Lorenzo Bini Smaghi: Inflation, expectations and current challenges to monetary policy

Speech by Mr Lorenzo Bini Smaghi, Member of the Executive Board of the European Central Bank, at the European Inflation-Linked Conference 2005, Rome, 10 October 2005.

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Ladies and Gentlemen,

I would like to start by thanking the organisers for the invitation to speak at this European Inflation-Linked Conference.

As you know, inflation is the "Enemy no.1" of central bankers. Participating in a conference on inflation-linked instruments thus makes me feel a bit like a fire-fighter invited to speak at a convention on home insurance. But rest assured: I won't try to convince you that there is no need for insuring against inflation…but maybe that the premium should be lowered!

Indeed, we have been experiencing times of historically low and stable inflation, not only in major industrialised countries, but also in emerging markets.[1] Inflation expectations are well contained and probably close to their lowest levels of the last forty years.

Nevertheless, the market for inflation-linked bonds has been rapidly expanding and reached around 800 billion euro worldwide. Inflation-linked instruments have become a useful instrument also for central banks, not to invest in but to help measuring inflation expectations, in real time and with high frequency. These expectations are used as an approximation of central banks' credibility.

I would like to focus my remarks today on how inflation expectations can be useful for the conduct of monetary policy, in particular in the current conjuncture.

I would like to start with the current challenges to monetary policy, arising in particular from the recent oil shock. I will then touch on how the central bank and market participants interact in shaping expectations. I will finally try to explain how the institutional framework in which central banks operate affect the way in which they interact with market participants.

Monetary policy reaction to the current oil shock

All industrial economies, and in particular the euro area, are currently facing a major supply shock, stemming from the increase in oil and energy prices. This type of shock is the worse for a central bank, because it affects the price level and income in opposite directions.

What is the most appropriate response to such a shock? Let me start by an intuitive, but wrong answer, which I would characterise as follows:

"The monetary policy reaction to an oil shock depends on the objective pursued by the central bank. The more a central bank gives priority to fighting inflation, rather than supporting growth, the more it will raise interest rates at the detriment of growth."

This answer is wrong, and I would like to explain why the optimal policy reaction to a shock as the one we are currently experiencing does not depend on the mandate that the central bank has.

The argument is wrong because it does not take into account expectations and, more generally, uncertainty and the functioning of markets.

Before doing that, let me recall something that should be clear to everybody: a permanent rise in the price of oil leads to a reduction in the terms of trade (the ratio of export to import prices) and therefore

[1] Ciccarelli and Mojon (2005) compute an index of "global inflation" comprising a large selection of OECD countries from 1961. The global inflation rate in the most recent years has been the lowest or very close to the lowest of the whole sample period.

to a permanent reduction in the equilibrium level of income (at least for oil importing countries). This is a fact.

Some may not accept this conclusion and may try to do something about it. For instance, if a central bank tries to counteract the effect of the higher oil price by stimulating aggregate demand, as most central banks did in the mid-1970s, the only result will be to increase inflation. Inflation will rise as long as monetary policy will remain expansionary in trying to avoid the adjustment of income to its new level. The closer is the economy to full employment, the quicker the oil shock will spread to other prices into an inflation spiral.

If economic agents, consumers and firms, know that the central bank will react in this way to an oil shock, trying to stimulate income and employment, inflationary expectations will increase very rapidly, reducing expected real income and thereby nullifying the effects of the monetary expansion. If the central bank persists in this policy, the only result will be a price-inflation spiral, with no positive impact on growth.

If the economy embarks in such a path, bringing back inflation will require a substantial tightening of monetary policy that will produce a substantial output loss. This is the experience of the monetary reactions to the oil shocks of the 1970s, in particular in the US, with the Volcker disinflation of the early 1980s, but also in many European countries.

The first conclusion that I would draw to your attention is that if monetary policy aims primarily at stabilizing income in the face of a permanent supply shock, it will produce the opposite result, i.e. unstable output and inflation.

Let’s consider now the case in which the central bank aims primarily at price stability, instead of stabilizing income. What would a central bank do in this case? It will depend on markets’ initial reaction to the shock and on their expectations. Let me consider two cases.

A first case is one in which economic agents fully accept the fact that the oil price shock is like a tax to be paid to oil producing countries, that cannot be avoided and which will lead to a reduction of their disposable income. There are no requests for compensation for the effects of the higher oil prices. There is no pass-through to wages or other prices. There are no expansionary budgetary measures to try to support income.

In this case, that I would call the virtuous case, the increase in the price of oil and other energy prices does not lead to a parallel increase in other prices. Headline inflation increases only temporarily, to record the increase in the price of fuel and energy products, and falls thereafter. Inflation net of oil prices, the so called core inflation, remains unchanged. In this virtuous case, given that the increase in prices is a temporary phenomenon, monetary policy does not need to be tightened and the stance can remain unchanged.

This is the best outcome, both in terms of inflation and output stabilization, much better than the one in which the central bank explicitly tries to stabilize income.

A different case, that I would call the vicious case, is one in which agents do not accept that the oil shock reduces their disposable income and try to be compensated in terms of higher wages or budgetary support measures. If this case materialises, oil price increases might be passed through to higher wages and other prices. Inflation increases, not temporarily but persistently, even excluding oil and energy products.

If this vicious case materialises, the central bank must react very quickly and tighten monetary policy by raising interest rates to counter inflationary pressures. The increase in interest rates will inevitably have a negative effect on output, that adds up to the initial (and unavoidable) negative effect produced by the higher oil price.

The slower is the central bank in reacting to inflationary pressures, i.e. the more it tolerates the pass-through from oil prices to wages and other prices to occur, the more it will have to increase interest rates down the road, and the larger will ultimately be the negative impact on growth.

I would like at this stage to point to two additional conclusions.

First, the greater is the resistance by economic agents to the negative consequences of a negative oil shock, the more the central bank will have to increase interest rates and the worse will be the impact on growth.

Second, the slower is the central bank to increase interest rates in the emergence of a pass through from higher oil prices to other wages and prices, the worse will be the impact of the oil shock on growth.

To sum up, any output loss produced by an oil shock is minimised if the central bank focuses primarily on price stability rather than trying to stabilize income and employment and if economic agents fully believe that the central bank will behave accordingly. In other words, monetary policy can better support growth if the primary target is price stability and if the central bank is credible in pursuing its commitment.

The credibility of a central bank in pursuing price stability is certainly enhanced if price stability is clearly identified as the primary mandate in the Bank's statutes. If the statutory mandate is less clear, the central bank will have to make special effort to convince market participants that price stability is indeed its primary objective. This is the way in which some recent statements by Fed officials can be interpreted. I would refer to a recent one by Governor Santomero, who was quoted in the Financial Times (30 September) as saying: *"The Fed has a dual mandate: to oversee price stability and potential growth, in that order"*.

The priority to price stability inscribed in the ECB's statutes can thus be considered as an advantage in the current conjuncture.

It is thus a bit surprising to hear calls - by some politicians and, more astonishing, by academics - for changing the mandate of the ECB to make it more balanced in supporting growth. Such calls reveal a failure to understand how monetary policy operates in a world of forward-looking economic agents and financial markets.

If you want to take away only one point from my intervention today, I would like it to be this: **a price stability-oriented monetary policy enables to deliver more stable output**. If the commitment is credible, monetary policy can afford not to overreact to shocks and to maintain a steady course, which is the most supportive of growth.[2]

This conclusion is consistent with the developments of the last two years. In 2003-2005 the euro area was hit by repeated oil shocks, with a doubling of prices. Yet, no second round effects materialised. HICP inflation increased only temporarily. Long term inflation expectations remained subdued.[3] This is the reason why interest rates remained unchanged, providing considerable support to economic activity at a time of a huge negative supply shock.

Will this virtuous scenario continue? Will favourable conditions continue to prevail going forward?

The answer is clear. It will depend on the continuation of no pass-through from the oil and energy price increases to other prices in the economy. This is why the central bank has to monitor very closely wage and price setting behaviour as well as any other policy that may affect disposable income, in particular budgetary policy.

A corollary to this answer is that monetary policy has to be tightened as soon as signs emerge of possible pass through to wages and inflation and if agents have doubts about the anti-inflationary stance of the central bank.

Monetary policy and the shaping of expectations

One lesson to be drawn from analysis and experience is that in order to achieve their goal, central banks have not only to implement policies consistent with price stability but must also interact with economic agents and make sure that the latter fully understand their policies.[4]

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[2] See in particular Leduc and Sill (2004), who evaluate the performance of different policy rules following a rise in oil prices in a calibrated stochastic dynamic general equilibrium model of the US economy. Leduc and Sill find that interest rate rules that place a high weight on inflation lead to a smaller loss in output, a lower inflation rate, and a lower nominal interest rate than rules placing a larger weight on output stabilization. Indeed, the authors also find that the recessionary consequences of oil price shocks are smallest when the central bank targets the *price level*.

[3] This is reported, for example, by Barclays Capital Research, *Is the ECB part of the problem*?, 22 September 2005.

[4] See Winkler (2000) for a survey.

This requires intense communication with market participants, of at least two sorts.

First, the central bank has the duty to warn market participants when their own behaviour is not consistent with price stability and may lead to a tightening of monetary policy which would lead to a worse outcome for all. This has to involve communication with the public at large: unions, employers, budgetary authorities. This type of communication is in the interest of all, since any inconsistency would lead in the end to a worse result in terms of economic growth. It is also in the interest of the central bank as price stability can be more easily maintained if agents act consistently.

Warning economic agents openly about their behaviour is not easy and does not make central banks popular. These warnings are not nice to hear either and often irritating for the addressees who feel like being lectured on their own behaviour. It is nevertheless the statutory responsibility of the central bank to make all agents, private and public, aware of the consequences of their behaviour on monetary policy. Making this clear at the outset, in public, is the best way to coordinate expectations around the best possible outcome. It is also a way to ensure accountability by the central bank.

For instance, if unions request higher wages to compensate for oil and gasoline price increases, the central bank cannot abstain from warning that this would lead to a vicious scenario and ultimately to higher interest rates, which would produce the worse outcome for all. Calls for wage moderation and avoidance of pass-through are therefore to be expected after an oil shock.

Another example is when fiscal authorities intend to take measures aimed at compensating the reduction in purchasing power produced by higher gasoline prices. If these measures are not financed by parallel restrictive measures, it is the duty of the central bank to warn that this would have an expansionary impact on income and delay the adjustment to the oil shock, thus fuelling inflationary pressures. This would ultimately lead to tighter monetary policy and higher interest rates.

The second component of the communication is the analytical framework underlying the central bank's policy decisions. The central bank should explain to economic agents what the key parameters that will be followed to shape future policy decisions are. The first parameter is of course a clear definition of what is meant by price stability.

Much has been said and written on central bank communication. I would like just to mention two examples of challenges faced by central banks in communicating their strategies in the current conjuncture.

A first example is when market participants tend to form their inflation expectations not on underlying economic developments but exclusively on their expectation that the central bank will deliver price stability. If the central bank is very credible, market participants will expect that price stability will always prevail, ignoring underlying inflationary pressures. In these circumstances financial markets may not provide the right signal to the central bank about inflationary pressures.[5] This leads to phenomena called conundra, whereby long term rates do not react to underlying fundamentals or to changes in short term rates. Hence, the central bank has to look at other indicators and use its communication to explain the case for changing monetary conditions.

The opposite example may arise if market participants expect the central bank to tighten sooner than what the central bank instead deems appropriate. This may happen in particular when the central bank expresses concern about potential inflationary risks which have nevertheless not yet materialized. If the central bank does not tighten as expected, market participants may be disappointed and lose confidence in the anti-inflationary stance of the central bank ("barking without biting").

Here, again, the central bank has to communicate to market participants why it believes that it is not appropriate to raise rates in light of its own assessment of fundamentals. It is not easy to explain at the same time that there is no immediate need to change rates but that there is readiness to do so if risks materialise. The word "vigilance" has been used to describe attention to risks to the baseline scenario, rather than a determination to implement a specific unconditional policy action. When the risks do materialize, vigilance stops and action starts.

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[5] See Bernanke and Woodford (1997) on the risks stemming from an excessive reliance on market forecasts in setting monetary policy.

Vigilance can thus be communicated to the public even if policy rates remain unchanged, in particular if risks emerge or increase but have not materialised and if underlying developments justify the no-change option. This explains why communication intensity can at times increase, as measured by what some call "hawkish-ness" indicators, while policy rates remain unchanged, as happened in the first half of 2004.[6] If the communication strategy is successful, expectations converge over time back to the level of unchanged policy rates.

Institutional constraints for monetary policy

The main objective of communication policy is to make monetary policy predictable. There are not many analyses looking at the predictability of central banks. Those that I have seen suggest that central banks of major countries have achieved a high degree of predictability in recent years, and are performing quite similarly in this respect.[7]

Analyses tend to focus more on the means and instruments to achieve predictability, than the result itself. These analyses often fail to take into account the institutional and political context in which different central banks operate. They also at times entail the risk of suggesting superficial and naïve prescriptions that are simply not realistic, not because the central bank does not want to implement them prescriptions, but because they are not available within the prevailing institutional or political set up.

I would like to touch briefly upon this issue because I am repeatedly confronted with it, since my confirmation hearing in the European Parliament, and have not seen signs of a full understanding of the arguments.

The point that I would like to submit for a serious analysis of central bank transparency is that the latter is inextricably linked to accountability. The means and instruments for implementing transparency in any country depend on its institutional and political framework for accountability.

Just to point to one relevant aspect, a system in which accountability is collegial is different from one in which accountability is individual. The way in which transparency is implemented cannot be the same in the two systems.

The European Union, which is obviously a very peculiar entity, not comparable to a Federation or a State, has a specific system of accountability for its institutions, in particular the Commission, the Court of Justice or the European Central Bank, where the appointment of the decision-making bodies is partly a responsibility of the Member States. Such a system foresees collegial, not individual accountability. In such a system, the publication of individual decisions, votes or opinions cannot be foreseen, except for historical purposes. Only the result of the collegiate decision can be made public. This is currently the case for the European Commission, the Court of Justice and the European Central Bank.

To be sure, the institutional and political framework underlying the European Union is a complex one and maybe not easy to understand. But this framework cannot be ignored in any meaningful and realistic analysis on the way in which the ECB ensures transparency.

To move to a system in which the detailed minutes and votes would be published, the ECB Statutes would have to be modified to allow for individual accountability, rather than a collegial one. This would require several modifications, including the compositions of the decision-making body and its nomination procedure. It would also most likely require changes in the EU institutional and political framework.

Differences in the structure of economies represent another issue which is often forgotten in the assessment of central bank policies. Divergences in the degree of economic flexibility, in particular, can affect the degree of *intrinsic* inflation persistence, namely the inertial character of inflation which cannot be reduced by the central bank despite its best efforts.[8] Two central banks with similar

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6 See for example Ubide (2005).

7 See for instance Ehrmann and Fratschzer (2005).

8 See Erceg and Levin (2003) and Levin and Piger (2004).

credibility and policy strategy might have to implement two different policies, with quite different results in terms of price stability and growth, because of substantial differences in the underlying rigidities of their economies, in particular with respect to the reaction to exogenous shocks, such as an oil price increase.

Yet, one popular way to conduct this comparative analysis, often presented in market analysts' newsletters, is to estimate policy reaction functions of different central banks (for example Taylor rules) to infer central bank preferences. This may be a quite misleading exercise, because it does not take into account the differences in the structure of the economies.[9]

Just to give an example, several studies analysing ECB policy come to the conclusion that it has reacted timidly to inflation. This may appear somewhat counterintuitive given the importance attached to price stability in the ECB mandate.[10]

This result is instead quite consistent with what I have explained earlier, i.e. the optimal policy response to a shock depends very much on how economic agents themselves react to such a shock and on their expectation of the central bank's reaction. If a shock does not lead to a permanent pass-through on inflation and the central bank is credibly committed to price stability, it is optimal for a central bank not to react.[11] Looking at the estimated Taylor rule coefficients only, the central bank would appear as quite dovish, while it is instead quite hawkish and expected to be so.[12]

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Moving to the end of my talk, I would like to emphasise that interacting with markets and trying to shape expectations is not an easy job. Central banks are highly committed to this, and they try to do it with all the instruments that are available to them. However, it would be misleading to think that central banks act in a vacuum, with no constraints. As I have tried to explain, central banks have to face several constraints, most of which - I have to say - are often forgotten by analysts, commentators and academics.

Effective communication is essential because it enables the central bank to guide agents' behaviour and expectations, thereby keeping its policy line consistent with its objective and its assessment of economic conditions. This may require specific skills, although I would not go to the extreme of associating central bankers to artists or famous athletes, as Mervyn King did in a recent speech, in which he associated a steady-hand monetary policy to the straight line followed by Diego Armando Maradona when he scored his second goal against England in a famous 1986 World cup game (in fact, that game became famous for Maradona's first goal).[13] Maradona did it by fooling the English defence into thinking that he would move in different directions, instead of going through a straight line. Central banks cannot even try to act in this way. First, market participants are much smarter than the English defence and cannot be easily fooled. And even when they are fooled, they get back at you in a rather painful way.

I thus much prefer an earlier quote of Mervyn, in which he refers to Milton Friedman's 1968 Presidential address, according to which "successful monetary policy should be boring, and *successful central bankers should be seen neither as heroes nor villans, but simply as competent referees, allowing the game to flow and staying out of the limelight"*.[14]

For central bankers to stay out of the limelight in the present circumstances, with an oil shock as the one we are currently experiencing, we need the cooperation of all, from unions to employees, from market participants to budgetary authorities. It depends largely on them.

Thank you for your attention.

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[9] See Hetzel (2000).

[10] See for example Gerdesmeier and Roffia (2004).

[11] See, among others, Giannone, Reichlin and Sala (2002).

[12] This is related to the idea that once an instrument is used effectively to influence a target variable, the correlation between the two disappears. This is sometimes referred to as "Goodhart's law".

[13] See M. King's Mais lecture (2005).

[14] See M. King (1998).