# Hermann Remsperger: Real-time data and monetary policy

Welcome address by Professor Hermann Remsperger, Member of the Executive Board of the Deutsche Bundesbank, at the Bundesbank Conference on "Real-time data and monetary policy", Eltville, 28 May 2004.

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Ladies and Gentlemen,

I have the pleasure of welcoming you to our conference on "Real-Time Data and Monetary Policy" which has been organised by Heinz Herrmann, Athanasios Orphanides and Pierre Siklos.

Our conference concentrates on the uncertainty about the actual level of key macro variables. Until a few years ago, this issue received little attention in the academic debate on monetary policy. This has changed dramatically over the last few years, not least under the influence of economists attending this conference like Athanasios Orphanides or Dean Croushore.

Awareness of the measurement problems in real-time data has important consequences. One could separate them into two classes which I would like to term "ex post" aspects on the one side and "ex ante" aspects on the other.

With "ex post" aspects, I mean the implications for the empirical analysis of monetary policy. For instance, we have learned that the evaluation of forecasts based on final data may be misleading because it does not take into account which data were actually available at the time the forecasts were made.

Or, as another example, when analysing monetary policy decisions, it is important to reconstruct the information set available to policy makers at the time the decisions were made.

With "ex ante" aspects, I mean the implications of measurement problems for the conduct of monetary policy. This category includes questions like "How can we learn from past data revisions to improve our knowledge about future data?" or "How will the awareness of these measurement problems influence our policy decisions and the choice of our monetary policy approach?". Obviously, all these topics are interlinked.

Answers to these questions require real-time data sets for key variables like real and nominal GDP, potential output and inflation. At first glance, developing a real-time data set seems to be rather simple - just enter old data into spreadsheets and save them for future use. But in practice, old data are usually overwritten by new data without saving the older vintage.

Producing a real-time data set thus requires a substantial amount of effort, including digging through old source data and figuring out what data were available at what time - a Herculean task, considering the lack of documentation for much of the data.

In the US, research on real-time issues owes much to the efforts of Dean Croushore and Tom Stark from the Federal Reserve Bank of Philadelphia who developed a comprehensive real-time data set for the US economy. At the same time, Athanasios Orphanides reconstructed the real-time data and forecasts available to the FOMC from the Greenbooks which are prepared by the Federal Reserve staff for each meeting.

The pioneering work of our American collegues has shown that measurement problems do indeed matter for the conduct of monetary policy. For example, we have learned from their studies that the problem of measurement error is likely to be particularly severe for the output gap - a concept which figures very prominently in much of the recent literature on monetary policy issues.

Thus, it is not surprising that researchers outside the US, in particular in Europe, have taken up the issue of real-time data. This conference here in Eltville offers a good chance to present recent research on this issue. Today and tomorrow, we will listen to presentations of papers based on real-time national data for the US, the UK, Germany, Japan, Canada, Norway and Switzerland as well as realtime OECD forecasts for the G7 countries and the euro area countries.

We at the Bundesbank started to compile a set of real-time data on the German economy two and a half years ago. And we have used these data for selected research topics. Let me give you three examples.

*First*, Jörg Döpke has used the data set to calculate real-time output gaps (Discussion Paper 11/2004). In accordance with the studies by Orphanides and van Norden (1999, 2002), he finds that the real-time gaps differ considerably from their counterparts based on the latest vintage of data.

One period when the difference between today's estimates and the real-time perception of the output gap was particularly pronounced is the economic boom following German reunification. At that time, the measurement error for the output gap reached a size of up to four percentage points (depending on the estimation method used).

In this particular case, the error was due to a temporary underestimation of actual output as well as to a more persistent overestimation of potential output. Doepke's results thus provide additional evidence that measurement problems can seriously distort the assessment of current economic activity relative to its long-run trend.

*Second,* Thomas Knetsch has analysed the importance of inventory investment for German business cycles. He finds that preliminary national accounts data of inventory investment are generally of poor quality. In another paper, he discusses how additional real-time information, in particular data from the Ifo Business survey, can be used to improve upon the preliminary official figures on the current level of inventories (Discussion Paper nine and 10/2004).

*Third,* Christina Gerberding, Franz Seitz and Andreas Worms have used the real-time data set to re-examine the existing "evidence" that the Bundesbank's monetary policy can well be captured by a standard Taylor rule. As you know, Clarida, Gali and Gertler claimed to have shown that the Bundesbank did not pursue a strategy of monetary targeting but in effect followed a forward-looking variant of the Taylor rule.

I do not wish to anticipate the discussion at our conference. But I'm sure that we will hear some new arguments about monetary policy in Germany in the past. For instance, Gerberding, Seitz and Worms will present evidence that the Bundesbank did respond to deviations of real-time measures of money growth, expected inflation and output growth from their respective targets.

In my view, the debate about the Bundesbank's monetary policy directly leads to the "ex ante" aspects of data uncertainty, and thus to the following question: How should central bankers deal with measurement problems and other forms of data uncertainty during the decision-making process? I'd like to make four short remarks on that question.

*First* of all, it seems fairly uncontroversial to me that concern about data uncertainty provides an additional and important argument against fine-tuning the economy with monetary policy instruments.

We have to take into account that data on current output are exposed to considerable uncertainty. On top of that, it is even more difficult to estimate potential output. Hence, every attempt to fine-tune the economy bears the risk of policy errors with the corresponding negative effects on price stability.

In my view, and that's my second point, the more recent research on data uncertainty supports the principle of a cautious monetary policy approach ("steady as she goes policy").

As we know that important data on the economic situation are subject to revision, it generally can make sense to wait for newer, and more reliable, data. Cautious central bankers only change the status quo in monetary policy when the signs of an assumed change in the development of key macroeconomic variables become more apparent.

The problem of data uncertainty suggests that we should not rely on one single indicator when we have to assess risks to price stability. Instead we should analyse a broad range of information variables. However, when following such a broad approach, we have to take into account that the extent of measurement problems differs from one indicator to the other.

Very generally speaking, and that's my *third* point, I'd like to emphasise that indicators from the monetary and financial sphere are far less affected by the problem of data uncertainty than real economic variables such as output and the output gap.

Against this background, it comes as no surprise that a monetary policy approach should be as robust as possible against different forms of data and model uncertainties.

In the past few years, a number of simulation studies have been carried out to assess which monetary policy approach achieves good results under various assumptions about the transmission process. These studies take into account model uncertainty. However, they largely disregard the problem of data uncertainty. Consequently, their value for practical monetary policy is rather limited.

I think, the search for a robust strategy in monetary policy could be broadened to include the kind of measurement problems that we will discuss here at this conference. Taking this broader perspective, and that's my *fourth and final* point, a monetary policy would be considered robust if it performed well in the face of different forms of data and model uncertainty. Research in this direction has only just begun.[1] I hope that this research will give further support to the ECB's strategy.

Let me conclude by emphasising that research on real-time data is of utmost importance for central banks. That's why I am very much interested in the papers that you will present here today and tomorrow. I wish you thought-provoking discussions and a pleasant stay at our conference facilities. Thank you very much for your attention.

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[1] See, for instance, Walsh, C (2003): "Implications of a changing economic structure for the strategy of monetary policy", *Federal Reserve Bank of Kansas City*".