

# Discussion

---

## 1. Prasanna Gai

I very much enjoyed reading this clear and thought-provoking paper. It raises important questions about the nature of financial stability policy, forcing us to think hard about what the accompanying architecture should look like. As Jonathan Kearns and Philip Lowe make plain, the issues they raise have no easy solutions.

The key theme underpinning the paper concerns the trade-off between *ex ante* moral hazard and *ex post* crisis resolution. *Ex ante*, it is desirable to provide good incentives to keep agents from indulging in excessive risk-taking behaviour. *Ex post*, however, it is generally socially desirable to limit the costs of financial system distress through policy intervention of one form or another. The two goals are generally in conflict and the design problem for financial stability architects is to balance them in a sensible way.

Absent financial frictions of any kind, the threat of crisis and the real costs that ensue provides the market discipline that curbs undesirable risk-taking behaviour. For example, Calomiris and Kahn (1991) argue that demand deposits provide the adequate instrument for disciplining the (*ex ante*) moral hazard of bank managers.<sup>1</sup> At the sign of potential problems, investors withdraw their deposits. Jonathan and Philip are therefore careful to identify the financial frictions that they feel might help establish the welfare case for policy intervention, before considering what forms such intervention could take.

Recent theoretical work points in the authors' favour on this issue. Gai, Hayes and Shin (2004) demonstrate how, when faced with a world of financial frictions of the kind considered by Jonathan and Philip, policy intervention improves social welfare under plausible circumstances. The two factors that determine this are: (a) the quality of the discipline that the public sector can impose; and (b) the efficacy of the crisis management framework deployed. If policy actions provide a reasonable check on agents' incentives and behaviour *ex ante*, then welfare is increasing in the degree to which the real costs of premature liquidation are alleviated by the central bank. But beyond some point, the lower discipline that results from the reduction in *ex post* crisis costs can offset the discipline from *ex ante* policy measures. In other words, the trade-off between *ex ante* moral hazard and *ex post* crisis resolution is likely to be non-linear in nature.

The absence of a simple relationship implies that policies aimed at financial system stability must strike a delicate balance between crisis prevention and crisis management. Moreover, the subtlety of these interactions means that policy-makers need to be very clear about the nature of the financial frictions with which they are confronted. The main concern of Jonathan and Philip's paper is with frictions in the interbank market. The benchmark setting in this case is provided by Goodfriend

---

1. Eichengreen and Portes (1995) and Dooley (2000) explore similar ideas in the sovereign debt arena, emphasising debt workouts and country liquidity runs respectively.

and King (1988). They argue that with efficient interbank markets central banks should not lend to individual banks but should instead provide sufficient liquidity via open market operations which the interbank market could then allocate efficiently among banks.

There are a number of externalities that might plausibly take us away from this frictionless ideal. Interbank markets may fail to allocate liquidity efficiently due to: asymmetric information about the quality of banks' assets (Flannery 1996; Freixas and Jorge 2007); banks' free-riding on each other's liquidity or on central bank liquidity (Bhattacharya and Gale 1987; Repullo 2005); the exercise of market power in the interbank market (Acharya, Gromb and Yorulmazer 2008); or as a consequence of predatory behaviour forcing inefficient liquidation of bank assets (Brunnermeier and Pedersen 2005).

A further cause of market failure in the interbank market stems, perhaps, from the deep financial friction highlighted by Kiyotaki and Moore (2002), when they remind us that 'evil is the root of all money'. For them, the enforcement of contracts and the collateral underpinning borrowing assume centre stage. Understanding the nature of collateral in the interbank market could well prove crucial to system stability design. If assets and collateral are bank-specific, then liquidation of assets by a bank in distress could be socially costly, and changes in ownership (whether private or public) could be counter-productive from a welfare perspective. Relatively little is known about this subject and it merits further attention by policy-makers and academics. But it is the intertwined nature of a number of these frictions in the present crisis that makes the policy problem particularly difficult.

Jonathan and Philip proceed to consider the *actual form* that policy intervention might take. They consider several measures that can be classed as *ex ante* or *ex post* in spirit. On the *ex ante* side, they suggest that supervisory requirements be tightened in good times when liquidity is ample and credit risk low. Liquidity policies that encourage 'self-insurance' by banks may also have a place, along with arrangements and infrastructure that facilitate greater disclosure by financial institutions. On the *ex post* front, they raise the possibility that the central bank could purchase a much wider range of assets under repurchase agreements, purchase some of these assets outright (under well-defined conditions) as a market-maker of last resort, and stand ready to provide assistance with the off-market transfer of assets.

One might reasonably add monetary policy to this mix, particularly if the central bank is to play the lead role as the guardian of systemic stability. The use of monetary policy for financial stability purposes remains a contentious subject. But, at root, financial stability is about optimising the *intertemporal margin* – the price of money and goods today and tomorrow. Whereas monetary stability policy focuses on the *intratemporal margin* – the relative price of money and goods today. When confronted with one instrument (the interest rate) and two margins, the *ex ante* policy design problem for the central bank becomes akin to an optimal tax problem.

An alternative possibility, one that does not run counter to Tinbergen's rule or place the central bank's balance sheet under risk, would be to regulate financial balance sheets more directly – explicitly altering capital settings, liquidity requirements and

patterns of concentration. Existing regulatory instruments are calibrated according to measures of idiosyncratic risk in individual institutions. Is it possible to quantify an institution's marginal contribution to systemic risk? This could be used to specify systemic risk 'taxes' or regulatory requirements that sit alongside idiosyncratic risk requirements. Progress along this dimension requires quantification of systemic risk. Despite some recent work in this area by central banks, notably the Bank of England and the Austrian central bank, more remains to be done.

A final observation. I am struck by the extent of the overlap of the current debate with the debates on the 'international financial architecture' of a few years ago. Back then, the focus was on *PSI* – Private Sector Involvement. We also considered self-insurance (in the form of Greenspan-Guidotti rules of thumb for the liquidity of sovereign borrowers), circuit breakers to curb country runs, and methods for preventing boom-bust cycles in international lending. There was also policy consensus that the role of the public sector (chiefly in the form of the International Monetary Fund) should be limited and 'catalytic' in nature. The private sector, it was argued, should bear the brunt of the burden. Arguably, the nature of the frictions and the creditor collective action problem was much clearer then.

In the recent financial turmoil, *PSI* seems to have returned. The emphasis in the current paper – quite rightly – has been on *Public Sector Involvement*. But the lessons of past financial crises suggest that there may be some scope for involving the private sector still further in dealing with this crisis. Developing a greater understanding of how burden-sharing between the official sector and financial institutions might work when liquidity has features of both a public and a private good seems an important next step.

## References

- Acharya VV, D Gromb and T Yorulmazer (2008), 'Imperfect Competition in the Interbank Market for Liquidity as a Rationale for Central Banking', Federal Reserve Bank of New York Working Paper.
- Bhattacharya S and D Gale (1987), 'Preference Shocks, Liquidity, and Central Bank Policy', in WA Barnett and KJ Singleton (eds), *New Approaches to Monetary Economics*, Proceedings of the Second International Symposium in Economic Theory and Econometrics, Cambridge University Press, Cambridge, pp 69–88.
- Brunnermeier MK and L Pedersen (2005), 'Predatory Trading', *Journal of Finance*, 60(4), pp 1825–1863.
- Calomiris CW and CM Kahn (1991), 'The Role of Demandable Debt in Structuring Optimal Banking Arrangements', *American Economic Review*, 81(3), pp 497–513.
- Dooley MP (2000), 'Can Output Losses following International Financial Crises Be Avoided?', NBER Working Paper No 7531.
- Eichengreen B and R Portes (with Annexes by F Cornelli, L Felli, JR Franks, C Greenwood, H Mercer and G Vitale) (1995), *Crisis? What Crisis? Orderly Workouts for Sovereign Debtors*, Centre for Economic Policy Research, London.

- 
- Flannery MJ (1996), 'Financial Crises, Payment System Problems, and Discount Window Lending', *Journal of Money, Credit and Banking*, 28(4), pp 804–824.
- Freixas X and J Jorge (2007), 'The Role of Interbank Markets in Monetary Policy: A Model with Rationing', Universitat Pompeu Fabra, Economics Working Paper No 1027.
- Gai P, S Hayes and HS Shin (2004), 'Crisis Costs and Debtor Discipline: The Efficacy of Public Policy in Sovereign Debt Crises', *Journal of International Economics*, 62(2), pp 245–262.
- Goodfriend M and RG King (1988), 'Financial Deregulation, Monetary Policy, and Central Banking', Federal Reserve Bank of Richmond *Economic Review*, May/June, pp 3–22.
- Kiyotaki N and J Moore (2002), 'Evil Is the Root of All Money', *American Economic Review, Papers and Proceedings*, 92(2), pp 62–66.
- Repullo R (2005), 'Liquidity, Risk Taking, and the Lender of Last Resort', *International Journal of Central Banking*, 1(2), pp 47–80.
- 

## 2. General Discussion

The discussion began with some debate about the appropriate role of the central bank in dealing with systemic versus idiosyncratic shocks. It was suggested that prudent banks often argue against bailouts of imprudent institutions, as these bailouts would hurt the competitive position of those who had acted with restraint. However, in arguing this, prudent banks are often ignoring that the failure of an institution can have systemic effects that may adversely impact on them. It was suggested that while the extent to which a central bank should 'fight a fire' at a particular bank is not clear, social welfare is enhanced by the public sector preventing the 'fire' from spreading to other sound financial institutions. There was general agreement that there should be some role for central banks in ensuring systemic stability, and that it was not socially optimal to have institutions 'insure' themselves fully, for example, by holding a sizeable share of their assets in liquid form. Nevertheless, some suggested that private institutions needed to be better prepared to deal with adverse shocks, both idiosyncratic and systemic. This could perhaps be achieved by banks holding more liquid assets and also holding liabilities with a broader range of term structures. This greater preparedness by private institutions could be thought of as complementing, rather than replacing, prudential and liquidity management policy at central banks. One participant suggested that it was worth considering whether there should be a tax on systemically important banks, which might otherwise free ride on the willingness of central banks to offer them assistance if needed. Others argued that requiring a bank to hold liquid assets can be thought of as a tax. Yet another participant noted, however, that if the market valued this type of behaviour, banks should benefit from being prudent via a lower cost of raising debt.

There was a discussion about issues related to collateral used to obtain funds from central banks. One participant questioned the effectiveness of central banks requiring good collateral before providing liquidity to a financial institution, given

that depositors would take preference if the bank was insolvent, which could leave the central bank out of pocket. It was pointed out that, under Australian law, the Reserve Bank has priority similar to that of a depositor in the event of a bank collapse, allowing the Bank to recover some of the funds provided to the collapsed institution. Another participant highlighted that this pointed to the importance of central banks and supervisory authorities (where they are not one and the same) maintaining close relationships, since the former would need to rely on the judgments regarding solvency made by the latter. There was also some consideration of the appropriate size of haircuts. Some participants noted that sufficiently large haircuts were required to allow central banks to extend the pool of eligible collateral, and while others agreed, they argued that overly large haircuts would limit the amount of liquidity provided. Finally, there was some debate about whether the tendency for central banks to provide liquidity against a wider pool of collateral would be sustainable, given that it could make banks less likely to hold prudent levels of liquid assets in the future.