mechanisms cannot be used to try to limit the impact of asset-price shocks. But it does mean that if targeted policies are to be effective, the regulatory processes need to be well-structured, in the sense of being consistent, coordinated, and flexible. This is a lesson for Australia and other countries facing asset-price bubbles.

The success of targeted interventions when asset prices have fallen too much also depends on the institutional framework and credibility of policy-makers. There are substantial practical problems with targeted intervention to boost the stock or property markets in Japan. The biggest is the credibility of the regime itself. A long history of political and official intervention and manipulation in stock and fixed-interest markets and the importance of money politics in Japan mean that

---

6. See Ito and Hamada (2003) for an account of this.

official interventions in asset markets are unlikely to be credible unless they are done through blind trusts operated by an independent agency such as the Bank of Japan. There is deep institutional resistance to this. There is also a problem of which assets to buy. It is cleaner to buy property through securitised pooled investments such as property trusts but these are not well developed in Japan. Having a broad and well-developed set of financial markets, including markets in securities over real assets, makes interventions in asset markets easier.

## End-piece

There is no shortage of expert advice about whether and how economic policy-makers should respond to asset-price movements. Many of the ‘names’ of macroeconomics have written on this and they pretty much make every recommendation possible, ranging from not using monetary policy to respond to asset prices (Bernanke and Gertler 2000), using monetary policy to respond to asset prices (Cecchetti *et al* 2000; Bordo and Jeanne 2002), or using alternative market-specific instruments to deal with the bubble (Schwartz 2002). There is a serious proponent for every course of action. This is both distressing to policy-makers, since the economics discipline cannot provide them with clear advice, as well as comforting to policy-makers, since they can say that they have ‘right’ on their side no matter what they do. In deciding on policy action, these arguments need to be evaluated against the practicalities of the institutional framework and credibility of policy-makers. Whether a particular policy approach is to be taken or not depends not just on whether it is analytically persuasive but also on whether it will work in practice given the grimy reality and credibility of each country’s institutional structure.

## References

- Bernanke B and M Gertler (2000), ‘Monetary policy and asset price volatility’, in *New challenges for monetary policy: a symposium sponsored by the Federal Reserve Bank of Kansas City*, Federal Reserve Bank of Kansas City, pp 77–128.
- Bordo MD and O Jeanne (2002), ‘Boom-busts in asset prices, economic instability, and monetary policy’, NBER Working Paper No 8966.
- Cecchetti SG, H Genberg, J Lipsky and S Wadhvani (2000), *Asset prices and central bank policy*, Geneva Reports on the World Economy No 2, International Center for Monetary and Banking Studies and Centre for Economic Policy Research, Geneva.
- Cutler DM, JM Poterba and LH Summers (1990), ‘Speculative dynamics’, NBER Working Paper No 3242.
- Devenow A and I Welch (1996), ‘Rational herding in financial economics’, *European Economic Review*, 40(3-5), pp 603–615.
- Horioka CY (2003), ‘The stagnation of household consumption in Japan’, paper presented at the Venice Summer Institute, Venice International University, San Servolo, 25–26 July.

Ito T and K Hamada (2003), 'Bank fragility in Japan 1995–2003', paper presented at the Venice Summer Institute, Venice International University, San Servolo, 25–26 July.

Rigobon R and B Sack (2003), 'Spillovers across US financial markets', NBER Working Paper No 9640.

Schwartz AJ (2002), 'Asset price inflation and monetary policy', NBER Working Paper No 9321.

---

## 2. General Discussion

One participant noted that discussion in earlier sessions appeared to have come to a consensus that asset-price misalignments in property markets tend to have a greater impact on the real economy than those in equity markets. If this is the case, the larger role of commercial property in the Japanese bubble, relative to the US experience of the late 1990s, might be one reason why the fall-out from the Japanese crash had been much greater. The participant also emphasised that the de-leveraging that occurred in the Japanese corporate sector after the bubble had significant effects on the real economy as it held down investment growth.

The discussion of Japanese policies touched on Posen's suggestion that the Bank of Japan should have run tighter monetary policy in 1988. One participant suggested that this would have been politically difficult. In his opinion, people at the time appeared to be willing to accept rises in commercial property prices as they were accompanied by strong investment growth, which was thought to be sustainable as people believed that the growth rate of potential output had increased. He also noted that changes in the financial intermediation process made interpreting monetary aggregates difficult at this time. Another participant discussed the conduct of fiscal policy in Japan, and suggested that announcements of expansionary fiscal policy during the 1990s were not always subsequently implemented. He argued that these unfulfilled announcements had resulted in rises in long-term interest rates and crowding-out of real activity.

One participant thought that the Japanese experience highlighted the difficulty in preventing feedbacks from asset-price misalignments to the value of financial institutions' capital, and therefore their ability to lend. More generally, a number of participants were of the view that the reform of the Japanese financial sector to date had occurred at a very slow pace, and that this was impeding necessary structural reforms of the real economy. There also appeared to be broad agreement with the view presented in the paper that this lack of financial sector reform, and to a lesser extent the stance of monetary policy in the middle of the decade, were the main factors behind Japan's poor economic performance over the second half of the 1990s.

There was some discussion of the measure of productivity used in Posen's paper. It was argued that an alternative measure, namely output per hour worked, may have been more appropriate, since it would take into account demographic factors when explaining movements in the level of Japan's productivity. Adam Posen responded

that he thought that movements in Japan's productivity over the second half of the 1990s could largely be explained by macroeconomic developments and the deregulation which was undertaken in sectors such as retailing and telecommunications, without recourse to explanations involving demographic factors.