

## Christian Noyer: Monetary policy and macroprudential policy

Speech by Mr Christian Noyer, Governor of the Bank of France and Chairman of the Board of Directors of the Bank for International Settlements, at the conference on “The future of Monetary Policy”, Rome, 1 October 2010.

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Ladies and Gentlemen,

It is a great pleasure for me to be here today at this joint Banca d’Italia, Einaudi Institute and Banque de France conference, which has provided a lot of stimulating ideas on the future of monetary policy frameworks. In my intervention, I will start with some reflections on the relationship between the objectives of price stability and financial stability, and I will then proceed to discuss several issues concerning the joint implementation of, and the interaction between, monetary and macroprudential policies.

### I. General considerations on the relationship between financial stability and price stability

Both the experience of the last decades and, looking much further back, economic history provides a useful perspective on the relationship between price and financial stability:

**first**, price stability is not a sufficient condition for financial stability but **second** is necessary; **third**, a key reason why the authorities in charge of monetary policy have a stake in maintaining financial stability is that financial instability may give rise to “tail risks” to price stability.

Let me elaborate on these two issues in turn.

#### A. Price stability is **not sufficient** for financial stability

The **two decades** leading up to the financial crisis had been characterized, across the developed world, by low and **stable inflation**, and, by historical standards, by exceptionally stable output growth. It is not by chance, indeed, that macroeconomists labeled those years as the “Great Moderation” era. At the same time, however, as extensively documented in particular by the BIS in several perceptive, early papers,<sup>1</sup> those years had been also characterized, compared with the previous portion of the post-WWII era, by a significantly more frequent occurrence of asset price bubbles and subsequent **crashes**.

A **longer-term perspective** clearly shows that the occurrence of asset prices booms and busts under conditions of price stability, far from being a “fluke” of the Great Moderation era, had been, in fact, quite common. Until the outbreak of World War I, indeed, metallic standards had dominated for centuries, guaranteeing an extent of price stability which is, by today’s standards, virtually unimaginable. Just to mention a single example, the price level in England in 1661, five years before the Great Fire of London, had been virtually the same as that prevailing in 1913, one year before the collapse of the international Gold Standard. In spite of such remarkable price stability, however, metallic standards had been recurrently plagued by financial crises and asset prices booms and busts, from the South Sea bubble of

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<sup>1</sup> See in particular Claudio Borio and William White (2003), “Wither Monetary and Financial Stability? The Implications of Evolving Policy Regimes”, presented at: *Monetary Policy and Uncertainty: Adapting to a Changing Economy*, a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 28 – 30, 2003.

1720<sup>2</sup> to the “Panic of 1907”, which was only solved by the forceful intervention of John Pierpont Morgan, and which ultimately convinced U.S. policymakers of the necessity to establish a central bank.

But **why** should monetary regimes delivering strong price stability be vulnerable to asset price bubbles and financial crashes? A long term perspective suggests that banking systems tend to periodically generate asset price bubbles even under radically different monetary regimes. Having an outburst of several years of excessive credit growth, or for the old days financial crisis, the rising exposure of some financial institutions to asset price volatility has repeatedly led to financial crises. Historical experience before world war I, where price stability has been unmatched ever since, should have reminded all of us, financial market participants and policy makers alike, that price stability is no blanket insurance against financial instability.

**B.** *Price stability is **necessary** for financial stability*

The most obvious case in which price instability automatically leads to financial instability is that of deflation, *via* the “debt deflation” mechanism originally identified by Irving Fisher with reference to the Great Depression.<sup>3</sup> A more recent example of this phenomenon is provided by Japan, where the persistent deflation which has gripped the country since the early 1990s has consistently led, *ceteris paribus*, to a heavier debt burden for households that had contracted mortgages in the boom phase of the late 1980s and deterioration of banks’ balance sheets. In a symmetric fashion, high inflation – which, historically has also consistently meant *volatile* inflation – threatens the very foundations of the financial system because of the resulting capricious and unpredictable redistribution of wealth between debtor and creditor institutions. The most glaring example of such a phenomenon is provided by episodes of very high, or hyper-inflation, such as those plaguing a significant fraction of belligerent nations in the aftermath of World War I. Evidence from the Great Inflation episode of the 1970s is, although less dramatic, equally telling.

Altogether, historical evidence therefore leads us to conclude that, although not sufficient, price stability is indeed a necessary precondition for financial stability.

I now turn to a final point concerning the relationship between financial and price stability, namely the need to preserve the stability of the financial system in order to prevent the emergence of “tail risks” to price stability. I will start by discussing risks on the downside – that is, the possibility that the economy falls into a deflationary spiral – and I will then turn to those on the upside.

**C.** *The need to preserve the stability of the financial system in order to prevent **the emergence of “tail risks”** to price stability*

The best illustration of tail risks to price stability on the **downside** associated with financial crises comes from the historical experience of the United States during the Great Depression which followed the collapse of the stockmarket and housing bubbles of the second half of the 1920s, and by that of Japan following the collapse of the real estate bubble of the second half of the 1980s. In both cases a dramatic expansion of **credit fuelled bubbles** which pushed asset prices to dizzying heights. In the case of the 1920s United States, in particular, such credit expansion was associated with a wave of euphoria caused by “new-era” thinking

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<sup>2</sup> See Richard Dale (2004), *The First Crash: Lessons from the South Sea Bubble*, Princeton University Press.

<sup>3</sup> See Irving Fisher (1933), “The Debt-Deflation Theory of Great Depressions”, *Econometrica*, Vol. 1(4), pp. 337–357.

which, in turn, had been ignited by the dramatic wave of technological innovation which swept across the country during that decade.<sup>4</sup>

The attempt, on the part of young Federal Reserve, to gently deflate asset prices *via* interest rates increases backfired, and the result was the 1929 crash, with the associated destruction of a staggering amount of financial wealth, and the injection into the economy of a significant extent of uncertainty. This, in turn, exerted a paralysing effect on a significant fraction of spending decisions, thus playing a key role in triggering the 1930s Depression and the resulting deflationary spiral.<sup>5</sup>

What should we conclude from this brief *excursus*? In launching the economic revolution which unbound China and ultimately propelled it among the world powers, Deng Xiao-Ping famously exhorted his countrymen to “*Seek truth from facts*”,<sup>6</sup> in stark opposition to the ideological approach which had dominated up until then. Within the present context the facts are clear: ***on the one hand***, price stability is a necessary precondition for financial stability, although it is by no means a sufficient one; ***on the other hand***, a key reason for preserving the stability of the financial system is in order to avoid potentially significant risks to price stability, in one direction or the other. Let me now turn to discussing several issues concerning the joint implementation of, and the interaction between, monetary and macroprudential policies.

## II. Issues concerning the joint implementation of, and the interaction between, monetary and macroprudential policies

We are currently in uncharted waters. The new mix of macroeconomic policies, with the setting up of macroprudential policies, is being developed as we speak. Some issues are already clear: we have two objectives – price and financial stability – which, based on standard economic analysis, means that we will need two separate instruments to achieve them. Further, based again on standard analysis, the assignment of instruments to objectives ought to be based on the principle of comparative efficiency. Monetary policy is the natural instrument for pursuing price stability. Using again the prisma of Deng Xiaoping, the success of central banks in stabilizing inflation since 1995 strongly supports this view. Macroprudential policies – defined as a set of policies aimed at limiting both excessive credit growth and the build-up of systemic risk within the financial system – will have to take care of preserving financial stability. From here onwards, however, things become less clear-cut, and sometimes positively complex.

**First**, the two objectives are *qualitatively* different. On the one hand, price stability is very easy to define and to measure in terms of a specific price index. As a result, monetary policy is comparatively easy to communicate, and its performance can be assessed in a relatively straightforward way. Financial stability, on the other hand, is significantly fuzzier, as it deals with preventing the accumulation of systemic risks, the build-up of asset price persistent misalignments, that some call bubbles, etc.. As a result, it cannot be defined in a straightforward fashion, with reference to, in the extreme case, a single indicator, and ought therefore to be communicated and assessed in a more complex way.

**Second**, and crucial, is the uncharted *interaction* between the two policies. On the one hand, recent thinking has stressed how monetary policy can contribute to sowing the seeds of future financial instability. Low interest rates, for example, can contribute to the build-up of

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<sup>4</sup> On this, see the discussion in Robert Shiller (2000), *Irrational Exuberance*, Princeton University Press.

<sup>5</sup> This has been convincingly argued by Christina Romer (1990), “The Great Crash and the Onset of the Great Depression”, *Quarterly Journal of Economics*, 105(August), 597–624

<sup>6</sup> As quoted in John Lewis Gaddis (2005), *The Cold War: A New History*, Penguin Press.

financial imbalances *via* the so-called “risktaking” channel.<sup>7</sup> Simply put, very low interest rates may create incentives for banks to take on more risks. Recent research has provided empirical evidence compatible with such a notion. It has been documented,<sup>8</sup> for example, how market based measures of bank’s risks as perceived by financial market participants tend to react positively to changes in interest rates, so that a lower interest rate leads investor to perceive banks as less risky. By the same token, several papers<sup>9</sup> have shown that credit standards are correlated with the level of interest rates: lower interest rates, in particular, imply lower credit standards including to customers who are perceived as representing a higher credit risk. On the theoretical side, research done at the *Banque de France*<sup>10</sup> has shown that, when the regulatory environment is not transparent, a decrease in the level of real interest rate increases banks’ risk-taking behavior, in parts because it may facilitate the under-pricing of risks typical when asset prices rise.

Another risk, spotted by Raguram Rajan<sup>11</sup>, is that low interest rates lead banks into a “search for yield” strategy, in order to maintain a desired – or even institutionally mandated – rate of return. A time-honored principle of finance is that, *ceteris paribus*, the only way to increase the expected rate of return is to take more risk, and the result of such search for yield is therefore that banks will increase their risk exposure.

An alternative channel through which excessively low rates may have contributed to the building up of financial imbalances during the period leading up to the crisis originates from central banks’ ultimate focus on goods’, rather than asset prices’ inflation. During a period characterized by large, benign supply shocks originating from the integration of large developing countries into the global economy, the resulting disinflationary pressures induced central banks to keep interest rates at comparatively low levels – in particular, levels which, with the benefit of hindsight, may have contributed to excessive credit growth, with the resulting creation of asset prices’ bubbles.

Some commentators have henceforth suggested including asset prices into the index targeted by the central bank. I see this as a distinctly sub-optimal solution, as it would essentially amount, in practice, to moving to a situation with one instrument, monetary policy, aiming at a combination of two objectives, price and financial stability. Economic theory dictates that, in the presence of multiple objectives, policymakers ought to rely on a number of instruments at least equal to the number of objectives. Combining multiple objectives into a single one, on the other hand, would only apparently solve the problem by artificially reducing the number of goals, but it would not change the fundamental nature of the control problem facing the policymaker.

At the current juncture, only very little research is conducted on the interaction between monetary and macroprudential policies within rigorously microfounded general equilibrium models. The Banque de France staff and I are very admiring of the leadership of Banca

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<sup>7</sup> See Claudio Borio and Haibin Zhu (2008), “Capital Regulation, Risk-Taking, and Monetary Policy: A Missing Link in the Transmission Mechanism?”, BIS Working Paper n. 268, December 2008.

<sup>8</sup> See Yener Altunbas, Leonardo Gambacorta, and David Marqués-Ibáñez (2010), “Does Monetary Policy Affect Bank Risk-Taking?”, ECB Working Paper n. 1166, March 2010.

<sup>9</sup> See Vasso Ioannidou, Steven Ongena, and José-Luis Peydró (2008), “Monetary Policy, Risk-Taking and Pricing: Evidence from a Quasi-Natural Experiment”, ECB, mimeo; Matteo Ciccarelli, Angela Maddaloni, and José-Luis Peydró (2009), “Trusting the Bankers: Another Look at the Credit Channel of Monetary Policy”, ECB, mimeo.

<sup>10</sup> See Benoit Mojon, Simon Dubecq and Xavier Ragot (2010), “Fuzzy Capital Requirements, Risk Shifting and the Risk Taking Channel of Monetary Policy”, Banque de France mimeo.

<sup>11</sup> See Raguram Rajan (2005), “Has Financial Development Made the World Riskier?”, presented at: *The Greenspan Era: Lessons for the Future*, a symposium sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 25 – 27, 2005.

d'Italia in this domain, as shown in the paper by Angelini, Neri, and Panetta<sup>12</sup> which has been presented at this conference. I look forward to further research on this new dimension of macroeconomic policy. If research on new topics has some form of diminishing returns, the first good papers in this area will have huge visibility and numerous citations.

I know that the brain power in this audience is first class. Let me tell you that if you ever dreamt of having an impact on the design and the implementation of economic policy, this is the time. Your inputs are badly needed !

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<sup>12</sup> Paolo Angelini, Stefano Neri, and Fabio Panetta (2010), "Monetary and Macroprudential Policies", Banca d'Italia, *mimeo*.