Introduction

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Global financial markets have now been in turmoil for over a year. The crisis began to unfold around the time of last year's Conference[1], with adverse news about the US sub-prime mortgage market gaining prominence in June and July 2007. By August, problems in credit markets had become widespread and spreads in interbank markets had increased significantly. While it was recognised towards the end of last year that these events may still have a while to play out, it was thought that it would be useful to make an early assessment of the nature of the crisis, consider its possible causes and discuss the merits of various policy responses.

To this end, the Bank commissioned papers for this year's Conference to examine three related issues. The first is how the crisis unfolded, with a view to understanding the causal factors and considering the effects of the turmoil on the financial system and the real economy. The second issue is financial innovation, focusing on the rise of disintermediation and the role of capital regulations in the lead-up to the crisis. The third issue is the response of central banks to the recent financial turmoil, particularly in their roles as providers of liquidity and lenders of last resort.

1. Overview – The Unfolding Turmoil

The Conference began with Ben Cohen and Eli Remolona's paper, which describes how the recent financial turmoil has unfolded and compares it to previous episodes. The authors argue that the origins of the turmoil are manifold, with low interest rates and the global 'savings glut', a greater reliance on the originate-to-distribute model, and some deterioration in risk management practices all contributing. They also suggest that while some features of this episode are unique, others are common to earlier financial crises. One common feature is the apparent procyclicality of the financial system, with a build-up of leverage in good times, when investors tend to underestimate risk, and the subsequent unwinding of this leverage when conditions deteriorate. Some of the more unique features are the long duration of the current crisis, the key role of assets that are held off banks' balance sheets, and the extent to which significant credit problems have affected the liquidity of the financial system.

These developments have prompted many central banks to adapt their policy arrangements. In particular, a number of central banks have widened the range of collateral accepted in market operations, lengthened the term of their operations and broadened the range of counterparties with which they deal. These policy initiatives reflect pro-active efforts by these central banks to ensure that liquidity can be accessed by sound institutions that have the need for it. And, as Cohen and Remolona suggest, central banks have sought to strike a balance between restoring

1. See Kent and Lawson (2007).

market liquidity and avoiding moral hazard. The full implications of these policy changes are, however, yet to play out, and it is not clear whether they will be permanent or temporary features of the financial landscape.

Beyond these short-term adjustments, Cohen and Remolona suggest that authorities need to deal with deeper issues in the financial system in order to restore stability. In their view, the two key areas that require improvement are credit ratings and the response of regulators to perceived risks. They suggest that credit rating agencies need to deal better with conflicts of interest and more clearly differentiate structured products from more standard financial instruments in their assessment of risks. They also suggest that authorities should consider the scope for the use of supervisory instruments that are explicitly countercyclical. This furthers a long-running debate that was also a key part of last year's Conference, with Claudio Borio, in particular, arguing that more should be done to limit the excessive build-up of risk by applying prudential 'speed limits' (Borio 2007).

2. Innovation, Disintermediation and Capital Regulation

Financial markets have evolved rapidly over the past decade or so. Part of this process has involved the increased use of financial products that have allowed banks to shift assets off their balance sheets, a process referred to as disintermediation. Much of the recent financial turmoil has been centred on these off-balance sheet assets, and many banks have been forced to 'reintermediate' assets as the crisis has unfolded. These developments raise questions about the role of disintermediation in financial crises and the extent to which the recent turmoil may have been fostered by the regulatory structure.

These themes were addressed by Nigel Jenkinson, Adrian Penalver and Nicholas Vause in a paper discussing the costs and benefits of financial innovation and ways to mitigate the costs. The main challenge is that as the number of links in the chain that connects the borrower and end-investor increases, information about the creditworthiness of the investment is lost. In addition, agents further up the chain often have more information about the principal's investment and may have an incentive to understate risk to those investors further down the chain. A key feature in the lead-up to the recent financial turmoil was the lengthening of this chain as structured financial products and the originate-to-distribute model allowed a large degree of disintermediation. This problem was exacerbated by an over-reliance on credit ratings. While innovative financial products have generally improved the capacity of markets to allocate risk efficiently, the authors argue that the amount of risk-taking went too far. As a result, there is likely to be a move towards simpler and more standard financial products in the future, which would improve the transparency of the financial system. They suggest that part of this move will be an endogenous response by financial market participants to the recent turmoil, although they also cite recommendations from the Financial Stability Forum, particularly regarding credit rating agencies, which could lead to greater standardisation.

While agreeing with both Jenkinson *et al* and Cohen and Remolona on a number of points, the paper by Adrian Blundell-Wignall and Paul Atkinson focuses on changes in the regulatory regime as one of the main causes of the financial crisis. Specifically, they highlight changes to capital regulations that were part of the Basel II Framework and changes made by the US Government to capital requirements for the government-sponsored enterprises, Fannie Mae and Freddie Mac. They posit that these policy shifts drove the rise in sub-prime mortgage lending, from which the financial crisis stemmed. In response, the authors argue that further work is needed to simplify and generally improve the regulatory framework, including placing restrictions on the degree of concentration in any particular asset class and on the ability of banks to take assets off their balance sheets.

3. The Role of Central Banks as Liquidity Providers

A key feature of the recent crisis has been the extent to which liquidity has dried up in a number of financial markets. The appropriate role of central banks in the provision of liquidity was the focus of three papers at the Conference.

In his paper reviewing the evolution of the role of lender of last resort, Philip Davis argues that traditional models of bank liquidity risk, bank runs and the role of the lender of last resort are outdated. He suggests that recent financial innovations have meant that funding and market liquidity risk now interact more vigorously, and that this is a key reason why interbank markets have played a pivotal role during this crisis. While traditional models focus on 'bank runs', he suggests that the primary concern is now the possibility of 'financial market runs' which, via mark-to-market accounting, can threaten the solvency of financial institutions. These developments clearly pose new challenges for central banks, since it is clear that they should not lend to insolvent institutions, but financial innovation has made it far more difficult to distinguish illiquidity from insolvency.

The paper by Jonathan Kearns and Philip Lowe further discusses the extent to which there is a role for the public sector in the provision of liquidity in the financial system. They argue that while financial institutions should be required to deal with idiosyncratic liquidity problems (and that improvements here are needed), central banks should play a part in smoothing market liquidity. The authors contend that the case for public-sector involvement arises because a lack of liquidity can, in some respects, be considered a market failure, and requiring private financial institutions to be fully self-insured would be very costly (for a similar argument put forth at last year's Conference, see Allen and Carletti 2007). Kearns and Lowe also suggest that while the provision of liquidity services by the public sector will change the behaviour of private-sector agents, it can in fact be socially optimal.

Nonetheless, as incomplete markets are the cause of this market failure, Kearns and Lowe suggest that actions to improve market infrastructure would be beneficial. In particular, they would welcome the migration of many over-the-counter (OTC) products to exchanges, as well as enhancements in settlement procedures for OTC products, and see a need to improve bank disclosure and the credit ratings process. They also argue that to address better the inherent procyclical nature of the financial system there is a case to tighten supervisory requirements during good times, when liquidity is judged to be ample and credit risk appears low. In a way, this could be thought of as a cost that regulated institutions pay in order to access liquidity provided by the central bank during difficult times.

In his paper, Spence Hilton provides a review of the initiatives that the Federal Reserve System had undertaken up to mid 2008 to alleviate strains in financial markets, and some of the operational challenges involved. In particular, the Fed enhanced and introduced some new facilities for liquidity provision to financial institutions, with these initiatives driving substantial shifts in the composition of the Fed's balance sheet. Given these policy changes, his paper also identifies a number of issues concerning the new arrangements. In particular, Hilton suggests that if the Fed was required to provide further liquidity support, beyond its current balance sheet, the alternative means it would consider may include debt issuance by the fiscal authority, issuance by the central bank and/or investigating options regarding remunerating reserves. The new facilities also raise questions about their permanency and how an exit strategy would be orchestrated, if required. The paper singles out the term auction facility as a likely candidate for permanency and suggests that, more generally, it would be difficult to assess when market strains had been alleviated enough to justify removing any of the new facilities, and that any attempt to do so would be likely to be a gradual process.

4. Conclusions

The financial turmoil that began around the middle of 2007 has passed its first anniversary. The crisis continues to play out, and its causes and the required policy responses will no doubt be the subject of ongoing debate for years to come. So while it is too early to draw strong conclusions, the Conference papers and discussions reached broad consensus on a number of important issues.

The first is that the central bank responses to the drying-up of liquidity – particularly broadening the range of acceptable collateral and the option of longer terms – appear in large part to have been warranted. The willingness of central banks to assist the smooth functioning of financial markets was widely thought to have forestalled an even more pronounced crisis. However, it was acknowledged that this may alter the future behaviour of financial institutions, and that care was needed to help ensure that the provision of liquidity did not unduly lead to problems of moral hazard. In this regard, some participants emphasised that direct access to liquidity provided by central banks should be restricted to regulated institutions. At the same time, it was recognised that there is ample scope for such institutions to enhance their own liquidity arrangements.

The second area of general agreement relates to the need for changes in the regulatory framework, although there was considerable debate about the details. The need for these changes stems in large part from a recognition of the unique features of this crisis. Foremost perhaps is the role of disintermediation. While this development was in part a response to the regulatory structure and was envisaged as a way to spread risks more widely, it appears that in some ways risk became more concentrated, and that the nature of the disintermediation that occurred had added an extra dimension of opacity to the financial system. Hence, there was strong support for changes that would enhance transparency and disclosure. Some pointed to the need to review the role and operation of credit rating agencies. Others argued for the need to avoid incentives for regulatory arbitrage – associated, for example, with off-balance sheet activities – and for changes to the regulatory framework to encourage better assessment of risks when determining capital allocations. One area of debate was the extent to which the market, left to its own devices, might respond to these recent failings without much, if any, regulatory adjustment.

While there was a consensus that the shortcomings of the financial system that had underpinned the current crisis needed to be addressed, many participants argued that there was a risk that policy adjustments become overly focused on 'fighting the last war'. This prompted the more general question of what can be done about the procyclicality of the financial system, a common cause of financial crises. It was agreed that policy-makers are unlikely to ever entirely overcome this problem, but many accepted that something should be done to limit it. One option that received considerable attention was countercyclical prudential policy, whereby regulated institutions are required to set aside funds (capital) in excess of minimum requirements during good times and are allowed to draw on these during downturns. Many practical challenges associated with designing and implementing such policies were noted, not the least of which is that they may encourage much of the financing of economic activity to move outside of the regulatory net. Another approach that was discussed was the possibility of using monetary policy to 'lean against the wind', suggesting a greater role for asset prices and credit growth in monetary policy setting. This has been a topic of considerable debate in the past – including at a Reserve Bank conference a few years ago (see Richards and Robinson 2003) – and seems likely to receive renewed attention.

References

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