THE SINGLE MONETARY POLICY IN STAGE THREE

Elements of the monetary policy strategy of the ESCB

February 1997

CONTENTS

EXECUTIVE SUMMARY

This report, which was prepared with the assistance of the EMI's Monetary Policy Sub-Committee, discusses issues related to the choice of a monetary policy strategy for the ESCB in the third stage of Monetary Union. The decision on the strategy for Stage Three will have to be taken by the ESCB, in line with its independent status, on the basis of the economic environment and financial market structure prevailing in the euro area. Nevertheless, the EMI has an important role to play in preparing this decision by analysing possible strategies for the ESCB and by ensuring that the technical infrastructure needed for the efficient pursuit of monetary policy strategies is available as from the start of Stage Three.

The assessment of alternative monetary strategies should be guided by the general principles of effectiveness, accountability, transparency, medium-term orientation, continuity, and consistency with the independent status of the ESCB. Among these principles, effectiveness is of a more general nature, as the other principles can, in a way, be seen as contributing to the effectiveness of a strategy.

In the assessment of a strategy for the ESCB, the likely environment for monetary policy in Stage Three and the specific situation at the start of Stage Three will also have to be taken into account. One key feature of the ESCB's environment is that, due to the prospective size of the euro area and the fact that participating countries will trade to a significant extent with one another as evidenced by the high degree of intra-EU trade, exchange rate developments will most likely constitute less of a concern for the conduct of monetary policy than is currently the case for many individual national central banks. Furthermore, the ESCB will be confronted with a situation in which there will be structural differences across participating countries as well as cross-country differences in economic policies. A further important aspect, which is crucial for the choice among various monetary policy strategies, is the characteristics of the average monetary policy transmission process in the euro area. Yet, the uncertainty about the transmission process is also one of the main characteristics of the specific situation of the ESCB at the start of Stage Three. Further challenges for the ESCB arise from the fact that it will have no track record of its own at the start of its operations and that it will have to devise its strategy taking into account the need for integration of new Member States into Monetary Union over time.

Several candidates for the ESCB's strategy have been examined by the EMI. For different reasons, it would not be advisable for the ESCB to pursue a strategy based on an exchange rate, interest rate or nominal GDP variable as an intermediate target. The analysis in this report therefore concentrates on only two strategies, namely monetary targeting and inflation targeting.

While pure forms of monetary and inflation targeting can be clearly distinguished at a theoretical level, their application in different countries has shown that several variants integrating elements of both strategies exist, with the borderlines between them sometimes being blurred. Common to both strategies is that they are based on the same final objective, price stability, that they are forward looking, and that they typically employ a wide range of indicators to assess the appropriateness of the stance of monetary policy. The main factor distinguishing the two strategies is the role played by monetary aggregates.

A detailed assessment of the two strategies against the guiding principles mentioned above and in light of the specific environment and the starting situation of the ESCB indicates that no unconditional recommendation can be given at this stage for the strategy of the ESCB. It can be argued that particular advantages of a monetary targeting strategy are that it clearly indicates a responsibility of the central bank for developments that are more directly under its control and that it can be interpreted by the public on the basis of observable information, in a transparent manner. In addition, monetary targeting would provide for continuity with regard to the strategy that was pursued by the anchor country in the ERM before the start of Stage Three. At the same time, it is recognised that the stability of money demand in the euro area is a crucial factor for determining the scope for monetary targeting. In this respect, stability of money demand is also important in guaranteeing that the ESCB actions can be confidently interpreted by the public as following a consistent scheme, thus ensuring that the strategy provides a clear anchor to inflation expectations.

In fact, the uncertainty concerning the empirical properties of money demand in the euro area is the main argument against a monetary targeting strategy, as damage to the credibility of the ESCB could not be excluded if monetary aggregates turned out to be highly volatile at the start of, or during, Stage Three. With respect to an inflation targeting strategy, it is argued that this strategy directly stresses the responsibility of the ESCB for achieving and maintaining price stability. Furthermore, policy actions under such a strategy can be consistently and directly linked to prospective price behaviour, which, if the strategy is credible, will affect public expectations in a favourable way. It should be noted, however, that, to be successful, inflation targeting also requires stable relationships between various economic and financial indicators, on the one hand, and future inflation, on the other.

While there is no need to determine the precise details of the ESCB's strategy at this stage, five key elements can be identified that would be a useful part of any strategy of the ESCB. These elements should include, firstly, the public announcement of a quantified definition of the final objective of "price stability". Secondly, the ESCB should announce specific targets against which its performance can be assessed. Thirdly, the ESCB should monitor a broad set of economic and financial indicators. Fourthly, within these indicators, monetary aggregates should play a prominent role by publicly setting either target or monitoring ranges for their growth if money demand is sufficiently stable in the long-run. Fifthly, the ESCB should be able, at least for the internal preparation of its policy decisions, to make its own forecasts for inflation and other economic variables.

The above elements can be combined in different ways. They would allow the ESCB the pursuit of both monetary and inflation targeting strategies and could also be used in frameworks which put strong emphasis on monetary targets while using supplementary elements from inflation targeting strategies, or vice versa. Discussing all the options for combining key elements would be premature at this stage since their assessment will largely depend on the circumstances prevailing in Stage Three. It should rather be left to the ESCB to decide on the importance it wishes to attach to each of these key elements in the actual implementation of its policy.

In the implementation of a monetary policy strategy, there are many detailed issues on which the ESCB will have to take a decision. The main choices concern the precise identification of the target variable, the length of the target horizon, the width of the target range, and the response of the

central bank to deviations from the target. Also crucial to the strategy is the communication with the general public. Finally, the ESCB will need to be equipped with the statistical and analytical infrastructure needed to provide guidance for the conduct of monetary policy.

In the remaining time before the establishment of the ESCB, the EMI will undertake further empirical research related to monetary policy strategy. Studies need to be undertaken on the area-wide monetary transmission process, on the properties of various variables as leading indicators for inflation, and on the properties of different monetary aggregates in terms of their stability, controllability and predictability. In view of the uncertainty about countries' membership in Monetary Union, these exercises will be conducted for different groupings of EU Member States. Furthermore, these exercises will also consider the likely impact of EMU on the empirical relationships. The EMI will also study, prior to the establishment of the ESCB, certain implementation aspects arising for the ESCB in the case of the entry of additional countries into Monetary Union after the start of Stage Three.

1   INTRODUCTION

This report, which was prepared with the assistance of the EMI's Monetary Policy Sub-Committee, discusses issues related to the choice of a monetary policy strategy for the ESCB in the third stage of Monetary Union. It provides background analysis to the EMI publication "The single monetary policy in Stage Three: specification of the operational framework" (January 1997), which already outlined some important considerations relating to the choice of a strategy for the ESCB.

A monetary policy strategy can be defined, in broad terms, as the set of procedures according to which the central bank decides how to achieve its final objective, price stability. The decision on a strategy for the ESCB will have to take into account the economic environment and the financial market structure prevailing in the single currency area in Stage Three. For legal reasons and on economic grounds, this decision can only be taken after the establishment of the ESCB, when the initial composition of the Monetary Union is known. Yet, the EMI has to play an important role in preparing for this decision. In particular, the EMI can conduct a thorough analysis of possible strategies for the ESCB with a view to addressing the main choices to be faced by the ESCB and identifying some key elements which would appear useful to be incorporated in any strategy of the ESCB. Furthermore, the EMI will have to ensure that the technical infrastructure which is needed for the efficient pursuit of alternative monetary policy strategies, is available as from the start of Stage Three.

On the basis of current central bank practices and taking into account theoretical considerations, five possible strategies have been considered by the EMI for Stage Three: exchange rate targeting, interest rate pegging, nominal income targeting, monetary targeting and direct inflation targeting. Of these five strategies, the first three options were not considered to be attractive for the ESCB, for various reasons.

First, an exchange rate objective is not considered appropriate since, for an area potentially as large as the euro area, such an approach might be inconsistent with the internal goal of price stability. Second, the use of an interest rate as an intermediate target is not considered appropriate given difficulties in identifying the equilibrium real interest rate which would be consistent with price stability. Third, employing the growth rate of nominal GDP which can be viewed as consistent with price stability as an intermediate target would provide a clear nominal framework and would have the advantage of not being sensitive to shocks in the income velocity of money. However, nominal income would be difficult to control by the ESCB, could lead to misinterpretation of the ultimate goal of the ESCB, could be subject to substantial data revisions and might lead to an indeterminate price/volume division in the short run, thus creating uncertainty about the inflation performance of the economy. Furthermore, the fact that nominal income targeting is not used at present in any EU Member State makes it inadvisable for the ESCB to adopt this strategy. For these reasons, special attention is paid in this report to only two strategies, monetary and direct inflation targeting.

The report is structured as follows: Chapter 2 presents a framework for assessing the appropriateness of a monetary policy strategy for the ESCB. Chapter 3 describes and assesses monetary and inflation targeting, and identifies elements the ESCB's strategy should incorporate. Chapter 4 discusses some detailed implementation aspects of the pursuit of any monetary policy strategy by the ESCB, including the need for further preparatory work to establish the infrastructure

necessary to support the pursuit of either of the two strategies. The final chapter offers some conclusions and outlines directions for further work.

Background studies to this report, covering literature surveys and original research by the EMI Services, will be published in the coming months in the EMI Staff Paper series.

2 A FRAMEWORK FOR SELECTING A MONETARY POLICY STRATEGY FOR THE ESCB

2.1 Elements of a strategy

It must be remembered that the central bank cannot directly control its final objective, price stability, by means of its instruments. Indeed, the central bank faces a complex transmission process which is characterised by the existence of several interlinked channels of transmission, with long and variable lags. Under these constraints, a monetary policy strategy typically has two aspects. The first is the internal decision-making process within the national central bank and the second is the presentation of the monetary policy actions to the public. As regards the first, regardless of the specific strategy pursued, it is universal practice for central banks to monitor a wide set of economic and financial variables as indicators, in order to assist in the determination of monetary policy decisions (although weights given to these elements may differ depending on the strategy used). As regards the second, the need for credibility and consistency of the decision-making process over time requires that the central bank establishes a clear framework which guides the use of its monetary policy instruments with a view to achieving its final target. In several countries, this framework involves the setting of intermediate targets (e.g. monetary or exchange rate targets) but recently an increasing number of central banks has gained initial experience with strategies involving the direct targeting of the final objective.

2.2 Guiding principles for assessing monetary policy strategies

The assessment of alternative monetary policy strategies for the ESCB should be guided by the following general principles:

□ *Effectiveness*: The strategy should be effective in the pursuit of the final objective;

□ *Accountability*: The strategy should involve the formulation and announcement of targets so that the central bank can be held accountable to the public for its actions;

□ *Transparency*: The process of setting targets and of making decisions on the basis of the strategy should be clear to the public;

□ *Medium-term orientation*: The strategy should be able to deliver its final objective over the medium term, thereby providing an anchor to inflation expectations, but nevertheless provide the central bank with some discretion in response to short-term deviations from the target;

□ *Continuity*: The strategy of the ESCB should build on the experience gained by participating national central banks before the start of Stage Three;

□ *Consistency with the independence of the ESCB*: The strategy must be consistent with the independent status granted to the ESCB by the Treaty and should support it as far as possible.

Obviously, effectiveness is a more general principle than the others as these can be seen as contributing in some specific aspects to the effectiveness of a strategy, e.g. by helping to make

announcements by the central bank more credible, thereby anchoring the public's inflation expectations and facilitating the maintenance of price stability.

2.3 Considerations about the economic and financial environment in Stage Three

The Treaty specifies that the primary objective of the ESCB is "to maintain price stability". In the pursuit of this objective, the ESCB will be operating in an environment which will in many respects differ significantly from those with which most national central banks in the Union are currently confronted. The following presents some factors which will be relevant in analysing possible challenges the ESCB will be faced with when pursuing the objective of price stability. All these factors have to be taken into account in the operation of any strategy. However, not all of them are seen to have a direct impact on the choice between alternative monetary policy strategies.

Pursuant to Art. 3a of the Treaty, the primary objective of the single *exchange rate policy* is the same as for the single monetary policy, namely to maintain price stability. Due to the prospective large size of the Monetary Union, which implies that it will be an economic area with a lower degree of openness than most Member States at present, exchange rate developments will constitute less of a concern for the ESCB than is currently the case for most individual EU central banks.

One important factor for determining the choice between specific monetary policy strategies will be the characteristics of the *monetary policy transmission process*, in particular that aspect of the transmission process which relates to the financial environment in Stage Three. A number of studies have already been conducted to date which have revealed some insight into the details of the average transmission process at a Union-wide level. However, the available research is still only partial and should be considered as preliminary.

A further feature of the ESCB's environment will be the significance of *structural differences across countries* within the single currency area. Due to the existence of national differences in institutions, regulations, traditions and policies, there is reason to assume that structural differences between EU countries are more significant than regional differences within individual countries. The stance of the single monetary policy of the ESCB can only be set to ensure that it is appropriate for the Monetary Union as a whole.

Cross-country differences are also likely to prevail in the area of other *economic policies*. In the pursuit of the objective of price stability, the ESCB has to take into account the general economic policy in the Union (which it has to support without prejudice to the objective of price stability). While there will be broad guidelines for the economic policies of the Member States and of the Community set by the European Council (pursuant to Art. 103 of the Treaty), the responsibility for defining and conducting these economic policies will mainly remain with the Member States. The largely decentralised set-up of economic policies will be particularly important in the field of public finance. The Treaty includes several provisions which aim at ensuring budgetary discipline of national authorities in Stage Three and Secondary Community legislation to strengthen budgetary discipline in Stage Three is currently under discussion in Community bodies, but there will be no Union-wide decision making on fiscal policies. It will be important for all strategies that the overall fiscal stance is compatible with a stability-oriented monetary policy.

2.4 The specific situation at the start of Stage Three

When preparing a monetary policy strategy for Stage Three, it has to be taken into account that the ESCB will be facing three particular challenges at the start of Stage Three: Firstly, the ESCB will have no track record of its own and must, therefore, attach highest priority to establishing a high degree of credibility. Secondly, the transition to Stage Three will constitute a major regime shift, which will imply a high degree of uncertainty concerning economic and financial conditions and developments in the Monetary Union. As noted above, the financial environment in Stage Three is most difficult to assess at present, in light of rapid financial change and innovation as well as uncertainty as to the initial composition of the Monetary Union. Thirdly, if not all Member States were to participate in the Monetary Union as from the start of Stage Three, the strategy should be sufficiently flexible to allow for integration of new countries over time.

2.5 The links to the operational framework for monetary policy

The links between the monetary policy strategy and the design of instruments and procedures of monetary policy are relatively loose. For this reason, decisions on strategic and operational issues can generally be taken independently from each other. It should be noted, however, that there are some links between the choice of a monetary targeting strategy and of the remuneration of reserve requirements. Nevertheless, reserve requirements which are not remunerated at market rates are not a prerequisite for the pursuit of a monetary targeting strategy.

3 POSSIBLE STRATEGIES FOR STAGE THREE

3.1 Monetary and inflation targeting

In order to gain and maintain credibility, the ESCB will need to have a clear strategy which is pre-announced to the public. As noted above, two main candidates for the ESCB's strategy in Stage Three have been identified: monetary targeting and direct inflation targeting. While pure forms of these strategies can be clearly distinguished at a theoretical level, their application in different countries has shown that several variants combining elements of both strategies exist, with the borderlines being sometimes blurred.

In its extreme theoretical variant, *monetary targeting* would involve the central bank choosing a monetary aggregate as its intermediate target and deciding on its monetary policy actions *solely* on the basis of comparisons between the target and actual monetary developments. In practice, central banks following a monetary targeting strategy adopt a more flexible approach, which typically involves, in addition to the announcement and pursuit of a monetary target, the monitoring of supplementary monetary, economic and financial indicator variables (such as actual and underlying rates of inflation, exchange rates, long-term interest rates, real economic developments, etc.). The analysis of these indicators, in turn, helps the central bank to assess whether deviations of monetary developments from the target path pose a threat to price stability or are of a more temporary nature, and whether inflationary pressures from other sources are present. It is notable that several central banks pursuing monetary targets also set quantitative medium-term norms for the final objective, price stability, in order to increase the transparency of their policy.

Inflation targeting strategies, in contrast, aim at directly steering the final target variable, the inflation rate, without the use of a *separate* intermediate target variable. Since monetary policy affects the final objective only with a lag, monetary policy actions under direct inflation targeting strategies are based on a comparison between the target for inflation and the forecast inflation rate. The inflation forecast, in turn, is generally derived by taking into account a broad range of economic and financial data, which are interpreted as information variables. In several countries pursuing inflation targeting, monetary aggregates play a prominent role among these indicators, including the setting of quantitative "monitoring ranges" as reference values for these variables.

This brief description already indicates that in practice, differences between monetary and inflation targeting strategies are not overwhelming. In fact, both strategies have typically the following key features in common:

□ they are based on the *same final objective*, price stability;

□ they are *forward looking* (i.e. they are not based on *current* inflation trends);

□ they employ a *wide range of indicators* to assess the appropriateness of the stance of monetary policy.

Obviously, the main factor distinguishing the two strategies is the role played by monetary aggregates. While monetary aggregates are taken into account under inflation targeting strategies, more emphasis is clearly placed on monetary developments in a strategy which publicly sets

targets for monetary growth. Even if this difference does not have large effects on the actual implementation of monetary policy, it is of importance in the presentation of the strategy and of monetary policy measures to the public, thereby affecting inflation expectations.

There is clear agreement that a monetary targeting strategy which *only* looks at monetary developments is too rigid a concept to be employed by central banks in practice. Even under a monetary targeting strategy, the ESCB would therefore have to base its assessment of the monetary stance on a broad range of supplementary economic and financial indicator variables. In the following, this consideration will be taken into account in the comparison of monetary and inflation targeting strategies.

3.2 An assessment of monetary and inflation targeting

The usefulness of monetary targeting and inflation targeting strategies for the ESCB can be assessed against the guiding principles specified in Section 2.2, taking into account the economic and financial environment likely to prevail in Stage Three as well as the specific challenges the ESCB faces at the start of its operations.

Effectiveness

The main criterion for assessing a monetary policy strategy must be its effectiveness in achieving the final target, i.e. whether the strategy is suited to realising price stability. This has an inward and an outward aspect. The first aspect refers to the question whether the strategy offers an appropriate guide for the decisions of the central bank. The second refers to its ability to create a favourable environment for a stability-oriented policy. Both aspects are interlinked.

As to the first aspect, since both strategies rely on the analysis of a similar range of economic and financial indicators, and aim at the same final objective, it is unlikely that the two strategies would offer radically different guidance to ESCB decisions. Therefore the inward aspect of effectiveness does not seem to provide a strong discriminating criterion between the two strategies. Differences might be more pronounced, however, concerning the outward aspect, as the two strategies involve differences in the information provided to the public, concerning both the ESCB's intentions and responsibilities. Depending on those differences, the two strategies might thus have a different impact on inflation expectations.

Concerning *intermediate monetary targeting*, the possibility to convey to the public the intended stance of monetary policy in a simple and effective way, and therefore to influence its expectations, depends very much, first, on whether a stable (or at least predictable) relationship between the chosen monetary aggregate and the final objective exists, and second, on whether the targeted monetary aggregate is controllable by the central bank through the use of monetary policy instruments. A further consideration in the assessment of a monetary targeting strategy is whether monetary aggregates possess desirable leading indicator properties for future inflation.

Empirical studies carried out for different EU country groupings on the basis of data for the recent past provide some indication that these three criteria might be fulfilled in Stage Three.[1] There are indications that the demand for European-wide monetary aggregates may be more stable than has been observed in individual countries.[2] In addition, there is some (though not conclusive) evidence that an EU-wide monetary aggregate is controllable by monetary policy instruments, and that a broad monetary aggregate such as M3H may contain relevant information for predicting future inflation.

There are, however, a number of reasons for treating such empirical results with caution. Firstly, in view of financial market deregulation and the on-going process of financial innovation, the stability of the behavioural relationships observed in financial markets in the past might not continue to exist in the future. In this respect, the move to Stage Three may constitute, by itself, a regime shift which might lead to changes in empirical relationships or even to instabilities. Secondly, there is a risk that the stability of a monetary aggregate is reduced when it is publicly announced by the central bank that the aggregate will be used as a target (even if this so-called Goodhart's law is not a universal experience). Thirdly, the empirical analyses conducted are subject to data and methodological limitations and are, in any event, of a preliminary nature, implying that definitive conclusions cannot be derived at this stage.

However, there is also a debate over the implications of some empirical properties of money for the effectiveness of a monetary targeting strategy. In particular, divergent views exist as to whether money being a leading indicator with respect to inflation is a necessary condition for monetary targeting to be effective. Similarly, opinions may differ as to whether, in addition to long-run stability, a stable short-term relation between money and prices is also necessary for effectiveness of monetary targeting. In this respect, it is generally agreed, however, that (depending on the length of the target horizon) short-run instability or base shifts in money demand create problems for monetary authorities as they require detailed explanations of deviations from the target to the public. At the same time, it can be argued that such short-term difficulties need not rule out a strategy of monetary targeting for the ESCB.

Concerning an *inflation targeting strategy*, it provides a quantitative reference for future inflation aiming precisely at anchoring inflation expectations. Its effectiveness depends on the ability of the central bank to forecast accurately and control future inflation. With respect to forecasting, the explicit use of a wider set of information variables is likely to lead to results which are at least as good as, and more likely better than, projections based solely on monetary aggregates. Thus, to the extent that a monetary targeting strategy would commit the central bank to place *unduly* high attention on monetary aggregates as compared to other variables, an inflation targeting strategy would score higher on this criterion. However, inflation forecasting over the medium and longer term is a difficult task and there is a risk that an inflation targeting strategy plays down the importance of monetary aggregates for long-term price developments.

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[1] Empirical issues are discussed further in background studies to this report which will be published in the coming months in the EMI Staff Paper series.

[2] A number of reasons have been put forward for the apparently superior performance of area-wide money demand equations. These include the effects of currency substitution across EU countries and a "mechanical" impact of statistical averaging across countries. Available evidence suggests that the latter is indeed an important factor underlying the results obtained.

A further criterion for the effectiveness of inflation targeting is controllability. In this respect, it is typically more difficult for the central bank to control the final objective than to control a monetary aggregate, at least in the short run, and credibility might therefore be more difficult to establish. However, it could be argued that this criticism applies to all monetary policy strategies since all strategies have to be evaluated in terms of their effectiveness in pursuing the final target.

A special problem arises at the beginning of Stage Three, namely to what extent the relatively high degree of uncertainty about empirical relationships in the monetary transmission process and the need to accommodate new countries in the Monetary Union over time would impact on the effectiveness of the two strategies. At the start of Stage Three, a relatively high degree of flexibility will be required in the pursuit of the ESCB's monetary policy strategy to cope with a new and changing environment. In this respect, uncertainty and structural breaks at the beginning of Stage Three will make inflation forecasting more complex. At the same time, money demand might also be affected, given ongoing financial innovation and the fact that the move to monetary union itself may lead to substantial portfolio reallocation; in such an environment, it is difficult to identify an appropriate measure of the money stock which would be suitable for monetary targeting purposes. Therefore, the beginning of Stage Three will make the pursuit of either monetary policy strategy difficult.

In sum, it can be stated that the relative effectiveness of monetary targeting and inflation targeting strategies depends very much on the role of money in the transmission process. If there is a sufficiently stable relationship between money and prices, it would be effective to announce a monetary target while, at the same time, monitoring other indicators relevant for the determination of future inflation. However, if the medium-term trend of money demand cannot be predicted to a sufficient degree, the effectiveness of monetary policy might not be enhanced if the ESCB committed itself by announcing a monetary target.

Accountability

Different views can be taken as to how to evaluate monetary and inflation targeting strategies with respect to the criteria of accountability. On the one hand, it can be argued that the specification of the final target in the Treaty makes the ESCB accountable for achieving and maintaining price stability. In this view, targeting inflation directly would stress the ESCB's responsibility. On the other hand, inflation is affected, at least in the short to medium term, by numerous factors outside the control of the central bank. There is a risk that such factors, if not prespecified, may be used by the central bank as a justification for failure to achieve the target or that the central bank would be assigned responsibility for unfavourable developments in inflation which were due to factors outside its control. Therefore, it can be argued that a monetary targeting strategy makes clear that the central bank can only be responsible for the monetary impulses to inflation, which it can control more readily than inflation itself.

Transparency

In principle, a monetary targeting strategy can be very transparent if the relationship between the monetary target and the final objective can be presented publicly in a simple way and if policy actions can be explained on the basis of deviations of monetary aggregates from their target. In this respect, monetary targeting encompasses a stronger pre-commitment of the central bank since monetary growth cannot be played down easily and thus provides less discretionary leeway in the decision-making process, thereby fostering the consistency of the decision-making process over time. However, the transparency of a monetary targeting strategy depends, in practice, very much on the stability of the targeted aggregate; a less predictable velocity of the monetary aggregate tends to make it more difficult to present the strategy to the public and thus reduces its transparency, as the central bank is forced to explain frequently deviations from the basic rule to the public.

While monetary targeting places strong emphasis on an observable variable, the monetary aggregate, inflation targeting bases monetary policy actions on a wide set of variables that are behind the central bank's own assessments for future inflation, which in turn are typically a complex function of econometric forecasts, experts' assessments and other judgmental factors. As a consequence, there may be some difficulties in presenting an inflation targeting strategy to the public in a simple and clear manner. On the other hand, the publication of regular reports consistently linking monetary policy decisions to prospects for future inflation constitutes, in practice, an important tool for enhancing transparency in an inflation targeting strategy. Furthermore, it was noted that monetary aggregates are rather abstract concepts to a large part of the public and that inflation targeting is more readily recognised by the public as an effective way to monitor the developments of inflation.

A difficulty concerning transparency of inflation targeting could stem from the fact that, within the Monetary Union, Member States will still publish domestic inflation indicators which could display temporary divergences. As the general public is likely to continue to pay keen attention to these national indicators, the transparency of the single monetary policy might be impaired. This is an element which may contribute to making monetary targeting a more transparent strategy in an environment which is characterised by significant differences in the transmission process across Member States participating in the Monetary Union.

Medium-term orientation

Both strategies are seen to be oriented towards the medium-term and are thus suited to providing a clear anchor for inflation expectations. In this respect, both strategies provide some scope for allowing short-term deviations from the target.

Continuity

At present, more EU central banks pursue inflation targeting than monetary targeting strategies. However, the adoption of monetary targeting in Stage Three would offer the advantage of ensuring continuity with the strategy of the EU central bank which has performed an anchor function in the ERM, in view of its long-term track record of fighting inflation. Following a monetary targeting strategy might therefore help the ESCB to inherit credibility from the start of its operations. On the other hand, it might also be argued that experience of EU central banks with inflation targets has been relatively successful so far, so that it might also be possible for the ESCB to gain credibility by following this approach in Stage Three. However, the experience to date is rather short, especially if one takes into account the considerable time lags in the monetary transmission process, and the recent performance has to be assessed against the favourable background of a global disinflation process.

As argued above, the practical differences between the monetary strategies pursued by different central banks in the EU are not so overwhelming. This convergence of de facto approaches should, in any case, help to achieve a high degree of continuity in the actual application of monetary policy in Stage Three.

Consistency with the independent status of the ESCB

It is obvious from the Treaty that it will be the responsibility of the ESCB to determine its strategy, to set targets and to decide on its monetary policy actions. While there is, de jure, no difference between monetary and inflation targeting strategies in this respect, it can be argued that the risk of interference by the government in monetary policy could be greater if the central bank sets targets for inflation rather than for monetary growth: by announcing the monetary constraints for other policies, the central bank underlines its own area of competence and thereby strengthens its independence. In this respect, the view can be taken that monetary targeting might be particularly useful to support independence in an environment which is characterised by a decentralised decision-making process in public finance and other economic policies. Furthermore, it can be argued that a central bank following a monetary targeting strategy can base its decisions on the observable trend in monetary aggregates, whereas the formulation of inflation forecasts under an inflation targeting strategy is less transparent, and might thereby provide more scope for subtle influence from the government or other external sources. At the same time, it should be emphasised that inflation forecasts from competing institutions and the comparison with actual outcomes substantially limit the scope for external influence under inflation targeting. Moreover, observable raw data are always subject to interpretation and thus, particularly in situations where monetary conditions are unstable, monetary targeting might also provide room for external pressure on the central bank.

3.3 Key elements of a strategy for Stage Three

The above assessment of the two strategies indicates that no unconditional recommendation can be given at this stage for the strategy of the ESCB. It can be argued that particular advantages of a monetary targeting strategy are that it clearly indicates a responsibility of the central bank for developments that are more directly under its control and that it can be interpreted by the public on the basis of observable information, in a transparent manner. In addition, monetary targeting would provide for continuity with regard to the strategy that was pursued by the anchor country in the ERM before the start of Stage Three. At the same time, it is recognised that the stability of money demand is a crucial factor for determining the scope for monetary targeting. In this respect, stability of money demand is also important in guaranteeing that the ESCB actions can be confidently interpreted by the public as following a consistent scheme, thus ensuring that the strategy provides a clear anchor to inflation expectations.

In fact, the uncertainty concerning the empirical properties of money demand in the euro area is the main argument against a monetary targeting strategy, as damage to the credibility of the ESCB could not be excluded if monetary aggregates turned out to be highly volatile at the start of, or during, Stage Three. With respect to an inflation targeting strategy, it is argued that this strategy directly stresses the responsibility of the ESCB of achieving and maintaining price stability. Furthermore, policy actions under such a strategy can be consistently and directly linked to prospective price behaviour, which, if the strategy is credible, will affect public expectations in a favourable way. It should be noted, however, that, to be successful, inflation targeting also requires stable relationships between various economic and financial indicators, on the one hand, and future inflation, on the other.

Obviously, the precise details of the ESCB's strategy need not be determined before the establishment of the ESCB. At the same time, in light of the many similarities between monetary and inflation targeting strategies applied in practice, it appears feasible, already at this stage, to sketch out some key elements that should be a useful part of any strategy by the ESCB.

Firstly, it will be useful for the ESCB to announce to the public a *definition of price stability*, with a view to enhancing transparency and credibility. While theory does not provide a precise definition of price stability and while measurement problems exist, there has been a broad consensus among central banks for several years that a range of 0%-2% inflation per annum would be appropriate.

Secondly, the ECB should publicly set *targets* against which its performance can be assessed and explain its policy actions to the public with reference to its targets. In this respect, it will be desirable to avoid frequent changes in the target variable, as such changes would not be conducive to enhancing the ESCB's credibility in Stage Three.

Thirdly, the ESCB's strategy should use all available information relevant for the final target of monetary policy and in this sense be based on the use of a *broad set of indicator variables* which would help in assessing the risks to future price stability. In line with current practices, it would appear appropriate for this set of variables to include financial variables (in particular, the money market yield curve, money and credit aggregates, credit market conditions, bond yields, exchange rates and other asset prices) as well as various non-financial variables (such as price and cost variables, indicators of aggregate demand and supply conditions, including the output gap, balance

of payments, and expectations surveys). Obviously, the ESCB will decide on how to make use of these (or other) indicators in light of the specific circumstances prevailing.

Fourthly, among the indicators listed above, the ESCB should give *monetary aggregates* a privileged role in its strategy by publicly setting either "target" or "monitoring" ranges for their growth, assuming that it is possible to characterise a stable long-term link to inflation. Monetary growth within these ranges should then be viewed as being broadly consistent with achieving price stability but there should be no mechanistic monetary policy response to a movement of monetary aggregates outside these ranges under all circumstances. Again, such an approach would be very much in line with practices of EU central banks at present, and it could be left to the ESCB to decide on the precise tactical details of the specification of the weight and role of monetary aggregates in its strategy.

Fifthly, the ESCB should, irrespective of the strategy, have at its disposal its own *forecasts for inflation* (and for other general economic developments) to assist in its policy decisions. In this context, a forecast of potential growth of the economy will be needed for defining a medium-term oriented monetary target or assessing the prospects for possible price pressure. If the infrastructure necessary to produce such forecasts will be in place at the start of Stage Three, it can be left to the ESCB to decide how much importance it wishes to attach to them in the formulation of its policy.

The above elements can be flexibly integrated by the ESCB in different ways. They would allow the ESCB the pursuit of both monetary and inflation targeting strategies and could also be used in frameworks which put high emphasis on monetary targets while using supplementary elements from inflation targeting strategies, or vice versa. While there is no such thing as a ready compromise, discussing all the options for combining key elements would be premature at this stage since their assessment will largely depend on the circumstances prevailing in Stage Three. It should rather be left to the ESCB to decide on the importance it wishes to attach to each of these key elements in the actual implementation of its policy.

4 IMPLEMENTATION ASPECTS OF A MONETARY POLICY STRATEGY

Once a particular strategy has been chosen by the ESCB, a number of implementation issues arise. While making decisions on most of these issues would not be relevant at this stage, it is helpful to identify and examine at an early stage the main choices that will have to be faced, with a view to facilitating the decision-making process by the ESCB. Furthermore, on some of these issues, preparatory work will have to be carried out.

4.1 The specification of targets

The choice of a specific target variable

An important issue arising in the specification of a central bank's strategy is the choice of the particular variable to be targeted. If the ESCB were to pursue monetary targeting, it would have to select a specific monetary aggregate for this purpose. It appears crucial that the candidate monetary aggregates fulfil certain "a priori conditions" (such as liquidity in transactions, or substitutability for deposits). Then, the choice among such aggregates would have to depend on their empirical properties such as stability and controllability.

The question of choosing a specific variable also arises for the final target. Under a monetary targeting strategy, the ESCB would not have to be so precise in the determination of the variable to which a price norm applies, since the different measures of inflation show a close convergence in the medium term. Furthermore, it might, in certain circumstances, even be advantageous to have the option of focusing publicly on alternative price indicators. In contrast, it appears that a specification of a particular price index would be necessary under an inflation targeting strategy, to ensure accountability. In this respect, the GDP deflator would have the advantage of having a close link to potential output growth and to exclude automatically the most typical supply shocks. However, GDP deflator data are only available (at best) at a quarterly frequency, and are less timely and subject to more frequent revisions than consumer price data. Moreover, the general public is less focused on this indicator than on the consumer price index. Against this background, central banks have, in practice, always used measures of consumer price inflation as target variables, at times corrected for the effects of distorting factors such as changes in indirect taxation (i.e. as measures for "underlying inflation"). A further consideration arising in Stage Three is that, in 1999, a harmonised consumer price index (HICP) will be available in the Union.

It should be recalled that the focus on a specific target variable would not affect the general need to consider a broad range of other indicators, including other monetary aggregates or price indices, when deciding on policy actions.

The length of the target horizon

A credible strategy requires that the ESCB should clearly define a target horizon, i.e. a point in time, or a period of time, within which it intends to achieve its target. The target horizon will have to take into account the lags with which monetary instruments are considered to affect the target

variable; these lags are generally shorter if a monetary aggregate is targeted than if future inflation is aimed at directly.

There might be merit in specifying a longer-term target in a monetary targeting strategy if the short-term velocity of a targeted aggregate were deemed to be too volatile to set an annual target. On the other hand, if the target horizon is relatively long, markets might have difficulties in assessing the central bank's commitment to, and success of, the pursued strategy in the early phases of the target period. In addition, depending on the exact formulation of the target, the disciplinary effect tends to be relatively low if the target horizon is very long. Furthermore, operating under a short-term horizon provides the central bank with additional flexibility in dealing with one-off shocks to the targeted variable (so called "base drift"). When setting its targets frequently, the central bank can take base drift into account in an implicit way, whereas operating under long-term horizons does not allow the central bank to deal with base drift without explicit target revisions.

The ECB might also have to consider a multi-year path for the target variable (irrespective of the strategy pursued) if at any time it aimed to reduce inflation by a significant amount.

The width of the target range

In any strategy, the central bank must take a decision on the precision with which the target is expressed. The wider the target range, the more flexibility the central bank has to respond to shocks, and the higher the likelihood of the target being met. On the other hand, a narrow target range may enhance accountability and the perception of the commitment of the central bank to the target, thereby promoting transparency. As both frequent failures to meet the target and the setting of very broad target ranges are not conducive to enhancing the central banks' credibility, the ESCB will be faced with a difficult choice, particularly at the start of Stage Three. The ESCB's choice of the target range should take into account the degree of controllability of the target variable and be assisted by empirical studies of the volatility of the targeted aggregates and the precision of inflation forecasts. In addition, in an inflation targeting strategy, the use of a narrow target corridor might, if it is credible, have the advantage of pinning down the private sectors' inflation expectations more precisely. Furthermore, it should be recalled that the attainment of price stability is what ultimately matters under either strategy.

4.2 The response to deviations from the target

The response of the central bank to deviations from the target is an important issue in any monetary policy strategy. In its decisions on the reaction to the deviation, the central bank will have to consider factors such as the nature, size and likely duration of the deviation. In general, if the deviation is perceived as signalling a threat to price stability, a monetary policy response is required, whereas no response, or only a muted one, may be appropriate if the deviation is seen as being of a one-off transitory nature. For example, if under a monetary targeting strategy a shift in money demand occurs due to factors such as changes in taxation of financial instruments and if it is not seen as likely to lead to inflationary pressure, the deviation may be tolerated. Similarly, under an inflation targeting strategy, one-off shifts in the price level (e.g. due to taxes or other supply-side factors) may be tolerated by the central bank to the extent that they are not expected to lead to

protracted increases in inflation. It is crucial in such cases that the central bank explains the reasons for its behaviour to the public.

4.3 Communication with the general public

As noted above, communication with the general public is a crucial element of any monetary policy strategy, and is usually an important factor in supporting the effectiveness of monetary policy actions. In general, communication with the public should enhance accountability of the central bank, increase the transparency of its actions and thereby contribute to building its credibility. Furthermore, communication with the public is an important tool to address potential problems in other policy areas affecting the successful pursuit of monetary policy.

In line with current practices in national central banks, it appears desirable that the communication strategy of the ESCB should involve the publication of a target and the details of its derivation, the regular publication of data and analysis relevant to monetary policy, as well as explanations of deviations from the target and of the policy responses of the central bank.

A detailed but important question for its public communication policy, is whether the ESCB should publish its own inflation forecasts. In an inflation targeting strategy, such publications, if explicitly conditioned on unchanged stance of monetary policy, enhance transparency as policy actions can then be motivated by the difference between the (conditional) forecast and the inflation target. However, there are conceptual difficulties in formulating forecasts conditioned on unchanged policies since some financial market indicators which provide input to these forecasts are typically influenced by the markets' anticipated stance of monetary policy over the forecasting horizon. Furthermore, there is a risk that publishing inflation forecasts may, at times, have adverse effects on financial markets and wage and price setting and that the credibility of the ESCB could be damaged in the medium-term if the conditional nature of the forecasts is not well explained. In this respect, it is seen as crucial that the ESCB be fully independent in its decisions on policy actions and not in apparent need of a published quantitative inflation forecast to convince the public about the appropriateness of its decisions. In view of such considerations, most EU central banks, including most of those targeting inflation directly, do not, at present, provide quantitative forecasts for future inflation rates to the public. Yet, even if quantitative inflation forecasts are not revealed it will be desirable to publish some form of information on inflation prospects, and this should include a discussion of the perceived risks around the central inflation projection.

4.4 Supporting statistical and analytical infrastructure

In order to carry out monetary policy effectively, the ESCB will have to have at its disposal a comprehensive statistical data set. Work is under way in the EMI, in collaboration with the EU central banks, on the implementation of the statistical infrastructure necessary for the conduct of a single monetary policy.[3]

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[3] See the EMI publication "The statistical requirements for Monetary Union" (July 1996) as well as the published EMI working document "Statistical requirements for Stage Three of Monetary Union (Implementation package)" (July 1996).

Obviously the ESCB will also need to be in a position to interpret the raw data and use it efficiently. For the performance of these tasks and, more generally, for the analysis of the environment of monetary policy, the ESCB will need to have at its disposal analysis capacities, including a broad range of econometric tools. In view of the lead times involved, the development of these tools has to commence prior to the establishment of the ESCB if they are to be available at the start of Stage Three and preparatory work is therefore underway in this area in the EMI.

5   CONCLUSIONS

Monetary and inflation targeting are seen as the two main benchmarks on the basis of which the choice of the ESCB's strategy in Stage Three should be made. While pure forms of these strategies can be clearly distinguished at a theoretical level, both strategies typically have a number of key elements in common, such as the definition of the objective of price stability, a forward-looking nature, and the employment of a wide range of indicators in the determination of the monetary policy stance. A main difference between them, however, relates to the role attached to monetary aggregates.

An assessment of the two strategies indicates that no unconditional recommendation can be given at this stage for the strategy of the ESCB. It can be argued that particular advantages of a monetary targeting strategy are that it clearly indicates a responsibility of the central bank for developments that are more directly under its control and that it can be interpreted by the public on the basis of observable information, in a transparent manner. In addition, monetary targeting would provide for continuity with regard to the strategy that was pursued by the anchor country in the ERM before the start of Stage Three. At the same time, it is recognised that the stability of money demand is a crucial factor for determining the scope for monetary targeting. In this respect, stability of money demand is also important in guaranteeing that the ESCB actions can be confidently interpreted by the public as following a consistent scheme, thus ensuring that the strategy provides a clear anchor to inflation expectations. In fact, the uncertainty concerning the empirical properties of money demand in the euro area is the main argument against a monetary targeting strategy, as damage to the credibility of the ESCB could not be excluded if monetary aggregates turned out to be highly volatile at the start of, or during, Stage Three. With respect to an inflation targeting strategy, it is argued that this strategy directly stresses the responsibility of the ESCB for achieving its statutory mandate. Furthermore, policy actions under such a strategy can be consistently and directly linked to prospective price behaviour, which, if the strategy is credible, will affect public expectations in a favourable way. It should be noted, however, that, to be successful, inflation targeting also requires stable relationships between various economic and financial indicators, on the one hand, and future inflation, on the other.

While there is no need to decide at this stage on the details of the strategy of the ESCB, a number of key elements can be identified that the ESCB's strategy should incorporate under any strategy. These elements include the public announcement of a definition of "price stability" as well as the announcement of specific targets against which the ESCB's performance can be assessed. The ESCB should, furthermore, monitor a broad set of economic and financial indicators. Within these indicators, monetary aggregates should play a prominent role by publicly setting either target or monitoring ranges for their growth if money demand is sufficiently stable in the long-run. Furthermore, the ESCB should be able, for the internal preparation of its policy decisions, to make its own forecasts for inflation and to assess potential growth and other economic variables. The above elements can be combined in different ways. They would allow the ESCB the pursuit of both monetary and inflation targeting strategies and could also be used in frameworks which put high emphasis on monetary targets while using supplementary elements from inflation targeting strategies, or vice versa.

In the implementation of a monetary policy strategy, there are many detailed issues on which the ESCB will have to take a decision. The main choices concern the precise definition of the target

variable, the length of the target horizon, the width of the target range, and the response of the central bank to deviations from the target. Also crucial to the strategy is the communication with the general public.

Furthermore, the pursuit of a strategy needs to be supported by statistical and analytical infrastructure. Work on the implementation of statistical infrastructure necessary for the conduct of a single monetary policy is under way. Concerning the economic analysis infrastructure, the EMI Services, together with the national central banks, have started to undertake the necessary preparatory work in the development of econometric tools to allow the ESCB to assess economic and financial trends and to produce forecasts of inflation and other main economic developments in the Monetary Union as from the start of its operations.

Before the establishment of the ECB, the EMI will need to further deepen its understanding of the empirical properties of the EU economy and of different groupings of Member States. The EMI's research will focus, in particular, on the following fields (taking into account the likely impact of EMU on these empirical relationships):

o the area-wide monetary transmission process;

o the properties of various economic and financial indicators as leading indicators for inflation, with a view to preparing inflation forecasting procedures; and

o the empirical properties of different monetary aggregates in terms of stability, controllability and predictability.

Moreover, the EMI will study the experiences of major industrial countries outside the EU with strategies combining elements of both monetary and inflation targeting.

The EMI will also study, prior to the establishment of the ESCB, the co-ordination of monetary policies between participating and non-participating Member States in Stage Three as well as certain implementation aspects which will arise for the ESCB in case of the entry of additional countries into Monetary Union after the start of Stage Three.