Jürgen Stark: The contribution of monetary policy and financial statistics to the conduct of monetary policy

Statement by Mr Jürgen Stark, Member of the Executive Board of the European Central Bank, at the 4th ECB Conference on Statistics "A strategic vision for statistics – challenges for the next 10 years", Frankfurt am Main, 24 April 2008.

* * *

Ladies and Gentlemen:

It is a great pleasure to contribute to this conference. As the Executive Board member responsible for economics at the ECB, I am acutely aware of the dependence of the analysis underpinning our monetary policy decisions on the quality and breadth of the available statistics.

We all recall the famous aphorism – variously attributed to Benjamin Disraeli and Mark Twain – that "there are lies, damned lies and statistics". I trust that our discussions during this conference will dispel the implied concern about the use of statistical information. After all, without high quality data, on what would analysis rest?

In my remarks today, I would like to highlight a number of important statistical requirements for the effective conduct of monetary policy, focusing in particular on the ECB's monetary analysis. Developing monetary and financial statistics is of course an important responsibility of the ECB itself, so there is an element of "keeping our own house" in order in what I will say. At the same time, I am aware that our need for high quality statistics places a burden on reporting agents – on banks, firms and households – at a time when they already face many other challenges.

Monetary policy: objective and strategy

My contribution today takes as its starting point the primary objective of the ECB and its single monetary policy, namely the maintenance of price stability in the euro area.

In pursuit of this objective, the Governing Council follows its monetary policy strategy.

One crucial element of the strategy is the ECB's quantitative definition of price stability. I would like to first reflect briefly on some statistical issues behind our definition of price stability.

In 1998, the Governing Council defined price stability as a year-on-year increase in the Harmonised Index of Consumer Price (or HICP) for the euro area of below 2%. In 2003, the Governing Council confirmed this definition, while clarifying that it aimed for annual HICP inflation "below, but close to, 2%" over the medium term.

The HICP was chosen as the index used to define price stability because it is a state-of-the-art measure of the price of households' monetary consumption expenditures in the euro area. The HICP meets high standards as regards credibility, accuracy and reliability. It is further available in a timely manner and at high frequency. These are crucial conditions a price index has to fulfil to adequately support monetary policy making.

Of course, improvement of the HICP along any of these dimensions is welcome, as it will deepen our understanding of price developments and improve the reliability of our definition of price stability.

At present, discussions are taking place about the possible extension of the HICP to include Owner Occupied Housing (OOH) costs. This could address one of the short-comings of the HICP, namely the exclusion of price changes for housing costs faced by home-owners.

However, including owner-occupied housing expenditures is likely to create measurement problems, as well as posing significant challenges to the timeliness and frequency of the extended HICP series. More importantly, some of the available statistical treatments of owner-occupied housing costs would introduce an asset price or interest rate component into the price index, which could be conceptually problematic for the conduct of monetary policy.

An in-depth technical analysis of various approaches to including owner-occupied housing expenditures in the HICP is ongoing. It is still too early for a final assessment.

The other crucial part of the strategy is the two pillar framework for identifying and assessing risks to price stability. As you all know, an *economic analysis*, which assesses the implications of cyclical economic dynamics and shocks on the risks to price stability at short to medium-term horizons, is cross-checked by a *monetary analysis*, that is focused on the identification of monetary trends that influence price developments over the medium to longer term.

Notwithstanding the considerable efforts of those involved in the preparation of Monetary Union, at the start of Stage III in 1999 significant gaps and weaknesses in the statistics then available still existed. As a result, the uncertainty surrounding the assessment of economic and monetary conditions was inevitably higher, with the paucity of statistics compounding the already significant challenges for analysis created by the behavioural changes associated with the regime change constituted by Monetary Union.

A concerted effort to collect and construct additional data has significantly improved the statistical situation. Indeed, uncertainty created by the lack of statistical information has dissipated over time.

But, at the same time, our experience at the ECB has been that better data in one field does not permit any scaling down of effort in improving data in other areas. On the contrary, in the face of the constant and evolving challenges posed to monetary policy makers, better data simply facilitates the necessary deeper, broader and richer analysis that is always required in order to take decisions that can serve the ECB's mandate.

Ample proof is surely provided by the experience of the past few months. Central banks throughout the world have faced financial turmoil and tensions in the banking sector. Taking monetary policy decisions in this environment demands thorough knowledge and analysis of monetary and financial factors and thus, in turn, an adequate statistical base covering these areas.

With these general considerations in mind, I now turn to the ECB's monetary analysis in greater detail.

Enhancing the monetary analysis

The prominent role for money in the ECB's monetary policy strategy derives from the robust empirical relationship between monetary growth and inflation over longer horizons. For a central bank with a mandate to maintain price stability, a close analysis of monetary dynamics is a natural component of a comprehensive framework to analyse inflationary risks. But the question remains of how to employ the relationship between money and prices operationally to guide monetary policy decisions.

At the ECB, we have found it possible to extract important, policy-relevant information from the monetary developments in real time.

Central to the real time extraction of policy-relevant information from monetary developments is a *broad-based approach* to monetary analysis. It draws in the first instance on data from the MFI balance sheet but also encompasses a wide variety of other, complementary sources, notably financial statistics such as MFI interest rates, securities issuance data, the Eurosystem bank lending survey, and others.

Such a comprehensive and detailed analysis of a broad range of data serves to identify and monitor underlying trends in the monetary data that are relevant for the outlook for price stability and thus for monetary policy decisions.[1]

Analysing the channels through which monetary developments influence inflation dynamics is obviously central:

- Money and credit dynamics play an important role in the evolution of asset prices.[2] Monetary analysis may even help to identify asset price misalignments which – as the Japanese experience in the 1990s attests – can ultimately unwind in ways detrimental to macroeconomic and price stability.
- Moreover, by providing insight into the portfolio behaviour of money-holders and banks, monetary analysis also enriches our assessment of private sector attitudes to risk, which play an important part in spending and pricing decisions.
- Furthermore, money and, particularly, credit developments are an important component of the financing conditions facing firms and households, which can have significant implications for consumption and investment decisions that drive the business cycle.

Understanding these channels better is at the heart of the agenda to enhance the monetary analysis that is being pursued by Eurosystem staff at the behest of the Governing Council.[3]

Four avenues for further research in order to deepen our monetary analysis have been identified.

First, new money demand equations are being developed, which can better explain monetary developments observed over the past few years.

Second, the indicator properties of monetary developments for inflation are being investigated in greater detail, with a focus on the relationship over longer horizons.

Third, the Governing Council has commissioned further work on structural models of the economy that incorporate an important role for monetary and financial variables.

Finally, the Governing Council seeks tools that will aid its cross-checking of the economic and monetary analyses, which is central to the ECB's monetary policy strategy. Scenarios constructed using structural models are one such approach, while the integrative framework provided by the new euro area accounts is another.

Work on these four avenues is ongoing.

Our ambitious agenda not only challenges those developing the monetary analysis; it also creates new data demands and statistical requirements. It is to those that I now turn.

Statistical requirements for enhancing the monetary analysis

What are the statistical requirements for enhancing the monetary analysis?

---

1 See "Monetary analysis in real time", ECB Monthly Bulletin October 2004 and B. Fischer, et al. (2008) "Money and monetary policy: The ECB experience 1999-2006" in eds. A. Beyer and L. Reichlin *The role of money – Money and monetary policy in the twenty-first century* (ECB).

2 See R. Adalid and C. Detken (2007) "Liquidity shocks and asset price boom/bust cycles", ECB working paper no. 732.

3 See J. Stark "Enhancing the monetary analysis", speech at the conference "The ECB and its watchers IX", Frankfurt 7 September 2007 (http://www.ecb.europa.eu/press/key/date/2007/html/sp070907_1.en.html).

First, the availability of *long runs of historical data* is crucial to the development of appropriate models and tools. There is thus a vital need for long monetary time series that are *consistent over time*.

Meeting this requirement is crucial to developing a better understanding of the leading indicator properties of money for future price developments over longer horizons, and thus for constructing the policy-relevant money-based inflation risk indicators. Moreover, conventional techniques to estimate money demand models rely on long time series, which are often not available for the relevant variables, such as wealth, in the euro area.

Second, a sufficient degree of *homogeneity in statistical definitions* and concepts used across countries must be achieved. Notwithstanding the considerable efforts made to harmonise the monetary series in the run up to Stage III, significant analytical challenges continue to exist in this respect, given the remaining significant differences in retail financial systems across the euro area.

Third, undertaking the real-time analysis requires the provision of *timely* data. This includes, when necessary, anonymised information on specific one-off or special transactions that influence the aggregate series. Notwithstanding the medium-term orientation of the monetary analysis, obtaining data – notably for the MFI balance sheet – at a monthly frequency and in a timely fashion is crucial to determine promptly the *current* underlying trend in monetary and credit expansion. This is because of the well-known "end-point problem" in time series analysis, whereby the latest observations have a very high weight in determining the turning points in the evolution of the series. These turning points in the data are obviously crucial from the policy perspective, since they may lead to turning points in the evolution of the policy stance, as was the case in 2005. Obtaining data with a long lag or only on a quarterly basis implies that the identification of turning points in monetary trends is delayed relative to a situation where monthly data are available promptly.

Fourth, a *rich data set* is needed. Data that have proved useful in developing a rich understanding of monetary developments at the ECB include all aspects of the MFI balance sheet: the *components* of M3; the *counterparts* to M3 (notably loans and credit); holdings of M3 *deposits by institutional sector*; and contributions to M3 deposits by the *residency of the issuing bank*.

In particular, in deepening our understanding of money demand, one promising approach is to distinguish between deposits held by households, non-financial corporations and non-monetary financial institutions. This obviously requires sectoral monetary data. Research undertaken by ECB staff suggests that the responsiveness of money holdings to interest rate or income changes varies widely across sectors, and that some patterns in the aggregate monetary data are better explained by building up from the sectoral level.[4]

Fifth, consistency of the monetary data with other sources of relevant data is crucial. Maintaining consistency of the monetary data with other data sources can facilitate the cross-checking of the monetary analysis with the economic analysis (e.g. in the context of the euro area accounts). Consistency among various data sets also supports the estimation of structural models that embed monetary and financial frictions within a real economy framework.

Improving consistency between the concepts underlying the construction of the monetary data and those used by banks when reporting for accounting and regulatory purposes is also desirable. Not only should this serve to lessen the burden imposed on reporting agents, but it may also help to avoid confusion in the interpretation of the data that can emerge when superficially similar concepts have quite different economic meanings and relevance.

---

[4] See J. von Landesberger (2007), "Sectoral money demand models for the euro area based on a common set of determinants", ECB working paper no. 741.

Sixth, better primary information on both banks and counterparty sectors is needed.

The ECB has taken a number of important initiatives in this regard.

- The Eurosystem bank lending survey is now a well-established source of information on financing conditions, which complements and enhances the regular analysis of loan and credit flows. Consideration is currently being given to surveys of the corporate and household sectors that would provide a new source of information on financial developments, the cost and availability of credit and portfolio behaviour.
- Obtaining new primary data on the balance sheets of financial institutions other than banks would be particularly welcome. One feature of the monetary data in recent years has been the rising share of non-monetary financial institutions in money holdings, which would be better understood on the basis of a more comprehensive analysis of the balance sheets of such institutions.
- More generally, developing more comprehensive balance sheet statistics and, in particular, measures of sectoral wealth are important. Such data can support the refinement of money demand models. Indeed, to make progress with our agenda for enhancing the monetary analysis, statistical work is urgently required to improve the available sectoral wealth data, in particular by providing longer time series that will money holding to be modelled as part of a wider portfolio decision.

Seventh, it is important that the statistical framework for the monetary data maintains a high degree of *clarity and stability* in its definition of concepts, so that central bank staff and policy makers can be precise in their analysis and assessment. Unless we can develop a thorough understanding of the meaning of the data, interpretation will prove impossible.

Eighth, sufficient flexibility is required to encompass the new instruments and behaviour implied by financial innovation. If necessary, statistics must be *promptly and regularly updated in the face of rapid financial innovation and broader structural change*.

Of course, a trade-off exists between the stability and flexibility of the statistical framework. Careful management of this trade-off is required in order to make monetary series meaningful for policy purposes in real time.

In particular, it is apparent that the statistical framework needs to incorporate new instruments and business models resulting from financial innovation in a manner that maintains consistency between key aggregates (such as M1, M3 or MFI loans) and the policy-relevant underlying economic concepts (such as liquidity, money or financing). Yet if such updating implied almost continuous changes to the definition of key aggregates, a consistent analysis of the data over time would be impossible.

Of course, I could go on and on: statisticians and reporting agents know all too well that economists and policy makers' data requirements are, in principle, inexhaustible. The merits and costs procedure adopted by the Governing Council to assess new statistical regulations reflects the need to cap this insatiable demand.

Today I will limit myself to nine requirements, and thereby come to my *final* point. In designing and constructing monetary and financial statistics for monetary policy purposes, it is crucial that *close cooperation* and *active dialogue* is maintained among reporting agents, statisticians at the ECB and the national central banks, users of the statistics and policy makers. This is a point I will take up again in my conclusion.

Before coming to that, please allow me to make a number of remarks about the role of monetary analysis in the current period of financial turmoil, drawing on the general requirements I have just listed to identify a number of specific implications for the construction of the monetary statistics that have arisen in this context.

Preliminary lessons from the ongoing financial turmoil

Since the emergence of financial tensions in early August 2007, the ECB's monetary analysis has proved a crucial bulwark for the conduct of monetary policy in the euro area.

In particular, the monetary analysis has helped to maintain the necessarily medium-term orientation of monetary policy, at a time when the power of the short-term forces at play threatened to overwhelm it. Moreover, the monetary analysis has served to maintain a focus on nominal developments – that is, the inflation outlook at longer horizons – over which central banks can exert control and for which they ultimately need to take responsibility. The monetary analysis has thus helped the ECB to maintain the orientation of monetary policy towards its primary objective.

Moreover, the recent financial market turmoil has re-emphasised the importance and special nature of the banking sector in the transmission of monetary policy and determination of macroeconomic outcomes. Contrary to the attitude taken in some academic critiques of the ECB's monetary policy framework, developments over the past few months surely demonstrate that banks play a distinctive role in creating "monetary liquidity" that, in turn, is an important determinant of developments in credit and asset markets, in the evolution of the economy and ultimately of price dynamics. Suggestions that securitisation and off-balance sheet activity rendered the analysis of bank balance sheet meaningless have now been revealed as absurd. Attempts to shift activity off-balance sheet proved to be a chimera, as the financial turmoil forced re-intermediation of loans and credit risk onto the MFI balance sheet.

In practical terms, analysis of the MFI balance sheet has provided an important "close to real time" insight into the behaviour of financial institutions, at a time when the macroeconomic outlook (including prospects for price stability) and the transmission of monetary policy were seen to be potentially strongly influenced by the behaviour of banks and the possibility of a "credit crunch". In particular, a close analysis of the monetary data provided evidence that the flow of bank loans to households and corporations was not significantly impaired by the money market tensions observed in the second half of 2007 and early 2008, thereby tempering the messages coming from other data sources, such as the Eurosystem bank lending survey and MFI interest rate statistics. This analysis has proved to be an important input into the assessment of financing conditions and thus in the analysis of cyclical dynamics of the economy, under both baseline and variant scenarios.

As this brief description illustrates, the financial turmoil episode has demonstrated the importance of a number of the general principles governing monetary analysis with implications for our statistical requirements in this area.

Adopting a broad-based approach to analysis has proved fundamental. By implication, integrating the analysis of monetary data with information from a wide variety of sources – in particular, a wide set of financial statistics for both prices and quantities and the bank lending survey – has been crucial. Moreover, to have impact on policy discussion, conclusions drawn from analysis of the monetary and credit data regarding loan supply conditions must be available in close to real time, supporting the need for timely monthly reporting of monetary statistics.

Of course, in current challenging circumstances, it remains too early to judge the success of our monetary analysis and, by implication, the quality of the information derived from the existing body of monetary statistics.

Nonetheless, three points can and should be made on the basis of our experience since last August:

First, the close analysis of the monetary data derived from the MFI balance sheet has proved crucial in understanding the nature of the turmoil and the challenges it poses for monetary policy. It has both served to maintain a focus on the longer-term inflationary trends that are

fundamental to effective monetary policy making, while also deepening our understanding of financial conditions and their cyclical implications.

Second, the turmoil has identified a number of lacunae in the statistical basis for the analysis – for example, regarding the extent of credit risk transfer from bank balance sheets – that need to be addressed.

Third, from the outset of Monetary Union, the ECB has maintained both the necessary staff expertise and the required statistical base for a thorough monetary analysis. Maintaining such continuity is required if the monetary analysis is to be insightful when – as is certainly the case now – monetary and financial factors are at the heart of the policy discussion.

These are important lessons to be drawn from the ECB experience.

Concluding remarks

Sceptics have often questioned the information content of monetary data and thus criticised the role played by monetary analysis in the ECB's monetary policy strategy. Often such critiques are based on only a casual knowledge of the euro area data.

Based on the ECB experience, the ability to extract policy-relevant information from the monetary data depends on two elements:

First, *high quality data* must be available.

Second, *high quality analysis* of the data is required on an ongoing basis.

It is apparent that a self-reinforcing *virtuous cycle* can be created, whereby better data serve better analysis, which in turn identifies necessary improvements to the data. The continuous nature of the process underpinning this virtuous cycle is crucial: once halted, even a successful monetary analysis may prove hard to restart. Maintaining continuous improvement in the data and the analysis is central to our agenda to "enhance the monetary analysis".

By the same token, the potential for a destructive *vicious cycle* also exists. Poor quality data breeds poor analysis. Attempts to improve monetary statistics thus yield lower returns, and investment in such improvements diminishes. The resulting deterioration in the quality of the data in turn leads to a further deterioration in the impact of the analysis, thereby feeding the vicious spiral.

Based on the Anglo-Saxon experience with financial innovation, many critics argue that monetary data has little or no information content and should be discarded from monetary policy considerations. What I would like to emphasise today is that there is nothing necessary about this conclusion. It is neither a theoretical necessity nor an empirical inevitability caused by some irresistible exogenous force. Rather, the information content of monetary statistics and the value of monetary analysis are questions of practice: they are determined endogenously, with greater efforts on the analytical and statistical side leading to more meaningful results and more policy-relevant conclusions.

In close collaboration with statisticians and reporting agents, within the Eurosystem we have and are making this investment in enhancing the monetary analysis. This investment has paid important dividends in guiding monetary policy decisions – no more so than in the current challenging conditions of financial turmoil.

Looking forward, we seek your help in maintaining the momentum of the virtuous cycle of continuous improvement in monetary analysis, which will support monetary policy decisions from which we all benefit. By enhancing its monetary analysis through both statistical and analytical advances, the ECB is well prepared to meet current and future challenges.