

# OPINION SURVEYS ON ACTIVITY, PRICES AND LABOUR MARKET DEVELOPMENTS IN THE EURO AREA: FEATURES AND USES



*Opinion surveys are an important element in the analysis of the conjunctural situation because of the timeliness and nature of the information they convey. This article describes the various ways in which opinion survey data can be used. First, analytical tools can be developed to infer information about key economic variables from survey results. Second, detailed survey responses can be examined to identify the economic factors shaping conjunctural developments and to assess their importance. Third, in addition to the regular monitoring of economic developments, survey data can also be used to make a relatively timely initial assessment of the consequences of exceptional events.*

*Whatever the purpose for which survey data are used, however, it is important to bear some caveats in mind when interpreting the survey results. In particular, experience shows that indications given by survey data can at times be misleading. This is a special concern when the survey data have only been compiled for a relatively short time, since it is difficult to assess their reliability. More generally, survey data should always be assessed in the broader context of the economic analysis conducted under the framework of the ECB's monetary policy strategy.*

## I INTRODUCTION

Opinion survey data on economic activity, prices and labour market developments constitute an important, although of course only partial, source of information for the analysis of the euro area economy by the ECB.<sup>1</sup> This article describes the main features of survey data and explains how such data can be used for economic analysis. In Section 2, the availability of opinion surveys covering the euro area is reviewed. Section 3 examines the main features of these survey data and Section 4 looks into the usefulness of opinion survey data in the ECB's economic analysis. Finally, Section 5 concludes.

## 2 OPINION SURVEY DATA AVAILABLE FOR THE EURO AREA

Opinion surveys provide timely and valuable evidence of perceptions and expectations regarding economic conditions. Results from opinion surveys complement euro area data from quantitative statistics. Qualitative opinion surveys are conducted using questionnaires, which in general consist of a small set of questions asking the respondents to indicate whether economic conditions (e.g. the current business situation) have improved, remained unchanged or deteriorated. Business opinion surveys are conducted for different sectors (e.g.

manufacturing, services and retail trade) and are addressed to senior executives, whereas consumer opinion surveys are conducted on a sample of households. Besides qualitative questions on assessments, some opinion surveys also include quantitative questions, e.g. regarding the rate of capacity utilisation in the manufacturing industry.

For the euro area, two main opinion surveys are available, the results of which are regularly reported and commented upon in the ECB's Monthly Bulletin: (i) the set of opinion surveys published by the European Commission (Economic and Financial Affairs DG); and (ii) the Purchasing Managers' Surveys conducted by NTC Research on behalf of Reuters. Most of the euro area series available from these surveys refer to economic activity.

## EUROPEAN COMMISSION BUSINESS AND CONSUMER SURVEYS

The European Commission's harmonised surveys of the manufacturing, construction, retail and services sectors, as well as the survey

<sup>1</sup> See e.g. "The role of short-term economic indicators in the analysis of price developments in the euro area", ECB Monthly Bulletin, April 1999, and "The information content of composite indicators of the euro area business cycle", Monthly Bulletin, November 2001.

of consumers (together referred to as the EC surveys), provide the broadest results of all the opinion survey data for the euro area. On behalf of the Commission, national institutes (e.g. statistical institutes, research agencies, economic federations) conduct these surveys on a regular basis in each of the EU Member States. Recently, although starting at different dates, the candidate countries have also participated in the EC surveys. The national institutes include the questions from the harmonised questionnaire defined by the Commission. Some questions are backward looking (e.g. "How has your production developed over the past three months?"), while others are forward looking (e.g. "By comparison with the past 12 months, how do you expect that consumer prices will develop in the next 12 months?") or refer to the current situation (e.g. "How do you consider your present business situation?"). However, the institutes in each country may include additional questions in the various surveys to gather information for national use.

At present, five EC surveys are conducted on a monthly basis in the following areas: industry (covering about 22,000 enterprises in the euro area), construction (7,500 enterprises), retail trade (14,000 enterprises), the services sector (16,000 enterprises) and consumers (20,000 households). The surveys of industry, construction and consumers contain some questions that are only asked on a quarterly basis. In addition, the harmonised investment survey of the industrial sectors, which gathers information on the investment plans of enterprises, is conducted twice a year. The quarterly World Economic Survey, based on a worldwide panel of economic experts, provides an assessment of the international economic situation. Finally, the Commission conducts ad hoc surveys on specific issues, e.g. in 1999 it conducted a survey on certain aspects of the EU labour market.<sup>2</sup>

From each monthly EC survey, composite confidence indicators are calculated, summarising the replies to a number of different

questions in a single indicator. Confidence indicators are designed to provide a summary indicator of the overall "climate" in the respective economic sector and to track sufficiently well the evolution of a reference variable from quantitative statistics. For instance, manufacturing production is the reference variable for the industrial confidence indicator. The selection of the components for the calculation of confidence indicators is occasionally reviewed and updated. The most recent review was in 2001 when the Commission changed the components of the consumer confidence indicator.

The Commission calculates euro area aggregates as weighted averages on the basis of the national results and performs seasonal adjustment on the aggregate series. EC survey results are usually presented in the form of "balance statistics", i.e. the difference between the percentages of respondents giving positive and negative replies (in the form of a percentage balance).

The monthly EC surveys are carried out in the first fortnight of each month and the quarterly surveys in the first fortnight of each quarter (i.e. January, April, July and October). The Commission usually publishes the results on the last working day of the reference month. However, survey results for August and September are released together at the end of September. For the industry survey, both national results and euro area results broken down by branch are published. In general, euro area results from the monthly EC surveys are available from 1985 onwards, the exception being the services survey, for which euro area data start in 1995, with an increasing coverage of services activities since then.

<sup>2</sup> This was the fourth such survey, following surveys in 1985, 1989 and 1994; for further details, see "European Economy (Reports and Studies, No. 4 – 2000), Performance of the European Union Labour Market".

## PURCHASING MANAGER SURVEYS

On behalf of Reuters, NTC Research conducts monthly surveys in the euro area among purchasing executives in the manufacturing industry and in the services sector; altogether, information is collected from more than 5,000 companies. The Purchasing Managers' Survey for the euro area is relatively new (survey results are available from 1997 for manufacturing and from 1998 for services). The design and the underlying methodology of the surveys are broadly similar to those of the purchasing manager surveys in the United States. In general, purchasing manager surveys are intended to provide a timely indication of current or recent developments in activity and prices.

The Purchasing Managers' Survey of manufacturing is currently conducted in eight euro area countries representing more than 90% of the euro area in terms of GDP weights, whereas for the services sector five euro area countries are currently surveyed covering about 80% of the euro area. The Purchasing Managers' Survey questionnaires mainly consist of questions on actual current conditions, requesting respondents to identify the direction of change of the indicator compared with the situation one month ago, e.g. "Is the level of orders received by your company higher, the same or lower than one month ago?"

The percentages of respondents giving positive, negative or no change replies are converted into diffusion indicators where a figure of 50 should represent an unchanged level for the variable concerned. Hence, values above (or below) this theoretical threshold indicate a rise (decline) in the variable since the previous month.

There are different questions for manufacturing and service industries, with more detail for manufacturing (e.g. stocks of purchased goods and of finished products). The Purchasing Managers' Index (PMI) for the manufacturing sector is a composite indicator calculated from indices of new orders, output, employment,

suppliers' delivery times and stocks of purchases. Responses to questions included in both Purchasing Managers' Surveys (e.g. on output, new business, input prices and employment) are used to compile euro area composite indices.

Purchasing Managers' Survey data are collected at mid-month and euro area results are released on the first working day (for manufacturing) and third working day (for services and composite indices) following the reference month. Euro area results broken down by branch are not publicly available.

## 3 FEATURES OF OPINION SURVEY DATA

Opinion survey data have several features which make them potentially useful for economic analysis. One main characteristic, which has raised interest in the use of opinion surveys, is the timeliness of the publication of this kind of data compared with official statistics published by Eurostat. Despite improvements in this respect, official statistics for the euro area are often released with relatively long delays.<sup>3</sup> In the case of the euro area, the EC and Purchasing Managers' surveys provide information up to three months before the release of official statistics.

Second, in addition to their timeliness, opinion survey data are usually available at a monthly frequency. Although monthly data are often quite noisy and pose challenges such as the need for seasonal adjustment, this monthly frequency represents an advantage compared with other sources of information. For instance, GDP data for the euro area is published at a quarterly frequency. With publication delays, this could imply large gaps between the reference periods of the latest available

<sup>3</sup> For details of recent progress in the availability and publication delays of short-term statistics for the euro area, see "Developments in general economic statistics for the euro area", Monthly Bulletin, April 2003, and Box 7 in the September 2003 issue of the Monthly Bulletin.

statistics and the current date. This is particularly relevant for the assessment of activity in the sectors of the economy which are less, or not, covered by monthly statistics. This is most notably the case for services activity, for which only monthly series of retail sales volumes are available, and these data only cover a small part of the services sector. Results of the EC and Purchasing Managers' surveys in the services sector thus provide potentially useful information at a monthly frequency.

Third, opinion survey data are the primary source of direct information on some aspects of economic developments. For instance, information on capacity utilisation rates in manufacturing is only provided by the EC surveys. A second example relates to output prices in the services sector, for which an indicator is compiled within the Purchasing Managers' Survey. Timely data on services sector price developments at earlier stages of the production chain do not exist for the euro area, although they are an important element in the overall price formation process.

Fourth, some survey data tend to be less volatile than the quantitative statistics they relate to. This derives from the nature of the information underlying opinion survey data and official statistics. Perceptions as reflected in some opinion surveys tend to change gradually, while official statistics also reflect one-off factors such as unusual weather conditions, strikes, etc. The less erratic evolution of opinion surveys implies, in theory, that turning-points should be more rapidly identified in these data. Indeed, fewer observations in opinion surveys are needed to confirm a turnaround in economic conditions. However, time series properties vary across opinion surveys. In particular, as regularly pointed out in the Monthly Bulletin, the results of the EC surveys in the construction and retail sectors tend to be relatively volatile.

Finally, a further feature of survey data relates to the absence of revisions, while these are common in official statistics. Initial estimates of

quantitative statistics are often based on partial information. As more comprehensive information becomes available, numbers are generally revised, thereby enhancing the reliability of the estimates. By contrast, opinion survey data are not revised. This might imply, however, that some information is not included in the survey results (e.g. due to the late arrival of completed questionnaires).

However, there are also some caveats which should be borne in mind when using survey data. For instance, opinion surveys normally only represent qualitative assessments, while they are often interpreted in quantitative terms. Here, caution is warranted when the survey results are translated into quantitative estimates of official statistics. The level of detail for opinion survey data is more limited than for quantitative business statistics. In addition, survey results across sectors are not necessarily consistent, as is the case for quarterly national accounts. Finally, the incentives for the respondents to provide quality replies to the survey questions may sometimes be limited. This is probably less relevant for business surveys than for consumer surveys, since the former are normally addressed to senior managers who have access to all relevant information concerning their firm. Answers not based on all available information could potentially constitute a source of error in the survey data.

#### **4 THE USE OF OPINION SURVEY DATA IN ECONOMIC ANALYSIS**

After reviewing the features that make opinion survey data potentially useful for conjunctural analysis, this section illustrates with a few examples how survey data feed into the economic analysis of the ECB. The first part concentrates on the use of opinion surveys to quantify key economic indicators such as real GDP growth or producer prices (PPI) in advance of their release. Inference based on qualitative surveys may be done informally, for instance relying on graphical inspection, or

using econometric techniques. The latter approach is explained by means of an example in the box later in this article. The second part of this section suggests how surveys can be used to identify factors driving economic developments. Here, the usefulness of surveys when the economy is influenced by exceptional circumstances, as was the case around the turn of 2001/02, is underlined.

### INFERENCE OF OFFICIAL STATISTICS FROM OPINION SURVEY DATA

In some cases, the survey questions relate to a specific key economic variable, allowing for a straightforward inference of official statistics from survey results. For instance, the EC and Purchasing Managers' surveys include questions about businesses' assessment of developments in activity and prices at the sectoral level and expectations thereof. These questions cover the same aspect of economic developments as production and price data from official statistics for a given sector. Similarly, businesses' assessment of current and future employment may be seen as the qualitative counterpart of quantitative statistics on the number of employed persons.

Chart 1 shows that developments in industrial confidence and in the manufacturing PMI are highly correlated with the growth rates of manufacturing production. Hence, opinion survey data would seem to convey useful information about developments in activity in the manufacturing sector. Moreover, as shown in the chart, the two opinion surveys have signalled turning-points in manufacturing production in a timely manner. For instance, at the beginning of 2002, strong increases in industrial confidence and in the manufacturing PMI were rapidly followed by an acceleration in manufacturing production. However, this pick-up in confidence was driven to a large extent by strong production expectations, which never fully materialised. Subsequently, a few months later, qualitative survey data correctly signalled renewed weakening in manufacturing activity. In the chart, the survey results are plotted

**Chart 1 Manufacturing PMI, industrial confidence and manufacturing production growth**

(annual percentage changes; survey data shown as deviation from the mean, divided by the standard deviation)



Sources: Eurostat, European Commission Business and Consumer Surveys, Reuters and ECB calculations.

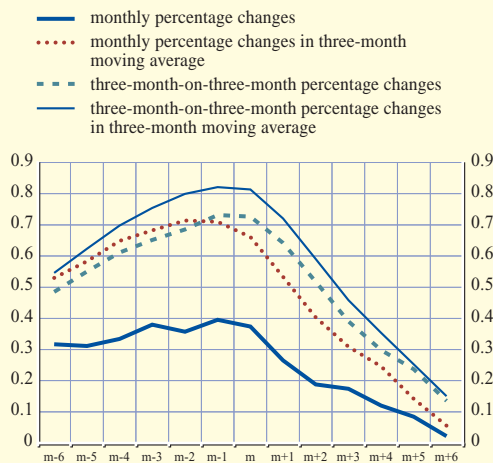
against the right-hand scale. Given the more timely release of opinion survey data, these results can be translated into early estimates of manufacturing production growth rates.

Some caution is warranted when using industrial confidence to infer developments in production. As illustrated in the chart, the correlation between survey data and actual developments is by no means perfect and may vary over time. In some instances, opinion survey data have lagged turning-points in activity. This was the case for EC survey industrial confidence in early 1999 for instance. According to the questionnaires of the Purchasing Managers' Survey, results should reflect changes in the month-on-month growth rates of production, as firms are asked about the evolution of production with respect to the previous month.

Chart 2 shows the correlation between the manufacturing PMI and production at different leads and lags. The percentage increase in production has been calculated using both one-month and three-month changes. In addition, changes in production are also computed on the basis of a three-month moving average. Results show that qualitative survey data

**Chart 2 PMI and manufacturing production lags/leads structure**

(correlation between PMI and various transformations of manufacturing production)



Sources: Eurostat, Reuters and ECB calculations.

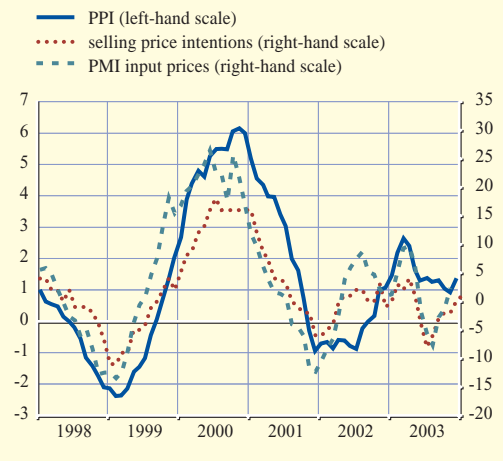
are more closely linked (i.e. more highly correlated) to the smoother path followed by the input prices growth rates of manufacturing production using three-month moving averages.

Furthermore, the evolution of the PMI appears to be contemporaneous with developments in the three-month-on-three-month growth rates of production, while it slightly lags month-on-month changes. These features imply that surveys are ill-suited to anticipate very short-term changes in production. Overall, survey responses appear to have some degree of inertia and should hence be interpreted as depicting developments over several months rather than the month-on-month changes referred to in the survey questions. Experience also shows that the theoretical threshold value of 50 for the PMI, which should distinguish between periods of positive and negative growth in activity, does not always have such a signalling property in practice. More generally, it seems that changes in the survey series should be considered in combination with their levels.

Another example of quantitative inference is provided by Purchasing Managers' and

**Chart 3 Producer prices, selling price intentions and the PMIs in the manufacturing sector**

(annual percentage change on left-hand scale; percentage balance and diffusion index on right-hand scale)



Sources: Eurostat, European Commission Business and Consumer Surveys, Reuters and ECB calculations.  
Note: The PMI input price index is shown as deviations from the threshold value of 50.

EC survey questions regarding price developments in the manufacturing sector. Chart 3 depicts these survey results together with the annual rate of change in producer prices in manufacturing. These data are of particular importance since they help to identify price pressures at the earlier stages of the production chain that could subsequently be passed on to finished goods and consumer prices.

There is, however, one conceptual difference between the Purchasing Managers' and EC surveys. While the respondents to the Purchasing Manager Survey are asked about price developments over the past month, the respondents to the EC surveys are asked about their selling price intentions over the next three months. This means that the Purchasing Manager Survey by its construction is a backward-looking indicator and should therefore theoretically show the best fit with the contemporaneous month-on-month rate of change in the PPI. By contrast, the EC survey data are forward looking and should thus show the best fit with changes in the PPI lagged three months. However, in practice, results from the



## Box

## ESTIMATES OF REAL GDP GROWTH BASED ON OPINION SURVEY DATA

Economic analysts commonly derive estimates of euro area real GDP growth in the current quarter (“nowcasts”) from qualitative survey data prior to the release of official statistics. This box briefly explains the methods followed and presents the advantages of such tools. It also highlights the main caveats to be borne in mind when interpreting the results.

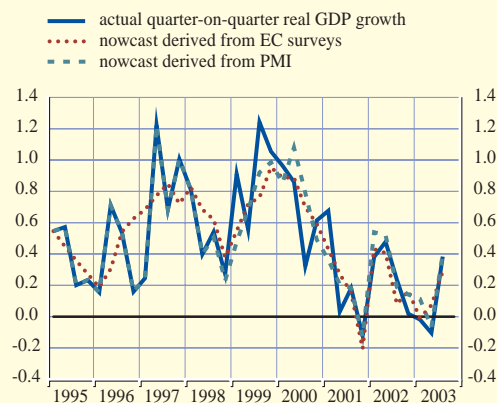
The use of opinion survey data to derive estimates of real GDP growth has several advantages. First, as explained below, there are simple tools that enable the translation of qualitative survey data into quantitative estimates of real GDP growth. Second, given the timely release of opinion survey data, survey-based estimates of GDP growth provide information on developments in real GDP growth in the current quarter, i.e. for one quarter beyond the latest release of national accounts statistics.<sup>1</sup> Third, developments in the estimates can be monitored on a monthly basis, as new survey data become available. Finally, looking at the data from opinion surveys for different industrial sectors provides information on the respective contributions of each sector to overall activity, which may be useful in analysing ongoing economic developments.

Regression analysis can be used to estimate the relationship between survey indicators and actual activity. This relationship is then used to predict the actual change in activity based on the observed survey results. Estimates of real GDP growth can be obtained, for instance, by combining information from an opinion survey of the manufacturing sector with information from an opinion survey of the services sector. Estimates of GDP growth in the current quarter are simply obtained using the estimated relationship. The reliability of the nowcasts obtained depends *inter alia* on the number of observations on which the relationship is based. The longer the survey series, the more reliable the estimates tend to be. For some survey data, such as the Purchasing Managers’ Survey, and to a lesser extent the EC survey of the services sector, the relatively short time series call for caution when interpreting nowcasts of GDP growth based on them.

The chart shows the results of such regressions for a combination of the EC surveys of industrial and services confidence, on the one hand, and of the manufacturing and services output from the Purchasing Managers’ Survey, on the other. As can be seen, survey data enable real GDP growth in the euro area to be estimated fairly well on average. Over the sample for which euro area Purchasing Managers’ Survey data are available (i.e. since the third quarter of 1998), the average error of both sets of nowcasts shown in the

## Nowcasts of euro area real GDP growth based on EC surveys and on PMI

(quarter-on-quarter percentage change; seasonally adjusted data)



Sources: Eurostat, European Commission Business and Consumer Surveys, Reuters and ECB calculations.

<sup>1</sup> Eurostat releases flash real GDP growth estimates for the euro area 45 to 48 days after the end of the reference quarter.

chart has been 0.15 percentage point in absolute terms. However, in some quarters, errors in nowcasts of GDP growth derived from opinion survey data can be relatively large. For the estimates shown below, the largest error since the third quarter of 1998 was 0.5 percentage point.

These examples illustrate the fact that, while useful, nowcasts of real GDP growth based on opinion survey data should be interpreted with caution. Past experience shows that on some occasions they may fail to capture actual developments in real GDP growth. It is therefore necessary to cross-check these estimates with those derived with other tools used for analysing developments in activity. These tools make particular use of other composite indicators of activity, such as the OECD indicator, the EuroCOIN indicator and indicators based on a wide range of economic and financial market data which closely relate to economic developments.

Purchasing Managers' and EC surveys show a higher correlation with the contemporaneous annual rate of change in the PPI, irrespective of the underlying questions in the surveys.

In general, whether relying on graphical inspection or regression analysis, the reliability of quantitative inference from opinion survey data requires relatively long series. This is currently a problem for some surveys, for which historical data are available only from the second half of the 1990s. Caution is therefore warranted, as more observations are needed to build confidence in quantitative estimates based on qualitative surveys.

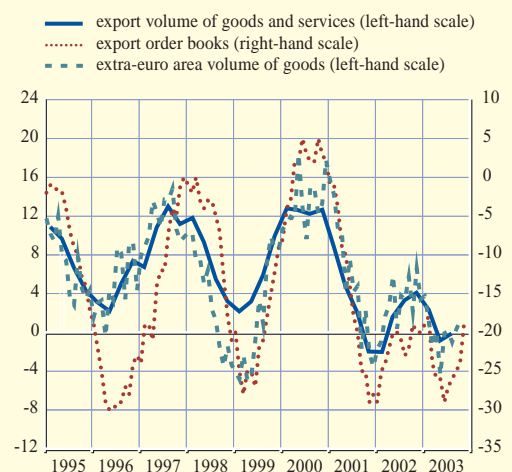
#### ILLUSTRATIONS OF THE USE OF SURVEY DATA AS INFORMATION ON FACTORS DRIVING RECENT ECONOMIC DEVELOPMENTS

Besides allowing for a quantitative assessment of activity and price developments, the replies to the questions included in the EC and Purchasing Managers' surveys provide useful insights into the factors driving economic developments. This is an important element in analysing the size and duration of shocks affecting the euro area economy. For illustrative purposes, this sub-section looks at recent economic developments and provides some examples of how survey data have been used to detect factors driving economic developments.

For instance, around the turn of 2002/03, manufacturers reported declining export order books, signalling that the external sources of demand were waning. This development contributed to the renewed weakness in manufacturing activity in the first half of 2003 (see Chart 4). Weaker export orders reflected some deceleration in foreign demand, but also the impact on euro area price competitiveness of the past appreciation of the euro as well as the

**Chart 4 Export growth and export orders**

(annual percentage change on left-hand scale; percentage balance on right-hand scale)



Sources: Eurostat and European Commission Business and Consumer Surveys.



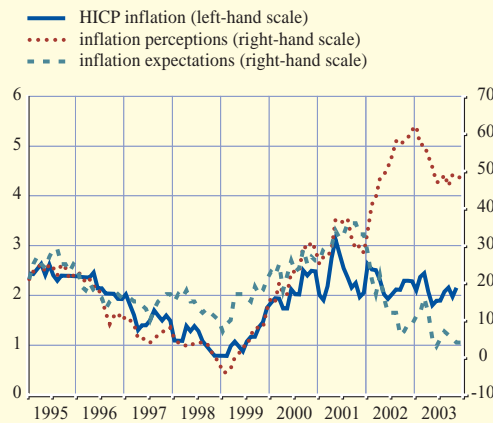
negative effect on trade related to geopolitical tensions and, in particular, the imminence of the conflict in Iraq. However, it should be borne in mind that export orders from survey data not only capture extra-euro area trade developments, but also trade among euro area countries. One desirable improvement in the EC surveys from a euro area perspective could therefore be to disentangle extra-euro area export orders from the total. In any case, Chart 4 shows that the link between export orders and extra-euro area exports of goods is relatively close.

Even if opinion survey data have a low correlation with their respective reference series, they may still provide useful information or insights when assessing short-term macroeconomic developments. An example of this is the relationship between perceived and actual inflation. Any divergence between these two variables warrants close examination given that it might have an impact on other macroeconomic variables. If inflation rates are perceived as being higher than they actually are, one consequence is that real wage developments, and thus purchasing power, are underestimated by consumers. This may, for instance, trigger higher wage claims or have negative consequences for consumption.

The most striking example is the decoupling between perceived and actual inflation that started in the beginning of 2002, when the EC Consumer Survey showed that households in the euro area perceived price increases to be much higher than recorded by official statistics such as the HICP (see Chart 5). The most plausible explanation for this divergence is that in completing the survey questionnaire consumers attached very high importance to price developments for goods and services that they buy more frequently. Indeed, a number of such items showed strong price increases at the time. For instance, prices of certain services, such as restaurants, hairdressing and dry cleaning, rose strongly during the first half of 2002, partly as a result of the introduction of the euro banknotes and coins (for a more detailed

**Chart 5 Actual, perceived and expected inflation**

(annual percentage change on left-hand scale; percentage balance on right-hand scale)



Sources: Eurostat and European Commission Business and Consumer Surveys.

analysis, see the box entitled “Effects of the introduction of the euro banknotes and coins on consumer prices” in the ECB’s Annual Report 2002).

The EC Consumer Survey also contains a question on consumers’ inflation expectations. Inflation expectations based on surveys may provide useful additional information from a central bank perspective. Two examples serve to highlight the crucial importance of access to reliable measures of expected inflation. First, to the extent that they provide a useful or unbiased predictor of future inflation, measures of expected inflation may be an important information variable in a forward-looking analysis of price developments. Second, higher inflation expectations may lead employees to demand higher wage settlements, giving rise to cost-push effects on inflation. In a situation where overall inflation is expected to rise, firms may be more willing to pay higher wages because they believe that they can more easily pass on any change in costs in the form of higher selling prices. One interesting observation is that inflation expectations declined in the course of 2002, in contrast to developments in perceived inflation, which

increased. This suggests that the price rises underlying the strong increase in perceptions in early 2002 were thought to be of a transitory nature.

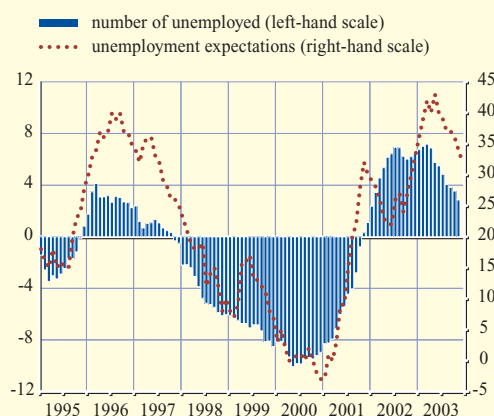
In addition to the above-mentioned wedge between perceived and actual inflation, the turn of 2001/02 was characterised by a period of marked weakness in consumer spending. This reflected high uncertainty among households related in particular to the 11 September terrorist attacks in 2001 and later to concerns associated with the conversion of prices into euro. Here, survey data again proved very useful for identifying the factors driving consumer behaviour.

Confidence was significantly dented at the end of 2001 by the terrorist attacks in the United States. Chart 6 illustrates in particular that, following these events, households anticipated a rapid deterioration in labour market conditions. This might have led households to increase precautionary savings and reduce spending. However, by the beginning of 2002, it became clear that the economic consequences of 11 September were to be limited, as signs of global economic recovery were re-emerging. Consequently, households became more optimistic about future labour market developments.

Despite an improvement in the economic outlook, uncertainty for households did not recede at the beginning of 2002, as the euro cash changeover visibly raised concerns and generated a certain degree of apprehension among households. First, the misperception of the impact on consumer prices implied that households underestimated by a significant margin the evolution of their purchasing power in that period. Second, the euro cash changeover might have led to some delays in durable goods consumption, as can be seen from consumer surveys which showed a significant drop in consumers' willingness to make important purchases in the first quarter of 2002. Later in 2002, the partial unwinding of these temporary shocks might have contributed

**Chart 6 Unemployment and unemployment expectations by consumers**

(annual percentage change on left-hand scale; percentage balance on right hand-scale)



Sources: Eurostat and European Commission Business and Consumer Surveys.

to the strengthening of consumer spending, while labour market conditions were weakening and equity wealth was hurt by further sharp declines in share prices.

This episode illustrates the importance of closely monitoring specific information gathered by opinion surveys as part of the regular analysis of economic developments. Besides being used in the regular monitoring of economic developments, survey data may indeed prove very useful when the economy is affected by special circumstances. In this context, opinion surveys may help to identify shocks and assess their consequences for broader economic developments.

## 5 CONCLUSION

Opinion surveys provide useful and timely information on perceptions and expectations regarding economic conditions. Besides qualitative assessments, some opinion surveys include quantitative data as well (e.g. the rate of capacity utilisation). Although the statistical frameworks of the EC and Purchasing Managers' surveys are similar (e.g. in terms of

the design of the questions and the surveyed industries), these surveys do differ, suggesting that both datasets should be used for analytical purposes. For example, the Purchasing Managers' Survey mainly seeks to measure the current situation, whereas the EC surveys provide an assessment of past developments and expectations of future developments as well. Furthermore, the EC surveys provide the broadest results of all the opinion survey data for the euro area, including evidence on consumer opinions and euro area results broken down by branch (in the industry survey).

These surveys are important elements in the regular analysis of current economic developments. First, they provide information that can be used directly to infer developments in overall activity, the labour market and prices. Composite indices of overall activity based on either EC or Purchasing Managers' surveys allow a reliable inference of the direction and pace of activity in the euro area in advance of the publication of quarterly GDP figures. In terms of sectoral coverage, the correlation of survey results with official statistics seems particularly high in industry. Available survey data on price developments within industry are also useful for short-term economic analysis when assessing underlying price pressures at earlier stages of the production chain. In addition, relatively smooth developments in opinion surveys in that sector imply that turning-points in industrial activity can sometimes be identified more rapidly on the basis of survey indications than on the basis of the more volatile manufacturing production statistics. In other sectors of the economy, the link between the assessment of survey respondents and actual developments in production is more tenuous. This implies that opinion surveys should be interpreted cautiously, notably for the services sector.

Another advantage of surveys lies in the nature of the information conveyed, as it helps to explain the factors accounting for observed conjunctural developments. Two aspects could be emphasised in this regard. First, some

concepts covered in survey questions are not observed and provide useful complementary information to official statistics. This is notably the case for capacity utilisation in manufacturing, which provides additional information on the factors shaping developments in that sector. Second, surveys contain specific information which is key in driving economic decisions. In this regard, significant divergences between actual and perceived developments, such as that observed for consumer prices following the introduction of euro banknotes and coins at the start of 2002, can potentially reflect important influences on broad economic developments and should therefore be monitored closely.

However, some caveats apply to the use of survey information and need to be underlined. First, opinion surveys normally only represent qualitative assessments, although they are often interpreted in quantitative terms. Qualitative information sometimes changes for reasons that are either difficult to relate to specific events or for reasons that are less important for economic analysis. This warrants cautious interpretation of survey results. Second, some surveys have limited sample size and detail, as is the case for the PMI surveys, and incomplete coverage, as for example in the surveys of the services sector. Third, some of the survey data are only available for the past few years, limiting their usefulness for reliable short-term economic analysis.

All in all, opinion survey data are not a substitute for official statistics, but rather a timely complement. Bearing in mind the above-mentioned caveats and the potential scope for further improvements, survey data constitute an important input into the analysis of euro area macroeconomic developments. Survey data should be used within the broader economic analysis conducted under the framework of the ECB's monetary policy strategy, which considers all available information when assessing current and future economic developments and implied risks to price stability.