

Price Stability and the Lender of Last Resort¹
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Executive Summary

- A monetary policy committee's role in financial market regulation should be limited. Allowing a monetary policy committee to engage in overtly political activities threatens its independence.
- When most external financing was provided by banks, central banks could promote the stability of the financial system by acting as a *lender of last resort* in a financial crisis: lending freely, at a penalty rate, against collateral that would have been good in normal times. Now that external financing is increasingly acquired by issuing tradable financial instruments, central banks can promote the stability of the financial system by acting as the *market maker of last resort* in a liquidity crisis. They can either buy or sell securities that have stopped trading or accept a wider range of collateral in repos and for collateralised loans and discount window borrowing.
- The immediate central bank response to the current crisis was to provide large amounts of liquidity against high-quality collateral, thus providing additional liquidity to institutions that did not need it and potentially sowing the seeds of future crises.
- With a better system of depositor insurance there is no reason to bail out institutions, such as Northern Rock, that are of no systemic importance. The decision that a particular institution is too important to fail is too political to be left to the unelected officials of an independent central bank.
- It is not obvious how central bank communication can avert bank runs. Central bank announcements are unlikely to be believed if the central bank has an incentive to claim that things are better than they are, and if they are believed they may cause a run.

¹ Briefing paper for the Committee on Economic and Monetary Affairs (ECON) of the European Parliament for the Quarterly Dialogue with the President of the European Central Bank.

Price Stability and the lender of last resort: separation of responsibilities

The primary role for a central bank is the provision of a stable means of payments. This entails maintaining price stability and promoting a sound financial system. Monetary policy requires expertise and politicians may be tempted to use monetary policy opportunistically, thus, society should delegate monetary policy making to an independent body of experts charged with pursuing an inflation target. It is palatable, in a democracy, for unelected officials to carry out such an important task because inflation targeting is a technical task. If a central bank is also asked to carry out political tasks, then its independence becomes less appealing. This suggests that safeguarding a central bank's independence may require limiting its ability to intervene in the financial sector. In this note, I discuss how central banks should respond to this and other financial crises. I evaluate central banks' immediate response to the crises. I suggest appropriate reactions to a "Northern Rock" scenario. I also touch on an important related topic: the role of the central bank in providing information to the private sector during a period of financial unrest.

The central bank should be the market maker of last resort

At one time commercial banks were the main providers of credit. The main liabilities of commercial banks were deposits that could be withdrawn on demand on a first-come-first-served basis. The main assets were illiquid loans. This balance sheet structure ensured the possibility of bank runs and a credit crunch, even when banks were fundamentally sound. Normally, each depositor believed that other depositors would not withdraw their money and so no depositor had an incentive to frantically withdraw their own. But, exceptionally, each depositor believed that the other depositors were about to withdraw their funds. Thus, it was optimal for each depositor to scramble to get his money out before the bank's liquidity was exhausted. As central bank independence was not then an issue, the central bank's role in supporting the financial system in such periods of turmoil was clear. It was to follow Walter Bagehot's advice and be the *lender of last resort*, supporting the banking system by lending freely, at a penalty rate and against collateral that would be good in normal times, even if it was currently damaged by the unrest.

Times have changed, however. When financial and non-financial companies decide to acquire external financing they are now increasingly likely to issue tradable financial

instruments, rather than to borrow from banks. A liquidity crunch occurs when the market for some of these tradable instruments seizes up; trade in the assets comes to a near or complete halt. As a consequence, these assets are no longer priced and are not acceptable as collateral. As a result of the cessation of trade, financial and non-financial institutions' borrowing needs increase and their ability to borrow declines.

The current financial crisis is an example of a liquidity crisis and it arose in the following way. Banks, disliking bank runs and wanting to increase the turnover on their balance sheets (thus generating more fee income), did not want to hold illiquid assets. Thus in the 1980s they began to sell their previously illiquid assets to off-balance sheet entities that mixed them with other assets and issued tranching securities against the resulting asset pool. In some cases these tranching securities were then purchased by other entities that mixed them with other assets and sold tranching securities against this new asset pool. While the pooling reduced risk, it also destroyed information; no one really knew much about the riskiness of one of these sliced and diced multi-layered assets. When an optimistic mood prevailed, these assets remained liquid. However, when fear became the prevailing emotion this market became illiquid: as the riskiness of these assets was and is nearly impossible to calculate, these assets could and cannot be disposed of at a price that was anywhere near what is probably their fundamental value. As it was difficult to assess a financial or non-financial firm's exposure to these collateralised securities, counterparty risk became important in the interbank market. No one knew – or knows – where all of the bodies are buried.

Financial markets are a public good, and when they fail the central bank should intervene by playing the role of market maker of last resort.² An obvious way to do this is for the central bank to price the securities itself and then to accept them as collateral in its repurchase operations and against its collateralised loans and discount window borrowing – extracting an appropriate penalty, of course so as to minimise moral hazard problems. If markets are illiquid at, say, three months, then the central bank should conduct operations at this maturity. The ECB already accepts a wide range of securities as collateral, although there are restrictions. In particular, they accept nothing rated lower than A-. The ECB's Governing Council, however, is empowered to change the list of eligible counterparties and instruments any time.

² See Buitier, Willem and Anne Sibert (13 Aug 2007), "The Central Bank as the Market Maker of Last Resort: From Lender of Last Resort to Market Maker of Last Resort," VOX, <http://www.voxeu.org>

The above suggestion may sound a bit like belling the cat. If there is no market price, how does the central bank know what the price should be? The honest answer is that it is not easy. Central bank banks will have to recruit staff with expertise in quantitative mainstream finance and financial engineering, as well as market microstructure. They will have to work closely with ratings agencies.³ It may also be possible to have auctions that serve as price discovery mechanisms.

This section has been concerned with what central banks should do in a liquidity crisis, but it is worth saying something about what they should not do. They should not cut interest rates unless they believe that the crisis will have such a significant effect on real activity that inflation will fall without such a cut. If this is not the case and they attempt to solve a liquidity crisis by lowering their target interest rate, they may save a few financial institutions but they may also effectively signal to the markets that they are concerned about the situation and they may lose credibility for being tough on inflation.

How have central banks managed liquidity crises?

The Federal Reserve initially responded to current crisis by cutting the primary discount rate from 6.25 to 5.75 percent on 17 August. The discount rate is the rate the Fed charges eligible financial institutions for borrowing at the discount window. The problem, however, was not that banks could not pay 6.25 and stay in business, but that they did not possess the eligible collateral. Thus, this action was not helpful; it merely transferred money from the tax payer to banks that possessed eligible collateral. Instead, the Fed should have expanded the set of eligible collateral. In addition, it should have removed the stigma attached to discount window borrowing and increased the pool of eligible borrowers. For historical reasons, discount window borrowing is primarily restricted to commercial banks at the Fed and at many other central banks. Now that non-financial institutions have taken away much of banks' business there is no reason for this restriction. And, as it is preferential it adds an element of the political to this central bank role.

³ The rating agencies must be reformed. The raters were paid by the issuers of the products they were rating and would often advise those whose They often advised those whose financial products they would rate on how to engineer the product to get the best rating!

The ECB injected large amounts of liquidity into markets in mid August when the overnight interbank rate threatened to rise sharply. The Fed acted similarly. This was not productive. Even though the ECB accepts a wide range of collateral, it only accepts collateral of good quality. Thus, the ECB merely provided a large amount of liquidity to the institutions that did *not* need it, sowing the seeds for later liquidity crises.

What should the central bank do when face with a 'Northern Rock' scenario

The decision to bail out an individual bank is far too political an act for the unelected officials of an operationally independent central bank. It should be left to a separate regulatory agency, which has the expertise, and to the Treasury, which has the power to tax. All that is needed is that the regulators have a credit line with the central bank (or the ECB in Euroland) that is guaranteed by the Treasury.⁴ Bailouts should only occur when the collapse of an institution threatens the financial system. Regulators should not have felt compelled to bail out an institution the size of Northern Rock. As the UK's fifth largest no mortgage lender, its demise would have been of no systemic importance.

The rationale for bailing out an institution such as Northern Rock is that it is unfair for depositors to lose their money simply because the managers of the institution followed an overly risky strategy. It is unreasonable to expect depositors to monitor that management. There should however, have been in place, a mechanism that would protect depositors and discourage managers from excessive risk taking. There are two obvious such mechanisms. The first is deposit insurance for institutions that agree to abide by regulations and to be supervised. Unfortunately, such deposit insurance in the United Kingdom is inadequate, as it is in much of Euroland. The second mechanism would be to allow the regulators to take over the failing institution and fire all of the managers. It should be noted, of course, that there is no rationale for bailing out the shareholders of a failing financial institution. Poverty resulting from poor investments is no more deserving of alleviation than poverty caused by many other factors and existing government programmes for poverty relief can be employed.

⁴ Apportioning responsibility may present some complications in Euroland.

The role of central bank communication

Can appropriate announcements by the central bank stave off a bank run? The markets did not believe Chancellor of the Exchequer Norman Lamont's assurances that in 1992 that there was not a "scintilla of doubt about the pound" and they ignored Fed Chairman Alan Greenspan's 1996 warnings about "irrational exuberance". As long as central bankers have an incentive to make things sound better or worse than they really are, it appears that they are unlikely to be believed. In general, announcements are a poor way to signal information. This is because -- to be effective -- a signal must be costly and "talk is cheap".

Suppose, however, that a central bank could credibly convey some information. What effect would this have on a bank? A bank run, such as the one on Northern Rock, is a classic example of a *coordination failure*. A coordination failure is a bad equilibrium in a scenario where there are multiple possible equilibria. To see that there are multiple outcomes, suppose that a bank is fundamentally sound, as Northern Rock probably was. If each depositor believes that all other depositors are going to keep their money in the bank, then it is optimal for each depositor to keep his money in the bank. There is not bank run. However, if each depositor believes that all other depositors will withdraw their money, then it is optimal for each investor to withdraw his money. There is a bank run. These equilibria satisfy the desirable property that each investor is acting optimally, given the behaviour of the other investors.

The equilibria have the undesirable property, however, that it is hard to explain why they occurred. What causes the depositors to coordinate on a particular outcome? In the canonical story of the bank run, depositors have no information about bank's solvency and they have no way to predict what other depositors will do. They have nothing on which to base their decision to withdraw their money or not. Suppose instead that there are many depositors who each have some independent idiosyncratic private information.⁵ Then, each depositor has some information on which to base his decision, but has no other information that helps to predict what others will do. So he acts on the basis of his own information. Thus, if the bank is able to withstand a large enough run – even though it could not withstand all depositors demanding their money – there is no run. A large enough fraction of depositors

⁵ To be precise, I assume that there are is a continuum of depositors.

will receive information suggesting that the bank can withstand a sizable attack and, basing their decision solely on this, they choose not to attack.

Now suppose that the central bank can credibly convey information about the central bank. This information is of good quality relative to the private information and it is common knowledge: everyone sees it, everyone knows that everyone else sees it, everyone knows that everyone knows that everyone sees it and so on. In this case a bank run again becomes a possibility.⁶ This is because depositors no longer place enough weight on their own information. Instead, they base their decision primarily on what they believe others will do. If they believe others will withdraw their deposits, then it is optimal for them to withdraw their deposits as well.

The message of this section is that it can be difficult for central banks to convey information if they public believes that they have incentive to mispresent things. And, even if they can convey information, for the particular case of bank runs, it is not obvious that doing so improves matters.

⁶ Hellwig, C. (2002), "Public Information, Private Information, and the Multiplicity of Equilibria in Coordination Games," *Journal of Economic Theory*, 107, pp. 191-222.