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DIRECTORATE GENERAL ECONOMIC AND FINANCIAL AFFAIRS

Evaluation of the Joint Harmonised EU Programme of Business and Consumer Surveys

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1 OVERALL METHODOLOGICAL FRAMEWORK FOR THE EVALUATION

Evaluation Theme	Evaluation Question	Judgement Criteria	Evidence and Analysis	Data Collection Methods
Q1. Assessment of external users	a. Who are the current external users of the surveys and what do they use them for (e.g. quantitative or qualitative use, short term forecasting models, prospective studies, etc.)?	N/A	<ul style="list-style-type: none"> • Identification of main categories of external users by product type¹ e.g. <i>Other DGs, Multilateral institutions, European institutions, treasuries; central banks; research institutes etc.</i> • Developing typology of intermediate uses e.g. <i>forecasting; cyclical analysis; monitoring and surveillance etc.</i> • Developing typology of final or end uses e.g. <i>policy making; business decision making; academic research etc.</i> • Mapping the different categories of users against the typology of uses (by product type) • Identifying patterns of use by user category and geography 	<ul style="list-style-type: none"> • Face to face interviews with Unit A4.2 DG ECFIN • Face to face interviews with ECB and OECD • Survey of other users² • Survey of partner institutes • Documentary and literature review
	b. What are the actual needs of the different users of the surveys and to what extent are they met by the BCS? In particular, are the surveys used to assess business cycles in specific Member States or the EU/Euro-area as whole? Are they used primarily	Degree of satisfaction of needs among different categories of users	<ul style="list-style-type: none"> • Data requirements of different categories of users <i>i.e. what data do they need? For what purpose and to what end?</i> • Users needs and expectations 	<ul style="list-style-type: none"> • Face to face interviews with ECB and OECD • Survey of other users • Interviews with select non-users

¹ Product type refers to the various surveys conducted (consumer survey; retail trade survey; industry survey; services survey; financial services survey; construction survey; investment survey;) and composite indicators produced (Flash Consumer Confidence Indicator, Sectoral Confidence Indicators, Business Climate Indicator and Economic Sentiment Indicator)

² Other users include National Central Banks; Treasuries or Ministries of Finance/ Economy; National Statistics Offices; banks and financial institutions; business executives; academic and research institutes; and, media.

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	because of their harmonised nature (i.e. to compare business cycles across regions or countries)?		<ul style="list-style-type: none"> in terms of timeliness, frequency, methodology, scope, meta-data etc. • The extent to which users value the geographic coverage and harmonised methodology offered by BCS • The extent to which users conduct multi-country analysis • Suggestions for improvement made by different categories of users • Reasons for non use cited by potential users i.e. major institutions who would be expected to use BCS but are not using it 	<ul style="list-style-type: none"> • Survey of partner institutes • Documentary and literature review
	c. What has been the impact of the financial and economic crisis on users' needs and what are likely to be their future needs?	N/A	<ul style="list-style-type: none"> • How and why user needs have changed as a result of the financial and economic crisis • Future needs expressed by different categories of users • The feasibility of addressing these needs 	<ul style="list-style-type: none"> • Face to face interviews with ECB and OECD • Survey of other users • Survey of partner institutes • Follow-up interviews with partner institutes • Documentary and literature review
Q2. Assessment of internal users	a. Who are DG ECFIN's internal users of the surveys and for what do they use them for?	N/A	<ul style="list-style-type: none"> • Identification of specific units within DG ECFIN and other DGs within the Commission who utilise the survey data • Intermediate (<i>e.g. analysis, forecasting, surveillance etc.</i>) and end uses of survey data (<i>e.g. policy-making etc.</i>) 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN, DG ENTR, DG MARKT, DG EMPL and Eurostat • Documentary and literature review
	b. What are their actual needs in terms of surveys and	Degree of satisfaction of	<ul style="list-style-type: none"> • Data requirements of internal 	<ul style="list-style-type: none"> • Face to face interviews

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	to what extent does the BCS Programme meet these needs? To what extent does the programme contribute to ECFIN's enhanced country surveillance mission?	needs among DG ECFIN users	<p>users <i>i.e. what data do they need? For what purpose and to what end?</i></p> <ul style="list-style-type: none"> • Users needs and expectations in terms of timeliness, frequency, methodology, scope, meta-data etc. • How the BCS data is used in ECFIN's country surveillance work • How the relevance and utility of BCS data can be improved w.r.t. ECFIN's enhanced country surveillance work • Suggestions for improvement made by DG ECFIN users 	<p>with DG ECFIN, DG ENTR, DG MARKT, DG EMPL and Eurostat</p> <ul style="list-style-type: none"> • Documentary and literature review
Q3. European Value Added; Assessment of competing survey products	a. Is there a need for a joint harmonised EU programme that is managed by the European Commission? What is the value added of carrying out the BCS programme at the EU level?	Level of demand expressed by users/ stakeholders for a joint harmonised EU programme	<ul style="list-style-type: none"> • Relevance, utility and added value of a harmonised programme from the users' perspective 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Survey of partner institutes • Documentary and literature review
	b. What alternative survey products exist? In particular, how does the PMI compare with the Business and Consumer Surveys in terms of coverage, reliability, cost, timeliness, actual forecasting/nowcasting properties and usage?	N/A	<ul style="list-style-type: none"> • List of major alternative products • Comparative assessment of PMI versus BCS using following parameters: coverage, reliability, cost, timeliness, actual forecasting/nowcasting properties and usage 	<ul style="list-style-type: none"> • Desk research • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Survey of partner institutes
Q4. New survey products	a. To what extent are users of the BCS aware of the Financial Services Survey? For what reason do they	Level of awareness demonstrated by users	<ul style="list-style-type: none"> • Levels of awareness of Financial Services Survey 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN

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launched in recent years	use it? Are their actual needs met?	Degree of satisfaction among different categories of users	<ul style="list-style-type: none"> • among different categories of users • Identification of needs of users • Intermediate and end uses of Financial Services Survey data • Comparison between needs and actual characteristics of the survey • Suggestions for improvement made by different categories of users 	<ul style="list-style-type: none"> • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Survey of partner institutes • Follow-up interviews with partner institutes • Documentary and literature review
	b. How does the Financial Services Survey compare to ECFIN's other business surveys in terms of scope, reliability and usability?	Any noticeable differences between the quality of the Financial Services Survey and ECFIN's other business surveys	<ul style="list-style-type: none"> • Comparative assessment of the scope of the Financial Services Survey and ECFIN's other business surveys • Users' views on the scope and reliability of the Financial Services Survey vis-à-vis other BCS products • Levels of usage and utility reported by different categories of users 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Survey of partner institutes • Follow-up interviews with partner institutes • Documentary and literature review
	c. Does the different contractual agreement that characterises this survey (tender based with one single contractor) affect the output, in terms of i) efficiency and ii) reliability of the results?	<p>Efficiency - Cost and effort involved in a framework partnership agreement vis-a-vis tendering process (both at the Commission as well as beneficiary/contractor level)</p> <p>Reliability - The extent to which reliability of Financial Services Survey is an issue and is affected by contractual processes</p>	<ul style="list-style-type: none"> • Average cost and effort involved in setting-up and managing a framework partnership agreement (by the Commission as well as partner institute) • Cost and effort involved in the tendering process (by the Commission and the contractor) • Assessment of reliability of survey results by users (will follow from answer to Q1.b) • Comparative assessment of reliability (will follow from 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN • Documentary and literature review • Interview with GfK

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			answer to Q4.b) • Feedback from the current contractor (i.e. GfK)	
	d. Are survey users aware of the existence of the Flash Consumer Indicator launched in 2010? Do they consider this new indicator useful?	Level of awareness demonstrated by users The extent to which the Flash Consumer Indicator is used by different stakeholders	• Levels of awareness of Flash Consumer Indicator among different categories of users • Reasons for non use cited by potential users i.e. major institutions who would be expected to use BCS but are not using it • Users' views on the relevance and utility of the indicator	• Face to face interviews with DG ECFIN • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Interviews with select non-users • Survey of partner institutes • Documentary and literature review
Q5. Improving efficiency and effectiveness	a. Are there areas of activity related to the BCS Programme which could be seen as negative priorities, e.g. susceptible to be curtailed without seriously impairing the economic analysis of the business cycle?	Areas of activity identified as non-essential and/or irrelevant	• Users' feedback on relevance, utility and added value of each survey type • The likely effects of discontinuing or curtailing a survey • Importance and information utility of each survey in conducting cyclical analysis • Feedback from partner institutes and other institutions on how efficiency can be improved without compromising quality and usability	• Face to face interviews with DG ECFIN • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Survey of partner institutes • Follow-up interviews with partner institutes • Documentary and literature review
	b. Conversely, are there areas where coverage should be improved or expanded?	Degree of satisfaction with current coverage Areas where improvement and/ or expansion in coverage would yield	• Suggestions made by different categories of users for improving or expanding coverage • Thinking behind those suggestions	• Face to face interviews with DG ECFIN • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users

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		significant benefits to the user community in terms of improving their forecasting/ analytical capability (without resulting in major costs for DG ECFIN)	<ul style="list-style-type: none"> • Feasibility of addressing these needs 	<ul style="list-style-type: none"> • Survey of partner institutes • Follow-up interviews with partner institutes • Documentary and literature review
	c. Is the current way of presenting and communicating survey results efficient and effective? Where are the priorities (or major needs) in terms of improvement: in the quality of surveys or rather in the communication of results?	<p>Degree of satisfaction with the current way of presenting and communicating survey results</p> <p>The extent to which current practice is in line with best practice guidelines produced for example, by OECD</p>	<ul style="list-style-type: none"> • Suggestions made by different categories of users for improving the presentation and communication of survey results • Thinking behind those suggestions • Feasibility of addressing these needs • Best practice guidelines for presenting and communicating survey results 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Survey of partner institutes • Follow-up interviews with partner institutes • Documentary and literature review
	d. Should DG ECFIN's BCS team invest further in the economic analysis and interpretation of survey data with a view to facilitate the assessment of the business cycle by both external and internal users	Costs versus benefits of enhanced analysis and interpretation	<ul style="list-style-type: none"> • Level of interest among users for further analysis and interpretation of survey data • Specific requirements of users for further analysis and interpretation • Resource implications for DG ECFIN • Feasibility of addressing these needs 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN • Face to face interviews with other DGs, ECB, Eurostat and OECD • Survey of other users • Survey of partner institutes • Follow-up interviews with partner institutes • Documentary and literature review
	e. Is there room for savings on the programme's overall costs? In particular, could efficiency be improved by modifying the programme's contractual arrangements and outsourcing some of the coordinating tasks carried out in DG	The extent to which existing processes and procedures (technical systems, IT tools, human resources, workflows etc) allow	<ul style="list-style-type: none"> • Organisation of work, management processes and IT tools used to facilitate delivery of the programme • Relationship between the 	<ul style="list-style-type: none"> • Face to face interviews with DG ECFIN • Survey of partner institutes • Follow-up interviews with

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	ECFIN (including financial management)?	<p>efficient delivery of the survey programme</p> <p>Potential for realising efficiency gains in design and implementation of the programme</p>	<p>Commission and partner institutes – communication, reporting etc.</p> <ul style="list-style-type: none"> • Feedback from DG ECFIN and participating institutes on how the efficiency of the programme could be improved • Pros and cons of three alternative delivery models: (a) joint delivery by DG ECFIN and partner institutes (current model); (b) centralised programme fully managed and implemented by DG ECFIN; and, (c) delegation of statistical function to Eurostat (while DG ECFIN retains the analytical function) 	<p>partner institutes</p> <ul style="list-style-type: none"> • Face to face interview with Eurostat • Desk research
Q6. Methodological spillovers	What has been the influence, if any, of the ECFIN surveys on methodological developments and approaches, in particular at the level of other international institutions and Member States?	N/A	<ul style="list-style-type: none"> • Work done by DG ECFIN to promote the joint harmonised methodology • Methodological developments attributed to ECFIN surveys by other international institutions and Member States 	<ul style="list-style-type: none"> • Face to face interviews with OECD • Survey of national policy makers and administrative users • Survey of partner institutes • Desk research

2 LIST OF STAKEHOLDERS CONSULTED

2.1 DG ECFIN BCS and Forecasting Team

Unit	Role of the Interviewee
DG ECFIN: DDG1.A.4.002. Macroeconomy of the euro area, surveys and databases.	1. Head of the Sector
	2. Economic Analyst – Statistical economist
	3. Economic Analyst - Statistical economist
	4. Information Systems Developer - Database Management
	5. Economic Analyst - Statistical economist
	6. Finance and Contracts Assistant
DG ECFIN: DDG1.A.4.001 Macro-economic forecasts & short-term economic developments.	7. Economic Analyst - Economist
	8. Statistical Assistant

2.2 DG ECFIN Country Desks

Role of the Interviewee
1. Economic Analyst - Desk Officer Portugal
2. Statistical Assistant - United Kingdom
3. Economic Analyst - Desk Officer United Kingdom
4. Economic Analyst - Desk Officer Latvia

Role of the Interviewee

- | |
|--|
| 5. Economic Analyst - Desk Officer Estonia |
| 6. Policy Analyst - Economic Desk Officer Finland |
| 7. Economic Analyst - Desk Officer France |
| 8. Economic Analyst - Desk Officer Belgium |
| 9. Economic Analyst - Financial markets and financial stability |
| 10. Economic Analyst - Desk Officer Germany |
| 11. Head of Unit, ECFIN H.2 (Economies of Ireland, Lithuania, and Poland) |
| 12. Deputy Head of Unit - ECFIN F.2 (Economies of Denmark, Spain and Sweden) |
| 13. Statistical assistant - Desk office Netherlands |
| 14. Deputy Head of Unit - ECFIN H.1 (Economies of Italy, Malta and Slovenia) |

2.3 Other Directorates-General

DG	Unit	Role of the Interviewee
DG EMPL	1. Employment Analysis, Unit A1	Economic Analyst
DG EMPL	2. Employment Analysis, Unit A1	Economic Analyst
DG EMPL	3. Social Analysis, Unit A2	Socio-Economic Analyst
DG EMPL	4. Social Analysis, Unit A2	Analyst - Economist-Statistician
DG MARKT	5. Analysis of Financial Market Issues, Unit G1	Head of Unit
DG ENTR	6. Industrial Competitiveness Policy, Unit B2	Head of Unit

DG	Unit	Role of the Interviewee
DG ENTR	7. Industrial Competitiveness Policy, Unit B2	Policy Officer - Industrial Policy
EUROSTAT	8. D5: Key indicators for European policies	
EUROSTAT	9. D5: Key indicators for European policies	

2.4 Other Institutional Users

ECB:	Senior Economist-Statistician, Directorate General Statistics, Euro Area Accounts and Economic Statistics Division
OECD:	Head of Cyclical Indicators Unit (OECD - Statistics Directorate)

2.5 Private Users

Category	Organisation
Financial Institutions	1. Barclays
	2. HSBC
	3. ING Commercial Banking
	4. Swiss National Bank
	5. Allied Irish Bank
	6. JP Morgan
	7. APG Asset Management

Category	Organisation
	8. Dekabank
	9. Montepio
	10. BNP-Paribas
	11. Pireus Bank
	12. Rabobank
	13. Bank of Ireland
	14. ING Bank UK
	15. Economic and Social Research Institute (ESRI)
	16. Centro de investigacao sobre a economia portuguesa (CISEP)
	17. KIEL Institute for the World Economy
Research institutes / Academic	18. KIEL Institute for the World Economy
	19. Minerva
	20. The National Institute of Economic and Social Research
	21. CCS&F
	22. Ruland Research, GmbH
	23. Andememasin OU, Estonia
	24. Federal Planning Bureau, Belgium
	25. Institute for Market, Consumption and Business Cycles Research (IBRKK)
	26. Università Ca' Foscari di Venezia
	27. National Institute of Economic Research (NIER)

Category	Organisation
Data providers	28. Economic Intelligence Unit
	29. Thomson Reuters, Indonesia
	30. IHS Global Insight
Trade associations	31. German Engineering Federation
	32. Cofindustria (Italian Association of Industries and Employers)
Press	33. Financial Times
	34. Financial Times
	35. Financial Times

2.6 Follow-up Interviews with Partner Institutes

Country	Partner Institute
Austria	1. Austrian Institute of Economic Research
Belgium	2. National Bank of Belgium
Denmark	3. Statistics Denmark
Finland	4. Confederation of Finish Industries
Greece	5. Foundation for Economic and Industrial Research
Hungary	6. GKI Economic Research Company
Italy	7. ISTAT
Latvia	8. Central Statistical Bureau of Latvia

Country	Partner Institute
Poland	9. GfK Polonia
Romania	10. GfK Romania
Romania	11. National Institute of Statistics
Spain	12. Ministry of Industry, Tourism and Commerce
UK	13. CBI(Confederation of British Industry)
UK	14. GfK NOP
Turkey	15. GfK Turkey
N/A	16. GfK Belgium

3 INTERVIEWS WITH INTERNAL USERS

This section provides a synthesis of the interviews conducted with the following users of the BCS products within the European Commission: (a) DG ECFIN forecasting team; (b) DG ECFIN country desks; (c) DG ECFIN, Unit E1 (Economic analysis of financial markets and financial stability); (d) Eurostat; (e) DG Enterprise and Industry (DG ENTR); (f) DG Employment (DG EMPL); and, (g) DG Internal Market and Services (DG MARKT). Overall, the evaluation team interviewed 23 internal users.

3.1 Patterns of Use

The Economic Sentiment Indicator (ESI) is the most known and widely used indicator. It is the indicator with which the BCS programme is identified. Sectoral breakdowns are particularly valued by internal users. Almost all interviewees reported using one or more sectoral confidence indicators. Overall, all sectoral confidence indicators are used; although, some are used more intensively than others. There seems to be an implicit ranking: interviewees tend to quote spontaneously, the Industry and Consumer Confidence Indicators. Country Desk Officers also tend to use the Services and Construction Confidence Indicators, particularly in the case of countries where these sectors represent a significant share of the economy (in outputs and/or employment terms). Comparatively, the indicators for the Retail Sector and Financial Services Sector are less frequently cited but nonetheless, considered as useful when asked for specifically. The availability of all sectors is seen as essential by internal users in order to adequately cover the developments in the whole economy.

Interviewees are not only interested in aggregate indicators but also, in specific questions within each survey. The question on *employment expectations* of firms is the most interesting question from the perspective of internal users. The BCS programme is considered to be a unique source of information for this data according to many internal users. This data is of particular interest to DG EMPL and they value the availability of this data at a sectoral level. Internal users are also interested in questions relating to *capacity utilisation*, *production expectations*, *order books*, *export order books* and *stocks indicators*. A couple of interviewees expressed a strong interest in the quarterly qualitative question on the *main factors currently limiting production*. As regards the consumer survey, particular attention is being paid to questions on households' *financial situation* and *savings*. A small number of internal users further expressed interest in the question relating to *price expectations*.

In addition, some users declared being more interested in forward looking questions (expectations over the next three months) than in questions asking about the current situation or the situation over the past three months (as hard data is progressively made available). Also, some interviewees underlined relying more on answers to those questions asking about the own situation of the respondent (as they are able to provide more informed answers) than at broader questions about the general economic situation (the answering patterns to these are considered as too volatile).

Within DG ECFIN, not a single internal user reported using the sub-sector datasets. The reasons behind this situation however, vary. On the one hand, there are those who are aware of the availability of sub-sector data but, do not use it since they find the information too detailed for their own needs. On the other hand, there are those who were not aware of the existence of sub-sectoral data and display a very high level of interest in this "new" information or regard this information as potentially useful but, would need to investigate further its usefulness with regards to their own needs. Amongst other DGs, DG ENTR was found to be the only user of industry sub-sector data, mainly as background information for

their monthly publication entitled *The Economic Recovery in Industry*. Even though that level of detail might not be reflected in the publication, they value the availability of detailed information at sub-sector level since it allows for the decomposition of changes in the overall confidence indicator e.g. identifying whether there are particular sub-sectors that react early or more strongly to certain economic developments. Besides, DG EMPL expressed a growing interest in breaking down the answers to the consumer survey according to variables determining the profiles of the respondent (such as income of the household, age, education) in order to analyse inequality developments even though, as yet, limited use has been made of this data.

Many interviewees declared not using the Flash Consumer Confidence Indicator, even though they are aware of its existence. Generally speaking, the level of aggregation is perceived to be too high (EU-level only) for internal users who have very specific needs (interest in a particular question or country). Concerns have also been expressed that the early publication of flash indicators potentially compromises the reliability of the results. When used, the Flash Consumer Confidence Indicator is merely used to get an early picture of the general economic situation in the EU.

The Financial Services Survey is presently being used on a very limited basis. Here again, there is a lack of awareness and interviewees, once they learn about it, show some interest in the survey. Country Desks representing Member States where the financial services sector is an important source of employment or GVA, regard this as a potentially useful survey. At the same time, many interviewees foresee that there will be limited scope to use the results of the Financial Services Survey, unless the results are made available at a country level. This was also highlighted as the main shortcoming of the Financial Services Survey in its present format, by the interviewee within unit E1 (Economic analysis of financial markets and financial stability), the only current intensive internal user of the product. As far as the interviewee from the Financial Services Policy area within DG Markt is concerned, they underlined that other private sources are better tailored to their needs.

The Turning Point Indicator seems to suffer from a low awareness level. It may be due to the fact that it is disseminated via the European Business Cycle Indicators publication which many interviewees do not know about.

3.2 Purposes for which BCS Data is Used

The main uses of BCS products are as follows: to obtain a quick overview of the general economic climate, monitoring the current economic situation, writing briefs or more detailed analytical reports and modelling/forecasting.

Firstly, as soon as they are released, BCS products are used by analysts to form their opinion about the general economic situation. At a glance, the ESI provides an indication of the health of the whole economy at an EU level, in the euro zone and in particular countries. Thus, the use of BCS products is not always visible but they are still an important piece of information - among a wider evidence base – used to inform opinions.

Secondly, BCS products feed into the more formal and continuous monitoring of the economic situation. They are notably included in various types of briefings (graphs in monthly or quarterly monitors). Within desk offices, those briefings are mainly for internal use, to keep the hierarchy and other colleagues informed about the latest developments in specific countries. Briefings can also be addressed to external specialised bodies, e.g. DG ECFIN Unit E1 prepares briefings for the Economic and Financial Committee or European Systemic Risk Board. DG ECFIN also publishes, on a monthly basis, the *Key indicators for the euro area* which describes the economic situation of the euro area using a combination of hard and soft data. This publication goes to seventeen finance ministers of the euro zone and is also available on DG ECFIN's website.

Other DGs frequently publish fact sheets or reviews which are quite intensively based on BCS products. These include *The Economic Recovery in Industry* published by DG ENTR (which presents mainly industrial confidence indicator and its components) as well as the *Monthly Labour Market Fact Sheet* and *EU Employment and Social Situation Quarterly Review* prepared by DG EMPL (mainly based on sectoral employment intentions and unemployment expectations).

Thirdly, within DG ECFIN, BCS products are used for modelling/forecasting purposes:

- *Main economic forecasts* (the spring and autumn forecasts) – these forecasts are prepared using inputs from the 27 country desks, third country desks, the forecasting unit and the BCS unit. The main forecast document has three sections: economic developments and prospects at country level (these may or may not use BCS data); a thematic chapter on specific topics (the use of BCS data depends on the topic); and, a horizontal chapter on economic developments at a global, EU and Euro-area level (which uses both BCS and PMI data).
- *Interim forecasts* - these small scale forecasts are produced in February and September. The interim forecast publication contains projections of GDP growth and consumer price inflation for the euro area and the EU; and, narrative for seven large Member States (France, Germany, Italy, the Netherlands, Poland, Spain and the UK).

These forecasts are available at DG ECFIN's website:

http://ec.europa.eu/economy_finance/eu/forecasts/index_en.htm

These forecasts are *inter alia* used for informing the assumptions relating to the Stability and Growth Pact; feeding into the bank stress tests which assessed European banks' ability to absorb losses in the face of economic shocks (i.e. how a fall in GDP of 4 per cent to 6 per cent might affect the banks)

Half of the Country Desk Officers interviewed, reported using BCS products as inputs into their bridge models. Typically, the ESI is included, possibly complemented by other sectoral confidence indicators or specific survey questions (e.g. current order books). In general, the Country Desks that are not using BCS for nowcasting/ forecasting purposes are those that have bridge models built exclusively on hard data. The reasons for relying solely on hard data could either be a high degree of scepticism towards the predictability power of soft indicators or some form of path dependency (once a model has been adopted, there is little incentive to amend it, for issues of comparability over time). Where soft data feed into bridge models, Country Desks use BCS products either exclusively or in conjunction with other survey products. While desks from smaller countries have not developed bridge models and their forecasting exercise is less grounded in econometrics, BCS products were still reported as feeding into the projections albeit, on a qualitative basis.

Ultimately, the monitoring and forecasting work provides for an informed policy debate and sets the stage for better policy advice and policy making, it forms part of the evidence on which recommendations are grounded. For example, DG ENTR illustrated how its sectoral analyses carried out in the context of the European Recovery Plan (and which use BCS data as inputs) helped identify sectors most affected by the downturn and undergoing restructuring. More specifically, within DG ECFIN, this work is also used as part of the country surveillance work. It is notably helpful to assess the credibility of the country's own budget estimations and to anticipate whether the Maastricht criteria will be respected.

3.3 Geographical Level of Interest

The main added value of BCS products is to allow for aggregations at EU-27 and euro zone level and to ensure the consistency of cross-country comparisons. By definition, at the Country Desks within DG ECFIN, analysts focus on the developments in the particular

country they are in charge of. They however, refer to the EU-27 and euro zone aggregates to get an idea of wider trends and to understand how the specific country they are in charge of, is performing compared to the average. To some extent, they are also interested in monitoring developments in other countries, for example neighbouring countries and main trading partners. On the contrary, horizontal units and other DGs tend to focus primarily on the EU-27 and euro zone level. To some extent, they also look at particular Member States, notably the largest economies.

3.4 Recent Changes in Patterns of Use and New Information Requirements

The main message from the answers to this question is that closer monitoring / more intensive surveillance is required in times of uncertainty and instability. Thus, since the outbreak of the recent economic and financial crisis, interest in more frequent updates regarding the economic situation has risen. New publications have been introduced or the frequency of existing publications has been increased. This, in turn, has increased the importance of BCS data – which are generally, well rated in terms of frequency of publication and timeliness. In other words, more intensive use is being made of existing survey data. Desks from countries that benefited from programmes by the Commission and the IMF (Ireland, Portugal and Greece) feel particularly strongly the need for closer monitoring. In the case of these countries, new briefings are required on bi-monthly basis and BCS products are a crucial source of information. Along the same lines, DG EMPL reported how closer attention is being paid to unemployment issues since the crisis and how BCS products are an indispensable source of up-to-date data.

Beside this increase in frequency of analysis of BCS data, the focus of the analysis has somewhat changed and some BCS products are now increasingly followed. Notably, a couple of analysts pointed out that the predictability power of previously widely relied upon non-BCS indicators has diminished. It was notably mentioned that macro level indicators such as the output gap have become less reliable and that interest in micro-level data / bottom up approaches has risen. More precisely, the types of BCS questions for which interest has risen include questions relating to capacity utilisation (business surveys) and savings and financial situation of households (consumer survey).

In addition, the way one BCS indicator namely, *unemployment expectations over the next 12 months*³, behaves in terms of tracking the reference macroeconomic variable (i.e. actual unemployment rates) has changed since the crisis. DG EMPL noticed significant over-optimism from the consumers' side while before the crisis, their expectations used to coincide quite well with actual rates.

In terms of shift in sectoral focus, some Desk Officers reported paying more attention to the construction sector as it was found to track well the health of the financial sector and the economy. It was also assumed that there was a case to more closely follow the Financial Services Survey but, this was not really the case among interviewees because of lack of awareness about the survey, the non-availability of country level results and the relatively short length of the time series.

It was also highlighted that since the crisis, DG ECFIN's work is now skewed more towards policy analysis than pure forecasting. This has created the need for qualitative information, for example, on barriers to investments and exports. While there is scope for BCS programme to address this new need, the potential so far, has not been fully exploited as questions currently related to these issues, both in the investment survey and in the form of quarterly questions, seem to still suffer from a low level of awareness internally.

³ The specific question in the consumer survey is as follows: How do you expect the number of people unemployed in this country to change over the next 12 months?

In addition, in the light of rising inequalities in the EU since the crisis, DG EMPL is increasingly focusing on social analysis. Beyond increasing the focus on country-level data, it is becoming increasingly relevant to look at the results of the consumer survey in a more detailed manner, to identify possible differences in answering patterns from various social groups. That level of detailed analysis is potentially permitted with the BCS data but it is somewhat constrained by the accessibility of data (see below).

To sum up, among internal users, the crisis has not triggered the emergence of radically new data requirements as far as tendency surveys are concerned but, it has increased the frequency with which BCS data are looked at, expanded the angles from which they are looked at and fostered the need for deeper, more detailed analyses.

3.5 User Satisfaction

3.5.1 Relevance and Usefulness of Survey Products

In half of the cases, internal users consider the BCS products as a 'moderately important input' for their work. There are two possible explanations for this:

- Either BCS products are seen as very useful for one particular use (e.g. short term forecasting) which represents only one part of the job of the interviewee; or,
- BCS products are used in conjunction with other complementary sources of data (mainly hard data, but also other survey products).

The remaining internal users have either rated the overall usefulness of BCS products as higher or marginally lower.

Opinions on relevance of BCS products broadly mirror the comments made on usefulness: BCS products are widely regarded as 'relevant' or 'very relevant' but, the degree of relevance varies according to the activity carried out and the availability of other complementary / alternative products.

3.5.2 Frequency of Publication of Data

Internal users widely appreciate the high frequency with which BCS products are published: all interviewees are either 'satisfied' or 'very satisfied' with the frequency of publication of data and are in favour of *status quo*. It was confirmed that increasing the frequency of the monthly surveys could potentially make the data too volatile and noisy.

One issue was however, raised regarding the Investment Survey: a few users declared that they do not know when to expect the results of this bi-annual survey and that having monthly, quarterly and bi-annual questions confuses the users. It was suggested to better publicise the dates of release and / or increase the frequency of the Investment Survey to integrate it with the quarterly questions.

3.5.3 Timeliness

Internal users are also widely satisfied with the timing of release of BCS data, all of them being either 'satisfied' or 'very satisfied'. Timeliness was recognised as one of the main added value of the BCS products, as they are published much earlier than hard data and are not subject to revisions.

Some interviewees however, pointed out that the partner institute in their country publishes the same data one or two days earlier than DG ECFIN, which undermines the visibility of BCS products. Thus interviewees found it would be helpful if data were made available on the exact same date or earlier, if feasible.

3.5.4 Reliability

BCS products are considered to be reliable: fourteen out of the sixteen interviewees who could answer this question were either 'satisfied' or 'very satisfied'. BCS data are said to be particularly reliable for short-term forecasting. For some users, the predictive power of soft indicators is still an open debate but, this aside, all *a priori* rely on the ability of BCS products to track the reference variables as they do not question the approach and methodology adopted by DG ECFIN.

It was however, reported that the forecasting properties of BCS products are not uniform. Some users pointed out that predictability power of the BCS programme varies across countries/indicators/questions. For example, DG ENTR highlighted that some components notably production expectations, appear to track the business cycle better than the aggregate Industrial Confidence Indicator (which also includes questions on stocks and order books). According to Eurostat, predictability power of BCS is not homogenous across countries. Eurostat suggested that BCS data 'works well' for some countries (e.g. Italy and France) and not so well for other countries (e.g. United Kingdom). The Country Desk Office for Denmark, Spain and Sweden indicated that the PMI and IFO have superior forecasting / now-casting properties.

It was also mentioned that the results from the Financial Services Survey are still very volatile since the survey is relatively young. The predictability power of this indicator is expected to improve over time, following a similar pattern/ 'learning curve' as other surveys.

3.5.5 Comparability

Ratings for comparability range from 'neither satisfied nor dissatisfied' to 'very satisfied', with only two interviewees opting for the former. Availability of long time series data is particularly valued by internal users and cross-country comparability is seen as the *raison d'être* for an EU programme.

3.5.6 Methodology

Many interviewees admitted that they have not investigated the 'nuts and bolts' of the methodology and thus, felt that they were not well placed to comment on it. The implicit assumption is that the surveys are based on a sound methodology.

A few interviewees however, made the following specific comments regarding the methodological aspects of the programme:

- *Seasonal adjustments.* Two interviewees suggested that the DAINTRIES method has its shortcomings as a methodology for seasonal adjustments, compared to TRAMO/SEATS, for example and the use of this methodology should be reviewed by DG ECFIN. At the same time, one of them also highlighted the importance of following a consistent methodology over time for comparability.
- *Weighting.* One user questioned the approach of assigning equal weights to individual questions in the construction of confidence indicators. In their view, a higher weighting should be assigned to the question on *production expectations* as compared to the questions relating to *stocks* and *order books* (given the superior forecasting power of the question relating to production expectations).

3.5.7 Accessibility

The opinion of internal users is polarised on this aspect of the programme: around half are 'satisfied' or 'very satisfied' with the formats in which BCS data is available and the channels through which they are disseminated. However, around a third of the users are either 'very dissatisfied' or 'dissatisfied' with the accessibility of BCS data.

Levels of satisfaction with accessibility seem to vary according to patterns of use. Basic / 'light' users such as the Country Desk Officers, who mainly look at the headline indicators and a limited number of questions access the data via the pdf press releases⁴. A few interviewees even admitted, that they access their country data via the website of the National Statistics Office (where it is the partner institute) as a matter of habit or to save time - since it would allow them to download the BCS data and other national data, as well as detailed analytical overviews tailored to their needs in 'one click'.

Advanced/ 'heavy' users, who typically process the data and tailor it to their own needs are generally dissatisfied with the current ways through which data are disseminated. It is especially true for those who access the data either via the Excel sheets on DG ECFIN's website compared to those using the EcoWin database, supplied by an external data provider as an add-in to Excel.

The specific issues flagged by the interviewees are as follows:

- The excel sheets are not considered to be user friendly and do not facilitate data processing. For example, the users pointed out that it is not possible to construct pivot tables directly on these excel sheets. Sometimes, users need to add formulae to manipulate the data, which need to be updated each time in case the name of the variables changes – and this has happened a couple of times already according to interviewees. Intensive users strongly favour having the data available for download in .csv format.
- Moreover, on DG ECFIN's website, data is not accessible in a comprehensible manner. Finding their way through the "Download Time Series" page is not an easy task for the users. For example, data on the Financial Sector and the Investment Survey needs to be downloaded separately as it is not available under the "all surveys" package. In addition to being time-intensive, the other side-effect is that it lowers the level of awareness itself: it helps create or sustain a situation in which users simply do not know about the existence of certain products. Sub-sectors seem to suffer from such a problem. The link to download sub-sector data for business sectors is at the bottom, somewhat hidden at very end of the webpage (see Figure 3:1). The way sub-sectoral data for the financial and consumer surveys are presented is not consistent with the way this data is available for other sectors (they are available directly under the sectoral headline). In addition, the title 'sub-sector' is not self-explanatory as it also includes additional data on profiles / categories of respondents in the case of the consumer survey.
- The publication of BCS results on Eurostat partially addresses these two major shortcomings since on Eurostat, the data is available in .csv format and the Eurostat euroind database is comparatively more straightforward to use thanks to its data navigation tree. But on the one hand, many interviewees were not aware of this possibility, as it is not advertised on DG ECFIN's website. On the other hand, neither the sub-sector level data nor the Investment Survey are available on Eurostat. Consequently, in a way, Eurostat gives a truncated view of the range of BCS products which potentially, reinforces the low levels of awareness of both sub-sectors and Investment Survey data. Having the full dataset available in .csv format is considered as a high priority issue by intensive internal users.

Beyond that, the issue was raised by the Social Analysis Unit of DG EMPL that there is a significant untapped potential of BCS data. Indeed, there is no possibility to access the data on components of balances (i.e. number of non-responses to a particular question, answers,

⁴ Available at: http://ec.europa.eu/economy_finance/db_indicators/surveys/index_en.htm

percentages of neutral positive and negative respondents). The interviewees recognised that balances generally have good forecasting properties and that access to components of balances might be constrained by copyright issues / institutional arrangements with partner institutes but nonetheless, found this to be a major limitation and source of frustration (since this is in fact collected). DG EMPL reaffirmed its very strong interest in having access to detailed data showing results for individual response categories to each question (for the consumer survey, even by profile of respondents).

Figure 3:1 Organisation of BCS Data on DG ECFIN's Website

The screenshot shows the DG ECFIN website's 'Time Series' page. The left-hand navigation menu includes 'Download Time Series', which is circled in red. The main content area provides detailed information about NACE and the availability of business survey data. Below the text, there are several tables of data availability for various sectors. The tables show data availability for EU member states and candidate countries, categorized by 'Seasonally Adjusted Data (total sector)' and 'Non-Seasonally Adjusted Data (total sector)'. At the bottom, there are links for 'Subsector data' and 'Archived time series (original NACE1.1 and original backcast NACE2)'.

Consumers	Seasonally Adjusted Data (total sector)	Non-Seasonally Adjusted Data (total sector)	Subsectors (s.a. data)	Inflation perceptions (n.s.a. data)
EU member states	Yes	Yes	Yes	Yes
Candidate countries	Yes	Yes	Yes	Yes

Retail trade	Seasonally Adjusted Data (total sector)	Non-Seasonally Adjusted Data (total sector)
EU member states	Yes	Yes
Candidate countries	Yes	Yes

Construction	Seasonally Adjusted Data (total sector)	Non-Seasonally Adjusted Data (total sector)
EU member states	Yes	Yes
Candidate countries	Yes	Yes

All surveys	Seasonally Adjusted Data	Non-Seasonally Adjusted Data
EU member states and candidate countries	Yes	Yes

Financial services	Seasonally Adjusted Data (total sector)	Non-Seasonally Adjusted Data (total sector)	Subsectors (s.a. data)	Subsectors (n.s.a. data)
EU member states	Yes	Yes	Yes	Yes

Investment survey	Non-Seasonally Adjusted Data
EU member states	Yes

Subsector data

Archived time series (original NACE1.1 and original backcast NACE2)

World Economic Survey (WES): quarterly survey published by the IFO Institute in February, May, August and November www.cesifo.de/wes

Country weights: this file contains the country weights for all the surveys referred to in the methodological User Guide.

In case of problems with downloading these long time series, you can [contact us](#).

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3.5.8 **Transparency**

Overall, internal users are satisfied with the availability of information regarding the methodology, metadata, or the way data are processed and collected, and the release dates etc. Internal users know that the information is available somewhere. But, only intensive users have made the effort to go through the user guide and fully appreciate that the methodology is extensively documented. In view of practical constraints (time, human resources), reviewing the user guide, which is rather technical in nature, is not considered necessary by basic users. This to some extent, also prevents the basic users from potentially making more intensive and sophisticated use of the available data.

Generally speaking, internal users would welcome the availability of brief, high level information on the methodology and metadata, directly attached to the data.

3.5.9 **Interpretability**

While half of the interviewees were satisfied the information available to help them interpret the survey results; the other half were dissatisfied. The following issues were raised by the internal users:

- Firstly, basic users would like to have more guidance on how to interpret the data. In their view, the pdf press releases are designed for people who are familiar with the surveys. For example, one interviewee suggested that notes could be included below the tables to facilitate interpretation of data. Even more intensive users would generally, welcome the availability of 'snapshots' of key developments.
- Secondly, the point was made that it would be appreciated to have more guidance on how to interpret the balance at time t from country i in relation the long-term average for the country, and above all how to interpret the balance at time t from the country i_1 with the balance for country i_2 , where the two countries do not have the same long term average. Some users have expressed a wish for more guidance on: (a) how to interpret the balances over time, when they are on the rise but, still below long-term average; and, (b) how to make cross-country comparisons.
- Thirdly, some users have very specific questions relating to the survey data. For example, DG EMPL would like to have a confirmation that, in the case of the consumer survey, questions have been answered by the head of the household and not for example, by a member of the family who might not be in a position to comment on the financial situation of the household . They assume that this type of issues are appropriately dealt with but, would like to know the details of how such issues are addressed. For these types of very specific requests, it was suggested to create a more formal help desk via which experts on the details of the data/surveys could be contacted for advice (even though exchanges do take place informally with the BCS team at DG ECFIN).

3.6 **European Value Added**

Interviewees unanimously support the idea that the harmonised EU programme of surveys brings added value:

- Harmonisation is deemed critically essential for facilitating comparability; conducting cross country comparisons; and, producing aggregate indices at EU/ Eurozone level.
- In terms of practical considerations, it facilitates easy access as data for all countries and sectors are available in one place.

The value added of such a programme is higher for horizontal units / DGs who conduct cross-country, Eurozone or EU level analyses. Lack of harmonised BCS data would be less of an issue for individual Country Desks.

The management of the programme by the European Commission is seen as its natural role by the internal users. On the one hand, it is in the Commission's own interest to have a harmonised EU BCS programme since monitoring, surveillance and forecasting activities are important to the work of the Commission.

In addition to the benefits associated with harmonisation, the EU programme as it is managed by the Commission (soft business models, quality checks, organisation of thematic workshops), facilitates sharing of best practices, contributes to the development of knowledge and generates positive methodological spillovers. Considering the value of these coordination functions and the limited resources with which it operates, the BCS team is seen as very efficient.

Internal users widely share the view that their work would be adversely affected if the BCS programme were to cease to exist and that the market could not be relied upon to provide this data. Some users suggested that a transition strategy could be put in place to eventually substitute BCS data with alternative survey products. However, according to them, such an approach would have the following drawbacks and concerns:

- It would create a break in series and consequently, models that currently use BCS data would need to be re-calibrated;
- Alternative products might not be as comprehensive in terms of sectoral, sub-sectoral and geographical coverage;
- In the case of smaller countries, BCS programmes might be significantly downsized or completely disappear without EU co-financing;
- In the absence of EU co-financing, there would be no incentive for partner institutes to produce harmonised data;
- It would create dependency on external organisations;
- Internal capacity, resources and skills would be lost.

3.7 Alternative Survey Products used by Commission Officials

Most internal users tend to use BCS products in conjunction with other survey products. They look at alternative survey products as complementary sources of information rather than as substitutes for the BCS data. Multiple data sources are used to cross check information against each other and to enrich the analysis by combining unique questions from different sources.

In a majority of the cases, BCS products are used more intensively than the survey products available through alternative sources. The main reason is that the programme is considered by many internal users, as unique in terms of its quality, scope, length of the time series, comparability and methodological soundness. Another reason is that other things being equal, in-house data are favoured over external sources of information.

The most frequently quoted alternative product is the PMI. One unit (Denmark, Spain and Sweden) reported relying more on PMI and IFO for their forecasting work as compared to the BCS products. The UK desk on the other hand, exclusively uses the BCS data for their forecasting work. According to them, the Economic Sentiment Indicator has superior forecasting properties as compared to the PMI.

The indicators from the partner institutes are not really seen as 'alternatives'. Internal users are aware that the existence of the national versions is to some extent conditional upon EU co-financing. However, some desk offices prefer to use the national version of the BCS data as a matter of habit, due to path dependency (previous work experience within the national administration), or due to the higher visibility of the national indicator in the media and its earlier availability.

Other indicators, used on a less frequent basis, include: OECD indicators, ZEW Indicator and indicators produced by National Central Banks.

With regards to the Investment Survey, one interviewee reported that they prefer using the national data because of its higher frequency.

Other indicators focused on employment issues are used as complementary sources of information by DG EMPL but, less intensively than BCS. These include: Monster employment index (number of online job offers), Manpower Employment Outlook Survey (hiring expectations but only quarterly), Eurociett Agency Work Business Indicator (reflecting the health of the agency work sector – monthly data but less timely). According to DG EMPL, BCS questions outperform the alternative survey products on a number of parameters including frequency, coverage and transparency.

Users of the Financial Services Survey reported making frequent use of the ECB's Bank Lending Survey. According to the interviewees who use both the products, the latter offers greater coverage, reliability and usefulness; although, its quarterly frequency is regarded as a minor weakness. Other sources of information relating to the financial sector include Bloomberg, Fitch and major banks' own researches.

3.8 Suggestions for Improvement

3.8.1 Interpretation and Analysis

Generally speaking, internal users have not expressed a need for further interpretation and analysis of survey results. On the one hand, some users declare being interested in the data only. On the other hand, many users found it hard to specify what additional interpretation and analysis they could reasonably expect from DG ECFIN. Each user requires tailor made analysis as they are interested in a specific issue, specific country or a specific question. Moreover, they are aware of the staffing constraints within the BCS team.

That said, a number of interviewees expressed interest in (a) more studies on the reliability and predictability power of the indicators; and, (b) more guidance from DG ECFIN on how to interpret data. It might be the case that internal users are not aware of all publications currently available under the *European Business Cycle Indicators* (as they are available under a different section of the website called *Economic publications*) or the BCS workshop documents. Nonetheless, internal users would appreciate the provision of 'easily digestible' information that would help them in interpreting the survey data with greater confidence and improving their understanding of the strengths and limitations of tendency surveys and confidence indicators.

One user suggested that DG ECFIN could publish thematic reports on specific topics such as cross-country analysis of consumers' price expectations or investment barriers.

3.8.2 Presentation and Communication of Results

The general opinion among internal users is that BCS products are under-utilised. The interviews point to a need to raise awareness and beyond that, facilitate interpretability for basic users, provide internal training on how to 'make the most' out of all BCS data.

Some internal users indicated that the BCS products lack visibility outside the Commission. According to them, BCS indicators are rarely quoted in the media. They suggested that DG ECFIN should undertake more marketing and promotion activities in collaboration with DG COMM to reach out to the economic journalists working in Brussels and to improve visibility of the programme within the EU and even outside.

3.8.3 Visualisation / Interactive Tools

All internal users share the opinion that investing in visualisation or interactive tools although desirable, is unnecessary.

Current intensive users are sceptical of the usefulness of such tools and fall into two categories:

- The ones who are currently using the excel sheets and have indicated a preference for data to be available in alternative formats which are more user-friendly (such as .csv format)
- The ones who are currently using EcoWin and are quite satisfied with its functionality (such as preparation of graphs).

Desk Officers were generally more enthusiastic about having a tool that would facilitate the building of graphs (where balances, long term average and, potentially, the reference variable could be displayed, for example).

DG MARKT was in favour of shifting the focus from producing elaborate end-products to more flexible products. Given the diversity of user needs, DG MARKT suggested that it would be better to offer the users the option to customise data rather than developed standardised tools. In this context, the website of the German National Statistics Office⁵ was cited as a potential model for the BCS programme to follow by one user.

3.8.4 Processes

The main remarks on processes are related to the Financial Services Survey and come mainly from Unit E1 since it was found to be the only intensive user of the survey within the Commission. According to the interviewee, the current scope of the Financial Services Survey limits its usability and that there is potential for greater use considering the economic significance of this sector. The interviewee suggested that the Financial Services Survey should be fully integrated within the Services Survey in order to generate country level data.

3.8.5 Outputs

DG ENTR suggested that DG ECFIN should also publish normalised data. Presently, DG ENTR carries out the normalisation of the BCS data to make the data fit for their internal use. According to them, it would be better if normalised data is published by DG ECFIN and made available to all users.

3.8.6 Coverage

The geographical coverage of the BCS programme is seen as a key element of its added value.

As regards the scope of the harmonised questions, internal users emphasised the need to keep the questionnaire short but, suggested the following additions to the survey questionnaires:

⁵ <https://www-genesis.destatis.de/genesis/online?operation=sprachwechsel&option=en>

Survey	Suggestion for new harmonised questions that could be added to the questionnaires
Services Survey	A question on capacity utilisation to obtain early signals of potential 'overheating'
Business Surveys	Expectation of changes in input prices Access to finance Businesses' investment intentions Barriers to investments/exports
Consumer Survey	Price expectations for specific categories e.g. energy, food, house prices etc.

In this context, some users reiterated their interest in forward looking questions. It was suggested that DG ECFIN should review the relevance and utility of backward looking questions e.g. the question on order books etc.

3.9 Improving the Efficiency of the Programme

Interviewees were quite reticent to name specific products that could be removed from the programme or curtailed in scope (in terms of the number of harmonised questions, sample sizes or frequency of the surveys) since they regarded all products as theoretically useful even though certain products were not being used by them personally. Some internal users logically pointed out to the products that are the least used namely the Financial Services Survey and the Investment Survey. However, just because these products are not extensively used does not automatically imply that they are useless; indeed, the evaluation evidence suggests that the extent of use depends on a product's visibility and its characteristics. The Financial Services Survey and the Investment Survey are illustrative of this point:

- User feedback clearly suggests that the Financial Services Survey is likely to be used more widely if the results are made available at a country level;
- As regards the Investment Survey, there is the paradoxical situation in which on the one hand, the Investment Survey is rarely used and on other the hand, users are requesting for specific questions (which are currently part of the Investment Survey) to be made available on a monthly basis.

3.10 Other Comments

A number of interviewees reaffirmed that the programme should continue and receive appropriate funding since it is indispensable for DG ECFIN's work.

4 RESULTS OF THE ONLINE SURVEYS

Two separate online surveys were launched in September 2011: (i) an online survey of national policy makers and administrative users; and, (ii) an online survey of partner institutes. This section provides a descriptive analysis of each of these surveys.

4.1 Online survey of National Policy Makers and Administrative Users

4.1.1 Introduction

This survey was targeted to relevant national ministries/ departments (such the ministry of finance/ treasury department, ministries responsible for industrial growth, employment etc.), National Central Banks and National Statistical Offices. In total, 95 organisations were invited to participate in the online survey. The survey was conducted in three languages and consisted of questions on users' perceptions of the relevance, usefulness and added value of the survey programme as well as suggestions for improvement. Responses were received from 38 organisations, which represents a response rate of 40 per cent. While the survey results are not considered statistically significant due to the limited number of respondents, when reviewed in conjunction with the desk study and the stakeholder interviews, the survey data provides useful insights into users' requirements, expectations and satisfaction levels.

The following tables below provide an overview of the profiles of respondents.

Table 4:1 Profile of respondents by country

Country	Number of Responses
Latvia	3
Poland	3
Spain	3
Hungary	3
Luxembourg	2
Finland	2
Denmark	2
Italy	2
Cyprus	2
Ireland	2
Slovakia	1
Slovenia	1
Germany	1
Malta	1
Greece	1
UK	1
Portugal	1
Sweden	1
Czech Republic	1
Lithuania	1
Bulgaria	1
Belgium	1
Estonia	1
Unknown	1
Grand Total	38

Table 4:1 shows that responses were received from organisations covering 23 Member States (one respondent chose not to specify their country). The four Member States that are not represented in the survey results are as follows: Austria; France; the Netherlands and Romania.

Table 4:2 shows the number of respondents by type of organisation i.e. Ministries, Central Banks and National Statistics Offices.

Table 4:2 Profile of respondents by type

Type	Number of Responses
Ministry	15
Central bank	19
National statistics office	4
Grand Total	38

The lowest number of responses were received from the National Statistics Offices. This is due to the fact that only a fraction of them were invited to participate in this particular survey which targeted users (13 out of 27). The remaining were contacted in their capacity as data producers i.e. partner institutes. Also, at least two of them stated that their role as National Statistics Office was strictly limited to data compilation and therefore, they were not using the BCS surveys.

4.1.2 Usage Patterns

As shown in Figure 4:1, the “traditional” sectoral surveys are all widely used. At least two out of three respondents reported using these surveys. The bi-annual Investment Survey is less popular: 13 out of 38 respondents reported using it. The Financial Services Survey is the least used product. Only 9 respondents stated using it.

Respondents access the BCS data via a variety of channels. Figure 4:2 shows that the BCS products are typically accessed via the Commission’s website (30 respondents). Other channels include Eurostat, which is favoured by 11 respondents; while 12 participants reported accessing the data via other sources – namely, via the national partner institute (statistics office or research centre) or an external data provider such as EcoWin.

About one in three respondents (11 out of 38) are only interested in data at a single geographical level. Other respondents (17 out of 38) are interested in multiple geographical levels.

Figure 4:3 illustrates that almost all respondents are interested in the national data. A slightly lower proportion of respondents are interested in EU-27 (60 per cent of the respondents) and the Euro-area (47 per cent).

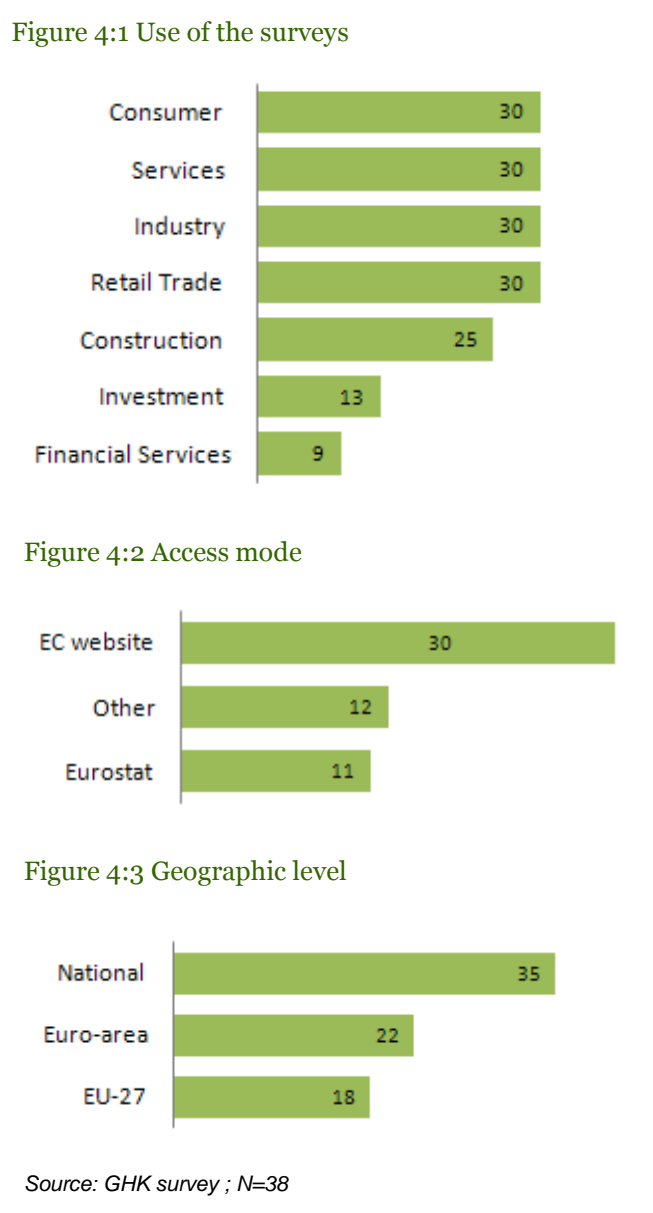
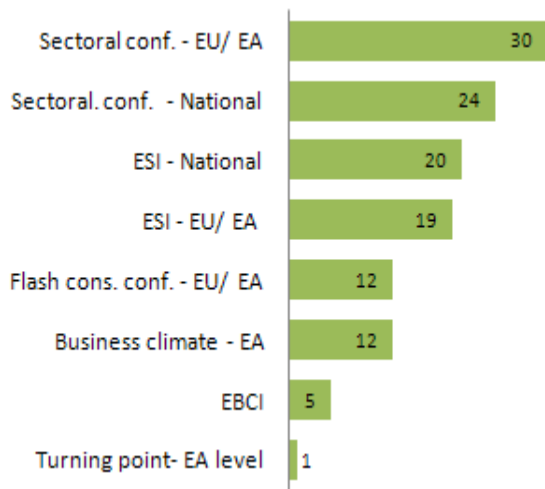


Figure 4:4 provides an indication of the most widely used indicators. The sectoral confidence indicators (in particular at an EU/ euro area level) are most widely used by national policy makers and administrative users, followed by the ESI (used by approximately half of the respondents). The Flash Consumer Confidence Indicator and the Business Climate Indicator are used to a lesser extent (by approximately a third of the respondents). The European Business Cycle Indicator and the Turning Point Indicator are used by a fraction of the respondents.

Figure 4:4 Use of indicators



Source: GHK survey ; N=38

As illustrated in Figure 4:5, around one on four respondents (10) declare being interested in specific series or questions. Inter alia, respondents have quoted: Factors limiting production, orders, new orders, capacity utilization, expected demand and price expectations of consumers.

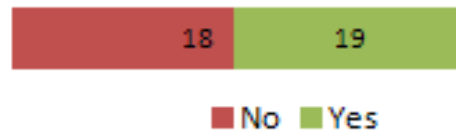
Over half the respondents claim being interested in detailed results for industry subsectors (Figure 4:6). It is however, suspected that many respondents have interpreted 'subsectors' to mean 'sectors'

Figure 4:5 Interest in specific series or questions



Source: GHK survey ; n=38

Figure 4:6 Interest in sub-sectors



Source: GHK survey ; n=37

The business and consumer surveys/ indicators are mainly used for getting a picture of the general economic background and for monitoring the current economic situation (Table 4:3). They are also a frequent input into briefs, reports and macroeconomic forecasting models. A relatively small proportion of respondents (predominantly Central Banks) reported making use of BCS data for economic research and policy making.

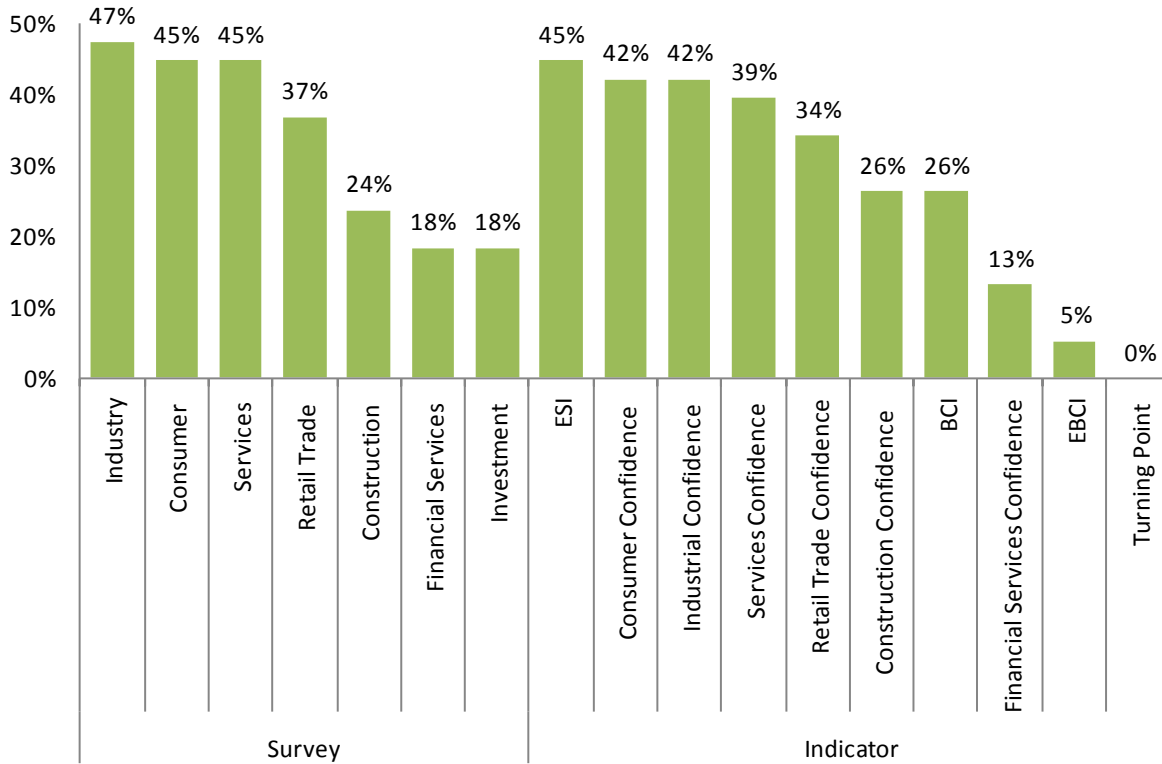
Table 4:3 Purposes of use by product

Product	Purposes for which data is used					
	Monitoring the current economic situation	General Economic Background	Writing Briefs/ Reports	Macroeconomic Modelling / Forecasting	Economic Research	Policy Making
SURVEYS						
Industry	61%	58%	50%	37%	26%	8%
Consumer	58%	63%	50%	37%	24%	8%
Services	55%	58%	45%	29%	16%	8%
Construction	55%	53%	42%	34%	24%	3%
Retail Trade	50%	47%	37%	26%	16%	3%
Investment	26%	26%	21%	16%	11%	5%
Financial Services	21%	21%	16%	5%	5%	8%
Industry Survey	63%	55%	47%	37%	26%	3%
INDICATORS						
Consumer	53%	58%	47%	50%	24%	5%
Economic Sentiment	55%	50%	42%	32%	18%	0%
Retail Trade	58%	55%	37%	26%	21%	0%
Services	58%	53%	39%	26%	18%	0%
Construction	53%	47%	39%	37%	21%	0%
Business Climate	34%	39%	29%	24%	11%	0%
Financial Services	18%	18%	13%	5%	5%	3%
EBCI	11%	11%	3%	5%	3%	0%
Turning Point	3%	5%	0%	0%	3%	0%

Source: GHK online survey of national policy makers and administrative users; total number of respondents to the survey=38

At least one in three respondents regard the following BCS products as a 'major' or 'essential' input into their work: Consumer, Services, Industry, Retail Trade Surveys and corresponding Confidence Indicators. The Investment Survey and the Financial Services Survey are considered a 'major' or 'essential' input by a relatively smaller proportion of respondents (less than one in five). The least valued products are the European Business Cycle Indicator and the Turning Point Indicator.

Figure 4:7 Usefulness: instances where BCS products are a major or essential input

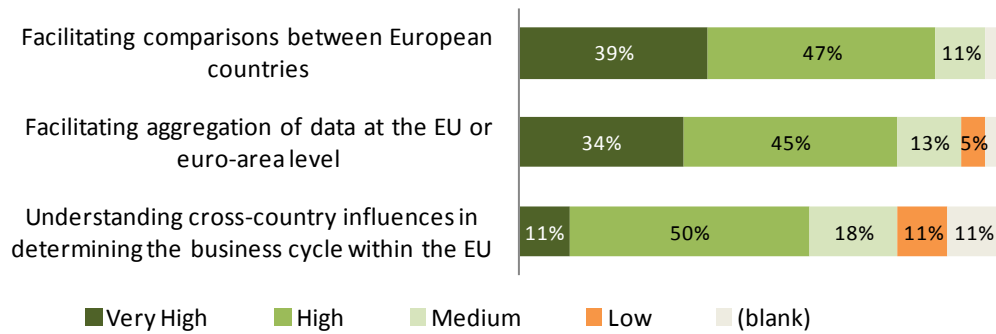


Source: GHK survey; N=38

4.1.3 Added Value

Compared to similar surveys carried out nationally, the Joint Harmonised EU Programme of Business and Consumer Surveys facilitates comparisons between European countries and makes aggregation of data at the EU or Euro-area level easier. For a majority of the respondents, the added value of the EU programme in these aspects is seen as high or very high (Figure 4:8). Most respondents also recognise that the BCS data allows them to better understand cross-country influences on the business cycle within the EU. In this aspect the programme has a high or very high added value for 61 percent of the respondents.

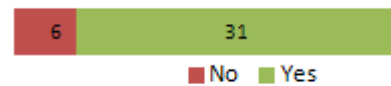
Figure 4:8 Added value of a Joint Harmonised EU Programme



Source: GHK survey; n=38

If harmonised data from business and consumer surveys were no longer available, it would adversely affect the work of 31 respondents (84 per cent), compared with only six who declare that it would have no impact on their work (Figure 4:9). In most cases, the adverse impacts would stem from loss of harmonised data for conducting cross-country comparisons and issues relating to timeliness of availability of data from alternative sources. Additionally, in some cases, BCS data is considered a unique source of information for specific uses e.g. it was put forward as a key input for the preparation of the macroeconomic projections for the budget procedure in Bulgaria.

Figure 4:9 Adverse impact if harmonised data no longer available



Source: GHK survey; n=37

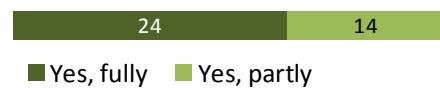
4.1.4 Meeting Users' Needs and Expectations

All respondents agreed that the BCS products fully or partly met their information needs (Figure 4:10).

However, the following comments were made: *'the BCS data is only one part of a wider set of data useful for forecasters'*; *'PMI surveys seem better in identifying turning points'*; *'PMI flash indicators and some national data is published earlier than BCS products'*; *'Services survey is generic and does not recognise the existence of subsectors with very different characteristics'*; *'the Irish data is lacking, there are seasonal adjustment problems at the disaggregated national level'*; *'it would be useful to add ad hoc questions in order to investigate specific aspects of the economic activity in a given conjuncture'*.

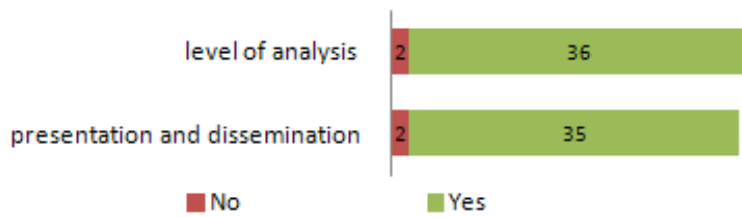
As far as the current level of analysis provided by the European Commission and the presentation and dissemination processes are concerned, almost all users are satisfied (see Figure 4:11).

Figure 4:10 Meeting of users' information requirements



Source: GHK survey; n=38

Figure 4:11 User satisfaction with the level of analysis and presentation and dissemination modalities



Source: GHK survey; n=38

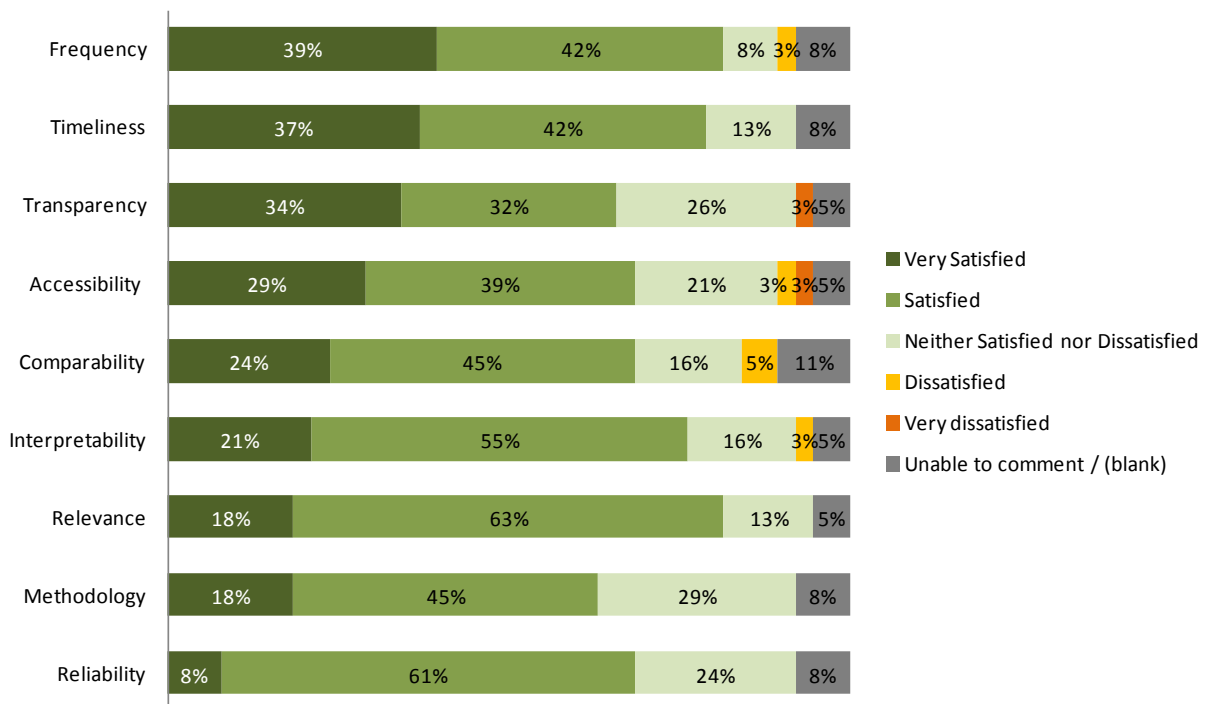
4.1.5 Impact of the Financial/ Economic Crisis on Users' Information Needs

According to the respondents, the recent economic / financial crisis has not substantially changed their organisation's requirements for survey data. It has however, increased the significance of BCS data as having timely, reliable and harmonised indicators is more important than ever. Additionally, one respondent mentioned that since the crisis, they have noted a discrepancy between the survey results and the hard data: with the pace of recovery being more moderate than suggested by the survey data. This respondent recommended that the interpretation of data should be adapted to reflect this observation.

4.1.6 Quality of the Joint Harmonised EU Programme of Business and Consumer Surveys

In the main, national policy makers and administrative users are satisfied 'clients' of the BCS programme. At least two-thirds of the the respondents reported being 'satisfied' or 'very satisfied' with all aspects of the programme (Figure 4:12).

Figure 4:12 satisfaction with various aspects



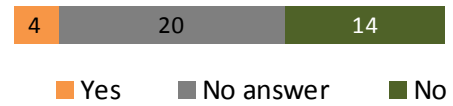
Source: GHK survey; n=38

A relatively small proportion of respondents reported being 'dissatisfied' or 'very dissatisfied' with the following aspects of the programme: accessibility (6 per cent); comparability (5 per cent); frequency (3 per cent); transparency (3 per cent) and interpretability (3 per cent)

4.1.7 Improving the Efficiency and Effectiveness of the Joint Harmonised EU Programme

More than half of the respondents preferred not to answer the question when asked whether there are any areas of the programme that could be removed or curtailed without affecting their work. Of the remaining, 14 respondents clearly stated this should not be an option. Only four respondents supported this idea. One of them specifically mentioned the Business Climate Indicator and Turning Point Indicator as the elements that could be curtailed.

Figure 4:13 Areas of the harmonised programme that could be removed or curtailed



Source: GHK survey; n=38

The respondents offered limited suggestions for improvement. This is not surprising considering the high levels of overall satisfaction with the programme. The following suggestions were made by the respondents :

- Provide access to components of balances;
- Provide clear explanations in case of backward revisions (it happened lately with no obvious explanation for the "Main factors currently limiting your building activity" series);
- Maintain consistency in the way excel files are arranged (as data is imported directly in forecasting models by some users);
- Present the survey results together with the appropriate "hard" data, if possible;
- Build a presentation tool with the option to filter data by country or by subsector, for example .

4.1.8 Comparison with Alternative Survey Products

The most frequently quoted alternative product has been the PMI (listed by 14 respondents). Other products quoted in 4 or 5 instances, include IFO, Eurocoin, ZEW and national indicators (from the National Statistics Office, National Central Bank). In addition, the think tanks' BIEC and IRG-SGH products were each quoted once.

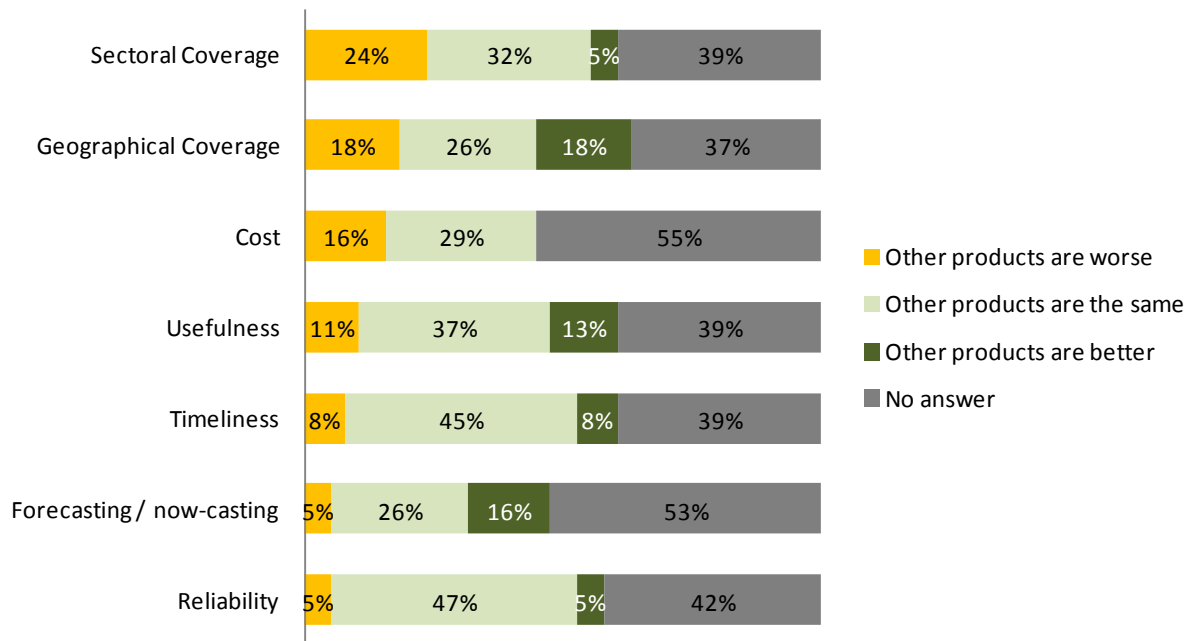
Table 4:4 List of alternative products

Alternative product	Frequency
PMI	14
IFO	5
Eurocoin	4
ZEW	4
national (NSO, National bank)	5

Source: GHK survey; N=38

Overall, BCS products are well rated on all criteria, or in most cases are considered to perform at least as well as other products (Figure 4:14). However, some respondents rated alternative products higher than BCS in terms of their sectoral coverage (7); forecasting/ nowcasting properties (6) and usefulness (5).

Figure 4:14 Comparison with alternative products on various aspects



Source: GHK survey; n=38

4.2 Online Survey of Partner Institutes

A total of 42 out of 49 partner institutes participated in the online survey. Among the respondents, there are 19 private and 23 public organisations. Table 4:5 provides an overview of the respondents by country and by survey.

Table 4:5 Overview of respondents to the online survey of partner institutes

	Consumer survey	Retail trade survey	Industry survey	Services survey	Construction survey	Investment survey
Austria		1	1	1	1	1
Belgium	1	1	1	1	1	1
Bulgaria	1	1	1	1	1	1
Croatia	1	1	1	1	1	1
Cyprus	1	1	1	1	1	1
Czech Republic		1	1	1	1	1
Denmark	1	1	1	1	1	1
Estonia	1	1	1	1	1	1
Finland	1	1	1	1	1	1
France	1	1	1	1	1	1
Germany	1	1	1	1	1	1
Greece	1	1	1	1	1	1
Hungary	1	1	1	1	1	1
Ireland		1	1	1	1	1
Italy	1	1	1	1	1	1
Latvia		1	1	1	1	1
Lithuania	1	1	1	1	1	1
Luxembourg	1		1		1	1
Malta	1					
Poland	1					
Portugal	1	1	1	1	1	1
Romania	1	1	1	1	1	1
Slovakia	1	1	1	1	1	1
Slovenia	1	1	1	1	1	1
Spain	1	1	1	1	1	1
Sweden	1	1	1	1	1	1
FYROM		1	1	1	1	1
The Netherlands	1	1	1	1	1	1
The United Kingdom	1	1	1	1	1	1
Turkey	1	1	1	1	1	1
Grand Total	25	27	28	27	28	28

4.2.1 Use of Business and Consumer Surveys

Given their proximity to users, partner institutes were asked to indicate the extent to which different user categories are interested in the results of the business and consumer surveys (Table 4:6). According to them, users are most interested in the sectoral Business Surveys, followed by the Consumer Survey and lastly, the Investment Survey.

The most intensive users are believed to be the National Central Banks, the media and government ministries/departments. Comparatively, businesses and research institutes, industry associations, banks and financial institutions are perceived to be less interested in BCS products.

As far as other users are concerned, partner institutes mentioned universities, students and academicians (5 instances), international institutions such as the OECD (2 instances), and private data providers (1 instance).

Partner institutes further report that the most popular purposes for which survey data are used are (a) to keep up-to-date with general economic conditions; and, (b) to monitor the current economic situation. BCS data are also used for writing briefs/ reports, and to a lesser extent for modelling / forecasting and economic research purposes. The use of BCS data for business decision making and policy making is not widespread based on partner institutes' knowledge (Table 4:7).

The purposes of use vary by user group based on their individual role and organisational remit. For example, the only groups that are known to use BCS data for policy making purposes are government ministries/departments and, to a lesser extent, National Central Banks; while businesses, and to a lesser extent, industry associations and banks and financial institutions, use BCS data for business decision making. As far as economic research is concerned, it is mainly the area of work of research institutes and National Central Banks.

Some groups such as government ministries/departments use BCS data for a wide range of purposes whereas other groups, such as the media and businesses, tend to use BCS data for relatively limited purposes.

Table 4:6 Assessment by partner institutes of interest in BCS products by user group (count of interested / very interested)

	Industry survey	Construction survey	Services survey	Retail trade survey	Investment survey	Consumer survey
National Central Bank	62%	60%	55%	52%	45%	48%
Media	57%	52%	52%	45%	38%	55%
Government Ministries/ Departments	55%	48%	45%	43%	43%	38%
Banks and Financial Institutions	45%	36%	36%	40%	33%	38%
Industry Associations	45%	38%	33%	31%	36%	29%
Businesses	38%	29%	29%	29%	29%	29%
Research Institutes	38%	29%	29%	26%	31%	26%

Source: GHK survey, n=42

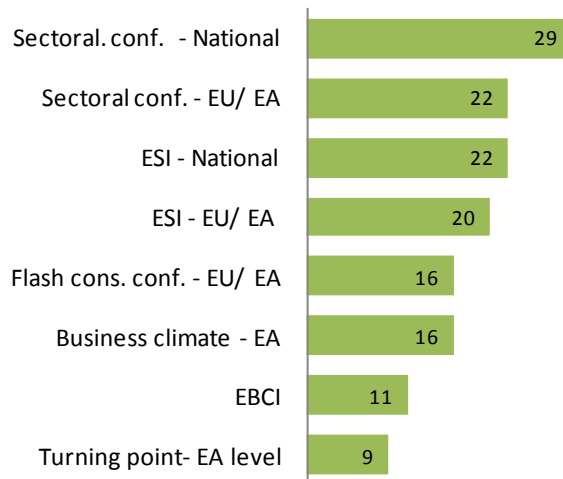
Table 4:7 Purposes of use by user group

	General economic background	Monitoring the current economic situation	Writing briefs/ reports	Modelling / Forecasting	Economic research	Business decision making	Policy making	Don't know
National Central Bank	71%	67%	45%	64%	52%	2%	31%	10%
Government Ministries/ Departments	83%	79%	43%	52%	19%	5%	45%	7%
Banks and Financial Institutions	62%	57%	31%	40%	26%	24%	7%	17%
Research Institutes	43%	43%	40%	48%	62%	2%	2%	21%
Industry Associations	67%	50%	38%	10%	21%	26%	14%	21%
Businesses	64%	52%	17%	7%	5%	52%	5%	21%
Media	76%	55%	64%	2%	5%	0%	2%	7%

Source: GHK survey, n=42

Figure 4:15 provides an indication of the most looked at indicators. The ranking by partner institutes mirrors the responses of the national policy makers and administrative users (see Figure 4:4). The leading products are the sectoral Confidence Indicators, followed by the ESI, at the national and EU levels. Slightly more than a third of partner institutes consider the Flash Consumer Confidence Indicator and the Business Climate Indicator to be (very) interesting for final users. The European Business Cycle Indicator and the Turning Point Indicator, are perceived to be less interesting.

Figure 4:15 Interest in BCS indicators (count of interested / very interested)



Source: GHK survey, n=42

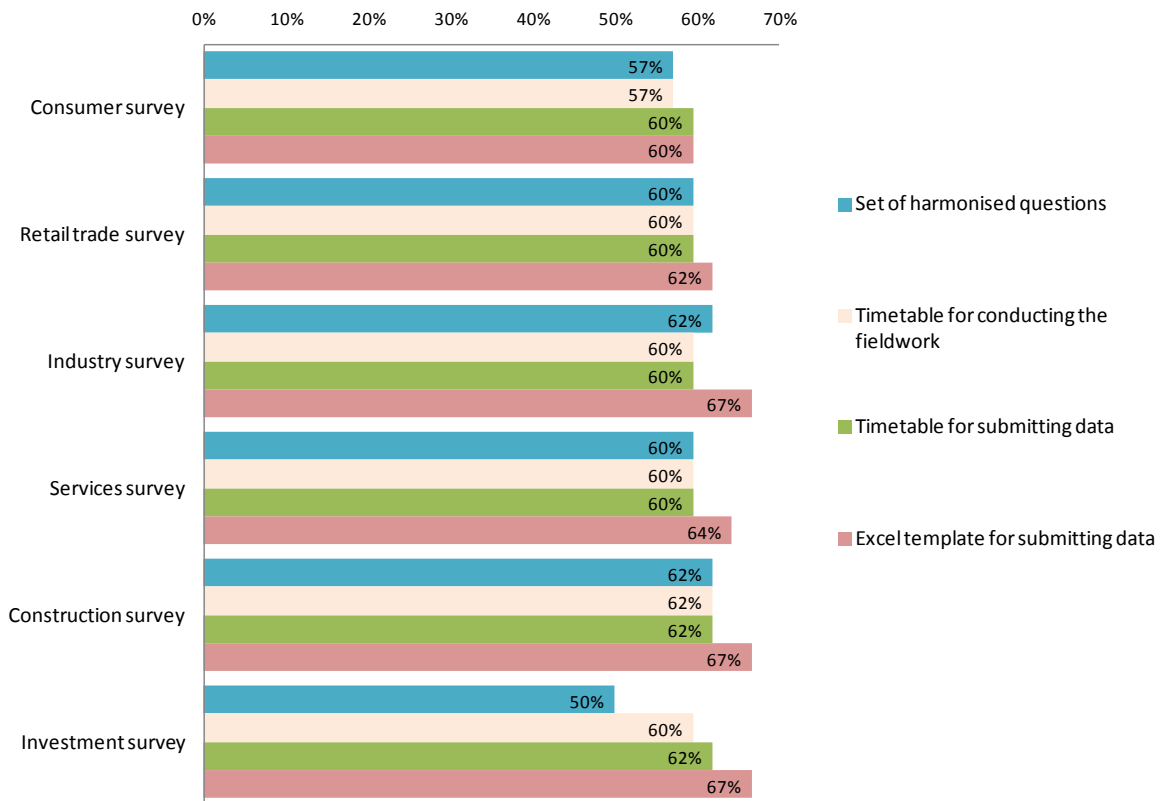
As far as internal users within the partner institutes are concerned, respondents mentioned that the data is of interest to all departments within the organisation, be it the research department, the forecast division or other researchers. In some cases, data is systematically accessible to a limited number of departments and available upon request to other departments. In this context, a few respondents mentioned that they have placed restrictions on access to micro-data.

4.2.2 Harmonised Methodology for Conducting the Surveys

Satisfaction with the harmonised methodology for conducting the surveys is very high across partner institutes (Figure 4:16). The timetables, both for conducting the fieldwork and for submitting the data, are seen as satisfactory. A handful of partner institutes indicated that the fieldwork period would benefit from being extended, but, at the same time they seem to recognise that this would squeeze the time available for delivery and publication.

The set of harmonised questions is largely accepted as adequate. In this context, some partner institutes mentioned that the national questions receive more attention from the media as compared to the harmonised questions; and, one partner institute recommended that questions should allow respondents to provide further context or the reasoning behind their answers. Satisfaction with the set of harmonised questions is slightly lower as far as the Investment Survey is concerned. One partner institute stated that the survey questions are very difficult to administer and to interpret; while another suggested that it would be better to ask firms to comment on their absolute values of investment instead of percentage change in investment.

Figure 4:16 Satisfaction with harmonised methodology (count of satisfied/ very satisfied)

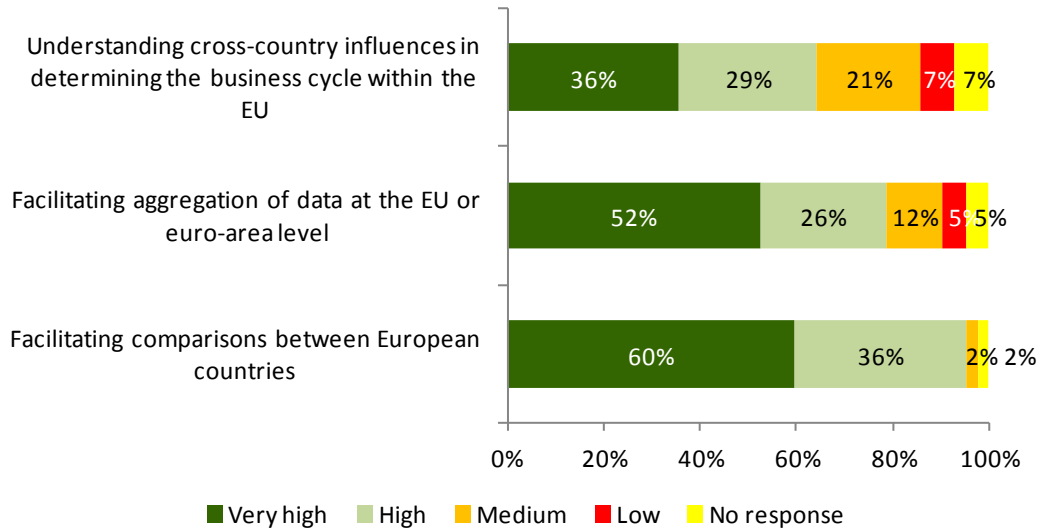


Source: GHK survey, n=42

4.2.3 Added value of a joint harmonised EU programme

The Joint Harmonised EU Programme is considered to have high added value by most partner institutes. Almost all partner institutes, share the view that the programme has 'high' or 'very high' added value in terms of (a) facilitating comparisons between European countries; (b) facilitating aggregation of data at an EU or Euro-area level; and, (c) helping understand cross-country influences in determining the business cycle within the EU (Figure 4:17).

Figure 4:17 Added value of a Joint Harmonised EU Programme



Source: GHK survey, n=42

More than half of the partner institutes declare that they would not be able to carry out the BCS surveys without EU co-financing. Only three partner institutes believe that they would be able to run the same programme as usual. The others would have to downsize the programme by adjusting the sample size and/or scope.

Figure 4:18 Continuity without any EU co-financing



Source: GHK survey, n=42

Close to one third of partner institutes state that the BCS programme has influenced methodological developments within their organisation. The commonly cited spillovers are:

Figure 4:19 Influence on the methodological approaches of the partner institutes



Source: GHK survey, n=42

formulation of survey questions, sampling method, seasonal adjustment method (DAINTIES), method to compute indicators, weighting methodology. Overall, the BCS programme is seen as inducing gains in methodological rigour as well as building awareness on international comparability issues.

4.2.4 Management and Organisation of the BCS Programme

The partner institutes could not specify any shortcomings with the management and organisation of the BCS programme: at least two third of the respondents are either 'satisfied' or 'very satisfied' with the different aspects of the programme (see Figure 4:20) and 36 partner institutes specifically stated they had no suggestions for improvement.

Partner institutes are most satisfied with the annual workshops organised by the European commission within the framework of the BCS programme. There were some isolated suggestions such as inviting more modelling/ forecasting experts to the workshops and the need to avoid addressing the same issues on a repeated basis.

The support from the European Commission, as well as the methodological guidance is viewed as satisfactory. However, some partner institutes, made the following comments:

More detailed definitions of concepts used in the questionnaire would be helpful, e.g. detailing what is meant by "business situation".

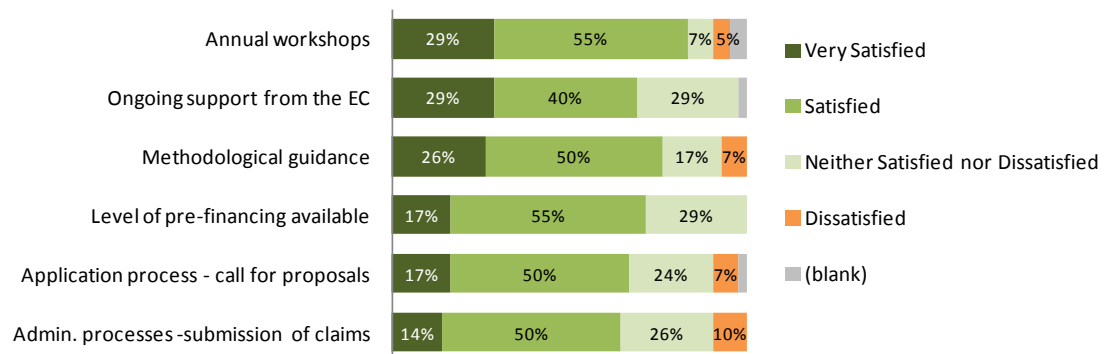
More information on how institutes weight their respective surveys would be useful.

The process of implementing new or revised questions into a particular survey should have a slightly longer 'notice period'.

A new methodological manual and training on seasonal adjustment and ESI would be welcome.

Application and administrative processes are also deemed satisfactory. A few comments were made as regards the tight deadlines for proposals, delays in receiving award decision and new contracts, the unavailability of electronic application form and the strict processes for checking invoices. One respondent also saw a case for adopting a simpler application system, at least for non-commercial organisations with prior track record of participating in the programme.

Figure 4:20 Satisfaction with various aspects of management and organisation of the BCS programme

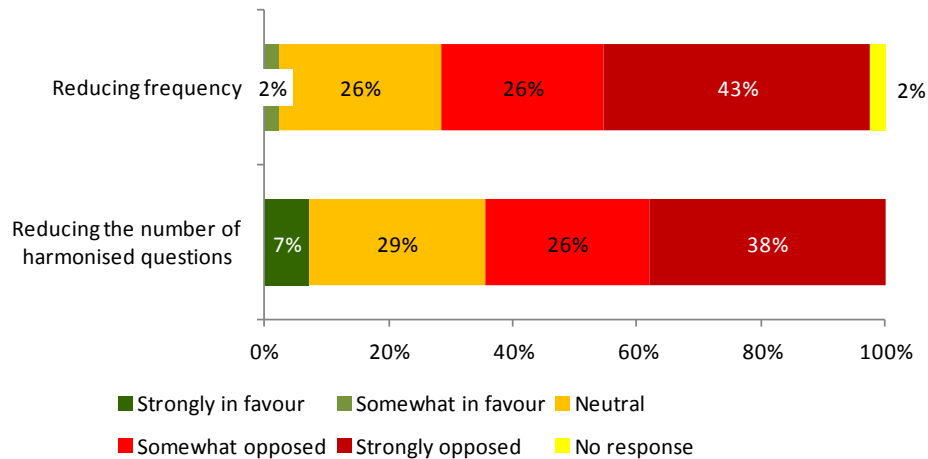


Source: GHK survey, n=42

4.2.5 Improving the Efficiency and Effectiveness of the BCS Programme

The survey questionnaire contained two options for improving the efficiency of the programme: (a) reducing the number of harmonised questions and (b) reducing frequency. The share of partner institutes opposing these changes far outweighs those who expressed neutral or favourable opinions, as illustrated in Figure 4:21.

Figure 4:21 Opinion on suggested changes



Source: GHK survey, n=42

In addition, partner institutes were asked to identify areas where the BCS programme could be improved to better respond to users' information needs (based on feedback they might have received from their clients). The Investment Survey was highlighted as the only survey where there was scope for improvement. Five partner institutes commented on this survey. They flagged the following issues: (a) the need to improve the formulation of questions; (b) a need for more guidance on how to answer questions; (c) a shift in the focus of the survey from quantitative to more qualitative questions (for example, replacing questions asking firms to indicate their reasons for making investments to more questions collecting information on R&D expenditure or foreign investments made by firms).

Some partner institutes suggested that the less known products such as the Financial Services Survey and the Turning Point Indicator should be better advertised/ promoted. One institute also called for a more detailed Financial Services Survey with results published at a national level. Finally, two comments were made regarding the need to review the way the Consumer Confidence Indicator is aggregated. It was suggested that DG ECFIN should examine the ability of the indicator to track the business cycle and consider including other questions (for example, the question relating to major purchases) in the construction of the indicator.

As far as the impact of the financial and economic crisis on users' information requirements is concerned, 15 institutes stressed that the demand for both national and EU-wide business and consumer survey data has increased following the crises. Indeed, access to a wide and rich dataset is deemed critical to understand the dynamics of the crises. Partner institutes also report that there is greater pressure for releasing the data in a timely manner and much wider media coverage of survey data since 2008.

Only a handful of partner institutes are in favour of (a) improving the presentation of survey results via visualisation/ interactive tools; and, (b) attaching descriptive elements to the survey data. One partner institute suggested that simple and inexpensive solutions such as monthly pdf are worth considering by DG ECFIN as they have the advantage of being accessible to blind persons via a screen reader. Some partner institutes suggested that there would be added value in displaying the composition of the balances as it is information rich and easier to interpret for final users.

4.2.6 Closing Remarks

Less than ten partner institutes listed alternative survey products. At a multi-country level, they mentioned the PMI and the ZEW indicator. Their answers focused more on national products such as those produced by National Central Banks and Industry Associations (e.g. Industry survey of the Federation of Austrian Industries, Confederation of Finnish Industries, surveys published by the Danish Federation of Small and Medium-Sized Enterprises)

5 INTERVIEWS WITH PRIVATE SECTOR USERS AND RESEARCH INSTITUTES

A series of phone interviews were conducted with a range of users to gather information on their usage patterns; to better understand their requirements and expectations ; and, to collect feedback on the strengths and weaknesses of the BCS programme. This section provides a synthesis of the information collected through these interviews.

5.1 Profile of the Interviewees

In total 35 interviews were conducted with the representatives of financial institutions; research institutes and academic institutions; data providers, whose business is to offer economic and financial information, market intelligence, forecasting and monitoring tools to external clients; trade associations; and, media.

Profile of interviewees

User category	Number
Financial Institutions	14
Research institutes / Academic institutions	13
Data providers	3
Trade associations	2
Press	3
Total	35

5.2 Patterns of Use

Interviewees are often interested in many BCS products. The Business Climate Indicator is the most popular product, used by virtually all interviewees, and closely followed by the Economic Sentiment Indicator and the Consumer Confidence Indicator. Sectoral confidence indicators are used by at least one in three interviewees, the most popular one being the Industrial Confidence Indicator.

Private sector typically refer to confidence indicators rather than detailed survey results. Among the many interviewees who indicated using intensively the aggregates and headline figures, there were a number of them who mentioned that they occasionally refer to more detailed data to obtain more contextual information, explore the reasons behind changes in headline figures and to get a picture of what is happening on the ground. Notably, thirteen users (out of 35) explicitly stated looking at question level data; nine of them on an intense basis. These were financial institutions (five), data providers (two), trade associations (two) and research institutes (one). Interest was shown first and foremost in the capacity utilisation question but also, in other questions including those relating to financial situation of the households, savings, competitive position, production levels and expectations, orders and employment. Besides, nine users expressed an interest in BCS sub-sectoral data, of which five declared examining it on a frequent basis (two financial institutions, one data provider, one trade association and one research institute).

The Financial Services Survey suffers from poor visibility among interviewees and its utility is also perceived to be low (due to availability of a relatively short time series, the indicator is of limited use for forecasting purposes).

As far as the European Business Cycle Indicator and the Turning Point Indicator are concerned, they are used by a tiny fraction of interviewees, mainly among economic research institutes.

5.3 Purposes for which BCS Data is Used

BCS products are *inter alia* used for economic research and forecasting, for macroeconomic modelling, for writing briefs/ reports (both for internal and external use), for monitoring / examining the current economic situation and for getting a general overview of business/ economic conditions. Specifically, the indicators (the Business Climate Indicator, the Economic Sentiment Indicator, the Consumer Confidence Indicator and to a lesser extent, other Sectoral Confidence Indicators), are the products that are closely monitored by financial institutions and that feed into the forecasting models of research organisations.

BCS products are used to inform business/ investment decisions in less than one third of the cases - generally among financial Institutions and data providers. Only a couple of interviewees reported using BCS data for policy making. It might be that these two purposes are being underestimated by the interviewees: some users disseminate the data and its analyses – both internally and externally – but, have no direct overview of how the data is eventually used by final users.

Identifying turning points was rarely cited as a purpose for which BCS data is used and only by a couple of persons in charge of economic research.

5.4 Geographical Level of Interest

Most interviewees are interested in the following levels of geography: country level; multi-country level and Eurozone. Users tend to focus on the Member State where they are based but, also look at the developments in the larger EU countries and in their main trading partners. Some users indicated that they have shifted their attention to particular countries that are in news. Comparatively, the EU aggregate is of little interest to the interviewees (quoted only in three instances).

5.5 Recent Changes in Patterns of Use and New Information Requirements

According to a majority of the users, the crisis has not fundamentally changed their data requirements and that the BCS data is comprehensive enough to be looked at from different angles without needing adaptations.

A number of interviewees however, underlined the need for 'real time' data on the state of the economy and the importance of survey data in fulfilling this need (as official statistics intrinsically suffer from publication lags). The popularity of BCS data appears to have increased during the crisis because of its timeliness and high frequency. Some interviewees, who were previously using BCS data on an ad hoc basis, now claim to use it on a frequent basis. The crisis has also reinforced the need to crosscheck data by looking at a range of sources.

A number of users also highlighted the renewed interest in individual country level developments because of the different trajectories EU economies are taking. Examining the EU or euro-level indicator is not seen as sufficient anymore; there is greater focus on country specific developments. Users welcomed the fact that BCS data was readily available at a country level. A couple of users commented that the long time series of country level data available through the BCS programme has been invaluable.

One interviewee called for DG ECFIN to publish country level analysis highlighting and explaining how patterns and performance of individual groups of EU Member States have changed since the crisis.

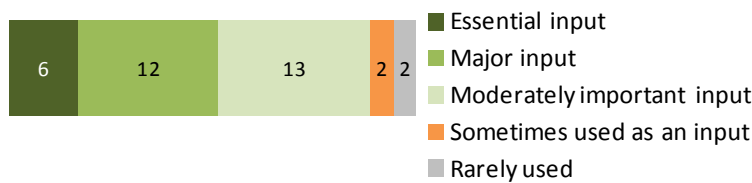
A number of users mentioned there is a greater sense of urgency to get the data as early as possible and to increase the frequency of release of data. While one user would want to see this happen with BCS data, another user insisted that meeting this demand is risky as it could eventually undermine the quality and reliability of the indicators.

5.6 Assessment of User Satisfaction

5.6.1 Relevance and Usefulness of BCS Products

In most cases, BCS products are seen as a 'major' or 'moderately important input'. In addition, a non-negligible share of interviewees regard BCS products as an 'essential' input for their work (Figure 5:1).

Figure 5:1 Usefulness of BCS products for the activity of interviewees



Source: GHK interviews with private users; total number of interviews = 35

There was one isolated case where an interviewee believed that the predictive power of the BCS indicators was very low and beyond that, even feared the self-fulfilling power of confidence indicators because of their potential psychological effects on consumers and businesses.

On all aspects, satisfaction with BCS product is high (Figure 5:2). A smaller proportion of users reported being satisfied with the accessibility of BCS data. Seven users complained *inter alia* that data is buried on ECFIN's website; that they cannot find Financial Services Survey results; that excel spreadsheets are complicated to process; that the format in which data is stored is not ideal (for example, the decimal point of the data is set to zero). One interviewee mentioned how they prefer accessing the BCS data via 'EcoWin'. One interviewee suggested that DG ECFIN should adopt the same model as Eurostat for dissemination of survey results.

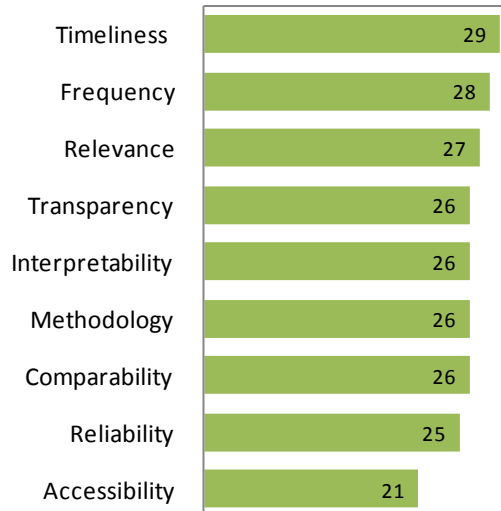
One non user who had a look at the BCS indicators following GHK's invitation email for an interviewee commented that they find the website hard to understand, unclear and generally not user friendly.

A number of sparse comments were made on other aspects of the programme:

- As regards methodological aspects, a few users expressed their dissatisfaction with the discontinuity of the Irish data.
- Comments on comparability includes: short time series for some indicators which make comparisons over time difficult and cross country comparability constrained by the fact that non EU countries (e.g. African countries) are not covered by BCS surveys (which is of particular interest to international financial institutions).
- On timeliness, it was mentioned just once that some other data providers release flash estimates earlier than DG ECFIN data.

- On frequency, one user indicated their dissatisfaction with the quarterly frequency of the European Business Cycle Indicator (stating a preference for monthly release of this data).

Figure 5:2 Satisfaction with the BCS programme (counts of satisfied and very satisfied)



Source: GHK interviews with private users; total number of interviews = 35

To sum up, it can be concluded that BCS data is well aligned with the data requirements of private sector users. For many of them, BCS data is one of the sources of data used to add to the depth of the analysis, help contextualise other 'hard' data and to triangulate evidence.

The only caveat underlined by a couple of researchers is that, to be used for scientific business cycle analysis, the length of some of the data series is somewhat short (series dating back from the seventies, eighties are most helpful). Moreover, a few financial institutions stressed that they are eager to see a Financial Services Confidence Indicator.

5.7 European Value Added

The BCS data brings most added value in terms of facilitating comparisons between European countries (for 23 respondents). Facilitating aggregation of data at an EU or Euro-area level has been highlighted as an added value of the BCS data by eleven interviewees. In comparison, understanding cross-country influences in determining the business cycle within the EU was only mentioned thrice.

If the harmonised programme were to cease to exist, the interviewees generally think that their work would be adversely affected, even if they would find a way to cope with that loss. It would reduce the number of tools available to them to understand the economic situation. It would require substantial adaptations efforts for intensive users who would need to revise the content of research programmes and the design of macroeconomic models. Some interviewees also fear that, by using alternative products, some levels of details and possibility to make cross-country comparisons would be lost. Only 'light' users, who merely use the BCS data to get a broad picture of the economic activity in Europe, would be able to adapt very quickly.

5.8 Comparison with Alternative Survey Products

The most frequently cited alternative products were the PMI, the OECD leading indicators, the IFO and national indicators. For financial variables, the ECB's Bank Lending Survey was often quoted by interviewees. Compared to internal users, the interviewees from the private

sector, in particular financial institutions, are more inclined to track indicators focused on other parts of the world (US, Asia).

In many cases, interviewees value both BCS products and alternative products and view them as complementary sources of information rather than as substitutes.

The perceived strengths of the BCS products vis-à-vis alternative products are:

- Wider country coverage, which makes BCS more appropriate to undertake comparative analysis of developments in particular Member States and even allows users to create their own multi-country index from the data for relevant groupings (e.g. for the Baltic countries);
- More comprehensive sectoral coverage;
- Unique questions e.g. capacity utilisation ;
- Longer time series;
- Harmonised methodology across Europe;
- High quality and reliability; and,
- Free access.

Fewer interviewees have elaborated on the relative weaknesses of the BCS products:

- Need more detailed industry data (sub-sector data including at the 3-digit level according to an industry association);
- Accessibility issues;
- Lack of overview of timetable for upload of new data (no automatic message signalling updates for example).

Some interviewees highlighted the specific strengths of the PMI:

- Coverage of countries outside the EU;
- Slightly better timeliness;
- PMI questions are framed better; they are more factual in nature (rather than asking for opinions and plans);
- Higher predictability power, although views are mixed on this issue and it depends on which reference variable one focuses on. An interviewee from a financial institution explained that the PMI tracks quarter on quarter growth rates more effectively than BCS; whereas BCS provides a better year on year comparison.

One interviewee further commented that worldwide, PMI seems to be growing in popularity. One researcher reported adopting a pragmatic approach: PMI is used for non-European countries but not for European countries as it is expensive and not as comprehensive as the BCS indicators.

5.9 Suggestions for Improvement

Most interviewees did not express any particular support for the use of sophisticated visualisation tools. They often mentioned having their own internal tools and templates for presenting data .

The current level of interpretation and analysis is also regarded as sufficient since interviewees are mainly interested in the data itself. A couple of interviewees however, mentioned how they would welcome short text highlighting the principal changes and main country differences every month.

Most users were reluctant to name specific products that could be removed from the programme or curtailed. One interviewee stressed the importance of maintaining the sectoral coverage of the programme as the importance of sectors changes over time and in different contexts. Some other interviewees pointed towards the least used products.

The table below provides an overview of main suggestions made by the interviewees.

Main suggestions for improvement

Improving accessibility and user-friendliness	<p>Provide the data in an easily useable format which can feed into automated programmes.</p> <p>Ensure all indicators are available via main commercial databases such as Thomson Reuters' Datastream database [currently the Turning Point Indicator is outside the scope of datastream].</p> <p>Change the presentation of the data to include the figures with two decimal places (0.00) rather than the current format.</p>
Improving visibility	<p>Make better use of media to promote less known products such as the Turning Point Indicator.</p>
Avoiding breaks in series	<p>Ensure coverage of all countries including Ireland.</p> <p>Clarify if NACE rev.2 long historical subsector series are validated and 'official'.</p>
Exploring more qualitative aspects, drivers behind changes	<p>Include a section in the survey for specialised questions which can be changed from month to month to reflect ongoing events and concerns as it is very useful in terms of improving the forward looking aspects of the study (see the ECB Bank Lending survey).</p> <p>Include ad hoc questions to better understand the role of specific events and factors in influencing sentiment. For example, see the ECB Bank Lending Survey 's detailed questions for reasons behind changes in lending.</p> <p>Also see the IFO survey which includes questions on the impact of weather on indicators (especially relevant for the construction sector).</p>
Methodology	<p>Publish all surveys / indicators on a monthly basis.</p> <p>Normalise all data – including sub-sector data.</p> <p>Carefully analyse weights assigned to past experience and expectations' questions in the construction of indicators.</p> <p>Carry out a cost-benefit analysis when considering changes to method because of the risks in terms of non-comparability with past data (risks of breaks in series).</p> <p>Strongly encourage partner institutes use a standard methodology for presenting national datasets in order to facilitate comparability.</p>
Interpretability and transparency	<p>Specify the period over which the fieldwork takes place (as is done with Eurobarometer surveys). This would enable users to understand the impact of global events (e.g. earthquake in Japan) on sentiments and expectations.</p> <p>Promote methodological transparency (how the data was obtained and the indicators were constructed).</p> <p>Provide BCS team's contact details together with the press release.</p>
Sectoral coverage	<p>Provide more detailed sub-sector data and better capture data on the investment activity of firms and raise awareness about the existence of</p>

	<p>these products.</p> <p>Extend the concept of the Flash Consumer Indicator to all sectors.</p> <p>Expand the use of the Capacity Utilisation question (other surveys, monthly basis).</p> <p>Include specific questions on new orders (as opposed to current orders) and employment situation (as opposed to only expectations)</p>
<p>Analysis and research</p>	<p>Examine the internal consistency of the survey data – the extent to which reported outcomes correspond to expectations data from previous months - For example, some studies have shown that people’s stated intent is often not matched by actual behaviour and it would be useful to examine the usefulness of forward looking questions asking about intended behaviour.</p> <p>Also assess the forecasting potential of BCS data by comparing the survey data to their reference macroeconomic variables.</p>

6 FOLLOW-UP INTERVIEWS WITH PARTNER INSTITUTES

This section presents the results of follow-up interviews conducted with twelve partner institutes. The main purpose of these interviews was to identify national practices relating to presentation and dissemination of BCS data and to explore the feasibility of implementing the suggestions made by users in previous sections.

6.1 National Practices and Products

In terms of building national confidence indicators, partner institutes have varied practices. There are a few institutes who neither construct nor publish confidence indicators. This trend is however, reversing. For example, the Austrian institute which currently publishes the results by individual questions has plans to introduce sectoral confidence indicators. Some institutes do not calculate their own indicators but, publish the indicators as calculated by the European Commission (for instance, GfK).

The number of institutes building overall sentiment indicators is rather limited: even countries such as France and Belgium who have only one partner institutes undertaking all the surveys do not publish an overall sentiment indicator. They however, publish their own business confidence indicator and consumer confidence indicator. NIER from Sweden is one example of an institute publishing an indicator akin to the Economic Sentiment Indicator called *Economic Tendency Indicator* (the same weights are assigned to individual sectors as the Economic Sentiment Indicator). GKI-Erste Economic Confidence Index in Hungary is another example. It is a weighted average of GKI Consumer and Business Confidence Index, which are not based on the same questions as BCS indicators.

The majority of partner institutes produce and publish their own sectoral confidence indicators. In case where the partner institutes publish their own indicators, there are many reasons why they might differ from the ones published by the European Commission, including approaches towards seasonal adjustment, smoothing and weighting⁶. Also, in some cases (e.g. Germany, Italy), the partner institute presents the results in the form of an index, with a base year set to 100.

In addition, some countries publish indicators that might differ substantially from BCS indicators in the sense that different questions are used to compute the indicators. This is for example, the case in Belgium, France, Germany and Hungary.

The most well known indicator produced by a partner institute is the Ifo Business Climate produced by the Ifo Institute for Germany. The Ifo Business Climate is a transformed mean of the balances of the answers to two questions, on the assessments of the current business situation and the expectations for the next six months. It is presented as an index with 2005 set as the base year.

In terms of the content of the questionnaire, at a national level, some partner institutes reported not including additional questions. Many partner institutes however, do include national questions in the monthly and/or quarterly questionnaire. Examples of additional questions included in the business surveys are: access to credit; main markets for exports/main countries from which competitors are originating; use of flexible employment contracts (in Italy), perceptions of inflation in quantitative terms (in Hungary). And in the case of consumer surveys, additional questions relate to expenditure on education / health (in Italy), for example.

⁶ see EUROPEAN ECONOMY - Special Report No 5 / 2006 for an in-depth analysis of this issue

In follow-up interviews, partner institutes were specifically asked to comment on why national indicators / questions receive more attention from the media. Partner institutes⁷ were able to provide personal insights only in those cases where they produce national indicators / questions. First of all, it was underlined that the media are also interested in harmonised indicators. Then, it was explained that in many cases and at least at a national level, partner institutes are closer to the end users and national media. Although most institutes refer to the EU programme (except perhaps IFO – where EU visibility is not apparent on their website), the media, as a matter of habit, seem to refer to well established national indicators. In only one case, national questions were believed to provide better forward looking perspectives than the harmonised ones.

6.2 Dissemination Channels

Virtually all partner institutes use press releases or longer newsletters / pdf reports to disseminate results. A smaller fraction of partner institutes organise press conferences but not necessarily every month. In the case of Finland for example, a press conference is organised on a quarterly basis. An interesting promotional activity in the UK includes inviting journalists to the partner institute's premises before the official release of data so they can publish their articles concurrently with the release of BCS data. Some partner institutes also indicated doing some promotional work with radio and TV channels.

Most partner institutes have mailing lists targeting, *inter alia*, the following user categories: National Central Banks, government departments, generalist and specialised media, research institutes, industry confederations, business analysts, data vendors and academic community. The National Central Bank was often pointed as the most intensive user of the data, with which agreements are occasionally in place to have access to more detailed data. The Central Bank is regarded as the main client by a commercial partner institute.

In addition, large public partner institutes (mainly National Statistical Offices or not for profit private institutes) publish the series in their databases or in Excel format, including long time series, results by questions and in some cases, access to components of balances (Statistics Denmark, Istat in Italy).

Releasing in advance calendars of dates of release is done in some cases but, this was not found to be a common practice.

Some partner institutes disseminate the results to survey respondents and it is at the same time part of their strategy to increase the response rate (each month survey results are sent to panel members together with the next questionnaire).

Partner institutes generally release their indicators in last days of month *t*. Not all partner institutes publish their national results earlier than DG ECFIN. Some release it on the same day or even a few days later. There was one case of a partner institute releasing its data on the same day as DG ECFIN by choice, even though the data was ready a bit earlier to create a "buzz" and to get more media attention.

Many institutes however, release their national results a bit earlier than DG ECFIN, around the 23rd to 25th of each month (compared to BCS indicators which are released around the 27-29th of month *t*).

⁷ Unfortunately, no follow up interviews could be conducted with those partner institutes who have the most differentiated national products (Germany, France and Belgium).

6.3 Feasibility of Implementing the Suggestions made by Users

6.3.1 Improving the Coverage of Flash Indicators

Users' suggestion to expand the coverage of flash indicators (sectoral and geographic) did not gain strong support among the partner institutes. On the one hand, there were soft supporters stating that this was a good idea in principle as it would attract media attention and that DG ECFIN should explore whether it would be feasible to take this suggestion forward.

On the other hand, some partner institutes emphasised that survey results are published the same month as the fieldwork is conducted and that they are already quite timely. In their view, it could be counter-productive to publish flash indicators requiring substantial revisions. One partner institute expressed concerns that the BCS programme would engage in a 'race' with commercial providers to publish the results of the survey; a 'race' that the BCS programme would probably lose since commercial providers are believed to be more flexible in changing dates of releases (taking into account practical considerations such as the fact that they do not need to negotiate contractual arrangements with 50+ institutions). On the practical side, partner institutes were also concerned with the increased time pressure it would imply for them.

6.3.2 Country Level Data for the Financial Services Survey

As most partner institutes are not engaged in undertaking the Financial Services Survey, a number of them had no views on this subject. Some partner institutes (including GfK-Belgium which is presently responsible for conducting the survey) were of the opinion that the Financial Services Survey would only be relevant for countries where the financial sector accounts for a significant share of the economy and is large enough. It was pointed out that eleven Member States account for 85 per cent of the financial sector in the EU. Some partner institutes questioned the feasibility of this idea and expressed concerns regarding potentially low response rate from financial institutions. One interviewee indicated that Central Banks would necessarily need to be involved to reach the financial institutions. It was also highlighted that Central Banks are sometimes themselves involved in undertaking this type of survey (it is for instance the case in Denmark, where the Central Bank carries out a quarterly survey).

One partner institute expressed strong support for publishing the results of the Financial Services Survey at a country level in view of the current gaps in knowledge and the current financial crisis. This institute currently produces its own quarterly Financial Services Survey and would be willing to share its experience with other partner institutes if national Financial Services Survey were to be introduced.

6.3.3 Publication of Normalised Data to Facilitate Cross Country Comparisons

The general response of the partner institutes was that it would be a positive development to publish normalised data, if resources are available. It was stated that currently, users have enough information to normalise the data themselves but, accepted that it might be too technically demanding and/or time consuming for some users to do so; and, that it would be more efficient to publish normalise data centrally. It was however, emphasised that normalised data should not replace the balances data which are currently published.

6.3.4 Option to Include Ad Hoc Questions in Surveys

The majority of partner institutes favoured this idea. They however, expressed strong concerns regarding the feasibility of this suggestion.

On the one hand, partner institutes thought that it would be something interesting and that some national institutes already include ad hoc questions in their surveys. It was seen as a good opportunity to exploit contacts with firms and explore areas of special interest at a given time.

On the other hand, partner institutes were conscious of the fact that it is a complicated and time consuming process to reach consensus on harmonised questions. Concretely, partner institutes emphasised that they would not support a top down approach with decisions being taken in Brussels. The Commission would have to establish a mechanism for involving partner institutes. A few partner institutes categorically stated that ad hoc questions should stay within the national remit. Besides, some partner institutes stated that at a practical level, it would be very costly for them to frequently adapt their online surveys or printed questionnaires. Nonetheless, despite the constraints and reservations, partner institutes thought that it was an idea worth exploring further.

6.3.5 Adding Question(s) on House Prices

Partner institutes felt that this suggestion was poorly defined. While gathering data on prices of transaction in the housing market was seen as important (if not done at the national level already), it was seen to fall outside the scope of business and consumer tendency surveys. Partner institutes felt that if such a question were included in the Consumer Survey, it would generate unreliable data as most consumers do not have knowledge of house prices (unless they are in the process of buying a house). Real estate agencies would be better placed to answer this question however, this would imply a separate survey covering the real estate sector. Partner institutes believe that a question on house prices could not be included as an additional question in the Services Survey questionnaire.

6.3.6 Components of Balances

Partner institutes generally supported the idea of expanding access to components of balances. It was considered as adding value, providing greater insights without being too demanding or complicated to implement. Access to that level of detail is already provided by some partner institutes at a national level and that data also submitted to DG ECFIN.

6.3.7 Access to Anonymous Micro Data

Most partner institutes were reluctant to accept this suggestion. They generally conceded that this data would be of interest for specific, targeted groups of users (such as Central Banks and research institutes) and very information rich in the case of business surveys.

Their main reservation is however, related to the issue of confidentiality. Some partner institutes provide explicit commitments to the respondents that they will not publish micro data nor forward it to other institutions. According to data protection legislation in some Member States, individual participants would need to give their explicit consent. Publication of micro data would pose particular challenges in subsectors which are highly concentrated or small in size.

Some partner institutes thought that it might be possible to provide access to anonym micro data under a very strict confidentiality rules and for specific purposes only e.g. to scientists or Central Banks for research purposes. In this context it was mentioned that providing the European Commission with micro data would entail extra work for the partner institutes.

6.3.8 Improving Metadata

Some partner institutes stated that the information currently provided by DG ECFIN is sufficient. There were others who supported greater transparency considering the differences in approaches adopted across partner institutes and in view of the different ways of dealing with weighting, sampling and non responses. Some partner institutes felt that greater transparency might also promote further harmonisation.

A couple of partner institutes suggested that it would also be helpful if DG ECFIN could clarify ownership / copyright of the data on its website and explain how users can use and reproduce the data

In addition, one interviewee highlighted that in publishing metadata, particular attention should be paid to explaining why the surveys are implemented in a different way as compared to what the text books say – since very often users do not have experience in conducting surveys, real world constraints need to be explicitly stated.

6.3.9 Accessibility

In a majority of the cases, partner institutes do not have strong views on the accessibility of data via DG ECFIN website. They tend to regard Excel sheets as adequate. They however, admit that, if not too costly, offering data in .csv format would be better as it would allow users to feed BCS data into their own databases/software tools.

6.3.10 Increasing the Frequency of the Investment Survey

Partner institutes are not in favour of increasing the frequency of the Investment Survey to a monthly basis. This suggestion was regarded as both irrelevant and impractical. First of all, partner institutes argued that it would be conceptually erroneous as investment plans have a long term perspective and do not change on a monthly basis. Secondly, they explained that the fieldwork and processing of the data takes over two months making it practically impossible to carry out a monthly survey. Partner institutes also felt that it would increase survey burden and fatigue among respondents.

6.3.11 Increasing the Frequency of the Capacity Utilisation Question to a Monthly Basis

Partner institutes expressed some reservations with this suggestion. They believe that conceptually, capacity utilisation is not a variable that is adjusted on a monthly basis. They also stressed the need to keep the questionnaire short and focussed.

6.3.12 Increasing the Frequency of the EBCI Publication to a Monthly Basis

Partner institutes do not have strong views on this suggestion. They themselves are not intensive users of the publication and felt that they are not well placed to answer the question.

6.3.13 Other Suggestions for Improvement

Generally speaking, partner institutes subscribe to the idea that the BCS data is a 'goldmine', which is not being fully exploited. Partner institutes felt that the issue has previously been raised on many occasions but, a proper reflection on the subject and elaboration of a long term strategy on how to maximise the exploitation of the data is yet to be done. Partner institutes suggested that DG ECFIN should commission academic research on how to better exploit the BCS data. It was also suggested that the options to carry out sub national analysis of the data and to link up the BCS data with other databases should be explored.

There are, however, some factors that limit the extent to which BCS data can be exploited. For example, it was said that from a statistical point of view, at a detailed sub-sectoral level, there are some uncertainties regarding the reliability of the data due to the limited size of the sample. There are also limiting factors related to the intrinsic characteristics of partner institutes. For example, some National Statistical Offices stated that they have to safeguard their role of neutral data providers and cannot themselves engage in activities such as interpretation of data. As far as typical clients of for-profit private partner institutes (for instance sales / marketing departments of large companies) are concerned, they are not interested in the dataset beyond the headline figures.

6.4 EU Added Value

Most partner institutes confirmed that they would not be able to continue the BCS surveys in their current format without EU co-financing. The EU co-financing covers a significant

proportion of the cost of the surveys and alternative sources of financing are scarce and drying up in the current context of austerity.

The most probable alternative scenarios (in absence of EU co-financing) would involve a reduction in the number of questions, sectors, sample size and/ or frequency.

It was also emphasised that without the coordination role of the European Commission, cross country comparability would inevitably diminish. Some institutes indicated that they would re-align their priorities on national needs.

6.5 Management and Organisation of the BCS Programme

Partner institutes usually used this last open ended question to emphasise that they consider the BCS programme as well run and well managed.

The most often raised issue was the need to pursue further harmonisation efforts, especially in terms of methods to aggregate the results and clarification of the meaning of the questions. One partner institute mentioned that after so many years, it is only the questionnaire that is standardised and not the way the answers are counted. It was seen as a good first step that a task force on this topic has recently been created. Partner institutes also suggested that DG ECFIN should create an online forum to encourage dialogue on methodological issues on a continuous basis. A few partner institutes felt that there was a need to clarify that further harmonisation would not entail a switch to the Eurostat model which is based on regulation as opposed to soft means.

A few partner institutes mentioned that although the BCS programme in its current format contributes to knowledge development, there would be merit in going beyond the collaboration / knowledge exchange that happens during workshops by setting up joint research projects involving several partner institutes (on a voluntary basis).

Sporadic comments were made on the administrative side, notably on the increased level of complexities for preparation of financial statements and tighter deadlines for responding to calls of proposals. The issue of high staff turnover at the European Commission was also mentioned by partner institutes.

The for-profit private partner institutes also raised the issue that there is an intrinsic conflict of interest in the business model of the BCS programme which is not easy to overcome. The aim of the European Commission is to treat this information as a public good and make it available for free while the private partner institutes view this as a commercial resource.

7 ONLINE CONTENT ANALYSIS

A 'blind search' on Google engine using 10 key words (such as confidence survey, customer survey, business survey, business cycle indicators, Eurozone survey, Euro economic surveys, Euro-zone indicators, economic survey, economic cycle indicators) revealed a rather mix pattern (see Table 1). Quotation of both surveys: Purchasing Managers Index (PMI) and European Sentiment Indicator (ESI) was sporadic in nature and if at all, appeared in the context of press publications (Wall Street Journal, The Standard, eubusiness.com). In several cases, direct link to DG ECFIN publication 'Economic Business Cycle Indicators' was found. However, one clear pattern should be highlighted. In the vast majority of cases, search results referred to the OECD Economic Surveys.

Table 1 Sources with highest positioning by Google engine (November 29, 2011)

Key word used for search:	Search results (top 10 positions)
'confidence survey'	In top 10, references to descriptive source of information were found i.e. <i>Wikipedia</i> , <i>Investopedia</i> . In addition, links to other surveys were identified: <i>Nielsen Global Confidence Customer Survey</i> , <i>CEO Confidence Survey</i> , <i>Michigan Survey of Consumers</i> . No references to PMI or ESI.
'customer survey'	Several references to various commercial survey platforms. No references to PMI or ESI.
'business survey'	Neither PMI nor ESI have been identified in the top 10 best positioned websites
'business cycle indicator'	First 4 positions related to descriptive source of information: <i>Wikipedia</i> , <i>Investopedia</i> . On the 7 th position linked to DG ECFIN publication: 'Economic Business Cycle Indicators' was found.
'Eurozone survey'	1 st position holds by <i>Yahoo.finance</i> followed by OECD Economic Survey on Euro Area and reference to PMI on <i>eubusiness.com</i> 10 th position.
'euro economic surveys'	1 st position refers to 'European Economic Survey 2012' followed by 'Euro Chambers Economic Survey'. From 4 th to 7 th , quotations to OECD Economic Surveys
'Euro-zone indicators'	4 th position, ESI quoted in <i>The Standard</i> whereas PMI quoted in <i>Wall Street Journal</i> (7 th position) followed by the reference to OECD indicators.
'economic survey'	In top 10 results, several references to national economic surveys i.e. Indian and Pakistan Ministry of Finance, Economic Survey of Belgium and again OECD Economic Survey (8 th position)
'economic cycle indicator'	In the top 10 results, reference to descriptive source of information such as <i>Wikipedia</i> , <i>Investopedia</i> , OECD Business Cycle Indicator and DG ECFIN publication: 'Economic Business Cycle Indicators' (10 th position) were also identified.

Source: Google.com

In the next step, Google search was carried out using the following combinations of key words:

- 'Purchasing Managers Index',
- 'Purchasing Managers Index Eurozone',
- 'European Sentiment Indicator',
- 'European Sentiment Indicator Eurozone'

to observe the context in which both indicators appear, in particular, type of institutions that quoted either ESI or PMI indices. Table 2 shows the detailed results of this search. The results demonstrate that PMI appeared in more diverse and descriptive contexts i.e. Investopedia, Wikipedia, MarkitEconomics, whereas ESI (looking at the first 10 results generated by Google engine) was primarily found on DG ECFIN website but also relatively often in the publications of research institutions (i.e. Leuven University, Ifo Institute) and media. It should be noted that the results are highly sensitive to the timing of the analysis. At the time this analysis was carried out, there was widespread media coverage of many aspects related to either Eurozone economies in general and the EU Institutions, more specifically due to the ongoing Eurozone crisis.

Table 2 Sources with the highest positioning by Google engine (November 29, 2011)

	Key search words			
	<i>'Purchasing Managers Index'</i>	<i>'Purchasing Managers Index Eurozone'</i>	<i>'European Sentiment Indicator'</i>	<i>'European Sentiment Indicator Eurozone'</i>
1	Investopedia	MarkitEconomics (co-producer of PMI)	BCS DG ECFIN website	BCS DG ECFIN website
2	Investopedia	FX Words – Financial Dictionary	DG ECFIN publication	DG ECFIN website
3	Wikipedia	FX Words – Financial Dictionary	DG ECFIN website	Bloomberg
4	The Dutch Platform for Procurement Professionals	FX Words – Financial Dictionary	Publication of Katolieke Universiteit Leuven – <i>'The predictive power of the European Economic Sentiment Indicator'</i>	FX Words – Financial Dictionary
5	Institute for Supply Management (co-producer of PMI)	Traderslog.com – Traders website	thebegginner.eu – Online Business Magazine	Wall Street Journal
6	YCharts.com – US financial portal	MarkitEconomics (co-producer of PMI)	Bloomberg	Research Analysis of Banco Bilbao Vizcaya Argentaria (Spanish Multinational Banking Group) – <i>'Confidence data: a bitter sweetener of Eurozone'</i>
7	MarkitEconomics (co-producer of PMI)	Forexpros.com – financial news website	Jones Lang LaSalle – financial consultancy	stockmarkettoday.cc – US financial and economic news website
8	HSBC financial report	The Wall Street Journal	Deloitte Consultancy Report	International Business Times
9	The Chartered Institute of Purchasing Supply	reliableplant.com – Financial news	New York Times <i>'Italy's Cost Of Borrowing Falls In Latest Bond Sale. Central Bank Action'</i>	Fxstreet.com – Spanish financial and economic news website

Key search words				
	<i>'Purchasing Managers Index'</i>	<i>'Purchasing Managers Index Eurozone'</i>	<i>'European Sentiment Indicator'</i>	<i>'European Sentiment Indicator Eurozone'</i>
			<i>Is Credited'</i>	
10	MarkitEconomics (co-producer of PMI)	Financial Times	Cesifo Forum – Economic Journal Published by the IFO Institute (Germany)	Financial Times

Source: Google.com

Furthermore, content analysis of six publications: *Monthly Bulletin* (ECB publication) *Quarterly Review on Euro Area* (DG ECFIN publication), *Financial Times*, *The Economist* and *Wall Street Journal* and *Bloomberg* was run to identify circumstances and frequency in which both indices, PMI and ESI have been quoted.

DG ECFIN - Quarterly Review of the Euro Area

Although in the period between 2008 to 2010, PMI was quoted in 6 articles published in the *Quarterly Review of the Euro Area* (mainly PMI for manufacturing and service sectors) starting from January 2010 up to current date. Surveys which were most frequently quoted over last 4 years were produced predominantly by EU institutions such as Business and Consumer Surveys, ECB Bank Lending Survey, Eurobarometer Surveys and the European Sentiment Indicator.

Financial Times

The PMI is more often quoted than the ESI (500 search results against 80). Articles using PMI had a global outlook comparing economic trends in the Eurozone, US and China whereas articles referring to the ESI were focused almost uniquely on the Eurozone.

The Economist

Similar analysis on *The Economist* revealed even more striking differences in the use of PMI and ESI. In 2011, the former appeared over 30 times in various contexts ranging from references to the manufacturing sector in China, through to EU 27 countries and to the US economy. Conversely, ESI was quoted only 3 times, always in the light of the Eurozone crisis.

The Wall Street Journal

Between October and December 2011, PMI was quoted 24 times, in a US as well as global context. In the same period, there was no reference to ESI. One of the explanations would be the origin of *Wall Street Journal*, a US publication with a strong focus on the American economy where PMI has a strong appreciation and tradition of usage.

Bloomberg

Considering the more technical character of Bloomberg on-line publications, it was not surprising to find that PMI was extensively used. In November 2011, there were 21 articles with references to PMI. Again, the scope was global and very often PMI was used to anticipate changes in the manufacturing sector. Over the same period of time, there was no mention of ESI.

ECB – Monthly Bulletin

Content analysis of this monthly publication revealed several aspects. Contrary to initial expectations, no explicit reference to ESI could be found (between Jan 2011 to present). Moreover, PMI was quoted quite extensively (on average 5 to 6 times in each *Monthly Bulletin*), usually in the context of global/European economy and referring to the manufacturing, retail and construction sector.

8 COMPARISON OF KEY CHARACTERISTICS OF BCS AND PMI

Characteristic	Business and Consumer Surveys	Purchasing Managers' Index® series
Compiling institution	National partner institutes	Markit Economics
	Public or private institution, co-financed by the Commission	Private company
Sector coverage (Frequency)	Business Surveys (<i>monthly, complemented by quarterly questions</i>): Industry (complemented by a bi-annual investment survey), Construction, Retail trade, Services, Financial services. Consumer Surveys (<i>monthly</i>)	Business Surveys: Manufacturing, Services, Construction, Retail (<i>monthly</i>)
History	First survey (industry) in 1962	Start 1992 in the UK
Subsector coverage	Industry- Main Industrial Groups and sub-sectors NACE rev.2 at the 2 digit level (24)	
Country coverage	27 Member States Candidate countries	30 countries around the world. 12 EU countries covered (Austria, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Netherlands, Poland, Spain, UK) + Turkey + Eurozone aggregate <i>NB: Not all sectors are covered in all countries</i>
Field work	First two weeks of the month t	Second half of month t
Release modalities	Final results: published on the second last working day of month t	Final results: published on the first (manufacturing), second (construction) and third (services, composite) working day of month t+1
	Flash estimate: one week earlier (available only for the Consumer Confidence Indicator)	Flash PMI composite estimates published one week earlier
Access	Press releases and underlying data available for free.	Press releases available for free. Access to data for a fee. One-year subscription (Up to 5 users) Total PMI package (all countries): £14,000 (~ € 16,060.20) Europe: £11,000 (~ € 12,618.73)

Characteristic	Business and Consumer Surveys	Purchasing Managers' Index® series
Indicators	<ul style="list-style-type: none"> ▪ Sectoral Confidence Indicators: Industry, Construction, Retail trade, Services, Financial services, Consumers; complemented by a Business Climate Indicator for the manufacturing sector ▪ Composite: Economic Sentiment Indicator ▪ Aggregation for the Eurozone and the EU 	<ul style="list-style-type: none"> ▪ Sectoral PMIs: Manufacturing, Services, Construction, Retail ▪ Composite PMI ▪ Aggregation for the Eurozone
Sample size	Economic Sentiment Indicator: based on surveys of around 125,000 firms and 40,000 consumers across all the EU.	Eurozone Composite PMI: Based on panel of around 4,500 manufacturing and services firms (Germany, France, Italy, Spain and Ireland for services and these countries plus the Netherlands, Austria and Greece for manufacturing)
	Average sample size per survey per country: Industry: 1,417 Investment: 1,639 Services: 1,286 Consumer: 1,478 Retail trade: 1,177 Construction: 769	Average sample size per survey per country: 400 companies
Questionnaire	<u>Industry - Monthly questions:</u> Production, past 3 months Production, next 3 months Total order books, current Export order books, current Stocks of finished products, current Selling prices, next 3 months Firm's employment, next 3 months <u>Quarterly questions:</u> Factors limiting production, current Production capacity, current Months of production secured, current Order books, past 3 months Export order books, next 3 months Capacity utilisation, current Competitive position, domestic market, past 3 months Competitive position, EU markets, past 3 months Competitive position, extra-EU markets, past 3 months	<u>Manufacturing</u> - Output, New Orders, New Export Orders, Quantity of Goods Purchased, Input Prices, Suppliers' Delivery Times, Stocks of Purchases, Stocks of Finished Goods, Employment, Backlogs of work, Prices charged. (compared with the situation one month ago)

Characteristic	Business and Consumer Surveys	Purchasing Managers' Index® series
	<p><u>Services</u> - 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 Prices charged, next 3 months <i>Quarterly question:</i> Factors limiting production, current</p>	<p><u>Services</u> - Business Activity, Incoming New business, Outstanding business, Prices charged, Input Prices, Employment, Business expectations (in 12 months' time), Profitability.</p>
	<p><u>Construction</u> - <i>Monthly questions:</i> Business activity, past 3 months Factors limiting production, current Domestic order books, current Firm's employment, next 3 months Selling prices, next 3 months <i>Quarterly question:</i> Months of production secured</p>	<p><u>Construction</u> - Total business activity, Housing activity, Civil engineering activity, Commercial activity, New Orders, Employment, Quantity of Purchases, Suppliers' Delivery Times, Prices, Business expectations (in 12 months' time), Subcontractor usage, Subcontractor charges, Subcontractor availability, Subcontractor quality.</p>
	<p><u>Retail trade</u> - <i>Monthly questions:</i> 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 Selling prices, next 3 months</p>	

Characteristic	Business and Consumer Surveys	Purchasing Managers' Index® series
	<p><i>Consumer: Monthly questions:</i> 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 <i>Quarterly questions:</i> Purchase of a car, next 12 months Purchase of a house, next 12 months Home improvements, next 12 months</p>	
Construction of indicators	<p>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.</p>	<p>Manufacturing PMI is a summary composite index based on the seasonally adjusted diffusion indices for five of the manufacturing survey indicators, each of which is assigned with specific weights as shown below. New orders 0.30 Output 0.25 Employment 0.20 Suppliers' delivery times (inverted in the calculation*) 0.15 Stocks of purchases 0.10</p>
	<p>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 (turnover). Balances are seasonally adjusted.</p>	<p>The Services PMI is derived from the question that asks respondents to compare the level of total services activity with the situation one month ago.</p>
	<p>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.</p>	<p>The Construction PMI is derived from the question that asks respondents to compare the level of total construction activity with the situation one month ago.</p>

Characteristic	Business and Consumer Surveys	Purchasing Managers' Index® series
	<p>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."</p>	

9 COMPARING FORECASTING PROPERTIES OF BCS AND PMI

9.1 Introduction

Economic forecasts provide information valuable for economic surveillance, research as well as for policy discussions. Different forecasting methods are applied to assess the state of the business cycle in the EU, the euro area, and individual member states. Short-run forecasts are based on business and consumer surveys, which are conducted by national EU partner institutes in order to determine the confidence of private firms and households. In contrast to the national accounts series, the information is readily available and not subject to revision. Confidence indicators can be especially useful for an early detection of turning points of the business cycle (European Commission, 2006).

Confidence indicators are derived for specific sectors, including industry, investment, services, consumers, construction, and retail trade. Most of them are available at the monthly frequency. Individual firm responses are weighted according to gross value added, turnover or employment. Weighting schemes applied in the household survey are based on sex, age, and occupation of the head of the household, household size and the geographical region where the consumers live, among others. The indicators rely on questionnaires that have been harmonised across countries. Therefore, the state of the business cycle can be compared in different regions of the Internal Market (European Commission, 2007).

Confidence indicators are reported as aggregated balances. For each question, balances of positive and negative answers are calculated. They are obtained as averages of the normalised and seasonally adjusted balances of opinions given in response to the questions. To track the overall activity, an overarching Economic Sentiment Indicator is derived as a weighted average from the standardised series of the individual surveys. Due to its relevance to business cycles, the largest weight (40 percent) is assigned to the industrial sector. Services are weighted with 30 percent, while consumers have a weight equal to 20 percent. Construction and retail trade, are weighted with 5 percent, each. Based on the first principal component of a balance of opinion taken from the industrial survey, an indicator for the business climate is also reported. However, it does not provide additional information as it is highly correlated with the industrial confidence indicator.

As an alternative, the Purchasing Managers Index (PMI) provided by Markit Economics is examined. It is conducted at the monthly frequency and relies on survey information of senior purchasing managers in more than 400 companies per country. The PMI is a composite index and comprises variables such as output, new orders, stock levels, employment, and prices in the different sectors, such as manufacturing, construction, retail, and services. While survey information for manufacturing (services) is available for 30 (13) countries, construction and retail trade indicators are reported for much fewer countries. Three variants for the answers are possible: better, same, or worse. For each variable a diffusion index is constructed by taking the percentage of respondents that reported better conditions than the previous month and adding the half of the percentage of respondents that reported no change. The PMI varies between 0 and 100, where levels of 50 signal no change over the previous month.

In this evaluation exercise, the forecasting performance of the survey measures of the EU commission is assessed and compared to alternative indicators, such as the PMI. Especially, the capability of the indicators to forecast the contemporaneous development of the target variable is investigated. The latter is defined in terms of the year-on-year change in private consumption in case of the consumer confidence indicator, or the year on year real growth rate (GDP or industrial production), when other indicators are considered. The forecasting performance of the indicators is tested for the entire euro area.

9.2 Methodology for the Forecasting Comparison

The delayed release of many time series in national accounts is a serious impediment to assess the current state of the economy. Monthly indicators are readily available and might be exploited to predict the variable under study. The gap between the monthly indicator and the quarterly series from the national accounts is closed by the so-called bridge equations. Here, the monthly indicator is aggregated to quarterly averages and used to forecast the target variable in the respective quarter. Although this is a coincident indicator by construction, it has actually a lead of 1.5 months because of the publication delay of national accounts.

Monthly information can also enter directly in the forecasting models through a MIDAS approach, see Ghysels, Sinko and Valkanov (2007). In this setting, the target variable is related to the respective confidence measure of a particular month. Three specifications can be distinguished in case of quarterly data. Forecasts are derived with confidence for the first, second, and third month within the quarter. Thus, it can be explored whether a specific month is useful to make the predictions. Compared to bridge equations, the first two models have an actual lead compared to the target variable.

The forecasts exploit different subsets of the survey information. As a preliminary step, the forecasting performance is investigated for each of the individual questions in the respective survey. The aim of this exercise is to check whether particular questions have a better forecasting performance than others. Afterwards, combined forecasts are derived. It is well known from many previous studies, that the combination of forecasts can increase the accuracy when compared to individual predictions, see, for example, Dreger and Schumacher (2005).

In order to check the robustness of results, the evaluation will be done for different weighting schemes. In case of the consumer confidence, for example, Jonsson and Lindén (2009) have argued that a micro indicator based on information related to the individual household situation may be able to outperform the indicator reported by the EU Commission. Households might have better knowledge of their own economic situation when compared to the general economic evolution. In this sense, the information is extracted in the best possible way to render the optimal indicator in terms of its forecasting performance, see Dreger and Kholodilin (2011).

Pooling methods refer to simple averages (SA), principal components (PC), correlation-weighted (CW), and forecast-weighted (FW) averages. In the PC analysis, the first two components are extracted. They represent 70 to 80 percent of the overall variance in the respective survey. The weights in the CW or FW forecasts correspond to the squared correlation coefficients between the target variable and the individual question or the inverse of the root mean square forecast error. Hence, questions with a lower individual forecasting record are downgraded.

One strategy to combine forecasts is to pool all the questions in survey. As an alternative, the aggregate is constructed on the basis of the best performing questions. To identify these questions the Model Confidence Set (MCS) suggested by Hansen, Lunde and Nason (2005) is employed. Here, a confidence set is selected from individual models, which should contain the best performing model according to some prespecified level of confidence. To run the MCS test the MulCom package for Ox written by Hansen and Lunde is employed. The confidence level is set to 50 percent, the block-length parameter, d , is equal to 2 and the number of bootstrap re-samples is 10,000.

For the MIDAS approach as well as for the bridge equations, the forecasting exercise is based on the equation

$$(1) \quad \Delta^\tau y_t = \alpha + \beta(L)\Delta y_t + \gamma(L)c_t + \varepsilon_t,$$

where $\Delta^\tau y$ (Δy) is the year-on-year (quarter-on-quarter, when the dependent variable has quarterly frequency, $\tau=4$; or month-on-month, when the dependent variable has monthly frequency, $\tau=12$) growth rate of the target variable; c_t is a confidence measure, and ε_t is a disturbance term that should fulfil the white noise properties. The order of the lag polynomials $\beta(L)$ and $\gamma(L)$ is determined by the Schwarz Bayes information criterion, where the maximum lag length is set equal to 4 for quarterly data and 12 for monthly data. The benchmark is an autoregressive process, with no confidence measures included. Due to the lag structure, it might be also seen as a time series approximation to a more fundamental economic model.

The forecasting accuracy is investigated by an analysis of past forecast errors in an out-of-sample exercise. This mimics the actual situation the forecaster is confronted with. The forecasts are conducted in a recursive manner. The relationship between the confidence indicators and the target variable is estimated over a first subsample. The subsample ends well before the end of observations. The forecast is done for the next period. As the actual values of the target time series are already known, a forecast error could be derived. Then, the estimation subsample is extended by one observation and the process is repeated until the end of the sample. The analysis is done within a rolling and an expanding window. The former may be better suited in periods of structural breaks. However, the results appear to be very robust to this choice. Real time information on the confidence indicators is also included. However, the differences to the non-real time forecasts can be neglected in each case.

The forecast accuracy is investigated by the root mean squared forecast error (RMSFE) and the mean absolute forecast error (MAFE). A relative RMSFE (MAFE) is calculated as a ratio of the RMSFE (MAFE) of the indicator to that of the benchmark model. These measures are the evaluation criteria. RMSFEs (MAFEs) below 1 indicate a better forecast than the benchmark, while a relative RMSFE (MAFE) larger than 1 points out to a worse forecast. To assess the significance of the ratios, tests on predictive accuracy are conducted. The Diebold-Mariano (1995) test is used to explore the null hypothesis that the competing models have equal forecasting accuracy. Simulation results indicate that the Diebold-Mariano test statistic can be compared to standard normal critical values, as long as the forecasts are generated under rolling or recursive schemes (Giacomini and White, 2006). A modified version of the Diebold-Mariano test with a small-sample correction to the variance is applied. Moreover, encompassing tests proposed by Harvey, Leybourne, and Newbold (1998) are carried out to examine whether the information of one method is embedded in a competing forecast, such as the benchmark.

9.3 Forecasting Private Consumption Growth

Private consumption growth is predicted by indicators in the consumer survey (Table 1). While the consumer confidence indicator from the EU commission performs better than the autoregressive benchmark, the differences are often not significant. This does not imply that the survey information is irrelevant to predict consumption growth, as it might reflect inappropriate pooling methods. The MIDAS forecasts become more precise, if the prediction is based on the data available in the later months within a quarter. Looking at the second question, for example, the average RMSFE in the first month is 0.334, compared to 0.319 in the second and 0.310 in the third. Hence, the forecasting power is improved by 7 percent ($=0.310/0.334$) within a quarter. The bridge equation produces an intermediate forecast accuracy (0.320). Note that this picture is not robust. For questions QC6 to QC8 (inflation, unemployment, major purchases), the errors are constant or become even larger, if forecasts are based on data for subsequent months. Here, the best alternative refers to the

forecast based on the first month observation. In other words, survey information related to inflation, unemployment, and major purchases has better leading properties. The questions QC2 (expected change in the financial situation) and QC4 (expected general economic situation) are able to outperform the benchmark consistently. For example, the gain in forecasting accuracy is about 10 percent, if the growth rate of private consumption is predicted on grounds of QC2. All the other individual questions produce similar or even larger forecast errors than the consumer confidence indicator.

Regarding the forecast combinations, the weights for the composite indicators CW and the FW are continuously updated, and the MCS is revised each round. This implies that the set of the best performing questions selected by the MCS criterion may change during the iterations. Nonetheless, all the settings utilize only the information available at the time the forecast is made. In general, the forecasting performance of the composite indicators is not superior compared to the benchmark, when the aggregate is constructed from all the questions in the consumer survey, i.e., when no pre-selection is applied. Although the combined forecasts are able to outperform the benchmark, the gains are usually small and not significant. However, the picture improves, if the questions are filtered by pre-selection. If the composite indicator is based only on the best performing questions, the increase in the forecasting accuracy is notable (15 percent), if the weights are determined by a data-driven approach. The aggregated PMIs for the composite, manufacturing, and services sectors do not improve the forecasting accuracy. Finally, the encompassing tests indicate that the null hypothesis, that the alternative specification is already embedded in the benchmark, is rejected rather often. Hence, the indicator models provide additional information not included in the benchmark yet. In contrast, the null hypothesis is usually accepted, if the test is specified in the reversed direction. Thus, the autoregressive benchmark does not improve the accuracy of the indicator forecast.

9.4 Forecasting Business Investment Growth

The year-on-year growth rate of firm investment (fixed capital formation) is predicted by exploiting different survey information (Table 2). In fact, no specific investment confidence indicator is available. Instead, the overall economic sentiment as well as the industrial and construction confidence indicators are employed. The individual questions in the respective surveys are also taken as potential alternatives. In addition, PMIs covering both individual questions (employment, input and output prices, new orders, stocks, delivery times, output) for manufacturing and services sectors as well as composite indicators for the whole economy are considered, see Table 2.

Investment forecasts can be conducted in a meaningful way by the economic sentiment indicator, where the forecasting gain over the benchmark is about 15 percent. Furthermore, combinations of the individual questions are beneficial in principle, as long as the weights of the ingredients are based on data-driven criteria, i.e. a model confidence set. However, even the best performing combinations are not able to improve the forecast accuracy of the economic sentiment indicator.

The overall picture changes to some extent if PMIs are taken into account. Several indicators have the same or even a slightly better forecasting performance than the economic sentiment indicator. The best performing PMIs are new orders and GDP indicators. Their improvement of the forecast performance of up to 20%. The gains are more pronounced, when information for all months of a quarter becomes available.

9.5 Forecasting GDP Growth

The year-on-year growth rate of real GDP is predicted by the economic sentiment indicator and all its components, i.e., confidence indicators for private consumption and the industrial, construction, and retail trade sector. Confidence in the services sector is also added. The PMIs refer to the indicators for employment, productivity, input and output prices, new orders, and output at the economy wide level (Table 3).

As it is the case for investment expenditure, the economic sentiment indicator outperforms many of the competitors based on EU surveys, including those based on a combination of individual confidence measures. The gains in terms of forecasting accuracy are particularly striking in the last month of each quarter. Here, the forecasts of the autoregressive process can be improved by roughly 30 percent.

However, the PMIs clearly outperform the economic sentiment indicator. The best performing PMIs are the indicators for GDP, new orders and output. Compared to the benchmark, the forecasting gain is almost 40 percent.

9.6 Forecasting Industrial Production

Year-on-year growth rates of industrial production are predicted by the economic sentiment indicator, the industrial confidence, and the individual questions in the industrial survey. PMIs for the manufacturing sector are also considered (Table 4). Since industrial production is available at the monthly frequency, bridge and MIDAS equations are not needed in this case. Instead, the growth rate is predicted directly from the indicators.

In general, the individual EU questions do not perform very well, except of Q15 (stocks of finished products). The latter information is even more valuable than the economic sentiment indicator. The combined forecasts show a similar performance, if the individual questions are weighted by data driven criteria. Overall, an improvement in the forecasting accuracy of 25 percent can be achieved.

Although the PMIs slightly outperform the EU sentiment indicators in terms of forecast accuracy, they are often worse than the combined forecasts pooling the information in the EU surveys.

9.7 Stability of Forecasting Results

The forecasting accuracy of the indicators might have changed due to the economic crisis. The changes of GDP and its components have been much larger over this period. Therefore, the forecasting accuracy of the indicators over 2001.Q1-2007Q4 is compared to the period thereafter (2008Q1-2010Q4). For illustration, this analysis is carried out with bridge equations, but similar evidence can be obtained for the MIDAS approach. The results are exhibited in Table 5.

As expected, the root mean square forecast error has risen during the latter period. Thus, the indicators have been less able to predict the course of the economy in the euro area. While the change in the forecast performance is less visible for private consumption, root mean square forecast errors often doubled in case of private investment and industrial production. This observation is in line with expectations, as private consumption expenditures usually evolve in a much smoother way.

However, the ranking of the individual forecasting methods has changed. For GDP growth and industrial production the differences in the ranks are not very pronounced. As an overall measure, the Spearman coefficient reveals a correlation of more than 0.8 between the rank series for these variables, which is quite high. However, this does not imply that there is no shift in the individual rank positions. For example, in case of industrial production, the rank of production expectations moves from 6 in the pre-crisis period to 1 (since the crisis). The ranking is more fragile for private consumption and investment, with correlation coefficients of -0.45 and -0.15, respectively. A closer look shows, that the forecasting performance of the EU economic sentiment indicators has worsened, while the PMI measures have often improved. This is an argument for the use of the PMI especially in turbulent periods which are characterized by high uncertainty.

9.8 Conclusions

The main result of the forecasting comparison is that the overall Economic Sentiment Index performs quite well if investment or GDP growth is considered. On average, it is more accurate than the self constructed alternatives that are calculated by different aggregation methods. However, several PMIs are able to produce even a lower forecast error.

In contrast, self-constructed composite indicators are more accurate than EU measures and the PMIs for predicting private consumption and industrial production. The gains are often substantial, if a pre-selection of the individual questions is involved. Therefore, the aggregate is constructed not from all, but only from the best performing questions so far. The latter are determined in time the forecast is made. Hence, data-driven techniques should be selected to obtain the weights of the individual ingredients.

The composite indicators are usually better than the individual questions in the survey. The best performing questions are the production expectations in the industrial and expectations with regard to the general economic situation in the consumer survey. Finally, real time data have only minor effects on the results.

References

- Diebold FX, Mariano RS (1995): Comparing predictive accuracy, *Journal of Business and Economic Statistics* 13, 253-263.
- Dreger C, Kholodilin K (2011): Forecasting private consumption by consumer surveys, *Journal of Forecasting*, forthcoming.
- Dreger C, Schumacher C (2005): The out-of sample performance of leading indicators for the German business cycle, *Journal of Business Cycle Measurement and Analysis* 2, 71-88.
- European Commission (2007): The joint harmonised EU programme of business and consumer surveys, User Guide.
- Ghysels G, Sinko A, Valkanov R (2007): MIDAS regressions: Further results and new directions, *Econometric Reviews* 26, 53-90.
- Giacomini R, White H (2006): Tests of conditional predictive ability, *Econometrica* 74, 1545-1578.
- Hansen R, Lunde A, Nason JM (2005): Model confidence sets for forecasting models, Working Paper 2005-07, Federal Reserve Bank of Atlanta.
- Harvey DI, Leybourne SJ, Newbold P (1998): Tests of forecasting encompassing, *Journal of Business and Economic Statistics* 16, 254-259.
- Jonsson A, Lindén S (2009): The quest for the best consumer confidence indicator, *European Economy, Economic Papers* 372, European Commission, Brussels.

Annex: Questionnaire of consumer survey

QC1: How has the financial situation of your household changed over the last 12 months?

QC2: How do you expect the financial position of your household to change over the next 12 months?

QC3: How do you think the general economic situation in the country has changed over the past 12 months?

QC4: How do you expect the general economic situation in this country to develop over the next 12 months?

QC5: How do you think that consumer prices have developed over the last 12 months?

QC6: By comparison with the past 12 months, how do you expect that consumer prices will develop in the next 12 months?

QC7: How do you expect the number of people unemployed in this country to change over the next 12 months?

QC8: 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.?

QC9: 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?

QC10: In view of the general economic situation, how are the conditions to save?

QC11: Over the next 12 months, how likely is it that you save any money?

QC12: Given the current financial situation of your household, how much do you save?

Annex: Questionnaire of industrial survey

QI1: How has your production developed over the past 3 months?

QI2: How do you consider the current overall order books?

QI3: How do you consider the current export order books?

QI4: How do you consider the current stock of finished products?

QI5: How do you expect your production to develop over the next 3 months?

QI6: How do you expect your selling prices to change over the next 3 months?

QI7: How do you expect your firm's total employment level to change over the next 3 months?

Annex: Questionnaire of construction survey

QB1: How has the building activity developed over the past 3 months?

QB2: What main factors are currently limiting your building activity (none, demand, weather, shortage of labour force and/or material, financial constraints, other)?

QB3: How do you consider the current overall order books?

QB4: How do you expect your firm's total employment level to change over the next 3 months?

QB5: How do you expect the prices you charge to change over the next 3 months?

	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2
AR	0.354	1.000		0.287	1.000			
ESI	0.302	0.854	0.025	0.245	0.853	0.038	0.003	0.967
CCI	0.320	0.904	0.054	0.257	0.896	0.063	0.006	0.866
QC1	0.346	0.976	0.356	0.278	0.969	0.331	0.178	0.420
QC2	0.310	0.874	0.084	0.245	0.854	0.075	0.011	0.535
QC3	0.346	0.975	0.296	0.280	0.975	0.336	0.087	0.389
QC4	0.305	0.861	0.065	0.237	0.828	0.039	0.002	0.588
QC5	0.358	1.012	0.548	0.278	0.968	0.373	0.112	0.126
QC6	0.356	1.006	0.539	0.282	0.984	0.392	0.433	0.394
QC7	0.358	1.010	0.601	0.289	1.007	0.563	0.524	0.240
QC8	0.351	0.991	0.469	0.268	0.934	0.267	0.095	0.218
QC9	0.347	0.980	0.411	0.296	1.030	0.628	0.021	0.183
QC10	0.375	1.058	0.917	0.300	1.044	0.882	0.286	0.105
QC11	0.337	0.950	0.242	0.263	0.915	0.151	0.081	0.453
QC12	0.390	1.100	0.939	0.310	1.081	0.968	0.125	0.122
RCI	0.355	1.001	0.508	0.286	0.997	0.473	0.360	0.428
ESI_RT	0.301	0.850	0.023	0.243	0.848	0.032	0.003	0.982
CCI_RT	0.321	0.906	0.053	0.258	0.898	0.061	0.007	0.819
RCI_RT	0.354	1.000	0.502	0.286	0.997	0.476	0.358	0.448
PMI_COM	0.346	0.975	0.406	0.278	0.970	0.382	0.034	0.226
PMI_MAN	0.367	1.035	0.679	0.291	1.013	0.565	0.335	0.155
PMI_SER	0.341	0.962	0.385	0.259	0.902	0.185	0.011	0.431
SA	0.322	0.909	0.016	0.261	0.908	0.017	0.008	0.133
CW	0.321	0.906	0.037	0.258	0.901	0.034	0.014	0.356
FW	0.333	0.941	0.097	0.268	0.934	0.060	0.064	0.498
SA_MCS	0.343	0.968	0.308	0.266	0.926	0.104	0.167	0.644
CW_MCS	0.350	0.989	0.438	0.275	0.960	0.287	0.230	0.400
FW_MCS	0.348	0.983	0.398	0.277	0.965	0.293	0.229	0.557

Note: Forecasting period 2001q1-2010q4. AR = Autoregressive benchmark, CCI = consumer confidence indicator, RCI = retail trade confidence, ESI = Economic sentiment indicator. Variables with suffix _RT refer to real time forecasts. QC1 to QC12 = Questions in the consumer survey (Annex)., PMI_COM, PMI_MAN, PMI_SER = PMI for composite, manufacturing and services. SA = simple average of forecasts, PC1 (PC2) = forecast based on the first (second) principal component, CW, FW = model combinations with weights based on correlation or on forecast errors, respectively, MCS = model combination based on the model confidence set. The first three columns of the table contain the RMSFE and the relative RMSFE as well as the p-values of the modified Diebold-Mariano test, where the null hypothesis states that the RMSFE of an alternative is equal to that of the benchmark model. Columns 4-6 report MAFE, relative MAFE, and the p-values of the modified Diebold-Mariano test for the equality of the MAFE of the alternative and benchmark models. Column 7 (ENCOMP1) shows the p-values of the encompassing test, whose null hypothesis is that the benchmark encompasses the alternative model. Column ENCOMP2 reports the p-values of the encompassing test, whose null hypothesis states that the alternative encompasses the benchmark model.

Table 2: Out-of-sample performance of indicators for firm investment

Bridge equation	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2
AR	1.368	1.000		1.007	1.000			
ESI	1.162	0.850	0.017	0.912	0.906	0.097	0.015	0.171
BCI	1.401	1.025	0.955	1.041	1.034	0.919	0.107	0.095
QB1	1.406	1.029	0.827	1.050	1.043	0.822	0.860	0.244
QB3	1.398	1.022	0.971	1.037	1.030	0.913	0.071	0.062
QB4	1.398	1.022	0.895	1.039	1.031	0.872	0.328	0.171
QB5	1.398	1.022	0.963	1.035	1.027	0.942	0.101	0.060
ICI	1.267	0.926	0.030	0.975	0.968	0.202	0.026	0.142
QI1	1.206	0.882	0.046	0.946	0.940	0.205	0.024	0.424
QI2	1.352	0.989	0.213	1.006	0.999	0.483	0.206	0.730
QI3	1.362	0.996	0.391	1.008	1.001	0.524	0.508	0.915
QI4	1.314	0.961	0.251	1.031	1.024	0.642	0.131	0.815
QI5	1.154	0.844	0.021	0.925	0.918	0.114	0.018	0.140
QI6	1.383	1.011	0.907	1.016	1.009	0.906	0.200	0.172
QI7	1.373	1.004	0.610	1.029	1.022	0.835	0.899	0.527
ESI_RT	1.161	0.849	0.017	0.911	0.905	0.096	0.014	0.172
BCI_RT	1.401	1.025	0.955	1.041	1.034	0.919	0.107	0.095
ICI_RT	1.267	0.926	0.030	0.975	0.968	0.202	0.026	0.142
PMI_MAN_EMP	1.348	0.986	0.356	1.020	1.013	0.612	0.314	0.732
PMI_MAN_IPR	1.424	1.041	0.863	1.036	1.029	0.785	0.597	0.114
PMI_MAN_ORD_E	1.164	0.851	0.019	0.922	0.915	0.093	0.012	0.158
PMI_MAN_ORD	1.086	0.794	0.017	0.872	0.866	0.055	0.015	0.153
PMI_MAN_OUT	1.121	0.820	0.022	0.894	0.888	0.084	0.014	0.232
PMI_MAN_PUR	1.160	0.848	0.024	0.918	0.911	0.111	0.015	0.237
PMI_MAN_SFG	1.342	0.981	0.366	0.998	0.991	0.426	0.384	0.853
PMI_MAN_SPU	1.421	1.039	0.782	1.041	1.034	0.801	0.784	0.217
PMI_MAN_SDT	1.368	1.000	0.504	1.035	1.028	0.737	0.444	0.399
PMI_MAN_TOT	1.180	0.863	0.033	0.931	0.924	0.145	0.020	0.314
PMI_SER_BA	1.225	0.895	0.084	0.972	0.965	0.349	0.003	0.659
PMI_SER_EMP	1.452	1.062	0.840	1.095	1.087	0.899	0.742	0.098
PMI_SER_BE	1.146	0.838	0.022	0.911	0.905	0.100	0.007	0.364
PMI_SER_INB	1.187	0.868	0.052	0.957	0.951	0.296	0.003	0.835
PMI_SER_IPR	1.435	1.049	0.864	1.070	1.062	0.862	0.723	0.042
PMI_SER_OB	1.328	0.971	0.302	1.050	1.043	0.715	0.016	0.270
PMI_SER_PC	1.450	1.060	0.903	1.067	1.060	0.864	0.921	0.031
PMI_COM_EMP	1.405	1.027	0.706	1.078	1.070	0.875	0.381	0.114
PMI_COM_PRO	1.202	0.879	0.024	0.981	0.974	0.343	0.004	0.445
PMI_COM_GDP_Q	1.118	0.817	0.029	0.893	0.887	0.126	0.004	0.873
PMI_COM_GDP	1.121	0.820	0.029	0.895	0.889	0.127	0.004	0.852
PMI_COM_GDP_Y	1.352	0.988	0.392	1.033	1.026	0.675	0.118	0.394
PMI_COM_IPR	1.454	1.063	0.883	1.067	1.059	0.839	0.848	0.035
PMI_COM_ORD	1.152	0.842	0.044	0.938	0.931	0.240	0.003	0.904
PMI_COM_OUT	1.190	0.870	0.065	0.955	0.948	0.294	0.004	0.723
SA	1.323	0.967	0.059	1.001	0.994	0.391	0.067	0.203
CW	1.313	0.960	0.063	1.001	0.994	0.415	0.065	0.237
FW	1.308	0.957	0.034	0.993	0.986	0.278	0.040	0.120
SA_MCS	1.243	0.909	0.028	0.961	0.954	0.177	0.016	0.195
CW_MCS	1.221	0.892	0.021	0.946	0.939	0.122	0.013	0.148
FW_MCS	1.233	0.901	0.024	0.952	0.945	0.140	0.013	0.170

MIDAS1								
	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2
AR	1.368	1.000		1.007	1.000			
ESI	1.256	0.919	0.016	0.968	0.961	0.166	0.016	0.080
BCI	1.397	1.022	0.962	1.039	1.032	0.929	0.081	0.087
QB1	1.429	1.045	0.955	1.067	1.060	0.934	0.113	0.104
QB3	1.389	1.016	0.946	1.028	1.021	0.854	0.177	0.080
QB4	1.399	1.023	0.916	1.042	1.035	0.895	0.263	0.143
QB5	1.401	1.024	0.977	1.038	1.030	0.958	0.054	0.043
ICI	1.344	0.983	0.126	1.003	0.996	0.419	0.157	0.386
QI1	1.317	0.963	0.193	0.990	0.983	0.343	0.201	0.719
QI2	1.381	1.010	0.875	1.024	1.016	0.833	0.422	0.147
QI3	1.381	1.010	0.835	1.017	1.010	0.732	0.496	0.211
QI4	1.362	0.996	0.444	1.038	1.031	0.834	0.532	0.743
QI5	1.269	0.928	0.045	0.976	0.969	0.224	0.052	0.179
QI6	1.378	1.008	0.735	1.015	1.008	0.802	0.565	0.498
QI7	1.392	1.018	0.991	1.034	1.027	0.965	0.023	0.020
ESI_RT	1.251	0.915	0.015	0.965	0.958	0.154	0.015	0.076
BCI_RT	1.397	1.022	0.962	1.039	1.032	0.929	0.081	0.087
ICI_RT	1.344	0.983	0.126	1.003	0.996	0.419	0.157	0.386
PMI_MAN_EMP	1.434	1.049	0.892	1.056	1.049	0.891	0.431	0.104
PMI_MAN_IPR	1.434	1.048	0.897	1.039	1.032	0.798	0.471	0.085
PMI_MAN_ORD_E	1.254	0.917	0.050	0.959	0.953	0.172	0.036	0.321
PMI_MAN_ORD	1.174	0.859	0.026	0.918	0.912	0.102	0.019	0.234
PMI_MAN_OUT	1.227	0.897	0.049	0.941	0.934	0.156	0.035	0.402
PMI_MAN_PUR	1.269	0.928	0.093	0.970	0.963	0.263	0.067	0.617
PMI_MAN_SFG	1.322	0.967	0.245	1.002	0.995	0.457	0.165	0.918
PMI_MAN_SPU	1.483	1.084	0.977	1.090	1.082	0.972	0.113	0.022
PMI_MAN_SDT	1.433	1.048	0.870	1.060	1.053	0.899	0.632	0.087
PMI_MAN_TOT	1.290	0.943	0.136	0.984	0.977	0.342	0.093	0.796
PMI_SER_BA	1.355	0.991	0.434	1.056	1.049	0.747	0.019	0.222
PMI_SER_EMP	1.477	1.080	0.891	1.096	1.089	0.889	0.919	0.072
PMI_SER_BE	1.193	0.873	0.029	0.945	0.939	0.177	0.004	0.571
PMI_SER_INB	1.303	0.953	0.205	1.015	1.008	0.541	0.004	0.422
PMI_SER_IPR	1.417	1.036	0.816	1.063	1.055	0.816	0.490	0.055
PMI_SER_OB	1.408	1.029	0.689	1.081	1.074	0.820	0.084	0.107
PMI_SER_PC	1.416	1.036	0.811	1.045	1.038	0.749	0.550	0.051
PMI_COM_EMP	1.450	1.060	0.871	1.086	1.079	0.898	0.977	0.042
PMI_COM_PRO	1.346	0.984	0.411	1.040	1.033	0.646	0.005	0.367
PMI_COM_GDP_Q	1.255	0.918	0.118	0.989	0.982	0.416	0.003	0.627
PMI_COM_GDP	1.255	0.917	0.114	0.988	0.982	0.411	0.003	0.644
PMI_COM_GDP_Y	1.411	1.031	0.788	1.053	1.045	0.810	0.790	0.114
PMI_COM_IPR	1.452	1.061	0.892	1.070	1.063	0.851	0.841	0.027
PMI_COM_ORD	1.262	0.923	0.137	0.998	0.992	0.461	0.003	0.494
PMI_COM_OUT	1.309	0.957	0.250	1.031	1.024	0.618	0.008	0.337
SA	1.365	0.998	0.428	1.017	1.010	0.745	0.645	0.937
CW	1.364	0.997	0.426	1.021	1.014	0.756	0.603	0.904
FW	1.359	0.993	0.257	1.011	1.004	0.605	0.378	0.672
SA_MCS	1.312	0.960	0.062	0.981	0.974	0.195	0.059	0.258
CW_MCS	1.293	0.946	0.058	0.974	0.967	0.174	0.061	0.232
FW_MCS	1.307	0.956	0.050	0.978	0.972	0.177	0.046	0.216
MIDAS2								
	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2

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AR	1.368	1.000		1.007	1.000			
ESI	1.174	0.859	0.020	0.919	0.913	0.108	0.019	0.185
BCI	1.407	1.029	0.961	1.047	1.040	0.932	0.090	0.085
QB1	1.403	1.026	0.852	1.043	1.036	0.811	0.621	0.230
QB3	1.400	1.024	0.967	1.040	1.033	0.909	0.082	0.071
QB4	1.404	1.027	0.920	1.043	1.036	0.910	0.221	0.138
QB5	1.404	1.026	0.978	1.041	1.034	0.958	0.060	0.040
ICI	1.268	0.927	0.028	0.973	0.966	0.170	0.028	0.113
QI1	1.264	0.924	0.073	0.975	0.968	0.277	0.067	0.386
QI2	1.356	0.991	0.247	1.007	1.001	0.509	0.279	0.768
QI3	1.363	0.997	0.399	1.008	1.001	0.522	0.559	0.940
QI4	1.312	0.960	0.241	1.030	1.022	0.638	0.130	0.871
QI5	1.151	0.842	0.016	0.917	0.910	0.081	0.015	0.091
QI6	1.384	1.012	0.895	1.017	1.010	0.870	0.242	0.181
QI7	1.370	1.002	0.551	1.025	1.018	0.813	0.827	0.657
ESI_RT	1.177	0.861	0.020	0.919	0.913	0.112	0.019	0.206
BCI_RT	1.407	1.029	0.961	1.047	1.040	0.932	0.090	0.085
ICI_RT	1.268	0.927	0.028	0.973	0.966	0.170	0.028	0.113
PMI_MAN_EMP	1.359	0.994	0.431	1.031	1.024	0.712	0.413	0.601
PMI_MAN_IPR	1.422	1.040	0.855	1.033	1.026	0.761	0.620	0.122
PMI_MAN_ORD_E	1.144	0.837	0.017	0.909	0.903	0.071	0.012	0.123
PMI_MAN_ORD	1.089	0.796	0.016	0.875	0.869	0.051	0.015	0.121
PMI_MAN_OUT	1.126	0.823	0.022	0.901	0.894	0.084	0.018	0.187
PMI_MAN_PUR	1.162	0.850	0.023	0.917	0.911	0.100	0.016	0.200
PMI_MAN_SFG	1.338	0.978	0.352	1.009	1.002	0.514	0.334	0.785
PMI_MAN_SPU	1.424	1.042	0.784	1.046	1.039	0.847	0.813	0.212
PMI_MAN_SDT	1.365	0.998	0.481	1.034	1.026	0.730	0.408	0.430
PMI_MAN_TOT	1.180	0.863	0.030	0.929	0.923	0.131	0.020	0.263
PMI_SER_BA	1.199	0.877	0.069	0.951	0.945	0.277	0.005	0.751
PMI_SER_EMP	1.454	1.063	0.850	1.087	1.080	0.877	0.826	0.098
PMI_SER_BE	1.178	0.861	0.031	0.939	0.933	0.169	0.007	0.528
PMI_SER_INB	1.184	0.866	0.055	0.954	0.947	0.279	0.004	0.897
PMI_SER_IPR	1.434	1.048	0.864	1.067	1.060	0.862	0.766	0.045
PMI_SER_OB	1.324	0.968	0.286	1.043	1.036	0.687	0.027	0.325
PMI_SER_PC	1.457	1.065	0.914	1.070	1.063	0.877	0.980	0.031
PMI_COM_EMP	1.408	1.030	0.716	1.067	1.060	0.825	0.435	0.123
PMI_COM_PRO	1.208	0.883	0.037	0.998	0.991	0.444	0.007	0.544
PMI_COM_GDP_Q	1.097	0.802	0.029	0.877	0.871	0.103	0.005	0.836
PMI_COM_GDP	1.110	0.811	0.032	0.884	0.877	0.112	0.006	0.860
PMI_COM_GDP_Y	1.352	0.989	0.396	1.031	1.024	0.667	0.123	0.396
PMI_COM_IPR	1.450	1.060	0.876	1.064	1.056	0.832	0.842	0.037
PMI_COM_ORD	1.160	0.848	0.055	0.940	0.934	0.251	0.004	0.843
PMI_COM_OUT	1.180	0.863	0.067	0.946	0.940	0.271	0.005	0.738
SA	1.332	0.974	0.084	1.004	0.997	0.440	0.104	0.264
CW	1.323	0.968	0.086	1.005	0.998	0.464	0.098	0.294
FW	1.319	0.965	0.046	0.997	0.990	0.314	0.059	0.142
SA_MCS	1.256	0.918	0.028	0.973	0.966	0.215	0.023	0.143
CW_MCS	1.240	0.907	0.023	0.961	0.954	0.154	0.020	0.118
FW_MCS	1.250	0.914	0.026	0.966	0.959	0.175	0.022	0.136
MIDAS3								

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	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2
AR	1.368	1.000		1.007	1.000			
ESI	1.082	0.791	0.021	0.868	0.862	0.078	0.015	0.432
BCI	1.398	1.023	0.927	1.037	1.030	0.890	0.209	0.129
QB1	1.369	1.001	0.509	1.034	1.027	0.686	0.105	0.439
QB3	1.403	1.026	0.965	1.040	1.033	0.928	0.085	0.070
QB4	1.391	1.017	0.820	1.036	1.029	0.843	0.604	0.257
QB5	1.389	1.016	0.878	1.025	1.018	0.887	0.316	0.188
ICI	1.185	0.867	0.027	0.941	0.935	0.142	0.017	0.179
QI1	1.070	0.782	0.027	0.858	0.852	0.092	0.006	0.640
QI2	1.292	0.945	0.033	0.975	0.968	0.185	0.021	0.177
QI3	1.315	0.962	0.068	0.989	0.982	0.283	0.058	0.293
QI4	1.269	0.928	0.200	0.995	0.988	0.446	0.069	0.744
QI5	1.090	0.797	0.023	0.893	0.887	0.095	0.020	0.187
QI6	1.383	1.012	0.924	1.020	1.013	0.972	0.167	0.139
QI7	1.329	0.972	0.219	1.027	1.019	0.686	0.183	0.836
ESI_RT	1.084	0.793	0.020	0.870	0.864	0.078	0.014	0.407
BCI_RT	1.398	1.023	0.927	1.037	1.030	0.890	0.209	0.129
ICI_RT	1.185	0.867	0.027	0.941	0.935	0.142	0.017	0.179
PMI_MAN_EMP	1.249	0.913	0.147	0.994	0.987	0.435	0.110	0.841
PMI_MAN_IPR	1.459	1.067	0.997	1.108	1.100	1.000	0.014	0.003
PMI_MAN_ORD_E	1.153	0.843	0.056	0.943	0.936	0.238	0.046	0.422
PMI_MAN_ORD	1.091	0.797	0.043	0.880	0.874	0.132	0.042	0.558
PMI_MAN_OUT	1.091	0.797	0.042	0.890	0.883	0.150	0.034	0.578
PMI_MAN_PUR	1.119	0.818	0.049	0.913	0.906	0.180	0.032	0.526
PMI_MAN_SFG	1.443	1.055	0.767	1.077	1.069	0.897	0.759	0.295
PMI_MAN_SPU	1.371	1.002	0.520	1.058	1.051	0.821	0.518	0.434
PMI_MAN_SDT	1.317	0.963	0.275	1.047	1.040	0.728	0.212	0.818
PMI_MAN_TOT	1.129	0.826	0.057	0.916	0.909	0.194	0.043	0.623
PMI_SER_BA	1.150	0.841	0.022	0.910	0.904	0.139	0.003	0.838
PMI_SER_EMP	1.413	1.033	0.732	1.087	1.080	0.902	0.336	0.115
PMI_SER_BE	1.168	0.854	0.059	0.925	0.919	0.204	0.014	0.809
PMI_SER_INB	1.142	0.835	0.028	0.917	0.910	0.165	0.006	0.849
PMI_SER_IPR	1.451	1.061	0.877	1.075	1.068	0.879	0.851	0.041
PMI_SER_OB	1.312	0.959	0.219	1.039	1.032	0.678	0.012	0.389
PMI_SER_PC	1.459	1.067	0.909	1.083	1.075	0.917	0.934	0.030
PMI_COM_EMP	1.346	0.984	0.376	1.058	1.051	0.786	0.055	0.254
PMI_COM_PRO	1.188	0.868	0.017	0.945	0.938	0.170	0.008	0.192
PMI_COM_GDP_Q	1.073	0.784	0.013	0.853	0.847	0.051	0.005	0.443
PMI_COM_GDP	1.062	0.777	0.013	0.844	0.838	0.046	0.005	0.420
PMI_COM_GDP_Y	1.286	0.940	0.129	1.002	0.995	0.470	0.013	0.740
PMI_COM_IPR	1.457	1.066	0.875	1.072	1.065	0.859	0.835	0.043
PMI_COM_ORD	1.100	0.804	0.025	0.891	0.885	0.118	0.007	0.682
PMI_COM_OUT	1.123	0.821	0.028	0.904	0.898	0.144	0.005	0.858
SA	1.267	0.926	0.020	0.975	0.968	0.163	0.021	0.076
CW	1.249	0.914	0.022	0.970	0.963	0.172	0.022	0.093
FW	1.240	0.907	0.016	0.961	0.954	0.119	0.015	0.069
SA_MCS	1.083	0.792	0.032	0.851	0.845	0.077	0.010	0.636
CW_MCS	1.058	0.774	0.023	0.834	0.828	0.056	0.007	0.519
FW_MCS	1.057	0.773	0.023	0.831	0.825	0.052	0.007	0.509

Note: Forecasting period 2001q1-2010q4. AR = Autoregressive benchmark, ESI = Economic sentiment indicator, BCI (ICI) = Construction (Industrial) confidence indicator. Variables with suffix _RT refer to real time forecasts. QB1 to QB5 (QI1 to QI7) = Questions in the construction (industrial) survey (Annex). PMI = Purchasing Manager index for manufacturing (_MAN), services (SER) and composite (COM). PMI information refers to employment (_emp), input prices (_IPR), new export orders (ORD_E), new orders (_ORD), output (_OUT), purchases (_PUR), stock of finished goods (_SFG), stock of purchases (_SPU), suppliers delivery times (_SDT), total (_TOT), business activity (_BA), business expectations (_BE), incoming new businesses (_INB), outstanding business (_OB), prices charged (_PC), productivity (_PRO), GDP (_GDP), GDP q-o-q growth rate (_GDP_Q), GDP y-o-y growth rate (_GDP_Y). SA= simple average of forecasts, PC1 (PC2) = forecast based on the first (second) principal component, CW, FW = model combinations with weights based on correlation or on forecast errors, respectively, MCS = model combination based on the model confidence set. The first three columns of the table contain the RMSFE and the relative RMSFE as well as the *p*-values of the modified Diebold-Mariano test, where the null hypothesis states that the RMSFE of an alternative is equal to that of the benchmark model. Columns 4-6 report MAFE, relative MAFE, and the *p*-values of the modified Diebold-Mariano test for the equality of the MAFE of the alternative and benchmark models. Column 7 (ENCOMP1) shows the *p*-values of the encompassing test, whose null hypothesis is that the benchmark encompasses the alternative model. Column ENCOMP2 reports the *p*-values of the encompassing test, whose null hypothesis states that the alternative encompasses the benchmark model.

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PMI_COM_GDP	0.521	0.805	0.135	0.356	0.888	0.115	0.141	0.611
PMI_COM_IPR	0.673	1.039	0.765	0.402	1.004	0.543	0.571	0.386
PMI_COM_ORD	0.549	0.847	0.130	0.376	0.938	0.239	0.092	0.718
PMI_COM_OUT	0.577	0.891	0.189	0.395	0.985	0.427	0.128	0.961
SA	0.638	0.985	0.196	0.390	0.973	0.154	0.266	0.589
CW	0.635	0.981	0.179	0.384	0.959	0.085	0.231	0.562
FW	0.639	0.987	0.244	0.385	0.961	0.090	0.313	0.744
SA_MCS	0.642	0.992	0.391	0.386	0.963	0.191	0.294	0.568
CW_MCS	0.608	0.939	0.135	0.362	0.904	0.015	0.132	0.534
FW_MCS	0.608	0.940	0.138	0.363	0.906	0.017	0.136	0.541
MIDAS2								
	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2
AR	0.647	1.000		0.401	1.000			
ESI	0.553	0.854	0.218	0.372	0.928	0.242	0.181	0.950
CCI	0.619	0.956	0.235	0.395	0.985	0.341	0.291	0.750
BCI	0.654	1.010	0.929	0.405	1.010	0.795	0.169	0.125
ICI	0.607	0.937	0.173	0.401	1.000	0.504	0.167	0.697
RCI	0.682	1.053	0.915	0.423	1.055	0.971	0.360	0.086
SCI	0.608	0.938	0.175	0.367	0.916	0.038	0.153	0.732
ESI_RT	0.559	0.863	0.232	0.372	0.929	0.252	0.175	0.877
CCI_RT	0.620	0.958	0.248	0.395	0.986	0.357	0.308	0.778
BCI_RT	0.654	1.010	0.929	0.405	1.010	0.795	0.169	0.125
ICI_RT	0.607	0.937	0.173	0.401	1.000	0.504	0.167	0.697
RCI_RT	0.685	1.058	0.916	0.425	1.060	0.975	0.338	0.089
SCI_RT	0.609	0.940	0.177	0.368	0.918	0.043	0.150	0.752
PMI_COM_EMP	0.703	1.086	0.842	0.458	1.142	0.901	0.011	0.088
PMI_COM_PRO	0.555	0.858	0.104	0.378	0.943	0.247	0.095	0.442
PMI_COM_GDP_Q	0.351	0.543	0.081	0.267	0.666	0.026	0.129	0.584
PMI_COM_GDP_Y	0.660	1.019	0.567	0.430	1.072	0.774	0.185	0.403
PMI_COM_GDP	0.354	0.547	0.083	0.273	0.682	0.032	0.133	0.556
PMI_COM_IPR	0.683	1.055	0.793	0.404	1.008	0.578	0.495	0.348
PMI_COM_ORD	0.414	0.639	0.087	0.322	0.803	0.070	0.112	0.437
PMI_COM_OUT	0.405	0.626	0.100	0.315	0.786	0.079	0.135	0.596
SA	0.627	0.969	0.166	0.387	0.964	0.087	0.208	0.557
CW	0.623	0.962	0.164	0.386	0.962	0.081	0.201	0.563
FW	0.628	0.970	0.181	0.387	0.964	0.095	0.221	0.615
SA_MCS	0.633	0.978	0.257	0.390	0.974	0.231	0.214	0.946
CW_MCS	0.600	0.927	0.124	0.368	0.919	0.011	0.146	0.448
FW_MCS	0.600	0.927	0.124	0.369	0.920	0.012	0.147	0.449
MIDAS3								
	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2
AR	0.647	1.000		0.401	1.000			
ESI	0.460	0.710	0.148	0.312	0.779	0.070	0.159	0.976
CCI	0.577	0.892	0.179	0.383	0.954	0.221	0.227	0.607
BCI	0.651	1.006	0.771	0.403	1.005	0.640	0.578	0.361
ICI	0.548	0.847	0.146	0.387	0.966	0.346	0.159	0.589
RCI	0.662	1.022	0.923	0.425	1.061	0.929	0.853	0.019
SCI	0.575	0.888	0.135	0.351	0.874	0.012	0.151	0.500
ESI_RT	0.459	0.709	0.147	0.313	0.780	0.071	0.152	1.000
CCI_RT	0.580	0.896	0.185	0.383	0.955	0.222	0.231	0.627

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BCI_RT	0.651	1.006	0.771	0.403	1.005	0.640	0.578	0.361
ICI_RT	0.548	0.847	0.146	0.387	0.966	0.346	0.159	0.589
RCI_RT	0.661	1.021	0.910	0.424	1.058	0.926	0.883	0.025
SCI_RT	0.576	0.889	0.134	0.351	0.874	0.011	0.152	0.490
PMI_COM_EMP	0.599	0.925	0.276	0.397	0.991	0.463	0.055	0.431
PMI_COM_PRO	0.578	0.893	0.058	0.380	0.948	0.211	0.045	0.373
PMI_COM_GDP_Q	0.407	0.629	0.084	0.266	0.664	0.008	0.094	0.506
PMI_COM_GDP_Y	0.592	0.915	0.325	0.401	0.999	0.498	0.139	0.539
PMI_COM_GDP	0.401	0.620	0.088	0.260	0.648	0.007	0.104	0.512
PMI_COM_IPR	0.693	1.071	0.787	0.403	1.006	0.558	0.490	0.377
PMI_COM_ORD	0.392	0.605	0.088	0.270	0.675	0.019	0.103	0.595
PMI_COM_OUT	0.418	0.645	0.091	0.281	0.701	0.015	0.115	0.454
SA	0.591	0.912	0.125	0.378	0.944	0.057	0.194	0.342
CW	0.580	0.896	0.122	0.373	0.931	0.044	0.184	0.347
FW	0.590	0.912	0.138	0.378	0.943	0.073	0.202	0.397
SA_MCS	0.577	0.891	0.181	0.381	0.951	0.240	0.217	0.641
CW_MCS	0.542	0.838	0.093	0.349	0.870	0.010	0.131	0.297
FW_MCS	0.544	0.840	0.095	0.350	0.874	0.012	0.134	0.307

Note: Forecasting period 2001q1-2010q4. AR = Autoregressive benchmark, ESI = Economic sentiment indicator, CCI, BCI, ICI, RCI, SCI = Consumer, Construction, Industrial, Retail Trade, Services confidence indicator. Variables with suffix _RT refer to real time forecasts. PMI_COM = Purchasing Manager index for composite. PMI information refers to employment (_emp), input prices (_IPR), new orders (_ORD), output (_OUT), productivity (_PRO), GDP (_GDP), GDP q-o-q growth rate (_GDP_Q), GDP y-o-y growth rate (_GDP_Y). SA = simple average of forecasts, PC1 (PC2) = forecast based on the first (second) principal component, CW, FW = model combinations with weights based on correlation or on forecast errors, respectively, MCS = model combination based on the model confidence set. The first three columns of the table contain the RMSFE and the relative RMSFE as well as the p -values of the modified Diebold-Mariano test, where the null hypothesis states that the RMSFE of an alternative is equal to that of the benchmark model. Columns 4-6 report MAFE, relative MAFE, and the p -values of the modified Diebold-Mariano test for the equality of the MAFE of the alternative and benchmark models. Column 7 (ENCOMP1) shows the p -values of the encompassing test, whose null hypothesis is that the benchmark encompasses the alternative model. Column ENCOMP2 reports the p -values of the encompassing test, whose null hypothesis states that the alternative encompasses the benchmark model.

Table 4: Out-of-sample performance of indicators for industrial production

	RMSFE	Relative	p-value	MAFE	Relative	p-value	ENCOMP1	ENCOMP2
AR	1.212	1.000		0.837	1.000			
ESI	1.086	0.896	0.018	0.790	0.944	0.066	0.011	0.166
ICI	1.070	0.883	0.026	0.772	0.923	0.058	0.010	0.501
QI1	1.050	0.866	0.037	0.760	0.909	0.072	0.005	0.861
QI2	1.152	0.950	0.084	0.821	0.981	0.282	0.032	0.685
QI3	1.157	0.955	0.084	0.829	0.990	0.392	0.020	0.853
QI4	1.134	0.935	0.105	0.790	0.945	0.109	0.032	0.938
QI5	0.902	0.744	0.001	0.681	0.814	0.001	0.001	0.052
QI6	1.218	1.005	0.675	0.850	1.016	0.807	0.562	0.154
QI7	1.184	0.976	0.171	0.837	1.001	0.509	0.137	0.748
ESI_RT	1.086	0.895	0.018	0.790	0.944	0.066	0.011	0.173
ICI_RT	1.070	0.883	0.026	0.772	0.923	0.058	0.010	0.501
PMI_MAN_EMP	1.131	0.933	0.072	0.806	0.963	0.186	0.024	0.828
PMI_MAN_IPR	1.234	1.018	0.854	0.870	1.040	0.961	0.996	0.067
PMI_MAN_ORD_E	0.949	0.783	0.004	0.692	0.828	0.003	0.001	0.458
PMI_MAN_ORD	0.928	0.766	0.003	0.677	0.810	0.001	0.001	0.283
PMI_MAN_OUT	0.930	0.767	0.003	0.673	0.805	0.001	0.002	0.314
PMI_MAN_PUR	0.935	0.771	0.003	0.679	0.812	0.001	0.001	0.165
PMI_MAN_SFG	1.151	0.949	0.120	0.841	1.006	0.566	0.078	0.769
PMI_MAN_SPU	1.196	0.986	0.245	0.824	0.985	0.318	0.016	0.217
PMI_MAN_SDT	1.153	0.951	0.136	0.797	0.953	0.115	0.046	0.921
PMI_MAN_TOT	0.973	0.802	0.006	0.704	0.841	0.003	0.003	0.283
SA	1.084	0.894	0.012	0.777	0.929	0.027	0.007	0.128
CW	1.079	0.890	0.012	0.774	0.926	0.025	0.007	0.136
FW	1.072	0.884	0.010	0.770	0.921	0.020	0.006	0.113
SA_MCS	0.926	0.764	0.002	0.696	0.832	0.003	0.002	0.069
CW_MCS	0.894	0.738	0.001	0.666	0.796	0.000	0.001	0.030
FW_MCS	0.894	0.738	0.001	0.666	0.797	0.000	0.001	0.031

Note: Forecasting period 2001m1-2010m12. AR = Autoregressive benchmark, ESI = Economic sentiment indicator, ICI = Industrial confidence indicator. Variables with suffix _RT refer to real time forecasts. QI1 to QI7 = Questions in the industrial survey (annex). PMI_MAN = Purchasing Manager index for manufacturing. PMI information refers to employment (_emp), input prices (_IPR), new export orders (ORD_E), new orders (_ORD), output (_OUT), purchases (_PUR), stock of finished goods (_SFG), stock of purchases (_SPU), suppliers delivery times (_SDT), total (_TOT). SA = simple average of forecasts, PC1 (PC2) = forecast based on the first (second) principal component, CW, FW = model combinations with weights based on correlation or on forecast errors, respectively, MCS = model combination based on the model confidence set. The first three columns of the table contain the RMSFE and the relative RMSFE as well as the p -values of the modified Diebold-Mariano test, where the null hypothesis states that the RMSFE of an alternative is equal to that of the benchmark model. Columns 4-6 report MAFE, relative MAFE, and the p -values of the modified Diebold-Mariano test for the equality of the MAFE of the alternative and benchmark models. Column 7 (ENCOMP1) shows the p -values of the encompassing test, whose null hypothesis is that the benchmark encompasses the alternative model. Column ENCOMP2 reports the p -values of the encompassing test, whose null hypothesis states that the alternative encompasses the benchmark model.

Table 5: Forecasting comparison in the pre crisis and crisis period

GDP

	RMSFE		Rank		
	2008.Q1-2010Q4	2001.Q1-2007Q4	2008.Q1-2010Q4	2001.Q1-2007Q4	Difference
AR	1.099	0.280	14	9	5
ESI	0.904	0.248	5	4	1
CCI	1.025	0.286	12	12	0
BCI	1.100	0.295	15	14	1
ICI	1.023	0.281	10	10	0
RCI	1.128	0.316	19	20	-1
SCI	1.013	0.263	8	6	2
ESI_RT	0.908	0.247	6	3	3
CCI_RT	1.028	0.286	13	13	0
BCI_RT	1.100	0.295	15	14	1
ICI_RT	1.023	0.281	10	10	0
RCI_RT	1.130	0.314	20	19	1
SCI_RT	1.016	0.264	9	7	2
PMI_COM_EMP	1.122	0.344	18	21	-3
PMI_COM_PRO	0.939	0.310	7	17	-10
PMI_COM_GDP_Q	0.624	0.225	1	1	0
PMI_COM_GDP_Y	0.628	0.226	2	2	0
PMI_COM_GDP	1.115	0.302	17	16	1
PMI_COM_IPR	1.156	0.310	21	18	3
PMI_COM_ORD	0.637	0.271	3	8	-5
PMI_COM_OUT	0.690	0.261	4	5	-1

Private investment

	RMSFE		Rank		
	2008.Q1-2010Q4	2001.Q1-2007Q4	2008.Q1-2010Q4	2001.Q1-2007Q4	Difference
AR	2.117	0.877	34	4	30
ESI	1.646	0.909	12	10	2
BCI	2.116	0.996	32	35	-3
QB1	2.086	1.032	27	43	-16
QB3	2.124	0.977	35	28	7
QB4	2.095	1.011	28	39	-11
QB5	2.137	0.949	36	16	20
ICI	1.910	0.878	19	5	14
QI1	1.799	0.856	17	1	16
QI2	2.080	0.906	26	9	17
QI3	2.110	0.883	31	7	24
QI4	2.014	0.869	22	2	20
QI5	1.651	0.871	13	3	10
QI6	2.142	0.890	37	8	29
QI7	2.100	0.957	30	21	9
ESI_RT	1.645	0.911	11	11	0
BCI_RT	2.116	0.996	32	35	-3
ICI_RT	1.910	0.878	19	5	14
PMI_MAN_EMP	2.017	0.974	23	27	-4

PMI_MAN_IPR	2.212	0.956	41	19	22
PMI_MAN_ORD_EXP	1.640	0.951	10	17	-7
PMI_MAN_ORD	1.452	0.952	1	18	-17
PMI_MAN_OUT	1.527	0.957	5	22	-17
PMI_MAN_PUR	1.622	0.957	9	23	-14
PMI_MAN_SFG	2.056	0.947	24	15	9
PMI_MAN_SPU	2.187	0.969	39	26	13
PMI_MAN_SDT	2.072	0.968	25	25	0
PMI_MAN_TOT	1.660	0.961	14	24	-10
PMI_SER_BA	1.671	0.994	15	34	-19
PMI_SER_EMP	2.156	1.018	38	40	-2
PMI_SER_BE	1.572	0.957	6	20	-14
PMI_SER_INB	1.589	0.993	8	33	-25
PMI_SER_IPR	2.210	0.931	40	13	27
PMI_SER_OB	1.909	0.986	18	30	-12
PMI_SER_PC	2.250	0.919	43	12	31
PMI_COM_EMP	2.098	0.981	29	29	0
PMI_COM_PRO	1.706	1.003	16	37	-21
PMI_COM_GDP_Q	1.452	1.020	2	42	-40
PMI_COM_GDP	1.459	1.019	3	41	-38
PMI_COM_GDP_Y	1.998	1.004	21	38	-17
PMI_COM_IPR	2.243	0.942	42	14	28
PMI_COM_ORD	1.498	0.991	4	31	-27
PMI_COM_OUT	1.585	0.991	7	32	-25

Private Consumption

	RMSFE		Rank		Difference
	2008.Q1-2010Q4	2001.Q1-2007Q4	2008.Q1-2010Q4	2001.Q1-2007Q4	
AR	0.390	0.344	17	5	12
ESI	0.346	0.322	10	2	8
CCI	0.339	0.373	7	13	-6
QC1	0.359	0.380	12	16	-4
QC2	0.273	0.409	3	21	-18
QC3	0.383	0.388	13	19	-6
QC4	0.285	0.363	4	11	-7
QC5	0.399	0.334	19	4	15
QC6	0.346	0.353	9	9	0
QC7	0.406	0.361	21	10	11
QC8	0.407	0.350	22	6	16
QC9	0.403	0.329	20	3	17
QC10	0.384	0.384	14	18	-4
QC11	0.331	0.416	6	22	-16
QC12	0.392	0.397	18	20	-2
RCI	0.389	0.352	16	8	8
PMI_COM	0.260	0.378	1	15	-14
PMI_MAN	0.313	0.374	5	14	-9
PMI_SER	0.262	0.382	2	17	-15
ESI_RT	0.347	0.322	11	1	10
CCI_RT	0.340	0.371	8	12	-4
RCI_RT	0.389	0.352	15	7	8

Industrial production

	RMSFE		Rank		
	2008.Q1-2010Q4	2001.Q1-2007Q4	2008.Q1-2010Q4	2001.Q1-2007Q4	Difference
AR	1.856	0.793	21	16	5
ESI_ESI	1.602	0.768	11	12	-1
ESI_INDU_COF	1.598	0.740	8	8	0
ESI_INDU_1	1.587	0.709	7	1	6
ESI_INDU_2	1.748	0.769	16	13	3
ESI_INDU_3	1.755	0.773	17	14	3
ESI_INDU_4	1.732	0.746	15	10	5
ESI_INDU_5	1.214	0.729	1	6	-5
ESI_INDU_6	1.863	0.800	22	18	4
ESI_INDU_7	1.794	0.792	18	15	3
ESI_ESI_COFRT	1.601	0.768	10	11	-1
ESI_INDU_COFRT	1.598	0.740	8	8	0
PMI_MANU_EMP	1.655	0.810	13	20	-7
PMI_MANU_INPRICE	1.830	0.865	20	22	-2
PMI_MANU_NEO	1.355	0.709	5	2	3
PMI_MANU_NO	1.275	0.734	2	7	-5
PMI_MANU_OUT	1.311	0.713	3	3	0
PMI_MANU_QP	1.311	0.720	4	4	0
PMI_MANU_SFG	1.639	0.859	12	21	-9
PMI_MANU_SP	1.802	0.809	19	19	0
PMI_MANU_SDT	1.729	0.793	14	17	-3
PMI_MANU_TOTAL	1.388	0.729	6	5	1

Note: ESI = Economic sentiment indicator, CCI, BCI, ICI, RCI, SCI = Consumer, Construction, Industrial, Retail Trade, Services confidence indicator. Variables with suffix _RT refer to real time forecasts. QC1 to QC12 = Questions in the consumer survey (Annex), QB1 to QB5 (QI1 to QI7) = Questions in the construction (industrial) survey (Annex). PMI = Purchasing Manager index for manufacturing (_MAN), services (SER) and composite (COM). PMI information refers to employment (_emp), input prices (_IPR), new export orders (ORD_E), new orders (_ORD), output (_OUT), purchases (_PUR), stock of finished goods (_SFG), stock of purchases (_SPU), suppliers delivery times (_SDT), total (_TOT), business activity (_BA), business expectations (_BE), incoming new businesses (_INB), outstanding business (_OB), prices charged (_PC), productivity (_PRO), GDP (_GDP), GDP q-o-q growth rate (_GDP_Q), GDP y-o-y growth rate (_GDP_Y).

10 LIST OF DOCUMENTATION ASSEMBLED

Legal basis

Commission Decision of 15 July 1997 (references E/97/1419-C(97)2241) regarding the Joint Harmonised EU Programme of Business and Consumer Surveys

Communication from the Commission

COM(2000) 770 final - Joint Harmonized EU Programme of Business and Consumer Surveys

COM(2006) 379 final. 'Joint Harmonised EU Programme of Business and Consumer Surveys'

Other sources

Bloesch D, Etter R. (2004), Feasibility of EU Business Survey in the Financial Services Sector, Swiss Institute for Business Cycle Research (KOF). Available at: http://ec.europa.eu/economy_finance/db_indicators/surveys/documents/studies/eth_kof_ecfi_n_2003_final_report.pdf

Diebold FX, Mariano RS (1995): Comparing predictive accuracy, Journal of Business and Economic Statistics 13, 253-263.

Dominitz J., Manski C.F. (2004). How should we measure consumer confidence? Journal of Economic Perspectives 18, pp.51-66.

Dreger C, Kholodilin K (2011): Forecasting private consumption by consumer surveys, Journal of Forecasting, forthcoming.

Dreger C, Schumacher C (2005): The out-of sample performance of leading indicators for the German business cycle, Journal of Business Cycle Measurement and Analysis 2, 71-88.

Dreger C., Kholodilin K. (2010). Forecasting Private Consumption by Consumer Surveys. DIW Berlin. Discussion Papers 1066.

Erkel-Rousse, H, Minodier, C. (2009) Do Business Tendency Surveys in Industry and Services Help in Forecasting GDP Growth? A Real-Time Analysis on French Data, Working paper.

European Central Bank (2010), Compilation, usefulness and recent developments in the euro area consumer confidence indicator, Monthly Bulletin of the ECB, March 2010. Available at: <http://www.ecb.int/pub/pdf/mobu/mb2Q1003en.pdf>

European Commission - BCS Workshop documents. Available at: http://ec.europa.eu/economy_finance/db_indicators/surveys/workshops_doc/index_en.htm

European Commission (2001), Evaluation and development of confidence indicators on harmonised business and consumer surveys, Directorate-General for Economic and Financial Affairs, Economic Papers, No. 151. Available at: http://ec.europa.eu/economy_finance/publications/publication10824_en.pdf

European Commission (2006). The Joint Harmonised EU Programme of Business and Consumer Surveys, European Economy, Special Report, No 5,2006, Directorate-General for Economic and Financial Affairs. Available at: http://ec.europa.eu/economy_finance/publications/publication7568_en.pdf

European Commission (2007), The Joint Harmonised EU Programme of Business and Consumer Surveys: User Guide, Directorate-General for Economic and Financial Affairs. Available at: http://ec.europa.eu/economy_finance/db_indicators/surveys/documents/userguide_en.pdf

European Commission (2007): The joint harmonised EU programme of business and consumer surveys, User Guide.

European Evaluation Consortium, (2005). Evaluation of Business and Consumer Surveys. Final Report. ECFIN/196/2004/385636.
http://ec.europa.eu/economy_finance/evaluation/pdf/bcs_en.pdf

Ghysels G, Sinko A, Valkanov R (2007): MIDAS regressions: Further results and new directions, *Econometric Reviews* 26, 53-90.

Giacomini R, White H (2006): Tests of conditional predictive ability, *Econometrica* 74, 1545-1578.

Goggin, J. (2008) An Analysis of the Potential of the European Commission Business and Consumer Surveys for Macroeconomic Forecasting.

Hansen R, Lunde A, Nason JM (2005): Model confidence sets for forecasting models, Working Paper 2005-07, Federal Reserve Bank of Atlanta.

Harvey DI, Leybourne SJ, Newbold P (1998): Tests of forecasting encompassing, *Journal of Business and Economic Statistics* 16, 254-259.

Jonsson A, Lindén S (2009): The quest for the best consumer confidence indicator, *European Economy, Economic Papers* 372, European Commission, Brussels.

Lindén, S. (2006), "400,000 Observations on Inflation Perceptions and Expectations in the EU: What will they tell us?", Paper presented at the 28th CIRET Conference, Rome, September 2006.

Organisation for Economic Co-ordination and Development (2003), *Business Tendency Surveys: a handbook*, OECD, Paris. Available at:
<http://www.oecd.org/dataoecd/29/61/31837055.pdf>

Pashourtidou N, Tsiaklis (2010) Business and Consumer Surveys in Cyprus, *Cyprus Economic Policy Review*, Vol. 4, No. 1, pp. 47-61

Willeboordse, A., 1997. *Handbook on Design and Implementation of Business Surveys*.
<http://ec.europa.eu/eurostat/ramon/statmanuals/files/Handbook%20on%20surveys.pdf>