

BANKS IN TROUBLE: SAME OLD STORY OR SOMETHING NEW?

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Let me begin with a somewhat provocative slide. I've been updating and extending cross-country data on the fiscal costs of previous banking crises and this (Fig 1) shows the estimated fiscal costs of some 78 systemic crises over the past four decades. Now if we take the IMF's estimate of the total potential credit losses (banks and nonbanks) in the latest events and round it up to USD 1 trillion, where would it fit into this chart? If we take EU+US GDP as the denominator, we get to the yellow bar (3% of GDP). And those are mostly costs absorbed by private shareholders: making a reasonable provision for the losses related to the main official bailouts that have already occurred would move us over to the red bar (½% of GDP). Of course the denominator is large – but many of the countries in the chart are also big – 47% for the 1.3 billion people in China....)

Now, I do not want to minimize the importance of the recent events. Far from it. For one thing, the dynamics of the current crisis have not yet fully worked themselves out. Even the total credit losses embedded in existing financial intermediary portfolios remain quite unclear. Furthermore, the reductions in bank capital (even though partly made good with new equity issues), the liquidity premia and generalized uncertainty about counterparty risk, are all contributing to a re-pricing of risk which has the effect of restricting or shutting down credit access to a large range of borrowers throughout the economy. Falling house prices in several major countries and rising oil prices worldwide make growth in the relevant economies rather sensitive to this credit crunch and the sharper the growth slowdown, the more likely are further credit losses. This process is unlikely to have worked itself out for another couple of years.

The fear is that reductions in bank capital due to credit losses pass will have a sizable multiplier effect on credit and thereby a strong negative effect on GDP (Greenlaw et al, 2008). The question is how strong: the links in this chain are not all immutable. Capital can be replenished, and there is some elasticity in leverage employed by banks and other financial intermediaries. Indeed, the recent study by Adrian and Shin (2007) showed the way in which investment banks – which they rightly see as big drivers of variation in financial sector activity and scale – can and do manage their portfolios very actively (Charts). When their risk appetite increases, they both build up their capital and their total assets, and vice versa.

This suggests to me (this was *not* the point made by Adrian and Shin) that changes in risk appetite, not in intermediary capital, are the main drivers of credit availability. Of course, credit losses can dent confidence as much as capital; but capital can be replenished, and it will be if confidence can be restored. That is where macroeconomic and regulatory policy can help.

Iulia asked me to speak on the policy implications of the banking turbulence *for Europe*. Already, European financial institutions have absorbed a sizable share of the losses

incurred in the US-driven structured finance crisis (Figure).¹ Once again, the US has managed to issue liabilities to foreigners with a much lower yield than the foreign assets which it holds (though the figure is not weighted by asset quality)!

If we look at the banks with the biggest reported credit losses to date, we see something of the same: 14 of the 23 entries in the current version of the FT-Bloomberg league table of big banking losses are European-based banks (Table). (Don't know where the Asian risk has gone, though!).

This is not all that surprising when we recognize how heavily involved in cross-border activities are many of the major European banks. (Slide, based on Goodhart and Schoenmaker, 2006).

So policy here matters for Europe. Indeed policy action now on the banking side is important not just for the purpose of preventing the next crisis, but for influencing the evolution of the current one in a favourable way.

In order to get these management and regulatory decisions right, we need to understand the nature of the crisis. It is important to recognize that the banking problems that have now emerged are not simply a byproduct of a generalized macroeconomic adjustment or repricing of risk. It is true that some banking crises of the past have happened as a result of an economy-wide correlated wave of generalized euphoria that inevitably ended in disappointment and revulsion.

But in this case it was specific banking failures on a large scale (mostly associated with the market in structured finance, especially related to securitized mortgage lending), that underlie much of the banking weakness that has now been exposed.

After all, there is nothing inevitable about bank failures in macro-downturns. Well-managed banks weather even severe macroeconomic downturns (Caprio and Honohan, 2005).

Regulation

So how is it that such errors were made, and in particular not detected and prevented by regulation? After all, lessons were learnt from past experience and embodied in national policy structures. The US Savings and Loan debacle of the late 1980s, and the East Asian and Russian crises of 1997-8 led to a considerable effort to upgrade the policy and regulatory environment. This included the introduction of prompt corrective action in the US, the adoption of the more sophisticated risk management tools of Basel 2, the preparation of regular Financial Stability Reports by or for financial authorities in advanced and developing countries.

The background and evolution to the crisis has exhibited a number of features well-known from previous bank crises worldwide (Honohan, 2000; Caprio and Honohan,

¹ Joint Forum (2008, p. 10) states that US credit risk transfer products (CRTs) were distributed roughly equally between US, European and Asian investors; European CRTs—which formed a sizable minority of the total, were sold about 60-40 to Europe and Asia. (This suggests that perhaps a third of the total risk transferred was taken up in net terms by Asia, with Europe also accumulating a modest new amount of additional risk, and the US a net shedder of risk through these mechanisms). Note however that these are not weighted by asset quality.

2005, 2008). Specifically, it was preceded by rapid credit growth—a classic danger sign both at the level of individual banks and at the level of the system as a whole. There was over-optimism as displayed in particular by very inexpensive risk pricing. To an extent, the over-optimism was both encouraged by, and embodied in financial innovation, which has, once again proved to be a source of systemic risk. Observers have stressed the extent to which financial firms have borrowed short and lent long (though this is almost a definition of banking). Illiquidity and insolvency have proved, once again, very hard to disentangle. Principal-agent problems have emerged in several quarters as they always do in such crises (Honohan and Stiglitz, 2001). Regulatory arbitrage has been to the fore, as in the past. Depositor runs (wholesale and retail) have led to official over-reaction. Finally, predatory lending has been present: often neglected by financial stability studies, and generally observed both in and out of crises.

Against this background, some of the more novel features can be interpreted as merely variants on previous experience. The role of increasingly mechanical rules for capital adequacy is just another form of regulatory arbitrage. The use by banks of conduits and special investment vehicles to move parts of their asset portfolio off-balance sheet and finance with short-term borrowings is also a form of regulatory arbitrage and an example of the perennial desire of banks to make money from maturity transformation. The originate-to-distribute model of mortgage finance was accompanied not only by reckless disregard of default risks, but also (as implemented) exhibited predatory lending on a large scale. The exposure of flawed incentive structures in the relation between credit rating agencies and banks is another example of principal-agent problems (Honohan, 2001), and also once again illustrated the risks associated with financial innovation.

But it is because the details vary that crises can occur. “This time it will be different” is the response given by boosters to words of caution as a bank or banking system moves into risky territory; and indeed it usually is, though not in a good way.

The seemingly sophisticated regulatory framework in the end turned out not to be robust to these variations. Its complexity lulled both regulator and regulated into a false sense of security. It proved just as prone to arbitrage as the simpler protections of old – more so, indeed, because of its apparent rules-based sophistication.

Some have suggested that the structure of the models used for risk management was OK but the distributional assumptions about shocks was too optimistic: tails not fat enough. In other words, just bad luck to be hit by a large exogenous shock.

It seems more plausible, that what might have appeared as minor structural deficiencies in the models were systematically exploited by users knowingly or unknowingly as a cantilever to support sizable expected returns at the risk of catastrophic failure.

The most obvious example of such catastrophic failure is the astonishing decline in the market price of AAA-rated mortgage-backed securities, especially the so-called Mezzanine CDOs, which attempted to squeeze the maximum amount of AAA-rated tranches out of assumed lack of correlation between underlying securities. A key element of what seems to have happened here is that the rating agencies assumed correlations between the default rates of the underlying mortgage securities that were too low. As such, it was relatively easy for ABS arrangers to construct AAA-rated (and hence low-yield) securities from high-yield mortgages that generated substantial surpluses to be

distributed as fees (and income to the equity tranches). The more the lower-than-actual correlations could be exploited in security construction (as with multi-layered securitizations such as Mezzanine CDOs and CDO-squareds – see figure), the more this modelling error was likely to result in sizable rating errors on the senior tranches.^{2,3} The global appetite for AAA-rated securities being high, this mechanism opened the door to a very large increase in tail risk, when losses occurred they would be more like falling off a cliff, than slipping down the a river bank.⁴

Another illustration of the vulnerability of mechanical risk management tools comes from the experience of UBS, a bank which has experienced one of the largest loan-losses so far reported in the crisis. According to UBS's report to shareholders, one of the largest single sources of loss, accounting for more than a third of the bank's total losses, were assets described by the safe-sounding term "Amplified Super Seniors" in which the risk of loss was initially hedged through the purchase of protection from an insurer. Because of their AAA rating and the hedge, these assets were regarded as very safe and exempt from risk scrutiny, allowing them to be accumulated in large quantities by the relevant desks of the bank. The proportion hedged was, however, unfortunately limited to the first 2-4 per cent of loss.⁵ Because the insurance was only first-loss, and the volume of assets large, the bank was much more highly vulnerable to model error or large shocks than its risk managers recognized.

Complacent over-reliance on mechanical risk-management rules that shut-off some high-risk high return strategies can thus allow other more hidden, opportunities for cantilevered risk. In the presence of moral hazard, this combination can even amplify overall risk.

The danger that even simple risk-management rules such as capital adequacy could actually amplify risk has been discussed in the literature for at least thirty years (cf. Kahane, 1977; Honohan and Stiglitz, 2001, pp. 42-4). The circumstances under which this might happen are limited, but I suggest that the increased complexity and sophistication of the mechanical rules has meant that the remaining opportunities to game these rules result in much greater moral hazard. This, I believe, is what we have seen in the current crisis. Most of the big losses have resulted from some unit within a

² Ironically it may have been the tranches priced as least risky that may have experienced the worst net yields: the ("toxic waste") equity tranches could have received juicy rewards in some cases perhaps for long enough to make good returns (Ashcraft and Scheurmann, 2008). Indeed, underestimating asset correlations in a securitized portfolio has the effect of *lowering* the likely losses on the equity tranche for any given average default rate (Belsham et al., 2005) Note, though that some CDOs had additional protections for the senior tranches, such as default triggers giving the senior tranche investors the option to liquidate the collateral.

³ On May 21, 2008 the Financial Times reported that Moody's uncovered a programming error in its model for valuing another form of credit derivative, namely CPDOs. Apparently the error resulted in some tranches being rated 4 notches above where they should have been. The high ratings puzzled some observers, but enabled the tranches to be sold at low yields.

⁴ This feature is reflected for example in the very steep downgrades that occurred for some AAA rated ABS CDOs in 2007. The median downgrade among almost 200 such securities was 7 notches – a steeper downgrade than occurred in any comparably rated corporate bond for at least four decades (Joint Forum, 2008)

⁵ The bank states that "this level of hedging was based on statistical analyses of historical price movements that indicated that such protection was sufficient to protect UBS from any losses on the position" (UBS, 2008, p. 14). The level of hedging also seems to have been designed to meet internal risk-management rules (Hughes et al., 2008)

bank seeking to exploit a profit opportunity that requires very high volumes to be worthwhile and which exploits instrument design depending crucially on the accuracy of complex risk management models

The implication for regulators is to rely much less exclusively on mechanical risk assessment models (which, however, are essential), and instead take a more traditional and holistic⁶ view (which would include taking account of the possibility of model error and that it will be exploited). This implies building-in much higher margins of error in capital requirements; close scrutiny (and risk-penalization) of gross positions for regulated or systemically important institutions, and much greater attention to personal incentive structures and a qualitative assessment of these institutions' overall risk management systems (not merely their mathematical risk models). Principles need to be elevated relative to mechanical rules which can and always will be gamed. The more precise the mechanical rules, the easier to game and the more dangerous the games can become.

In practical terms, this perspective can be seen as consistent with some of the rhetoric of Basel 2, notably its Pillar 2 which emphasizes regulatory discretion. The concern with moral hazard, remuneration incentives also evokes Pillar 3. But it also casts doubt on the heavy reliance placed by much of the Basel discussions – strongly supported by European regulators – on the use of sophisticated but necessarily imperfect mathematical and statistical models of risk.

Many other aspects also need action and consideration. Among the most complex of these are (i) regulatory treatment of liquidity (here I differ from some recent contributions by questioning the emphasis placed on banks building a liquidity hoard – see Bear Stearns graph⁷) (ii) the question of internal remuneration incentives (a wider issue than just for banks) and (iii) procyclicality of capital regulation (I approve of the idea of countercyclical capital “speed limits”, which has recently been rediscovered).

4. Crisis Management

Given what we have seen in recent months about the need for rapid action when things go wrong, and given what we know about the internationalization of European banks, it is striking how fragmented the arrangements for bank supervision still are in Europe.

The problem is especially notable within the euro zone. Whereas, in its decade of operation, the European Central Bank has effectively centralized monetary and anti-inflation policy, responsibility for prudential supervision of banks remains at national level. Even the crisis management part of the ECB's job is awkwardly structured. Much of the responsibility for emergency liquidity lending decentralized to national central banks, but this sits somewhat uncomfortably with the arrangements for overall monetary policy (centralized). The implicit idea that monetary policy implications of a liquidity loan provided on an emergency basis by a national central bank could automatically be

⁶ Lack of integration of risk management procedures was identified in the follow-up to the Société Générale losses (Société Générale, 2008)

⁷ Bear Stearns ran through almost USD20 billion in a matter of days. Banks are by definition net providers of liquidity; when they run disastrously short of it, it is not a cause but a symptom of a loss of creditworthiness (even if undeserved).

offset by action at the centre is not looking as robust now, after almost a year in which interbank markets have not been functioning well.

And it's not just a question of the eurozone. Cross-border banking especially where the home country is not the dominant locus of a failing major bank's activity, presents crisis management issues that will not necessarily be resolved in a socially optimal way by the home regulator. Bailouts may be either more frequent or less frequent than would be optimal. And decisionmaking may be too slow, with inadequate flow of the relevant information.

To be sure, there is cooperation between the national regulators, most visibly through their membership of the so-called "Lamfalussy" Committee of European Banking Supervisors, as well as through numerous other committees and task forces. There are new promises to form standing colleges of regulators of systemically important institutions. But, while cooperation in the design of legislation and attempts to clarify responsibilities and to harmonize supervisory procedures are valuable, they are not enough.

Several ideas have been put on the table for improving the situation here. Goodhart and Schoenmaker (2006) propose an ex ante rule for allocating the costs of a bailout, should one prove necessary; Schinasi and Teixeira (2007) proposed a Europe-wide license for large cross-border institutions, which would then be under the supervision of a Europe-wide regulator. A Europe-wide license could also help deal with the consideration that bankruptcy and bank resolution legislation differs from country to country even within the eurozone, potentially presenting hazards for speedy action. This latter idea has the merit of not transferring all responsibility for bank supervision to an EU-wide body

The glaring inadequacies of the current organizational arrangements for ensuring crisis management capacity across the euro-area banking system have not gone unnoticed. But given the complexities involved, many observers have assumed that it will take a major crisis incident to generate momentum for the needed changes. Perhaps the several near-misses that we have observed over the past few months are enough to trigger action.

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