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What Is Good and What is Bad with the Eurosystem's Published Forecasts, and How Can They Be Improved?*

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On December 20, 2000, in an advance copy of part of the December *Monthly Bulletin*, the Eurosystem finally published its eagerly awaited inflation forecast (as well as a forecast of GDP growth). It did so after having been provoked and prodded to do so, by the European Parliament's Committee on Economic and Monetary Affairs and a large number of external observers and commentators, since the announcement of the Eurosystem monetary-policy strategy in the fall of 1998. This Briefing Paper discusses what is good and bad with these forecasts and how they could be improved.

The primary objective of Eurosystem monetary policy is to maintain price stability, defined as an annual increase in the HICP below two percent.[1] Because of the lags in the effects of monetary-policy actions on aggregate demand and inflation, monetary-policy actions cannot affect current inflation and output, nor inflation or output in the near future. A rough benchmark is that monetary policy affects output in about a year and inflation in about two years. Therefore, Eurosystem monetary policy has to be guided by inflation forecasts about two years ahead.

As discussed further in Svensson [5], for successful policy, the Eurosystem must construct conditional inflation forecasts. These forecasts should depend on all relevant information, including the Eurosystem's view of the transmission mechanism for monetary policy, its view of the current economic and monetary situation within and outside the Euro area, information

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[1] As many commentators have suggested, it would be better to formulate this definition in an unambiguous and symmetric way as a point inflation target, say 1.5%, possibly with a tolerance interval, ±1%.

about current and future fiscal policy, private-sector inflation expectations, etc. In particular, the forecasts should be contingent on alternative paths for the monetary-policy instrument rate, that is, the interest rate on the main refinancing operations. This way, the Eurosystem can select an instrument-rate path, for which the conditional inflation forecast about two years ahead is in line with the definition of price stability, and then set the instrument rate accordingly.

Since forecasts are crucial in a forward-looking monetary policy, transparency requires that the Eurosystem's forecasts are published (including the assumptions and reasoning used when constructing the forecasts) and made available for external scrutiny. This makes it easier for the general public to hold the Eurosystem accountable for its conduct of policy, which in turn provides stronger incentives for the Eurosystem to conduct good policy.[2]

The Eurosystem forecasts were published for the first time on December 20, 2000. What is good with the publication and the forecasts? First, the publication itself as an indicator of progress in the brief history of Eurosystem monetary policy. The publication provides better information than before about the Eurosystem's assessment of the outlook for inflation and GDP.

Second, the publication is likely to bring increasing commitment and discipline to Eurosystem policy. It will contribute to making both policy and the policy discussion more forward-looking, both internally within the Eurosystem and externally among observers and commentators. Publication raises the internal profile of the forecast process, provides stronger internal incentives to do good forecasts and should induce the staff, Executive Board and Governing Council to discuss policy more in terms of forecasts. This is how it should be. Even though a number of speeches by Eurosystem officials, for instance, Issing [3], attempts to play down the role of the forecasts, as discussed by Goodhart [2], publication necessarily implies greater commitment and discipline. For instance, it will be quite difficult for the Eurosystem to publish forecasts that indicate inflation deviating from the target range implied by the Eurosystem's definition of price stability, without soon taking counteracting policy decisions.

What is bad with the published forecasts, and what improvements are warranted? First, in line with the Eurosystem's ambiguous attitude towards transparency, some attempts are made to reduce the informativeness of the forecasts. For instance, only a table with average annual percentage changes is reported. Graphs would convey more information on the dynamics and

[2] State-of-the-art forecasting for monetary policy, including assessments of the uncertainty of the forecasts, is presented, for instance, in the regular *Inflation Reports* by the Bank of England and by Sveriges Riksbank and in the regular *Monetary Policy Statement* by the Reserve Bank of New Zealand. Many other central banks publish regular forecasts; recently the Swiss National Bank and Bank of Japan have started to do so.

the trend during the forecasting period.

Second, the degree of uncertainty is indicated by intervals. Fan charts, as developed and used by the Bank of England and Sveriges Riksbank convey more information and also allow illustration of situations when the risk is not symmetric. This is an obvious area for further improvement.

Third, the forecasts are, at least initially, to be published only every six months. A quarterly frequency is more appropriate, which is also the frequency of publication by the Reserve Bank of New Zealand, the Bank of England and Sveriges Riksbank. However, construction of the forecasts is currently an administratively complex and time-demanding procedure, since it involves not only the ECB but the 12 national central banks as well. A good compromise, for a while, might be that the whole Eurosystem produces and publishes a forecast twice a year, say every June and December, and that the ECB alone produces and publishes a forecast twice a year in between, in March and September.

Fourth, no forecast of potential output is reported. Since potential output is a crucial concept in modern monetary policy, and since the output gap (the difference between GDP and potential output) is more relevant for monetary policy than GDP growth, it is desirable that the Eurosystem also publishes forecasts of potential output and the output gap. The fact that estimating and forecasting potential output is difficult and subject to substantial uncertainty is not an argument against publication; forecasts of potential output are still crucial in forward-looking monetary policy, and transparency and accountability of Eurosystem policy therefore requires that these estimates and forecasts are revealed.

Fifth, the conditioning assumptions about interest rates and exchange rates are very problematic. The short interest rate and the exchange rate are both taken to be constant. Long interest rates are based on market expectations. These assumptions are deeply inconsistent. Suppose the short interest rate is assumed to be constant, corresponding to "unchanged policy" in the sense of an unchanged refinancing rate. Then a constant exchange rate is inconsistent with standard interest parity conditions (unless by chance the short interest rate happens to equal the sum of the foreign short interest rate and the foreign-exchange premium). Furthermore, since markets are unlikely to expect a constant short interest rate, the assumed long-term rate will be inconsistent with the short-rate assumption. Of all alternatives, the Eurosystem seems to have picked the worst one. It would be better to assume a constant short interest rate and a time-varying exchange rate consistent with interest parity. This is then still inconsistent with

long interest rate and asset prices determined by market expectations. The best alternative would be an optimal short-interest-rate path with consistent exchange rates and long interest rate, but this would require a Governing Council decision on that interest-rate path, which currently seems infeasible.

A good compromise might be to publish forecasts conditional on market expectations of short and long interest rates and exchange rates. Such conditional forecasts are already among those published by the Bank of England and Sverige Riksbank. If such an inflation forecast would exceed two percent two years ahead, the implication would be that the Eurosystem must pursue a policy tighter than the market expects, in order to bring inflation below the two percent ceiling.

Sixth, these forecasts are part of the second, non-monetary-aggregates pillar in the Eurosystem's unfortunate two-pillar strategy. To most observers, this is natural, given the insignificant amount of information about future inflation contained in the Eurosystem's money-growth indicator (the gap between actual M3 growth and the reference value) (see Svensson [6]). If the Eurosystem maintains that monetary aggregates contains useful information (which may be the case for other indicators than the Eurosystem's money-growth indicator, for instance, the "real money gap" discussed in Gerlach and Svensson [1]), it would be more consistent to incorporate this information into the published forecast, and make the forecasts conditional on *all* information deemed relevant. This is, for instance, the approach of the Swiss National Bank, after it abandoned monetary targeting in December 1999 (see Swiss National Bank [7]).

Seven, the Eurosystem maintains that forecasts are not "sufficient statistics" for monetary-policy decisions (see for instance, Issing [3]). The truth is that they are, provided that they incorporate all relevant information and also are modified according to the judgment of the decision-maker. A Eurosystem staff forecast can in principle incorporate all relevant information. It is unlikely that the Governors and the Executive Board members of the Governing Council would have any relevant information that the combined Eurosystem staff (including both the ECB and the national central banks) does not have. Of course, the administrative complexity and the time required for the forecasting process may imply that some of the information has become dated. Still, it is in principle possible to make a last-minute update of the forecast to make it include all available relevant information. But, an updated staff forecast like that would still not incorporate all Governing Council judgment.

Therefore, if the Eurosystem wishes to be transparent, it should find a way for the Governing

Council to (1) explicitly announce how its judgment differs from that of the staff and (2) how the forecast of the Governing Council's majority differs from that of the staff.

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