The Joint Harmonised EU Programme of Business and Consumer Surveys

User Guide
(updated 4 July 2007)

Abbreviations and symbols used

Member States (as of 1 January 2007)

BE	Belgium	LU	Luxembourg
BG	Bulgaria	HU	Hungary
CZ	Czech Republic	MT	Malta
DK	Denmark	NL	Netherlands
DE	Germany	AT	Austria
EE	Estonia	PL	Poland
IE	Ireland	PT	Portugal
EL	Greece	RO	Romania
ES	Spain	SI	Slovenia
FR	France	SK	Slovakia
IT	Italy	FI	Finland
CY	Cyprus	SE	Sweden
LV	Latvia	UK	United Kingdom
LT	Lithuania		

EU   European Union, 27 Member States : BE, BG, CZ, DK, DE, EE, IE, EL, ES, FR, IT, CY, LV, LT, LU, HU, MT, NL, AT, PL, PT, RO, SI, SK, FI, SE, UK.

EA   Euro area, 13 Member States having adopted the single currency: BE, DE, IE, EL, ES, FR, IT, LU, NL, AT, PT, SI, FI.

Other abbreviations

BCI	Business Climate Indicator
BCS	Business and consumer surveys
DG ECFIN	Directorate-General for Economic and Financial Affairs
ECB	European Central Bank
Eurostat	Statistical Office of the European Communities
ESI	Economic Sentiment Indicator
NACE	Classification of economic activities in the European Community
OECD	Organisation for Economic Co-ordination and Development
sa	seasonal adjustment, seasonally adjusted
WES	World Economic Survey

Comments on the report should be sent, by mail or e-mail, to:

Unit A-3: Business Surveys
Directorate-General for Economic and Financial Affairs
European Commission
B-1049 Brussels
E-mail: ecfin-bcs-mail@ec.europa.eu

CONTENTS

PART A

A USER MANUAL TO THE JOINT HARMONISED EU PROGRAMME OF BUSINESS AND CONSUMER SURVEYS

1. INTRODUCTION

Business and consumer surveys provide essential information for economic surveillance, short-term forecasting and economic research. Moreover, they are widely used to detect turning points in the economic cycle. Surveys are therefore a key complement to official statistics, which are often available after long delays. The survey data generated within the framework of the Joint Harmonised EU Programme of Business and Consumer Surveys are particularly useful for monitoring economic developments at Member State, EU and euro-area level. High frequency, timeliness and continuous harmonisation are among their main qualities.

The Commission's harmonised survey programme, managed by the Directorate-General for Economic and Financial Affairs (DG ECFIN), was set up in 1961, and its scope has since expanded considerably in terms of both countries and sectors covered. The data published every month by DG ECFIN are derived from surveys conducted by national institutes in the Member States and the candidate countries. With these data, DG ECFIN builds composite indicators to track cyclical movements in a specific sector or in the economy as a whole. The survey results are then used by DG ECFIN for economic analysis, surveillance and short-term forecasting. Outside the Commission, the ECB, central banks, research institutes and financial institutions frequently use the EU survey data for both qualitative and quantitative analysis.

The aim of this User Manual is to provide detailed information on the Commission's survey programme. It includes a thorough description of the harmonised surveys and of the method used by the Commission to process survey results, and shows how the results can be used for economic analysis.

The Manual is structured as follows. Chapter 2 gives an overview of the survey programme and of the common features of the harmonised surveys. Chapter 3 explains how the survey results are collected and processed, while Chapter 4 describes how they are disseminated and published.

2. GENERAL PRINCIPLES UNDERLYING THE HARMONISED BUSINESS AND CONSUMER SURVEYS

2.1. Overview of the harmonised survey programme

Past and future developments in the survey programme

The Joint Harmonised EU Programme of Business and Consumer Surveys (hereafter referred to as the BCS programme) was launched by the Commission decision of 15 November 1961.[1] The first survey was the harmonised business survey in the manufacturing industry conducted in 1962. Since then, the sector coverage of the programme has widened considerably. The BCS programme was extended to the construction sector and to investment plans in the manufacturing sector in 1966, to consumers in 1972, to the retail trade in 1984, and finally to the services sector in 1996. More recently, the Commission has launched a survey in the financial services sector at EU level (see Box 2.1). The sensitivity of this sector with regard to confidentiality, together with its idiosyncrasies in terms of cyclical behaviour, were the reasons behind the separation of this sector from the general services sector survey.

---

[1] The BCS programme is implemented by DG ECFIN pursuant to the Commission's institutional prerogatives. At present, this programme is governed by Commission Decision C(97)2241 of 15 July 1997 and Commission Communication COM(2006)379 of 12 July 2006 (see Annex A.1).

Meanwhile, the geographical coverage of the programme has been regularly extended to include all Member States as well as the candidate countries. In January 2007, the programme encompassed the 27 Member States of the European Union and one candidate country, Croatia. Another candidate country, Turkey, will be integrated into the programme from May 2007 onwards. The integration of the candidate countries into the programme at an early stage is necessary in order to provide reliable and comparable data to follow their economic situation, and to guarantee the production of accurate EU aggregates once these countries become members of the EU. For instance, the 2004 enlargement was reflected in the programme by a smooth and timely transition to new aggregate indicators.

Harmonisation and Commission financial support

The harmonised surveys are carried out at national level by partner institutes such as ministries, statistical offices, central banks, research institutes, business associations or private companies. The surveys are conducted according to a common methodology, which consists essentially of harmonised questionnaires and a common timetable (see Section 2.2).

The institutes are selected by the Commission through a call for proposals every 3-4 years. The Commission supports their activity with action grants, which are limited to a maximum of 50% of the total costs of the surveys. These grants are designed to cover the costs associated with the adoption of the harmonised methodology. As the Commission's financial support takes the form of grants, the data collected remain the property of the institutes, but the Commission acquires a parallel right of free use of the data. In contrast, when the national institutes have no clear interest or purpose in conducting a particular type of survey, the Commission concludes a service contract with the selected institute. In such cases, the Commission covers the full cost of the survey and has the copyright of the data.

Survey frequency and sample size

Five surveys are currently conducted on a monthly basis in the following areas: manufacturing industry,[2] construction, consumers, retail trade and services. Some additional questions are asked on a quarterly basis in the surveys in industry, construction and among consumers. In addition, an investment survey of the manufacturing sector, which gathers information on companies' investment plans, is conducted twice a year. The World Economic Survey (WES), which provides information about international economic trends, is carried out by IFO with the support of the Commission four times a year (January, April, July and October). The WES is based on a panel of worldwide economic experts: over 1 000 experts in about 90 countries are polled every quarter. Finally, the Commission conducts ad hoc surveys on specific issues. For instance, ad hoc surveys concerning the labour market have been carried out roughly every five years since 1985.[3]

---

[2]   In the rest of the publication, this survey is referred to as the industry survey.
[3]   The fifth ad hoc labour market survey was conducted in June 2004. The report on the survey results is available at:
      http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/studies/iwh_2005_lms_final_report_en.pdf.

Table 2.1: Sample sizes per Member State and per survey

Member States	Industry	Investment	Services	Consummer	Retail trade	Construction
BE	1 550	1 400	1 700	1 600	1 150	880
BG	1 290	3 300	970	1 000	1 100	610
CZ	1 000	1 100	900	1 000	600	600
DK	500	800	500	1 500	300	750
DE	3 600	5 300	2 650	2 000	810	1 400
EE	250	250	400	800	170	110
IE	1 100	350	650	1 300	640	500
EL	1 700	1 700	900	1 500	480	440
ES	2 300	2 100	700	2 000	540	380
FR	4 000	3 800	4 500	3 300	3 750	3 000
IT	4 100	4 100	2 000	2 000	1 000	500
CY	480	300	610	1 000	440	230
LV	720	570	900	1 000	600	300
LT	840	920	730	1 200	850	590
LU	110	140	:	500	:	40
HU	1 500	1 500	1 500	1 500	1 500	1 500
MT	640	:	:	1 000	:	:
NL	1 700	2 760	1 600	1 500	400	600
AT	810	1 400	1 150	1 500	5 800	220
PL	3 500	3 500	5 500	1 000	5 000	5 000
PT	1 200	2 400	960	2 100	560	320
RO	1 530	1 770	1 970	1 000	2 300	1 110
SI	710	780	680	1 500	1 120	400
SK	600	600	580	1 400	600	550
FI	850	800	500	2 200	470	120
SE	980	2 360	1 180	1 500	1 100	160
UK	1 500	1 500	1 000	2 000	500	800
EU	**38 250**	**44 240**	**34 730**	**39 900**	**31 780**	**20 750**
EA	**22 920**	**25 770**	**17 990**	**23 000**	**16 720**	**8 440**

Note: ":" = not available/applicable.

Source: European Commission services

The *sample size* for each survey varies across countries according to the heterogeneity of their economies, and is generally positively related to their respective population size (Table 2.1). About 125 000 firms and almost 40 000 consumers are currently surveyed every month across the EU. The sample of the industry survey includes more than 38 000 units that are surveyed every month, while the biannual investment survey includes over 44 000 units. The sample size for the services survey exceeds 34 000 units. In the case of the retail trade and construction surveys, the samples consist of more than 31 000 and 20 000 firms respectively.

Balances and composite indicators

Answers obtained from the surveys are aggregated in the form of "balances". Balances are constructed as the difference between the percentages of respondents giving positive and negative replies. The Commission calculates EU and euro-area aggregates on the basis of the national results and seasonally adjusts the balance series.

The balance series are then used to build composite indicators. First, for each surveyed sector, the Commission calculates confidence indicators as arithmetic means of answers (seasonally adjusted balances) to a selection of questions closely related to the reference variable they are supposed to track (e.g. industrial production for the industrial confidence indicator). These indicators thus provide information on economic developments in the different sectors. Second, the results for the five surveyed sectors are aggregated into the Economic Sentiment Indicator, whose purpose is to track GDP growth at Member State, EU and euro-area level. Finally, the Commission produces the factor model-based Business Climate Indicator, which uses the results of the industry survey and is designed to assess cyclical developments in the euro area. The calculation of balances and composite indicators is described in detail in Chapter 3.

Box 2.1: EU Survey in the financial services sector

The EU Programme of Business and Consumer Surveys has been extended over time to cover most sectors of economic activity in the EU. Acknowledging the growing importance of services industries in the economy, the harmonised services survey was introduced in 1996. Since then, the coverage of the survey has been expanding, and it now covers most service activities. The financial services sector had, however, not yet been fully incorporated into the regular survey programme. Given the importance of financial services for the overall economy – approximately 5% of GDP in the EU, which is comparable to the construction and retail trade sectors – a natural step forward was to try to cover also this part of the services sector. In order to achieve this goal, the European Commission contracted a survey in the financial services sector EU-wide, beginning in April 2007. As a pilot survey was conducted during the previous 12 months, data is available from April 2006.

The survey is carried out on a monthly basis, following the schedule of the other business surveys in the harmonised EU programme, i.e. the fieldwork is carried out during the first two-three weeks of the month and the data is delivered four working days before the end of the month. Questionnaires are addressed to senior managers, who take part in a predefined panel.

The financial services survey covers section J (financial intermediation) of the Classification of economic activities in the European Community (NACE), with its divisions 65 (financial intermediation, except insurance and pension funding), 66 (insurance and pension funding, except compulsory social security) and 67 (activities auxiliary to financial intermediation). The objective of the survey is to achieve representative results for the EU and the euro area as a whole, and not necessarily for each individual Member State. In order to reach the objective the survey is conducted in ten Member States: the Czech Republic, Germany, Spain, France, Italy, Luxembourg, Hungary, the Netherlands, Poland and the United Kingdom. The targets for the sample size and the response rate were set at 2 400 sampling units and 25% respectively.

The questionnaire consists of two sets of questions. The first set comprises five questions, which are the same as those used in the services survey. The results from the two surveys can thus be directly compared with each other. These questions are asked at a monthly frequency, and refer to the past development of the business situation, past and expected demand developments, and past and expected employment developments. The second set of ten questions is part of the questionnaire once a quarter, in January, April, July and October, i.e. the first monthly survey of each quarter. The quarterly questions refer to past and future assessments of operating income, operating expenses, profitability, capital expenditure, and the competitive position. As for all the other business surveys there are three different

answer categories: increase/improve, remained unchanged, and decrease/deteriorate. For the exact phrasing of each question, see Annex 2.7.

Individual respondents are weighted in order to achieve representative results at the EU level. To this end, replies are weighted according to three variables: company size, the size of the sector in which the company is active, and the relative size of the country. The country weights are the shares of each of the Member States in the EU (euro area) reference series, which is Gross Value Added at constant prices in the financial services sector (Eurostat's national accounts breakdown by 17 branches).

As for the surveys in the BCS programme, the distribution of the various answer categories are used to aggregate the results in the form of net balances for each question. Balances are the difference between the share of positive and negative answering options, measured as percentage points of total answers. These balance series serve as stand alone indicators concerning different parts of economic activity within the sector, but they are also used to calculate a composite indicator for the financial services sector as a whole. The financial services confidence indicator is calculated as the arithmetic average of the balances (in percentage points) of the answers to the questions on business climate (Q1) and on recent (Q2) and expected (Q3) evolution of demand.

The monthly results from the financial services survey are published on the last working day of each month in a press release. Furthermore, time series and sector data are available for free in downloadable excel files on DG ECFIN's website (for a link see Chapter 4).

2.2. Common properties of the surveys

Harmonisation

The principle of harmonisation underlying the Commission's survey programme aims to produce a set of comparable data for all countries. Harmonisation is essential to allow the comparison of business cycles in the different Member States as well as the calculation of meaningful business cycle indices for the euro area and the EU as a whole.

To achieve comparability between countries, the BCS programme is governed by two basic principles:

- use by all national institutes of the same harmonised questionnaires; and

- conduct of the national surveys, and transmission of the results, according to a common timetable.

Harmonisation does not mean uniformity. The national questionnaires may include additional questions, beyond the harmonised ones. Similarly, the sectoral breakdown in the questionnaires may be more detailed than the one set in the programme. Also, the national institutes are free to organise the fieldwork the way that best suits their needs. In particular, the sample design, the sample size, the survey mode, and other methodological considerations are left to their discretion. Nevertheless, institutes are invited to implement the international guidelines on data collection and survey design recently developed by the Commission and the OECD in cooperation with the national institutes (see part B).[4]

The Commission plays a leading role in the evolution of the common methodology of the BCS programme. It regularly commissions feasibility studies on relevant methodological issues and organises an annual workshop with all participating institutes in order to discuss harmonisation

---

[4]   The quality of the survey methodology, and in particular observance of the international standards for the conduct of business and consumer surveys, is taken into account when selecting the institutes participating in the harmonised survey programme.

issues, such as changes in the questionnaires and developments in the survey programme. The Commission also organises every two years a joint meeting with the OECD with a view to examining methodological issues of common interest to both EU and non-EU countries. Changes to the common methodology are reported in the User Guide.[5]

Representative sample

The participating institutes should ensure that the samples chosen for each survey are representative of the sector. The sample size must be large enough to provide reliable data. This issue is discussed in more detail in Section 3.1.

Timetable

The *timing* is common to all the harmonised surveys. Fieldwork for the monthly surveys is generally performed in the first two-three weeks of each month, while the quarterly surveys are carried out in the first half of each quarter (January, April, July and October). Likewise, the questions that are asked only on a quarterly basis are included in the questionnaires in January, April, July and October. The survey results are sent by e-mail to the Commission at least four working days before the end of the reference month and in accordance with a predefined format. The six-monthly investment surveys are carried out in March/April and in October/November, and the results are sent to the Commission before the end of May and December respectively.

Questionnaires

One essential feature of the BCS programme is the use by participating institutes of harmonised questionnaires. The standard questionnaires are given in Annex 2. In practice, the questionnaires used by the institutes may differ slightly from the harmonised ones, either due to the inclusion of additional questions or as a result of a different wording of the questions in the national language. In this regard, the important point is not to have a literal translation of the original question in English but to retain the meaning of the question. Other differences in the questionnaires (e.g. use of different concepts, of different reference periods, missing questions, etc.) should be avoided in order to ensure comparability of survey results across countries. Finally, the questionnaires can occasionally include additional pilot questions, whose results are not necessarily made public.

Monthly business and consumer surveys

The harmonised surveys provide information on a wide range of variables that are useful to monitor cyclical developments. Table 2.2 presents the list of variables covered in the monthly business and consumer surveys. As mentioned previously, most of the questions are asked on a monthly basis, but a few additional questions are added every quarter to the surveys in industry, construction and among consumers. Nearly all the questions are of a qualitative nature.

The *industry survey* is largely qualitative. The main questions refer to an assessment of recent trends in production, of the current levels of order books and stocks, as well as expectations about production, selling prices and employment. In addition, the survey provides on a quarterly basis quantitative information on two variables that are not reported in conventional statistics, namely capacity utilisation and the number of months of production assured.

---

[5]   The User Guide to the harmonised survey programme is available at:
       http://ec.europa.eu/comm/economy_finance/indicators/businessandconsumersurveys_en.htm.

In view of the scarcity of national account data on building activity, *construction surveys* are an important source of information concerning short-term developments in this sector. The construction survey provides qualitative information, with the exception of one quantitative question on the number of months of production secured.

The information provided by the *retail trade survey* is entirely qualitative. Managers are asked about their assessment of recent developments in their business situation, of the current level of stocks, and their expectations about a number of economic variables (production, new orders and employment).

The purpose of the *consumer survey* is twofold: first, to collect information on households' spending and savings intentions, and second, to assess their perception of the factors influencing these decisions. To this end, the questions are organised around four topics: the households' financial situation, the general economic situation, savings and intentions with regard to major purchases. The consumer survey is entirely qualitative.

The *services survey* provides information about the managers' assessment of their recent business situation, and of the past and future changes in their company's turnover and employment. All the replies are qualitative.

All the monthly surveys have a similar *answer scheme*. For qualitative questions, answers are usually given according to a three-option ordinal scale: "increase" (+), "remain unchanged" (=), "decrease" (-); or "more than sufficient" (+), "sufficient" (=), "not sufficient" (-); or "too large" (+), "adequate" (=), "too small" (-). In some cases, respondents have the choice between four, five or six options. In the consumer survey, a five-option ordinal scale is the rule.

Table 2.2: Variables covered in the monthly business and consumer surveys

Type of survey	Monthly questions	Quarterly questions
Industry	Production, past 3 months Production, next 3 months Total order books Export order books Stocks of finished products Selling prices, next 3 months Firm's employment, next 3 months	Factors limiting production Production capacity, current Months of production secured Order books, past 3 months Export order books, next 3 months Capacity utilisation Competitive position, domestic market Competitive position, EU markets Competitive position, extra-EU markets
Construction	Business activity, past 3 months Factors limiting production Domestic order books Firm's employment, next 3 months Selling prices, next 3 months	Months of production secured
Retail trade	Business activity, past 3 months Business activity, next 3 months Stocks of goods Orders placed with suppliers, next 3 months Firm's employment, next 3 months	
Services	Business situation, past 3 months Turnover, past 3 months Turnover, next 3 months Firm's employment, past 3 months Firm's employment, next 3 months	
Consumers	Financial situation, past 12 months Financial situation, next 12 months General economic situation, past 12 months General economic situation, next 12 months Consumer prices, past 12 months Consumer prices, next 12 months Unemployment, next 12 months Major purchases of durable consumer goods, current environment Major purchases intentions, next 12 months Savings, current environment Savings intentions, next 12 months Capacity to save	Purchase of a car, next 12 months Purchase of a house, next 12 months Home improvements, next 12 months

Source: European Commission services

The answer scheme is different for quantitative questions. These are the questions about capacity utilisation and about the period of production assured. Here, answers are requested in percentage of full capacity or in number of months respectively.

For questions on factors limiting production, a list of possible factors is proposed, and respondents are requested to select one or several factors (yes/no answer).

Investment survey

The investment survey is carried out twice a year – in March/April ("spring survey") and in October/November ("autumn survey") – among companies in the industry sector. In a large number of countries, the survey is carried out as an attachment to the industry survey, using the same panel of companies. In some countries, however, samples are different and in one country (Sweden), the two surveys are conducted by different institutes.

Table 2.3: Variables covered in the half-yearly investment survey and answer scheme

Survey	Variable	Answer scheme
March/April survey:		
	Change in investment from year t-2 to year t-1	% change
	Change in investment from year t-1 from year t	% change
October/November survey:		
	Change in investment from year t-1 to year t	% change
	Change in investment from year t to year t+1	% change
	Type of investment planned for years t and t+1	yes/no
	Factors influencing investment for years t and t+1:	
	- demand	(++), (+), (=), (-), (--), N
	- financial resources or expected profits	(++), (+), (=), (-), (--), N
	- technical factors	(++), (+), (=), (-), (--), N
	- other factors	(++), (+), (=), (-), (--), N

Note: (++) = very stimulating, (+) = stimulating, (=) = no influence, (-) = limiting, (--) = very limiting, N = no answer.
Source: European Commission services

The spring and autumn surveys have different questionnaires (Table 2.3; for the complete questionnaires, see Annex 2.). In spring, managers are asked about the percentage change in investment of their company from year t-2 to year t-1 and from year t-1 to t. In autumn, they are asked about the percentage change in investment of their company from year t-1 to year t and from year t to t+1. The autumn survey also contains a question on the type of investment (replacement, extension of production capacity, technical progress, other) planned in years t and t+1, as well as a question on the factors driving investment (demand, profitability, technical factors, others) planned in years t and t+1.

Regarding questions on the percentage change of investment, in the absence of any further information, it can be assumed that companies report nominal changes rather than real (inflation-adjusted) changes. Indeed, many companies would probably find it hard to provide figures on the growth of real investment. However, from an economic point of view, real investment is of equal, if not higher, interest. For this reason, DG ECFIN publishes also real estimates by using the deflator for equipment investment in the AMECO[6] database.

The *answer scheme* for the questions on the type of investment and on the factors influencing investment is different. Regarding the former question, companies are requested to indicate the dominant type of investment, while the answer scheme for the question on the factors influencing investment is of the traditional qualitative type ("very stimulating", "stimulating", "no influence", "limiting", "very limiting").

World Economic Survey

The WES questionnaire is purely qualitative. The questions call for an assessment of the country's general economic situation, a judgement on its main economic problems, as well as expectations about important economic indicators (foreign trade volume, trade balance, inflation rate, interest rates). Experts are also asked about their appraisal of the value of the major currencies (US dollar, euro, British pound and yen), and their expectations regarding the value of their country's currency in relation to the dollar and of the level of domestic share prices.

---

[6] The AMECO (Annual Macroeconomic) database is run by DG ECFIN and is publicly available on the internet.

For most questions, respondents have the choice between three options. A special scale is used to score individual answers. A value of 1 is assigned to negative (-) replies, a value of 5 to indifferent (=) replies, and a value of 9 to positive (+) replies. Then, the individual replies are aggregated for each country without weighting. Thus grades between 5 and 9 indicate that positive answers prevail or that a majority of respondents expect improving trends, while grades between 1 and 5 reflect mainly negative replies or expectations of decreasing trends. To compute the aggregates for the country groups or regions, the country results are weighted according to the share of the specific country's exports and imports in total world trade.

Classifications

For the business surveys (industry, retail trade, construction, services and investment), survey results are broken down by branches according to the Classification of economic activities in the European Community (NACE), Rev. 1.1 at the two-digit level. The classifications can be found in Annex A.2. The services survey raises specific issues in terms of sector coverage (see Box 2.2).

For the consumer survey, respondents are categorised according to five criteria: income, occupation, education, age and sex. The definitions of the different categories are given in Annex 2.2.3.

Box 2.2: Sector coverage of the services survey

The sector coverage of the services survey varies across countries. The 18 (two-digit level NACE Rev. 1.1) divisions (branches) included in the BCS programme can be divided into three groups.

- A first group consists of divisions 55 (hotels and restaurants), 60 (transport), 63 (travel agencies, tour operators), 71 (renting of machinery), 72 (computer and related activities) and 74 (other business activities); this group is covered by virtually all Member States.

- A second group consists of divisions 64 (post and telecommunications), 70 (real estate activities), and 90 (sewage, sanitation); a significant number of institutes do not include results for these branches.

- A third group consists of divisions 65-67 (financial services), 73 (research and development), 80 (education), 85 (health and social work), 91 (membership organisations), 92 (culture, sports) and 93 (other services); for this group, a majority of surveys includes no information.

In theory, the sector coverage of a survey should be as wide as possible. However, services being a very heterogeneous sector, some branches might show a very idiosyncratic pattern in terms of business cycle behaviour. In particular, this may be the case for public and semi-public services (e.g. healthcare) and also, to some extent, for financial services. For the sake of sector homogeneity, it might, therefore, be appropriate not to aggregate these branches with the rest of the services sector. This is in line with the Commission's decision to conduct a separate survey in the financial services sector at EU level (see Box 2.1). Furthermore, in order to ensure cross-country comparability of surveys, the branches covered by national surveys should coincide or overlap to the maximum. In this regard, the situation is gradually improving as several participating institutes are extending the sector coverage of their services surveys.

---

3.   COLLECTING AND PROCESSING BUSINESS AND CONSUMER SURVEYS

3.1.   Sampling

The survey samples are derived from a frame, which is supposed to register all the units of the whole population under question. The frame can be created from official or statistical registers, or from membership lists of business associations and chambers of commerce. Taking into account the various changes that might occur in the population (mergers, bankruptcies, starting of new firms, etc.), a regular update of the frame is necessary in order to keep it representative. Good coverage of the frame is indeed very important to secure the quality of the surveys.

The coverage rate of the sample, generally measured via turnover or employment, indicates at which percentage rate the sample represents the frame. The sample size needs to be sufficiently large to give estimates of the balances and other items of interest which are reliable enough to meet users' requirements. The appropriate sample size therefore depends on the level of precision required by users and is determined mainly by the variance of the individual responses. Given that large countries tend to show larger structural heterogeneity than very small countries, the sample size tends to be positively related to the size of the economy.

The participation of managers and consumers in the surveys is voluntary in most countries.[7] Naturally, some are unable or unwilling to respond. Non-response is a problem, in particular if the potential responses from the non-respondents would have deviated systematically from those who did respond. This would introduce a bias, i.e. the answers would no longer be representative of the population, which preferably should be corrected for (for suggested treatments of non-responses, see Part B.2 on international recommendations on the improvement of response rates). A high response rate, i.e. the degree to which managers or consumers answer the questionnaires, is therefore critical for the quality and the reliability of the results.

In practice, a trade-off typically emerges between the desired precision and the required cost of a survey. In general, there are three methods of data collection such that the information collected can be used to draw inferences about the population. First, one can collect data from all units in the population. This is a costly and lengthy procedure unless the population is small. Second, one can collect data from a sample of units that have been selected from the population with the intention that they should be representative of that population. A sample of this kind is called a purposive sample. In order to draw inferences about the population using a purposive sample, a number of assumptions have to be made about the representativeness of the surveyed units. In general, there are limitations to the inferences that can be drawn from purposive samples when the probability of selection is not known. Third, data can be collected from a random sample of units which have been selected with known probabilities of selection from the population. In this case, no assumptions about the representativeness of the data collected are needed. Moreover, there are well-known techniques for determining the precision of estimated totals and averages.

In order to make a random sample more efficient (a smaller sample for a given level of precision), many institutes use some form of stratified random sampling that involves the separation of the population into non-overlapping sub-populations, called strata, which have similar variance with regard to the key variables covered in the survey. Stratification is applied

---

[7]   Participation is, however, compulsory in Spain, France, Italy, Luxembourg, the Netherlands, Poland and Portugal for some or all surveys.

according to different criteria. The stratification criteria used for business surveys are mainly firm size and activity sector. For consumer surveys, the sex, age, education, income and occupation of the person are commonly used for the selection of the respondents.[8]

For business surveys, the sample does not differ much from one period to another. In most cases, a panel of companies is established and surveyed each month. This approach is motivated by the structure of the production system itself, which does not change significantly from one period to another and is also often highly concentrated. It is then essential to question the dominant companies in each branch. There are a number of advantages to be gained from always questioning the same firms: notably, replies are received more quickly, and the variability of results between two successive surveys is also reduced, having a positive effect on the required sample size. It is therefore recommended that the same panel is maintained over time for business surveys and that it is updated at regular intervals, or that a smaller part of the sample is replaced each period (rotating panels).

According to OECD experience with BCS surveys,[9] about 30 reporting units are sufficient to obtain an acceptable level of precision for each strata for which data are to be published. This rule of thumb implies, for example, that in a survey designed to produce results for ten kinds of activity, each broken down into 3 size classes, the sample size will need to be 30 x 10 x 3 = 900. In other words, 30 respondents are required for each of the 30 cells (defined by activity and size) in the population. In practice this should be a maximum because some activities will be dominated by a few very large enterprises such that two or three responses might suffice.

3.2.   Aggregation and weighting

Starting from each stratum, the percentages of answers to each reply option are calculated. Two alternatives are available at this stage: a simple counting of the answers or a weighted counting. In the first case, the numbers of positive and negative replies are counted, and then expressed as percentages of the total number of firms in the stratum. In the second case, a weighting coefficient is used for each firm representing an aspect of its size (for example, in terms of turnover, employment or production). The weighting scheme aims to improve the comparability of the survey responses and reference series, rather than having an *a priori* idea that larger firms judge or predict better.

Whether weighted or not, the outcome for each stratum *h*, for each variable *X*, for a given month *t*, is a column vector

$X_h = (P_h, E_h, M_h)$ where P_h is the share reporting an increase, E_h is the share reporting no change, and M_h is the share reporting a decrease.

Having obtained the results for each stratum, the overall results are calculated as weighted averages of the results by strata. Weighting coefficients used at this stage reflect the relative significance of each stratum in the frame or population and are often derived from official statistics, such as the value added of a specific sector as a share of that of total manufacturing industry. The weighting in this case is used to improve the quality of the sample, by correcting any possible discrepancies of representation. Total results for each variable are then a vector

---

[8]   The consumer surveys are in some countries carried out by so-called quota sampling. This sampling technique means that respondents (consumers) are searched for until a certain, predetermined, quota of respondents is reached. A major shortcoming of this sampling method is that, since the sample is not random, no inference regarding the population can be drawn.

[9]   See the OECD Handbook on Business Tendency Surveys, available at:
http://www.oecd.org/dataoecd/29/61/31837055.pdf.

$X = (\Sigma P_h \cdot w_h, \Sigma E_h \cdot w_h, \Sigma M_h \cdot w_h)$

where w_h are the relative weighting coefficients for each stratum and $\Sigma w_h = 1$. Note also that, by construction, $\Sigma P_h \cdot w_h + \Sigma E_h \cdot w_h + \Sigma M_h \cdot w_h = 100$.

When business survey results are aggregated to higher levels, for instance at the European level, a weighted average of country results is obtained by applying relevant country weights (see Section 3.4).

3.3. Calculation of balances

On the basis of the distribution of the various options for each question, aggregate balances are calculated for each question. Balances are the difference between positive and negative answering options, measured as percentage points of total answers. In particular, if a question has three alternative options, "positive" ("up", "more", "more than sufficient", "good", "too large", "increase", "improve", etc.), "neutral" ("unchanged", "as much", "sufficient", "satisfactory", "adequate", etc.) and "negative" ("down", "less", "not sufficient", "too small", "decline", etc.), and if P, E and M (with P+E+M=100) denote the percentages of respondents having chosen respectively the option positive, neutral, and negative, the balance is calculated as

$$B = P - M$$

In the case of questions with six options, i.e. the three options above plus "very positive" ("got/get a lot better", "very much higher", "increase sharply", etc.), "very negative" ("got/get a lot worse", "very unfavourable", "fall sharply", etc.) and "don't know", the balances are calculated on the basis of weighted averages. If P, E and M have the same meaning as in the previous paragraph, while PP denotes the percentage of respondents having chosen the option "very positive", MM the percentage of respondents having chosen the option "very negative" and N is the percentage of respondents without any opinion (so that PP+P+E+M+MM+N=100), balances are calculated as

$$B = (PP + \tfrac{1}{2}P) - (\tfrac{1}{2}M + MM)$$

It is clear from the expressions above that balance values range from -100, when all respondents choose the negative option (or the most negative one in the case of five-option questions) to $+100$, when all respondents choose the positive (or the most positive) option.

3.4. Calculating EU and euro-area aggregates

One of the main tasks of the Commission services (DG ECFIN) is the production of aggregate surveys for the EU and the euro area on the basis of the aggregate results received from the Member States. EU and euro-area aggregate replies to the questionnaires are calculated as weighted averages of the country-aggregate replies. The weights are the shares of each of the Member States in an EU (euro-area) reference series, and are smoothed by calculating a two-year moving average. The weights are usually updated every year in August. The reference series are extracted from AMECO and for the most recent period, where yearly reference series are not available, the Commission forecast is used.[10]

---

[10] For the weights currently used, see
http://ec.europa.eu/comm/economy_finance/indicators/business_consumer_surveys/user_guide_country_weights.zip.

Table 3.1 summarises relevant information concerning the reference series used to compute the country weights.

Table 3.1: Reference series (AMECO database) used to compute the country weights

Survey	Reference series	AMECO code
Industry	Gross value added at constant prices, industry excluding building and construction	1 0 99 0 OVG2
Investment	Gross value added at constant prices, industry excluding building and construction	1 0 99 0 OVG2
Construction	Gross value added at constant prices, building and construction	1 0 99 0 OVG4
Services	Gross value added at constant prices, services	1 0 99 0 OVG5
Retail Trade	Private final consumption expenditure at constant prices	1 0 99 0 OCPH
Consumer	Private final consumption expenditure at constant prices	1 0 99 0 OCPH

Source: European Commission services

On this basis, the percentage for each alternative answer to each question for the EU and the euro area is calculated as the weighted average of the corresponding percentages in each Member State or each euro-area member.

3.5. Seasonal adjustment

Leaving aside strikes, elections, large exchange-rate movements, very cold weather and other special events, business and consumer survey data record opinions that may be influenced by other events taking place at the same time every year. This is the case of, for instance, regular events, such as Easter, Christmas, certain public holidays, or the receipt of extraordinary wage bills in a given month of the year. Even though respondents are explicitly asked not to take into account such seasonal variations, in practice the answers frequently show seasonal patterns. Such variations in businesses' and consumers' perceptions, opinions or expectations should ideally be eliminated when comparing two consecutive months. This is the goal of seasonal adjustment.

Once the balances per question for each survey at the aggregate (country, EU, euro-area) level are calculated, they are seasonally adjusted. The Commission is currently using Dainties as the seasonal-adjustment algorithm, as originally developed by Eurostat (see Annex A.2). This method has yielded satisfactory results for business and consumer survey data for many years. The main advantage of Dainties is the absence of revisions when adding data at the end of the time series. As business and consumer survey data are economic agents' opinions at a certain point in time, revisions of the historical data seem undesirable.

3.6. Calculation of composite indicators

Business and consumer surveys provide monthly judgements and anticipations concerning diverse facets of economic activity in the different sectors of the economy: industry, services, construction and retail trade, as well as consumers. Based on the detailed results of the Harmonised Programme, the Commission calculates and publishes a set of monthly composite

indicators. First, for each of the five surveyed sectors, so-called confidence indicators are produced to reflect overall perceptions and expectations at the individual sector level in a one-dimensional index. Secondly, in order to be able to track overall economic activity, the broader Economic Sentiment Indicator (ESI) has been calculated since 1985, summarising developments in all five surveyed sectors.

Each confidence indicator is calculated as the simple arithmetic average of the (seasonally adjusted) balances of answers to specific questions chosen from the full set of questions in each individual survey. The selection of questions was guided by the aim of achieving an as highly as possible coincident correlation of the confidence indicator with a reference series, such as year-on-year growth in industrial production, at EU or euro-area level. The balance series from the selected questions are not standardised prior to their aggregation.

Based on the complete set of balance series underlying the individual confidence indicators, the ESI combines judgements and attitudes of producers and consumers by means of a weighted aggregation of standardised input series. Roughly speaking, the Economic Sentiment Indicator can be viewed as a summary of the five sector-specific confidence indicators. Before presenting the composition and weighting scheme underlying the ESI in more detail, it is useful to look first at the composition of the individual confidence indicators.

Finally, the last part of this section contains a description of a composite indicator for the euro area based on factor methodology. This indicator only refers to manufacturing industry and can therefore be seen as a complement to the industrial confidence indicator.

3.6.1. *Industrial confidence indicator*

The industrial confidence indicator is the arithmetic average of the balances (in percentage points) of the answers to the questions on production expectations, order books and stocks of finished products (the last with inverted sign). Balances are seasonally adjusted.

Questions (see Annex 2.1.1 for the complete questionnaire):

Q2   Do you consider your current overall order books to be...?

+   more than sufficient (above normal)
=   sufficient (normal for the season)
-    not sufficient (below normal)

Q4   Do you consider your current stock of finished products to be...?

+   too large (above normal)
=   adequate (normal for the season)
−   too small (below normal)

Q5   How do you expect your production to develop over the next 3 months? It will...

+   increase
=   remain unchanged
−   decrease

3.6.2. Services confidence indicator

The services confidence indicator is the arithmetic average of the balances (in percentage points) of the answers to the questions on business climate and on recent and expected evolution of demand. Balances are seasonally adjusted.

Questions (see Annex 2.2.1 for the complete questionnaire):

Q1   How has your business situation developed over the past 3 months? It has …

    +   improved
    =   remained unchanged
    −   deteriorated

Q2   How has demand (turnover) for your company's services changed over the past 3 months? It has...

    +   increased
    =   remained unchanged
    −   decreased

Q3   How do you expect the demand (turnover) for your company's services to change over the next 3 months? It will…

    +   increase
    =   remain unchanged
    −   decrease

3.6.3. Consumer confidence indicator

The consumer confidence indicator is the arithmetic average of the balances (in percentage points) of the answers to the questions on the financial situation of households, the general economic situation, unemployment expectations (with inverted sign) and savings, all over the next 12 months. Balances are seasonally adjusted.

Questions (see Annex 2.3.1 for the complete questionnaire):

Q2   How do you expect the financial position of your household to change over the next 12 months? It will...

    + +   get a lot better
    +   get a little better
    =   stay the same
    −   get a little worse
    − −   get a lot worse
    N   don't know.

Q4 How do you expect the general economic situation in this country to develop over the next 12 months? It will...

    ++   get a lot better
    +   get a little better
    =   stay the same
    −   get a little worse
    − −   get a lot worse
    N   don't know.

Q7 How do you expect the number of people unemployed in this country to change over the next 12 months? The number will...

    ++   increase sharply
    +   increase slightly
    =   remain the same
    −   fall slightly
    − −   fall sharply
    N   don't know.

Q11 Over the next 12 months, how likely is it that you save any money?

    ++   very likely
    +   fairly likely
    −   not likely
    − −   not at all likely
    N   don't know.

3.6.4.   *Retail trade confidence indicator*

The retail trade confidence indicator is the arithmetic average of the balances (in percentage points) of the answers to the questions on the present and future business situation, and on stocks (the last with inverted sign). Balances are seasonally adjusted.

Questions (see Annex 2.4.1 for the complete questionnaire):

Q1 How has (have) your business activity (sales) developed over the past 3 months?
It has (They have) …

    +   improved (increased)
    =   remained unchanged
    −   deteriorated (decreased)

Q2 Do you consider the volume of stock currently hold to be...?

    +   too large (above normal)
    =   adequate (normal for the season)
    −   too small (below normal)

18

Q4   How do you expect your business activity (sales) to change over the next 3 months? It (They) will...

+   improve (increase)
=   remain unchanged
−   deteriorate (decrease)

3.6.5.   Construction confidence indicator

The construction confidence indicator is the arithmetic average of the balances (in percentage points) of the answers to the questions on order book and employment expectations. Balances are seasonally adjusted.

Questions (see Annex 2.5.1 for the complete questionnaire):

Q3   Do you consider your current overall order books to be...?

+   more than sufficient (above normal)
=   sufficient (normal for the season)
−   not sufficient (below normal)

Q4   How do you expect your firm's total employment to change over the next 3 months? It will...

+   increase
=   remain unchanged
−   decrease

3.6.6.   Economic Sentiment Indicator

The Economic Sentiment Indicator is made up of the 15 individual components of the previously described confidence indicators. Explicit weights are allocated to the different sectors for the computation of the composite indicator:

· Industry: 40%
· Services: 30%
· Consumers: 20%
· Construction: 5%
· Retail trade: 5%

The given weights have been determined according to two criteria, namely "representativeness" of the sector in question and tracking performance vis-à-vis the reference variable. Corresponding to the broad scope of the ESI, the obvious reference variable is GDP growth, tracking the movements of the economy as a whole.

It is important to note that the above-mentioned weights are not directly applied to the five confidence indicators themselves but to their *standardised* individual component series. The prior standardisation is essential to make the individual component series comparable in terms of both their mean level and volatility before aggregation. Otherwise, component series with relatively high characteristic amplitude would dominate the evolution of the composite

indicator, i.e. the nominal weights would not reflect the factual contribution of each component to the profile of the composite indicator.[11]

Since the confidence indicators described above are made up of the same, but *non-standardised* component series, the ESI cannot precisely be derived from applying the given sector weights to the five confidence indicators. In fact, it can occasionally happen that, due to the influence of some more volatile component series, the sum of the (weighted) confidence indicators shows movements that are not reflected in the ESI, summarising the properly standardised components. In the same way, impulses from rather damped components that are not visible in the confidence indicators may actually show up in the ESI.

The exact calculation of the ESI on the basis of its component series can be summarised by the following three simple steps:

(1) *For each component* $j = 1,...,15$

$$Y_{j,t} = \frac{X_{j,t} - \overline{X}_j}{S_j} \quad where \quad \overline{X}_j = \frac{1}{T'} \sum_{t=1}^{T'} X_{j,t} \quad and \quad S_j = \sqrt{\frac{1}{T'-1} \sum_{t=1}^{T'} (X_{j,t} - \overline{X}_j)^2}$$

(2) $Z_t = \dfrac{\sum_j w_j \cdot Y_{j,t}}{(\sum_j w_j)_t} \quad where \ (\sum_j w_j)_t$ is the sum of the weights of the available series at time t

(3) $ESI_t = (\dfrac{Z_t - \overline{Z}}{S_Z}) \cdot 10 + 100 \quad where \quad \overline{Z} = \dfrac{1}{T'} \sum_{t=1}^{T'} Z_t \quad and \quad S_Z = \sqrt{\dfrac{1}{T'-1} \sum_{t=1}^{T'} (Z_t - \overline{Z})^2}$

The X_j variables represent the 15 components of the confidence indicators for industry (3 components), services (3), consumers (4), construction (2) and retail trade (3), as given in Sections 6.1 to 6.5 (seasonally adjusted balances).

The moments for standardisation (step 1) are computed over a frozen sample to avoid monthly revisions of the index. Currently, the sample runs from 1990:1 to T' = 2006:12. Although the long-term moments of the balance series are fairly stable due to their stationary nature, the sample has to be extended periodically to include latest developments.

To compute the weighted average Z_t (step 2), the above-mentioned sector weights are divided by the number of opinion balances making up the related confidence indicator. So, for example, the three standardised balances relating to service confidence each receive a weight of 10%, adding up to the total services weight of 30%. As long as not all of the 15 components are available, the weighted sum of those series that are available is divided by the sum of the allocated weights.

In the last step (step 3), the resulting weighted average is scaled to have a long-term mean of 100 and a standard deviation of 10, where the same sample is used as for the standardisation of the individual components in step 1. Values greater than 100 indicate an above-average economic sentiment, whereas values below 100 indicate a below-average position. Assuming approximate normality, the imposed standard deviation of 10 implies that in about 68% of the cases the ESI will be within the range of 90 to 110.

---

[11] For example, the long-term standard deviation of the components of the euro-area industrial confidence indicator varies between 13.4 and 4.8, for questions Q2 and Q4 respectively.

The performance of the ESI, which summarises the attitudes and judgements of a large number of economic actors, should be compared with the performance of a reference variable which is also all-inclusive, recording movements in the economy as a whole. Hence, as mentioned previously, GDP growth is the obvious choice for testing the explanatory performance of the composite indicator.

3.6.7. Business Climate Indicator

The Business Climate Indicator (BCI) is calculated in order to receive a timely composite indicator for the manufacturing sector in the euro area. The indicator uses, as input series, five balances of opinion from the industry survey: production trends in recent months, order books, export order books, stocks and production expectations. The BCI therefore deviates from the industrial confidence indicator, which is based on only three input series. Also, the method to construct the BCI is different from that of the confidence indicator. The BCI is based on the notion that each of the five component questions can be represented by a *common* factor that summarises the underlying cyclical situation at a particular moment in time and by a *specific* factor that applies to the question only. The basic idea of this division is to separate out the information that is common to all series from idiosyncratic movements in a specific series. The BCI is then defined as the common factor, while the specific factors are left out. Being the common factor extracted from five monthly industry questions, the BCI is supposed to move contemporaneously with overall industrial activity in the euro area.

More generally, factor analysis is a class of statistical methods used to summarise a set of variables by constructing a few "common factors" related to all of the variables and "specific factors" related to each individual variable only. It therefore represents a formalisation of Burns and Mitchell's (1946) notion that business cycles represent co-movements in a set of economic time series.

The methodology is based on very classical principles. A set of p observed variables (balances of opinion) are summarised by a small number $k<p$ of latent variables called common factors. The underlying model supposes that each of the p observed variables results from the combination of both a small number of *common factors F_j* and an idiosyncratic component u_i

$$z_{it} = l_{i1}F_{1t} + \ldots + l_{ik}F_{kt} + u_{it} \qquad , i = 1,\ldots,p$$

where z denotes the value of the ith standardised observed variable at time t. The term

$$\chi_{it} \equiv z_{it} - u_{it} = l_{i1}F_{1t} + \ldots + l_{ik}F_{kt}$$

defines the *common component* of variable i, and is itself driven by the k common factors.

The factors are supposed to be uncorrelated with each other and with the idiosyncratic factors. The latter are also uncorrelated with each other. The *loadings* l_{ij}, $j=1,\ldots,k$, give the individual correlations of the k common factors with the i_{th} variable. The squared loadings l_{ij}^2 provide the share of variance of variable i explained by factor j. Adding them over the k factors results in the *communality* of variable i, representing the share of variance explained by all of the extracted factors.[12]

---

[12]   In the case of the BCI, k is set to 1. Additional information on how the Business Climate Indicator is constructed can be found on the webpage:
http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/studies/bci_presentation_paper.pdf.

4. DATA DISSEMINATION AND PUBLICATION

4.1. Publication of survey results

The Business and Consumer Survey results are published on the last working day[13] of each month by means of two press releases and are sent by e-mail to a selected group of news agencies. The publication calendar of the press releases is available on DG ECFIN's website at:

http://ec.europa.eu/economy_finance/indicators/businessandconsumersurveys_en.htm.

The first press release reports the BCS results plus the confidence indicators and the Economic Sentiment Indicator (ESI). The second press release relates to the Business Climate Indicator (BCI). Both press releases are divided into two parts: a first part with comments on the main results of the surveys and a second part with detailed tables showing the results.

All the data reported in the press releases plus additional data (long-time series, non-seasonally adjusted sector series and seasonally adjusted branch data) are freely downloadable (excel files) from:

http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/bcsseries_en.htm.

The results of the quarterly survey in the manufacturing sector are reported in the press release of the first month of the quarter (i.e. January, April, July and October). Selected results from the quarterly Word Economic Survey are published in the press release of the second month of the quarter (i.e. February, May, August and November). The results of the bi-annual survey on investments are reported in the January and June press releases.

4.2. Metadata

As already mentioned, the harmonised business and consumer surveys are carried out in a decentralised manner by individual institutes in the Member States. Notwithstanding the harmonised schedule and the common principle of representative sampling, the individual institutes are responsible for determining their sampling frame, sampling and survey methods.

All the information concerning the methodology used in each country for each survey as well as other useful information on the national organisation conducting the survey (such as the contact person) is available in the metadata section of DG ECFIN's BCS website at:

http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/metadata_en.htm

http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/institutes_en.htm

---

[13] The December results are published early in January of the following year.

PART B

INTERNATIONAL GUIDELINES AND RECOMMENDATIONS ON THE CONDUCT OF BUSINESS AND CONSUMER SURVEYS

1. BACKGROUND

In November 2003, at the first joint European Commission–OECD Workshop on international development of business tendency and consumer opinion surveys (BTS/COS), several priority areas were identified for which further work was considered needed. Two of these were:

- improvement of response rates, minimisation of respondent load; and

- harmonisation of survey operations and technical design.

At the following OECD workshop on business and consumer tendency surveys in 2004, two multi-country task forces addressing these issues were launched. The work of these task forces was presented and discussed at the second joint European Commission–OECD Workshop in November 2005, and the ensuing recommendations were endorsed by the participants.

The purpose of this chapter is to disseminate the main results of the two task forces. The international guidelines are an essential tool for moving the harmonisation process forward, which is essential for facilitating the comparability of national survey results and the calculation of meaningful business cycle indices for the euro area and the EU as a whole. The list of recommendations presented in this chapter is not complete, but should serve as a first introduction to best practices for survey conducting institutes. Institutes participating in the BCS programme are invited to acquaint themselves with the details, as they are expected to implement the international guidelines when conducting surveys within the harmonised programme.

The following two sections summarise the recommendations and other outcomes. Links to specific papers available on the websites of the meetings cited above provide background, context and recommended best practice.

2. RECOMMENDATIONS ON IMPROVEMENT OF RESPONSE RATES AND MINIMISATION OF RESPONDENT LOAD

The terms of reference for the task force involved the investigation of:

- which methods of data collection (e.g. mail, phone, fax, internet, e-mail) and follow-up routines are most effective for improving response rates and reducing response burden, also considering the impact of the different methods on the costs of conducting the survey;

- effective and cost-efficient methods for communicating with survey respondents to gain their cooperation in situations where the survey is either compulsory or non-compulsory;

- how to assess the impact (bias) that non-response can have on survey estimates and the development of methods to minimise that impact (e.g. imputation methods, estimation methodologies).

The work of the task force entailed a thorough review of current national practice and available literature in these areas. This literature suggests that a key factor in compiling high-quality opinion survey data is to achieve a satisfactory response rate, and that clear strategies to

minimise non-response should be given high priority in the allocation of resources. The task force offered a comprehensive analysis of the relationship between response rate and methods for data collection. It investigated different data collection and communication methods, as well as factors influencing response rates.

The main outcomes of the work of the task force and the discussion at the second joint European Commission–OECD Workshop are embodied in the following seven recommendations, which entail the need for national institutes to:

1. Clearly specify in their metadata what kind of response rate is applied. The task force deemed that two kinds of non-response rates (or complementary response rates) seemed advisable according to survey design. In the case of non-response, these comprise a measure appropriate when there is a uniform sampling fraction and equal weights, and another appropriate in the more general case of unequal sampling fractions and reporting units[14] with different weights. The former is given by the notation $NR1 = \left(n'/n\right)*100$ where n' is the number of units that did not submit useful information and n is the number of enterprises selected in the survey. The latter, and more general case of unequal sampling fraction and reporting units with different weights, is represented by the notation

$$NR3 = \frac{\sum_{i=1}^{n'} \frac{1}{f_i} * w_i}{\sum_{i=1}^{n} \frac{1}{f_i} * w_i} *100 \text{, where } f_i = \frac{n'}{n} \text{ is the sampling fraction of the } i^{th} \text{ unit, and } w_i \text{ is}$$

the size of the weight of the ith unit.

2. Formulate and implement a range of strategies for establishing initial contacts with respondents to gain their cooperation. Strategies include the tailoring of contacts to the characteristics of the survey unit[15] (especially larger units), contacting the "appropriate" person within the unit, overcoming lack of awareness of the survey by explaining the benefits/uses of the survey data, making respondents more aware of the survey institution and its survey programme, using personal contact in the initial approach where possible, providing information on the survey characteristics explaining differences from other surveys, and ensuring that data requested are readily available to the respondent.

3. Adopt a respondent perspective with regard to the data collection methods, all of which have their strengths and weaknesses. Where possible, efforts should be made to allow survey units to choose the mode they prefer. Implement a mixed mode approach for data collection, which allows for the optimisation of data collection procedures and a reduction of total survey errors within the available time frame and budget.[16]

4. Periodically include questions in questionnaires to assess respondent preferences for data collection.

5. Develop efficient follow-up strategies that are tailored to the various modes of data collection used by an institute conducting BTS/COS. Such strategies include the provision

---

[14] A reporting unit is a unit that supplies the data for a given survey instance.

[15] A survey unit is a unit – typically a person or an enterprise – described in the list or register from which the sample is selected.

[16] Examples of recommended practice in this area are provided in a study conducted by the Bank of Japan, "Why is the response rate of the TANKAN high?", available at:
http://www.oecd.org/dataoecd/54/8/35564041.pdf.

of promotional material, use of toll-free telephone help lines to provide assistance to respondents, collecting only key variables as an alternative to total non-response, and providing an explicit indication that estimates (or proxy data) are acceptable for requested data items.

6. Review their current weighting methodology to ensure that business weights used in estimation are representative of the population. There is a need to take account of sampling probabilities in the weighting process. If aggregation to the branch or cell[17] level combines businesses chosen with different probabilities (e.g. large and small businesses), the sampling fraction should be a factor in the weighting process, otherwise estimates will be biased.

7. Analyse the results from previous surveys to determine whether there is any evidence of different response behaviour for businesses that are more or less likely to respond to a particular survey cycle.[18] All institutes reviewed by the task force use, at least to some extent, the missing at random (MAR) assumption for treating non-respondents in BTSs. This assumes that the average (weighted) distribution of answers from responding businesses is representative of non-respondents. If this assumption does not hold, then only taking into account answers from businesses responding to a particular monthly cycle of a survey can lead to a false conclusion regarding the change in the business climate, as this might only be due to a change in the structure of respondents.[19]

Further information on Recommendations 1-5 is available in the task force paper "Relationship between response rates and data collection methods".[20] Background information for Recommendations 6 and 7 is available in the paper "Assessing and minimising the impact of non-response on survey estimates".[21]

3. RECOMMENDATIONS ON HARMONISATION OF SURVEY OPERATIONS AND TECHNICAL DESIGN

There are at present no international guidelines or recommendations outlining best practice for the development of business tendency surveys. In 2003, the OECD published a Handbook[22] aimed at assisting non-member countries in implementing and/or developing their BTSs. The survey procedures presented and recommended in the Handbook are those used for official statistical surveys and served as a starting point for the task force when identifying key aspects in the development of standards for survey operation and technical design. The aspects covered by the task force comprised: efficient sample design and weighting methods, and identification and assessment of recommended practices for the design of internet surveys.

---

[17] A cell in this context is typically defined by one or two key variables, e.g. activity and size, with a predefined number of characteristics.

[18] As undertaken by the South African Bureau of Economic Research and described in paragraph 23 of the task force paper "Assessing and minimising the impact of non-response on survey estimates", available at http://www.oecd.org/dataoecd/56/16/35634012.pdf.

[19] There are ways to overcome these problems. One example is to interpolate non-response from previous replies as is done with the constant-sample technique applied by INSEE (see http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/workshops/2005/ec_oecd_meeting/s1p5_scherrer.pdf).

[20] Available at http://www.oecd.org/dataoecd/55/40/35558806.pdf.

[21] Available at http://www.oecd.org/dataoecd/56/16/35634012.pdf.

[22] Available at http://www.oecd.org/dataoecd/29/61/31837055.pdf.

3.1. Efficient sample design and weighting methods[23]

For business and consumer surveys, the task force sought to identify key issues in the areas of sample design and weighting methodologies. The objective was to draft an initial set of recommended minimum requirements and preferences, which aimed to improve the reliability and hence the overall quality of survey data. The key issues for efficient sample design, as presented by the task force, covered the identification of the relevant universe/reference population, identification of the sample frame, methods used for sample selection, and the treatment of missing data (except for consumer surveys).

As can be seen from the recommendations outlined below (separately for business tendency surveys and consumer opinion surveys), most are also relevant for quantitative surveys. Although many of the recommendations are self-evident, the benefits of their future inclusion in international recommendations are that they benchmark recommended practice and allow comparisons of data quality between countries.

3.1.1. *Business tendency surveys*

- Sample frame

1. Frame lists should include as exhaustive as possible an account of active firms in the survey universe of interest. In this context the use of official or statistical registers of active firms is recommended over that of more partial business or membership registers.

2. Institutes are advised to use cut-off strategies in order to stabilise the panel (size cut-off) and to precisely identify the survey objectives (branch cut-off).

3. Establishments[24] may be considered as the ideal choice for the sample unit, though it is recognised that it may be difficult to gather information at this level. Furthermore, other types of units may be more suitable depending on the focus or interest of the survey, e.g. KAUs[25] for studies on industrial structure or local units[26] for regional structures. Even if the firm is identified as the sample unit, it is advisable to have different reporting units within the firm where possible. It is strongly recommended that the same type of response units answer questionnaires each month.

4. Frame lists should be updated as soon as a new census of active firms is available.

---

[23] The task force report "Efficient sample design and weighting methodologies: Analysis of key issues and recommendations" is available at http://www.oecd.org/dataoecd/12/37/35493506.pdf.

[24] An establishment is an enterprise, or part of an enterprise, that is situated in a single location, and in which only a single (non-ancillary) productive activity is carried out or in which the principal productive activity accounts for most of the value added.

[25] A kind-of-activity unit (KAU) is an enterprise, or a part of an enterprise, in which the principal productive activity accounts for most of the value added.

[26] A local unit is an enterprise, or part of an enterprise, which engages in productive activity at one location. A local unit may have more than one kind of economic activity.

- Sampling methods

5. The use of probabilistic sample-selection techniques are strongly recommended in preference to purposive or judgemental methods. The use of stratification-based sampling methods is recommended where there is heterogeneity in the unit population with respect to size or other characteristics. Use of exhaustive sampling is recommended for small countries or for a subset of the sample, e.g. in order to ensure that big companies are included in the sample.

6. A fixed panel should be used, established on a statistically sound basis using a rotating pattern of updating, with a fixed proportion of units being replaced at regular intervals.

- Treatment of missing data

7. Institutes should describe in their metadata the precise nature of the procedures used in the treatment of item non-response or missing data.

8. As a minimum requirement it is recommended that institutes closely monitor the impact of missing data (especially for large firms) and develop a clear set of strategies to minimise non-response.

9. The use of imputation methods for the treatment of remaining missing data should be considered with care, in order to avoid possible distortions.

10. Re-weighting techniques, taking account of different composition of the panel in adjacent surveys, are recommended as a means of reducing bias.

- Weighting methods

11. The use of weights is strongly recommended in order to improve the precision of the estimates. As a minimum, the use of a simple one-stage system of weights is recommended, though two-stage (or multistage) weighting procedures are recommended for heterogeneous populations, especially in large countries. A minimum requirement is that business weights used for units in the sample are approximately representative of the distribution of businesses (by size) in the population.

3.1.2.   Consumer opinion surveys

- Sample frame

12. The frame list should include as exhaustive as possible an account of the adult population. As a result, official census or statistical registers are preferred to telephone registers. If the latter are used, appropriate methods to correct for possible coverage bias should be used.

13. Cut-off strategies with respect to age are advisable, though this may require further harmonisation within the EU.

14. Frame lists should be updated yearly.

- Sampling methods

15. It is strongly recommended that random sampling techniques be used to ensure survey representativeness.

16. In the case of heterogeneous populations, stratified sampling methods are preferred over simple random sampling.

17. Further research is recommended on the benefits of the use of a rotating sample design over the use of an independent sample selected each month.

- Weighting

18. Weighting is recommended in order to ensure better representativeness of the sample selected. Weightings could comprise demographic characteristics such as age and gender, region of residence and size of township, or socio-economic characteristics such as occupation, level of education, and type of area municipality.

3.2. Design of internet surveys[27]

In recent years there has been an explosion in the use of the internet for data collection. While there is broad experience and knowledge of personal interviews and mail questionnaires, there is not yet a consensus among researchers involved in BTS/COS on how best to conduct internet surveys, and little attention has been given so far to their scientific underpinnings. Most researchers agree, however, that the internet environment has characteristics that make it distinct from other survey methods.

The aim of the task force was to contribute to higher research standards in the realm of business tendency surveys and to develop research-based design principles for internet questionnaires. The task force report commences with an overview of the characteristics, strengths and issues of concern for internet surveys. This overview, together with an extensive list of recommended practices, is based largely on the analytical reports, workshop documents, and other instruction material prepared by task force members and other researchers working on internet surveys in a wide range of countries.

Based on current knowledge and experience, the recommended practices outlined below are a starting point for further development of research-based principles for internet surveys.

- Getting started

▪ Ensure that the internet presence of the institution is professional, as participants will evaluate this on entry.

▪ Check whether potential participants who are contactable by e-mail have access to the internet, as in many businesses employees have restricted access to the Web.

▪ Give respondents the chance to choose the mode of their preference, as it offers the possibility of "soft" control for computer skills.

---

[27] The task force report "Identification of recommended practices for the design of internet surveys" is available at http://www.oecd.org/dataoecd/12/16/35493730.pdf.

- Ensure that IT support is available also beyond the end of the start-up phase, and that there is a helpline facility (phone number of the department or administrator).

- Assure data protection, data security, and confidentiality, and for ethical reasons do not acquire data without the knowledge of the respondent (for example cookies).

- Conduct a pilot study with volunteer firms and take into account their observations.

- E-mail invitation

- When using e-mail invitations, adhere to a widely accepted format (at present the plaintext format). HTML e-mails and attachments may be rejected on account of virus risks.

- Avoid using bought-in e-mail lists, as the data collection institute could be labelled as a spammer.

- Avoid spam-sounding words in the institute's e-mail. It is also recommendable to avoid the use of "click here", unsubscribe instructions and/or explanations of why the recipient is on the list.

- Designing the questionnaire

- Check the differences in the visual appearance of questions that result from different screen configurations, operating systems, browsers and screen displays.

- Introduce the Web questionnaire with a welcome and an attractive screen that is motivating and emphasises the ease of responding.

- Use a personal salutation at the beginning of the questionnaire to prevent computer-mediated communication with participants being perceived to be more anonymous than traditional communication.

- Present each question in a conventional format similar to that normally used on paper questionnaires with self-explanatory and intuitive instruments.

- Avoid the use of too many colours and design features that may distract respondents' attention from the questions (one commonly used rule is to use three colours, taking colour blindness into account).

- Ensure that the font is big enough within different screen configurations.

- Do not sacrifice practicality for style, such as the use of extensive graphics, features and automated data checks, since browser incompatibility may result in a longer download time and accordingly in higher end user costs.

- Use sparingly drop-down boxes and other instruments that require several simultaneous mouse movements.

- Be aware that on-line readers read more quickly and impatiently. For questions known to be subject to mistakes, highlight important parts and include instructions that remind respondents to pay attention.

- Use a multi-page design merely for automatic skipping, conditional branching, or adaptive questionnaires. If using a multiple-page design, a progress indicator should be utilised showing respondents how close they are to the end.

- To avoid possible influence of the visual layout and question order on the responses, try to use the same layout and alignment of scales in the internet and the paper version of the questionnaire.

- Incorporate a reset option.

- Allow respondents to interrupt and re-enter the survey in case they are disturbed or wish to continue the answering process later.

- Make sure that the Web form is printable in case participants want to save a hard copy of their responses.

- Analysing the results

- Analyse whether there are differences in results across modes (item non-response, validity and reliability criteria) and systematically analyse the sources of these differences (questionnaire design, coverage, selection bias, etc.).

- Check whether sample characteristics of Web respondents are comparable to those of traditional paper respondents.

- Giving feedback

- If possible, create an intranet facility as a distinct member privilege, accessible by a unique password.

- Regularly gather feedback about user satisfaction from participants to identify the strengths and weaknesses of the institute's website.

- Security

- Create awareness among participants about the safe handling of their IDs and passwords. Instruct them not to share their access information with anyone except when they are assured that the request has been made by an authorised party.

- Provide a PIN for limiting access to the questionnaire only to the participant in the survey. If possible use an individualised link, so that respondents do not need to enter an ID and a password.

ANNEXES

ANNEX 1

DAINTIES – DESCRIPTION OF THE SEASONAL ADJUSTMENT METHOD

1.   GENERAL FEATURES

The Dainties method for the elimination of seasonal variations is based mainly on the use of "filters". Filters are made up of sets of weightings that are applied to the series in the same way as for the computation of weighted moving averages. These filters have properties determined in advance on the basis of the conventional assumption of the breakdown of the series into three components, known respectively as seasonal, trend and irregular. More specifically, it is assumed that for any point in the series, there is a certain "vicinity" (that is a part of the series containing the point analysed) which can be broken down according to a specific model. The models used in Dainties are based on three hypotheses. These are: the trend can be represented by a cubic series, the seasonal component by a stationary periodic series and the irregular component by a random series of sum zero. Using the least squared method, it is then possible to obtain an optimum breakdown that minimises the square of the irregular component within a local regression approach. A Dainties filter can be regarded as an operator that, when applied to the vicinity of a data point, supplies the value of the seasonal component directly in accordance with the above model. Subtracting this value from the original observation yields the adjusted figure. The local modelling of the series allows the seasonal component to evolve slowly over time.

The theoretical analysis shows that filters having such properties do not depend on a specific series but merely on the length of the model (number of data points in the local regression). This means that that they can be calculated in advance, simplifying greatly the practical execution of the adjustments.[28]

The conventional moving averages are special cases of filters of this type in which the observation processed is generally situated in the centre of its vicinity. Complex, often iterative, procedures are then used to adjust the data points at the end of the series and these procedures give rise to subsequent revisions. On the other hand, the filters used by Dainties to adjust the current data point are applied to a vicinity that contains only earlier points and therefore will not be modified by the arrival of new observations.

Experience shows that some economic statistics series are correctly described by a breakdown into additive components: for such series, the seasonal component is independent from the trend. For other series, however, the size of the seasonal component tends to be proportional to the level of the trend; this is known as the multiplicative behaviour. In this case, a better adjustment is obtained by applying the filter to a logarithmic transformation of the series. However, there are also series whose behaviour varies in time, which means that

---

[28]   For a technical description of the Dainties procedure, see B. Fischer (1995), "Decomposition of Time Series - Comparing Different Methods in Theory and Practice", Eurostat working group document, available at:
http://ec.europa.eu/comm/eurostat/research/index.htm?http://europa.eu.int/en/comm/eurostat/research/noris4/&1.

they are better described at certain times by an additive model and at other times by a multiplicative model.

Dainties allows correct processing of such series and, more generally, optimum use of various explanatory models. It consists of applying three additive models and three multiplicative models to a series. For each current observation, the quality of the adjustment obtained is assessed by calculating the variance of the figure adjusted by reference to a trend, in a limited area. Finally, the various results are weighted by the inverse of these variances. In practice, the choice of models is restricted in some cases and a degree of priority is given to additive models.

2.   ADJUSTMENT BY DAINTIES

The length of the moving filters (models) are (3p+1), (4p+1) and (5p+1), where *p* is the number of observations per year. The lengths of the various filters are:

Frequency	Monthly	Quarterly	Half-yearly
(5p+1)	61	21	11
(4p+1)	49	17	9
(3p+1)	37	13	7

Depending on the length of the series and on the presence of negative values, the set of appropriate models are selected. Let *L3*, *L4* and *L5* denote the length in years of a series and let *M3*, *M4* and *M5* denote a three-year, a four-year and a five-year model, respectively. Finally, a "+" denotes an additive model and a "*" denotes a multiplicative model. The models calculated are given in the table below:

Conditions Length of series	Presence of negative figures	Models selected
n < 13		none (rejection)
L3 ≤ n < L4	yes	M3+
L3 ≤ n < L4	no	M3+, M3*
L4 ≤ n < L5	yes	M3+, M4+
L4 ≤ n < L5	no	M3+, M4+, M3*, M4*
L5 ≤ n	yes	M3+, M4+, M5+
L5 ≤ n	no	M3+, M4+, M5+, M3*, M4*, M5*

A seasonally adjusted series is calculated for each of the selected models. The series for each model is then evaluated according to its "smoothness": if a series exhibits relatively high variation, it is assigned a relatively small weight. At this stage, the multiplicative model(s), if selected, are only taken into account if their weight(s) are higher than 0.8 times the average weight(s) for the additive model(s). The final seasonally adjusted values are then obtained as a weighted average of the series from the models considered.

ANNEX 2

QUESTIONNAIRES AND CLASSIFICATIONS

1. THE JOINT HARMONISED EU INDUSTRY SURVEY

1.1. Industry survey - Questionnaire

Monthly questions

Q1   How has your production developed over the past 3 months? It has...

+ increased
= remained unchanged
− decreased

Q2   Do you consider your current overall order books to be...?

+ more than sufficient (above normal)
= sufficient (normal for the season)
− not sufficient (below normal)

Q3   Do you consider your current export order books to be...?

+ more than sufficient (above normal)
= sufficient (normal for the season)
− not sufficient (below normal)

Q4   Do you consider your current stock of finished products to be...?

+ too large (above normal)
= adequate (normal for the season)
− too small (below normal)

Q5   How do you expect your production to develop over the next 3 months? It will...

+ increase
= remain unchanged
− decrease

Q6   How do you expect your selling prices to change over the next 3 months?
They will...

+ increase
= remain unchanged
− decrease

Q7 How do you expect your firm's total employment to change over the next 3 months? It will...

+ increase
= remain unchanged
− decrease

Quarterly questions (January, April, July and October)

Q8 What main factors are currently limiting your production?

- none
- insufficient demand
- shortage of labour force
- shortage of material and/or equipment
- financial constraints
- other factors

Q9 Considering your current order books and the expected change in demand over the coming months, how do you assess your current production capacity?
The current production capacity is….

+ more than sufficient
= sufficient
− not sufficient

Q10 How many months of production are assured by your current overall order books?
Our production is assured for □□.□ months

Q11 How have your orders developed over the past 3 months?
They have...

+ increased
= remained unchanged
− decreased

Q12 How do you expect your export orders to develop over the next 3 months?
They will...

+ - increase
= - remain unchanged
− - decrease

Q13 At what capacity is your company currently operating (as a percentage of full capacity)?

The company is currently operating at □□.□ % of full capacity.

Q14   How has your competitive position on the domestic market developed over the past 3 months? It has...

+ improved
= remained unchanged
− deteriorated

Q15   How has your competitive position on foreign markets inside the EU developed over the past 3 months? It has...

+ improved
= remained unchanged
− deteriorated

Q16   How has your competitive position on foreign markets outside the EU developed over the past 3 months? It has...

+ improved
= remained unchanged
− deteriorated

1.2. Industry survey - Starting date of the confidence indicator by country

Member States	Starting year
European Union	January 1985
Euro area	January 1985
Belgium	January 1985
Bulgaria	January 1993
Czech Republic	January 1995
Denmark	January 1985
Germany	January 1985
Estonia	April 1992
Ireland	January 1985
Greece	January 1985
Spain	April 1987
France	January 1985
Italy	January 1985
Cyprus	May 2001
Latvia	April 1993
Lithuania	May 1993
Luxembourg	January 1985
Hungary	January 1996
Malta	November 2002
Netherlands	January 1985
Austria	January 1985
Poland	February 1998
Portugal	January 1987
Romania	July 1991
Slovenia	April 1995
Slovak Republic	August 1993
Finland	January 1993
Sweden	January 1996
United Kingdom	January 1985

1.3. Industry survey - Classification of sectors (NACE Rev. 1.1) and allocation of NACE headings to main industrial groupings

	NACE		NACE description	MIG
1	**15**		Manufacture of food products, beverages and tobacco	
		15.1	Production, processing and preserving of meat and meat products	CNDU
		15.2	Processing and preserving of fish and fish products	CNDU
		15.3	Processing and preserving of fruit and vegetables	CNDU
		15.4	Manufacture of vegetable and animal oils and fats	CNDU
		15.5	Manufacture of dairy products	CNDU
		15.6	Manufacture of grain mill products, starches and starch products	INTM
		15.7	Manufacture of prepared animal feeds	INTM
		15.8	Manufacture of other food products	CNDU
		15.9	Manufacture of beverages	CNDU
		16	Manufacture of tobacco products	CNDU
2	**17**		Manufacture of textiles	
3		**17.1**	Preparation and spinning of textile fibres	INTM
4		**17.2**	Textile weaving	INTM
5		**17.3**	Finishing of textiles	INTM
6		**17.4**	Manufacture of made-up textile articles, except apparel	CNDU
7		**17.5**	Manufacture of other textiles	CNDU
8		**17.6**	Manufacture of knitted and crocheted fabrics	INTM
9		**17.7**	Manufacture of knitted and crocheted articles	CNDU
10	**18**		Manufacture of wearing apparel; dressing and dyeing of fur	CNDU
11	**19**		Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	CNDU
12	**20**		Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	INTM
13	**21**		Manufacture of pulp, paper and paper products	INTM
14	**22**		Publishing, printing and reproduction of recorded media	CNDU
15	**23**		Manufacture of coke, refined petroleum products and nuclear fuel	
16		**23A**	Manufacture of coke, nuclear fuel (23.1, 23.3)	
17		**23B**	Manufacture of refined petroleum products (23.2)	

18	24		Chemical industry	
19		24A	Chemical products for industry and agriculture (incl. basic chemicals) (24.1, 24.2)	
20		24B	Chemical consumer products (24.3, 24.4, 24.5, 24.6)	
21		24C	Man-made fibres industry (24.7)	
22		24.1	Manufacture of basic chemicals	INTM
23		24.2	Manufacture of pesticides and other agro-chemical products	INTM
24		24.3	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	INTM
25		24.4	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	CNDU
26		24.5	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	CNDU
27		24.6	Manufacture of other chemical products	INTM
28		24.7	Manufacture of man-made fibres	INTM
29	25		Manufacture of rubber and plastic products	
30		25A	Manufacture of rubber products (25.1)	INTM
31		25B	Manufacture of plastic products (25.2)	INTM
32	26		Manufacture of other non-metallic mineral products	INTM
33	27		Manufacture of basic metals	INTM
34	28		Manufacture of metal products except machinery and equipment	
		28.1	Manufacture of structural metal products	INVE
		28.2	Manufacture of tanks, reservoirs and containers of metal; manufacture of central heating radiators and boilers	INVE
		28.3	Manufacture of steam generators, except central heating hot water boilers	INVE
		28.4	Forging, pressing, stamping and roll forming of metal; powder metallurgy	INTM
		28.5	Treatment and coating of metals; general mechanical engineering	INTM
		28.6	Manufacture of cutlery, tools and general hardware	INTM
		28.7	Manufacture of other fabricated metal products	INTM
35	29		Manufacture of machinery and equipment n.e.c.	
36		29A	Manufacture of agricultural and forestry machinery (29.3)	INVE
37		29B	Manufacture of machine-tools (29.4)	INVE
38		29C	Manufacture of machinery for textile, apparel and leather production (29.54)	INVE
39		29D	Engines, compressors, pumps (29.11, 29.12)	INVE

40	30		Manufacture of office machinery and computers	INVE
41	31		Manufacture of electrical machinery and apparatus n.e.c.	
		31.1	Manufacture of electric motors, generators and transformers	INVE
		31.2	Manufacture of electricity distribution and control apparatus	INTM
		31.3	Manufacture of insulated wire and cable	INTM
		31.4	Manufacture of accumulators, primary cells and primary batteries	INTM
		31.5	Manufacture of lighting equipment and electric lamps	INTM
		31.6	Manufacture of electrical equipment n.e.c.	INTM
42	32		Manufacture of radio, television and communication equipment	
		32.1	Manufacture of electronic valves and tubes and other electronic components	INTM
		32.2	Manufacture of television and radio transmitters and apparatus for line telephony and line telegraphy	INVE
		32.3	Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods	CDUR
43	33		Manufacture of medical, precision and optical instruments, watches and clocks	
		33.1	Manufacture of medical and surgical equipment and orthopaedic appliances	INVE
		33.2	Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	INVE
		33.3	Manufacture of industrial process control equipment	INVE
		33.4	Manufacture of optical instruments and photographic equipment	CDUR
		33.5	Manufacture of watches and clocks	CDUR
44	34		Manufacture of motor vehicles, trailers and semi-trailers	
45		34A	Manufacture of motor vehicles (34.1)	INVE
46		34B	Manufacture of bodies for motor vehicles (incl. trailers) (34.2)	INVE
47		34C	Manufacture of parts and accessories for motor vehicles (34.3)	INVE
48	35		Manufacture of other transport equipment	
		35.1	Building and repairing of ships and boats	INVE
		35.2	Manufacture of railway and tramway locomotives and rolling stock	INVE
		35.3	Manufacture of aircraft and spacecraft	INVE
		35.4	Manufacture of motorcycles and bicycles	CDUR
		35.5	Manufacture of other transport equipment n.e.c.	CDUR

49	**36**		Manufacturing industries n.e.c.	
		36.1	Manufacture of furniture	CDUR
		36.2	Manufacture of jewellery and related articles	CDUR
		36.3	Manufacture of musical instruments	CDUR
		36.4	Manufacture of sports goods	CNDU
		36.5	Manufacture of games and toys	CNDU
		36.6	Miscellaneous manufacturing n.e.c.	CNDU
50	**CONS**		CONSUMER GOODS (CDUR + CNDU)	
51	**INVE**		INVESTMENT GOODS	
52	**INTM**		INTERMEDIATE GOODS	
53	**TOTA**		TOTAL MANUFACTURING	
54	**CDUR**		DURABLE CONSUMER GOODS	
55	**FOBE**		FOOD, BEVERAGES (15.1, 15.2, 15.3, 15.4, 15.5, 15.8, 15.9, 16)	
56	**CNDU**		NON-DURABLE CONSUMER GOODS	

2. THE JOINT HARMONISED EU SERVICES SURVEY

2.1. Services survey - Questionnaire

Monthly questions

Q1 How has your business situation developed over the past 3 months? It has…

+ improved
= remained unchanged
− deteriorated

Q2 How has demand (turnover) for your company's services changed over the past 3 months? It has...

+ increased
= remained unchanged
− decreased

Q3 How do you expect the demand (turnover) for your company's services to change over the next 3 months? It will…

+ increase
= remain unchanged
− decrease

Q4 How has your firm's total employment changed over the past 3 months? It has...

+ increased
= remained unchanged
− decreased

Q5 How do you expect your firm's total employment to change over the next 3 months? It will...

+ increase
= remain unchanged
− decrease

Q6 How do you expect the prices you charge to change over the next 3 months? They will...

+ increase
= remain unchanged
− decrease

Quarterly question (January, April, July and October)

Q7   What main factors are currently limiting your business?

- none
- insufficient demand
- shortage of labour force
- shortage of space and/or equipment
- financial constraints
- other factors

2.2.   Services survey - Starting date of the confidence indicator by country

Member States	Starting year
European Union	April 1996
Euro area	April 1995
Belgium	January 1995
Bulgaria	May 2002
Czech Republic	May 2002
Denmark	April 2000
Germany	April 1995
Estonia	May 2002
Ireland	January 1998
Greece	April 1997
Spain	October 1996
France	January 1988
Italy	January 1998
Cyprus	May 2002
Latvia	February 2002
Lithuania	May 2002
Luxembourg	-
Hungary	February 2002
Malta	-
Netherlands	April 1993
Austria	October 1996
Poland	January 2003
Portugal	June 1997
Romania	June 2002
Slovenia	May 2002
Slovak Republic	May 2002
Finland	October 1996
Sweden	April 1996
United Kingdom	January 1997

2.3. Services survey - Classification of sectors (NACE Rev. 1.1)

55 (*)	Hotels and restaurants
60 (*)	Transport (aggregated 60-62)
63 (*)	Activities of travel agencies and tour operators, tourist assistance activities (63.3)
64 (*)	Post and telecommunications
65	Financial intermediation, except insurance and pension funding
66	Insurance and pension funding, except compulsory social security
67	Activities auxiliary to financial intermediation
70 (*)	Real estate activities
71 (*)	Renting of machinery and equipment without operator and of personal and household goods
72 (*)	Computer and related activities
73	Research and development
74 (*)	Other business activities
80	Education
85	Health and social work
90 (*)	Sewage and refuse disposal, sanitation and similar activities
91	Activities of membership organisations
92	Recreational, cultural and sporting activities
93	Other service activities
TOTS (*)	TOTAL

(*) sectors covered by a large majority of Member States.

3. **THE JOINT HARMONISED EU CONSUMER SURVEY**

3.1. Consumer survey - Questionnaire

Monthly questions

Q1 How has the financial situation of your household changed over the last 12 months?
It has...

    + +   got a lot better
    +   got a little better
    =   stayed the same
    −   got a little worse
    − −   got a lot worse
    N   don't know.

Q2 How do you expect the financial position of your household to change over the next
12 months? It will...

    + +   get a lot better
    +   get a little better
    =   stay the same
    −   get a little worse
    − −   get a lot worse
    N   don't know.

Q3 How do you think the general economic situation in the country has changed over the
past 12 months? It has...

    + +   got a lot better
    +   got a little better
    =   stayed the same
    −   got a little worse
    − −   got a lot worse
    N   don't know.

Q4 How do you expect the general economic situation in this country to develop over the
next 12 months? It will...

    + +   get a lot better
    +   get a little better
    =   stay the same
    −   get a little worse
    − −   get a lot worse
    N   don't know.

Q5   How do you think that consumer prices have developed over the last 12 months? They have…

    + +   risen a lot
    +   risen moderately
    =   risen slightly
    −   stayed about the same
    − −   fallen
    N   don't know.

Q6   By comparison with the past 12 months, how do you expect that consumer prices will develop in the next 12 months? They will…

    + +   increase more rapidly
    +   increase at the same rate
    =   increase at a slower rate
    −   stay about the same
    − −   fall
    N   don't know.

Q7   How do you expect the number of people unemployed in this country to change over the next 12 months? The number will...

    + +   increase sharply
    +   increase slightly
    =   remain the same
    −   fall slightly
    − −   fall sharply
    N   don't know.

Q8   In view of the general economic situation, do you think that now it is the right moment for people to make major purchases such as furniture, electrical/electronic devices, etc.?

    + +   yes, it is the right moment now
    =   it is neither the right moment nor the wrong moment
    − −   no, it is not the right moment now
    N   don't know.

Q9   Compared to the past 12 months, do you expect to spend more or less money on major purchases (furniture, electrical/electronic devices, etc.) over the next 12 months? I will spend…

    + +   much more
    +   a little more
    =   about the same
    −   a little less
    − −   much less
    N   don't know.

Q10   In view of the general economic situation, do you think that now is...?

        + +   a very good moment to save
        +   a fairly good moment to save
        −   not a good moment to save
        − −   a very bad moment to save
        N   don't know.

Q11   Over the next 12 months, how likely is it that you save any money?

        + +   very likely
        +   fairly likely
        −   not likely
        − −   not at all likely
        N   don't know.

Q12   Which of these statements best describes the current financial situation of your household?

        + +   we are saving a lot
        +   we are saving a little
        =   we are just managing to make ends meet on our income
        −   we are having to draw on our savings
        − −   we are running into debt
        N   don't know.

Quarterly questions (January, April, July and October)

Q13   How likely are you to buy a car over the next 12 months?

        + +   very likely
        +   fairly likely
        −   not likely
        − −   not at all likely
        N   don't know.

Q14   Are you planning to buy or build a home over the next 12 months (to live in yourself, for a member of your family, as a holiday home, to let etc.)?

        + +   yes, definitely
        +   possibly
        −   probably not
        − −   no
        N   don't know.

Q15   How likely are you to spend any large sums of money on home improvements or renovations over the next 12 months?

        + +   very likely
        +   fairly likely
        −   not likely
        − −   not at all likely
        N   don't know.

3.2. Consumer survey - Starting date of the confidence indicator by country

Member States	Starting year
European Union	January 1985
Euro area	January 1985
Belgium	January 1985
Bulgaria	May 2001
Czech Republic	January 1995
Denmark	January 1985
Germany	January 1985
Estonia	July 1992
Ireland	January 1985
Greece	January 1985
Spain	June 1986
France	January 1985
Italy	January 1985
Cyprus	May 2001
Latvia	May 2001
Lithuania	May 2001
Luxembourg	January 2002
Hungary	February 1992
Malta	November 2002
Netherlands	January 1985
Austria	October 1995
Poland	May 2001
Portugal	June 1986
Romania	May 2001
Slovenia	March 1996
Slovak Republic	April 1999
Finland	November 1987
Sweden	October 1995
United Kingdom	January 1985

3.3. Consumer survey - Categories

A. Income of the household

    1st Quartile
    2nd Quartile
    3rd Quartile
    4th Quartile

B. Occupation of respondent

    Self-employed and professional
    Self-employed farmers
    Clerical and office employees
    Skilled manual workers
    Other manual workers
    Total workers
    Other occupations
    Unemployed

C. Working regime of respondent

    Work full-time
    Work part-time

D. Education of respondent

    Primary
    Secondary
    Further

E. Age of respondent

    16-29
    30-49
    50-64
    65+

F. Sex of respondent

    Male
    Female

4. THE JOINT HARMONISED EU RETAIL TRADE SURVEY

4.1. Retail trade survey - Questionnaire

Monthly questions

Q1   How has (have) your business activity (sales) developed over the past 3 months?
It has… (They have...)

+   improved (increased)
=   remained unchanged
−   deteriorated (decreased)

Q2   Do you consider the volume of stock you currently hold to be...?

+   too large (above normal)
=   adequate (normal for the season)
−   too small (below normal)

Q3   How do you expect your orders placed with suppliers to change over the next 3 months? They will...

+   increase
=   remain unchanged
−   decrease

Q4   How do you expect your business activity (sales) to change over the next 3 months?
It (They) will...

+   improve (increase)
=   remain unchanged
−   deteriorate (decrease)

Q5   How do you expect your firm's total employment to change over the next 3 months?
It will...

+   increase
=   remain unchanged
−   decrease

Q6   How do you expect the prices you charge to change over the next 3 months?
They will...

+   increase
=   remain unchanged
−   decrease

4.2.   Retail trade survey - Starting date of the confidence indicator by country

Member States	Starting year
European Union	November 1985
Euro area	November 1985
Belgium	January 1985
Bulgaria	June 1993
Czech Republic	January 1995
Denmark	November 1990
Germany	January 1985
Estonia	January 1995
Ireland	November 1997
Greece	January 1985
Spain	January 1985
France	July 1986
Italy	November 1985
Cyprus	May 2002
Latvia	January 1996
Lithuania	April 1995
Luxembourg	-
Hungary	January 1996
Malta	-
Netherlands	January 1986
Austria	January 1996
Poland	June 1997
Portugal	January 1989
Romania	January 1994
Slovenia	January 1999
Slovak Republic	September 1993
Finland	May 1997
Sweden	August 1996
United Kingdom	January 1985

4.3. Retail trade survey - Classification of sectors

FOO	Food, Drink, Tobacco
TEX	Textile, Clothing, Footwear
HGT	Household Goods Total
HGE	Household Goods Electricity
HGO	Household Goods Other
MOV	Motor Vehicles (including parts)
LMS	Large Multiple Shops (including department stores and mail-order houses)
REM	Remaining
TOTR	TOTAL

5. THE JOINT HARMONISED EU CONSTRUCTION SURVEY

5.1. Construction survey - Questionnaire

Monthly questions

Q1   How has your building activity developed over the past 3 months?   It has...

   \+   increased
   \=   remain unchanged
   −   decreased

Q2   What main factors are currently limiting your building activity?

   - none
   - insufficient demand
   - weather conditions
   - shortage of labour force
   - shortage of material and/or equipment
   - financial constraints
   - other factors

Q3   Do you consider your current overall order books to be...?

   \+   more than sufficient (above normal)
   \=   sufficient (normal for the season)
   −   not sufficient (below normal)

Q4   How do you expect your firm's total employment to change over the next 3 months? It will...

   \+   increase
   \=   remain unchanged
   −   decrease

Q5   How do you expect the prices you charge to change over the next 3 months? They will...

   \+   increase
   \=   remain unchanged
   −   decrease

Quarterly question (January, April, July and October)

Q6   Assuming normal working hours, about how many months' work is accounted for by the work in hand and the work already contracted for?

   Number of months: ☐☐.☐

5.2. Construction survey - Starting date of the confidence indicator by country

Member States	Starting year
European Union	January 1985
Euro area	January 1985
Belgium	January 1985
Bulgaria	January 1993
Czech Republic	January 1995
Denmark	January 1985
Germany	January 1985
Estonia	April 1994
Ireland	January 1985
Greece	January 1985
Spain	January 1989
France	January 1985
Ireland	January 1985
Italy	January 1985
Cyprus	May 2002
Latvia	July 1993
Lithuania	October 1994
Luxembourg	January 1985
Hungary	January 1996
Malta	-
Netherlands	January 1985
Austria	January 1996
Poland	February 1998
Portugal	January 1989
Romania	October 1993
Slovenia	May 2002
Slovak Republic	August 1993
Finland	January 1985
Sweden	January 1990
United Kingdom	January 1985

5.3. Construction survey - Classification of sectors

B1	Building: total
B2	Building: residential
B3	Building: non-residential
B4	Public works (civil engineering)
45	TOTAL construction as a whole

6. THE JOINT HARMONISED EU INVESTMENT SURVEY

6.1. Investment survey - Questionnaire

March/April survey

Investment plans:

Q1 State percentage change in investment last year (t-1) on investment two years ago (t-2):
☐☐☐.☐ %

Q2 State percentage change in investment this year (t) on investment last year (t-1):
☐☐☐.☐ %

October/November survey

Investment plans:

Q1 State percentage change in investment this year (t) on investment last year (t-1):
☐☐☐.☐ %

Q2 State percentage change in investment next year (t+1) on investment this year (t):
☐☐☐.☐ %

Structure of the investment:

Investment carried out this year and planned investment for next year is, or will be, of the following kind (choose the appropriate category or categories):

- Replacement of worn-out plant or equipment
- Extension of production capacity
- Investment designed to streamline production
- Other investment objectives (pollution control, safety, etc.)

Factors influencing investment: for this year (t) and next year (t + 1)

- **Demand**

This heading covers the capacity utilisation rate and sales prospects. The degree of certainty as to how these variables will change is likely to be as relevant as the change itself.

+ +	very stimulating
+	stimulating
=	no influence
−	limiting
− −	very limiting
N	no answer

- **Financial resources or expected profits**

This heading covers the availability of resources for investment (and their cost) together with the return on investment and the lack of opportunities for the company to use its resources more profitably than by investment (notably by purely financial operations).

+ +	very stimulating
+	stimulating
=	no influence
−	limiting
− −	very limiting
N	no answer

- **Technical factors**

The main ones are technological developments, the availability of labour and its attitude towards the new technologies, and the technical conditions set by the public authorities before they grant the investment permit.

+ +	very stimulating
+	stimulating
=	no influence
−	limiting
− −	very limiting
N	no answer

- **Other factors**

This may include the policy of the public authorities, notably with regard to taxation, and whether or not production can be transferred abroad.

+ +	very stimulating
+	stimulating
=	no influence
−	limiting
− −	very limiting
N	no answer

6.2. Investment survey - Starting date of the series by country

Member States	Starting year
European Union	1985
Euro area	1985
Belgium	1985
Bulgaria	2002
Czech Republic	2002
Denmark	1985
Germany	1985
Estonia	2002
Ireland	1985
Greece	1985
Spain	1988
France	1985
Italy	1985
Cyprus	2002
Latvia	2001
Lithuania	2002
Luxembourg	1985
Hungary	2002
Malta	-
Netherlands	1985
Austria	1996
Poland	2002
Portugal	1987
Romania	2002
Slovenia	2002
Slovak Republic	2002
Finland	1996
Sweden	1996
United Kingdom	1985

6.3.   Investment survey - Classification by sectors and by size of firms

34	Motor vehicle industry
CDUR	Durable consumer goods
CNDU	Non-durable consumer goods
CONS	Consumer goods
FOBE	Food and beverages industry
INTM	Intermediate goods
INVE	Investment goods
SIZ1	Businesses employing fewer than 50 people
SIZ2	Businesses employing 50-249 people
SIZ3	Businesses employing 250-499 people
SIZ4	Businesses employing 500 people or more
SIZ5	Businesses employing fewer than 250 people
SIZ6	Businesses employing 250 people or more
TOTA	Total manufacturing industry (excluding mining and quarrying)

7. THE EU FINANCIAL SERVICES SURVEY

7.1. Financial services sector survey - Questionnaire

Monthly questions

Q1   How has your business situation developed over the past 3 months? It has...

+   improved
=   remained unchanged
−   deteriorated

Q2   How has demand (turnover) for your company's services changed over the past 3 months? It has...

+   increased
=   remained unchanged
−   decreased

Q3   How do you expect the demand (turnover) for your company's services to change over the next 3 months? It will...

+   increase
=   remain unchanged
−   decrease

Q4   How has your firm's total employment changed over the past 3 months? It has...

+   increased
=   remained unchanged
−   decreased

Q5   How do you expect your firm's total employment to change over the next 3 months? It will...

+   increase
=   remain unchanged
−   decrease

Quarterly questions (January, April, July and October)

Q10   How has your operating income developed over the last 3 months? It has...

+   increased
=   remained unchanged
−   decreased

Q20 How do you expect your operating income to develop over the next 3 months? It will...

+ increase
= remain unchanged
− decrease

Q30 How have your operating expenses developed over the last 3 months? They have...

+ increased
= remained unchanged
− decreased

Q40 How do you expect your operating expenses to develop over the next 3 months? They will...

+ increase
= remain unchanged
− decrease

Q50 How has the profitability of your company developed over the last 3 months? It has...

+ increased
= remained unchanged
− decreased

Q60 How do you expect the profitability of your company to develop over the next 3 months? It will...

+ improve
= remain unchanged
− deteriorate

Q70 How has your capital expenditure developed over the last 3 months? It has...

+ increased
= remained unchanged
− decreased

Q80 How do you expect your capital expenditure to develop over the next 3 months? It will...

+ increase
= remain unchanged
− decrease

How has the competitive position of your company developed over the past 3 months? It has...

Q90 Total + improved / = remained unchanged / - deteriorated
Q91 In your country + improved / = remained unchanged / - deteriorated
Q92 Within the euro area + improved / = remained unchanged / - deteriorated
Q93 Within the EU + improved / = remained unchanged / - deteriorated
Q94 Outside the EU + improved / = remained unchanged / - deteriorated

How do you expect the competitive position of your company to develop over the next 3 months? It will…

Q100 Total + improve / = remain unchanged / - deteriorate
Q101 In your country + improve / = remain unchanged / - deteriorate
Q102 Within the euro area + improve / = remain unchanged / - deteriorate
Q103 Within the EU + improve / = remain unchanged / - deteriorate
Q104 Outside the EU + improve / = remain unchanged / - deteriorate

7.2. Financial services sector survey - Classification of sectors

65	Financial intermediation, except insurance and pension funding
66	Insurance and pension funding, except compulsory social security
67	Activities auxiliary to financial intermediation