Central banks and the financial crisis[1]

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In this session, we asked two distinguished economists with extensive policy experience a very big question: how far were shortcomings of the policy frameworks of the major central banks responsible for the financial crisis? The many schools of thought on this question can, for convenience, be grouped under three headings: microeconomic; macroeconomic; and macroprudential. These big words convey a reassuring sense of neat categories; but in practice the linkages between them are many and complex.

Microeconomic

The first school of thought emphasizes microeconomic failures: those responsible for banking supervision (not always central banks) were too laissez-faire in their attitude to financial innovation. This argument is well known. Banks made the securitisation of debts ever more complex so that their very opacity would induce buyers to overpay for the resultant products. This proved for a time very profitable. In other words, they deliberately exploited the *information asymmetries* that lie at the heart of the banking business. There was also a *classic agency* problem: traders took risky positions which earned them handsome bonuses but left banks holding large losses. Finally, there was *moral hazard* because banks were too big to fail.

None of these market failures – information asymmetry, agency problem and moral hazard – is new. Economists have been using these concepts in the study of the banking industry for years. Market failures mean that normal competitive forces cannot be counted on to produce a level of system-wide leverage consistent with stability. The first best policy response to this is more effective regulatory oversight. Only if this is not feasible could any second best argument be made for using monetary policy. Michael Dooley argues that better oversight should not be more intrusive regulation but rather more effective supervision. And effectiveness requires not only competent supervisors but also the political support for a strong enforcement process.

Macroeconomic

The second school of thought is that central banks became too focused on their primary objective of price stability – and neglected financial stability. There are at least four versions of this thesis.

One version is that the very expansionary monetary policies of the Federal Reserve after 2001 fuelled an extraordinary appetite for risk in global financial markets. This led to the marked compression of market volatility, lower risk premia, asset price bubbles and so on that sowed the seeds of the current crisis. The obvious problem with this thesis is that there was no evidence in the recent cycle of any simple link between the policy rate and the usual

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[1] Revised version of a presentation delivered at the 2009 LACEA Annual Meeting held in Buenos Aires, Argentina, October 2009.

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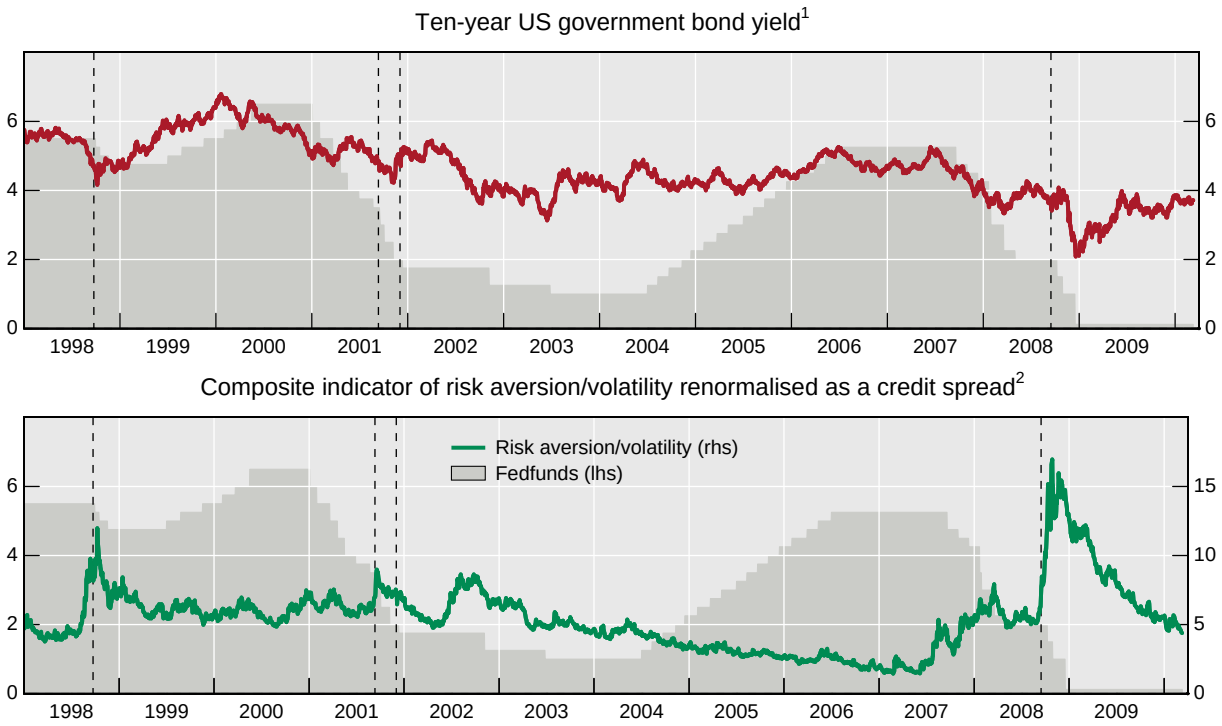
measures of volatility or risk appetite in financial markets.[3] Virtually all measures show that risk premia and volatility measures continued to fall after the Federal Reserve had concluded its tightening phase in June 2006, with the federal funds rate at 5¼%. Graph 2 shows that the simple aggregate measure of market volatility and risk spreads (green line) bears no relationship with the US policy rate (dark gray shading). (In some earlier cycles, by contrast, monetary tightening led to a decline in GDP – and of course recessions do lead to higher risk premia.)

Another problem with this explanation is that it is implausible to attribute a period of low real long-term rates that lasted several years to monetary policy. In any event, the US government bond yield did not rise as policy rates were increased from mid-2004 (red line). There was somewhat closer correlation in the 1999 to 2000 tightening episode – although movements in bond yields led, rather than lagged, the policy rate. The question of what determines the benchmark long rate is an important and unresolved question that is central to any explanation of movements in asset prices.

Graph 2

Interest rates and risk aversion

In per cent



The shaded area represents the target federal funds rate The vertical dotted lines mark 23 September 1998 (the date of the bailout of Long Term Capital Management); 11 September 2001; 2 December 2001 (the Enron bankruptcy); and 15 September 2008 (the Lehman Brothers bankruptcy).

[1] In per cent. [2] Simple average of standardized scores of EMBI Global spread, US corporate high yield spread (Merrill Lynch US High Yield index), implied volatility of US equities (VIX index), implied volatility of US Treasury bonds (Merrill Lynch MOVE index) and implied volatility of G10 exchange rates (JPMorgan GVXF7 index); in percentage points. These components are shown separately in Graph A1.

Sources: Bloomberg; national data.

[3] Risk appetite is not of course directly measurable. Changes in price spreads in a specific market can equally well reflect changes in the underlying risk of the specific asset. A similar qualification applies to measures based on volatility. But an aggregate measure of risk premia/volatility in many different markets provides a reasonable proxy for present purposes. The individual components used in Graph 2 in any case moved in a broadly parallel way: see Graph A1.

A second version is that it was the too-smooth and too-well-announced nature of the path of policy rate increases (eg the famous "measured pace" from 2004) that caused the problem. Being too predictable in increasing rates allowed banks and others to leverage positions more safely than if sharper movements in rates – more closely corresponding to the irregular movements in macroeconomic prospects – had caught market participants by surprise. According to this view, the too-clear intimation by a central bank of the future path of policy interest rates encourages excessive leverage in interest rate and other risk exposures. The counterargument of course is that announcing a central bank's intentions in advance could help anchor expectations – so that changes in market rates "do the work of the central bank".

A third version of this thesis is that the actions of central banks over a long period had convinced markets that the central bank could prevent a collapse of financial asset prices. It had, some argue, given credence to the hope that better policies had reduced underlying macroeconomic volatility. This led banks and other investors, assuming that adverse tail risks had been eliminated by an activist central bank, to underprice risk.

A final version is the asymmetric reaction argument. The central bank willingly countenanced quite extreme asset price booms but then cut rates whenever prices fell sharply. According to this line of argument, it should have paid more attention to asset price increases. It is true that changes in asset prices (and other financial information) contain information that can correct shortcomings in conventional macroeconomic models. Yet this is much more likely to be the case during sharp downturns than during upturns. A generalised fall in asset prices – almost always sharper than the preceding rises – tightens budget constraints for a large number of debtors simultaneously. This forces spending cuts and leads banks to tighten credit supply quite quickly and in unison. And because the price volatility of financial assets rises in a falling market, market positions tend to be adjusted more abruptly than in a rising market. Declines in asset prices therefore have a stronger effect on the economy than do increases in asset prices. (This asymmetry of the effects of asset price changes may, some argue, itself justify pre-emptive action against asset prices increases.)[4]

The arguments against raising interest rates by more than warranted by inflation forecasts to curb local asset price increases are well known:

- If monetary policy tightening is less effective in curbing asset prices than it is in curbing aggregate demand, then there is a risk that instrument misassignment could lead to large output losses but only limited moderation of asset prices.
- In countries with a short record of monetary stability, an interest rate policy that is inconsistent with the desired path of the targeted inflation rate could undermine central bank credibility and unsettle inflationary expectations. With so much talk in the past year of both deflation and inflation, this aspect is not to be neglected.
- The considerations of domestic asset prices on the one hand and of the exchange rate on the other can indicate opposite movements in policy rates. Countering an asset price boom by raising short-term interest rates can, for instance, lead to currency appreciation, induce foreign purchases of short-term debt securities and in effect shorten the duration of external liabilities.

Even so, there may be cases when preventing *extreme* asset price movements would be desirable simply because of the destabilising feedback effects that would be generated.

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[4] A decade ago, my late colleague Palle Andersen showed in a careful econometric analysis that financial variables can account for errors in forecasts produced by standard macroeconomic variables in "bad" times (ie asset prices falling) but not during "good" times. See Palle Andersen "Forecast errors and financial developments". *BIS Working Papers* No 61 (November 1997). Available at http://www.bis.org/publ/work51.pdf.

Michael Dooley rejects the argument that the monetary policy framework contributed to the crisis. Nor does Vittorio Corbo see IT-focused monetary policy as the major culprit. But Corbo nevertheless suggests how incorporating asset prices (and perhaps monetary and credit aggregates) into the monetary policy framework might help.

Macroprudential

The third school of thought is that not enough attention was paid to macroeconomic/financial system linkages – and that "macroprudential" policies are needed to address these issues. The concept "macroprudential" is elusive.[5] The focus is not on an individual institution (which is the microprudential perspective) but on the whole system. The macroeconomy, the nature of the linkages between banks, the liquidity of markets in which banks operate and the aggregate pricing of risk are all relevant dimensions for a macroprudential orientation of policy. The aim is to ensure that the financial system operates so that the effect of a shock is damped, not amplified.

Market liquidity is central to this systemic perspective. Before the recent crisis, it was clear that banks and others took positions because they thought they could unwind them at will – on the (unwarranted) assumption that markets would always supply an unlimited amount of liquidity. "Liquidity" is of course a very nebulous concept. Michael Dooley argues in his paper that a central feature of the recent crisis was that the markets for many emerging market and other risk assets became illiquid because their value as collateral dropped sharply when the price volatility of these assets – which determines the "haircut" applied – rose. The key insight is that the value of collateral is endogenous in the system.

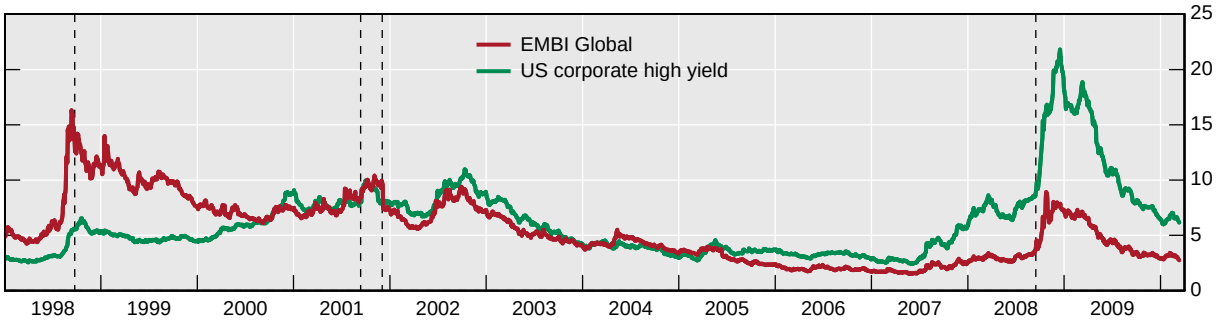
Vittorio Corbo says that macroprudential regulation is the approach best suited to maintain financial stability. He argues that macroprudential tools are better for this purpose than the monetary policy rate because they can be directed at particular distortions in the financial system. But he is under no illusions about the very real difficulties in putting this idea into practice: coordinating macroprudential and monetary policy; strengthening the accountability of the central bank for its actions; and resisting fierce political resistance to any tightening of credit terms for lending for "good" purposes, such as housing for low-income families.

[5] For a history of the uses of this term, which began to be used in BIS meetings in 1979, see Piet Clement "The term 'macroprudential': origins and evolution". *BIS Quarterly Review*, March 2010.

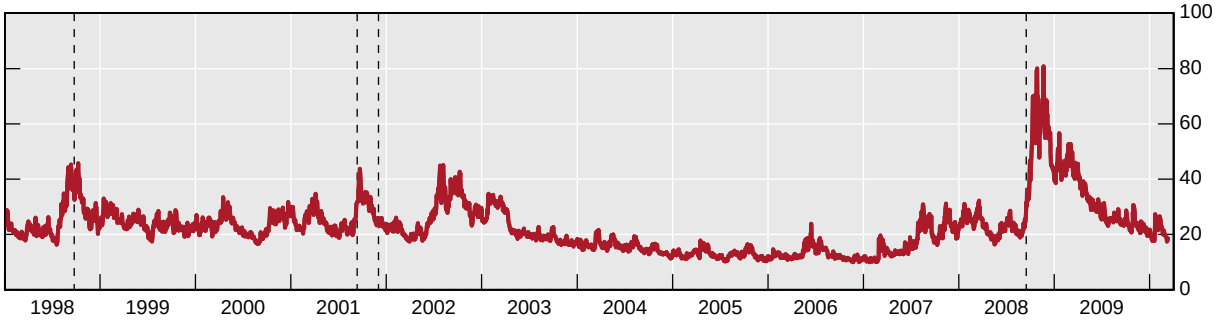
Graph A1

Risk aversion/volatility

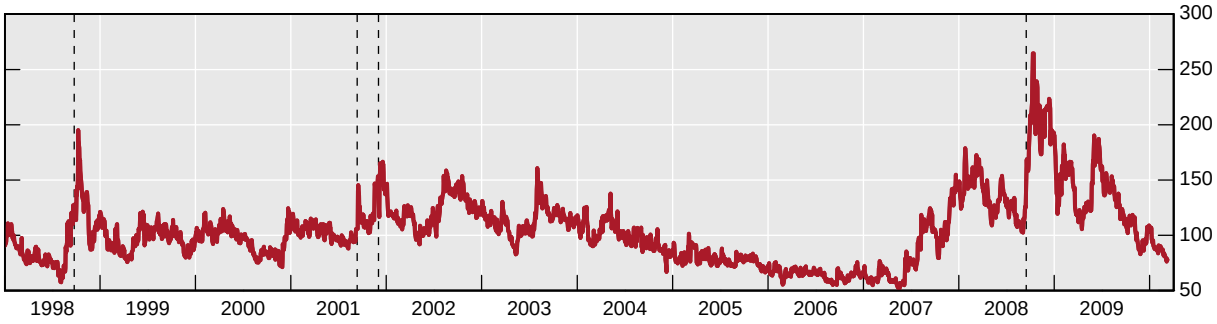
EMBI Global spread and US corporate high yield spread over US treasuries[1]



Implied volatility of US equities (VIX index)



Implied volatility of US Treasury bonds (Merrill Lynch MOVE index)



Implied volatility of G10 exchange rates (JPMorgan GVXF7 index)

The vertical dotted lines mark 23 September 1998 (the date of the bailout of Long Term Capital Management); 11 September 2001; 2 December 2001 (the Enron bankruptcy); and 15 September 2008 (the Lehman Brothers bankruptcy).

[1] In percentage points. [2] Merrill Lynch US High Yield index.

Sources: Bloomberg; national data.