Christian Noyer: Challenges of financial innovation for the conduct of monetary policy

Speech by Mr Christian Noyer, Governor of the Bank of France, at the International Monetary Fund-Bank of France-Bank of England Conference, Paris, 29 January 2008.

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The current financial turmoil is here to remind us that financial innovation, like technical innovation, is not a smooth process. The flip side of the recent years of exuberant financial innovation, what might be seen in retrospect as the golden age of structured finance, comes now to the fore. However, after two or more decades in which major, multi-faceted financial innovation has brought about far-reaching changes in the global economic environment, it would be unfair to forget the benefits economic agents have collectively reaped from tools that are fundamentally aimed at allowing an easier and broader access to funding and a more efficient risk allocation.

I am delighted to co-introduce this conference which will tackle some major issues. Rather than giving an exhaustive overview of the nature and magnitude of financial innovation, I think it more useful here, as a central banker, to focus on how financial innovation affects monetary policy decision-making. I know this seminar will dig further into some of these issues but I selected two main issues, whose scope goes beyond the current events:

- firstly, how the last wave of financial innovation has affected the monetary transmission process of monetary policy. Implicitly, this also raises the question of whether and to what extent the current state of the innovation cycle challenges our understanding of what has changed over the last decade.
- and secondly, how financial innovation challenges the role of monetary analysis in monetary policymaking.

I shall then conclude by a few words on the difficult task of communicating about monetary policy in times of financial stress. This is a concern that does not feature formally in our programme today but lurks in the background and I am sure many of us will have it in mind throughout the day.

Challenges for our understanding of the MP transmission process

An appropriate knowledge of the mechanisms through which monetary policy affects the economy is of crucial importance for central banks. Financial innovation affects these mechanisms both by altering the channels through which monetary policy operates and by changing the overall impact of monetary policy decisions. But the magnitude of the changes and the exact impact of financial innovation at a time when other factors such as globalisation are at work are not well known.

Financial innovation certainly contributes to enhancing wealth effects and thus probably also to strengthening the interest rate channel. First, financial innovation fosters faster dissemination of information and its more rapid incorporation into financial market prices. This is of course particularly true for monetary policy decisions and can therefore increase the effectiveness of monetary policy via the interest rate channel. Second, financial innovation contributes to an increased holding of financial assets by lowering transaction costs and facilitating arbitrage, hedging, funding and investment strategies. Third, financial innovation often relies on greater leverage, increasing the effect of interest rate moves by the central bank.

However, in times of combination of financial stress and adverse supply shocks, such as we are now facing, the risk of destabilising highly-leveraged financial institutions of potential

systemic importance could complicate the task of the monetary policymaker wishing to raise the policy rate in a timely manner so as to prevent inflationary risks from materialising. Besides, when conditions are less benign than usual, the transmission process along the interest rate curve may become non-linear: a striking feature of this summer's events was the surge in short-term money market spreads in the euro area as well as in the United States and the United Kingdom. Wider and variable spreads between term funding rates, of which many bank loans are priced off, and policy rates are worrying in as much as they may reduce the efficiency of interest rate moves when needed. That said, as this situation stems from a sharp reduction in term liquidity due to a general fear of withdrawal among providers of liquidity, e.g. money market funds, its unwinding requires an appropriate provision of central bank liquidity to the short-term interbank markets but not necessarily a change in the policy stance.

In contrast to the enhancement of the interest rate channel, at least in normal times, financial innovation is traditionally expected to have weakened significantly the so-called bank lending channel. Financial innovation gives firms broader access to securities markets and, as such, makes them less dependent on bank funding. Similarly, banks may be more able to issue debt securities and less dependent on the constraint of funding themselves with secured deposits. Moreover, securitisation by banks was expected to alleviate their liquidity constraints and thus to further weaken the credit channel. Indeed, previous research has generally found that banks have used credit market innovations such as loan sales and securitisation to diversify credit risk exposures and increase lending.

However, recent research has highlighted the potential for bank capital regulation and market discipline to shape a bank capital channel of monetary transmission. Viewed as an extension of the standard bank-firms agency problem to the relationship between banks and their creditors, this capital channel could reinforce the standard financial accelerator mechanism. This last concern is closely related to the fears of a credit crunch that have been voiced in the last six months.

Current events show that the tide of financial innovation may recede and the future of the originate-and-distribute model of banking is a topic of renewed work. What we see now suggests that an unprecedented reintermediation process is underway, which might imply in the end a strengthening of the credit channel.

To sum up, financial innovation is on the whole expected to have facilitated the job of monetary policymakers by accelerating the transmission of monetary impulses to the economy. However, in times of stress, when financial sophistication may have gone further and quicker than risk-management practice, the confidence crunch that may ensue paves the way to non-linear responses of the economy that seriously challenge our common understanding of how monetary policy impulses are transmitted to the economy.

Challenges for our reliance on monetary indicators

As you know, the Eurosystem's monetary policy strategy assigns an important role to money, which is based on the premise that monetary developments provide valuable information on future inflation in the longer run. I would like to ground this with two reasons, a well-known stylised fact and a conjecture. The stylised fact first: there is ample statistical evidence, in the euro area and elsewhere, that low frequency movements in money growth are closely correlated with trend inflation, e.g. for frequencies corresponding to cycles of eight to ten years. The conjecture, then, brings us to an issue that will be tackled this afternoon, namely the flattening of the Phillips curve: changing inflation dynamics, which can partly be viewed as a consequence of a successful anchoring by credible monetary policies, tend to reduce the sensitivity of inflation to incipient imbalances in the economy. To prevent the risk that central banks react too late to such imbalances, the monetary policy strategy has to enlarge its informational basis: monetary indicators, including money but also credit developments, may then be a good candidate to detect inflationary pressures early on.

However, the theoretically founded long-term relationship between money and inflation may be blurred in econometric estimates of long run money demand equations, and part of this could be due to financial innovation. Indeed, as far as the euro area is concerned, recent Banque de France research has pointed to a structural break around 2001 in the income velocity of money. In the euro area, the velocity of money seems to have now established along a new, faster declining trend. This is consistent with the hypothesis of a financial deepening in the economy, in particular an increase in financial wealth held by households. Although the precise role of financial innovation in this process is still not fully understood, we should think of it in terms of both new players and new products:

- In terms of new players, a plausible explanation is the rapid pace of expansion in the business of the so-called other financial institutions (OFIs). These institutions include mutual funds as well as financial vehicles that buy and repackage loans that are securitised by banks. This activity reduces mechanically the growth of MFI loans to the private sector, while it is mirrored in the strong increase in OFIs' deposits holdings, hence contributing to M3 growth. How much of this business will resist the current period of stress remains an open issue, but euro area monetary statistics have shown no sign of a major decline in these money holdings so far.
- In terms of new products, the recent emergence, at least in France, of high-yield liquid deposits that are accessible via direct banking on the internet is very likely to have reduced the interest elasticity of money.

Of course, monetary policy, in the euro area and elsewhere, is not committed to react mechanically to monetary developments. Nevertheless, to make the best use of the informational role of money, central banks must be able to filter out the noise that affects current monetary data, disentangling temporary factors from shifts in trends, supply shocks from demand shocks, with the latter possibly resulting from certain financial innovations in the context of globalisation. Fully assessing the effects of financial innovation is thus a real challenge for monetary analysis. Considering the practical difficulties ahead, this seems to me to offer a fruitful field for applied research.

Challenges for communication in times of stress: disentangling monetary and financial stability objectives

Financial market disruptions that may follow times of exuberant financial innovation may pose significant risks to macroeconomic stability. However, by their very nature and notably the highly non-linear dynamics they may trigger, such events, as well as the magnitude and speed of their macroeconomic consequences are uncertain.

To meet its stability objectives in periods of financial instability, the monetary policymaker must probably put more emphasis on high-frequency financial markets information than he would otherwise do, because in normal times regular flows of macroeconomic statistics more or less suffice to form a correct assessment of the outlook.

Special communication efforts are also required. One big challenge for communication in times of stress is to make the public understand that short-term liquidity management can be completely separate from the definition of the monetary policy stance with a medium-term perspective. As I have already pointed out[1], a standard result in economic theory (William Poole's paper from 1970) states that, when demand for central bank money is uncertain, then 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 half year. Indeed, the bulk of liquidity injections since last August was merely an attempt to align the

[1] Cf. C. Noyer, "No moral hazard: the banks are doing their job", Financial Times, 18 September 2007.

timing and maturity of the liquidity supply with a 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 less efficient, at least temporarily, the forecasting models we use to calculate the benchmark need for liquidity. 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. In a period of increasing inflationary risks stemming notably from excess demand for commodities and energy worldwide, it is crucial that our liquidity management is not misinterpreted and does not contribute to a deterioration of inflation expectations.

Conclusion

To conclude briefly, I shall invite you not to expect too much of monetary policy. Not only, to quote the Economist[2], are we, central bankers, "only human", but also, to put in more classical words, monetary policy alone cannot do everything with one single tool, the policy rate.

A lesson that the subprime crisis has taught us is that a lot has still to be done in order to improve the regulatory framework in which the financial innovation process takes place. I have no time to develop this further, but I am confident that in particular the implementation of Basel II will bring significant improvements in the measure and management of risks, providing a sounder basis for the next wave of financial innovation.

[2] Cf. "Special report on central banks and the world economy: only human", The Economist, October 20th-26th 2007.