Christian Noyer: Conducting monetary policy in times of financial stress

Speech by Mr Christian Noyer, Governor of the Bank of France, at the European Banking and Financial Forum, Prague, 1 April 2008.

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For more than two centuries, preserving the value of money and fostering the stability of payment systems and credit and financial markets have been the two main responsibilities of central banks around the world. Under normal circumstances, we tend to think of these tasks as relatively distinct. Furthermore, this practical dichotomy broadly reflects the academic state of the art: as Professor Goodhart recently stressed, the large consensus on the macroeconomic policy side of central banking that has emerged over the last two decades contrasts with the absence of consensus on the appropriate theoretical framework for analysing financial stability and the best ways of ensuring it or restoring it when it breaks down.[1]

However, in times of stress, some interactions inevitably emerge. For instance, the financial turmoil has a clear impact on the effectiveness of monetary policy transmission (see for example the unusually large spreads on the money markets since August 2007). Conversely, adequate monetary policy decisions and credible communication should contribute to the orderly unwinding of financial crises. Periods of turmoil, like the one we are now experiencing, are thus clearly challenging, since we have to rethink the way in which we can meet both of our responsibilities.

I will first address the issue of the necessary separation of liquidity management and monetary policy decisions. I will then briefly compare policy actions in the US and the euro area and I will conclude with some lessons we can draw from the current experience of financial stress.

Disentangling liquidity management and monetary policy action is key

One big challenge for central bank policy-making and communication in these times of financial stress is to get the message across to the public that liquidity management, which has a short-term perspective, can be completely separated from the definition of the monetary policy stance, which has a medium-term perspective. Indeed, in a period of increasing inflationary risks stemming notably from excess demand for commodities and energy worldwide, it is crucial that our liquidity management should not be misinterpreted, nor should it contribute to a deterioration of inflation expectations.

To put it bluntly, monetary policy-making is about setting the policy rate at a level consistent with the macroeconomic objectives of the central bank, and no more, while liquidity management is about getting the money market functioning in a “normal” way, so that monetary policy impulses can be transmitted effectively to the rest of the economy. I have in mind our efforts to bring one-month to three month interest rate spreads back to their usual low and stable levels. Note that, broadly speaking, what I here call liquidity management could, to some extent, come under the Lender of Last Resort function (LLR) of central banks, although the range of possible actions by the LLR is obviously not limited to the market-wide

[1] Cf. Goodhart and Tsomocos (2007).

open-market operations that we have conducted so far in the euro area (they include in particular targeted ELA to an illiquid credit institution).[2]

To make my point more explicit, let me briefly recall a standard result by William Poole (1970), which implies that, when demand for central bank money is uncertain, it is optimal to stabilise the short-term interest rate, letting money supply adjust endogenously. That is precisely what has happened in the euro area over the last few quarters. Indeed, the bulk of liquidity injections since last August has merely been an attempt to align the timing and maturity of liquidity supply with changing demand within the reserve maintenance periods, in order to stabilize the very short-term interest rate on the interbank market. Of course, this is always a difficult task, since the increase in the precautionary demand for liquidity altered the behaviour of banks and rendered the forecasting models we use to calculate the benchmark need for liquidity less effective, at least temporarily. However, since the Eurosystem acted as a price-taker during these liquidity injections, it is obvious that the interest rates at which these fine-tuning and longer-term operations were settled had no information content for the monetary policy stance.

Comparing policy actions across the Atlantic

The best way to convey the message that monetary policy actions and liquidity management are by and large two separate things is probably to draw some lessons from a comparison of what has been happening on both sides of the Atlantic. While liquidity management strategies appear to have been roughly identical over the last few months in the US and the euro area, monetary policies seem to have diverged quite a bit, with the Fed cutting the fed funds target by 3% over three quarters down to 2.25%, while the ECB has maintained its repo rate unchanged at its pre-crisis level of 4%.

Let us first take a look at liquidity management issues. Interestingly enough, in an attempt to rein in the soaring short term spreads on its money market (e.g. the 3-month OIS-BOR spread nosed above 100bp in December) the Fed adjusted its operational framework in a way that roughly closed the gap with its euro area counterpart. In particular, the new Term Auction Facility that the Fed implemented in mid-December enlarges both the range of eligible borrowers, from about 20 primary dealers to all banks that are judged to be in generally sound financial condition, and the range of eligible assets that can be brought as collateral to the auction, from T-bonds to corporate bonds and MBS. Consequently, longer term liquidity injections by the Fed now run along similar lines as the ECB's ones.

Regarding monetary policy issues, the sharp rate cuts carried out by the Fed, including two 75bp cuts, contrast at first sight with the policy stance of the ECB. Why such a difference? Does this point to a lack of reactivity on the part of the ECB during downturns? This claim, though often heard, is not supported by scientific analyses of past actions. For instance, recent simulations conducted by Prof. Larry Christiano and co-authors suggest that the ECB's actions were indeed more effective in stabilizing output in the aftermath of the 2001 crash (Christiano, Rostagno and Motto, 2007), while different shocks and different degrees of nominal rigidities in both economies accounted for apparent different reaction functions.

Looking at the present situation, I think that it is possible to reconcile both views if one takes account of the nature and extent of macroeconomic uncertainty that currently affects the US economy as compared with the euro area.

Economic uncertainty facing policymakers has always been a first-order problem, but it is obviously particularly acute in periods of stress. Taking into account some non-benign

[2] Recent research at the Banque de France highlights moral hazard issues associated with the choice of any of these instruments by the LLR, cf. Ewerhart and Valla (2007), when the strategic behaviour of money market participants is explicitly modelled.

dimensions of this uncertainty may be an incentive for central bankers to implement a "risk-management" approach to monetary policy. This is at least the view that Fed Gov. F. Mishkin has expounded in a recent speech on "Monetary policy, risk management and financial disruptions" (Mishkin, 2008).

Over the last few decades, research in macroeconomics has focused on two main types of uncertainty:

- uncertainty about the current state of the economy, commonly called data uncertainty,
- uncertainty about the structure of the economy, which includes: 1/ uncertainty about some key parameters of the economy (e.g., the slope of the Phillips curve) which may be seen as a benign form of model uncertainty, with some parameters varying in the neighbourhood of an unknown true value; and 2/ a more radical uncertainty about the true model in a given model space (e.g. what is the true probability distribution of shocks, is it Gaussian or not, what is the magnitude of the "tail risks"?). Issues like: "What are the non-linear dynamics that financial disruption may trigger?" are here of the essence.

Regarding data uncertainty, a general principle of conduct is certainty equivalence: a policy rule that is optimized under the assumption of an absence of data uncertainty is still optimal in the presence of such uncertainty. Regarding the consequences of "simple" parameter uncertainty, a key reference is the Brainard (1967) principle of caution, which suggests that the monetary policymaker should react more cautiously to shocks to variables associated with uncertain parameters in the monetary policy transmission process. However, what central banks, and in particular the US Fed, face today may be seen as a radical kind of *model uncertainty*. Not only are they uncertain about the value of specific parameters, but the probability distributions of target variables and shocks may have changed and standard linear approximations may not be valid anymore. Concretely, this means that they have to make up their mind and set the most appropriate policy considering competing models of the economy (and possibly misspecified models, because of the unprecedented nature of ongoing events). Risk management considerations are then of the essence.

Risk management considerations are probably best understood as an application of the so-called robust control approach that notably L. Hansen and T. Sargent have adapted from the engineering literature.[3] Interestingly enough, lessons from this recent literature tend to violate the Brainard principle: under robust control, a stronger reaction to economic data may be warranted in order to prevent relatively unlikely but potentially disastrous outcomes (e.g. the Great Depression again). Mishkin's case for a risk-management approach to US monetary policy in the present juncture obviously provides a sound rationale for the last three rate cuts by the FOMC (-75bp and -50bp in January and -75bp in March). President Bernanke's in-depth knowledge of the credit crunch of the 1930s in the US (cf. Bernanke, 1983) probably also helped shape this view that there is a non-zero probability in the current juncture of an "ugly equilibrium" of the debt-deflation type that must be discarded by prompt and vigorous policy action.

An immediate question, then, is to determine whether these analyses are relevant for the conduct of monetary policy in the euro area. For the time being, they are not. My reasons for being relatively more optimist that our American colleagues are threefold:

[3] The key idea of robust control is that policy-making should aim at minimizing the consequences of worst-case scenarios. Even if the required policy eventually appears sub-optimal considering ex post that the large-scale shocks have not materialized, a risk-management approach assesses that the associated cost of buying an insurance is small compared to the alternative.

- First, a major financial disruption (involving the banking system) is less likely in the euro area than in the US. European banks are of course not immune from losses due to their exposure to the US subprime market or other markets that have frozen since the crisis burst out, but this exposure is on average significantly lower than that of their US counterparts and their model of universal banking allows them to mitigate the consequences of a crisis in one segment of their activity.
- Second, empirical evidence supports the view that the real macroeconomic consequences of protracted financial distress should be relatively less disruptive in the euro area. First of all, household indebtedness has remained relatively low by international standards in the euro area in general (and notably in France). Furthermore, available evidence points to a weak transmission of financial shocks to household consumption via the wealth channel.
- Finally, the short-term economic outlook is much more encouraging in the euro area than in the US. Even if our economies are slowing down, no recession lies on the horizon.

Some lessons so far for the euro area

The crisis is clearly not over and all the consequences of accumulated financial imbalances have not unravelled yet. However, after more than seven months, I think it is already possible to take stock of what we have learnt so far. My concluding remarks will draw tentative lessons along three main lines.

1. As regards liquidity management first, it should be emphasized that close cooperation between central banks, and notably between the ECB and the Fed has been crucial for dampening the effects of the protracted confidence crisis that has frozen up international money markets. Our coordinated actions with the Fed and other major central banks, notably to provide euro area resident banks with US dollars under swap agreements with the Fed, have clearly demonstrated our determination to act collectively to restore normal liquidity conditions in the interbank markets. Enhancing swift and complete information exchanges between central banks, and also between central banks and supervisors is certainly a continuing priority. I have to say that the French model of bank supervision, where the supervisors are inside the central bank, has shown once more its advantages in the current context.
2. As regards monetary policy, I want to stress that even a flexible policy – as inspired by risk management considerations *à la Miskin* – can only be implemented if needed when inflation expectations remain appropriately anchored to the central bank's objective. In other words, a solid anchoring of inflation expectations remains a prerequisite for rate cuts in times of heightened financial uncertainty and downside risks to growth. I am convinced that in times of financial trouble it is all the more necessary to insure price stability. In that respect, the diagnosis regarding the state of inflation expectations is thus decisive in the current juncture. Usual market-based indicators such as Break Even Inflation Rates (BEIRs) are reliable indicators of long term inflation expectations[4]; however, such market-based indicators may be plagued by unusually large risk or liquidity premia during a period of financial turmoil, which means that we have to be very cautious in our assessment. More concretely, this implies that the plummeting real rates and tighter BEIRs on some market (see for example the market for French indexed debt over the last few

[4] Cf. for instance Coffinet and Frappa (2008) at the Banque de France, and Beechey, Johannen and Levin (2008) at the Board of the US Federal Reserve.

weeks) may well be partly explained by such technical factors and not reflect any marked deterioration in the outlook for inflation. But we should obviously remain especially cautious in order to keep expectations firmly anchored.

3. Last but not least, we should keep in mind that central banks, either viewed as the monetary policy-makers or as the Lenders of Last Resort, cannot and should not be held responsible for everything. In my view, regulatory issues relating to the profusion of financial innovations that emerged during the last boom episode should now rank high on the agenda. Indeed, regulatory lapses seem to me to lie at the heart of the subprime crisis, which appears to many as a "credit boom gone bad"[5].

[5] Recent research by Dell'Aricia, Igan and Laeven (2008) shows for instance that delinquencies in the US subprime mortgage market are statistically larger in areas that experienced larger increases in the number and volume of loans, because the latter was linked to a decrease in lending standards. In turn this deterioration in lending standards by banks can be explained by changes in market structure (with the entry of new aggressive competitors) and the increasing recourse by banks to asset securitization and loan sales.