

Jean-Claude Trichet: The ECB's use of statistics and other information for monetary policy

Keynote address delivered by Mr Jean-Claude Trichet, President of the ECB, on the occasion of the OECD's World Forum on Key Indicators "Statistics, Knowledge and Policy", Palermo, 11 November 2004.

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Introduction

Ladies and Gentlemen,

It is a great honour and a pleasure to be invited to speak at the OECD World Forum on Key Indicators. The links between statistics, knowledge and policy are of crucial importance for policy-makers and for society as a whole. I can only congratulate the organisers for the impressive programme they have drawn up and I am sure that we shall all leave Palermo full of ideas on how statistical knowledge can be better used to face current and future economic and social challenges.

Central bankers, like all other policy-makers, operate in an environment of high uncertainty regarding the functioning of the economy as well as its prevailing state and future development. In addition, the second half of the 1990s and the first years of this century have been characterised by structural changes, some of them on a global scale, others confined to Europe, all of which have added to the "normal" sources of uncertainty. At the global level, the fall of the Soviet empire, the conversion of emerging Asia to market economics, accelerating advances in science and innovation in information technology and a deepening and widening of globalised financial markets have all been, or are, part of the powerful phenomenon of globalisation. At the European level, the adoption of the euro by 12 countries, structural reforms in goods and labour markets and the enlargement of the Union are some of the key developments in this respect. Therefore, disentangling the shocks that continually hit the euro area economy and assessing their impact on the risks to price stability in real time remains a very demanding task, in spite of the progress made in statistical data compilation, economic theory and econometrics over the past decades.

In such a complex environment, a single model or a limited set of key indicators is not a sufficient guide for monetary policy. Instead, an encompassing and integrated set of data is required. The development of statistics for the euro area and the future priorities for further enhancements reflect this requirement. A rich set of timely statistical data is a necessary but insufficient precondition for sound monetary policy-making. Only if the information is structured and analysed in a consistent way will monetary policy makers be in a position to take the most appropriate decisions to obtain their policy goals.

Let me elaborate a bit more on these three themes: the need for an encompassing and integrated set of data, the achievements of, and outlook for, euro area statistics and the ECB's framework for analysing this information.

Monetary policy and the need for an encompassing and integrated set of data

If we lived in the world of macroeconomic textbooks, a few simple models with a limited set of variables would be a sufficient basis for monetary policy-making and the statistical requirements could be kept to a minimum. As we all know, the real world is much more complex and, therefore, information needs are much more elaborated. In such a world, a rich and integrated set of data is needed because macroeconomic models, synthetic indicators and unconnected statistical indicators are often too rough a guide to the current and likely future development of the economy.

As mentioned before, central banks have to take decisions under conditions of constant uncertainty. The economy is never at rest. A multitude of disturbances of diverse nature affect the economy all the time: financial shocks, demand shocks, supply shocks etc., and these cannot easily be distinguished in real time, let alone foreseen.

In their attempts to identify disturbances and track how they spread through the economy, central banks are assisted by models. But too often, existing models are not sufficiently sophisticated instruments to identify shocks. For one thing, their focus may be too narrow, in a way that makes them

unduly selective. A partial representation of the economic structure can only partially help in monetary policy decision-making, notably in real time. For instance, it is very difficult to find empirical models that allow for an integral view of both non-financial ('real') and monetary-financial phenomena. So, it may be impossible to arrive at a convincing explanation of the origin and propagation of a significant financial shock, say, on the basis of sets of equations that do not elaborate on the role of the financial sector or account for only tenuous links between that sector and the rest of the economy.

Another example is provided by the many pitfalls that come with using "synthetic" indicators of inflationary pressure. The most famous of these "synthetic" indicators is the so-called "output gap". The "output gap" can be defined as a measure of the deviation of the aggregate output of an economy from the maximum level that would be consistent with price stability. This maximum level is then the "potential output". When current output is above potential, the pressure on the scarce resources should then translate into an increase in prices, that is, inflation.

In the real world, the monetary authority constantly faces the challenge of observability and measurement. Unfortunately, we cannot "assume" to know the "potential output". The best we can do is to try to "estimate" the output gap by using observations of many other correlated variables. We all know how imprecise and model-dependent this "estimated" measure can be. It would then be dangerous to derive monetary policy decisions from such an indicator. In my view, the example of the "output gap" demonstrates that theoretical economic models and monetary policy practice are, at times, quite far apart.

A second reason why models - and the synthetic theoretical constructs that accompany them - may often be elusive guides for policy lies in the fact that they are subject to rapid obsolescence as the structure of the economy is subject to permanent change. We, central bankers, like private agents, need to learn constantly about the environment in which we operate.

In the face of structural changes we are like "sailors in uncharted seas". Under these conditions we cannot afford to rely on a few sources of information nor can we simply use the "old navy maps" that are incorporated in existing models - even those that provided valuable information in the past. What used to be a key indicator under the "old regime" might not be so useful under the "new regime". What used to suffice in order to describe the old data-generating process might be insufficient for an accurate description of the new environment.

If this is of the essence for all central banks, this is particularly true for the ECB, which has been put in charge of the monetary policy of a totally new economic entity.

The creation of EMU represents a major structural change for the European economy and a great challenge to policy-makers. Nobody could tell, at the outset, to what extent the introduction of the single currency would affect the functioning of the single market of goods and services, or the very nature of financial markets or price and wage-setting behaviour across the euro area. Indeed, times of institutional change are arguably times in which private expectations may fail to converge on a focal point. The widely-held assumption has been that the statistical patterns emerging from an aggregation of pre-EMU data may not reveal much about the structure of the new economic entity, and any inference drawn on its basis may - in extreme cases - even be misleading. This is all the more likely when we consider the fact that, as far as monetary and financial convergence in the future euro area was concerned, it was based upon a concept of "benchmarking", namely convergence towards the best performers, which suggests that aggregation of the EMS data might be even less predictive. Such a situation has called for a cautious interpretation of model results and, even more importantly, for a broad information basis in order to cross-check the interpretation of various pieces of information. This implies a need for detailed and high-quality statistics for the euro area.

The construction of a comprehensive statistical support has confronted the ECB with a number of practical issues, to which I now turn.

Statistics for the euro area: achievements and outlook

Over the past ten years, major progress has been achieved in developing statistics for the euro area. Less than a decade ago, we did not even have the statistical requirements for the Monetary Union, let alone the statistics themselves for the euro area. Today, euro area statistics compare favourably with those of other major countries in many respects. A concrete example is the monthly balance of payments for the euro area and the availability of a timely, flash estimate of the euro area Harmonised

Index of Consumer Prices (HICP). Moreover, the ECB compiles an elaborate and timely set of monthly statistics on monetary developments in the euro area and interest rates.

Statistical preparations had to start early, due to the long lead times involved. On average, it takes around 18 months from inception to delivery of a new set of statistics that involves the collection of additional information from economic agents.

While there is still room for improvement, which I will explain later on, I feel confident that the ECB has now at its disposal a solid set of statistics of sufficient quality for the conduct of monetary policy. Let me share with you some of the success factors and 'lessons to learn' from this development process.

First and foremost, the achievements have been possible thanks to the intensive and fruitful cooperation and coordination with other statistical agencies. In particular, the efficient and effective coordination between the statistical departments of the ECB and of the national central banks within the ECB's Statistics Committee has been very conducive to the development of the comprehensive set of euro area statistics that is disseminated by the ECB. Equally, the cooperation between Eurostat and the ECB's Directorate General Statistics is very intensive and fruitful, and is based on the allocation of tasks laid down in the Memorandum of Understanding signed in March 2003.

Secondly, I would like to stress the importance of close cooperation with users, which should guarantee that the statistics are "fit for purpose". At the same time, with the right institutional arrangements in place, responsiveness to user needs in the design and accessibility of statistics should not undermine the independence of statistics and statisticians, which is an essential factor.

A third important "success factor" in the design of statistical systems is a strong legal basis. Article 5 of the Statute of the ESCB and of the ECB states that "in order to undertake the tasks of the ESCB, the ECB ... shall contribute to the harmonisation, where necessary, of the rules and practices governing the collection, compilation and distribution of statistics within its fields of competence". As a consequence, the ECB developed a legal framework for the collection of statistics and for ensuring compliance with these legal acts. Legal instruments are necessary to achieve satisfactory standards and equal treatment across Member States.

Fourthly, the setting-up of euro area statistics from scratch has required an intensive process of harmonisation of the methodologies used by the various countries for the collection and production of statistics. This enables us, for example, to compile meaningful area-wide aggregates. The need for the harmonisation of statistical concepts also applies at an international level. The application of the international standards is, first of all, a way to ensure that the statistics remain independent of the policy users. Secondly, application of the international standards allows for meaningful comparisons and aggregation. Given that cross-country comparability of official statistics is key to their usefulness and credibility, all countries across the globe should want to implement worldwide standards in their statistics.

Take, for example, balance of payments statistics. Countries will only be able to achieve a common analysis of their bilateral economic and financial relationships if their mutual external statistics mirror each other. A recent study by the ECB comparing the mirror data for direct investment between the euro area, the UK, the US and Japan shows that, in all cases, sizeable asymmetries in these data still exist. Eliminating these asymmetries requires not only an adherence to international standards, but also good worldwide cooperation between the statisticians involved and probably an exchange of micro-data for statistical purposes.

Finally, perhaps the most important lesson of all, the independence of statistical institutes is key to the quality and integrity of the underlying statistics. Recent incidents involving government finance statistics have demonstrated this very clearly. The compilation and reporting of statistics must not be vulnerable to political and electoral cycles. Countries should consider the quality and integrity of their statistics as a priority matter, to ensure that a proper system of checks and balances is in place when compiling these statistics, and should apply minimum standards, reinforcing the independence, integrity and accountability of national statistical institutes.

Despite the significant achievements and the good quality of euro area statistics in general, further improvements and enhancements are planned. Ongoing economic transformation has to be accommodated in a forward-looking manner and statistical gaps identified by users inside and outside the ECB have to be filled in as far as possible. Given the long lead times which characterise statistical

projects, the Directorate General Statistics of the ECB has established medium-term priorities in this field. Important items on this agenda are: a full system of euro area quarterly accounts for each institutional sector¹, more comprehensive statistics for the monitoring and analysis of financial stability, the further development of external statistics, promoting the compilation of Principal European Economic Indicators, including the application of the first-for-Europe principle, and an increasing focus on the various quality dimensions of European statistics. Let me elaborate a bit more on the first two items. Progress in these areas is expected to have a major influence on policy analysis.

The work currently undertaken by the ECB and Eurostat on quarterly euro area accounts aims at a fully integrated system of sectoral financial and non-financial accounts. Having such a system in place may lead over time to major progress in both the structural analysis of the euro area and the assessment of the current economic situation. Fully integrated sectoral accounts provide the ideal framework for analysing the structure of the economy and its changes over time as well as the propagation of shocks through the system. This helps to gain further insights into the monetary policy transmission mechanism and the relative importance of the various transmission channels. At the same time, monitoring a wide range of key indicators in a single macroeconomic accounting framework provides a coherent picture of the current economic situation. This is particularly important in the context of the ECB's monetary policy strategy, which takes into account a broad range of indicators.

Integrated financial and non-financial sector accounts provide a framework for analysing the link between the financial and the real economy - an issue notoriously difficult to analyse on the basis of the currently available analytical framework. An integrated system of quarterly sector accounts would also provide a powerful information basis for forecasting, allowing what is nearly impossible today, namely the integration of monetary and financial variables in macro-econometric models. Of course, many of these uses will only be possible once an integrated system of sectoral accounts has been available for quite a number of years and with an appropriate timeliness. But being forward-looking and developing visions is of great importance in the field of statistics.

Another highly relevant area of statistical work for central bankers concerns statistics and indicators for financial stability analysis. In the aftermath of the Asian crises, which brought to the fore the importance of financial stability analysis, the related conceptual framework was strengthened and progress in understanding the genesis and propagation of financial instability was made.

Central banks have an interest in financial stability issues particularly, but not exclusively, because financial stability supports sustainable price stability in the medium and long run. This implies that financial stability indicators - whether in the form of key balance sheet ratios for monetary financial institutions or leverage indices for non-financial corporations - may acquire an important status in the data set on which the central bank bases its assessment of the risks to price stability over extended horizons. The forward-looking nature of the ECB's monetary policy strategy allows an extension of the policy-relevant horizon sufficiently into the future to factor in the likely effects of financial imbalances that may be forming. At the same time, obtaining a comprehensive and timely statistical view of the financial system helps to identify the sources of such risks.

This is the rationale for central banks' keen interest in financial stability analysis. But financial stability analysis is complex and, hence, information-intensive. Data are needed not only on the financial situation of banks, but also on that of other financial corporations, such as insurance corporations. Moreover, the financial position of non-financial corporations and households has to be carefully assessed. Finally, not only financial markets but also other asset markets, such as real estate markets, have to be monitored closely.

Currently, financial stability issues in the euro area are analysed on the basis of existing data collected for monetary policy or supervisory purposes. Evidently, the coverage and definitions of data collected for monetary policy purposes do not always fulfil the needs of financial stability analysis. In addition, the data from supervisory sources are not harmonised across countries.

The development of harmonised bank profitability, asset quality and capital adequacy data is a big challenge for a multinational economy such as the euro area. The same applies to the much needed enhancement and harmonisation of information on insurance corporations and on the financial

¹ The financial and non-financial accounts would cover the following sectors in principle: households (including non-profit institutions serving households), non-financial corporations, financial corporations, government and the rest of the world.

situation of firms and households. Moreover, this work should exploit synergies with the initiatives of other international organisations, in particular the work of the IMF on financial soundness indicators.

The need for a comprehensive analytical framework

Statistics as well as additional information such as synthetic indicators, model forecasts and anecdotal evidence provide economic analysts with the raw material to derive a consistent and timely judgment about the true prevailing economic circumstances and the position of the economy in its business cycle. At the same time, just as a good meal not only requires high-quality ingredients but also an excellent cook and recipe, high-quality monetary policy analysis also requires excellent staff and an appropriate analytical framework. The importance of the latter can hardly be overstated. While central bankers around the world are “data fiends” in their heroic attempts to minimise errors of inference and to make robust decisions amidst uncertainty about the true structure of the economy, the availability of a vast wealth of raw data from diverse sources may mean that policy-makers become constantly bombarded by conflicting signals. Amidst such a flood of information, policy runs the risk of losing its bearings and of over-reacting to the latest indicator.

It is against this background that the ECB decided to adopt an analytical framework within which all possible sources of information - statistical as well as judgemental - can be brought together in a coherent fashion while at the same time allowing for alternative and diverse models and perspectives of the workings of the economy. In our view, this framework enables a wealth of information to be “digested” routinely without compromising the ultimate objective: to maintain a clear sense of direction.

In order to give a structure to the diverse sources of information, a structure that is consistent with our view of the monetary policy transmission mechanism, we have organised our analytical framework into “two pillars”. These consist of two complementary perspectives on the determination of price developments.

One perspective, which we refer to as the “economic analysis”, is grounded on the belief that price developments over the short to medium term are largely influenced by the interplay of supply and demand in the goods, services and factor markets.

As a means of cross-checking, we have equipped ourselves with another perspective, which we refer to as the “monetary analysis” and that is grounded on the belief that medium to long-run price developments can be attributed to the growth rate of the stock of money.

Each of these “pillars” is, in turn, characterised by a rich and comprehensive analysis of a large amount of data. For example, within the “economic analysis” we monitor the developments in prices and unit costs, overall output, aggregate demand and its components, government finance accounts, capital and labour market conditions, exchange rates, financial markets, balance sheets of households and firms, etc. The ECB’s “economic analysis” has been significantly extended and enriched over time. This is largely thanks to the progress made in the production of euro area general economic and financial statistics and in the analytical processing of such information. As mentioned above, the inaugural publication of integrated financial and non-financial quarterly accounts for the euro area, hopefully in 2006, will be another milestone.

The ECB and the national central banks use a variety of models for macroeconomic analysis and forecasting. The macroeconomic projections by Eurosystem staff constitute an important input into the monetary policy decisions, because they are a way of organising a large amount of information and they help to create a consistent picture of possible future developments. However, the economic projections cannot encompass or even reflect all the complexities, conditioning factors, nuances and the multi-dimensional nature of a comprehensive assessment of the risks to price stability on which monetary policy decisions need to be based. While the information synthesised from various indicators serves as an important input into the decision-making process, the Governing Council of the ECB does not take decisions only on the basis of projections. The Governing Council’s “judgement” must eventually come into play in order to assess the likelihood of the alternative scenarios suggested by the economic analysis. This is particularly important when it is quite unclear how a certain situation will evolve, as is the case sometimes with sharp movements in asset prices.

Related to this, attempts to base monetary policy decisions solely on inflation forecasts would involve significant limitations. Notably, they would entail an inefficient use of information, since every forecast, or any composite index of indicators, is based on one possible scenario and one combination of assumptions. In the end, monetary policy requires judgement on the part of the policy-maker to assess

not only the plausibility of all possible scenarios, but also the nature of the shocks and the best policy reaction in order to deal with this uncertain environment. Just focusing on one or a few forecast figures would make it difficult for policy-makers to transmit the complexity of monetary policy deliberations to the public in a precise and transparent manner.

Over a medium to long-term horizon, inflation forecasts based on statistical analysis become very inaccurate. Yet, medium to long-run inflation expectations are crucial in guiding the consumption and investment decisions of private agents. In order not to lose sight of the low frequency developments that may influence inflation over longer horizons than are used in the forecasts, the ECB has reinforced its analytical framework with a monetary perspective. This 'pillar' looks at price formation from a medium to long-term standpoint and is intended to purge monetary policy from the risk of becoming unduly short-sighted and overreacting to the latest economic news. By constantly reminding the central bank that in the long run prices and money stock increases are correlated, the monetary pillar is a standing support to the ECB's commitment to price stability at all horizons that are relevant for economic decisions.

Taking decisions and evaluating their consequences on the basis not only of the shorter-term indications from the analysis of economic and financial conditions, but also of money and liquidity considerations, allows a central bank to see beyond the transient impact of the various shocks and to maintain a more steady policy course. Looking back over our first six years of operations, monetary analysis has helped to underpin the medium-term orientation of our monetary policy conduct.

Allow me also to stress that the analysis of monetary indicators at the ESCB consists of an articulated process, whereby a detailed study of all the components and counterparts of M3 provides a detailed picture of the latest monetary developments, alongside the broad picture of the underlying trends.

As I said, a world in which policy is conducted in a "data-rich environment" - to quote an article by Ben Bernanke² - can be one in which both central bankers and other economic agents become captive to the latest macroeconomic indicator and may lose direction. In such a world, a central bank will only be successful in delivering price stability if it provides an anchor for the inflation expectations of the public and if it is as transparent as possible about its ultimate policy objective.

For this reason, the ECB decided to be fully transparent about the numerical definition of its goal, price stability, that the Treaty on European Union assigned to it. As you know, in 1998, when taking up its monetary policy tasks, the Governing Council of the ECB defined price stability as a year-on-year increase in the euro area Harmonised Index of Consumer Prices of below 2% and close to 2%.

The definition of price stability not only has the advantage of helping to anchor inflation expectations and to enhance the transparency and accountability of the European Central Bank. It has also been very instrumental in preserving continuity during the transition from the national currencies to the euro. The euro was given the same definition of price stability as the one attributed to the most credible national currencies, which benefited from the lowest market interest rates at the time. As a consequence, from day one onwards, the euro was given the best yield curve available in the economies of the euro area.

The European Central Bank has played a leading role in the general trend towards greater transparency and openness. It has in fact set standards of transparency in the practice of monetary policy. The ECB was the first major central bank to display its diagnosis immediately after its decisions and to hold regular press conferences after each of its monetary policy meetings. It is still the only one that does so. In those press conferences, we give a full and detailed explanation of our analysis and of the reasons underlying our policy decisions. In addition, the ECB's Monthly Bulletin gives the public the full set of detailed assessments and data underlying our policy decisions only a few days after they are taken.

To sum up, I trust that the success of the ECB and of the Eurosystem in firmly anchoring medium and long term inflation expectations at a level below 2% and close to 2% from day one of the existence of the euro is due to the careful gathering of all necessary conditions for such a prowess.

² B Bernanke and J Boivin: "Monetary policy in a data-rich environment," *Journal of Monetary Economics* 50 (2003).

I see at least six such necessary conditions: the institutional independence of the ECB; the clarity of its Treaty mandate - price stability; the accountability vis a vis public opinion, including through the hearings before the European Parliament; the comprehensive nature of its monetary policy concept, with an economic and a monetary pillar; its medium term perspective and, last but not least, its transparency.

We are displaying publicly our monetary policy concept. Not all central Banks do that. We are displaying our definition of price stability. Not all central Banks do that. We were the first important central Bank, in January 1999, to publish in quasi real time after our decisions our diagnosis and the reasons for our action and to hold a press conference. Not all central banks do that, even today. We are making public the quarterly projections of the staffs of the ECB and of the Eurosystem. And I profoundly trust that it is this substantial level of transparency which has also contributed to make the ECB's policy decisions highly predictable for the market as academic research has documented.

A last remark. As already mentioned, all what I have said presupposes that data are reliable and credible. It is absolutely imperative that figures are not influenced by political interference and by electoral cycles. The ECB's Governing Council strongly encourages countries to tirelessly improve the professionalism and independence of the relevant institutions. It would also strongly support the European framework to be further enhanced with full capacity to check without restrictions facts and figures including through missions on the spot.

I thank you for your attention.