Crises in Repo Markets with Adverse Selection

Presented by Harald Uhlig

Comments by William White

Introduction

This paper by Uhlig et al presents conditions under which a crisis could emerge in financial markets. In light of what we have just gone through, it is an important objective to understand these processes, leading in turn to policy measures that might help avoid them. The paper, however, is also presented in a session on "Monetary Policy and Financial Stability" which is itself part of a conference on the "Changing Role of Central Banks". Let me begin by noting the great practical relevance of the paper itself, and then widen out my comments to the broader themes of the session and the conference as a whole. A dominant if not universal suggestion throughout will be the important role played by uncertainty in explaining the behaviour of people in financial markets as well as the official sector.

Crises in financial markets

The basic assumption in the paper is that banks lend long and borrow short, as they have always done. They do so, however, on the assumption they can use the longer term paper as collateral, or that they can securitize it to allow the process of lending long to continue. That is, there is a secondary market for these loans. This carries on merrily (the "sunny" period) until doubts suddenly arise in the minds of those purchasing them (the "rainy" period) as to the underlying value of the loan. Fearful of being stuffed (adverse selection) with bad paper, the whole process stops (including more lending) and the crisis is on.

Clearly, there is a lot that rings true in this. In addition to massive increases in recourse to repo markets for short term funding, banks had set up off balance sheet vehicles (SIVs and conduits) to buy longer term loans from banks. These vehicles borrowed short term from pension funds and mutual funds, among others, who were of an inherently conservative disposition. The moment that it became conceivable that losses might be taken (and the "buck broken") the

lending ceased and many of the off balance sheet vehicles were forced for "reputational" reasons back on to the banks´ balance sheets. The catalyst for this was the announcement by BNP in August of 2007 that it would no longer allow withdrawals from three of its vehicles because it could no longer value the underlying assets. This left the banks with a double capital problem. Not only were they bigger, but they also had to set aside more capital to deal with bad loans (both old and new)on the balance sheet. In sum, what initially might have seemed a liquidity problem morphed almost immediately into one of solvency.

As if this were not enough, many mortgage backed securities in the United States had been repackaged into ever more complex, structured, products, that had been sold in many parts of the world. Uncertainty about the value of the underlying then led to even greater uncertainty about the value of these derivative products. Further, it became increasingly clear to the purchasers that the pricing and rating methodologies were in fact enormously fragile; on investigation, what seemed relatively minor changes in assumptions about price correlations in the underlyings could have massive effects on prices. Indeed, some work done by the BIS (Quarterly Review) implied that, for all practical purposes, many of these instruments were impossible to price and rate. The conclusion that they never should have been rated in the first place is, however, another issue. In the event, these markets seized up as well.

Finally, and closely related, the biggest shock came when it was realized that even the "super senior" tranches of these instruments had lost much of their value. These instruments had commonly been kept on the books of the originating banks (Tett) to show they had "skin in the game". What Charles Goodhart once called the "originate and pretend to distribute model", thus left market participants with even greater uncertainty about solvency of the banks themselves.

The manifestation of all this uncertainty was the "Minsky" moment, when the interbank market ceased to function normally. There was a first serious break at the time of the Bear Stearns takeover, and then a virtual collapse in the market after the failure of Lehmann Brothers. In effect, each bank was fearful of its own survival and even more fearful of the solvency of other. And all lending ceased.

Up to this point, I am wholly in agreement with the authors' attempt to analyze unfolding events. What I would like to emphasize however, is that these developments, related primarily to subprime mortgages in the United States, were only part of a much larger macroeconomic problem. They were a catalyst rather than a cause. This brings me to my second set of comments.

Monetary Policy and Financial Stability

It is always comforting for those charged with governance of the economic and financial system to point to new instruments and new ways of doing things as the ultimate cause of the crisis. By their nature, "new" things can be expected to lead to unexpected outcomes, lessening the responsibility of those in charge. What is less comforting is to say that the crisis was the outcome of a long and widespread process of deteriorating credit standards. This must be less comforting since we have had such crises from time immemorial (Reinhardt and Rogoff), they all look basically the same in their reliance on leverage and speculation, and the authorities simply missed it.

To support the proposition that subprime mortgages in the US were only the tip of the iceberg, consider what has happened more recently to AltA and even prime mortgages in the United States. Delinquencies, defaults and foreclosures rose sharply in all categories. Recall too how credit spreads for virtually every kind of risky instrument shrank almost to nothing from 2003 to 2007, and how the cost of insurance for financial market protection also plummeted. Consider as well the expansion and the easy terms offered on non-commercial property, and the wide spread extension of cov-lite loans to private equity companies in particular. Finally, note that the associated run up in asset prices was a global phenomenon. Indeed, by the standards of many countries, the increase in house prices in the US prior to the bust was actually quite moderate.

The underlying macroeconomic roots of the current global crisis can also be seen in phenomena other than asset prices and the growing risk exposure of financial institutions. In many English speaking countries (the old British Commonwealth), household saving rates fell massively, often to well below zero. In China, fixed investment as a proportion of GDP rose to levels unprecedented even in the "bubble economy" of Japan. Reflecting these domestic "imbalances", global trade imbalances also exploded. Moreover, in response to demand pressures, there was a massive expansion of supply

potential in many industries, not least manufacturing industries in Asia. Against the backdrop of "unsustainable trade imbalances", the viability of some of these industries will surely be called into question.

What were the underlying causes of these developments. Minsky essentially contends that they arise from human nature itself. Loans are originally sought and granted on the basis of sensible business propositions. As good times become common, rather more adventurous loans are made, culminating in a final stage of Ponzi finance and crisis. In effect, for Minsky, stability breeds instability.

Without wishing to dispute the essence of Minsky's beliefs, I would like to contend that this process has also been supported by public policies. There has been a gradual extension of financial safety nets for many years, with supportive monetary policy playing an ever more important role. Behind this extension has been the uncertainty felt by public policymakers as to what would happen in the absence of safety net provisions. The size, complexity, non-transparency and interconnectedness of the financial system has increasingly held the public sector hostage; think, for example, of the public response to the difficulties of AIG's derivatives unit in London. The current lobbying and financial incentives offered to legislators and financial regulators (Johnson) in many countries is just the last step on a well travelled path. In effect, these safety net provisions have made financial crises both more common and more costly.

The financial crisis of the early 1980's arose from imprudent lending by big banks to EME's in the inflationary period of the 1970's; not least to "recycle" oil money to those with trade deficits arising from oil imports. There was general forbearance in the face of the potential insolvency of many internationally active banks. In contrast, monetary policy was tightened under the global leadership of Paul Volker, with a view to bringing the inflationary period to an end.

The financial crisis of the early 1990's also elicited a mixed response from the public sector. On the one hand, after a long period of forbearance, the Saving and Loan crisis was finally addressed in the US and hundreds if not thousands of miscreants went to jail. In the Nordic countries and elsewhere, banking crises were resolved with government help, but management lost their jobs

and shareholders their investments. On the other hand, monetary policy was eased in the US to an exceptional degree, similar to the easing that followed the stock market crash of 1987.

Throughout the 1990's, monetary policy became the instrument of choice to respond to potential downturns associated with financial turmoil. This lowering of rates, without symmetrical tightening in better times, encouraged both lenders and borrowers to behave in an increasingly imprudent fashion. In this way monetary policy sowed the seeds of the next crisis. Low policy rates in the early 1990's led to the decline in the value of the US dollar and the Asian currencies pegged to it. This contributed materially to the South-east Asian crisis. This event then led to rates being put on hold, in spite of very rapid growth in the US, which in turn contributed to the LTCM crisis of 1998. When rates were subsequently reduced in response, the stock market rose sharply leading to its eventual collapse in 2001. The subsequent and unprecedented easing of monetary policy then contributed to the excesses in the housing market and elsewhere just noted above.

Our current economic and financial crisis arises from those that preceded it. Indeed, it is worse than all the preceding ones because the stock of financial "imbalances" (debt on the part of borrowers, and leverage on the part of lenders) has been rising cumulatively. With these unprecedented headwinds to contend with, it is perhaps not surprising that the use of safety net measures has also been unprecedented. There has been no mixed response as before. Policy rates have never fallen so far so fast. Direct support for jobs and whole industrial sectors (eg cars) has been used extensively. Financial institutions and markets have received support in massive and original ways. Perhaps most telling, against the experience of the early 1990's, only a relatively few people in the financial industry have gone bankrupt or to jail.

What are we to conclude from all this? A first conclusion is that the Uhlig paper masterfully analyzes the process through which financial markets seize up at moments of crisis. But the paper does not pretend to explain the process through which loan values do in fact (not just perception) become increasingly suspect over time. A second conclusion is that we are on a bad path. Monetary policy, in trying to contribute to financial stability at moments in time, has actually contributed to financial instability over time. How to get off that path

is an even more serious question than how to "exit" from the policies introduced to deal with the crisis itself. We need structural measures to simplify the financial system. Fundamentally, the official sector needs to be more certain that, in the absence of safety net measures, the system will not implode with devastating economic consequences. How to do that would, of course, require a whole series of other papers.

The Changing Role of Central Banks

A few years ago, before the crisis, Tommaso Padoa-Schioppo gave an after dinner speech to the Governors assembled in Basel. Its title was "Can the hybrid survive?" As I recall, his central theme was that central banks had traditionally played a useful role at the intersection of many overlapping sets; real, financial and monetary, to say nothing of the relationships between the public and private sectors. Tomasso was worried that, in light of the Great Moderation, central bankers would lose some of this breadth of view. Rather, he feared that we might be retreating into a much narrower form of professionalism, exemplified perhaps by the "science" of New Keynesian monetary economics and associated modelling.

Evidently, this crisis has put those fears to rest. In its aftermath, central banks are increasingly expected to know, not just about traditional and modern monetary policy, but also about financial markets and institutions, and how they work in practice. It is the need for this kind of knowledge that makes the Uhlig paper of interest to central bankers. Moreover, and perhaps most importantly, we are expected to understand the interactions between all these sectors and the implications of policy, not only for today but also for tomorrow. That has been the thrust of my comments above.

The complications posed by these interactions have already taught us some lessons about the excessively simple "belief structure" of recent years. First, price stability is **not** sufficient to avoid major macroeconomic problems. There was no inflation in the run up to the "Great Depression", to the Japanese "Great Recession", nor during the "Great Moderation". Second, cleaning up after serious downturns, using expansionary monetary policy, is **not** a relatively easy task. We are living through this, so nothing further need be said. Third, financial stability will **not** be sufficient to ensure strong growth if there exist other imbalances in the real side of the economy. Ready lenders are of little

use if there are no ready borrowers. This is the principal lesson from the corporate deleveraging that constrained Japanese growth through the 1990's. Fourth, the common assumption that "floating" your exchange rate provides insulation from the rest of the world is also **not** true. Given the failure of UIP to hold, except over very long periods, everyone's domestic policies affect everyone else. Moreover, changes in domestic policies, via induced capital flows, might have quite different effects than those anticipated.

These real world complications have institutional implications. The recognition that **domestic** price and financial stability are intimately intertwined, and essentially jointly determined by macroeconomic phenomena like monetary and credit growth, implies giving overall responsibility for the pursuit of "macrofinancial "stability to central banks[1]. Of course this is not to deny that central banks might need new instruments to manage their expanded oversight ("macroprudential") responsibilities, and that they might have to work closely with traditional "microprudential" supervisors.

As for the complications posed by **international** externalities, domestic administrative measures might have to be considered in response. For example, disruptive capital inflows (and subsequent outflows) might be met by "levies" or capital requirements tuned to the systemic risks associated with such flows. In the limit, some countries might even begin to question the desirability of having their own separate currency. More broadly, recognizing the international externalities associated with the pursuit of domestic objectives could imply the need for closer international cooperation and perhaps even coordination.

All of this might seem quite messy. But if the facts do not satisfy the simplifications of theory and the policies they lead to, then it is the theory and the policies that must be adapted, not the facts.

[1] In an earlier paper, I coined the phrase "macrofinancial" to encompass the joint use of monetary and regulatory instruments in the pursuit of both financial and price stability. Big "booms" threaten both, though one instability might well emerge before the other. A single entity (though it could be a committee) would have to be responsible for taking decisions in this regard, and would have sufficient instrument independence to do so. The term "macroprudential" oversight refers to a top down process of assessing how regulatory instruments might be used to promote systemic stability, and would ideally be under the control of the single entity noted above. The term "microprudential" refers to a more traditional bottom up assessment of the health of individual institutions or markets, and this function could well reside in a separate institution.