Discussion

1. Ian Harper

When Christopher Kent asked me at short notice to comment on a paper at the RBA Conference, I was initially wary. My days of slashing through thickets of algebra are well behind me! But when I learned that the paper was written by Phil Davis, I readily agreed. I have always found Philip's work to be both stimulating and instructive, and I am pleased to say that his paper at this year's conference is no exception.

Philip focuses our attention on the implications of the sub-prime crisis for the 'lender of last resort' (LOLR) function of central banks. LOLR is traditionally aimed at resolving liquidity crises in banking systems. It relies on the unique position of central banks as ultimate suppliers of base money or cash. In principle, a liquidity crisis can always be resolved by a central bank because it can continue to exchange base money for less liquid assets until the crisis passes. The trick is to ensure that the crisis is truly a liquidity crisis and not a solvency crisis. Central banks have no business rescuing the shareholders (or even the creditors) of an insolvent bank.

Traditionally, central banks have sought to avoid supporting insolvent banks by demanding high-quality collateral in exchange for last-resort loans. A bank with a ready supply of high-quality but illiquid assets is unlikely to be insolvent. But the line between illiquidity and insolvency is not clearly drawn and, as Philip illustrates in his paper, central banks have often found *ex post* that their liquidity support merely deferred insolvency or that they were in fact supporting banks that were already insolvent.

Philip's main point in this paper is that financial innovation has broadened the definition of liquidity and made liquidity crises even harder to distinguish from solvency crises. The sub-prime crisis is a case in point. It is at base a solvency crisis, deriving from the inability of mortgagors to service their loans and the rapidly declining value of the underlying security (that is, their houses). And yet it has precipitated the need for emergency liquidity support of a range of institutions, many of whom have little or no exposure to sub-prime mortgages or their related mortgage-backed securities.

Two decades of financial innovation have greatly enhanced the reliance on markets for liquidity management. The concept of liquidity can no longer be confined to the ability of an institution to raise funds against the collateral of its assets ('funding liquidity') but must now encompass its ability to sell assets quickly into deep markets at predictable prices ('market liquidity'). Equally, the concept of a 'run' can no longer be conceived simply as an urgent call on the liquid assets of a financial institution but also as a sudden and simultaneous desire to sell assets by those same institutions. Both types of 'run' are equally contagious but the advent of mark-to-market accounting makes a 'market liquidity' crisis far more likely to morph quickly into a solvency crisis as the net worth of all institutions – even those with what had appeared to be unimpeachable credentials like Freddie Mac and Fannie Mae – spirals downwards in the mayhem.

The widening of the concept of liquidity makes the notion of LOLR hard to pin down. How can central banks extend liquidity support to markets rather than institutions? Should central banks act as market-makers of last resort as well as lenders of last resort? These are the questions Philip examines in his paper but, if I am to express just the slightest frustration with an otherwise excellent discussion, he leaves us with more questions than answers!

So having read Philip's paper I knew a good deal more about the changing nature of liquidity in modern financial systems and the variety of ways in which central banks have extended liquidity support in these testing times. In fact, central banks have been forced to modify their traditional approach to LOLR 'on the run', so to speak. He is asking questions which have been answered *in fact* through the actions of central banks with no alternative but to act in extraordinary circumstances. But this does not lessen the weight of his questions and the importance of knowing whether what central banks are doing is right or sensible.

But having read his paper I also felt the absence of analysis and of lessons drawn from experience so far. Perhaps it is still too early for clear answers but here are some of the questions I was left pondering after finishing Philip's thoughtful and engaging paper:

- What else could or should central banks have done in the current crisis?
- What actions can already be seen, or will be seen, as mistakes?
- What lessons does this experience teach us about the wisdom of separating central banking from prudential supervision?
- There has been a call here in Australia for the creation of a new institution ('AussieMac'), modelled on Freddie Mac and Fannie Mae, to act as market-maker of last resort in the market for mortgage-backed securities. Do we need a separate institution to act as market-maker of last resort while the central bank remains as the lender of last resort, or it is appropriate for the central bank to take on both roles?
- What are the longer-run implications of extending a liquidity safety net beyond the banking system? Some have blamed recent events on commercial banks behaving like investment banks. But if we extend LOLR to investment banks, as the Federal Reserve System did in rescuing Bear Stearns, will we not be obliged to force investment banks to behave like commercial banks and, if so, what does this imply for the risk spectrum in financial markets?

2. General Discussion

The discussion started with some debate about the appropriate role of a central bank during a financial crisis. It was suggested by a number of participants that the LOLR role no longer operates in its traditional form (as set out by Bagehot in

Lombard Street). Some thought that the modern equivalent of 'lending freely at a penalty rate against good collateral' was lending at the discount window, which is part of normal operations at most central banks. Along this line of thought, some argued that actions deemed as LOLR should be more narrowly defined than in the Davis paper; for example, some suggested that the only action deemed to be truly last-resort lending should be a government bailout, at which point lending at penalty rates is ineffectual. It was widely agreed that it is sensible for central banks to provide liquid assets to the market when liquidity is scarce, as had been the case during the recent episode.

Some discussion followed about the 'stigma' associated with an institution borrowing from a central bank. This manifests in a number of ways. One is that borrowing from a central bank can be seen as a signal to the market that the recipient financial institution is in dire straits. As a result, recipient institutions may ultimately find it difficult to obtain finance to repay the debt to the central bank; to the extent that this is true, LOLR would best be thought of as bridging finance for institutions that are on the road to nationalisation. Another way that stigma arises is through the price of central bank liquidity. It was pointed out that during the recent episode some financial institutions chose not to use some of the more expensive central bank lending facilities. More generally, it was also suggested by one participant that during a time of increased uncertainty, any reduction in balance sheet growth or other cautionary behaviour by a bank may be read by the market as indicating impending liquidity problems; hence, a stigma related to extreme caution may occur in the same way that approaching a central bank for assistance may indicate desperation.

This was followed by much discussion about the degree to which lending by a central bank led to a moral hazard problem. With this in mind, while there was widespread agreement that a central bank should not lend to an insolvent institution, many participants pointed out that insolvency can be very difficult to identify. A number of participants replied by suggesting that a central bank should only lend against good collateral, and that doing so did not constitute a bailout of markets or institutions. However, the problem then becomes identifying good collateral. As one participant suggested, this becomes even more difficult when markets are illiquid; indeed, it is precisely when markets are not functioning properly that it becomes much more difficult to assess an institution's solvency. In this context, there was also some discussion about whether the central bank should be a market-maker of last resort. Philip Davis suggested that there was a limit here – it would be undesirable for the central bank to be a market-maker in some markets, such as that for collateralised debt obligations.

Finally, putting aside the question of moral hazard, others raised the question of whether some large global financial institutions may be 'too big' to be rescued by a central bank (or indeed the fiscal authorities) in a relatively small host country, and that this was an important issue requiring policy-makers' attention.