The Credit Crunch

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Symbols used in tables

n.a.  not applicable
..  not available
-  zero
.  insignificant
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About this Policy Brief

This Policy Brief examines an issue of importance to all Australians and billions of people around the world ─ the sub-loan crisis, or what has become known as the credit crunch. According to George Soros, one of the world’s most successful financiers, the crisis began on 6 August 2007 (although its origins go much further back than this date) with the announcement by American Home Mortgage in the United States that it would file for bankruptcy and lay off most of its employees. The crisis very soon rippled to other financial institutions, and well beyond the United States. In the past 12 months, it has affected stock markets and the real economy (employment, consumer spending, etc.) world wide and is far from over given the very recent turmoil in world financial markets.

The three contributions in this Brief provide important insights and a foundation for understanding the causes and effects of the credit crunch (Patrick de Fontenay), its impact on Australia and our neighbours (Jenny Corbett) and possible approaches to avoid it happening again (Stephen Grenville and Timo Henckel).

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Credit crunch: identification, causes and effects

Patrick de Fontenay

A credit crunch can be defined as an environment in which credit becomes suddenly unavailable or available only at an unusually high cost even for prime borrowers. It is due to a severe supply shock affecting the main suppliers of credit—that is, the banks, non-bank financial institutions, the corporate bond market and other lenders such as institutional investors (for example, investment trusts or superannuation funds) and households. One way of identifying a credit crunch is by the use of surveys of banks’ willingness to lend conducted by, among others, the US Federal Reserve System (Figure 1), the European Central Bank and the Bank of Japan. A fall in the growth rate of lending in an economy might not be the sign of a credit crunch as it could be caused by a fall in the demand for credit; nor do high interest rates necessarily denote a credit crunch if they are negative in real terms.

A credit crunch can take two forms: either it is engineered by the monetary authorities, usually with a view to curbing inflationary pressures in the economy, or it is the result of a financial crisis that has impaired the ability or willingness of lenders to extend credit. Examples of the former are the credit crunch of 1966 in the United States and that of 1990–91 in Australia; examples of the latter include the Japanese credit crunch of 1997–98, that of 1990–91 in the United States (described in an article by the present chairman of the Federal Reserve System, Ben Bernanke: Bernanke and Lown 1991), and the current crunch in the United States. In contrast with the first group, the episodes in the second group coincided with declining interest rates. This paper will focus on the second type, but both types have some common elements: they came at the peak of the business cycle, after a rapid credit expansion and a boom in asset prices, but the second type of crunch morphed into financial crises. It affected non-bank lenders as well as banks, while for the first group, non-bank lenders, such as the junk-bond market, made up in part for the deceleration in bank credit.

Looking at the causes of the current credit crunch, it is now evident that they are rooted in the excesses of the preceding decade and in some intrinsic weaknesses of the financial sector. A long period of easy money stimulated the use of debt; financial engineering encouraged that use, mainly by cleverly packaging loans to facilitate their sale and the transfer of risk; and investors seeking higher yields bought the new

Figure 1  Net percentage of respondents reporting tightening standards for commercial & industrial loans

financial instruments, often not fully aware of the risks attached to them. The compensation policy of many banks and non-bank financial institutions gave loan officers an incentive to lend, even to borrowers with dubious creditworthiness, knowing that the loan would be sold for packaging. Rating agencies had a conflict of interest resulting from the profits they received from their contribution to the packaging of loans and the credit rating they attached to the packages. Finally, regulators turned a blind eye to the practice by US and European banks of setting up off-balance sheet accounts, called ‘conduits’ or ‘structured investment vehicles’ (SIVs), that invested mainly in long-dated asset-backed securities financed by the issuance of short-term commercial paper backed by a line of credit from the banks. They also overemphasised the importance of capital adequacy over liquidity requirements.

The credit crunch was triggered by the reversal of the low interest rate policy and property price bubble in the United States, and it spread to other sectors and countries. Its first manifestation was a rapid increase in defaults on the so-called sub-prime mortgages, which soon affected the liquidity and the price of assets backed by loans for property purchases or consumer credit—even those with the highest ratings—and of other structured notes, such as ‘collateralised debt obligations’ (CDOs), as investors’ risk aversion increased and ‘flight to quality’ became widespread. Poor ‘market liquidity’—that is, the difficulty of selling an asset at a reasonable price—led to problems of ‘funding liquidity’ for financial institutions that depended on the market liquidity of their assets, such as banks like Northern Rock in the United Kingdom, which were unable to securitise their loan portfolio. ‘De-leveraging’ by borrowers such as hedge funds lowered the price of the assets sold to reduce debt and this affected the value of collateral held by banks. Banks were also affected by ‘re-intermediation’—that is, having to bring back onto their balance sheet the accounts of their conduits or SIVs in order to prevent a downgrading of their ratings or a shortage of financing.

Markets became riled by uncertainty as to the impact of these developments and of the deteriorating economic outlook on individual financial institutions—either directly or through counterparty risk. In the case of banks, this disrupted the interbank markets where the spread between the rates at which banks were willing to lend to one another and the central banks’ official rates increased markedly (Figure 2). As in Japan in the 1990s, banks reacted by restricting credit expansion.

Monetary authorities attempted to relieve the plight of the banks by making massive amounts of liquidity available to them and, in the case of the United States, by aggressively reducing the official rate of interest. While this alleviated the funding liquidity problem, it did not reduce the stress on the banks’ capital position, which had been impaired by write-downs and provisioning for bad loans. Central banks in several countries, including Australia, then took the exceptional step of buying some of the banks’ longer-term assets with poor liquidity, such as securitised mortgages. The US Federal Reserve System also helped to bail out a large non-deposit bank.

**Figure 2** Spread between three-month and LIBOR secondary market T-bill rates

![Figure 2](http://www.federalreserve.gov/releases/h15/data.htm)
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Bear Stearns, in order to prevent the financial market disruptions that would have resulted from a fire sale of its assets. It is too early to say whether these measures will succeed in preventing a worsening of the credit crunch. Although the situation differs from country to country, monetary and financial conditions—measured by the cost and availability of credit—remain tight. Interbank rates continue to exceed official central bank rates in several countries despite reductions in these rates, and investors shy away from structured financial instruments, asset-backed securities and leveraged loans—even those insured by a specialised institution (the so-called ‘mono-line’ insurers, which are themselves under pressure).

The effects of the credit crunch must be distinguished from the losses to financial institutions and investors resulting directly from the collapse of the property price bubble in the United States, the sub-prime market crisis and the ensuing dislocations in the financial system. It is estimated by the International Monetary Fund (IMF) that these losses approach US$1 trillion for the United States alone, and that the cut-back in lending by US banks and non-bank financial institutions due in part to these losses could reduce credit growth to 1 per cent of the outstanding private-sector growth, which would be worse than what was experienced during previous post-World War II recessions. Other countries have been affected, directly or indirectly, but to a lesser extent. The macroeconomic effect of this slowing of credit growth in the US would be a reduction of gross domestic product (GDP) growth by 1.4 percentage points year on year. At the microeconomic level, a study for Japan has shown that the main impact of the credit crunch of the 1990s has been on small and medium-sized firms. It is likely that the same effect will be observed for the current crunch. Disruptions to the financial market, such as the impairment of the securitisation process, could persist for some time, and so might the restoration of balance sheets in the banking sector, if the precedent of the Japanese experience is any guide. The challenge for national authorities is to restore confidence in the financial system without causing a serious moral-hazard issue with implicit promises of bail-out (the so called ‘Bernanke put’), and to improve regulation without generating excessive red tape. The resurgence of inflation around the world is making their task markedly more difficult.

References

Notes
1 The April 2008 Global Financial Stability Report, issued by the International Monetary Fund (IMF 2008), introduces a distinction between a credit squeeze and a credit crunch. It defines a credit squeeze as a reduction of credit growth to 4 per cent of the outstanding private-sector debt in the United States due to supply constraints, while a reduction to 1 per cent is a credit crunch. The latter would be similar to what happened during the 1990–91 recession in the United States and would be worse than in previous recessions. Unfortunately, this distinction is country specific.

2 US Treasury bill rates are used as a proxy for federal fund rates, which they follow closely.
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Marching to different tunes: explaining different responses to the sub-prime crisis

Jenny Corbett

Although much has been written about the sub-prime credit crisis originating in the United States, there remain several features that puzzle researchers. The first is the segmentation of the effects: the crisis hit markets for some kinds of financial instruments but left others mainly untouched, and it hit the big, sophisticated players more than the smaller institutions—that is, the supposedly well-informed more than the obviously ill-informed. Second is the disproportionate effect: the scale of direct sub-prime-related losses is relatively small compared with total US assets but seems to be having a larger than expected impact on real economic activity. These two puzzles have been the subject of recent analysis (Greenlaw et al. 2008; Shin 2008). A third puzzle has not yet received the attention it deserves but could be particularly important for Australia and East Asia: why has the response in some countries been much more muted than in others? This question is important not only for the less-affected countries but for what it can tell us about the desirable direction for policy reform.

The nature of this financial crisis is in many respects similar to past banking crises. As other papers in this brief show, the origins of the crisis arise in a credit boom that helps drive up asset prices and encourages wider borrowing and lending. Any trigger that causes asset prices to begin to fall, or that affects borrowers’ ability to repay, has the potential to cause large balance sheet effects among the lenders. The more lending institutions are interconnected, the more potential there is for the spread of financial distress. These features were observed in many banking crises during the twentieth century; the International Monetary Fund (IMF) estimated there were well over 100 by the 1990s. If in addition there is uncertainty about who is a good counterparty and who is not, a liquidity freeze such as we have observed is not difficult to understand.

So far, despite the headlines implying that there is a global melt-down, Greenlaw et al. (2008) show that US leveraged institutions (commercial banks, hedge funds and insurance companies) hold the bulk of direct sub-prime exposure. Relatively little appears to have been held by US mutual and pension funds and by foreigners. This in part explains why the stock-market effects and the impact on corporate bond markets have not been catastrophic. This also calls into question one description of the crisis: that the originating banks were passing dud assets down a complex chain of institutions to be held by the ‘greater fool’. In fact, the US banks themselves have been the greater fools (Greenlaw et al. 2008), holding on to most of these assets (though sometimes in off-balance sheet entities such as ‘structured investment vehicles’, SIVs) or being forced to take them back onto their balance sheets from the first port of call in the line. The first round of sub-prime problems did not directly hit foreign banks, with the exception of Canadian banks and some European banks active in the US market. The IMF (2008) warned in April, however, that industrial-country markets, particularly in Europe, could face similar problems as a result of domestic conditions that resembled those in the United States. Some of those problems have begun to emerge in Europe, particularly in the United Kingdom.

Why, then, does the crisis seem so large in its impact? Understanding what happened to two of the highest-profile casualties so far helps to explain the problem. Northern Rock in the United Kingdom and Bear Sterns in the United States were significant players in their own financial markets and both have now ceased to exist despite initial policy responses to bail them out. The problem in each case was not that the quality of their assets collapsed—they did not fail because of defaults in the sub-prime market directly. They failed because they could not raise enough funding from their usual sources of liquid liabilities. This type of crisis looks very much like a classic bank run. In the classic case, we think of depositors withdrawing their money and causing a liquidity problem; in this case, it was wholesale lenders withholding funds—with the
same effect. The propagation of the crisis has been through the liquidity squeeze and the steep rise in the cost of funds in inter-institutional markets. These effects followed from the lack of transparency in the value of the structured financial assets based on mortgages; it became difficult for wholesale lenders to judge the quality of the borrowers in the market. It is this effect that has had such a large impact on leveraged institutions.

How does this affect the rest of the world? A crisis in large, systemic financial institutions in the United States could transmit itself across borders in a number of ways. As we saw, the direct route was not the main one in this case. It was not the case that institutions across the world held large amounts of US sub-prime mortgages, nor were they holding very large quantities of securitised assets based on these products.

Some countries (particularly in Europe) were brewing their own versions of the US problem by expanding credit and creating assets of lower quality, securitising them and passing the risk off the balance sheets of the originators. Some of those countries will experience difficulties as house prices begin to fall (such as in the United Kingdom) or as other factors affect default rates. Many countries have, however, so far been relatively little affected. Emerging markets have remained pretty robust and Australia has also not seen large-scale financial collapses.

That raises two questions. The first is why have some countries been relatively immune so far and the second is can they stay that way?

The case of Australia is interesting because it shares some regulatory structures with the United Kingdom, yet it has performed differently. The key factors in the Australian case seem to be that, although there have been large rises in house prices and increases in the growth of credit that look suspiciously like the precursors of other countries’ difficulties, they have, as pointed out by the Reserve Bank of Australia (Debelle 2008), significant structural differences. Household debt to income levels are high (by historical and international standards) but Australian households also hold significant assets so that debt-to-asset levels, though rising steeply, are not far out of line by international standards (though a price bubble in the value of assets such as housing could mask fragility). Those households that hold debt are also in the top income groups, so it is reasonable to expect default rates more in line with historical experience rather than the rising pattern that caught out US mortgage lenders. The Australian equivalent (roughly) of the US sub-prime loan is the non-conforming loan and the proportion of these in the stock and flow of mortgages is very small. The Australian non-coms also have a less risky structure (lower loan-to-value ratios) and rarely have the low initial ‘teaser’ rates that rise later as in the US ARMS (Debelle 2008).

Figure 1  Size of sub-prime housing markets: share of annual mortgage approvals

![Graph showing the share of annual mortgage approvals for the United States and Australia (non-conforming loans).](source: Debelle, G., 2008. A comparison of the US and Australian housing markets, Speech delivered to Sub-Prime Mortgage Meltdown Symposium, Adelaide, 16 May.)
Figure 2  Size of sub-prime housing markets: share of annual mortgage approvals


Figure 3  Arrears rates on sub-prime loans, more than 90 days’ past due: share of number of loans outstanding

These observations might be the result more of good luck than good judgement. Australia faced the crisis from a vantage point of robust growth, households with large amounts of assets and companies with comfortable profits. The currency is strong (possibly overvalued), which is helping keep inflation low. These benign circumstances, as in the so-far unscathed emerging markets in Asia, might not last. There are a number of ways in which the global financial conditions are anyway having an impact—and these could worsen. The first is the issue alluded to above. Since the real impact of the crisis is on liquidity, there is no way for leveraged institutions to avoid the rising cost of funds. This has already hit Australia in the rising price of loans and the declining margins in banks. Interest rate effects on economic behaviour are to some extent uncertain and unpredictable but could well cause slower economic growth, which can begin a vicious cycle of higher rates of default. The IMF also warns that transmission to the emerging markets could come via: 1) declines in funding flows from parent banks to subsidiaries; 2) when balance sheet contractions in international financial institutions cut the availability and raise the costs of hedge funds, they could withdraw from emerging markets; and 3) in tighter financial markets, the cost of borrowing for corporations rises, increasing their credit risk. In addition, it could turn out that financial institutions outside the United States are exposed to sub-prime assets more directly than we currently know; and, finally, financial market turmoil could spill over into exchange rate turmoil with impacts on flows of capital to emerging markets.

An additional risk, not widely discussed, is the possibility of a self-generated credit squeeze. Shin (2008) discusses the theoretical mechanism that drives financial institutions to expand their balance sheets at an increasing rate as their liabilities (sources of funds) rise. In reverse, the effect is for potentially dramatic falls in the availability of credit, not merely because of the rising cost of liquidity but because of the rebalancing of balance sheets. One of Shin’s policy recommendations is that regulation should target liquidity as well as capital ratios to mitigate this behaviour. In the Australian context, despite the small scale of direct balance sheet losses, the drawbacks of liquidity regulation could become apparent. Regulatory ‘guidance’ is already suggesting that Australian depository institutions should curb the expansion of their less-liquid assets (that is, they should make fewer loans) and that aggressive loan-book growth strategies will be regarded as inappropriate. What this could mean is a pro-cyclical reduction in credit growth as the economy is slowing and as the cost of credit is rising for other reasons. That would be an unhelpful addition to the catalogue of potential problems ahead.

This still leaves an important, and urgent, set of questions yet to be answered. If bankers and financial institutions in Australia have been more prudent than counterparts elsewhere, why have they behaved that way? Are the bankers smarter than elsewhere or are they more constrained and, if the latter, are they constrained by legal structures or by smart regulators or by business culture and practice?

The answers are not only difficult, they are not easy to begin to research. One useful approach is more detailed study of the structure of financial regulation across countries. The developing crisis has already provoked high-level debate in the United Kingdom and the United States about the direction of regulatory reform. The US Treasury has proposed giving the Federal Reserve broader powers to maintain financial market stability, including some oversight of investment banks and hedge funds. It has also called for a ‘prudential financial regulator’ to supervise banking institutions and a ‘business conduct regulator’ to protect consumers (Financial Times 2008). Interestingly, this sounds a little like the Australian ‘twin peaks’ model with prudential regulation located largely within the Australian Prudential Regulatory Authority and business conduct regulation within the Australian Securities and Investment Commission. The United Kingdom is also debating improvements to its regulatory system, with the Financial Services Authority making its own recommendations for greater oversight of its regulated industries (including a focus on liquidity risk) and the chancellor recommending greater industry input to the Bank of England’s policy making. Europe is also debating more actively than previously the need for cross-border regulatory structures. Studies of regulatory structures within the Asian region (Corbett 2007) show how diverse they are and what pressure is brought to bear on developing countries to follow current fashions in the industrialised world, despite a lack of evidence that such change would be useful. Despite the unfortunate consequences of the sub-prime crisis, and the risk that the fall-out from it is not over, it does present an opportunity for research on the question of whether regulatory structures matter and the chance to provide evidence-based advice to improve them.
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Is modern central banking broken?
Lessons from the 2007–08 credit crunch

Stephen Grenville and Timo Henckel

Introduction

After a decade and a half of plain sailing, most central banks now face an ugly combination of rising inflation and contracting output while facing harsh criticism from all corners of society for their contribution to the credit crunch. Former US Federal Reserve chairman Alan Greenspan has morphed from hero to villain and a prominent economist is openly rejecting current best practice for targeting inflation (Stiglitz 2008). Has the credit crunch exposed irreparable cracks in the edifice of modern central banking that requires us to rethink the roles and responsibilities of our money mandarins?

Central banks have indeed contributed to the credit crunch and deserve some of the blame. In particular, excessively loose monetary policy in the United States and Japan (the latter being the main source of the global carry trade) coupled with a systematic disregard for asset valuations created fertile ground on which the financial market excesses were able to flourish. This lesson should and likely will lead to a reassessment of policy objectives, processes and priorities.

Not all of modern central banking, however, is broken. Substantive improvements have been made in the past decades: adoption of explicit or implicit inflation targets, increased transparency, clearer communication and greater technical sophistication. These achievements should not be jettisoned in a knee-jerk attempt to reform central banking and monetary policy because of the credit crunch. What has been lacking is a comprehensive integration of financial-stability issues into the conduct of monetary and prudential policy. Since there is no ready-made tool-kit sitting on the shelf, developing a policy framework that delivers low and stable inflation as well as maintaining financial stability will take time and will be fraught with misjudgment. We need to try nonetheless.

Short diagnosis of the credit crunch

The credit crisis is the result of numerous macroeconomic and microeconomic failures coming together: a ‘perfect storm’. Microeconomic failures included: sloppy oversight by prudential regulators, overly complex and misinformed securitisation, flattering risk ratings by misguided and fundamentally conflicted credit-rating agencies, the pro-cyclical nature of internationally imposed capital adequacy requirements and the marking-to-market of illiquid assets, insufficient liquidity requirements, inappropriate accounting standards, skewed reward structures for investment managers that encouraged excessive risk taking, and narrowing profit margins after greater international competition. All these led to an excessive supply of credit to unbankable customers.

Among the prominent macroeconomic failures were: underinvestment in many emerging-market countries, especially in Asia and oil-producing countries, leading to a global saving glut; overly loose monetary policy by the US Federal Reserve and other central banks after the collapse of the 2000 dot-com bubble and more than 15 years of uninterrupted economic expansion in most industrialised economies, which instilled complacency and excessive optimism in investors.

Considering the credit crunch is far from over, it might be presumptuous to step to the pulpit to sermonise on the mistakes made by central banks and other institutions. However, many lessons are neither new nor radical; it is possible to outline key aspects of central banking that need to be reconsidered and improved on.
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Preventing crises\textsuperscript{2}

Cooperation with regulatory bodies

The credit crunch has forcefully highlighted the interdependence of monetary policy and financial market stability. While the institutional separation of monetary policy and financial market regulation might have delivered efficiency gains, it has also divorced incentives, creating a moral-hazard problem as well as complicating cross-agency coordination and communication.

The regulators’ remit is to monitor banks and other financial institutions in order to identify early warning signs of liquidity and solvency problems. If the regulator does not do its job properly and a crisis ensues, there is little it can do; the central bank must step in to provide short-term assistance to the troubled banks. Much as disciplining an unruly toddler is easier when both parents present a united front, the regulators and monetary authorities must act in concert when exposing the irresponsible practices of financial markets. What matters is not that regulators and central banks duplicate tasks but that there is a unity of purpose and aim, which is communicated coherently and clearly at all times.

Among monetary economists there is insufficient appreciation of the connection between financial stability and monetary policy— theoretically and practically. Models of central bank behaviour hardly ever include financial stability as an explicit policy objective. Standard courses in monetary economics rarely mention, let alone rigorously analyse, financial stability issues. Central banks need to put more resources into understanding the nexus between monetary policy and financial stability, which necessitates closer collaboration and communication among them, the regulators and the markets.

Furthermore, central banks as well as regulators need to take a stand on what they consider to be realistic risk exposures and asset valuations. Financial stability reports do this to some extent but they rarely express policy implications the way, for example, inflation reports do, nor are they competently harmonised with the regulators’ publications.

David Viniar’s (CFO of Goldman Sachs) admission that ‘we were seeing things that were 25-standard deviation moves, several days in a row,’ is tragicomic. (quoted by Larsen in the Financial Times, 2007). Investors routinely assess risk based on day-to-day volatility thereby missing the ‘black swans’ at the tails of the risk distribution—and these are the ones that matter. If financial markets are blind to black swans, central banks and regulators need to remind them until the black swans can no longer be ignored.

Assertiveness and independence

Operational and institutional independence of the monetary authority has been one of the hallmarks of successful monetary policy. History has shown that central banks perform best when they do not yield to the demands of ministers and politicians. The same should apply to financial markets. After the events before and during the crisis, it is difficult to escape the conclusion that central banks and regulators in particular are too close to the financial markets and too obliging to the appeals of big banks and funds.

There are two problems. First, there is some evidence that central banks react asymmetrically to events in the economy—reacting more slowly to expansions than to contractions. Second, regulatory capture, the internalisation by the regulator of the objectives and incentives of the industry it is supposed to regulate in the public interest, is a real danger. While central banks ought to maintain a good rapport with financial institutions, not least because the latter are ultimately the conduits for monetary policy, they must not forget that they are answerable to the government and the public, not to the financial industry. This applies at least as much to the regulators who have been heavily influenced by the financial sector in setting prudential rules.

Central banks must therefore immunise themselves against the pleas and lobbying efforts of the banks and funds. The focus should always remain on the stability of the whole market, not of any single financial institution. And just as a central bank must establish inflation credibility with the public, so it must earn credibility with the financial markets.\textsuperscript{5} Upholding credibility and independence from the financial markets is critical to a central bank’s task of maintaining order in the markets. It minimises the moral-hazard problem (for example, the ‘Greenspan put’: the belief that the US Federal Reserve would always save the financial sector by sharply cutting interest rates) and provides greater policy leverage.

Credit expansion and asset price bubbles

Global real interest rates, particularly in the industrialised economies, fell rapidly during the first half of this decade, putting them well below the level consistent with stable inflation (Figure 1). This decline was the result of a fall in global investment after the East Asian financial crisis in 1997. In addition, monetary authorities adopted a lax stance on credit growth, which was matched by numerous countries unwilling to let their currencies appreciate against the US dollar.

In days gone by, central banks would have observed excessive credit growth feeding into inflation of the consumer price index (CPI) and would have responded accordingly. Successful inflation targeting, however,
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Figure 1 Global saving, investment and the real interest rate

Source: Deroches and Francis (2007)

Figure 2 Asset price booms and real loan growth in Euro area

Source: Machado and Sousa (2006)
firmed anchored the public’s inflation expectations, so that the CPI remained close to its target. This was interpreted as confirmation that the interest rate was at its correct level. In truth, the oversupplied credit had to go somewhere and it spilled into asset markets—real estate in particular—pushing up prices there and reducing the quality of credit in the process.

Historically, strong credit growth is a necessary condition for asset price bubbles. Figure 2 gives an example of this statistical relationship. It compares asset price booms with real loan growth, in percent, to the Euro area private sector between 1980 and 2004. Asset price booms tend to occur either when real loan growth is increasing sharply or after long periods of rising real loan growth. This pattern is near-universal, across time and countries.

Economists have debated for some time whether central banks should react to asset price bubbles over and beyond what they imply for output and CPI inflation. The general consensus is that this is asking too much of monetary policy. The cash rate is a blunt instrument, the transmission mechanism suffers from long and variable lags, and it is devilishly difficult to determine with any degree of confidence when asset price movements are unjustified by economic fundamentals.

Monetary policy is, however, fraught with uncertainty even at the best of times. Interest rate decisions are routinely based on estimates of the (unobservable) output gap and references are made to the (unobservable) non-accelerating inflation rate of unemployment (NAIRU) and the (unobservable) natural rate of interest.

Central banks need to learn to respond to asset price bubbles—how exactly we do not yet know. Mechanically raising the cash rate as soon as price–earnings ratios exceed some predefined threshold is not the answer. Considering the rates of return investors expect during full-blown bubbles, the amount by which central banks would have to raise interest rates to appreciably arrest a bubble would probably generate unacceptable costs to the real economy.

Continuous monitoring of credit markets along with careful estimates of equilibrium asset valuations in close collaboration with the regulators should suffice to flag gross asset price misalignments. Intervention to halt or slow the build-up of a bubble should then consist of a menu of measures, most of which fall in the domain of the prudential supervisors: moderate increases in the cash rate, increases in margin and liquidity requirements, dynamic provisioning and tough moral suasion.

Managing crises

Even with the best precautions in place, credit crunches will remain a feature of our economies (although they should be less frequent and less severe). Handling a credit crunch to limit its damage to the overall economy requires different skills than those used prior to the crisis. The past few months give rise to the following conclusions.

Liquidity provision and the central bank as market maker of last resort

At the heart of a credit crunch is the sudden drying up of funding liquidity, the amount and terms of credit supplied. Where such withdrawal of credit is the consequence of old-style bank runs, the solution is for the central bank to lower interest rates and act as lender-of-last-resort—injecting central bank liquidity, or base money, into the market, as the Bank of England did with Northern Rock.

The current credit crunch is, however, marked by a shortage of market liquidity—the ability to sell assets without heavily discounting their price. The bulk of the securitised assets were over-the-counter idiosyncratic assets that could not be traded easily after their initial sale into the market. No matter how much slicing and dicing was performed by financial engineers, there was never a broad, deep and resilient market for them. Unfortunately, as long as asset prices were climbing, investors failed to acknowledge this.

Central bank liquidity cannot address the drying up of funding liquidity and the continuing absence of market liquidity. Conventional open-market operations swap banks’ high-quality liquid assets (traditionally, government securities) for central bank assets: base money. Given the uncertainties of the time, banks have been eager to hold somewhat more central bank liquidity, but this does not address the banks’ primary needs (let alone the broader financial sector’s needs), as they are just swapping one good asset (government securities) for another good asset (a deposit at the central bank).

It was only when central banks started to accept less liquid assets in their open-market operations (which the European Central Bank had been prepared to do even before the problems began) that central banks were able to offer transactions that really addressed the problem: allowing financial institutions to repair their balance sheets by unloading their illiquid,
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...securitised assets. What the markets needed was market liquidity. By accepting a wider range of assets, at longer maturities, in their open-market operations, central banks provided this. By dealing with a wider range of financial entities, they helped to muddle balance sheets.

There are, however, limits to swapping central banks’ own high-quality liquid assets for the illiquid assets of uncertain value that the financial sector has on its balance sheets. To start with, central banks have a limited supply of good assets. While they could, in principle, create their own high-quality asset to swap for the private sector’s illiquid assets, this would be breaking very new ground. Moreover, central banks have neither the experience nor the skills to assess the assets they are being offered: illiquid idiosyncratic assets that the financial markets, with all their expertise, are reluctant to buy or even value. One way around this problem is for central banks to hold onto these securities until maturity, which could be in 25–30 years. Alternatively, the risk assessment could be left to Freddie Mac/Fanny Mae-type institutions (provided they exist and are adequately regulated), which have the expertise to vet the assets they buy, select the best ones, pay a sensible price for them and fund this by issuing debt that is, by strong implication, government guaranteed.

Modern central banks therefore need to stand ready as the ‘market maker of last resort’ to provide market liquidity when markets are in disarray, impeding financial intermediation and threatening otherwise viable institutions. To minimise moral hazard, the collateral would have to be priced at a sufficient discount and offered at medium-term maturity, thus flattening the term structure.

Committing to policy action

The Bank of England’s credibility was heavily undermined when tough grandstanding against supporting Northern Rock was followed immediately by massive liquidity provision to the ailing bank. It is now lore that tight control of inflation requires credibility. Striving for credibility needs to be extended to the pursuit of financial stability so that central banks can respond to liquidity needs in the most efficient, cost-effective manner. Such credibility is what the President of the Federal Reserve in Richmond, Jeffrey Lacker, had in mind when he recently expressed the need for time-consistent policy. ‘In times of financial crisis,’ he said, ‘the understandable central bank imperative is to alleviate the stress. But the expectations such actions engender could very well make future crises more likely.’ (Lacker 2008)

Philadelphia federal bank President Charles Plosser echoed these sentiments, stressing the need for ‘rule-like features’ that specified the conditions under which the federal bank would act and what actions it would adopt. (Plosser 2008) The rules underlying interest rate policy, such as inflation targeting, serve as a guide. At this stage, however, no one knows exactly what such time-consistent policy should look like and what these rules ought to entail. Blanket statements ruling out any bank bail-out are likely to inflict more pain than necessary on the financial system. Getting the balance right will be tough. It will require a better understanding of the distinction between systemic risk and individual risk. It will also, once again, require close collaboration with the prudential agencies.

A further problem is that credit crises are too rare for central banks to establish a meaningful credibility record. They nonetheless need to try. Devising and publishing contingency plans that communicate central banks’ intentions and objectives will give the financial markets an opportunity to see that the monetary authorities mean business, even if mistakes are made along the way.

Conclusion

With events still unfolding, much more ink will be spent on the lessons from the latest financial fall-out. The response by the central banks has been broadly appropriate and the credit crunch could turn out to be less severe than predicted by the majority of pundits. The biggest concern is a repeat of the policies that led to this mess in the first place: lax supervision and excessive credit growth. Central banks across the world now face the delicate task of mopping up some of the liquidity used to prop up the markets during the past 12 months. The sooner they do this and the clearer they communicate this intention, the easier it will be to avoid the next asset price bubble.

Is modern central banking broken? Yes and no. The basic structures and frameworks in place—from central bank independence to inflation targeting—are sound and sufficiently resilient to withstand most criticism. Central banks, however, need to better integrate financial stability concerns into their policies and heed the dangers of excessively inflated asset prices. Much as it took three decades to arrive at the current best practice of inflation targeting, so it could take three decades of groping for a best practice of crisis prevention and management. Provided the more pressing need for reforming prudential policies is addressed—making them counter-cyclical, not pro-cyclical—central banks should be able to rise to the challenge.
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References


Notes

1See the other essays in this Policy Brief for detailed analyses of the causes and consequences of the credit crisis, as well as Buiter (2007).
2Due to space limitations, we focus mainly on the lessons for central banks, not on those for other institutions such as financial market regulators.
3There is another potentially serious problem: monetary policy that reacts strongly to asset prices—which are forward looking and therefore incorporate expectations about future policy—might generate a destabilising feedback loop. See Woodford (2003) for a thorough discussion.
4For recent evidence of the asymmetrical behaviour in the monetary policy reaction functions of the Reserve Bank of Australia, see Karagedikli and Lees (2007).
5Alan Greenspan’s alarmed reference to ‘irrational exuberance’ in the markets in December 1996 was vacuous: the statement was followed by further interest rate cuts and, ultimately, by a near quadrupling of the Nasdaq Composite stock index.
6For the methodology used in this study and for the definitions of ‘asset price booms’ and ‘real loan growth’ see Machado and Sousa (2006).
7See, for example, Kohn (2006).
8See Buiter and Sibert (2007).