Containment and Resolution in the Financial Crisis: Too Little, Too Late

Patrick Honohan*

Despite its origins in countries with the most sophisticated and experienced regulatory systems, containment and resolution policy in the financial crisis that broke out in August 2007 was not a success. Instead of the prompt corrective action prescribed by research-based good practice manuals (e.g. Honohan and Laeven 2005), regulatory authorities allowed strained credit conditions reflecting weak capitalization of major banks to persist for over a year with only sporadic and case-by-case interventions.

For too long, policy authorities misinterpreted the crisis as chiefly one of liquidity rather than solvency. Prime reliance was placed on large scale expansion of liquidity. Guarantee programs were also expanded as if depositor panic and contagion were important drivers.

The failure to recognize the scale of the solvency problem was partly due to the complexity and opacity of the financial instruments that were being used by market participants, but partly also to regulatory denial and disbelief that such severe undercapitalization could have developed under the radar. As a result, identification of, and intervention in, insolvent and undercapitalized institutions was dilatory. All of the bank failures were precipitated by market withdrawal of liquidity; in no case did regulators act pre-emptively to require the banks concerned to recapitalize, even though all or most seem with hindsight to have been insolvent when run. The very modest fiscal costs committed even by October 2008 show the extent to which restoration of capital was left too late.

Prevention

By now, the causes of the crisis are fairly clear (Honohan 2008). Over-confidence in risk-management systems had lured banks into acquiring mispriced mortgage-backed securities (MBS) which were much riskier than they seemed, and whose value depended on property prices in the United States remaining at the unprecedented levels to which they had been bid, and on the performance of sub-prime borrowers who had been sold mortgages they could not afford to service. Widespread falls in US residential property prices from mid-2006 and alarming increases in the share of delinquent mortgages made recovery on these MBS increasingly doubtful. As rating agencies downgraded debt, non-bank conduits that had been created to fund MBS became unable to roll-over their borrowings and some found that their sponsor banks were unable to provide the expected back-up liquidity, leading to the first bank failures.

Although the scale of estimated losses from this initial shock, if uniformly spread across major banks, should have been manageable, the difficulty in determining exactly where the losses lay, and the actual and feared knock-on effects of such losses on counterparty risk caused investors and bankers to reassess their risk appetite. Realizing that their risk-management models had proved inadequate, bankers became much more risk-averse and this restricted credit availability. In a classic debt deflation process, liquidation of assets caused by the credit crunch lowered equity prices and worsened the solvency even of intermediaries who had no exposure to the US residential property market. Other property bubbles, notably in the United Kingdom and Ireland, also burst, adding to pressure on exposed banks in those countries. Market concerns increasingly extended to any opaque and highly leveraged institutions, including the leading US investment banks and credit insurers. The scramble for liquidity boosted the international value of the US dollar, and helped puncture the bubble in petroleum and other commodity prices, which peaked around July 2008. Several emerging markets which had been relying on short-term capital inflows, or on the revenue from the commodity boom, found their currencies, stock markets and banks come under pressure.

* Trinity College Dublin.

Containment and resolution policy

Given the extensive contingency planning that has been undertaken over the past decade since the East Asia crisis of 1997–98,[1] and a considerable increase in the staffing of financial regulatory authorities, the performance of these authorities in the crisis can only be considered disappointing. It is not just that they failed to prevent the crisis. In addition, containment and resolution policy has been deficient. Such policies should have been speedily put in place as soon as the crisis broke out in August 2007.

The conventional tools of containment and resolution policy include (i) the legal powers to (ii) intervene in the management of banks, requiring them to increase capital and to desist from unsafe practices, and if necessary to take control of a failing bank and arrange for a sale, liquidation or financial restructuring with the use of public funds; (iii) limited deposit insurance is used to insulate small depositors from anxiety and loss; (iv) liquidity provision, including lender of last resort facilities, is arranged for banks known to be solvent but who are, for some reason, unable to source ready funds in the market. With the benefit of hindsight, the operation of all four dimensions seems deficient, especially the delay in recognizing the need for and ensuring recapitalization.

Legal powers

One of the early failures, i.e. that of Northern Rock (NR), was exacerbated by a surprising lack of decisiveness on the part of the British authorities. Doubts as to whether the exceptional liquidity support which would have been necessary to keep the bank afloat would be legal delayed this assistance, triggering a retail run on the bank fatal for its survival and making its subsequent nationalization and costly downsizing all but inevitable. Here was a case where unrealistic and counterproductive lender of last resort fundamentalism, of a type which had become popular in central bank charters and policy statements over previous years, was allowed to stand in the way of needed emergency action. Though far from the largest of the failing banks, NR's demise became iconic.

[1] This includes the Basel Core Principles for Effective Banking Supervision, the Basel II bank regulation accord and the IMF-World Bank Financial Sector Assessment Program, which has reviewed national policies in well over one hundred countries – though not yet the United States or China.

Almost exactly one year later, on 15 September 2008, the famous investment bank Lehman Brothers was allowed to go into bankruptcy when no private sector rescuer could be found to assume its liabilities (because of the opaqueness and complexity of its business). Some observers assumed that the authorities' decision to allow this bankruptcy reflected their determination to avoid moral hazard, by showing that even a large investment bank could be allowed fail. This point of view assumed that the market was now better placed than it had been in March to work through a bankruptcy of this scale and complexity. However, it is also reported (Financial Times, 12 October 2008) that the US authorities simply had no legal way of saving Lehman in the time available when the prospect of a private sector solution evaporated.

Deposit insurance

The design and operation of deposit insurance also proved largely deficient in achieving the conventional goals of preventing contagious runs, ensuring market stability, and protecting the assets and peace of mind of retail depositors.

Once again NR provides a crisp example. The UK deposit insurance scheme in effect at the time covered only the first £2000 in full, but just 90 percent of the next £33,000. With genuine concern about the survival of NR, fuelled by vague and ambiguous statements by the authorities, depositors queued outside the branches of this bank to withdraw their funds. Clearly, the co-insurance built into this dysfunctional scheme (ostensibly in an attempt to minimize moral hazard) combined with the absence of procedures for a quick payout by the deposit protection fund, precluded the scheme from providing any protection against a retail bank run. Indeed, a few days' of retail depositors' queuing was enough to trigger an official blanket guarantee for NR, followed within months by an overhaul of the deposit protection scheme, doubling the amounts covered and eliminating the deductible (prompt payouts, US style, were still elusive).[2]

Deposit insurance schemes continued to underperform as the crisis deepened. Concerns over the prop-

[2] Amazingly, despite the US FDIC's enviable record of prompt payouts, even fully covered depositors at the failing California bank Indymac stood in line to withdraw their funds in the days before it was intervened. Although the intervention was smoothly managed, it quickly proved to have been too late (relative to the standards envisaged by the prompt corrective action approach of the US system), with losses to the deposit insurance fund of $9 billion, or about 30 percent of the bank's total assets.

erty-related portfolio of the Irish banks saw interacting weaknesses in their equity prices, their CDS spreads, and their access to interbank borrowing (they had become heavily dependent on foreign-sourced funding). With one bank reportedly facing imminent failure, the Irish government announced, on 29 September 2008, a global guarantee of the Irish-controlled banks' liabilities, including subordinated debt, and their deposits in other jurisdictions. Given that these banks have a substantial presence in the United Kingdom (especially in Northern Ireland), and the uncertainty at the time about the condition of several British banks, immediate issues of competition-distorting aid within the European Union arose; the UK government protested. Eventually, the issue became submerged in the extensive generalized support packages in Europe, but the incident highlighted, and not for the first time, unresolved issues with deposit protection across Europe.

A final deposit insurance incident arose with respect to the two Icelandic banks operating an extensive deposit-taking business in the United Kingdom. Both came under market pressure in early October 2008 and, when Landsbanki was intervened by the Icelandic government, there were indications that the Icelandic government might not be able to make the payments due under the Icelandic protection scheme to depositors of its UK branches. The British government then, in order to safeguard UK interests (but with scant regard for international cooperation), seized assets of the other Icelandic bank Kaupthing, triggering its failure.

Liquidity policy and the lender of last resort

The three big central banks involved in advanced economies that experienced failure, the European Central Bank, the US Federal Reserve and the Bank of England certainly took energetic steps in an attempt to ease general liquidity conditions. Volumes of secured lending by these central banks to banks and others have expanded to unprecedented levels, and each bank has revised its operating procedures to increase the maturity and conditions, the range of counterparties or the classes of collateral accepted.

Each central bank started from a different position. Reflecting long-standing central banking operating procedures in the Deutsche Bundesbank, and to an extent in the Banque de France, the ECB had already formalized an elaborate system of collateralized lending, which it was able to bring to bear quickly. The Bank of England and the Fed were at first less well equipped in this respect. The Fed soon began to draw on its broad enabling powers to lengthen loan maturities, to lend Treasury securities and not just cash, and to lend to investment banks, money market mutual funds and directly to the non-financial corporate paper market, among other initiatives. The Fed also lowered its target interest rates aggressively from over 5 percent to 1 percent, whereas the ECB held its target at 4 percent for most of the first year of the crisis – and then increased it by 1/4 percent concerned by the commodity-driven increase in inflation – before beginning a lowering trend. Ironically, it was thus the ECB – famously reluctant to abandon monetary aggregates as a reliable indicator of inflation pressure – that seemed to decouple two policy instruments: quantitative easing was applied to the liquidity problems associated with financial stress, while the cost of funds was the preferred instrument for controlling inflation.

However, it is noteworthy how careful each has been in trying to limit its credit exposure. The ECB even announced a tightening of its collateral rules in early September 2008, as it feared that it was being presented with the riskiest qualifying collateral by borrowing banks.

As individual banks began to fail, central banks sought to remain aloof from anything that would entail significant credit risk. So far, the ECB has succeeded in doing so, and has not made any special bank rescue loans so far. The Bank of England started with the same attitude, but political considerations came into play and resulted in the huge Bank of England loan to NR, a bank which could not be considered systemically important. (Some £3 billion of this loan has already been assumed by the UK Treasury and converted into equity in NR, thereby considerably reducing the Bank of England's exposure.)

The Fed has been directly involved in two special credit arrangements for institutions deemed too systemically important to fail, the investment bank Bear Stearns and the insurance company AIG. In March 2008, Bear Stearns was acquired by the commercial bank JP Morgan Chase, but a part of its portfolio valued at $30 billion was removed and placed in a special purpose vehicle with JPM taking a first loss

investment of $1 billion and the Fed financing the rest. In September 2008, the Fed, despite having just allowed the systemically important Lehman Brothers to go into bankruptcy, decided to give AIG[3] a special $85 billion loan at a high penalty rate of interest, and received warrants for 80 percent of its equity in return.

Although the central banks may regard themselves as having acted very energetically in the crisis, it is thus striking that they have largely retained the operational independence necessary to protect their currencies from being debased in this crisis as has happened in so many crises of the past, especially in developing and transition economies in the 1980s and 1990s.

In implementing their liquidity policies, though, the central banks have sometimes struggled in this turbulent environment to achieve the target short-term money market rates with precision. And as has been widely discussed, three-month interbank rates for unsecured lending have been persistently higher than the market's expectation of future overnight policy rates for the following three months (by about 1 percentage point) since August 2007, with the gap jumping to about 3 1/2 percentage points in September–October 2008. In this respect, the central banks' liquidity policies cannot be considered wholly successful either.

Recapitalization

Heavy credit losses alone have meant that, in order to sustain the previous level of activity, banks have had to raise additional capital from existing or new shareholders. Furthermore, it is clear that banks will no longer be able to conceal their true leverage and evade capital requirements by pushing business off-balance sheet. A re-evaluation of the riskiness of much of their credit business also implies a need for additional capital. At first, major banks were able to raise replacement capital, partly because the early reported losses from sub-prime related securities and the like seemed like a once-for-all event that need not imply limited future profitability. But of some $600 billion in credit losses reported by major banks by the end of September 2008, only about two-thirds had been replaced. Worsening global economic prospects, and renewed uncertainty as to the location and scale of hidden credit losses (triggered, among other things, by the Lehman bankruptcy) added to the difficulties of raising new bank capital. Although bank shares had fallen dramatically, they still seemed risky to such remaining investors as Sovereign Wealth Funds. Clearly, a full resolution of the crisis was going to require some new sources of capital. With the central banks largely declining that role, the task fell to governments, and they have been slow to accept the challenge.

From the start of the crisis some governments had been prepared to step in on a small scale. The two German banks that failed early on were actually owned by government entities and eventually it was the sponsoring governments that made the main capital injections to make these entities whole again and allow them to be sold back into the market. As has been noted, the British government eventually nationalized Northern Rock (though the terms of compensation for shareholders have not yet been determined.) Likewise, the two large government-sponsored mortgage finance companies Fannie Mae and Freddie Mac, victims especially of the falling residential property prices, were taken into conservatorship in early September 2008 with substantial actual and promised injections of government funds; the US government took an 80 percent ownership stake and fully guaranteed their liabilities, ending their ambiguous status.

The last days of September and the beginning of October saw a succession of failures in Europe, each of which was dealt with in an ad hoc manner involving government capital injections or guarantees. A novel pattern of wholesale bank runs was emerging. Once identified as weak, a bank would not only be starved of wholesale funding, and see its share price plummeting,[4] but would also experience a spike in the premium for CDS on its longer-term borrowings. An alternative to the long-advocated use of compulsory subordinated debt issuance as a discipline on bank managements, the CDS swap rates served as a conspicuous form of market discipline – though it remains a matter for future research as to how accurate and efficient this market has been through the crisis.

It was only at this point that it became evident to the authorities that *ad hoc* recapitalizations of systemically or politically important banks were no longer

[3] Much of AIG's difficulties relate to credit default swaps (CDS) – in effect insurance policies against creditor default – which they had written.

[4] Emergency limitations on short-sales of bank equity do not seem to have had a lasting effect on their stock prices.

an adequate response. Faced with the prospect that each of its major banks would take its turn as the focus of this triple interacting pressure, the pressure on each government to adopt a pre-emptive system-wide approach intensified. The effect of sharp increases in interbank rates and the inability of many banks to mobilize funds were also beginning to be felt acutely as a credit crunch in the nonbank sector. Market fears that considerable further losses remained embedded but hidden in the balance sheets of most banks had to be taken seriously. Only a restoration of undoubted creditworthiness of all the main banks could forestall a damaging interruption in the functioning of banking generally in the affected countries. This was the genesis of the approach endorsed by the Euro *plus* UK summit in Paris on October 12, 2008, which saw governments establish funds to acquire equity or preference shares in banks, as well as offering to guarantee – for a fee – medium-term interbank borrowings.

The introduction of a broad-based scheme of encouraged and assisted capital increases in many of the advanced countries most affected by the crisis are the most novel of the containment and resolution policies of this crisis. Indeed, it has no precedent in the past half century. Alas, it came late in the crisis, by which stage a collapse of confidence in financial and non-financial circles had occurred.

If we take the UK scheme as the ur-case, its hallmarks are the announced availability of a very large sum of public money available for capital combined with pressure on all major banks to achieve a much higher level of capital. Three large banks were quickly signed-up for a capital injection, which gave the government a 40 percent equity stake in two of them (HBOS and Lloyds, which had already announced their intention to merge), and a majority 60 percent stake in a third, RBS. The other major UK banks indicated that they would secure additional capital in the market, thereby avoiding onerous side-conditions, including restrictions on dividend payments. The capital scheme was accompanied by the announced availability of guarantees for bank medium-term borrowing.[5] The logic of the scheme was that it would both (i) restore market confidence in the solvency and creditworthiness of banks, thereby promising to unfreeze the interbank market among the major players, and (ii) rebalance the banks' incentives to re-engage in credit markets but on a safe and sound basis. The borrowing guarantee was designed to ensure that banks could obtain funds for lending on, even if interbank markets were slow to return to normal.

Other European countries followed suit within days, albeit on a much smaller scale. France arranged for state capital injections into its four largest banks, but the German scheme saw no immediate take-up by the largest banks, possibly because of the very limiting restrictions on executive pay built into the German scheme. Insofar as one goal of this strategy was to make acceptance of government capital free of stigma, the slow take-up in Germany was a disappointment. In the United States, about a third of the $700 billion fund painfully negotiated through Congress was now earmarked for capital injections with the original distressed asset purchase component temporarily pushed into the background, as policymakers recognized that solvency worries extended beyond the issue of the complexity of mortgage-backed securities. Four large US banks received injections of $25 billion each, in this case in the form of preference shares, with smaller sums going to numerous other banks.

The systemically encouraged and assisted bank capital program is unusual in that it does not presuppose that the bank is insolvent or undercapitalized. Accordingly, unlike what is normally recommended for bank recapitalizations, and what was done for most of the failing banks up to that point, it does not entail a write-down of existing equity or removal of management (though the CEO of RBS did not survive). As an exceptional measure in exceptional market conditions, where bank shares are trading at distress levels way below book value, this may be alright. But the moral hazard entailed in a standing scheme with such features is considerable indeed.

It is too early to judge what the eventual fiscal cost of the assistance to weak and failing banks in this crisis will be. For the interventions made before the systemic programs began, even a relatively pessimistic calculation arrives at a total sum of about $400 billion, or a little over 1 percent of the combined GDP of the European Economic Area and the United States. This is an extraordinarily low figure, when compared with crises of the past and abroad,[6] and confirms how little was done on recap-

[5] The fee charged to the banks for these guarantees was varied in proportion to the average CDS spreads experienced by each bank.

[6] The median fiscal cost of 78 systemic banking crises has been over 15 percent of GDP (Honohan 2008).

italization during the first 14 months. Since then, the systemic schemes have expanded the gross exposure in respect of guarantees, equity injections and special loans in these countries to several trillion dollars. Yet, if the underlying premise, namely that the market has been too pessimistic and the banks tapping these funds will prove to be solvent, then (considering also the guarantee fees that are being charged) they could even prove to be a profitable investment. The huge sums being lent by the central banks may also have embedded some credit losses, but the additional state equity injected would be there to absorb those losses ahead of the central bank. Of course the crisis has triggered a recession with economic costs that are much larger, but for this crisis it seems that the fiscal authorities may get off relatively lightly from their direct assistance to weak and failing institutions.[7]

Concluding remarks

Fifteen months in, it would be hard to claim that the crisis had been effectively contained, let alone resolved. The biggest flaw in the policy response has been to underestimate for too long the capital needs of the major banks.

Policy in recent banking crises across the world has been criticized for generating moral hazard – the careless behaviour of those who know themselves to be insured. But the heavy losses incurred by (i) bank shareholders (for example in AIG, Fannie Mae and Freddie Mac, IndyMac, Fortis and several banks that did not fail, but saw their share price tumble by 80–95 percent), (ii) debtholders (in Wachovia Bank and Lehman Brothers, among others), and even (iii) depositors (in the Icelandic banks) means that the policy response on average cannot be considered to have greatly aggravated moral hazard. Even the blanket guarantee for the Irish banks has come at the cost of an annual premium paid to government which amounts in aggregate to about 8 percent of the market capitalization of the institutions concerned. True, few of the guarantee schemes have followed the UK practice of charging a premium differentiated by risk, which might have a better effect on discipline.

Earlier recapitalization might have shortened the period of credit crunch, thereby lessening investor anxieties and forestalling the global recession. But making this happen would have required not only an altered mind-set by regulators, but a way of convincing fiscal authorities to commit such huge resources. The more dramatic events of September 2008 may thus have been a necessary evil to prepare the political ground for the required policies.

At the time of writing, the credit famine is extending to developing countries which had become dependent on foreign borrowing, including Ukraine, Hungary and Pakistan. Although some banks in those countries have been put under pressure from these events, they were not triggered by the domestic banking system, and call for a rather different set of policy responses of the type traditionally negotiated by the IMF.

The failure of regulatory authorities to appreciate the scale and depth of the solvency problem reflects their general reliance, shared with the industry, on mechanical risk management models for assessing the risks to intermediaries. While regulators warned of vulnerabilities and optimistic risk-pricing, they did not fully trust their pessimism in this regard. As a result they were more or less as surprised as the industry to observe the unfolding events, and remained slow to act to forestall the entrenchment of the credit crunch.

References

Honohan, P. (2008), “Risk Management and the Costs of the Banking Crisis”, *National Institute Economic Review* 206, 15–24.

Honohan, P. and L. Laeven (2005, eds.), *Systemic Financial Distress: Containment and Resolution*, New York: Cambridge University Press.

[7] Conspicuously absent from policies adopted so far has been assistance for distressed bank borrowers. Given the heavy deadweight costs of repossession and sale of a mortgaged residential property, several schemes have been suggested for arriving at a mutually beneficial write-down of some delinquent mortgage debt. This would require legislation if it is to work for securitized mortgages because of the difficulty of identifying and obtaining agreement from all of the relevant creditors. Clearly there are many deserving borrowers who were missold subprime mortgages and deserve some preference here. In general, though, the difficulty of providing borrower relief on a fair but restricted basis militates against such action.