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Asset Price Instability and Policy Responses: The Legacy of Liberalisation

Stephen Bell and John Quiggin

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Schools of Economics and Political Science
University of Queensland
Brisbane, 4072
rsmg@uq.edu.au
http://www.uq.edu.au/economics/rsmg

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Stephen Bell and John Quiggin

School of Political Science & International Studies and School of Economics

University of Queensland, Brisbane Qld 4072

EMAIL stephen.bell@uq.edu.au
PHONE + 61 7 33657013
FAX +61 7 3365 1388

EMAIL j.quiggin@uq.edu.au
PHONE + 61 7 3346 9646
FAX +61 7 3365 7299
http://www.uq.edu.au/economics/johnquiggin

Abstract

The debate about the dynamics and potential policy responses to asset inflation has intensified in recent years. Some analysts, notably Borio and Lowe, have called for 'subtle' changes to existing monetary targeting frameworks to try to deal with the problems of asset inflation and have attempted to developed indicators of financial vulnerability to aid this process. In contrast, this paper argues that the uncertainties involved in understanding financial market developments and their potential impact on the real economy are likely to remain too high to embolden policy makers. The political and institutional risks associated with policy errors are also significant. The fundamental premise that a liberalised financial system is based on 'efficient' market allocation cannot be overlooked. The corollary is that any serious attempt to stabilize financial market outcomes must involve at least a partial reversal of deregulation.

Asset Price Instability and Policy Responses: The Legacy of Liberalisation

The problem of asset price bubbles and, more generally of instability in the financial system, has been a matter of concern since the 1980s, but has only recently moved to the centre of the macroeconomic policy debate. Among the events contributing to concern about asset prices, the most notable have been the boom and bust in share prices, particularly those of technology stocks such as 'dotcoms', and the subsequent boom in house prices. These asset price movements have been experienced, to varying degrees, in most OECD economies, including the United States, the United Kingdom and (in the case of housing) Australia. Earlier episodes of boom and bust have affected East Asia, the Nordic countries, Mexico, Russia, parts of Latin America and, most notably, Japan.

As the frequency and severity of asset price fluctuations, including putative bubbles, has increased, there has been a corresponding increase of interest in measures that may prevent the emergence of bubbles or to seek gradual deflation of bubbles rather than catastrophic busts. Most attention has focused on the idea of making asset price stability a target of monetary policy, either in its own right or as a signal of incipient consumer price inflation. As Borio and Lowe (2003) observe, this is a relatively subtle shift in a policy paradigm based on inflation targeting. There has also been some consideration of a possible role for prudential policy (Schwartz 2002).

Subtle as these policy shifts may appear, they nevertheless involve a fundamental change in thinking about the role of financial markets. In the deregulated system, the task of allocating investment capital and consumer credit between individuals, firms and nations is left to financial markets. As Carmichael and Esho (2001) observe, intervention aimed at changing asset prices and other financial market outcomes, such as 'excessive' credit growth, are logically inconsistent with the 'deregulated' framework of monetary policy and financial

regulation that emerged from the breakdown of the Bretton Woods system in the 1970s. This framework was based on the efficient markets hypothesis.

As Borio and Lowe (2003: p. 113) observe, framing the debate in this way 'can easily see it stray into almost ideological territory, unnecessarily pitching supports and skeptics of 'market efficiency' against each other.' Borio and Lowe regard this division as a source of artificial difficulties. In this paper, we argue on the contrary that the role of the efficient markets hypothesis is crucial and cannot be disregarded. It follows that the debate must have an ideological, as well as a technical character. Any serious attempt to stabilize financial market outcomes must involve at least a partial reversal of deregulation.

This paper is organised as follows. We begin with a brief survey of the empirical literature on asset price bubbles and asset price volatility, with particular emphasis on the period following financial deregulation. This is followed by a survey of the theoretical literature on asset prices and the efficient markets hypothesis. Next, the recent debate on possible policy responses to asset price bubbles is critically assessed. In the main section of the paper, we develop the argument that no effective response to asset price bubbles is feasible within the current policy framework and consider possible alternatives. Finally, some concluding comments are offered.

Asset price bubbles and asset price volatility

Borio and Lowe (2002) present data on trends in asset markets across a range of countries since the early 1970s, collected by the Bank of International Settlements (BIS). Asset classes surveyed are equities, commercial and residential property, and a weighted aggregate measure of asset prices derived from these components

Borio and Lowe discern the following trends. First, equity prices tend to lead asset price upswings and are also the most volatile, followed, respectively, by commercial and residential property. Second, the aggregate asset data, in particular, reveal three broad cycles of asset inflation since the early 1970s, roughly corresponding to the early to mid-1970s, the mid-1980s to the early 1990s, and the mid-1990s to the present. Third, the

amplitude and length of the cycles appears to be growing, with the latest upswing being driven mainly by equity markets.

In addition to these fluctuations in national asset markets, it is important to consider the behaviour of exchange rates. When the Bretton Woods system of fixed exchange rates was abandoned in the early 1970s, it was expected that financial market transactions would act to stabilise exchange rates, eliminating the periods of severe overvaluation and undervaluation associated with fixed exchange rate regimes. In reality, the volatility of exchange rates increased substantially following the move to floating currencies.

Growth in the volatility of asset prices has been one of a number of inter-related developments associated with the end of financial repression which have served to increase both the gross volume of financial transactions and average levels of net indebtedness of households, business enterprises and governments. As the Bank of International Settlements (BIS) argued in its 2001 Annual Report:

> Financial factors have long played a role in shaping business cycles. However, as domestic financial systems and international capital flows have been liberalized, this role has grown. Developments in credit and asset markets are having a more profound effect on the dynamics of the typical business cycle than was the case a few decades ago, and have also contributed to the increased frequency of banking system crises (BIS 2001, p. 123).

Whilst the broad link between credit growth and asset inflation seems clear, the exact dynamics of the relationship are still poorly understood. (Borio and Lowe 2002) argue that because of the limited nature of the existing research we are still unable to answer questions such as when credit growth should be considered 'excessive', what the cumulative effects of credit expansions might be, or how credit booms might interact with other financial imbalances.

On the demand side, borrowers have been eager to increase their gearing. An important factor behind this has been price. The achievement of low inflation in many countries in the 1980s and 1990s has seen a very substantial reduction in interest rates

and the cost of borrowing. Hence, whilst debt-income ratios amongst firms and households have risen steeply across many countries in recent years, debt servicing ratios and interest–income ratio have remained relatively stable. Lower interest rates have made debt more affordable and encouraged higher borrowing. The 'money illusion' has also tended to play a role in promoting higher gearing, as have the wealth effects born of rising asset prices.

Low inflation or monetary stability is also implicated in asset inflation in another way. Conventional wisdom holds that sharp fluctuations in inflation could destabilise the financial system, for example, by increasing the cost of debt if inflation suddenly falls. Similarly, high inflation tends to encourage debt-based asset acquisitions and other forms of speculative behavior. Hence, monetary stability and financial stability have tended to be seen as complementary. This does not, however, mean that monetary stability and financial instability are mutually exclusive. Three of the biggest asset bubbles in the twentieth century: America's in the 1920 and 1990s, and Japan's in the late 1980s, occurred in a low inflation context. In Japan in the late 1980s, CPI inflation remained at close to zero whilst equity prices almost tripled and commercial property in Tokyo more than tripled. More generally, inflation in most developed countries has been low in the last decade but financial instability has increased.

While asset price volatility is of interest in itself, the crucial issue is whether asset price bubbles or other symptoms of financial volatility are precursors of financial and economic crises. Borio and Lowe 2003 propose a composite indicator based on divergences of asset prices and credit volumes from their long-term trend. The primary weight is placed on asset prices. They show that, over a three-year horizon, their indicator predicts 60 per cent of crisis, with a very low rate of false positives.

Theoretical analysis of asset price bubbles

Asset prices and the efficient markets hypothesis

The crucial theoretical assumption underlying financial deregulation is the efficient markets hypothesis. In its strongest form, the efficient markets hypothesis states that all

relevant information in any financial transaction is contained in the price of the associated asset and hence that markets contain the best estimate of the value of any asset, including equities. Slightly relaxed versions admit to adjustment lags or information gaps (of the kind that might justify the work of professional market analysts), but these are seen as minor issues, with the implication being that equity markets, for example, cannot become substantially 'over' or 'under' valued.

The existence of asset price bubbles appears to contradict the efficient markets hypothesis, and therefore to imply a violation of the premises from which that hypothesis is derived, including rational optimisation by individuals and the efficiency of competitive markets. A large literature has arisen around attempts to prove or disprove the claim that asset price bubbles can emerge even when markets are competitive and economic agents act rationally.

The strongest argument in favour of the efficient markets hypothesis is that violations of the hypothesis will allow rational speculators to make unlimited riskless profits, or at least earn large returns without incurring a commensurate risk. This is the central point of the defence of the hypothesis recently put forward by Malkiel (2003). If it is valid, then the existence of even a small number of rational investors preclude the emergence of asset price bubbles.

It is not clear, however, that rational speculators can implement the strategies required to make this argument valid. As Shiller (2003) observes, the only way to profit from an observed bubble is to sell assets short, and there are numerous institutional and psychological barriers to such a strategy. During the Internet bubble of the late 1990s, sophisticated investors such as George Soros incurred heavy losses by short-selling indexes such as the NASDAQ as the index value rose from 2000 in 1998 to its peak of 5000 in early 2000. Nevertheless, the decline of the index after 2001 validated the judgements of the shortsellers.

The existence of asset price bubbles is inconsistent with the efficient markets hypothesis. Hence, in a policy framework based on this hypothesis, it is necessary to

accept fluctuations in asset prices as market outcomes. There may perhaps be room for marginal interventions when asset prices seem clearly out of line with fundamentals, as in the case of 'dirty floats', but there is no room for systematic intervention.

Conversely, to the extent that asset price bubbles are seen as a serious economic problem, any feasible response must involve some return to policies of financial repression. Such policies might include qualitative controls that restrict the allocation of credit for investments in assets seen as subject to overpricing, and restrictions on financial innovations, particularly where such innovations derive their supposed value from unsound speculative arguments about asset prices.

The New Classical view

Although the existence of asset price bubbles seems obvious in the light of historical experience, it is by no means universally accepted. The most important challenge comes from 'New Classical' models, which rule out the phenomena discussed in this paper. The central assumptions in New Classical models are that markets are flexible, that information is close to perfect, and that markets reach equilibrium and clear continuously. Temporary disequilibrium might arise due to some kind of exogenous shock, but flexible markets are assumed to quickly re-equilibrate. Price movements are a 'random walk' generated by the arrival of new information. In such a world, the miscalculations and erroneous valuations characterised by bubbles and crashes are assumed to be impossible. Thus, the New Classical view of financial markets is summarised in the various forms of the efficient markets hypothesis.

'New Keynesian' macroeconomics takes the New Classical model as its starting point and seeks to modify it in ways that give rise to phenomena such as involuntary unemployment and asset prices bubbles. The most common approach is to show that plausible kinds of microeconomic market failure can lead to disequilibrum macroeconomic outcomes.

An example of this kind of market failure is when lenders have only imperfect

information about the quality of borrowers or about the quality of their investment plans. New Keynesian theory has been concerned to show that such market failures can arise even when market participants are perfectly rational or nearly so. The literature on rational bubbles is a noteworthy example.

A more radical departure from the New Classical approach is that of the 'behavioural finance' school, which takes as its starting point the existence of a wide range of evidence that neither individual behavior nor the movements of asset prices are consistent with the assumptions and predictions of the efficient markets hypothesis (Kahneman, Knetsch, and Thaler, R.H. 1990). The primary focus of behavioral finance analysis has been empirical and microeconomic. At least until recently, relatively little attention has been paid to the implications of behavioral anomalies for macroeconomic policy or for the stability of financial systems.

Satisfactory modelling of asset price bubbles may require a mixture of behavioral finance and new Keynesian insights. The behavioral finance literature shows that deviations from perfect rationality are to be expected. New Keynesian models show that, far from being corrected by market forces and rational speculations, minor deviations from perfect rationality may be amplified into substantial failures of the efficient markets hypothesis, such as asset price bubbles.

Although there is a reasonable theoretical basis for the claim that asset price bubbles may emerge as a result of relatively modest deviations from the joint hypotheses of market efficiency and investor rationality, this does not amount to a theory of bubbles. It is not clear, for example, whether bubbles are isolated and extreme events, in which self-fulfilling speculative prophecies take over from normal processes of market valuation, or whether they are merely extreme instances of the asset price volatility associated with liberalised financial markets. Since there is strong evidence of 'excess' volatility even in the absence of bubbles, it is arguable that a bubble is simply the result of a random sequence of upward movements in prices relative to underlying fundamental values.

The principle of Occam's Razor (do not multiply entities unnecessarily) would favour the view that bubbles are simply the right-hand tail of a price distribution characterised by excess volatility. On the other hand, there is good, if not very formal evidence for the proposition that bubbles are special events, characterised by widespread speculative mania. A typical example is the exceptional popularity in Australia at present of TV shows about real estate speculation. (Compare the rise of networks such as CNNfN, focusing on equity investment, during the US bubble of the 1990s.)

In formulating a more satisfactory theoretical account, it may be useful to reconsider the work of Minsky (1982, 1986). Using an historically dynamic model, Minsky argues that capitalist financial systems are inherently unstable because of large swings in investor expectations that tend to occur over the course of the economic cycle. In a trough, expectations are subdued. As the recovery gathers pace, profits rise and balance sheets are restored. Caution remains for a period, reflecting memories of the previous downturn. As the economy continues to grow, perhaps spurred further by technological breakthroughs or unexpectedly high rates of growth, profits are rebuilt and expectations of future growth begin to rise. Caution begins to recede. Increasingly, animal spirits are stirred and banks begin lending more freely and credit expands.

Even cautious investors are encouraged to join the upward surge for fear of forfeiting profit opportunities. Momentum builds behind what Minsky (1982) refers to as the 'euphoric economy'. This attracts highly-leveraged asset speculators – Minsky calls them 'Ponzi financiers' – who rely on rising asset prices to service debt and who drive the market further upwards. At some point in this cycle the financial system becomes increasingly fragile as concerns grow about how long the boom can be sustained. Bad news can quickly frighten investors and speculators and the herd may quickly change direction as panic sets in. The subsequent bust phase may be prolonged if the economy enters a severe debt deflation. Low inflation may actually help foster a debt deflation because outstanding debts cannot be reduced over time through inflation. Finally, the subsequent recovery is accompanied by a rebuilding of balance sheets and other forms of financial cleansing, a process of 'creative destruction' that helps renew the system and sow the seeds of a subsequent cycle.

An important obstacle to acceptance of Minsky's work has been the lack of microeconomic foundations, that is, of a rigorous formal account of individual behaviour and the markets in which individuals interact. As has been argued here, developments in behavioral finance and New Keynesian macroeconomics have the potential to provide these foundations.

The policy debate

The liberalized financial system in which the current debate is framed evolved over two decades following the collapse, in the early 1970s, of the tight system of controls, sometimes referred to as 'financial repression', introduced in the aftermath of World War II. Domestic financial repression was the natural counterpart to the Bretton Woods system of fixed exchange rates and controls on international capital movements, which broke down in 1971.

In the deregulated framework, as it was consolidated in the 1990s, central banks used interest rates to target stable rates of inflation and (directly or indirectly) stable rates of output growth. Prudential regulators sought to protect bank depositors and other consumers of financial services from unsound behaviour, such as the maintenance of inadequate reserves, by individual financial institutions.

Although asset prices have fluctuated widely since the financial liberalisation of the 1970s, there has, until recently, been little support for intervention to stabilise asset prices, with the partial exception of exchange rates. Since much of the relevant economic theory predicted that speculation would ensure that asset prices remained close to fundamental values, fluctuations in asset prices, including exchange rates were initially seen as 'teething difficulties'. This view was taken, in particular, with respect to the housing price boom and slump experienced in Australia, the United Kingdom and the Nordic countries in the late 1980s. When asset price volatility persisted into the 1990s, it was generally seen as part of the price of liberalization, more than offset by the benefits of free capital movements. The fact that asset price volatility provides substantial profit opportunities for participants in capital markets doubtless made this acceptance easier.

There were some attempts to manage exchange rates on a co-operative basis in the 1980s, notably the Plaza Accord of 1985 which induced a 30 per cent depreciation of the US dollar and helped to constrain the growth of the current account deficit in the United States. European concerns with the destabilising effects of exchange rate fluctuations were reflected in the adoption of the European Monetary System in 1979, and, ultimately in the move to a single currency, the euro, in 1999.

In countries that have retained a floating exchange rate, there has been a general increase in willingness to intervene in markets, with or without overt announcement of the fact. Examples include the 'strong dollar' policy adopted by the United States under the Clinton Administration and exchange rate smoothing policies of the Reserve Bank of Australia (Kim and Sheen 1999). The short-lived Canadian and New Zealand experiments with the use of a Monetary Conditions Index also implied an automatic countervailing response to exchange rate movements, though the rationale was rather different.

At least until the mid-1990s, however, the dominant trend was towards liberalisation of asset markets of all kinds. This trend was embodied in the 'Washington Consensus' (Williamson 1990), in which liberalised financial markets were seen as having a powerful and beneficent role in constraining the excesses of governments.

The rise of the Washington Consensus reflected the experience of the stabilisation policies adopted in response to the international debt crisis of the 1980s, where attempts by debtor governments to deal with the crisis through policies of financial repression and import substitution were almost invariably unsuccessful. In the judgement of the main Washington institutions dealing with the crisis (the International Monetary Fund, the World Bank and the US Treasury) countries that 'took their medicine' and liberalised capital markets were more successful.

In the 1990s however, a series of countries with recently-liberalised financial markets (Mexico, Russia, Argentina) experienced financial crises, most of which could

be analysed in terms of capital market volatility. The greatest such event was the Asian crisis of 1997-98 which affected most of the economies of East and Southeast Asia. The Japanese bubble and bust of the 1980s and 1990s, previously seen as an isolated instance, reflecting the exceptional nature of the Japanese economy, came increasingly to be seen as a model for asset price booms and slumps.

In this model, the typical pattern of asset price volatility involves upswings in asset prices leading to bubble-type over-valuation, followed by subsequent sharp corrections and associated financial stress or collapse. We begin with the bubble phase.

Borio and Lowe (2002) and others, such as Goodhart (1995), point to one causal or at least facilitative factor in this regard: credit growth. In most industries, as supply increases, prices and profits are squeezed thus limiting expansion in the sector. This is not necessarily true of the financial sector. Once under way, a credit expansion will tend to boost output and push up asset values through leveraged acquisitions thus promoting *further* credit expansion (Crockett 2001). Upswings in asset prices have been associated with high rates of growth in the volume of credit. There is also evidence linking credit growth to banking crises and periods of financial stress (Bell and Pain 2000; Eichengreen and Areta 2000).

The main concern with bubbles arises when they burst, imposing losses on investors holding the bubble assets, and potentially on the financial institutions that have extended credit to them. Financial stress might be limited to the failure of individual financial institutions which become overextended during the boom. Increasingly, however, the kinds of financial distress being encountered are systemic, with many institutions operating in a similar mode and simultaneously miscalculating and confronting difficulties. This implies trouble for a wide range of institutions with the strong potential for flow-on effects in the real economy, perhaps leading to a recession or debt deflation. The costs of dealing with banking crises through bailouts and recapitalisation during the 1990s ranged from 5 per cent to 40 per cent of GDP, with even larger effects in terms of lost output (Macfarlane 1999: Table 1).

As a consequence of financial liberalisation, the links between the workings of the

financial system and the health of the economy have become tighter. This connection is heightened by increased levels of business and household debt exposure in recent years and by the entry of pension funds and small investors to equity and property markets.

Thus far, Japan is the only developed country to have experienced a full-scale debt deflation in the period of liberalizations. However, there is increasing concern over parallels between the situation in the United States in the late 1920s and in the aftermath of the 1990s bubble. Both cases were marked by large equity asset bubbles which subsequently burst, although prospects for the US economy remain unclear in the wake of the bubble of the late 1990s.

In this context, the policies of the US Federal Reserve and particularly its Chairman Alan Greenspan have come under increasing criticism. The central point of criticism is that, having warned of ‘irrational exuberance’ in 1996, Greenspan should have sought to constrain the growth in equity prices, through tighter monetary policy or, at a minimum, through continued warnings regarding the unsustainability of the boom. Instead, in the eyes of critics, Greenspan effectively recanted his 1996 skepticism and become an influential advocate of the 'new economy' thesis underlying the boom.

Greenspan has been criticised for bailing out the failed hedge fund Long Term Capital Investment in 1998, and for subsequently giving the market the green light by lowering interest rates and talking up the ‘new economy’ (Brenner 2002). The general reluctance of central banks to restrain asset inflation has created the impression that they will tacitly support a boom and try to mop up any subsequent bust, thus creating problems of moral hazard. This belief was referred to in the late 1990s as the ‘Greenspan put’.

If the US economy recovers strongly from the recent period of recession and slow growth, Greenspan's hands-off approach will be (or at least be seen to be) vindicated and concern over asset price bubbles will diminish. If however, there is a long period of weak economic activity, similar to that following the deflation of the Japanese property bubble, it will be necessary to consider how future asset price bubbles can be prevented or

managed.

Policy responses to asset price inflation

Discussion of policy responses to the problems of asset price inflation has focused on methods of preventing or controlling asset price booms. Most attention has paid to on the role of monetary policy (that is, in the current policy regime, interest rate policy).

The first problem is that of identifying a bubble. As Greenspan (quoted in *The Economist*, 25 September, 1999) observes:

> If we could find a way to prevent or deflate emerging bubbles we would be better off. Identifying a bubble in the process of inflation may be among the most formidable challenges confronting a central bank.

The task seems difficult, but not hopeless. The existence of a bubble in Japanese land prices in the 1980s and US equity markets in the 1990s was fairly widely recognised, as is the current bubble in real estate in Australia and elsewhere. After studying experiences in 34 countries since the 1960s, Borio and Lowe (2002) conclude that a combination of rapidly growing debt and asset prices provides a reasonable guide to troubles ahead. They suggest (2002, p. 22) a 'slightly modified policy regime, under which the central bank responds not only to short-term inflation pressures but also, at least occasionally, to financial imbalances'. Under such a regime, they argue, 'the central bank might opt for higher interest rates than are justified on the basis of the short-term inflation outlook'.

If an asset bubble is identified in the process of inflation, what can be done about it? One strand of the debate concerns the idea that the dominant approach to monetary policy, based on targeting rates of inflation, should be modified to take account of asset prices. Such a modification may be justified either by arguments that inflation in asset prices is an inherently welfare-relevant component of inflation, or because inflation in asset prices is a precursor of inflation in the prices of goods and services. In monetary regimes that explicitly target economic activity (as in the United States or Australia), a further rationale is that asset inflation may have medium term consequences for

economic activity. This was an argument recently put by Charles Bean of the Bank of England at a 2003 Reserve Bank of Australia conference: a forward-looking, flexible inflation targeting central bank, Bean (2003: p. 2) argues, 'should bear in mind those longer term consequences of asset price bubbles and financial imbalances in the setting of current interest rates'.

The idea that price indexes should incorporate asset prices was first put forward by Alchian and Klein (1973) and revived, in the context of the asset price bubble debate, by Goodhart (1999, 2001). Alchian and Klein argue, in the context of a life-cycle consumption model, that the appropriate price index for welfare purposes is a lifetime cost of living, and that prices of assets such as houses represent the cost of a flow of housing services that house owners will receive over the period during which they own the house. This view has received relatively little support, primarily because the price of assets is determined by a range of factors, including risk attitudes and expectations of future productivity (Filardo 2000).

Central bankers and monetary economists have been more sympathetic to the idea of taking some account of asset prices if these are seen as likely to boost spending and hence spill over into general inflation (Bernanke and Gertler 1999; Stevens 2003). However, the relevant dynamics are difficult to fathom and raise the levels of uncertainty surrounding policy calculations to daunting levels; a problem which is compounded in any framework that involves increasing the timeframe of an inflation targeting regime because of the inevitable and rapidly increasing uncertainty involved in longer term forecasting. These problems, combined with the lags associated with monetary tightening raise daunting issues for monetary authorities. As the Reserve Bank of Australia (2003a: 53) comments:

> 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-tem forecasts.

Another criticism of using monetary policy to fight asset inflation has been the standard argument that a policy with a single instrument, in this case short-term interest

rates, should be directed towards a single target, most commonly CPI inflation. Ideally a second instrument, such as fiscal policy, would be used to stabilise aggregate output. In the absence of effective fiscal policy, the target–instrument framework leads to the adoption of approaches such as the Taylor rule, where the aim is to minimise a weighted sum of deviations from target rates of inflation and output growth. In this analytical framework, the introduction of additional targets is likely to lead to a blurring of the policy focus. Indeed, it was this problem that the inflation targeting regimes of the 1990s were partly designed to overcome. In the absence of clear evidence that asset price inflation leads to future CPI inflation, tinkering with the CPI measure of inflation raises the danger of adopting a multi-objective policy without explicit acknowledgement of the fact.

A further criticism focuses on the weaknesses of interest rate policy as an instrument for moderating asset price inflation. Greenspan (2002) argues that interest rate policy is a blunt instrument and that the link between interest rates and asset prices is uncertain. Raising interest rates amidst the euphoria of a boom may have little effect. Greenspan cites the series of US rate rises of 1989, 1994 and 1999, all of which did nothing to stem the market. A small rate rise might even backfire if it worked simply to re-assure investors about the inflation outlook and hence spur greater optimism about the future. A large increase might work, but an increase big enough to pop an exuberant bubble could have a major negative impact on the wider economy. Greenspan (2002) is emphatic:

> It seems reasonable to generalise from our recent experience that no low-risk, low cost, incremental policy tightening exists that can reliably deflate a bubble. But is there policy that can limit the size of a bubble and, hence, its destructive fall out? From the evidence to date, the answer appears to be no.

Dealing with asset inflation also raises an important political problem for central banks. Credit availability and asset booms are popular and provide a sense of opportunity and economic well-being. In these circumstances any policy intervention that produces a

slowdown in activity is likely to be unpopular. In the event that a misjudged policy response produced a recession, the political consequences are likely to be far more severe than in the converse case of allowing a boom to run on excessively.

The problems seem particularly severe with respect to the use of higher interest rates, which are always politically unpopular, as an instrument to constrain increases in asset prices, which are generally popular. Also, the central bank may be unable to convincingly demonstrate, even *ex post*, that a policy tightening was necessary. As Borio and Lowe (2002) comment 'It takes a brave central bank to raise interest rates in the absence of obvious inflationary pressures'. Central bankers have worked hard in the last two decades in the fight against inflation to win some measure of institutional legitimacy and are worried about jeopardising it now.

The discussions at Reserve Bank of Australia conference (2003) provide a good summary of the current state of the debate. Most participants agreed in principle with the desirability of managing bubbles if possible, but were doubtful that there was sufficient information on which to formulate policy in most cases The general consensus was close to the position put earlier by Stevens (2003, P.2 26):

> We don't know enough about the behaviour of asset prices, much less about their linkages to the economy through the financial sector, to make forecasts with any confidence. Nor do we know much about how the dynamics might respond to monetary policy ...
>
> A case *might* be made on rare occasions, to adopt a policy of 'least regret' so far as asset prices are concerned, if financial and macroeconomic stability were thought to be at risk. To do so would probably require an acceptance of a longer time horizon for inflation targets, and an acceptance of a bit more short-term deviation from the central point of the target (original emphasis)

Pointedly, however, Stevens adds that...'these issues remain unresolved among theorists and practitioners of monetary policy'. Greenspan is certainly not hopeful. And when

asked about what central bankers should do about asset inflation, the RBA's Ian Macfarlane, simply stated, 'I don't know the answer…that is a huge problem' (author interview, Sydney, November 2001).

This inconclusive conclusion reflects the air of artificiality about the entire debate. Concerns about the dangers of asset price booms and debt deflation are complex and wide-ranging, and cannot easily be fitted into an analytical framework based on a single variable, such as a measure of inflation, or a policy framework that is implicitly based on the efficient markets hypothesis or at least on the view that the task of allocating financial assets is best handled by markets.

Prudential policy

At first sight the use of prudential policy to control asset price volatility, leaving monetary policy focused on traditional inflation targets, seems to have considerable promise. As Borio and Lowe (2002) note, this allocation of responsibility seems to meet the Tinbergen criterion of assigning one instrument for each target.

This is, however, a misperception. In the policy framework arising from financial liberalisation, the justification for prudential regulation is based on the principal–agent problem that emerges when financial institutions manage the assets of depositors, or other customers, who are not in a position to monitor their activities closely.

That is, prudential policy is oriented towards ensuring that individual financial institutions act honestly and manage risk appropriately. The typical instruments used in prudential regulation involve capital adequacy ratios and other measures of the riskiness of an institution's portfolio. These measures depend, almost inevitably, on market asset values. Thus, prudential regulation, properly applied, can ensure that institutions do not respond inappropriately to market signals, but cannot deal adequately with the problems that arise when market prices are themselves distorted by bubbles or busts. The closest approach to the problem is to examine the vulnerability of institutions to particular changes in asset prices. The Australian Prudential Regulatory Authority has recently

undertaken such an examination of Australian providers of finance for housing.

This point is put most clearly by Carmichael and Esho (2001). Responding to the suggestion of Schwartz (2001) that prudential authorities should link portfolio composition to capital requirements or deposit premiums, thereby penalising banks that lend on assets where prices are subject to bubbles, they argue (p. 16) that the proposed policy:

> requires regulators to form judgements about the optimal structure of the real sector - an area in which their expertise would have to be questioned. Second, it involves substituting the judgement of regulators for the judgement of bank management - something that runs counter to the risk-based philosophy that has been emerging in banking regulation in recent decades ...
>
> While we accept that shifts in portfolio composition can play an important role in facilitating the development of asset price bubbles, introducing a system of benchmark portfolio weights and penalising deviations from those benchmarks would be an extremely costly and inefficient way of dealing with the problem. *It would also be a retrograde step in the evolution of regulatory philosophy away from directives that substitute the commercial judgements of regulators for those of bank management*. (emphasis added)

Implicitly, the modern framework of monetary policy relies on a threefold division of responsibility. Central banks, using short-term interest rates as their primary instrument, are responsible for stabilising the inflation rate at a low target level. Prudential regulators are responsible for ensuring that individual financial institutions maintain an appropriate balance of risk and reserves. The task of determining asset prices, or, equivalently, the volume and allocation of aggregate investment, is left to capital markets.

An alternative analysis

As the discussion above indicates, the current policy debate on asset price bubbles

has reached an unsatisfactory point. On the one hand, it is generally agreed that asset price bubbles occur regularly and that the bursting of such bubbles often has significant negative consequences for the financial system, the macroeconomy, and individual investors. On the other hand, there are powerful objections to any plausible policy response that might be considered within the current policy framework.

When this kind of policy dilemma emerges, it often reflects the existence of inherent contradictions between the facts under consideration and the premises on which institutional frameworks are founded. In the present case, it is not difficult to find such a contradiction. As the discussion of Carmichael and Esho (2001) indicates, the current framework for monetary policy is based on the efficient markets hypothesis or at least on the view that the task of allocating financial assets is better handled by markets than by regulators.

On the other hand, the central fact giving rise to the debate about asset prices and bubbles is that the volatility of asset prices has increased in the period of financial liberalization. It is now generally conceded, at least implicitly, that financial liberalisation has produced greater volatility in asset prices and increased the extent to which financial markets generate, rather than moderate, macroeconomic instability.

The view that asset prices bubbles are particularly associated with financial liberalisation has been challenged by Carmichael and Esho (2001), who point to the experience of Australia in the 1970s, when the activity of nonbank lenders allowed a speculative boom despite tight controls on the activity of banks. But unwillingness to extend regulation to nonbank financial institutions, symbolised by the failure to proclaim the *Financial Institutions Act* 1974 represented a passive form of liberalisation and was an important precursor of full-scale liberalisation.

In the light of the experience of the 1990s, and particularly the speculative bubble that dominated the world's most well-developed and sophisticated capital markets, few economists now explicitly endorse the strongest forms of the efficient markets hypothesis, in which markets always and everywhere make the best possible use of all

available information. Even prominent defenders of the hypothesis such as Malkiel (2003) now allow for occasional episodes of speculative mania such as the 'dotcom' bubble.

To the extent that the efficient markets hypothesis is violated, asset prices generated by capital markets will deviate from the 'fundamental' values, that is, the optimal estimates of value based on all available information. In a policy framework where responsibility for asset price determination is left to markets, excess asset price volatility is inevitable as is the occurrence of asset price bubbles.

With the arguable exception of 'jawboning', no policy response aimed at controlling asset price volatility is consistent with the current policy framework. It is necessary either to accept asset price volatility, including the occurrence of asset price bubbles, as part of the price of liberalisation, or to reconsider the entire policy framework. As argued here, any 'half way house' of attempting to use either monetary or prudential policy to regulate the system at the margins confronts severe difficulties.

Financial repression?

If asset price bubbles are an inevitable consequence of financial liberalisation, it seems likely that some measures of financial repression will be needed if the frequency and severity of bubbles is to be reduced. To the extent that this represents a reversal of the policy developments of the 1980s and 1990s, a return to more detailed and intrusive regulation would indeed be a significant step.

Two elements stand out as potential responses to asset price boom. The first is a response to the observation that strong increases in asset prices are typically associated with financial innovations. For example, the boom in 'dotcom' shares was facilitated by the innovative use of stock options as a method of payment for executives and others. Genuinely beneficial financial innovations may justify some increase in the values of assets, by facilitating trade in those assets. However, there are also many examples, dating back to the South Sea Bubble, of spurious financial innovations being used to

justify speculative booms. During the postwar era, the structure of regulation specified required holdings of particular financial assets for banks and other financial institutions. Hence, there was a presumption against financial innovation. Most financial innovation took place on the margin, either in unregulated financial institutions, or by the exploitation of gaps in existing regulations. Over time, regulations were adjusted to accommodate successful innovations, for example, by broadening the range of assets that could be counted for particular purposes.

By contrast, in the era of deregulation, there is a presumption in favor of financial innovation. In general, no process of regulatory approval is required before a new financial instrument is adopted. Even where rules are applied, as in the case of accounting standards, there is a general presumption in favour of 'creative' interpretations that permit innovations in financing. In response to such failures as the rise and fall of Enron, there has been some tightening of accounting and regulatory standards. Thus far, however, there has been no fundamental change in prudential policy. In the absence of a severe failure in the financial system of the United States, it seems unlikely that ideas of a 'new global financial architecture' will ever be much more than ideas.

In addition to restrictions on financial innovation, the central element of the postwar policy of financial repression was that of 'qualitative control', that is, directions to financial institutions to reduce lending to sectors seen as 'overheated' while maintaining or increasing lending in other areas. Reliance on qualitative controls was a natural accompaniment to a policy of fixing interest rates directly, rather than through open market operations or management of a particular short-term interest rate such as the Federal Funds rate. Qualitative controls implicitly set different interest rate 'prices' for different kinds of investment. The proposals of Schwartz (2001) represent one way in which differential prices could be introduced into the current policy framework based on separation of monetary and prudential policy. One way to proceed would be to more sharply define the system of deposit protection provided by government. Those financial institutions that chose to operate within this system (most presumably) would, as a quid pro quo, be required to submit to qualitative

controls regarding the composition of their loan portfolios, with a view to reducing credit flows to 'overheated' sectors.

Concluding comments

Asset price volatility is an inevitable consequence of financial market liberalisation, and, in extreme cases, inevitably generates asset price bubbles, the bursting of which imposes substantial economic and social costs. This paper has argued that all conceivable policy responses within the existing liberalised financial system face daunting levels of uncertainty and risk. Borio and Lowe's efforts to develop lead indicators of financial instability are commendable but do not and perhaps cannot go far enough in reducing the uncertainty confronting policy makers. The calibration of instruments, such as interest rates, in dealing with overheated asset markets is also highly uncertain. Both sets of problems constrain the options open to policy makers and highlight the economic and political risks associated with policy adventurism, or worse still, policy errors. Hence, the catchword of even those who advocate monetary policy responses to asset inflation is 'judgement' and 'caution'. This suggests that policy makers will remain nervously on the sidelines of financial market gyrations or at most make small, tentative moves with interest rates in attempts to constrain markets, using a modified inflation targeting framework as their rationale. This has been stance of recent monetary policy moves in Australia in the face of house price overheating. This is a 'subtle' shift in policy, but as Greenspan points out above, there are few reasons so far to believe that such shifts will do much to contain major bouts of asset inflation.

Given the pattern of increasing asset market volatility over recent decades and the policy issues highlighted in this paper, the future looks uncertain. Another significant cycle of asset price movements, especially in one of the major economies, could see a fundamental revision of thinking about the costs and benefits of liberalised financial systems. Arguably, the only alternative is a return to some degree of financial repression. As the Governor of the RBA, Ian Macfarlane (2001) observes:

> I think the really fundamental answer is, if they can't sort them [financial crises] out, then the only ultimate answer is some form of re-regulation. I'm not for a minute thinking it's going to happen in the

next decade. But I would not rule out the possibility that in twenty-five years, if we had a lot of bad experiences, and we go through another cycle, we might seek some very clearly thought out regulations.

References

Alchian, A. and Klein, B. (1973) 'On a correct measure of inflation', *Journal of Money, Credit and Banking*, 5: 173-99.

Bank of International Settlements (2001) *Annual Report*, June, Basil.

Bell, J and Pain, D. (2000) 'Leading Indicator Models of Banking Crises - a Critical Review, Financial Stability Review, Bank of England, December, PP. 113-29.

Bernanke, B. and Gertler, M. (1999) 'Monetary Policy and Asset-Price Volatility', Federal Reserve Bank of Kansas Symposium, August.

Borio, C. and Lowe, P. 2002, Asset prices, financial and monetary stability: exploring the nexus, Bank for International Settlements, Berne.

Borio, C. and Lowe, P. 2003, 'Monetary Policy: A Subtle Paradigm Shift', *World Economics*, 4: 102-119.

Brenner, R. (2002) *The Boom and the Bubble: The United States in the International Economy,* Verso, London.

Carmichael, J. & Esho, N. (2001),'Asset Price Bubbles and Prudential Regulation', Australian Prudential Regulation Authority, Melbourne.

Crockett, A.D. (2001) 'Monetary Policy and Financial Stability', HKMA Distinguished Lecture, 13 February, Hong Kong.

Eichengreen, B. and Areta, C. (2000) 'Banking Crises in Emerging Markets: Presumptions and Evidence', Centre for International Economic Development Economics Research, Working Paper, Coo-115, August.

Goodhart, C. (1999) 'Time, inflation and asset prices', Eurostat Conference, August.

Goodhart, C. (2001) 'What Weight Should be Given to Asset Prices in the Measurement of Inflation?', DNB Staff papers, No. 65.

Greenspan, A. (2002) 'Economic volatility': Remarks by Chairman Greenspan, Federal Reserve Bank of Kansa Symposium, Jackson Hole, Wyoming, August 30.

Kahneman, D., Knetsch, J.L. & Thaler, R.H. (1990),'Experimental tests of the endowment effect and the Coase theorem', *Journal of Political Economy*, 98, 1325.

Kim, S.-J. and Sheen, J. , The determinants of foreign exchange intervention by central banks: evidence from Australia**.** Sydney - Department of Economics / Sydney - Department of Economics (RePEc:fth:sydnec:99-19)

Macfarlane, I. (1999) 'The stability of the financial system', *Reserve Bank of Australia Bulletin*, August: 34-42.

Macfarlane, I. (2001) 'Interview with Stephen Bell, Sydney November.

Malkiel, B. (2003),'The Efficient Market Hypothesis and its critics', *Journal of Economic Perspectives*, 17, 59.
Minsky, H. (1982) *Can 'It' Happen Again*, M.E. Sharp, New York.
Minsky, H. (1986) St*abilising an Unstable Economy*, Yale University Press, New Haven.
Reserve Bank of Australia (2003) *Asset Prices and Monetary Policy*, Conference Proceedings, RBA, Sydney.
Reserve Bank of Australia (2003a) '*Asset Prices and Monetary Policy',* Reserve Bank of Australia Bulletin, November, pp. 49-54.
Schwartz, A. (2002), 'Asset Price Inflation and Monetary Policy', *NBER*, Working Paper 9321.
Shiller, R.J. (1989) *Market Volatility,* MIT Press, Cambridge, Mass. and London.
Shiller, R. (2000) *Irrational Exuberance*, Princeton University Press, Princeton.
Shiller, R. (2003), 'From efficient markets theory to behavioural finance', *Journal of Economic Perspectives*,17,59.
Stevens, G. (2003) 'Inflation targeting: a decade of Australian experience', *Reserve Bank of Australia Bulletin*, April: 17-27.
The Economist (2003) 'Economics Focus: Still Bubbling', 18 January.
Warburton, P. (2000) *Debt and Delusion: Central Bank Follies That Threaten Economic Disaster*, London.