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**Article**

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# THE EUROPEAN MONETARY UNION

With the start of the year 1999 the European Monetary Union went into effect with its central institution, the European Central Bank, and its single currency, the euro. After more than a year in existence, the euro has depreciated by more than 17% against the US dollar. In some quarters this has raised questions about the wisdom of a common monetary system for Europe; more generally it has led to concerns about the policies of the European Central Bank, and about the international role of the Euro.

The following contributions address these concerns. The editor is grateful to the authors for their generous permission to make them the focus of the second edition of CESifo Forum.

## THE MONETARY POLICY OF THE EUROPEAN CENTRAL BANK:

### STRATEGY AND IMPLEMENTATION

OTMAR ISSING\*

On 1 January 1999, responsibility for monetary policy in eleven of the Member States of the European Union (EU) passed from their respective national central banks (NCBs) to the Governing Council of the European Central Bank (ECB).<sup>1</sup> This marked a fundamental change in the political and economic environment, as responsibility for a key instrument of macroeconomic policy passed into the hands of an independent supranational authority. This article describes the framework for monetary policy in this new environment and, in the context of this framework, describes the implementation of monetary policy in 1999.

#### The benefits of price stability and implications for monetary policy

A broad consensus has emerged over recent decades that the appropriate objective of monetary policy is the maintenance of price stability (Blinder,

1998). This consensus is built on the belief that both inflation and deflation are costly in terms of general economic welfare and performance. Among others, Barro (1997) provides macroeconomic evidence to this effect. In large samples of cross-country data, he has demonstrated a negative relationship between inflation and economic growth.

Explanations of this macroeconomic evidence are based on the view that inflation introduces or exacerbates distortions in the real economy. High rates of inflation are typically associated with greater volatility of inflation and the price level. This volatility distorts the relative price signals on which the market mechanism relies and raises the inflation risk premium in long-term real interest rates. Both phenomena may result in a misallocation of real resources, which is prejudicial to growth performance (ECB, 1999a). High rates of inflation may also distort money holdings (Friedman, 1956) and exacerbate the distortions introduced into economic allocation by the dead-weight losses associated with tax and welfare systems (Feldstein, 1995). Furthermore, unexpected movements in prices associated with high and variable inflation may result in large and arbitrary redistributions of wealth between creditors and debtors, inter alia. Such arbitrary redistribution may threaten social and political instability if property rights are perceived to have been violated.

The institutional framework for the single monetary policy, described in the Treaty establishing the European Community, reflects these economic principles. First and foremost, the Treaty clarifies the objective of the single monetary policy and the Eurosystem. Article 105 of the Treaty states: “The



Inflation leads to a misallocation of resources

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<sup>1</sup> The Governing Council consists of the eleven NCB Governors of the countries that adopted the euro in January 1999, plus the six members of the ECB's Executive Board. The geographical area defined by the countries that adopted the euro is called the euro area. Collectively, the ECB and the NCBs of these eleven countries are labelled the Eurosystem.

*primary objective of the [Eurosystem] shall be to maintain price stability.*" The Treaty therefore establishes a clear hierarchy of objectives for the single monetary policy, with price stability unambiguously assigned overriding importance.

Furthermore, recognising that monetary policy does not operate in a vacuum, the Treaty also requires the Eurosystem – insofar as this does not prejudice the primary objective of price stability to *"support the general economic policies in the Community with a view to contributing to the objectives of the Community laid down in Article 2"*. The objectives of the Community include, inter alia, *"sustainable and non-inflationary growth" and "a high level of employment"*.

The scope for monetary policy to pursue "growth" or "a high level of employment" is limited. The seminal contribution of Friedman (1968) re-established the principle that monetary expansions are neutral in the long run. Other than by maintaining price stability and thereby reaping its benefits in terms of economic performance discussed above (as Friedman (1977) discussed in his Nobel lecture), there is no trade-off at longer horizons between inflation, on the one hand, and economic growth or employment, on the other, that can be exploited by monetary policy makers. The best contribution that monetary policy can make to the fulfilment of the Community's broader economic and social objectives is to maintain price stability in a credible and lasting manner, thereby securing its benefits and providing an environment in which the private sector and other policy authorities can operate most effectively and efficiently.

Given the potential risk of political intervention in the design and implementation of the single monetary policy (reflected in the time inconsistency literature, e.g. Barro and Gordon (1983)), the Treaty also made the ECB and the NCBs independent of national governments and political interference. This institutional independence allows the Eurosystem to pursue its primary objective in an appropriate medium-term framework and thereby significantly enhances the credibility of monetary policy. In fact, because the independence of the Eurosystem is guaranteed by an international treaty, it can claim to be among the most independent central banks in the world.

In a democratic society, institutional independence of the central bank must be balanced by trans-

parency and accountability in monetary policy making. The Treaty imposes stringent requirements on the Eurosystem in this regard, which exceed those required of most other central banks in the world. As is described in greater detail by Issing (1999), the ECB has committed itself to exceeding even these stringent requirements. Foremost among the vehicles used for communication with the public is the President's introductory statement at the regular monthly press conference. This statement provides unparalleled timeliness and openness regarding policy decisions and their rationale. The introductory statement is complemented by the publication of a Monthly Bulletin, the Annual Report and regular appearances by members of the Executive Board before the competent committees of the European Parliament.

### The Eurosystem's monetary policy strategy

In October 1998 the Governing Council of the ECB announced the Eurosystem's stability-oriented monetary policy strategy. The strategy consists of a quantitative definition of the primary objective of monetary policy and "two pillars" that are used to assess risks to future price stability, namely a prominent role for money and a broadly based assessment that encompasses a wide range of indicator variables.

#### *The quantitative definition of price stability*

To quantify its primary objective given by the Treaty more precisely, the Governing Council announced the following definition: *"price stability shall be defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%"*. Price stability according to this definition *"is to be maintained over the medium term"* (ECB, 1999b). The Eurosystem's published definition of price stability gives guidance to expectations of future price developments, helping to build up the credibility of the new strategy. Moreover, this definition provides a yardstick against which the public can hold the Eurosystem accountable.

The phrase *"below 2%"* clearly delineates the upper bound for the rate of measured inflation in the HICP which is consistent with price stability. At the same time, the use of the word *"increase"* in the definition clearly signals that deflation, i.e. prolonged declines in the level of the HICP index, would not be deemed consistent with price stability.

In the long run,  
there is no trade-off  
between inflation  
and growth

ty. Moreover, the definition identifies a specific price index to be used in the assessment of whether price stability has been maintained. This index is harmonised across the various countries in the euro area and its use is consistent with the public's usual focus on consumer prices. This focus is obviously on the HICP *for the euro area*, since monetary policy decisions are based on an assessment of developments in the euro area as a whole.

The absence of an explicit numerical lower bound to the published definition of price stability reflects, in a transparent and honest manner, the uncertainties faced by the Eurosystem regarding the potential existence and unknown magnitude of so-called "measurement bias" (e.g. Boskin, 1996) in the HICP at the outset of Stage Three. Because the HICP is a new concept and long runs of back data do not exist, estimates of the HICP measurement bias are preliminary and inconclusive. The absence of an explicit lower bound should not be viewed as suggesting that the Eurosystem is indifferent to deflation. In practice, a "grey zone" exists – as expected inflation falls towards zero, the Eurosystem becomes increasingly concerned about the development. At the upper bound, in order to ensure that price stability is maintained according to the Eurosystem's definition in the face of the inevitable shocks to price developments, policy makers need to ensure that inflation is normally likely to be safely below 2%.

The statement that "*price stability is to be maintained over the medium term*" reflects the need for monetary policy to have a medium-term orientation. Furthermore, in response to some types of unforeseen economic disturbance with an impact on the price level that may threaten price stability, a medium-term orientation of monetary policy is important in order to permit a gradualist and measured response, which will not introduce unnecessary and possibly self-sustaining uncertainty into the real economy.

In the context of the Eurosystem's strategy, interest rates are set so as to achieve the primary objective (defined as described above) on the basis of information about the outlook for price developments over the medium term revealed by analysis undertaken in the context of the "two pillars" of the strategy.

#### *The reference value – a prominent role for money*

In the light of a large body of empirical and theoretical evidence, there is general agreement in the

academic literature with – when it is properly interpreted – Friedman's (1956) famous assertion that "inflation is always and everywhere a monetary phenomenon". This points to ensuring that monetary aggregates are thoroughly incorporated into the Eurosystem's strategy. The Governing Council therefore assigns a prominent role to money within the strategy. Money constitutes a natural "nominal anchor" for monetary policy aiming at the maintenance of price stability.

The prominent role for money – the "first pillar" of the Eurosystem's monetary policy strategy – embodies a commitment to analyse monetary developments in detail for the information that they contain about future price developments. To signal the prominent role assigned to money, the Governing Council announced a *quantitative reference value for monetary growth*. The reference value is intended to help the Governing Council analyse and present the information contained in the monetary aggregates in a manner that offers a coherent and credible guide for monetary policy aimed at the maintenance of price stability over the medium term (ECB, 1999c).

Two characteristics of the quantitative reference value for monetary growth should be emphasised. First, the reference value is derived in a manner that is consistent with – and serves the maintenance of – price stability over the medium term. To ensure this consistency, money must have a *stable* relationship with the euro area price level at this horizon. Second, substantial or prolonged deviations of monetary growth from the reference value would, under normal circumstances, signal risks to medium-term price stability. This feature of the reference value is based on the evidence that monetary growth is normally a *leading indicator* of future developments in the price level. The available empirical evidence suggests that broad monetary aggregates exhibit the properties required for the announcement of a reference value. Therefore, the Governing Council chose to announce a reference value for the broad aggregate M3.

The reference value for monetary growth was derived using the well-known quantity relationship between money, on the one hand, and prices, real GDP and the velocity of circulation, on the other. Using the Eurosystem's definition of price stability and medium-term assumptions for real GDP (trend growth in the range 2% to 2½% per annum) and M3 income velocity (a trend decline of between

Money is the  
"first pillar" of the  
Eurosystem's  
monetary policy

– 1/2% and – 1% per annum), in December 1998 the Governing Council decided to set its first reference value for M3 growth at 4 1/2% per annum. Monetary developments relative to the reference value are assessed on the basis of three-month moving averages of the annual growth rates. The reference value of 4 1/2% was confirmed in December 1999.

*A broadly based assessment of the outlook for price developments*

Although the monetary data contain information vital to informed monetary policy-making, on their own they will not constitute a complete summary of all the information about the economy required to set an appropriate monetary policy which maintains price stability. Therefore, in parallel with the analysis of the monetary data, a broadly based assessment of the outlook for price developments and the risks to price stability in the euro area – the “second pillar” – play a major role in the Eurosystem’s strategy. This assessment is made using a wide range of non-monetary economic indicators.

This broad range of indicators includes: labour market indicators, such as wages and unit labour costs; fiscal policy indicators; financial market indicators, such as asset prices, etc. One important indicator is the exchange rate of the euro. It should be emphasised that the Eurosystem’s strategy embodies neither an explicit nor an implicit objective for the euro exchange rate. This does not mean that the euro exchange rate is treated with neglect. Rather it is closely monitored and analysed and influences monetary policy decisions insofar as it has implications for the outlook for price developments in the euro area. Fluctuations in the exchange rate will affect the outlook for price developments both directly (through their impact on import prices) and indirectly (through competitiveness effects and hence aggregate demand). Consequently, the euro exchange rate is, in fact, an important indicator within the second pillar of the Eurosystem’s strategy.

As with the reference value for monetary growth, the broadly based assessment is not intended to define a quasi-automatic feed-back rule for interest rate decisions. Rather the second pillar is a framework or process for organising and analysing information, so that policy makers can make an assessment of the appropriate interest rate which will best serve the maintenance of price stability. Although analysis under the second pillar of the strategy

includes an assessment of macroeconomic forecasts for the euro area, including those produced by the Eurosystem itself, these should clearly not be seen as constituting the second pillar in its entirety, still less a “sufficient” or “summary” statistic of all the information that policy makers require for taking appropriate monetary policy decisions. Forecasts certainly play a role in the monetary policy process, as one would expect given the forward-looking orientation of the Eurosystem’s strategy. They help to summarise and synthesise a large quantity of information that may otherwise become too unwieldy to form a sensible basis for policy discussions.

However, forecasts also suffer from a number of drawbacks. For example, they may quickly become outdated, since it is difficult for them to incorporate all information in a timely manner. Forecasts are based on assumptions for certain variables, such as oil prices or developments in the world economy, which can quickly become out-of-date. The final projection is then an incomplete summary of the outlook for price developments. Furthermore, precisely because they synthesise information, forecasts can sometimes obscure information about the individual threats to price stability on which the appropriate monetary policy response would normally depend.

**The operational framework for the single monetary policy**

The operational framework for monetary policy provides the instruments to guide the level of market short-term interest rates to the level that the Governing Council deems best serves the maintenance of price stability (see also ECB, 1998). This framework fulfils three basic functions. First, it provides instruments that signal clearly the stance of monetary policy. Second, it ensures that policy makers can steer money market interest rates and contain their volatility. Finally, the operational framework provides basic refinancing to the financial system, ensuring that sufficient liquidity is available. Three types of monetary policy instruments are available to the Eurosystem: open market operations, standing facilities and a minimum reserve system.

The major *open market operation* is the weekly main refinancing operation (MRO), which takes the form of a reverse repurchase transaction with a maturity of two weeks. The main refinancing oper-

Assessment of the outlook for prices is the “second pillar”



ation is based on a tender procedure. The tender may be a fixed rate tender, with counterparties bidding amounts at an interest rate pre-specified by the ECB (as has been the case during 1999), or a variable rate tender, where counterparties propose bids including both amounts and interest rates.

The operational framework also includes a regular monthly longer-term refinancing operation. This has a maturity of three months and normally takes the form of an interest rate tender with a pre-announced absolute amount for the allotment. This ensures the Eurosystem does not signal its monetary policy stance through these operations. The Eurosystem is also equipped to conduct fine-tuning operations (through the national central banks of the euro area or, in exceptional circumstances, centrally) and structural operations (which may take the form of outright purchases or sales of securities or the issuance of debt certificates by the ECB).

The ECB also operates two overnight *standing facilities*, the deposit facility and the marginal lending facility, which are available to all credit institutions at national central banks of the euro area. The rate of the marginal lending facility constitutes the upper bound of collateralised overnight money market rates. The deposit facility is remunerated at a rate that constitutes the lower bound of overnight money market rates.

When using the marginal lending facility, or, for that matter, when entering in liquidity-providing open market operations in the form of reverse transactions, counterparties have to post assets as *collateral*. These assets are meant to act as guarantees for credits received from the Eurosystem. A list of eligible assets has been drawn up for this purpose. So-called tier one assets have been selected by the ECB according to uniform criteria and contain marketable paper of high quality. Tier two assets have been selected by the ECB because they are of particular importance for certain national banking systems in the euro area and promote a certain degree of continuity at the start of the Monetary Union with the national operational frameworks that existed prior to the introduction of the euro. Tier two assets need to meet similar quality standards as tier one assets. Both tier one and tier two assets may be used by any credit institution in the euro area, irrespective of its location. A set of risk control measures has been elaborated to ensure that, for any

counterparty, the amount of assets provided as collateral is always sufficient.

The ECB also applies a *minimum reserve system* to credit institutions in the euro area. This system helps to stabilise money market interest rates through an averaging mechanism, whereby the fulfilment of minimum reserve requirements is based on average reserve holdings over a month-long maintenance period (normally ending on the 23<sup>rd</sup> of the month). During the maintenance period, averaging allows banks to absorb liquidity shocks without the need to use the standing facilities, thereby stabilising interest rates and reducing the need for frequent fine tuning operations by the Eurosystem. The minimum reserve system also increases the demand for central bank money and thus enlarges the liquidity deficit of the banking system vis-à-vis the Eurosystem, ensuring the role of the Eurosystem as a provider of liquidity to the banking system.

Reserve requirements are calculated by applying a reserve ratio of 2% to the deposits, debt securities and money market paper issued by credit institutions, excluding those instruments with maturity greater than two years. Although repurchase agreements are included in the reserve base, they are subject to a zero reserve ratio. Inter-bank liabilities and liabilities vis-à-vis the Eurosystem are not subject to reserve requirements. A lump sum allowance is deducted from the reserve requirements of each individual institution, implying credit institutions with a small reserve base do not have to hold minimum reserves. Reserve holdings up to the required reserve level are remunerated at the marginal rate of the main refinancing operation (averaged over the maintenance period).

### Implementation of monetary policy during 1999

Although the single monetary policy officially came into force on 1 January 1999, monetary policy co-ordination was extensive prior to the formal transition to Stage Three. This assessment of monetary policy implementation therefore starts with the co-ordinated interest rate reduction by the NCBs in what is now the euro area on 3 December 1998. This co-ordinated interest rate cut took note of the implications for future price developments of the apparent weakening of economic activity in the euro area, revealed first by declining industrial confidence and then by the emergence of the first signs

The operational framework includes open-market operations, a monthly longer-term refinancing operation, two overnight standing facilities, and a minimum reserve system

of a slowdown in industrial production. Turmoil in financial markets associated with the devaluation of the Russian rouble in August 1998, at a time when financial markets were already unsettled by the Asian financial crisis, spread concerns of a credit crunch. The wealth effects of a potential asset price collapse and financial instability in the United States also threatened the global outlook. Against this background, projections for world output growth were revised downwards in late 1998, weakening prospective economic growth and inflation in the euro area. Therefore, at a moment when actual inflation in the euro area was around 1% and monetary growth and other indicators were in line with a subdued outlook for price developments, it was deemed appropriate to reduce the level of key interest rates in the euro area to a common level of 3% prior to the start of Stage Three.

The interest rates on the ECB's monetary policy instruments applying at the start of Stage Three were then officially set on 22 December 1998 and followed those prevailing at the euro area central banks at the end of Stage Two. The rate on the main refinancing operation was set at 3%, the rate on the marginal lending facility at 4.5%, and that on the deposit facility at 2%. However, in order to smooth the transition for the banking sector, the Governing Council of the ECB set a "narrow corridor" for short-term interest rates during the first three weeks of January 1999 by setting the interest rates on the marginal lending facility and the deposit facility at 3.25% and 2.75% respectively. On 22 January 1999, these transitional arrangements expired and the marginal lending rate and the deposit rate were effective at 4.5% and 2.0%.

In the first few months of 1999, signs emerged that the extent of the slowdown of economic activity in the euro area was stronger than had been anticipated in December 1998. In line with this, price pressures continued to be weak. Headline HICP inflation in December 1998 was only 0.8%, and remained at that level in January and February 1999. Figures on economic activity that became available in the first months of 1999 all pointed to a significant economic slowdown in late 1998. Real GDP growth had weakened significantly in the last quarter of 1998; industrial production was also weakening and business confidence continued to decline. It thus became increasingly clear that effects stemming from the slower than projected growth of the euro area economy – mainly caused

by weaker external demand – represented a serious downward risk to price stability.

A monetary policy reaction to these downward risks to price stability was complicated, however, by the fact that some indicators appeared to point in the opposite direction in early 1999. In particular, M3 growth at the start of 1999 was slightly above the reference value. The January data showed a significant increase in overnight deposits which was only partially corrected in February. It was also notable that credit to the private sector was growing relatively fast.

The Governing Council was thus faced with a very difficult situation in early 1999. With respect to monetary developments it had, however, many reasons not to be too concerned about upside risks to price stability. Monetary growth was then still close to the reference value (the three-month average of the annual growth rates for the period December 1998 to February 1999 was 5.1%). In addition, it appeared that the changeover to Stage Three had contributed significantly to the high increase in overnight deposits in January 1999 and it could not be ruled out that institutional factors, such as changes in the statistical reporting systems or in reserve requirements, had played a role in the rise in monetary growth in that month. Given the moderation of monetary growth in February 1999, the Governing Council did not regard monetary developments in early 1999 as implying upward risks to price stability.

Against this background, in an environment where current inflation rates were significantly below the upper limit of the Eurosystem's definition of price stability and in view of downward pressures on future price developments associated with the current and anticipated weakening of economic activity, the Governing Council decided on 8 April 1999 to reduce the main refinancing rate by 50 basis points to 2.5%. On the same occasion, the Council lowered the rate on the marginal lending facility to 3.5% and that on the overnight deposit facility to 1.5%. These moves were regarded by the Council as appropriate to preserve price stability in the medium term by contributing to improved business confidence and the better exploitation of the growth potential of the euro area economy.

Following this move, during the summer of 1999 business sentiment improved and the outlook for

At the start of Stage Three, interest rates were set at 3% on the main refinancing operation, 4.5% on the marginal lending facility, and 2% on the deposit facility

real activity recovered in the euro area. At the same time, the external environment strengthened as the Asian economies stabilised and then started to recover, and financial markets stabilised. Overall, it became progressively more evident that economic activity in the euro area was set to accelerate significantly in the second part of 1999 and in the year 2000. Further analysis under the second pillar also pointed towards a shift towards the upside in the balance of risks to price stability. More positive figures coming from confidence indicators were accompanied by evidence that industrial production had stabilised in the first quarter of 1999 and slightly increased in the second quarter, while data on euro area real GDP indicated that some positive developments had already occurred in the first quarter of 1999. In addition, the continued weakening of the effective exchange rate and the further rises in oil prices were gradually feeding their way through to consumer prices.

With regard to the first pillar of the ECB's strategy, an upward shift of risks to price stability over the summer of 1999 was indicated by monetary developments. Annual M3 growth was on a more prolonged upward trend in 1999, with the three-month average of annual growth rates for July to September 1999 reaching around 6%. Even when excluding the exceptional developments in January and February 1999, monetary growth over the summer was significantly above 4½% when examining annualised growth rates of seasonally adjusted M3 data at shorter horizons. In parallel, credit to the private sector continued to expand at a fast rate, of about 10%. As the balance of risks continued to move upwards towards the autumn of 1999, on 4 November 1999 the Governing Council of the ECB decided to raise the rate on the main refinancing operations to 3%. On the same occasion, the rates on the deposit facility and the marginal lending facilities were raised to 2% and 4% respectively. This level of interest rates was then maintained until the end of 1999.

### Concluding remarks

The success of the Eurosystem's strategy can only be assessed over the medium term. Given the lags in monetary policy transmission to the price level, it is far too early to assess whether monetary policy based on the Eurosystem's strategy has successfully maintained price stability. Nevertheless, the

currently available information on the outlook for price stability gives a very positive judgement on the single monetary policy in the first year.

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As the balance of risks increased, the ECB raised its interest rates in late 1999