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**FINAL REPORT**  
**EVALUATION OF THE JOINT HARMONISED EUROPEAN UNION PROGRAMME OF**  
**BUSINESS AND CONSUMER SURVEYS**

**Deloitte.**

 **DIW ECON**  
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## **Abstract:**

The Joint Harmonised EU Programme of Business and Consumer Surveys (EU BCS Programme) carries out monthly and quarterly surveys covering industry, construction, consumers, retail trade, services and financial services in the 27 EU Member States and five EU candidate countries. The surveys are carried out at the national level by partner institutes of the European Commission (EC) and follow a harmonised methodology defined by the EC. The present document is the evaluation of the EU BCS Programme for the period from 2012 to 2021. To gain a comprehensive overview of the design and implementation of the programme, as well as the usefulness of the data generated by it, a thorough review of the relevant literature was conducted, complemented by quantitative analyses. Stakeholder interviews were organised to gather insights from users of the EU BCS data and the partner institutes. Finally, online surveys were used to complement the insights gathered through the stakeholder interviews. The Final Report presents the evaluation findings and lessons learned on the 5 evaluation criteria: effectiveness, efficiency, coherence, EU-added value and relevance. It was found that the EU BCS Programme has achieved its goal of providing timely, harmonised data which are useful for monitoring and forecasting economic developments in the EU Member and Candidate Countries and the EU/euro area as a whole.

## **Extrait :**

Le programme commun harmonisé des enquêtes de l'Union européenne auprès des entreprises et des consommateurs (enquêtes de conjoncture) réalise des enquêtes mensuelles et trimestrielles couvrant l'industrie, la construction, les consommateurs, le commerce de détail, les services et les services financiers dans les 27 États membres de l'UE et dans cinq pays candidats à l'adhésion à l'UE. Les enquêtes sont réalisées au niveau national par des instituts partenaires de la Commission européenne (CE) et suivent une méthodologie harmonisée définie par la CE. Le présent document est l'évaluation du programme des enquêtes de conjoncture pour la période 2012-2021. Afin d'obtenir une vue d'ensemble de la conception et de la mise en œuvre du programme, ainsi que de l'utilité des données qu'il génère, un examen approfondi de la littérature pertinente a été réalisé, complété par des analyses quantitatives. Des entretiens avec les parties prenantes ont été organisés afin de recueillir les points de vue des utilisateurs des données des enquêtes de conjonctures de l'UE et des instituts partenaires. Enfin, des enquêtes en ligne ont été utilisées pour compléter les informations recueillies lors des entretiens avec les parties prenantes. Le rapport final présente les résultats de l'évaluation et les enseignements tirés des cinq critères d'évaluation : l'efficacité, l'efficacité, la cohérence, la valeur ajoutée européenne et la pertinence. Il a été constaté que le programme des enquêtes de conjoncture a atteint son objectif de fournir des données opportunes et harmonisées qui sont utiles pour le suivi et la prévision des développements économiques dans les pays membres de l'UE et les pays candidats, ainsi que dans l'ensemble de l'UE et de la zone euro.

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## Glossary

| <i>Term or acronym</i> | <i>Meaning or definition</i>                                     |
|------------------------|--|
| API                    | Application Programming Interface                                |
| AT                     | Austria  |
| BCI                    | Business Climate Indicator                                       |
| BCS                    | Business and consumer surveys                                    |
| BE                     | Belgium  |
| BG                     | Bulgaria   |
| BVAR                   | Bayesian Vector Autoregression                                   |
| BLS                    | Bank Lending Survey  |
| CAPI                   | Computer-Assisted Personal Interviewing                          |
| CATI                   | Computer-Assisted Telephone Interviewing                         |
| CAWI                   | Computer-Assisted Web Interviewing                               |
| CES                    | Consumer Expectations Survey                                     |
| CPI                    | Consumer Price Index   |
| CY                     | Cyprus   |
| CZ                     | Czechia  |
| DE                     | Germany  |
| DG ECFIN               | Directorate-General for Economic and Financial Affairs           |
| DIW ECON               | Consulting Company of the German Institute for Economic Research |
| DK                     | Denmark  |
| DSGE                   | Dynamic Stochastic General Equilibrium                           |
| EA                     | euro area  |

| <i>Term or acronym</i> | <i>Meaning or definition</i>        |
|------------------------|-------------------------------------|
| EC                     | European Commission                 |
| ECB                    | European Central Bank               |
| EE                     | Estonia                             |
| EEI                    | Employment Expectations Indicator   |
| EL                     | Greece                              |
| ES                     | Spain                               |
| ESI                    | Economic Sentiment Indicator        |
| EU                     | European Union                      |
| EUI                    | Economic Uncertainty Indicator      |
| FI                     | Finland                             |
| FR                     | France                              |
| FPA                    | Framework Partnership Agreements    |
| FSSS                   | Financial Services Sector Survey    |
| GDP                    | Gross Domestic Product              |
| HICP                   | Harmonised Index of Consumer Prices |
| HR                     | Croatia                             |
| HU                     | Hungary                             |
| IE                     | Ireland                             |
| IT                     | Italy                               |
| LT                     | Lithuania                           |
| LU                     | Luxembourg                          |
| LV                     | Latvia                              |
| MIDAS                  | Mixed-data sampling                 |



| <i>Term or acronym</i> | <i>Meaning or definition</i>                           |
|------------------------|--|
| MK                     | Republic of North Macedonia                            |
| MNE                    | Multinational Enterprise                               |
| MT                     | Malta  |
| NL                     | Netherlands  |
| OECD                   | Organisation for Economic Co-operation and Development |
| OLS                    | Ordinary Least Squares                                 |
| PL                     | Poland   |
| PMI                    | Purchasing Managers' Index                             |
| PT                     | Portugal   |
| RMSE                   | Root Mean Squared Error                                |
| RO                     | Romania  |
| RS                     | Russia   |
| SE                     | Sweden   |
| SI                     | Slovenia   |
| SME                    | Small and Medium-sized Enterprise                      |
| SK                     | Slovakia   |
| TR                     | Turkey   |
| UK                     | United Kingdom   |
| UN                     | United Nations   |
| VAR                    | Vector Auto Regression                                 |
| VEC                    | Vector Error Correction                                |
| VDMA                   | German Mechanical and Plant Engineering Association    |

## **Executive summary**

### **1. Introduction**

This is the Final Report of the evaluation of the Joint Harmonised EU Programme of Business and Consumer Surveys (EU BCS Programme) over the period 2012-21. This study, carried out by Deloitte and DIW Econ, is designed to help the European Commission (EC) fulfil its commitment to evaluate proportionately all EU spending and non-spending activities that are intended to have an impact on society or the economy with a view to supporting organisational learning, transparency and accountability and the efficient allocation of resources. The last evaluation of the EU BCS Programme was completed in January 2012.

### **2. Overview of the EU BCS Programme**

#### **2.1 Intervention Logic**

The intervention logic links the EU BCS Programme and its specific outputs with specific results and the overall impact. It thereby provides a summary of how the intervention is expected to work.

**Problems and needs:** According to the Treaty, the EC is to contribute to providing information to the EU authorities, Member States and the various economic agents on the economic situation at both national and Community level. For that purpose, the EC needs to provide a reliable and timely tool for the monitoring of economic developments across the continent.

**Objectives:** The main objective of this intervention is to set up a mechanism for economic surveillance facilitating effective monitoring of the EU business cycle and comparison of the business cycles between the different member countries.

**Inputs:** Three main inputs are put forward to carry out this intervention. First, EC resources (staff time) devoted to the development of the harmonised methodology, the administration of the programme (selecting partner institutes conducting the surveys and managing the payment of EU grants covering up to 50% of the survey costs) and the analysis and dissemination of the data. Second, the partner institutes, which carry out the surveys at national level with the financial support of the EU. Third, regular evaluations of the EU BCS Programme assessing the intervention's performance compared to initial expectations.

**Outputs:** The main outputs of the EU BCS Programme are the six surveys conducted by the partner institutes, the ten composite indices created by the EC, the publications issued by the EC in terms of monthly press releases, electronic database, research conducted by the EC's Directorate-General for Economic and Financial Affairs (DG ECFIN) and inputs for forecasts, the quarterly bulletin of European Business Cycle Indicators, and the workshops organised by the EC to discuss methodological issues with partner institutes.

Results: The surveys provide data used by the EC for accurate macroeconomic surveillance and forecasting of the economic situation in the Member States, candidate countries, the euro area and the EU.

Impact: With the concatenation of all the elements previously described, the intervention should contribute to improving macroeconomic and financial policy within the EU and the EA.

## 2.2 Evolution of the EU BCS Programme

The EU BCS Programme was launched by the EC in 1961. Currently, it covers six sectors: industry, construction, consumers, retail trade, services and financial services. Since 1961, the geographical coverage of the Programme has been regularly extended to include new Member States as well as new candidate countries. The Programme currently covers all 27 EU Member States and five EU candidate countries (the BCS Programme does not (yet) include Bosnia and Herzegovina, Ukraine and Moldova, which were granted candidate status in 2022).

The harmonised surveys are carried out at the national level by partner institutes who follow a common methodology defined by the EC, i.e. use of harmonised questionnaires, and a common timetable for the field work and the transmission of the results to the EC. The harmonisation of the surveys is only partial in the sense that, apart from the harmonised questionnaires and harmonised timetable, partner institutes have liberties in the specific design of the data collection and sampling.

DG ECFIN is responsible for aggregating and seasonally adjusting the countries' survey data to arrive at a set of composite indicators which are comparable across countries, as well as composite indicators for the EU and euro area aggregates.

## 3. Evaluation methodology and criteria

### 3.1 Evaluation methodology

To gain a comprehensive overview of the design, implementation and use of the EU BCS Programme, a systematic search and analysis of existing studies, reports and evaluations was conducted. This desk research was divided into five main review activities: (i) review of Programme documentation, (ii) DG ECFIN research, (iii) previous reports and evaluations, as well as (iv) external assessments of the programme and (v) academic literature / press articles / etc. using / reporting on the data. The evaluation furthermore relied on stakeholder interviews to gather insights from users of the EU BCS data, i.e. academia, institutional users (e.g. the European Central Bank), the economic press and the private sector (mainly banks), as well as the partner institutes collecting the data for the EC. Online surveys were designed to gather quantitative data to complement the qualitative insights obtained by the stakeholder interviews. Finally, a quantitative analysis was conducted to assess how accurately and reliably the survey data collected by the EU BCS

Programme capture (and allow forecasting) economic developments in the EU / euro area, as well as the Member States and candidate countries.

Traditionally, an intervention is evaluated using a benchmark / point(s) of comparison to assess its outputs and its impact. Typically, this would be the situation as it was before the Programme was first implemented. However, since the EU BCS Programme was introduced in 1961, the period before its introduction is not an adequate reference period because the data available prior to that date are poor. This evaluation therefore uses different points of comparison, namely relevant academic literature, comparable survey programmes, and the stakeholder consultation to evaluate the outputs and impact of the EU BCS Programme.

### 3.2 Evaluation criteria

First of all, the success of the EU BCS Programme was evaluated based on three key criteria: (i) the degree to which the Programme reached its objectives, as laid down in the intervention logic (effectiveness criterion), (ii) the Programme's efficiency, considering the implementation and financing design, the costs and benefits of the intervention and potential alternative approaches to monitoring the economy and (iii) the internal and external coherence of the EU BCS Programme.

Second, the evaluation explored whether the data generated by the intervention enriched both discussions and analyses of economic developments in the EU / euro area and whether it was appropriate for the EC to lead this intervention rather than the Member States (EU added value criterion).

Third, this evaluation assessed the relevance of the intervention by analysing the survey questions covered by the Programme, the data it generates, the Programme's capacity to adapt and its methodology.

## 4. Evaluation Findings

### *Effectiveness:*

The EU BCS Programme has been able to achieve its objective in terms of surveillance of business cycles and economic developments. The Programme offered timely and harmonised data that provided valuable information on current and future economic developments in Member States and candidate countries. Both the academic literature and our own quantitative analysis showed that the EU BCS data have been useful for nowcasting and forecasting real economic variables.

The EU BCS Programme further created substantial methodological spillovers and will most likely continue to serve as a methodological benchmark for other business and consumer surveys around the world. Moreover, the Programme has led to exchange of knowledge between DG ECFIN and the partner institutes, as well as knowledge transfer among the partner institutes themselves.

The analysis of the metadata and the stakeholder consultations suggest that the dissemination documentation on the data is sufficiently good. The EU BCS User Guide is comprehensive and up-to-date. The metadata forms filled out by the partner institutes provide the most important features of the fieldwork, sampling and non-response treatment. However, the metadata forms are in need of updating, as are the national questionnaires which can be downloaded from the website of DG ECFIN.

The analysis of the effectiveness of the Programme resulted in several lessons concerning the data dissemination and the provision of the metadata. First, to improve the transparency of the Programme, it would be advisable to update the metadata forms and national questionnaires on DG ECFIN's website. Second, the change log, which provides users with an overview of all methodological changes to the programme data, should be re-organised so as to follow best practices in data science. Third, to make it easier for users to find certain data series, it would be helpful to implement search and filter options on DG ECFIN's website. Fourth, to help non-expert users understand how to interpret and use the data, press releases could provide more context. Fifth, users from the private sector and economic press would benefit from a more user-friendly / didactic user guide providing examples that illustrate a variety of possible analyses and insights that can be obtained from the EU BCS data.

The analysis also revealed several lessons concerning the transfer of knowledge within the Programme. First, it could be envisaged to redesign the annual workshop to cover academic/technical topics and practical management issues separately. Second, partner institutes expressed a need for a continuous, centralised platform for the exchange of information on methodological and administrative issues. Finally, the analysis identified a need for future research on the differences in the monitoring and forecasting quality of the EU BCS data across countries.

#### *Efficiency:*

This evaluation concludes that the EU BCS Programme has been efficient from a cost and benefit point of view. The Programme, i.e. its design, methodology and implementation, were overall considered appropriate by all the stakeholder groups consulted for the purpose of this evaluation. When considering alternative approaches to monitoring the economy, the desk research, quantitative analysis, as well as the stakeholder consultations all found that none was deemed effective enough to be able to replace the intervention. In terms of benefits, one of the Programme's main strengths is that it allows for data comparability at the EU level based on long time series that are harmonised and considered reliable by all the users.

Three key lessons learned were identified in relation to efficiency. First, to reduce costs, the administrative procedures relating to the EU co-funding of the programme could be simplified, duly acknowledging the limits set for the EC by the EU's Financial Regulation. Additionally, new developments and research should be monitored closely in respect of (i) the pros and cons of web surveying, which is cheaper than more traditional survey modes

but at the same time associated with potential drawbacks in terms of data-quality and (ii) new data sources and approaches serving as good complement to the intervention, such as big data approaches.

*Coherence:*

The internal coherence of the Programme was studied across countries and across sectors. Based on a representative selection of national questionnaires, only slight deviations in the questionnaires were identified, which were considered of minor concern. Across sectors, differences in the time horizons of the questions asked in the questionnaires were identified. There are also differences in the time horizons of the questions making up the sectoral composite indicators. Based on the judgments of the users and partner institutes as well as theoretical arguments from the literature, it can be concluded that the differences in the questions asked in sectoral surveys and selected for the sectoral confidence indicators are appropriate. Our own quantitative analysis showed that the overall development of the sectoral indicators is largely unaffected by the selection of survey questions with different time horizons.

In relation to the external coherence of the EU BCS Programme, stakeholders considered the Programme surveys to be complementary to other survey programmes. The stakeholder consultations confirmed that the EU BCS Programme, in comparison to existing national economic tendency surveys, brings additional value to the market, namely the comparability of its data between countries and sectors, the consistency of its data, and its ability to provide harmonised input on the future of the economy at the EU level.

*EU Value Added:*

Both the desk research and the stakeholder consultations concurred that the EU BCS data is very prevalent in short-term forecasting and nowcasting; the Programme is therefore essential for the analysis of economic developments at national and EU level. The subjective assessment of the stakeholders is that this is data that can only be collected through surveys. As mentioned by some partner institutes, if it were not for the EU BCS Programme, their countries would not be conducting the surveys. The Programme is broadly perceived as an EU effort: when users access the data through DG ECFIN's or Eurostat's website and use them for EU-level country comparison (which seems to be the most frequent use case), there is no doubt about the origin of the data.

*Relevance:*

The intervention is relevant because it provides a tool for economic surveillance in the EU enabling comparison of business cycles between Member States and offering an overall view of the business cycle in the EU. This contributes to the EC's role in informing the EU authorities, the Member States and the various economic agents on the economic situation and prospects, both at the national and at the EU level. The relevance of the EU BCS Programme has been continuous as it has adapted over the years, has evolved in terms of sectoral and geographical coverage and has incorporated new indices relevant for its users.

To make the Programme data even more relevant to users, the analysis suggests to explore presenting the survey results following an ecosystem approach instead of only according to the classical sectoral break-down into industry, services, retail trade, etc., to explore the practical details of the Framework Partnership Agreement on the possibility of introducing ad hoc questions, to explore the pros and cons of including business microdata delivery in the EC's contracts, as well as to discontinue the Financial Services Sector Survey since its relevance was questioned by users (especially in the private sector).

## **Synthèse**

### **1. Introduction**

Le présent document est le rapport final d'évaluation du programme commun harmonisé des enquêtes de l'Union européenne auprès des entreprises et des consommateurs (enquêtes de conjoncture) pour la période 2012-21. Cette étude, réalisée par Deloitte et DIW Econ, est conçue pour aider la Commission européenne (CE) à respecter son engagement d'évaluer proportionnellement toutes les activités de dépense et de non-dépense de l'UE qui sont censées avoir un impact sur la société ou l'économie, en vue de soutenir l'apprentissage organisationnel, la transparence et la reddition des comptes, ainsi que l'allocation efficace des ressources. La dernière évaluation du programme EEC de l'UE a été achevée en janvier 2012.

### **2. Vue d'ensemble du programme des enquêtes de conjoncture**

#### **2.1 Logique d'intervention**

La logique d'intervention relie le programme des enquêtes de conjoncture de l'UE et ses réalisations spécifiques aux résultats attendus et à l'impact global. Elle fournit ainsi un résumé de la manière dont l'intervention est censée fonctionner.

**Problèmes et besoins :** Selon le Traité, la CE doit contribuer à l'information des autorités de l'UE, des États membres et des différents agents économiques sur la situation économique tant au niveau national que communautaire. À cette fin, la CE doit fournir un outil fiable et opportun pour le suivi des développements économiques sur l'ensemble du continent.

**Objectifs de l'intervention :** L'objectif principal de cette intervention est de mettre en place un mécanisme de surveillance économique facilitant le suivi efficace du cycle économique de l'UE et la comparaison des cycles économiques entre les différents pays membres.

**Apports :** Trois apports principaux sont proposés pour mener à bien cette intervention. Premièrement, les ressources de la CE (temps du personnel) consacrées au développement de la méthodologie harmonisée, à l'administration du programme (sélection des instituts partenaires réalisant les enquêtes et gestion du paiement des subventions de l'UE couvrant jusqu'à 50 % des coûts de l'enquête) et à l'analyse et à la diffusion des données. Deuxièmement, les instituts partenaires, qui réalisent les enquêtes au niveau national avec le soutien financier de l'UE. Troisièmement, des évaluations régulières du programme EEC de l'UE évaluant la performance de l'intervention par rapport aux attentes initiales.

**Réalisations :** Les principales réalisations du programme des enquêtes de conjoncture de l'UE sont les six enquêtes menées par les instituts partenaires, les dix indices composites créés par la CE, les publications de la CE en termes de communiqués de presse mensuels,



la base de données électronique, la recherche menée par la Direction Générale des Affaires Economiques et Financières de la CE (DG ECFIN) et les contributions aux prévisions, le bulletin trimestriel des indicateurs européens du cycle conjoncturel, et enfin, les ateliers organisés par la CE pour discuter des questions méthodologiques avec les instituts partenaires.

**Résultats :** Les enquêtes fournissent des données utilisées par la CE pour une surveillance macroéconomique précise et des prévisions de la situation économique dans les États membres, les pays candidats, la zone euro et l'UE.

**Impact :** Tous les éléments décrits précédemment devaient contribuer à l'amélioration et la substantification de la politique macroéconomique et financière au sein de l'UE et de la ZE.

## 2.2 Évolution du programme des enquêtes de conjoncture de l'UE

Le programme des enquêtes de conjoncture de l'UE a été lancé par la CE en 1961. Il couvre actuellement six secteurs : l'industrie, la construction, les consommateurs, le commerce de détail, les services et les services financiers. Depuis 1961, la couverture géographique du programme a été régulièrement étendue à de nouveaux États membres ainsi qu'à de nouveaux pays candidats. Le programme couvre actuellement les 27 États membres de l'UE et cinq pays candidats (le programme des enquêtes de conjoncture n'inclut pas (encore) la Bosnie-Herzégovine, l'Ukraine et la Moldavie, qui ont obtenu le statut de pays candidat en 2022).

Les enquêtes harmonisées sont réalisées au niveau national par des instituts partenaires qui suivent une méthodologie commune définie par la CE, c'est-à-dire l'utilisation de questionnaires harmonisés, et un calendrier commun pour le travail sur le terrain et la transmission des résultats à la CE. L'harmonisation des enquêtes n'est que partielle dans la mesure où, en dehors des questionnaires et du calendrier harmonisés, les instituts partenaires ont des libertés dans la conception spécifique de la collecte des données et de l'échantillonnage.

La DG ECFIN est chargée d'agréger et de désaisonnaliser les données d'enquête des pays afin d'obtenir un ensemble d'indicateurs composites comparables entre les pays, ainsi que des indicateurs composites pour les agrégats de l'UE et de la zone euro.

## **3. Méthodologie et critères d'évaluation**

### 3.1 Méthodologie d'évaluation

Afin d'obtenir une vue d'ensemble de la conception, de la mise en œuvre et de l'utilisation du programme des enquêtes de conjoncture de l'UE, une recherche et une analyse systématiques des études, rapports et évaluations existants ont été effectuées. Cette

recherche documentaire a été divisée en cinq activités principales : (i) examen de la documentation du programme, (ii) la recherche menée par les membres de la DG ECFIN, (iii) rapports et évaluations précédents, ainsi que (iv) analyses externes du programme et (v) littérature académique / articles de presse / etc. utilisant / rapportant les données. L'évaluation s'est en outre appuyée sur des entretiens avec les parties prenantes afin de recueillir des informations auprès des utilisateurs des données des enquêtes de conjoncture de l'UE, c'est-à-dire le monde universitaire, les utilisateurs institutionnels (par exemple la Banque centrale européenne), la presse économique et le secteur privé (principalement les banques), ainsi que les instituts partenaires qui collectent les données pour la CE. Des enquêtes en ligne ont été conçues pour recueillir des données quantitatives afin de compléter les informations qualitatives obtenues lors des entretiens avec les parties prenantes. Enfin, une analyse quantitative a été menée pour évaluer la précision et la fiabilité des données d'enquête collectées par le programme des enquêtes de conjoncture de l'UE (et permettre de prévoir) les développements économiques dans l'UE / la zone euro, ainsi que dans les États membres et les pays candidats.

Traditionnellement, une intervention est évaluée à l'aide d'un point de référence / point(s) de comparaison pour évaluer ses réalisations et son impact. En règle générale, il s'agit de la situation qui prévalait avant la mise en œuvre du programme. Cependant, comme le programme des enquêtes de conjoncture de l'UE a été introduit en 1961, la période précédant son introduction n'est pas une période de référence adéquate car les données disponibles avant cette date sont médiocres. Cette évaluation utilise donc différents points de comparaison, à savoir la littérature académique pertinente, des programmes d'enquête comparables et la consultation des parties prenantes pour évaluer les réalisations et l'impact du programme des enquêtes de conjoncture de l'UE.

### 3.2 Critères d'évaluation

Tout d'abord, le succès du programme des enquêtes de conjoncture de l'UE a été évalué sur la base de trois critères clés : (i) la mesure dans laquelle le programme a atteint ses objectifs, tels que définis dans la logique d'intervention (critère d'efficacité), (ii) l'efficacité du programme, compte tenu de la mise en œuvre et de la conception du financement, des coûts et des avantages de l'intervention et des approches alternatives potentielles de suivi de l'économie et (iii) la cohérence interne et externe du programme EEC de l'UE.

Deuxièmement, l'évaluation a examiné si les données générées par l'intervention ont enrichi à la fois les discussions et les analyses des développements économiques dans l'UE / la zone euro et s'il était approprié que la CE dirige cette intervention plutôt que les États membres (critère de la valeur ajoutée de l'UE).

Troisièmement, cette évaluation a évalué la pertinence de l'intervention en analysant les questions d'enquête couvertes par le programme, les données qu'il génère, la capacité d'adaptation du programme et sa méthodologie.

#### **4. Résultats de l'évaluation**

##### *Efficacité :*

Le programme des enquêtes de conjoncture de l'UE a pu atteindre son objectif en termes de surveillance des cycles économiques et des développements économiques. Le programme a fourni des données opportunes et harmonisées qui ont apporté des informations précieuses sur les développements économiques actuels et futurs dans les États membres et les pays candidats. La littérature académique et notre propre analyse quantitative ont montré que les données des enquêtes de conjoncture de l'UE ont été utiles pour la prévision immédiate et la prévision des variables économiques réelles.

Le programme des enquêtes de conjoncture de l'UE a en outre créé des retombées méthodologiques substantielles et continuera très probablement à servir de référence méthodologique pour d'autres enquêtes de conjoncture dans le monde. En outre, le programme a donné lieu à un échange de connaissances entre la DG ECFIN et les instituts partenaires, ainsi qu'à un transfert de connaissances entre les instituts partenaires eux-mêmes.

L'analyse des métadonnées et les consultations des parties prenantes suggèrent que la documentation de diffusion des données est suffisamment bonne. Le guide de l'utilisateur du programme EEC de l'UE est complet et à jour. Les formulaires de métadonnées remplis par les instituts partenaires fournissent les caractéristiques les plus importantes du travail sur le terrain, de l'échantillonnage et du traitement des non-réponses. Toutefois, les formulaires de métadonnées doivent être mis à jour, tout comme les questionnaires nationaux qui peuvent être téléchargés sur le site Internet de la DG ECFIN.

L'analyse de l'efficacité du programme a permis de tirer plusieurs leçons concernant la diffusion des données et la fourniture des métadonnées. Premièrement, pour améliorer la transparence du programme, il serait souhaitable de mettre à jour les formulaires de métadonnées et les questionnaires nationaux sur le site web de la DG ECFIN. Deuxièmement, le journal des modifications, qui fournit aux utilisateurs une vue d'ensemble de toutes les modifications méthodologiques apportées aux données du programme, devrait être réorganisé de manière à suivre les meilleures pratiques en matière de science des données. Troisièmement, pour permettre aux utilisateurs de trouver plus facilement certaines séries de données, il serait utile de mettre en place des options de recherche et de filtrage sur le site web de la DG ECFIN. Quatrièmement, pour aider les utilisateurs non experts à comprendre comment interpréter et utiliser les données, les communiqués de presse pourraient fournir davantage de contexte. Cinquièmement, les utilisateurs du secteur privé et de la presse économique bénéficieraient d'un guide de l'utilisateur plus convivial / didactique fournissant des exemples qui illustrent une variété d'analyses et d'aperçus possibles qui peuvent être obtenus à partir des données du programme des enquêtes de conjoncture de l'UE.

L'analyse a également révélé plusieurs leçons concernant le transfert de connaissances au sein du programme. Tout d'abord, il pourrait être envisagé de revoir la conception de l'atelier annuel afin de couvrir séparément les sujets académiques/techniques et les questions de gestion pratique. Deuxièmement, les instituts partenaires ont exprimé le besoin d'une plateforme continue et centralisée pour l'échange d'informations sur les questions méthodologiques et administratives. Enfin, l'analyse a identifié un besoin de recherche future sur les différences de qualité de suivi et de prévision des données du programme des enquêtes de conjoncture de l'UE entre les pays.

#### *Efficiences :*

Cette évaluation conclut que le programme des enquêtes de conjoncture de l'UE a été efficace du point de vue des coûts et des bénéfices. Le programme, c'est-à-dire sa conception, sa méthodologie et sa mise en œuvre, a été globalement jugé approprié par tous les groupes de parties prenantes consultés aux fins de la présente évaluation. Lors de l'examen d'autres approches de suivi de l'économie, les recherches documentaires, l'analyse quantitative et les consultations des parties prenantes ont toutes montré qu'aucune n'était jugée suffisamment efficace pour remplacer l'intervention. En termes d'avantages, l'un des principaux points forts du programme est qu'il permet la comparabilité des données au niveau de l'UE sur la base de longues séries chronologiques harmonisées et considérées comme fiables par tous les utilisateurs.

Trois leçons clés ont été tirées en matière d'efficacité. Premièrement, pour réduire les coûts, les procédures administratives relatives au cofinancement du programme par l'UE pourraient être simplifiées, en tenant dûment compte des limites fixées pour la CE par le règlement financier de l'UE. En outre, les nouveaux développements et la recherche devraient être suivis de près en ce qui concerne (i) les avantages et les inconvénients de l'enquête en ligne, qui est moins chère que les modes d'enquête plus traditionnels, mais qui est en même temps associée à des inconvénients potentiels en termes de qualité des données et (ii) les nouvelles sources de données et les approches qui servent de bon complément à l'intervention, telles que les approches de données massives.

#### *Cohérence :*

La cohérence interne du programme a été étudiée entre les pays et les secteurs. Sur la base d'une sélection représentative de questionnaires nationaux, seuls de légers écarts ont été relevés dans les questionnaires, qui ont été considérés comme peu préoccupants. D'un secteur à l'autre, des différences dans les horizons temporels des questions posées dans les questionnaires ont été identifiées. Il existe également des différences dans les horizons temporels des questions composant les indicateurs composites sectoriels. Sur la base des jugements des utilisateurs et des instituts partenaires, ainsi que des arguments théoriques tirés de la littérature, on peut conclure que les différences dans les questions posées dans les enquêtes sectorielles et sélectionnées pour les indicateurs de confiance sectoriels sont

appropriées. Notre propre analyse quantitative a montré que l'évolution globale des indicateurs sectoriels n'est pas affectée par la sélection de questions d'enquête avec des horizons temporels différents.

En ce qui concerne la cohérence externe du programme des enquêtes de conjoncture de l'UE, les parties prenantes ont estimé que les enquêtes du programme étaient complémentaires à d'autres programmes d'enquête. Les consultations des parties prenantes ont confirmé que le programme des enquêtes de conjoncture de l'UE, par rapport aux enquêtes nationales existantes sur les tendances économiques, apporte une valeur ajoutée au marché, à savoir la comparabilité de ses données entre les pays et les secteurs, la cohérence de ses données et sa capacité à fournir une contribution harmonisée sur l'avenir de l'économie au niveau de l'UE.

#### *Valeur ajoutée de l'UE :*

Tant la recherche documentaire que les consultations des parties prenantes s'accordent sur le fait que les données des enquêtes de conjoncture de l'UE sont très répandues dans les prévisions à court terme et les prévisions immédiates ; le programme est donc essentiel pour l'analyse des développements économiques au niveau national et européen. L'évaluation subjective des parties prenantes est qu'il s'agit de données qui ne peuvent être collectées que par le biais d'enquêtes. Comme l'ont mentionné certains instituts partenaires, sans le programme des enquêtes de conjoncture de l'UE, leurs pays ne mèneraient pas d'enquêtes. Le programme est largement perçu comme un effort de l'UE : lorsque les utilisateurs accèdent aux données par le biais du site Web de la DG ECFIN ou d'Eurostat et les utilisent pour comparer les pays au niveau de l'UE (ce qui semble être le cas d'utilisation le plus fréquent), il n'y a aucun doute quant à l'origine des données.

#### *Pertinence :*

L'intervention est pertinente parce qu'elle fournit un outil de surveillance économique dans l'UE permettant la comparaison des cycles économiques entre les États membres et offrant une vue d'ensemble du cycle économique dans l'UE. Cela contribue au rôle de la CE dans l'information des autorités de l'UE, des États membres et des différents agents économiques sur la situation et les perspectives économiques, tant au niveau national qu'au niveau de l'UE. La pertinence du programme des enquêtes de conjoncture de l'UE n'a cessé de croître au fil des ans, grâce à son adaptation, à son évolution en termes de couverture sectorielle et géographique et à l'incorporation de nouveaux indices pertinents pour ses utilisateurs.

Afin de rendre les données du programme encore plus pertinentes pour les utilisateurs, l'analyse suggère d'étudier la possibilité de présenter les résultats de l'enquête selon une approche écosystémique plutôt que selon la répartition sectorielle classique entre l'industrie, les services, le commerce de détail, etc., d'étudier les détails pratiques de l'accord-cadre de partenariat sur la possibilité d'introduire des questions ad hoc, d'étudier les avantages et les inconvénients d'inclure la fourniture de microdonnées sur les

entreprises dans les contrats de la CE, ainsi que d'interrompre l'enquête sur le secteur des services financiers étant donné que sa pertinence a été remise en question par les utilisateurs (en particulier dans le secteur privé).

# 1 INTRODUCTION

## 1.1 PURPOSE AND SCOPE OF THE EVALUATION

This is the Final Report of the evaluation of the Joint Harmonised European Union Programme of Business and Consumer Surveys (hereafter referred to as the EU BCS Programme, the Programme or the intervention). This study carried out by Deloitte and DIW Econ is designed to help the European Commission (EC) fulfil its commitment to evaluate proportionately all EU spending and non-spending activities that are intended to have an impact on society or the economy with a view to supporting organisational learning, transparency and accountability and the efficient allocation of resources.

The last evaluation of the EU BCS Programme was completed in January 2012. Since then, significant changes have been made to the Programme:

- Introduction of two new indicators: Employment Expectations Indicator (introduced in 2020) and Economic Uncertainty Indicator (introduced in 2021)<sup>1</sup>;
- Change in the composition of the consumer confidence indicator in 2019<sup>2</sup>;
- Integration of the investment survey into the industry survey and launch of investment survey in the services survey in 2021<sup>3</sup>;
- Other methodological changes, such as a revised weighting scheme for the Financial Services Sector Survey (FSSS) in 2021<sup>4</sup>;
- New partner institute in Ireland was introduced to the Programme in 2016, thereby ending a period of several years where no partner for data collection in Ireland was available. Gaps between the new data and the data collected previously were bridged by means of a sophisticated back-casting exercise<sup>5</sup>;
- Forced changes in the survey mode applied by some partner institutes due to the COVID-19 pandemic<sup>6</sup>;
- Introduction of question on capacity utilisation in services in 2013-2014.

This evaluation covers the period from 2012 to 2021. The evaluation has the same geographic scope as the EU BCS Programme, i.e. the 27 Member States of the European Union as well as 5 candidate countries (the BCS Programme does not (yet) include Bosnia and Herzegovina, Ukraine and Moldova, which were granted candidate status in 2022). Due to the time period covered by this evaluation, the United Kingdom is also included in

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<sup>1</sup> DG ECFIN (2021). [The Joint Harmonised EU Programme of Business and consumer surveys. User Guide](#) (Updated May 2022).

<sup>2</sup> [https://ec.europa.eu/info/files/revised-consumer-confidence-indicator\\_en](https://ec.europa.eu/info/files/revised-consumer-confidence-indicator_en)

<sup>3</sup> DG ECFIN (2021). [The Joint Harmonised EU Programme of Business and consumer surveys. User Guide](#) (Updated May 2022).

<sup>4</sup> See „Note“ section in excel data files available under [https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series\\_en](https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en)

<sup>5</sup> [https://economy-finance.ec.europa.eu/system/files/2022-12/reconstructing\\_historical\\_consistent\\_dataset\\_ireland.pdf](https://economy-finance.ec.europa.eu/system/files/2022-12/reconstructing_historical_consistent_dataset_ireland.pdf)

<sup>6</sup> See „Note“ section in excel data files available under [https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series\\_en](https://ec.europa.eu/info/business-economy-euro/indicators-statistics/economic-databases/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en)

the analysis as the publication of its data in the EU BCS Programme was not discontinued until 2021.

The overarching aim of the evaluation was to assess the degree to which the intervention had achieved its objectives in terms of effectiveness, efficiency, coherence, EU added value and relevance. Several evaluation questions were associated with each evaluation criterion (Annex V. Evaluation Matrix, Details on Answers to the Evaluation Questions (By Criterion)). These questions guided this evaluation study, and the triangulated findings in answer of each question fed the conclusions and lessons learned from each evaluation criterion.

## 1.2 EVALUATION METHODOLOGY AND APPROACH

The evaluation study was conducted from June 2022 to April 2023, with data collection activities (stakeholder interviews, online questionnaire and literature review) completed in October 2022, as presented in Figure 1 – Summary of activities below.

Figure 1 – Summary of activities

| Evaluation of the Joint Harmonised European Union Programme of Business and Consumer Surveys |   | May | June | July | August | September | October | November | December | January | February | March | April |     |     |     |     |     |     |     |     |     |     |     |
|--|---|-----|------|------|--------|-----------|---------|----------|----------|---------|----------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| #  | Type of activity                              | W2  | W4   | W6   | W8     | W10       | W12     | W14      | W16      | W18     | W20      | W22   | W24   | W26 | W28 | W30 | W32 | W34 | W36 | W38 | W40 | W42 | W44 | W46 |
| 1  | Work Package 1: Desk Research                 |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 1.1  | Review of the methodology and implementation  |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 1.2  | Review of existing reporting                  |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 1.3  | Review of DG ECFIN research                   |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 1.4  | Literature review - Assessments of the survey |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 1.5  | Literature review - Use of the survey         |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 2  | Work Package 2: Consultations                 |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 2.1  | Developing the consultation strategy          |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 2.2  | Stakeholder interviews                        |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 2.3  | Online questionnaire                          |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 3  | Work Package 3: Synthesis and Research        |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 3.1  | Triangulation: Methodology and implementation |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 3.2  | Triangulation: Use of the survey              |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 3.3  | Quantitative analysis                         |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| 3.4  | Recommendations                               |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| R  | Report  |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |
| R1   | Delivery and refinement of final report       |     |      |      |        |           |         |          |          |         |          |       |       |     |     |     |     |     |     |     |     |     |     |     |

Source: Deloitte and DIW Econ

### 1.2.1 DESK RESEARCH

To gain a comprehensive overview of the design, implementation and use of the EU BCS Programme, a systematic search and analysis of existing studies, reports and evaluations was conducted. This desk research was divided into five main activities:

#### Activity 1: Review of the methodology and implementation

First, Programme documentation was reviewed, including articles and documents from the EC and its partner institutes, the User Guide (DG ECFIN, 2022), the ‘List of “best practices for the conduct of business and consumer surveys”’ (DG ECFIN, 2014), documents from the annual workshops between 2012 and 2019 on recent developments in the business and consumer surveys, the metadata information available on the DG ECFIN website as well as the country-specific questionnaires. Due to a large number of country- and sector-specific questionnaires, we conducted a rapid scan of all available documents and focused our in-depth analysis on a sample of the questionnaires for Austria, France, Germany,



Ireland, Malta, Poland, Serbia and Sweden. This sample selection ensured a broad coverage in terms of type of country (Member States versus Candidate Countries), geographic location, population size and the characteristics of the partner institutes (public versus private, etc.).

#### Activity 2: Review of previous reports and evaluations (existing reporting)

Second, previous evaluations of the EU BCS Programme were reviewed. In particular, the review focused on the 2006 European Economy Special Report No. 5 (DG ECFIN, 2006), the 2012 evaluation report by GHK and DIW Berlin (GHK Consulting & DIW Berlin, 2012), the results of the 2013 Task Force on the quality of EU BCS data as well as the 2006, 2012 and 2016 Commission Communications on the Programme.

These reports were mainly used to:

1. Identify relevant avenues of research for this evaluation,
2. Confirm the current approach to the analysis where topics and questions were overlapping with the previous evaluation exercises.
3. Assess whether and how past findings and recommendations had been addressed and led to changes in the Programme

#### Activity 3: Review of DG ECFIN research

Third, a review of DG ECFIN research was conducted to gain an overview of how DG ECFIN makes use of the survey data. In particular, this review examined in how far DG ECFIN uses the survey data for economic analysis.

This review included all available documents on DG ECFIN's publications website.

To extend the analysis beyond institutional publications, we conducted a systematic search in the bibliographic databases of Google Scholar for the research publications of DG ECFIN staff members. We limited the analysis to staff members at the time working on BCS in Unit A3 of DG ECFIN, namely Christian Gayer, Andreas Reuter, Roberta Friz, Fiona Morice and Cédric Viguié.

#### Activity 4: Literature review - Assessments of the survey

Fourthly, the desk research looked for external assessments of the EU BCS Programme. An intensive search of the literature did not reveal any evaluations or assessments of the intervention other than those commissioned by the EC. However, we investigated whether the recommendations of the handbooks on business and consumer surveys published by the OECD and the UN were in line with the current practice of the Programme, as this could be interpreted as an indirect endorsement of the methodology underlying the EU BCS Programme.

Additionally, we took into account studies assessing how useful the survey data are for monitoring and predicting economic developments in specific Member States. In general, literature assessing the usefulness of the EU BCS data for monitoring economic

developments often coincides with the literature on the use of the survey (reviewed in Activity 5 below), since many studies assess to what extent the survey data can be used for specific monitoring, prediction or analysis purposes.

#### Activity 5: Literature review – Use of the survey

Finally, desk research looked at the main users of the Programme data. Literature here was widely defined, including not only academic or policy research, but also press releases, briefing notes, corporate strategic reports, and online news portals. This was approached as an open-ended search, ensuring that unanticipated or surprising uses of the survey could also be identified.

The starting point was an online search, including a search in a general search engine as well as search engines specialising in research literature (e.g. Google Scholar, HighBeam Research, Redalyc, Chemedica or RefSeek). Our search strategy focused on locating any reference mentioning the EU BCS Programme and/or any of its indices or sectoral surveys. Beyond this internet search, we also conducted a targeted search for publications and other documents issued by the institutions listed in Table 18 – Organisations interviewed of Annex VII. Stakeholder Consultation (Synopsis Report)

This search included a check of their web pages, and (when relevant) their social media accounts. During interviews, stakeholders were asked to provide any material illustrating their use of the data generated by the Programme. This allowed us to access numerous articles and news sources not publicly available (i.e. used for internal communication within stakeholder institutions or agencies).

presents the main resources gathered through the literature review on the use of the survey. It also lists the authors we contacted as an additional source for stakeholder mapping.

#### **1.2.2 STAKEHOLDER INTERVIEWS**

The evaluation also gathered insights through stakeholder interviews with users of the EU BCS data, e.g. academia, research institutes, the media (economic press and news agencies), the private sector (mainly banks), and institutional users, as well as with the partner institutes contributing to the Programme. To collect the necessary input to carry out an appropriate evidence-based evaluation of the intervention, stakeholder consultations were critical in complementing the desk research findings by contrasting and gathering additional feedback on how stakeholders use the data and how the Programme impacts their daily work. Stakeholder consultations consisted of targeted interviews and online surveys (which are discussed in more detail in the following subsection). A Synopsis Report of the results of the stakeholder interviews is in Annex VII. Stakeholder Consultation (Synopsis Report)

Interviews were conducted using videoconferencing software, such as Zoom, Skype for Business or Microsoft Teams.

The interviews were semi-structured in nature, meaning that guidelines and a set of the questions were produced for the interviewers to follow but a level of flexibility was maintained to allow new ideas to be discussed depending on the interlocutor. The interview guides<sup>7</sup> were sent to the respective interviewees before the scheduled interview to contextualise the call and give the interviewees the possibility to prepare the feedback they wanted to highlight<sup>8</sup>.

As time was limited during the interviews (one hour) and some interviewees provided very detailed feedback, some interviews did not cover all the questions included in the interview guide and all the aspects of the Programme. As a result, interviewees were also asked to complete the online questionnaire described in the next section so they could cover questions that could not be addressed in the interview.

A total of 269 stakeholders, across all groups, were contacted over a period of 15 weeks (11 July-21 October 2022). The overall response rate was just under 40% (including negative responses). A total of 91 interviews were conducted with private sector users, institutional users, press and academics, and partner institutes.

### 1.2.3 ONLINE QUESTIONNAIRES

The main added value of online questionnaires is that they make it possible to gather quantitative data and qualitative inputs to complement the qualitative insights obtained through the stakeholder interviews and address additional questions which could not be covered during the limited time of the interviews. This permits deeper analysis of the data collected.

As with the interview guides, the online questionnaires were validated by DG ECFIN. They were conducted online via EUSurvey. To yield the desired result, several general principles were applied:

1. online questionnaires were delivered in a user-friendly manner (EUSurvey is a well-known tool used when conducting surveys for the EC);
2. the surveys were a mix of open and closed questions;
3. we committed ourselves to assuring an adequate response rate (i.e. the results of the online questionnaires were continuously monitored to follow up on gaps and take relevant mitigation action when needed).

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<sup>7</sup> The interview guides (available in Annex VIII. Interview Questionnaires were developed based on both the assessment framework and the Evaluation Matrix (Annex V. Evaluation Matrix, Details on Answers to the Evaluation Questions (By Criterion)). The length of the interview guide was dependent on the information needed and topics covered, as well as the stakeholder group of the interviewee. Four separate versions of the interview guides were produced for different stakeholders (academia, economic press, expert users and partner institutes). Annex VII. Stakeholder Consultation (Synopsis Report) contains the list of institutions interviewed.

<sup>8</sup> A limited number of stakeholders provided their feedback in writing through the interview guide word document, when not available to schedule an interview via Teams or any other means of live communication.

The online questionnaire was disseminated by email. A total of 111 stakeholders across all groups were contacted to complete the online questionnaire over a period of 15 weeks (11 July-21 October). These included stakeholders who were asked to complete the survey after an interview as well as stakeholders who were contacted only to fill out the survey. As the most homogenous group of stakeholders, DG ECFIN country desks were contacted mainly to complete the online questionnaire. The overall response rate was 45%, i.e. a total of 50 respondents provided feedback through the online questionnaire, across all stakeholder groups<sup>9</sup>.

#### 1.2.4 QUANTITATIVE ANALYSIS

The main purpose of the quantitative analysis was to assess how accurately and reliably the survey data collected by the EU BCS Programme capture economic developments in the Member States and candidate countries. To address this question, we analysed the ability of the EU BCS data to track and predict business cycle movements across the Member States and the EU. Structural factors in the current set-up of the Programme were utilised to explain differences in how well the EU BCS data captures current economic developments and differences in the data's forecasting performance.

We also examined the download statistics of EU BCS data from the EU BCS and Eurostat websites as an indicator of whether the EU BCS data are disseminated in an understandable form.

This section provides a brief description of the methods used in the quantitative analysis. A more detailed description of the quantitative analysis and the data sets is provided in Annex IV. Methodology and Analytical Models used

The baseline data set for the evaluation of the EU BCS Programme data consisted of two key variables of interest: quarterly real gross domestic product (GDP) and the monthly harmonised index of consumer prices (HICP). The data was complemented by all the available data produced by the EU BCS Programme with a monthly frequency. In addition, all monthly macroeconomic data that is available at each point when the forecast is simulated was added. The data spanned all 27 Member States plus the 5 candidate countries currently covered by the BCS programme from January 1985 onwards<sup>10</sup>. The variable selection for the data set followed the standard practice in the literature (see e.g. (Carriero, Galvao, & Kapetanios, 2019; Angelini, Camba-Mendez, Giannone, Reichlin, & Rünstler, 2008)).

##### Bivariate analysis

The bivariate analysis of the EU BCS data proceeded in two steps:

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<sup>9</sup> Annex IV. Methodology and Analytical Models used presents an overview of the main key performance indicators of the online surveys.

<sup>10</sup> While most EU BCS series are available from January 1985 onwards, the starting date depends on the EU accession date of individual countries or the date of the award of EU candidate country status.

1. First, we analysed the dynamic cross-correlations of the Economic Sentiment Indicator with log differences in real GDP and of 12-months-ahead price expectations with the log differences of the HICP.
2. Second, we ran bivariate Granger causality tests between the real GDP and HICP variables and the relevant EU BCS series.

In both cases, we used the monthly EU BCS data, monthly HICP data and quarterly real GDP data. For the cross-correlation analyses, we treated quarterly real GDP data as a monthly variable in the last month of the quarter in order to conduct the analysis at the monthly frequency. For example, quarterly real GDP in the first quarter of the year was used as an observation for real GDP in March. For the Granger causality tests, the analysis was performed at the quarterly frequency, so quarterly averages were calculated for the EU BCS data.

### Multivariate analysis

For the multivariate analysis of the forecasting performance of the EU BCS data, sets of random forecast models for all individual EU countries, candidate countries and the euro area (EA) were estimated. Models were firstly run using all available data and then re-run excluding the EU BCS data from the model. The root-mean-squared errors (RMSE) of the two models were then used to evaluate the merits of adding the EU BCS data to the models.

### Meta-analysis

Meta data such as the sample size and the sampling procedure of each of the five survey modules in each country were converted into a set of explanatory variables in order to test whether the relative forecasting performance of the EU BCS data could be explained by the survey characteristics in each sector and country. A complete list of all variables tested is provided in Annex IV. Methodology and Analytical Models used

### Alternative aggregation procedures.

This step explored alternative ways of aggregating the EU BCS Programme data into composite indicators and evaluated their impact on the forecasting performance of the EU BCS indicators.

In addition, we compared composite indicators across sectors based on their proportion of forward-looking, contemporaneous and backward-looking questions and then analysed whether deviations among sectoral indicators can be explained by the different focus of the underlying survey questions.

### 1.3 ROBUSTNESS AND LIMITATIONS OF THE EVALUATION

#### *Desk Research*

Although for some of the evaluation questions, the relevant literature was limited or ambiguous, an extended search and triangulation with the results from the stakeholder consultations and quantitative analysis could mitigate the risk of drawing false conclusions. The results derived from the desk research can thus be considered robust.

#### *Stakeholder Consultations*

Despite the low rate of participation of some stakeholder groups in both interviews and surveys, we managed to collect relevant feedback from all stakeholder groups. To avoid drawing erroneous conclusions, the answers collected during the consultation were weighted. Greater weight was given to the stakeholder group best placed to answer the question; the years of experience the person had had working in the Programme and with the Programme data was also taken into account. In addition, the results from the consultation were triangulated with findings from the desk research and quantitative analysis when relevant. With this approach and cross-check, the result derived from stakeholder consultations can thus be considered robust.

#### *Quantitative Analysis*

The results of the quantitative analysis can be considered robust. In the case of a few questions, however, there was no or only insufficient data available, requiring cautious interpretation of the empirical findings as highlighted in the corresponding sections of this report.

## 1.4 STRUCTURE OF THE DOCUMENT

This document is structured as follows:

- **Section 2** will present a description of the EU BCS Programme, its objectives and points of comparison for assessing the EU BCS Programme, followed by the Intervention Logic.
- **Section 3** describes the evolution of the EU BCS Programme from 2012 to 2021 and the current state of play.
- **Section 4** describes the evaluation findings on the following:
  - o The degree to which the Programme can be considered successful;
  - o The degree to which the Programme provided an EU added value;
  - o The relevance of the Programme.

In line with the EC's [Better Regulation Guidelines](#), these points will assess the EU BCS Programme in accordance with the following criteria: effectiveness, efficiency, coherence, EU added value and relevance.

- **Section 0** draws conclusions and presents the lessons learned from the evaluation on each of the five evaluation criteria listed above.
- The **Annexes** to this report are:
  - o **Annex I.** List of References;
  - o **Annex II.** Changes in the BCS surveys since 2012;
  - o **Annex III.** New Research;
  - o **Annex IV.** Methodology and Analytical Models used;
  - o **Annex V.** Evaluation Matrix, Details on Answers to the Evaluation Questions (By Criterion);
  - o **Annex VI.** Overview of Costs and Benefits
  - o **Annex VII.** Stakeholder Consultation (Synopsis Report);
  - o **Annex VIII.** Interview Questionnaires;
  - o **Annex IX.** Online Questionnaires.

## 2 THE JOINT HARMONISED EU PROGRAMME OF BUSINESS AND CONSUMER SURVEYS

### 2.1 DESCRIPTION OF THE EU BCS PROGRAMME AND ITS OBJECTIVES

The EU BCS Programme was launched by the EC in 1961. The Programme originally only covered the manufacturing industry, but since then the sector coverage of the Programme has been expanded considerably. Currently, the Programme covers six sectors: industry<sup>11</sup>, construction, consumers, retail trade, services<sup>12</sup> and financial services.<sup>13</sup>

Since 1961, the geographic coverage of the Programme has also been regularly extended to include new Member States as well as new candidate countries. The Programme currently covers all 27 EU Member States and five EU candidate countries (Albania, Montenegro, Republic of North Macedonia, Serbia and Turkey). The integration of candidate countries into the Programme at an early stage is necessary to provide reliable and comparable data to follow their economic situation and to guarantee the production of accurate EU aggregates once these countries become members of the EU.

The harmonised surveys are carried out at the national level by partner institutes, who follow a common methodology defined by the EC, i.e. use of harmonised questionnaires and a common timetable ensuring that each partner institute sends its survey results to the EC in a predefined format and at predetermined timings. The harmonisation of the surveys is only partial as, apart from the harmonised questionnaire and harmonised timetable, partner institutes have discretion in the specific design of the data collection and sampling. This includes, for example, the possibility of adding questions other than those harmonised by the EC in order to capture some countries' specificities. Partner institutes also decide on other methodological aspects, such as the sample design and the sample size.

DG ECFIN is responsible for aggregating and seasonally adjusting the countries' survey data to arrive at a set of composite indicators which are comparable across countries, as well as composite indicators for the EU and EA aggregates. Currently, a total of 10 composite indicators are constructed:

- Economic Sentiment Indicator (ESI)
- Industrial Confidence Indicator
- Services Confidence Indicator
- Financial Services Confidence Indicator
- Consumer Confidence Indicator
- Retail Trade Confidence indicator

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<sup>11</sup> Differently from the construction, retail trade, consumer and financial services sector survey, the industry survey contains bi-annual questions on firms' investment.

<sup>12</sup> Differently from the construction, retail trade, consumer and financial services sector survey, the services survey contains bi-annual questions on firms' investment

<sup>13</sup> European Commission Directorate-General for Economic and Financial Affairs. (May 2022). The Joint Harmonised EU Programme of Business and consumer surveys User Guide. [https://economy-finance.ec.europa.eu/system/files/2022-12/bcs\\_user\\_guide.pdf?](https://economy-finance.ec.europa.eu/system/files/2022-12/bcs_user_guide.pdf?)



- Construction Confidence Indicator
- Business Climate Indicator
- Employment Expectations Indicator (introduced in 2020)
- Economic Uncertainty Indicator (introduced in 2021).

As further explained in the following section, the EC releases these indicators and responses to the underlying survey questions monthly on the DG ECFIN website (as well as a subset of the available data on Eurostat's website) accompanied by a press release. The results of the Consumer Confidence Indicator at the aggregate EU and EA levels are published in a Flash (press) release one week ahead of the other survey results. This dissemination strategy means that EU BCS data users have at their disposal each month harmonised, and therefore comparable, data on the economic situation at both national and EU/EA levels.

Traditionally, an intervention is evaluated using a benchmark / point(s) of comparison to assess its outputs and its impact. Typically, this would be the situation as it was before the Programme was first implemented. However, since the EU BCS Programme was introduced in 1961, the period before its introduction is not an adequate reference period because the data available prior to that data is poor (Leatherdale, 2019). Even with sufficient data, it would hardly be possible to transfer insights from the impact then to today's situation, since the economic and political environment, the needs of the users as well as the EU BCS Programme itself have constantly changed over the last 60 years.

Choosing a later date is not feasible either, as the intervention is characterised by a high level of methodological consistency. A comparison with a later date would in all likelihood result in rather uninteresting findings.<sup>14</sup> This evaluation therefore uses different points of comparison, namely relevant academic literature, comparable survey programmes, and the stakeholder consultation to evaluate the outputs and impact of the EU BCS Programme.

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<sup>14</sup> In case of methodological changes or breaks in the series, partner institutes are required to provide consistent back-casts of data before the change or break, calculated based on overlapping samples of at least three months (DG ECFIN, 2022a). In other words, comparative data may not be available because the time series are automatically adapted and methodological adjustments are not reflected in the time series.

## 2.2 INTERVENTION LOGIC

The intervention logic links the Programme and its specific outputs with specific results and the overall impact. It thereby provides a summary of how the intervention is expected to work.

The EU BCS Programme is one of the instruments through which the EC carries out its Treaty-based task of economic surveillance, informing the EU authorities, the Member States and numerous economic actors about the economic situation and outlook.

### Problems and needs

According to the Treaty, the EC is to contribute to providing information to the EU authorities, Member States and the various economic agents on the economic situation at both national and Community level. This responsibility is founded in the need of the EC to have an early warning signal tool to monitor the economic situation of the EU economy and the necessity, for political bodies and policymakers, to have access for proper decision making, research, etc. to harmonised information allowing comparison across countries and aggregation at the EU level.

### Objectives

The main objective of this intervention is to set up a mechanism for economic surveillance facilitating effective monitoring of the EU business cycle and comparison of the business cycles between the different member countries. This general objective is translated into two specific objectives: 1) provide proper information on the economic situation at the national and EU level, and 2) provide frequent and rapidly available information on macroeconomic developments that is relevant for economic policy analysis, recommendations and decisions.

### Inputs

Three main inputs underpin the carrying out of this intervention. First, EC resources (i.e. DG ECFIN staff time) devoted to the development of the harmonised methodology, the selection every 4 to 6 years of partner institutes, and the financial management of the grant, as up to 50% of the survey cost is met by the EU via grants<sup>15</sup>. Second, the partner institutes, who carry out the work of surveying companies and consumers at the national level with the financial support of the EU and, possibly, additional domestic co-funding from third parties. (National co-financing of surveys can come from public contributions, membership fees, sponsorships and/or data sales.) Third, regular evaluations of the EU

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<sup>15</sup> EU grants are intended to cover the incremental costs that arise from the inclusion of additional harmonised questions or the addition of new sectors and branches in the surveys and/or the change of certain questions from a non-harmonised to a harmonised type.

BCS Programme assessing the performance of the intervention compared to initial expectations.

## Outputs

The main outputs of the EU BCS Programme are the six sectoral surveys conducted by the partner institutes, the ten composite indices created by the EC, the publications issued by the EC, i.e. monthly press releases, an electronic database, DG ECFIN research and inputs for forecasts, the quarterly bulletin of European Business Cycle Indicators, and the workshops organised by the EC to discuss methodological issues with partner institutes.

## Results

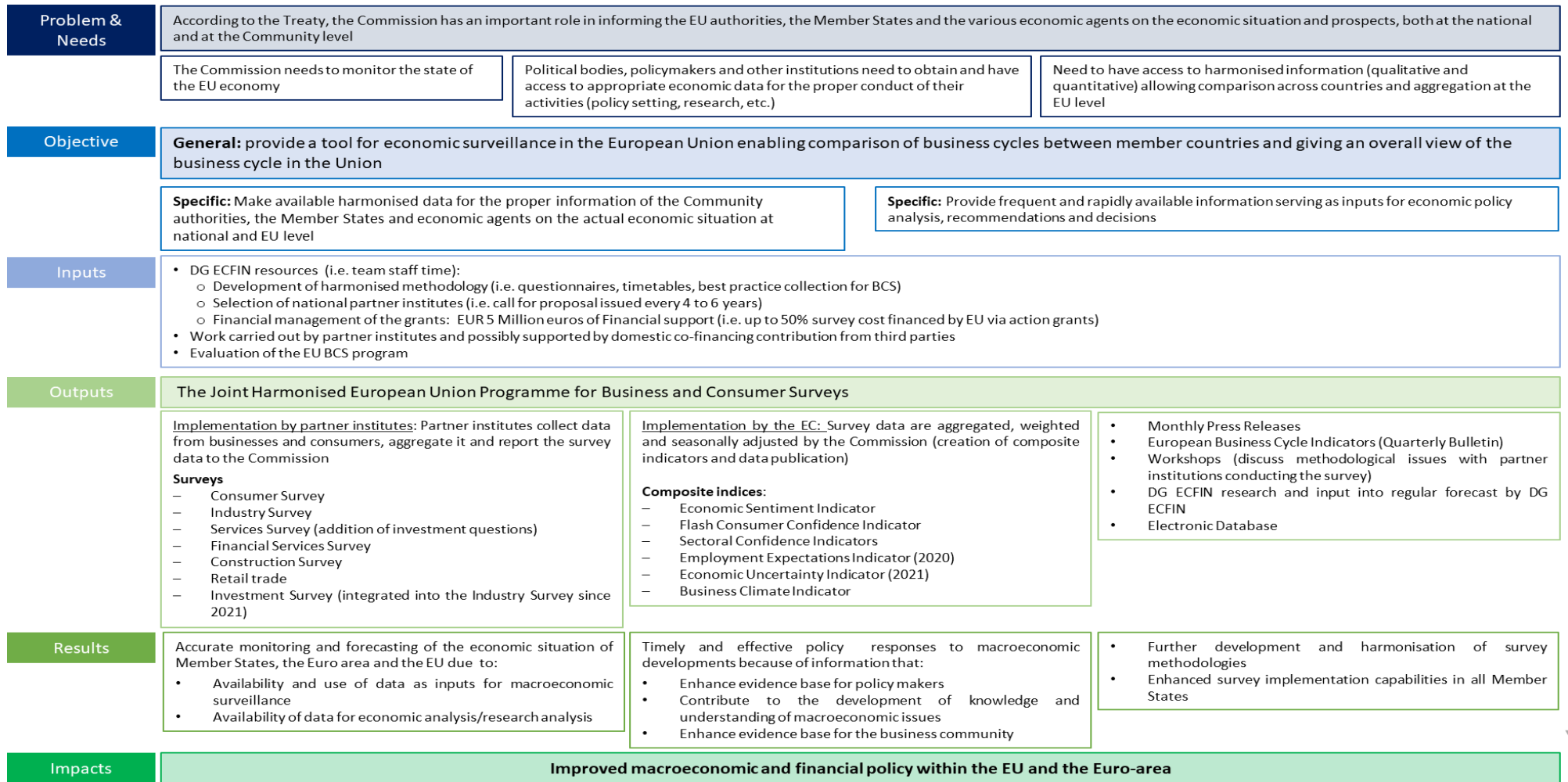
The surveys provide data used by the Commission services for accurate macroeconomic surveillance and forecasting of the Member States', the candidate countries', the EA and the EU economic situation. The monthly data generated by this Programme provide timely indications for policymakers on where the economy is heading, contribute to the development of scientific knowledge for the understanding of macroeconomic issues and contribute to business decisions taken by companies. In addition, the harmonised methodology used in this Programme contributes to the further development and harmonisation of survey methodologies that are increasingly implemented in other programmes in both Member States and other non-EU or non-candidate countries.

## Impact

With the concatenation of all the elements previously described, the intervention should contribute to improving macroeconomic and financial policy within the EU and the EA.

The intervention logic presented in Figure 2 below was validated by DG ECFIN and guided the evaluation work, by setting the framework needed to develop the evaluation matrix and serving as a point of comparison between the actual and intended outputs, results and impacts. The links between the different components of this intervention logic demonstrate the necessity for the evaluation to cover the Programme design, administration, implementation by partner institutes and the EC, and the use of the survey to comprehensively evaluate the EU BCS Programme. Structuring the Programme in different stages, different stakeholder groups were identified to answer different evaluation questions.

Figure 2 – Intervention Logic



Source: Deloitte and DIW Econ

### 3 THE EVOLUTION OF THE EU BCS PROGRAMME FROM 2012 TO 2021

The EU BCS Programme was set up in 1961 and last approved by virtue of Commission Decision C (97) 2241 of 15 July 1997. Regular updates on the implementation of the Programme are frequently presented in Commission communications, Commission staff working papers, publicly available calls for proposals and further announcements on the website of DG ECFIN (DG ECFIN, 2022).

The first harmonised survey, covering the industrial sector, was launched in 1962. Since then, the scope of the Programme has expanded in terms of both the countries and sectors included. Currently, the Programme covers all 27 EU Member States and five EU candidate countries (Albania, Montenegro, Republic of North Macedonia, Serbia and Turkey) and encompasses six sectoral surveys in industry (manufacturing), construction, among consumers, in retail trade, services and financial services (DG ECFIN, 2022; Eurostat, 2022). Table 1 shows the changes in sector coverage over time.

Table 1 – Sectoral Coverage of the EU BCS Programme

| Sector             | Survey Start Year | Nominal Sample (EU) |
|--------------------|-------------------|---------------------|
| Industry           | 1962              | 38,000              |
| Construction       | 1966              | 22,000              |
| Consumers          | 1972              | 32,000              |
| Retail Trade       | 1984              | 28,000              |
| Services           | 1996              | 47,000              |
| Financial Services | 2006              | 750                 |

Source: Deloitte and DIW Econ

### 3.1 CURRENT STATE OF PLAY

Since the last external evaluation of the EU BCS Programme in 2012, there have been various adjustments and changes that have affected the entire Programme. A comprehensive list of all changes since 2012 is included in Annex II. The most important changes include:<sup>16</sup>

- **Adaptation of the questions:** Introduction of new questions on capacity utilisation in services (2012), uncertainty (2021) and a change from quantitative to qualitative questions on the investment plans of industry, as well as extension of the investment survey to the services sector (2021).
- **Methodological adjustments:** Revision of the Consumer Confidence Indicator (2019) (European Commission, 2018), country weights used to calculate the EU and EA aggregates have been revised in cases where countries joined or left the Programme, revision of the weighting scheme of the FSSS and changes in the seasonal adjustment procedure (2022). In addition, some partner institutes were forced to temporarily change the way the survey was conducted due to the COVID-19 pandemic (2020).
- **Introduction of new indicators:** The Employment Expectations Indicator (2020); the Economic Uncertainty Indicator (2021) (DG ECFIN, 2022).
- **Inclusion of new countries in EU/EA aggregates:** Croatia was included in the EU aggregates (2013) and Latvia (2014), Lithuania (2015) and Croatia (2023) were included in the EA aggregates. Furthermore, partially missing data from Ireland were back-casted for the period 2008 to 2016. The historical values as well as the country weights were revised accordingly (2019). The UK data was removed from the EU aggregates (Construction in 2019 and all other aggregates in 2020) following the UK's exit from the EU.

The last decade also saw several adjustments at national level, mainly in survey design, data collection, sampling and weighting methods, changes of partner institutes and revision of selected questions and data series<sup>17</sup>. Most of the adjustments were based on sound theoretical and empirical considerations, including pilot studies prepared in advance and published on DG ECFIN's website (Friz, 2018; Friz, 2018a; Slentoe, 2015; Junes, 2014). At present, the six harmonised surveys are carried out at national level by public and private partner institutes, such as central banks, research institutes or private market research firms. The financial services sector survey is an exception. It is conducted

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<sup>16</sup> Unless cited otherwise, see “Note“ section in Excel data files available under [https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series\\_en](https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en)

<sup>17</sup> For a more comprehensive overview, see the information sheets included in the downloadable data files at [https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series\\_en](https://economy-finance.ec.europa.eu/economic-forecast-and-surveys/business-and-consumer-surveys/download-business-and-consumer-survey-data/time-series_en)

exclusively by a single private institute at the EU and EA level. In total, around 135,000 businesses and 32,000 consumers are surveyed across the EU every month. The sample size varies across countries and sectors. In addition to the monthly questions, there are also, depending on the sector, additional harmonised quarterly questions, as well as biannual questions on investment in industry and services (DG ECFIN, 2022; Eurostat, 2022).

The monthly questions in the **industry survey** focus on qualitative assessment of recent and expected production trends, the current level of order books and stocks, perceived economic uncertainty, as well as expected sales prices and employment. On a quarterly basis, questions on the quantitative assessment of capacity utilisation, factors limiting production and the number of months for which the current production is assured are included in the questionnaire. Furthermore, questions on firms' investment activities are added biannually (DG ECFIN, 2022; Eurostat, 2022).

The surveys on the **services and financial services sector** also provide monthly information on the recent business situation and past and future employment. Similar to the industry survey, the service sector survey encompasses additional questions on perceived economic uncertainty and the development of selling prices as well as a biannual question on firms' investment activities. Furthermore, the services survey contains a quarterly question on factors limiting business and capacity utilisation, while the financial services sector survey features several questions on operating income, expenses and the competitive position (DG ECFIN, 2022; Eurostat, 2022).

The survey on **retail trade** relies solely on monthly questions on recent and expected developments in business activity, the current level of stocks, perceived economic uncertainty, and expectations about further sector-specific economic variables, such as orders placed with suppliers, employment and selling prices.

The **construction survey** mainly provides qualitative information on short-term developments such as building activity in the last three months, current order books and perceived economic uncertainty, as well as factors limiting the building activity. In addition, construction companies are asked quarterly about the number of months during which production is secured by work already contracted for (DG ECFIN, 2022; Eurostat, 2022).

Finally, the **consumer survey** covers monthly and quarterly questions on households' financial situation, the general economic situation, including prices and unemployment, savings and intentions about major purchases as well as perceived economic uncertainty.

Overall, the intervention provides frequent snapshots of judgements and expectations on diverse facets of the overall economy and the financial/business situation of the economic actors surveyed (DG ECFIN, 2022; Eurostat, 2022).

The information collected is used to calculate balances, the difference between the percentages of respondents giving positive and negative replies for each individual

question<sup>18</sup>. Based on these balances, composite indicators are constructed for each sector and the economy as a whole from a predefined subset of survey questions, namely:

- **Sectoral confidence indicators:** These indicators are arithmetic means of answers to a selection of questions providing information on economic developments in the different sectors.
- **Economic Sentiment Indicator (ESI):** The ESI draws on the results from all the business surveys, excluding the financial services sector, and from the consumer survey. Roughly speaking, the ESI can be viewed as a summary of the five sector-specific confidence indicators.
- **Business Climate Indicator (BCI):** The BCI is based on balances calculated from the questions on production trends in recent months, order books, export order books, stocks and production expectations in the industry survey. The indicator serves as a timely composite indicator for the manufacturing sector in the EA and can therefore be seen as a complement to the industrial confidence indicator.
- **Employment Expectations Indicator (EEI):** Since 2020, the EEI has summarised managers' employment plans in the four business sectors surveyed (industry, services, retail trade and construction) and thus provides a timely indication of expected changes in dependent employment.
- **Economic Uncertainty Indicator (EUI):** Since 2021, the EUI has helped track the development of economic uncertainty within the EU. The indicator is a weighted average of the answers to the questions in the four business surveys and the consumer survey on the difficulties of predicting the future economic situation.

In addition, for the industry, services, retail trade and construction survey, the results are broken down by branches according to the Statistical classification of economic activities in the European Community, NACE Rev. 2<sup>19</sup> at the two-digit level. For the consumer survey, the results are categorised according to income, occupation, employment regime (part versus full-time), education level, age and sex.

The results of the BCS are published two working days before the end of each month. The results of the Consumer Confidence Indicator at the aggregate EU and EA levels are published in a flash release one week ahead of the detailed consumer survey results around the 20th of each month.

In general, the results of the BCS are available through two different channels. First, DG ECFIN publishes the data in monthly press releases and additional reports. All press releases and all data including long-time series in xls format can be downloaded from DG ECFIN's website. In addition to the monthly publication, the EC publishes a quarterly report, the 'European Business Cycle Indicators' (EBCI). The report focuses on quarterly

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<sup>18</sup> In order to allow analysts and researchers to quantify the survey results using methods other than the balance statistics, detailed results by answer categories are provided online on DG ECFIN's BCS website.

<sup>19</sup> <https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF>



developments and therefore provides better information on trend changes that are more difficult to identify on a monthly basis. It is therefore a valuable complement to the monthly press releases. Each edition also contains an analytical special topic, using the survey data for various topical economic analyses. Second, a sub-set of the data are also available in Eurostat's database either as ready-made tables or detailed datasets (DG ECFIN, 2022; Eurostat, 2022).

## 4 EVALUATION FINDINGS

### 4.1 TO WHAT EXTENT WAS THE EU BCS PROGRAMME SUCCESSFUL AND WHY?

The following section analyses the success of the EU BCS Programme. Success is defined around a set of key criteria. In particular, this section assesses the degree to which the Programme reached its objectives, as laid down in the intervention logic. The Programme's efficiency considers the implementation and financing design, the costs and benefits of the intervention and potential alternative approaches to monitoring the economy. Finally, this section takes a deeper look at the internal and external coherence of the EU BCS Programme.

#### 4.1.1 EFFECTIVENESS

This section evaluates the ability of the EU BCS Programme to fulfil its function as outlined in the underlying legal framework.

##### *Objectives relating to surveillance (Q1-3,5)*

*Q1: How successful was the Programme in achieving the objective of providing data for economic surveillance in the European Union enabling comparison of business cycles between Member States and giving an overall view of the business cycle in the Union? & Q2: How accurately and reliably do the survey data collected by the Programme capture economic developments in the Member States and candidate countries?*

Survey data are generally regarded by both academic researchers and professional economists as an important tool for monitoring the current state of the economy. Having them available quickly allows changes in trends to be identified before hard data are available (Buss, 2015; Rossen, 2012). The Programme Survey data are not only available on a timely basis at an aggregate level, but even at sectoral (industry, services, construction, retail trade) and sub-sectoral (branch) level. This is a major advantage compared to official data which provide sectoral data with a delay of three months.

Another important feature of the BCS survey data when compared to other leading indicators is that the EU BCS data contain subjective expectations about the (future) state of the economy. All these features were frequently highlighted by partner institutes and users during the interviews as reasons why the EU BCS data plays an important role in economic surveillance and business cycle analysis. In the online survey, 100% of the users reported that the EU BCS data have been an essential input for monitoring and now-/forecasting of economic developments in their country.

This is also underscored by the fact that EU BCS figures have been frequently quoted in the media and used by a wide-ranging audience, including policymakers, researchers and financial analysts. For example, Google listed 1 920 search results for the year 2022 when

searching for "economic sentiment indicator", and Google Scholar showed 150 publications citing the sentiment indicator in 2022.

Several academic papers also show that the EU BCS data are well-suited for monitoring economic developments and business cycles across countries (see e.g. (Sorić, 2018; Cesaroni & Iezzi, 2017; Hamara & Juriová, 2016; Österholm, 2014; Sorić, Lolić, & Čižmešija, 2016)). Yet, there are significant cross-country and sectoral differences in how well the EU BCS data capture economic developments (United Nations, 2015; Curtin, 2007).

Our own quantitative analysis confirms the findings from the academic literature. To test the accuracy and reliability of EU BCS data in capturing economic developments in Member States and candidate countries, we examined the relationship between the ESI and real GDP growth as well as the relationship between BCS consumer price expectations and HICP-based inflation. In particular, Table 2 shows the cross-correlations between log real GDP growth (year-on-year as a measure of overall economic development) and selected lags of the ESI. A strong relationship between the ESI and economic growth can be observed from the data.

Apart from Bulgaria, the contemporaneous correlation lies consistently above 0.5 in all countries, suggesting that the ESI provides a significant amount of information and describes overall economic development well. In 13 countries (39%), the contemporaneous correlation is at least 0.7, implying a particularly strong correlation between the ESI and real GDP growth. Furthermore, the correlations tend to be even higher at the first and second monthly lag of the ESI. In fact, for 28 countries (85%), the correlation reaches its peak at the first or second monthly lag of the ESI. This implies that the ESI leads future real GDP growth and is helpful for real GDP growth forecasting.

Table 2 – Cross-correlations between the EU BCS Economic Sentiment Indicator and real GDP growth

| Geo Unit | Correlation with monthly lags in economic sentiment |      |      |      |
|----------|---|------|------|------|
|          | -3  | -2   | -1   | 0    |
| AT       | 0.58  | 0.71 | 0.69 | 0.62 |
| BE       | 0.56  | 0.73 | 0.73 | 0.69 |
| BG       | 0.45  | 0.50 | 0.43 | 0.35 |
| CY       | 0.73  | 0.84 | 0.86 | 0.86 |
| CZ       | 0.63  | 0.72 | 0.73 | 0.73 |
| DE       | 0.67  | 0.67 | 0.66 | 0.66 |
| DK       | 0.53  | 0.66 | 0.61 | 0.57 |
| EA19     | 0.64  | 0.79 | 0.79 | 0.75 |
| EE       | 0.69  | 0.74 | 0.74 | 0.73 |
| EL       | 0.76  | 0.79 | 0.84 | 0.84 |
| ES       | 0.58  | 0.73 | 0.72 | 0.65 |
| EU27     | 0.65  | 0.80 | 0.80 | 0.76 |

| <b>Geo Unit</b> | <b>Correlation with monthly lags in economic sentiment</b> |      |      |      |
|-----------------|--|------|------|------|
| FI              | 0.77   | 0.80 | 0.81 | 0.78 |
| FR              | 0.45   | 0.61 | 0.63 | 0.59 |
| HR              | 0.64   | 0.76 | 0.76 | 0.75 |
| HU              | 0.58   | 0.70 | 0.72 | 0.68 |
| IE              | 0.64   | 0.68 | 0.72 | 0.73 |
| IT              | 0.54   | 0.66 | 0.78 | 0.74 |
| LT              | 0.59   | 0.60 | 0.58 | 0.58 |
| LU              | 0.45   | 0.50 | 0.52 | 0.54 |
| LV              | 0.59   | 0.65 | 0.65 | 0.64 |
| MK              | 0.24   | 0.62 | 0.63 | 0.62 |
| MT              | 0.68   | 0.83 | 0.81 | 0.71 |
| NL              | 0.74   | 0.85 | 0.83 | 0.79 |
| PL              | 0.54   | 0.63 | 0.64 | 0.68 |
| PT              | 0.61   | 0.75 | 0.81 | 0.76 |
| RO              | 0.65   | 0.73 | 0.73 | 0.70 |
| RS              | 0.25   | 0.59 | 0.68 | 0.58 |
| SE              | 0.60   | 0.67 | 0.67 | 0.64 |
| SI              | 0.62   | 0.74 | 0.71 | 0.66 |
| SK              | 0.55   | 0.69 | 0.62 | 0.62 |
| TR              | 0.65   | 0.70 | 0.67 | 0.71 |
| UK              | 0.57   | 0.67 | 0.68 | 0.66 |

*Note : Sample sizes: AL (n= 71, Dec 2016-Sep 2022), AT, FI, SE (n= 327, Oct 1995-Sep 2022), BE, DE, DK, EL, FR, IE, NL (n= 456, Jan 1985-Sep 2022), BG, CY, LT, LV, PL (n= 260, May 2001-Sep 2022), CZ (n= 336, Jan 1995-Sep 2022), EA19 (n= 384, Jan 1991-Sep 2022), EE (n= 312, Jan 1997-Sep 2022), ES, PT (n= 439, Jun 1986-Sep 2022), EU27 (n= 265, Dec 2000-Sep 2022), HR (n= 212, May 2005-Sep 2022), HU (n= 359, Feb 1993-Sep 2022), IT (n= 515, Jan 1980-Sep 2022), LU (n= 252, Jan 2002-Sep 2022), ME (n= 84, Dec 2015-Sep 2022), MK (n= 128, May 2012-Sep 2022), MT (n= 242, Nov 2002-Sep 2022), RO (n= 228, May 2001-Sep 2022), RS (n= 116, May 2013-Sep 2022), SI (n= 322, Mar 1996-Sep 2022), SK (n= 285, Apr 1999-Sep 2022), TR (n= 188, May 2007-Sep 2022), UK (n= 432, Jan 1985-Dec 2020).*

Source: Estimates by DIW Econ.

Table 3 shows the cross-correlations between log HICP-based inflation (year-on-year) and EU BCS consumer price expectations (12 months ahead) taken from the consumer survey module. The correlation coefficients suggest that the link between price expectations and inflation is significant. The contemporaneous correlation of price expectations with HICP-based inflation is 0.76 across the EU as a whole, suggesting a strong correlation. The correlation is similarly high for the first three monthly lags of price expectations at the EU level (ranging from 0.65 for the third lag to 0.80 for the first and second lag). For 25 countries (76%), a moderately strong correlation above 0.5 is observed at one of the first three lags, while for nine of these countries, the correlation even lies above 0.7, implying a particularly strong relationship. For six countries (18%), the correlation is rather weak and lies in the range between 0.4 and 0.5. For two (6%) countries, the correlation is particularly weak, below 0.4 across all lags, which is too imprecise to be useful for tracking/forecasting inflation.

Correlations for longer time-horizons, i.e. lags 4-12 (not reported in the table), are lower. Although the correlations are highest at short time horizons, this is still a significant advantage compared to official statistical data on inflation (1-3 months lag + 1 month publication lag for official inflation data).

Table 3 – Cross-correlations between the BCS consumer price expectations (over next 12 months) and log HICP-based inflation

| Geo Unit | Correlation with monthly lags in price expectations |      |      |      |
|----------|---|------|------|------|
|          | -3  | -2   | -1   | 0    |
| AL       | 0.74  | 0.72 | 0.72 | 0.70 |
| AT       | 0.57  | 0.56 | 0.56 | 0.55 |
| BE       | 0.55  | 0.55 | 0.54 | 0.52 |
| BG       | 0.47  | 0.49 | 0.50 | 0.49 |
| CY       | 0.68  | 0.68 | 0.68 | 0.67 |
| CZ       | 0.71  | 0.70 | 0.68 | 0.66 |
| DE       | 0.64  | 0.65 | 0.65 | 0.65 |
| DK       | 0.04  | 0.04 | 0.03 | 0.01 |
| EA19     | 0.74  | 0.76 | 0.77 | 0.77 |
| EE       | 0.50  | 0.50 | 0.49 | 0.47 |
| EL       | 0.69  | 0.69 | 0.70 | 0.70 |
| ES       | 0.64  | 0.66 | 0.67 | 0.69 |
| EU27     | 0.72  | 0.74 | 0.75 | 0.75 |
| FI       | 0.72  | 0.72 | 0.70 | 0.67 |
| FR       | 0.38  | 0.38 | 0.39 | 0.38 |
| HR       | 0.80  | 0.80 | 0.80 | 0.78 |
| HU       | 0.43  | 0.42 | 0.41 | 0.41 |
| IE       | 0.80  | 0.79 | 0.77 | 0.74 |
| IT       | 0.76  | 0.76 | 0.76 | 0.76 |
| LT       | 0.44  | 0.41 | 0.39 | 0.34 |
| LU       | 0.43  | 0.46 | 0.49 | 0.51 |
| LV       | 0.68  | 0.66 | 0.62 | 0.58 |
| ME       | 0.61  | 0.62 | 0.63 | 0.63 |
| MK       | 0.49  | 0.47 | 0.40 | 0.25 |
| MT       | 0.45  | 0.47 | 0.48 | 0.48 |
| NL       | 0.53  | 0.51 | 0.49 | 0.45 |
| PL       | 0.51  | 0.54 | 0.59 | 0.70 |
| PT       | 0.44  | 0.44 | 0.42 | 0.41 |
| RO       | 0.63  | 0.64 | 0.64 | 0.63 |
| RS       | 0.79  | 0.79 | 0.78 | 0.78 |
| SE       | 0.67  | 0.67 | 0.65 | 0.62 |
| SI       | 0.73  | 0.73 | 0.74 | 0.74 |
| SK       | 0.71  | 0.70 | 0.68 | 0.66 |
| TR       | 0.55  | 0.56 | 0.57 | 0.59 |

| Geo Unit | Correlation with monthly lags in price expectations |      |      |      |
|----------|---|------|------|------|
| UK       | 0.58  | 0.57 | 0.56 | 0.54 |

Note : Sample sizes: AL (n= 71, Dec 2016-Sep 2022), AT, FI, SE (n= 327, Oct 1995-Sep 2022), BE, DE, DK, EL, FR, IE, NL (n= 456, Jan 1985-Sep 2022), BG, CY, LT, LV, PL (n= 260, May 2001-Sep 2022), CZ (n= 336, Jan 1995-Sep 2022), EA19 (n= 384, Jan 1991-Sep 2022), EE (n= 312, Jan 1997-Sep 2022), ES, PT (n= 439, Jun 1986-Sep 2022), EU27 (n= 265, Dec 2000-Sep 2022), HR (n= 212, May 2005-Sep 2022), HU (n= 359, Feb 1993-Sep 2022), IT (n= 515, Jan 1980-Sep 2022), LU (n= 252, Jan 2002-Sep 2022), ME (n= 84, Dec 2015-Sep 2022), MK (n= 128, May 2012-Sep 2022), MT (n= 242, Nov 2002-Sep 2022), RO (n= 228, May 2001-Sep 2022), RS (n= 116, May 2013-Sep 2022), SI (n= 322, Mar 1996-Sep 2022), SK (n= 285, Apr 1999-Sep 2022), TR (n= 188, May 2007-Sep 2022), UK (n= 432, Jan 1985-Dec 2020).

Source: Estimates by DIW Econ.

Beyond their ability to monitor GDP and inflation, EU BCS data can be used for various other monitoring and analytical purposes, as evidenced by available literature (Grech & Ellul, 2021; Sorić, 2018; Österholm, 2014). For example, EU BCS data have been successfully used to analyse and monitor developments in foreign direct investments (FDI) in EU economies (Ciešlik & Ghodsi, 2021), as well as to predict recessions (Erjavec, Sorić, & Čizmešija, 2016), retail sales and future unemployment developments (Claveria O. , 2021; Claveria, O. , 2019; van Aarle & Kappler, 2012). In addition, the data has been used to analyse and describe the demand for tourist services or the quality of life in EU countries (Skikiewicz & Blonski, 2018; Altin & Uysal, 2014).

In conclusion, the frequent use of the data in the media<sup>20</sup> and in academic research as well as our quantitative results indicate that the EU BCS Programme provided robust data that allowed for reliable monitoring of economic developments and business cycles in the EU Member States and candidate countries. This assessment was also shared by stakeholders, who indicated that EU BCS data made an important contribution to monitoring and forecasting economic developments in their country.

*Q3: Could the ability of the data to capture economic developments be enhanced through different aggregation techniques?*

Aggregation takes place at various points within the Programme. Firstly, all answers obtained from the BCS are aggregated as “balances”, i.e. the difference between the percentages of respondents giving positive and negative replies. Secondly, the EC calculates EU and EA aggregates based on the national data. The sector-specific confidence indicators are constructed as the arithmetic mean of selected balance series of certain questions<sup>21</sup>. The components of the five sectoral confidence indicators are finally

<sup>20</sup> The frequent use of the data in the media is evidenced by the Google search results cited in answer to Question 1. In the year 2022, Google listed 1 920 search results when searching for “economic sentiment indicator”.

<sup>21</sup> The selection of questions is guided by the aim of achieving the highest possible coincident correlation of the confidence indicator with a reference series. The industrial confidence indicator, for example, is built as the arithmetic average of the balances to the questions on production expectations, order books and stocks of finished products, and is designed to track year-on-year growth in industrial production.

aggregated, in standardised form, into the ESI using weights for each sector. The sectoral weights deployed by the EC are determined by two criteria, namely the overall economic representativeness of the given sector and the performance of the confidence indicators in tracking their respective benchmark (DG ECFIN, 2022).

A handful of papers have dealt with the notion of different aggregation techniques and maximising the usefulness of survey data for forecasting. Gelper and Croux (2010), and more recently, Sorić, Lolić, & Čižmešija (2016) and Lukac and Cizmesija (2021) show that letting the aggregation weights of each component of the ESI be data-driven improves forecasting performance in a statistically significant way<sup>22</sup>. Claveria, Monte, & Torra (2021) tested the performance of sentiment indicators derived from machine-learning methods and provided evidence that these estimates outperform current confidence indicators in nowcasting in half the EU countries.

In our own quantitative analysis, we tested whether the performance of the ESI for now-/forecasting real GDP growth could be improved by a different aggregation in terms of the time horizons of the survey questions used in the indicator. In particular, we constructed two alternatives to the ESI by using only questions focussing on the ‘current’ situation or the ‘future’<sup>23</sup>.

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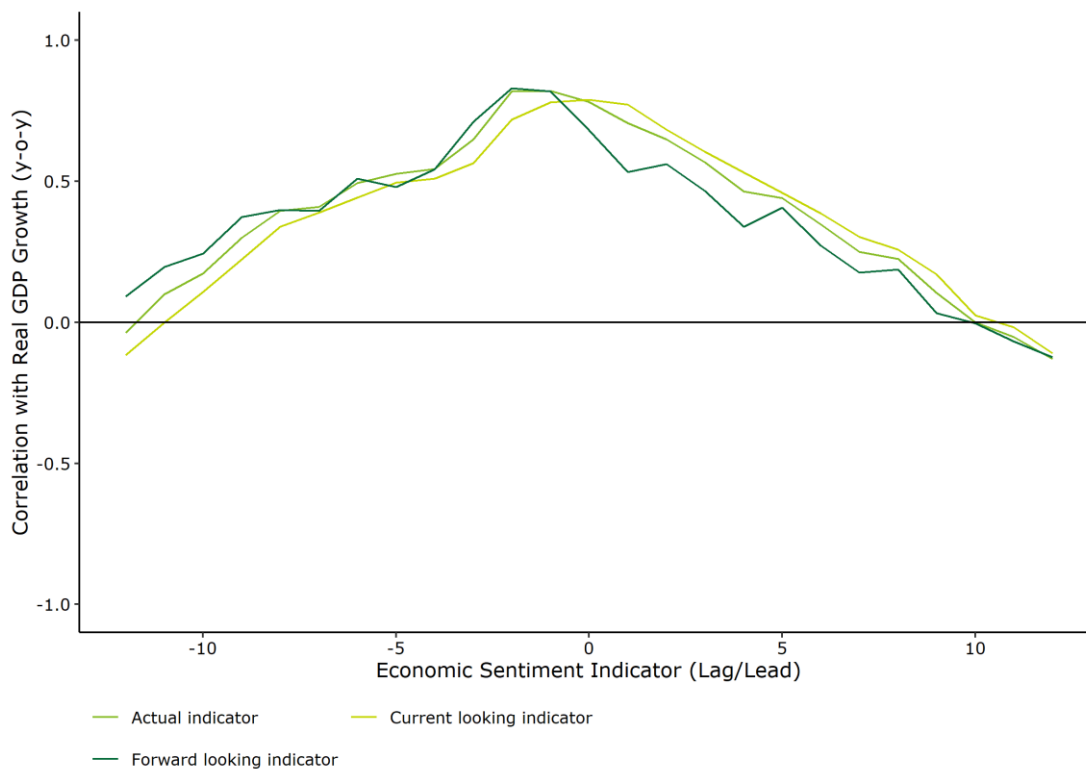
<sup>22</sup> Gelper & Croux (2010) use dynamic factor analysis and partial least squares, Sorić, Lolić, & Čižmešija, (2016) models that minimise the root mean square error in simple GDP forecasting or maximise the correlation coefficient between ESI and GDP growth, and Lukac and Cizmesija (2021) models that minimise the sum of estimation errors, or maximise the number of correctly predicted directions of change for GDP growth.

<sup>23</sup> The weighting and aggregation of the component series was performed following the aggregation procedure described in the BSC User Guide.

Figure 3 – Cross-correlations between real GDP growth and alternative economic sentiment indicators shows the cross-correlations of year-on-year real GDP growth with the existing ESI (=actual indicator), the new forward-looking indicator and the new indicator focused on the current situation for the EU-27. The graph reveals no significant differences between the correlations of the three series. This suggests that the now-/forecasting performance could not be significantly improved by focusing only on forward-looking or only current-looking questions in the ESI.



Figure 3 – Cross-correlations between real GDP growth and alternative economic sentiment indicators



Note: Sample size: EU-27 ( $n = 106$ , Nov 2013-Sep 2022)

Source: Estimates by DIW Econ.

When pondering the possibility of changing the composition of the ESI, it should also be considered that a majority of users interviewed in the stakeholder consultation highlighted that the availability of long and stable time series is very important for them. With data-driven and machine learning aggregation methods, the weights would change frequently. Changes in the weightings could be applied retrospectively to the indicators to ensure the internal consistency of the time series. However, frequent retrospective changes in the data might cause confusion among users and would be difficult to communicate to non-experts if they were based on complex data-driven methods (Terzi, Otoi, Grimaccia, Mazziotta, & Pareto, 2021).

In conclusion, the literature review shows that the ability of the EU BCS data to capture economic developments could potentially be improved by data-driven aggregation methods and machine-learning techniques in a statistically significant way. However, these methods would lead to frequent changes in the weights; the resulting retrospective changes in the time series of the indicators would be difficult to communicate to users. Moreover, the Economic Sentiment indicator already provides valuable information for monitoring economic developments in the EU, as evidenced by the strong correlations between the ESI and real GDP growth shown above.

*Q5: How useful are the EU BCS data for nowcasting/forecasting relevant economic variables?*

The most important selection criteria for good now-/forecasting indicators are timeliness, reliability, smoothness (i.e. absence of excess volatility) and a strong correlation with the predicted/forecasted economic variable. Survey data have the advantage that the questions can be formulated in a way such that they allow both comparatively far-reaching insights into the future expectations of the companies and households surveyed and a detailed picture of current assessments (United Nations, 2015).

The stakeholder consultations confirmed that the Programme provides data that meet these requirements. Various users from academia, the media and the private sector indicated that the EU BCS data had been essential for monitoring and now-/forecasting economic developments. However, different users and partner institutes also reported that the quality of the EU BCS data deteriorated during the COVID-19 pandemic. Firstly, this might be explained by the timing of the data collection: if the survey data were collected at the beginning of the month and new lockdown measures were introduced shortly after, towards the end of the month, the survey could not reflect this short-term shock. Secondly, lockdown measures hampered data collection activities (Aguilar, Ghirelli, Pacce, & Urtasun, 2021).

While the EU BCS data are used heavily among academic researchers for forecasting economic developments in the EU (Claveria O. , 2021; Garnitz, Lehmann, & Wohlrabe, 2019), the review of the literature on now- and forecasting relevant economic variables also shows that EU BCS data have been repeatedly criticised, as several studies find that the data do not produce reliable projections for all countries and sectors (Grech & Ellul, 2021; Bruno, Crosilla, & Margani, 2019; Cotsomitis & Kwan, 2006; Lemmens, Croux, & Dekimpe, 2005)<sup>24</sup>.

The mixed findings from the literature are confirmed by the quantitative analysis we conducted. We used Granger Causality tests to investigate whether or not a particular variable is useful to predict GDP growth<sup>25</sup>. Figure 4 shows the results of the Granger Causality tests between the ESI and the year-on-year log differences of real GDP<sup>26</sup>. As shown by the graph, in half the EU Member States and in the EU as a whole, economic sentiment does “Granger cause” real GDP growth, suggesting that EU BCS data are useful

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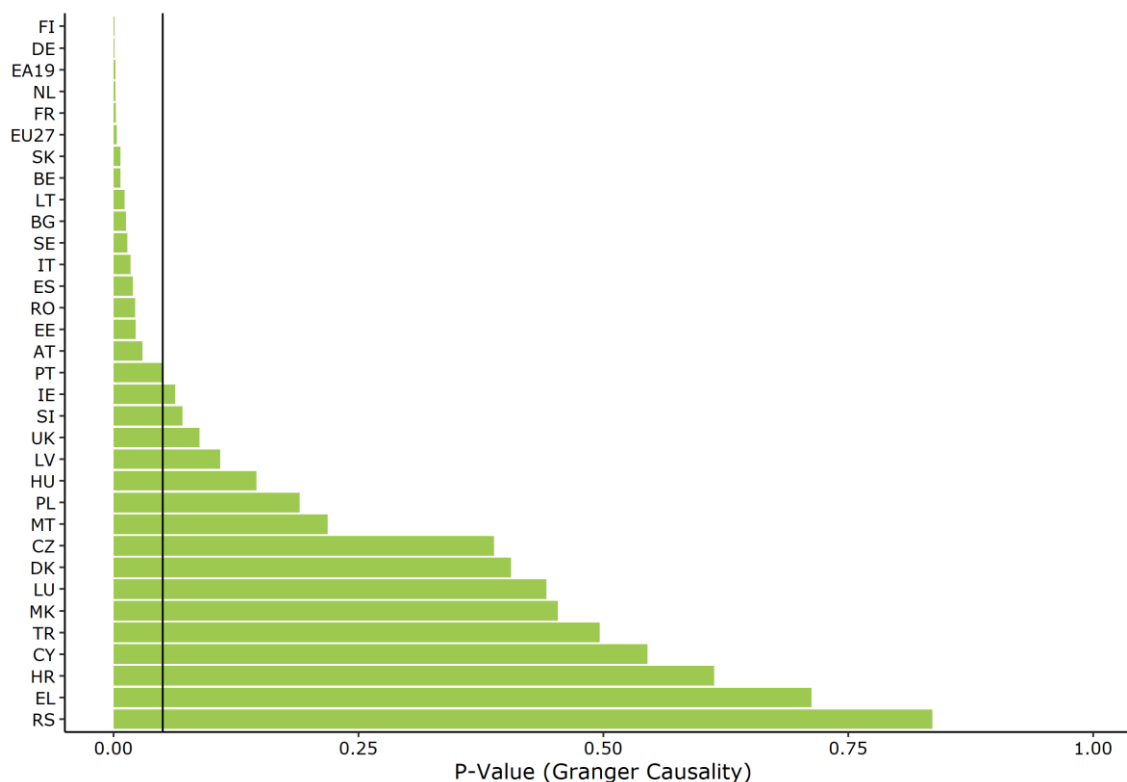
<sup>24</sup> For example, the data from the Latvian business surveys only contribute to a limited extent to the improvement of short-term forecasts, and the ESI is more of a supporting indicator than a leading indicator of economic activity in Malta (Grech & Ellul, 2021). Bruno et al (2019) find that Italian industrial production changes in the survey participants’ ‘mental benchmarks’ so that lower production capacities are considered sufficient over time, which thereby introduces non-linearities between the manufacturing confidence indicator and industrial production.

<sup>25</sup> Since the real GDP and the EU BCS data are at different frequencies and the statistical properties of mixed frequency Granger causality tests are relatively unexplored, we use the quarterly average of the EU BCS data and test those against the log differences of real GDP growth.

<sup>26</sup> The black vertical line indicates the corresponding p-value of the 0.05-per cent significance level

for forecasting real GDP growth<sup>27</sup>. In the remaining countries, by contrast, economic sentiment does not “Granger cause” real GDP growth. In these countries, the ESI thus does not provide useful information for forecasting real GDP growth.

Figure 4 – Granger Causality tests of EU BCS Economic Sentiment Indicator and real GDP growth



Note: Bivariate Granger Causality tests with H0: Economic Sentiment Indicator does not Granger cause real GDP growth.

Note: Bivariate Granger Causality tests with H0: Economic Sentiment Indicator does not Granger cause log real GDP growth (y-o-y). Sample sizes DE (n = 302, Jul 1997-Sep 2022), UK (n = 179, Oct 2007-Sep 2022), FR (n = 166, Nov 2008-Sep 2022), FI (n = 126, Mar 2012-Sep 2022), SE (n = 114, Mar 2013-Sep 2022), AT, BE, BG, CY, DK, EA19, EE, EL, ES, EU27\_2020, HR, HU, IE, IT, LT, LU, LV, PL, PT, RO, RS, SI, SK (n = 106, Nov 2013-Sep 2022), CZ, NL (n = 102, Mar 2014-Sep 2022), TR (n = 94, Nov 2014-Sep 2022), MT (n = 86, Jul 2015-Sep 2022), MK (n = 84, Sep 2015-Sep 2022), Insufficient data for AL, ME.

Source: Estimates by DIW Econ.

In addition to the bivariate results, we tested the usefulness of EU BCS data for forecasting by estimating country-by-country forecasting models similar to the models used by Behrens, Pierdzioch, and Risse (2018) and Kholodilin and Michelsen (2019). We first estimated the model using all available data including the EU BCS data. In a second run, we re-estimated the model using only hard (statistical) data.

<sup>27</sup> A time series (here ESI) is considered a Granger cause of another time series (here real GDP growth) if it can be shown – usually through statistical tests – that it provides statistically significant information about future values of the other time series (real GDP growth).

Table 4 shows the resulting root mean squared errors (RMSE) of the country-by-country models. Estimating the model using hard data in combination with the EU BCS data consistently yields lower RMSEs, except for France. The largest reductions in RMSE are observed in Czechia, Denmark, Estonia, Finland, Ireland and Latvia, where the RMSE drops by 30% or more. When re-estimating the models using only recessionary periods as a sample, the BCS survey data continue to be useful. While the absolute forecasting error is generally greater in recessionary periods, the relative reduction in the RMSE when including the BCS data in the forecasting model is similar to non-recessionary periods.

Table 4 – Random forest RMSEs for European countries with and without EU BCS data

| Geo Unit | Entire sample  |                         |                                    | Recessionary periods |                         |                      |
|----------|----------------|-------------------------|------------------------------------|----------------------|-------------------------|----------------------|
|          | Hard data only | EU BCS data & hard data | Forecast improvement <sup>28</sup> | Hard data only       | EU BCS data & hard data | Forecast improvement |
| AT       | 0.0318         | 0.0297                  | -6.60%                             | 0.0565               | 0.0474                  | -16.11%              |
| BE       | 0.0331         | 0.0304                  | -8.16%                             | 0.0572               | 0.0484                  | -15.38%              |
| CZ       | 0.0407         | 0.0282                  | -30.71%                            | 0.0730               | 0.0513                  | -29.73%              |
| DE       | 0.0293         | 0.0255                  | -12.97%                            | 0.0488               | 0.0441                  | -9.63%               |
| DK       | 0.0255         | 0.0147                  | -42.35%                            | 0.0454               | 0.0264                  | -41.85%              |
| EA-19    | 0.0352         | 0.0311                  | -11.65%                            | 0.0603               | 0.0539                  | -10.61%              |
| EE       | 0.0681         | 0.0410                  | -39.79%                            | 0.1268               | 0.0798                  | -37.07%              |
| EL       | 0.0526         | 0.0445                  | -15.40%                            | 0.0642               | 0.0593                  | -7.63%               |
| ES       | 0.0489         | 0.0423                  | -13.50%                            | 0.0832               | 0.0782                  | -6.01%               |
| FI       | 0.0378         | 0.0251                  | -33.60%                            | 0.0639               | 0.0472                  | -26.13%              |
| FR       | 0.0386         | 0.0400                  | 3.63%                              | 0.0668               | 0.0646                  | -3.29%               |
| HU       | 0.0450         | 0.0356                  | -20.89%                            | 0.0759               | 0.0592                  | -22.00%              |
| IE       | 0.0695         | 0.0480                  | -30.94%                            | 0.0695               | 0.0480                  | -30.94%              |
| IT       | 0.0423         | 0.0345                  | -18.44%                            | 0.0682               | 0.0551                  | -19.21%              |
| LU       | 0.0372         | 0.0314                  | -15.59%                            | 0.0613               | 0.0482                  | -21.37%              |
| LV       | 0.0699         | 0.0396                  | -43.35%                            | 0.1153               | 0.0708                  | -38.59%              |
| NL       | 0.0280         | 0.0223                  | -20.36%                            | 0.0442               | 0.0343                  | -22.40%              |

*Note: Bivariate Granger Causality tests with H0: Economic Sentiment Indicator does not Granger cause log real GDP growth (y-o-y). Sample sizes: n = 306 (Mar 1997-Sep 2022): DE. n = 170 (Jul 2008-Sep 2022): FR. n = 130 (Nov 2011-Sep 2022): FI. n = 110 (Jul 2013-Sep 2022): AT, BE, BG, DK, EA19, EE, EL, ES, EU27, IE, IT, LT, LU, LV. n = 106 (Nov 2013-Sep 2022): CZ, HU, NL. n = 81 (Dec 2015-Sep 2022): CY. n = 57 (Dec 2017-Sep 2022): HR. n = 57 (Dec 2017-Sep 2022): MT. n = 55 (Feb 2018-Sep 2022): MK. Insufficient data for AL, BG, CY, HR, LT, ME, MK, MT, PL, PT, RO, RS, SE, SI, SK, TR, UK. Source: Estimates by DIW Econ.*

At first glance, it is striking that the multivariate analysis shows that the EU BCS data provided valuable information for forecasting GDP growth in all countries (except France),

<sup>28</sup> The forecasting performance is measured as the percentage change in the RMSE when the EU BCS data are combined with the hard data compared to when only hard data are used in the model. A negative sign indicates an improvement in the forecasting performance when using the EU BCS data.

while the Granger Causality tests shows that the ESI provided useful information for future values of GDP growth only in about half the countries (but including France). There are several reasons for these diverging results. First, it should be noted that the multivariate analysis included all sectoral EU BCS data series in the forecasting model, while the Granger Causality tests only focused on the aggregate ESI. Second, the multivariate forecasting can more flexibly account for dynamics (e.g. non-linearities) in the relationship between the EU BCS data and GDP growth, which cannot be detected in the Granger Causality tests. Against that backdrop, the multivariate analysis is arguably the more powerful test and its results should receive a somewhat higher weight when judging on the forecasting merits of the BCS data.

Our findings are in line with a large body of literature. On the one hand, many EU BCS data studies highlight that the Programme data in combination with other indicators generally improve the quality and predictive power of forecast and nowcast models, underlining the usefulness of the Programme (Čižmešija & Škrinjarić, 2021; Basselier, de Antonio Liedo, & Langenus, 2018; Sorić, 2018; Claveria, O.; Monte, E.; Torra, S., 2017; Österholm, 2014; Horvath, 2012). On the other hand, several studies show that in some countries the BCS Economic Sentiment Indicator is a supporting indicator rather than a true leading indicator of economic activity (Grech & Ellul, 2021; Meïihovs & Rusakova, 2005).

Overall, the academic literature, stakeholders and our own quantitative analysis all conclude that the EU BCS data have been useful for nowcasting and forecasting real economic variables. However, both the academic literature and our own quantitative analysis show that there has been some heterogeneity in the predictive power of the EU BCS data across EU Member States.

#### *Objective related to data availability (Q4,6,7)*

*Q4: Are the data timely enough?*

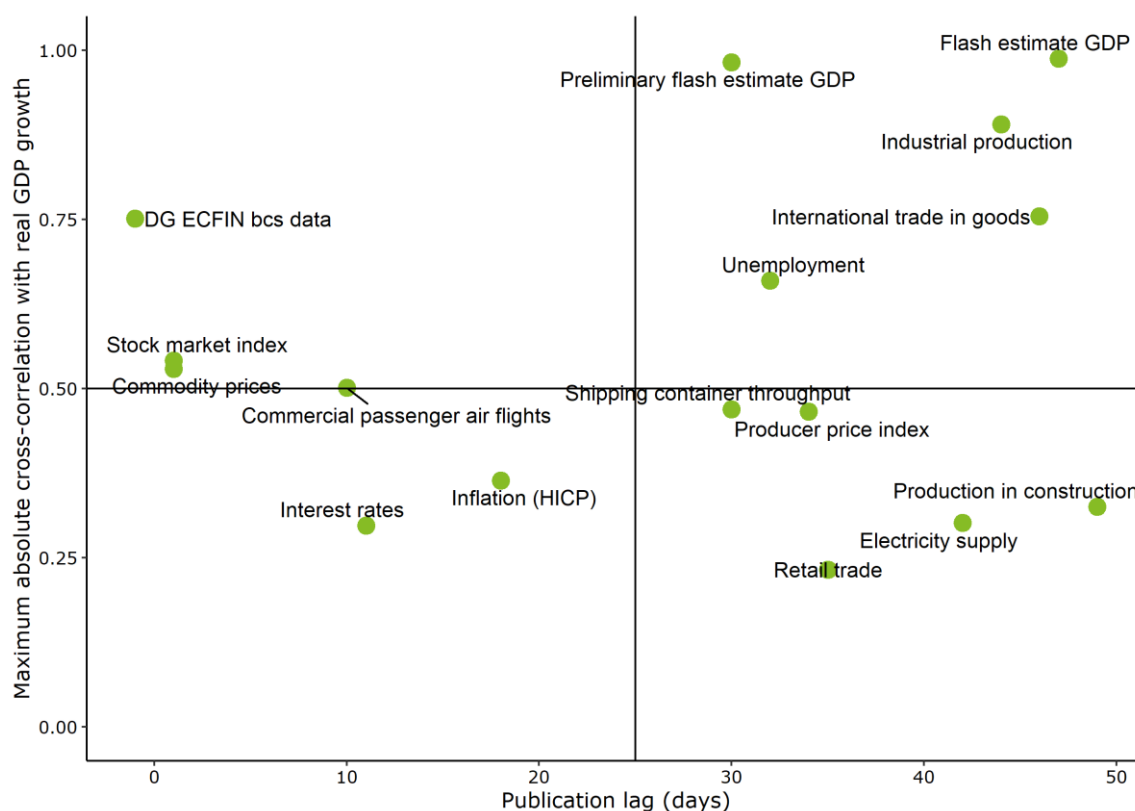
Several studies point out that the timely publication of the EU BCS data is one of their key advantages when compared to other business cycle indicators (Čižmešija & Škrinjarić, 2021; Gayer, 2014). This was also confirmed in the stakeholder consultation. Approximately 96% of stakeholders interviewed and online questionnaire participants indicated that the publication of the data was timely enough.

These findings from the literature and stakeholder consultations were corroborated by our own quantitative analysis. Figure 5 and Figure 6 compare the correlations for year-on-year real GDP growth for the EU-27 and HICP-based inflation for the euro area with selected leading indicators by publication lag respectively.

As shown in Figure 5, the EU BCS data have the shortest publication lag compared to other leading indicators for real GDP growth. Furthermore, they have a correlation with GDP growth which compares favourably with the correlations achieved by all other indicators with a particularly short publication lag (i.e. left side of graph). The indicators with

significantly higher correlations (preliminary flash and flash estimates of GDP, industrial production) are all released with more substantial time-lags, which diminishes their value for real-time monitoring of the economy<sup>29</sup>.

Figure 5 – Publication lag and real GDP cross-correlations for selected indicators



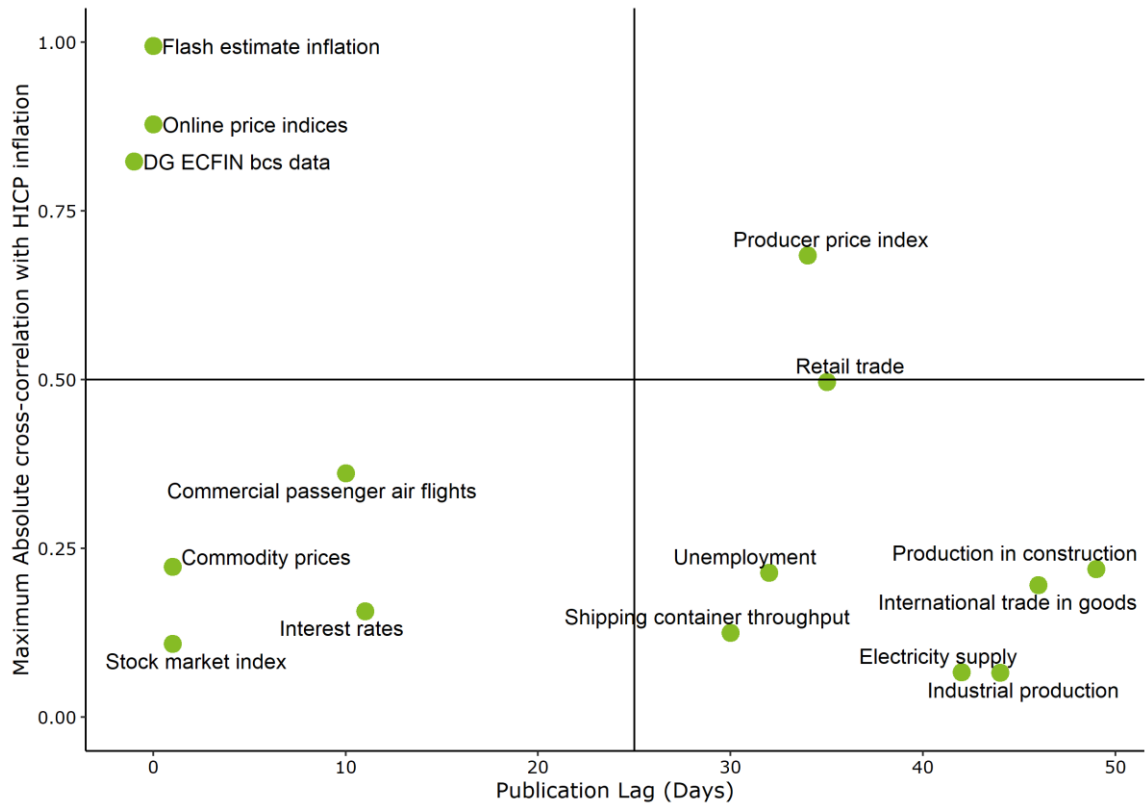
*Note: Publication lag = Publication delay with respect to the reference period of the indicator. For example, the publication lag of the producer price index indicates the delay in publication with respect to the month to which the producer price index refers. Maximum absolute cross-correlation = Maximum absolute value of monthly data of the current quarter with real GDP growth (y-o-y). Sample size: n = 106 (Mar 1996 – Sep 2022) except for Flash Estimate correlations (n = 32, Sep 2014 – Jul 2022).*

Source: Estimates by DIW Econ.

Similarly, Figure 6 shows that the EU BCS data are the inflation indicator with the shortest publication lag. However, as opposed to the preceding analysis focussing on GDP, when it comes to inflation, there are alternative indicators which are released only slightly later, but have a stronger correlation with inflation (real-time price indices compiled from analysis of online price data and Eurostat’s flash estimate of inflation).

<sup>29</sup> Annex IV. Methodology and Analytical Models used provides robustness checks for the full-sample results shown in Figure 5 and Figure 6 by leaving out the peak period of the COVID-19 period when calculating the cross-correlations. The results suggest no significant difference between the full sample and restricted results.

Figure 6 – Publication lag and inflation cross-correlations for selected indicators



Note: Publication lag = Publication delay with respect to the reference period of the indicator. For example, the publication lag of the producer price index indicates the delay in publication with respect to the month to which the producer price index refers. Maximum absolute cross-correlation = Maximum absolute value of monthly data HICP-inflation (y-o-y).

Source: Estimates by DIW Econ.

Taken together, the available academic literature, as well as the results of our stakeholder consultation and quantitative analysis, concur that the EU BCS data have been more timely than other leading indicators of GDP, while offering a high degree of correlation with the target variable. This combination made them particularly useful for monitoring the real economy in the EU-27. In the case of inflation, by contrast, the advantage of timeliness was less pronounced for the EU BCS data on price expectations because of the early availability of flash estimates of inflation.

*Q6: Are data disseminated in a clear and understandable form? & Q7: Are there sufficient supporting metadata and guidance for users?*

The EU BCS data are published on the DG ECFIN website. Subsets of the data are also available in the Eurostat database as ready-made tables or datasets. In addition, DG ECFIN publishes press releases and reports on its website (DG ECFIN, 2022; Eurostat, 2022). Hence, the Programme follows standard dissemination strategies (United Nations, 2015). Download statistics provided by DG ECFIN and Eurostat show that download volumes

from the Eurostat website were on a par with those from the ECFIN website<sup>30</sup>. In the online questionnaire, less than half the users (44%) stated that the EU BCS data were easily accessible and available in an understandable form. 8% of respondents explicitly disagreed with this statement.<sup>31</sup>

However, both users and partner institutes pointed out that there would still be potential to render the dissemination of the data more user-friendly and targeted:

- Users suggested offering additional download options for the data in addition to Excel. This was raised already by the previous evaluation of the EU BCS Programme (GHK Consulting & DIW Berlin, 2012). While data from Eurostat is available for download in multiple formats, more download options could be offered on the DG ECFIN website.
- Academic users suggested also adding filter options or search functions that would reduce the effort required to collect specific time series and thus improve the use case for inexperienced users.
- Economic press representatives stated that the press releases for the data should contain more context. In particular, more information would be desirable on why certain indicators have changed and how they relate to their respective reference series (e.g. the relationship between changes in consumption-related questions from the consumer survey and aggregate consumption). Journalists suggested that this would allow them to quote directly from the press releases and make press coverage of the data more likely.
- Private sector users also mentioned that it could be interesting to publish “preliminary findings” before the publication of the Purchasing Managers’ Index (PMI). This would get more public attention for the EU BCS Programme as users tend to use the first data available for their analysis.
- Financial sector interviewees proposed that the EC should promote the Programme data to the various data providers, so that through them, the EU BCS data can reach potential/targeted users across all branches of economic activity.<sup>32</sup>
- Partner institutes mentioned giving more visibility to the data within the EU environment by frequently using the Programme data in the EC’s communication and analysis. The more policymakers cite the Programme data, inter alia, in crucial speeches, the more people will check/use the data, and therefore the more significant the impact of the Programme will be.

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<sup>30</sup> According to the online questionnaire of users, the majority of users (52%) obtain the data directly from the website of DG ECFIN. Another 22% use the Eurostat website (11%) or national data provider (11%). The remaining 26% access the data in another manner or did not reply. Since the online questionnaire of users is not necessarily representative of all users and the download statistics accurately reflect the actual downloads, it should be concluded that the ECFIN and Eurostat websites are used about equally to obtain the EU BCS data.

<sup>31</sup> 48% did not answer this question.

<sup>32</sup> This comment was made by users who accessed the data through data providers, and in preparing for the interview, discovered that the programme had potentially useful information for their work that they were not aware of.



In addition to publishing the EU BCS data, DG ECFIN provides ample supporting information and materials in the form of user guides, workshop papers, working papers, studies, change logs, sets of national questionnaires and metadata at the EU and country level, and a list of the organisations conducting the surveys (United Nations, 2015; DG ECFIN, 2022; DG ECFIN, 2022a; DG ECFIN, 2022b). According to the stakeholder questionnaire, 85% of users considered the metadata and guidance provided by DG ECFIN to be sufficient and understandable.

While our own analysis found that the EU BCS User Guide provides comprehensive information on the methodology of the BCS surveys, some users from the private sector and economic press said in the stakeholder consultation that they would benefit from a more user-friendly/didactic user guide providing examples that illustrate a variety of possible analyses and insights that can be obtained from the EU BCS data. Simplifying the interpretation of the indices by establishing a common scale of variation of the indices was also a suggestion put forward by users.

When turning to the metadata forms filled out by the partner institutes, our analysis shows them to be in line with best practice guidelines and sufficient to characterise the data collection, providing information on the most important features of the fieldwork, sampling, and non-response treatment. However, in several instances the information is incomplete and not up-to-date. In the stakeholder consultations, users were critical of the fact that the metadata published on the ECFIN website had not been updated since 2016. Similarly, while the national questionnaires provided on DG ECFIN's website provide a good overview of the implementation of the EU BCS Programme at the national level, most of the questionnaires are partly outdated.<sup>33</sup>

Another important aspect of providing informative metadata and guidance to users is the documentation of changes in the Programme. Here it is striking that the documentation of the changes in the downloadable Excel files has deteriorated in recent years and is not in line with current best practices in data science<sup>34</sup>. Common practice, for example, is to track changes in reverse chronological order, providing each entry with an informative header, writing a short description of the change, explaining the reasoning behind the change and finally elaborating on the impact of the change. The analysis of the change logs of the EU BCS datasets shows that not all of these points were considered in the listing of changes over the last 10 years. In some instances, changes were documented in an uninformative manner, such that consequences for the data series, such as backward comparability, were not explained. More detailed information was only contained in the user manual, which was not referenced either.

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<sup>33</sup> As mentioned before, the harmonised BCS questions have been very stable over time. Yet, programme innovations like the new questions on uncertainty would not show on national questionnaires from before 2021.

<sup>34</sup> Free Software Foundation, (2021), <https://www.fsf.org/bulletin/2021>

In addition, several changes with no relation to each other except the time of their implementation were often presented together. One way to increase the transparency of the change log is to add more subcategories that clarify, for example, whether the change is an addition of new content or a change to or removal of old content. In addition, each change should have its own title to maintain clarity (Lacan, 2017). Separating the change log from the data files by, for example, adding a single text file to the zip files instead of adding the entire list of changes to all data sets reduces redundancy and would ease data processing for expert users.

Overall, stakeholders provided mixed feedback concerning the dissemination of the BCS data. Less than half the users (44%) stated that the EU BCS data were easily accessible and available in an understandable form, while only 8% of users explicitly disagreed with this statement. Users suggested that dissemination could be made more user-friendly by offering search and filter options and additional download formats other than Excel. Furthermore, the huge majority of stakeholders (85%) stated that the supporting material of the BCS Programme was understandable and sufficient. Nevertheless, there is still room for improvement in the supporting material, including more didactic information in the User Guide, better reporting of changes and updating metadata and questionnaires.

#### *Objective related to methodology (Q8,9,10)*

*Q8: Has the Programme enhanced the capabilities of partner institutes, for example through knowledge sharing?*

Joint workshops between DG ECFIN and the partner institutes, which are conducted on an annual basis, provide a key forum for the mutual exchange of knowledge. Partners have the opportunity to present their research and discuss methodological changes to their survey modules and get feedback on their current approach (Gaca, 2018; Friz, 2018; Slentoe, 2015).

The usefulness of the EU BCS Programme for building capabilities and sharing knowledge was emphasised both in the online questionnaire and the separate interviews with individual partner institutes. In the online questionnaire, 95% of the partner institutes confirmed that the Programme improved their capabilities. However, in separate interviews, several partner institutes offered a more specific assessment by pointing out that the BCS methodology was not particularly demanding and therefore did not create new capabilities, but rather supported existing capabilities. In these interviews, it was also emphasised that the exchange of experiences and knowledge between the partner institutes during the regular workshops offered the partner institutes various benefits. In particular, the partner institutes valued the possibility of discussing different ways of using the data and how to deal with technical issues.

Nevertheless, partner institutes also suggested some improvements to the annual workshop. In particular, some partner institutes reported that the workshops tended to focus too much on academic issues, while more practical elements, such as the dissemination of

data and the management of the Programme in terms of its logistics, were not addressed enough. Multiple partner institutes indicated that they would benefit from knowledge-sharing on these practical aspects as well. One partner institute suggested organising two separate workshops: one focused on the academic and technical methodology aspects of the Programme and another on the practical management elements.

Overall, the stakeholder consultations and the review of the supplementary material provided by DG ECFIN suggest that the intervention has led to an exchange of knowledge between DG ECFIN and the partner institutes as well as knowledge transfer among the partner institutes themselves. This could, however, be rendered even more effective if the annual workshops focussed more on the practical aspects of running survey programmes.

*Q9: Has the Programme created methodological spillovers?*

With increasing globalisation, cross-country and cross-regional comparisons are becoming more and more valuable. Therefore, harmonised tendency surveys which provide data that are comparable across countries are becoming more and more important. The EU BCS Programme has provided a standard framework for such surveys since the 1970s. The OECD worked with the EU to help other countries around the world to establish similar surveys (Kershoff, 2019; Tosetto & Gyomai, 2009; Nilsson, 2003). The Programme has thus become a point of reference for business and consumer surveys around the world and the methodology has been adopted by several countries outside the EU and the group of EU candidate countries (see also Q. 24).

Moreover, the UN and OECD Handbooks on Economic Tendency Surveys explicitly refer to the methodology employed by the EU BCS Programme as a methodological benchmark. The UN Handbook mentions the Joint Harmonised EU Programme and the work of DG ECFIN as the basis for their recommendations (United Nations, 2015). This particularly applies to DG ECFIN's efforts to standardise surveys across countries to ensure international comparability. An OECD workshop report on updating international guidelines for business and consumer surveys also states that the standards laid out by the EU BCS Programme serve as a foundation for conducting economic tendency surveys worldwide (Ward, 2006).

It can thus be concluded that the Programme has created substantial methodological spillovers and will most likely continue to serve as a methodological benchmark for other business and consumer surveys around the world.

*Q10: Have changes to the Programme's methodology and coverage enhanced its effectiveness?*

Over the period 2012-2021, the Programme underwent several structural changes. The previous evaluation of the EU BCS Programme emphasised that the introduction of additional questions, the reconsideration of Dainties as a method for seasonal adjustment and a review of the weighting strategies for the construction of the individual indicators

could improve the methodology of the Programme (GHK Consulting & DIW Berlin , 2012). A review of the current methodology shows that most of these points were implemented over the course of the following years. For example, during the COVID-19 pandemic, ad hoc questions were used to better assess the evolution of the situation (García, et al., 2020). In the stakeholder consultations, this was considered extremely valuable. Tramo-Seats replaced Dainties as a seasonal adjustment method in 2022 (Eurostat, 2022). Contrary to what had been proposed in the last evaluation, no additional questions on business liquidity have so far been included in the questionnaire. However, such a question is arguably indirectly covered in the quarterly questions on factors limiting production/activity, which feature a “financial constraints” answer option.

There were also a number of changes to the surveys at EU level going beyond those stipulated by the last evaluation of the Programme. In particular, a new question on capacity utilisation in the service sector was introduced in 2012. Ex-post evaluations show that this new question has led to a considerable gain in information and thus has increased the effectiveness of the intervention (Pavlova, 2014; Gayer, 2013). Other changes to the Programme, such as the introduction of the uncertainty indicator and the adjustments to the investment survey, have been made only recently (both in 2021), so that no ex-post evaluation is possible. Nevertheless, these recent changes were based on sound theoretical and empirical considerations, which suggests that the changes will increase the effectiveness of the Programme in the medium to long term (Wohlrabe, 2018; Gieseck, 2014; Fotini, Evangelia, & Michail, 2013; Friz, 2018a). This assessment was confirmed in the stakeholder consultations: users and partner institutes assessed these changes as positive, but noted that it was still too early to draw definitive conclusions.

In addition to adjustments to the EU BCS methodology at EU level, there have been several minor adjustments at country and sector level since 2012, such as changes to the weighting methodology. Ex-post evaluations and assessments of pilot surveys suggest that adjustments of country-specific weighting procedures have usually improved the tracking performance of the data and/or led to less volatility in the data (Ipsos, 2015; Bruno, G.; Crosilla, L.; Margani, P.; Righi, A. , 2014). However, country-specific changes to the survey also caused unintended side effects. Switching to mixed survey methods (web and phone) or only to online-based questionnaires, for example, was associated with lower response rates than traditional survey forms in the past (Slentoe, 2015; Junes, 2014). In addition, those methods are associated with changes in the response behaviour of participants. In online or phone surveys, respondents tend to give more negative answers to questions that measure opinions and more positive answers to questions that measure purchase intentions (Junes, 2014). Furthermore, empirical evidence suggests that web surveys result in more "do not know" responses than phone surveys (Junes, 2014). The shift from telephone survey methods to digital approaches is not only driven by the significant cost advantage but is also increasingly necessary due to demographic change. Especially among young people, landlines are used less frequently so that a change in survey method is needed to maintain the representativeness of the data (Olson, et al., 2021).

Overall, the changes to the BCS programme in 2012-2021 should improve the EU BCS programme in terms of its effectiveness in tracking and monitoring economic developments in EU countries. First, a number of changes were made that are justified by the previous evaluation of the BCS programme. Second, several changes at the EU level - which were not based on the previous evaluation - were made only recently, so their effectiveness cannot yet be assessed. However, the fact that these changes were based on thorough ex ante evaluations and were positively assessed by stakeholders suggests that these changes should improve the effectiveness of the BCS programme. Third, several country-level changes (e.g. the switch to online survey methods) may have had unintended negative consequences (e.g. on response behaviour), but were necessary in response to demographic change and to save costs.

#### 4.1.2 EFFICIENCY

##### *Implementation and financing (Q11,15)*

*Q11: To what extent were the design, implementation and financing of the Programme appropriate? Have changes improved its appropriateness?*

The 2012 evaluation of the EU BCS Programme highlighted some points for improvement in the design and implementation of the Programme (GHK Consulting & DIW Berlin , 2012) and, over the last 10 years, many of these points have been addressed by DG ECFIN: for example, making the national questionnaires available online and the revision of the User Guide have improved the transparency of the Programme. Similarly, periodical examination/evaluation in the framework of the workshops on recent developments in business and consumer surveys has contributed to constant critical evaluation of the methodology, the implementation and the design of the Programme (Abberger, Bannert, & Dibiasi, 2013; Renne, 2014; Wood, 2013).

Apart from the recommendations of the last evaluation, several major and minor adjustments/changes have been implemented over the last ten years, either at the national level, e.g. methodological improvements to sampling, weighting and survey techniques, change of partner institutes and data revisions, or centrally by DG ECFIN, e.g. the introduction of new questions on capacity utilisation in services (2012) or uncertainty (2021), the revision of the consumer confidence indicator (2019) and the introduction of a new employment expectation indicator (2020)<sup>35</sup>. Adjustments are normally made based on sound theoretical and empirical considerations, including pilot studies (Slentoe, 2015; Junes, 2014; Friz, 2018). That explains why ex-post evaluations of the adjustments show that changes in the implementation and the design have improved the quality of the EU BCS Programme and therefore its data (Lolić, Logarušić, & Čižmešija, 2022; European Commission, 2018; Pavlova, 2014; Gayer, 2013).

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<sup>35</sup> For more examples see Annex II. Changes in the BCS surveys since 2012

When focusing on funding, the 2012 evaluation concluded that funding was adequate. In fact, in 2012, more than half the partner institutes would not have been able to carry out the harmonised surveys or would have had to scale down the Programme without EU co-funding (GHK Consulting & DIW Berlin , 2012).

These findings were partially supported by the partner institutes consulted as part of this evaluation. During the interviews, most of them agreed that the design and implementation of the Programme were appropriate, but views on the funding and the administrative burden involved were rather divided. This also showed in the online questionnaire where 52% of respondents said they considered the design, implementation and financing of the Programme appropriate, while the other 48% indicated the contrary.

During the interviews, most partner institutes indicated that the main problem relating to the funding was the rigidity and administrative burden within the funding process. Partner institutes said to understand that the use of public funds required sound administrative procedures to ensure full transparency vis-à-vis the taxpayer. Similarly, they indicated that other funding programmes they worked with also involved time-consuming administrative processes. Nevertheless, a number of partner institutes maintained that there is room for improvement in the administrative procedures.

In short, taking into account findings from the desk research and partner institutes' views collected in the stakeholder consultation, the design, implementation and financing can be considered appropriate overall. While the changes to the design have increased the Programme's effectiveness (as evidenced by ex post evaluations), a concern shared by many partner institutes relates to the administrative procedures surrounding the co-funding of the programme. Several institutes said that they would appreciate if those procedures could be simplified, while acknowledging that complex procedures were necessary to ensure full transparency vis-à-vis the taxpayer.

*Q15: To what extent is the financial administration of the Programme, namely through the annual award of grant agreements and reimbursement based on incurred costs under multi-year framework partnership agreements efficient?*

At the moment, the surveys are conducted by partner institutes selected by the EC through a call for proposals. The EC supports their activity with action grants, limited to a maximum of 50% of the total costs of the surveys. These grants are designed to cover the costs associated with the adoption of the harmonised methodology.

Feedback during the stakeholder consultations on the annual award through grant agreements under multi-year framework partnership agreements and reimbursement based on costs incurred was very mixed.

Since 2021, financial administration has been simplified by the introduction of unit costs per staff categories (average pay grades based on official salary grids) and flat-rate financing for administrative costs (within certain limits). Budgeted unit costs and flat rates must be based on verifiable actual costs incurred in a previous reference year. At the stage

of the final financial statement for a closed implementation year, the focus is then on actual working time spent by the different staff categories and actual costs incurred must in general no longer be verified.<sup>36</sup> Some partner institutes reported no issues and pointed out that this is an improvement compared to the past implementation practice, where the reimbursement was based on the proof of detailed actual costs incurred during the survey period. This opinion was mainly voiced by those partner institutes with a dedicated team taking care of the administrative aspects of the Programme. Others, who have more limited teams, described several problems.

First, partner institutes are required to provide an estimation of costs for the running of the Programme for the next financial year several months before its start. This estimation, based on costs incurred in the past, is used to determine the costs covered by the EC. Such a detailed 12-month estimation of costs was described as time-consuming and challenging, especially in the current economic conditions as labour costs and inflation are evolving drastically within a relatively short-term period. As a consequence, some partner institutes noted that this rigid financial design prevents them from building innovative capacity. Second, some partners criticised the fact that if partner institutes integrate an additional (non-harmonised) question in their national questionnaire, the funding from the EC automatically decreases. This is due to the application of ‘EU survey ratios’ which serve to ensure that the Commission grants only cover costs related to the harmonised EU questions. In other words, the EC only finances harmonised questions; any additional question on national questionnaires decreases the weight of the harmonised questions in the reimbursement key and therefore the eligible costs that a partner institute can claim.

Despite these problems, most partner institutes pointed out that the financial administration difficulties were outweighed by the benefits of being part of this Programme and understood that EC administrative and financial administrative processes were rigid by nature and could not be easily modified.

When asked about ways to improve administrative aspects of the Programme, several partner institutes indicated that having a centralised platform at EC level would help make the Programme management more efficient. More specifically, it was proposed that an interface be set up through which the EC and the partner institutes could communicate on administrative processes.<sup>37</sup> As partner institutes understand the difficulty of making any changes to the administrative process itself, facilitated communication on the difficulties they face and a dedicated channel for them to ask their questions would lighten the burden<sup>38</sup>.

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<sup>36</sup> This applies also to administrative costs, if covered by the flat rate.

<sup>37</sup> It was also mentioned how this platform could help to better knowledge and experience sharing between partner institutes.

<sup>38</sup> It is worth mentioning that two partner institutes were extremely grateful for the speed and quality of the answers received from DG ECFIN staff team to questions for clarification on administrative and technical aspects of the Programme.

In conclusion, although the current financial administration of the Programme received mixed feedback from partner institutes during the interviews, partner institutes understand that DG ECFIN does not have much leeway to modify administrative processes. However, they believe that more efficient communication through a centralised platform for the exchange of information on administrative aspects of the Programme would help lighten the administrative burden<sup>39</sup>. A shared platform would allow partner institutes to learn from each other's experiences (i.e. to see the EC's answers to other partner institutes) and to exchange knowledge, methodologies and information with other partner institutes.

### *Cost and Benefits of the Programme (Q12,13)*

*Q12: What are the costs and benefits of the BCS for different stakeholders?*

The EU BCS surveys are jointly financed by the EU and the partner institutes at the national level (DG ECFIN, 2022). Between 2012 and 2021, the total number of partner institutes that received funding varied between 45 and 49 institutes and the amount granted by the EC ranged between EUR 30 550 and EUR 386 468 annually by country (European Commission, 2022a)<sup>40</sup>. The most recent budget figures show that the EC awarded an average of EUR 5 159 222 in grants per year for the intervention. The largest part (96.3%) was allocated to the national partner institutes as grants for decentralised national surveys. For the centralised survey on the financial services sector, the EC spent on average EUR 192 556 per year (3.7%)<sup>41</sup>.

Exact figures on partner institutes' costs are not publicly available, but previous evaluations of the EU BCS Programme showed that between 2005 and 2010, the EC grants covered on average 30% of the total survey costs incurred by partner institutes. The funding rate varied between countries from 10% to the fixed maximum rate of 50% (GHK Consulting & DIW Berlin, 2012). Assuming constant funding rates and an average grant of EUR 167 242 per country<sup>42</sup>, the average expenditure of partner institutes ranged between EUR 300 000 and EUR 1 600 000 today.

Figure 7 shows the evolution of total EC financial contributions to the EU BCS Programme over the evaluation period. Overall, nominal costs for grants have decreased over time, although the scope of the Programme has been expanded. In recent years, however, the costs remained fairly stable at slightly less than EUR 5 000 000 per year.

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<sup>39</sup> The EC maintains functional mailboxes on both financial and administrative questions (ECFIN-BCS-STATEMENTS) and on methodological questions (ECFIN-BCS-Mail). Both functional email addresses are monitored on a daily basis, and there are several exchanges with partners per month.

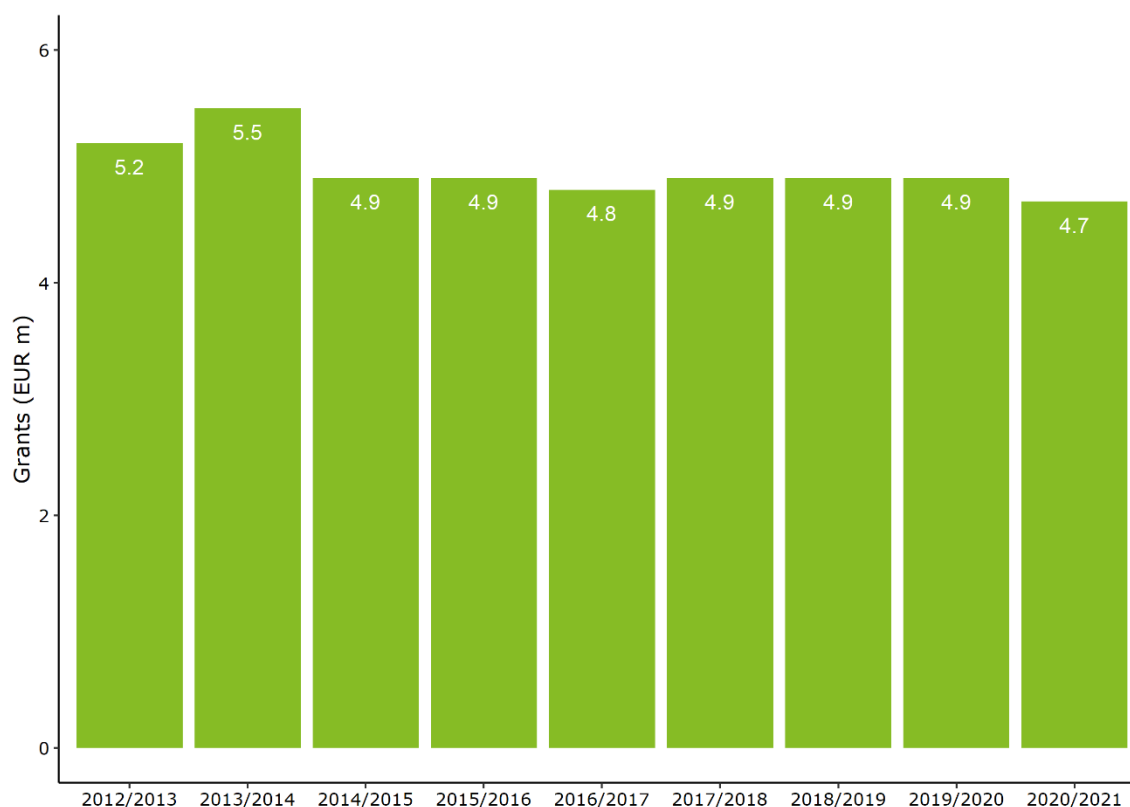
<sup>40</sup> Figures refer to the Beneficiary's contracted amount (EUR) published on the Financial Transparency System (European Commission, 2022a). Some partners only carry out one sectoral survey, while others cover the whole sectoral scope of the Programme.

<sup>41</sup> Figures are based on cost data for the period 2012-2021 provided by DG ECFIN.

<sup>42</sup> The average grant is the average of the committed contracted amount between 2014 and 2021 (European Commission, 2022a).



Figure 7 – Annual nominal cost (grants) of the EU BCS Programme 2012-2021

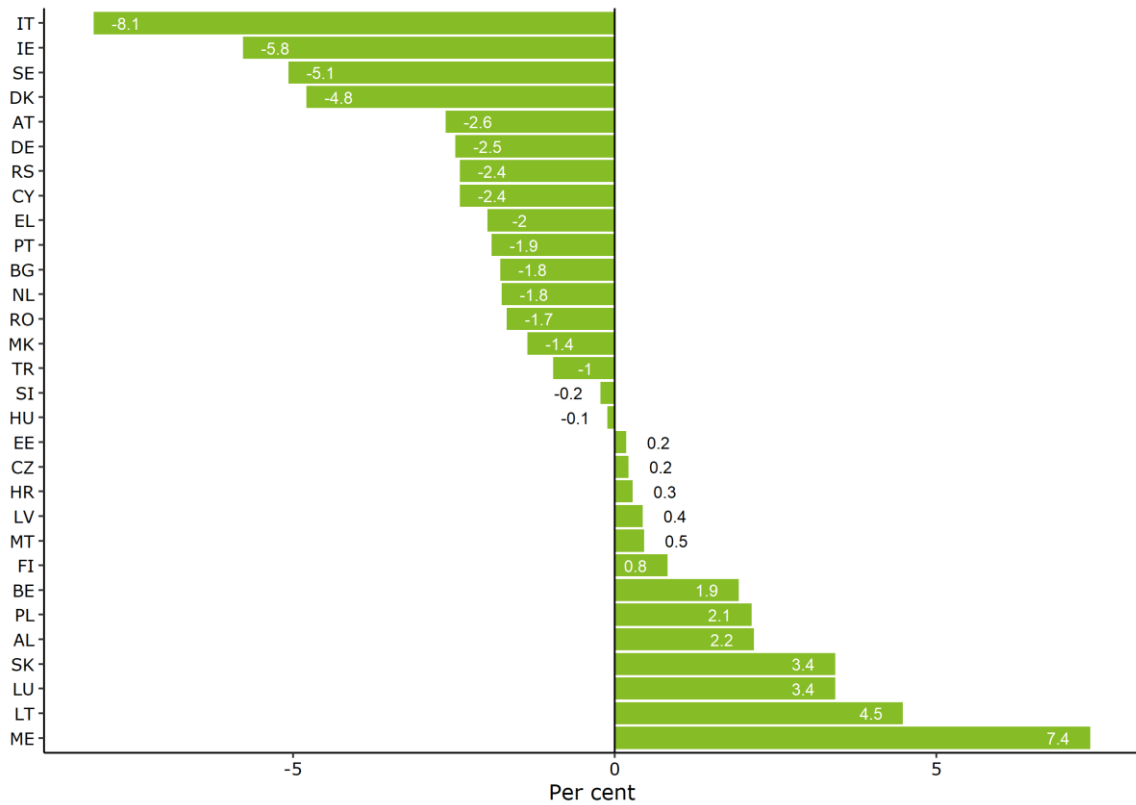


Source: Compiled by DIW Econ based on cost data for the period 2012-2021 provided by DG ECFIN

The importance of stable co-funding by the EC as an important component for maintaining data quality was noted in past evaluations (European Commission, 2006). This was also confirmed in the current stakeholder consultation. Two partner institutes stressed that it would hardly be possible to carry out the EU BCS survey if the EU co-financing rate decreased. Nevertheless, both the stakeholder consultations and the data from the Financial Transparency System indicated that some countries had experienced a decline in grants over time. As Figure 8 reveals, the annually contracted amount decreased on average in 18 countries between 2015 and 2020 (European Commission, 2022a)<sup>43</sup>.

<sup>43</sup> The figures from the Financial Transparency System may be distorted due to changes in partner institutes and the number of surveys carried out in some countries.

Figure 8 – Average annual growth rate of contracted amount by country, 2015- 2020 (%)



Source: Compiled by DIW Econ based on data from Financial Transparency System (European Commission, 2022a)

Since the method for calculating the grants has not changed fundamentally in recent years and is still based on budget estimates submitted by the partner institutes for carrying out the harmonised surveys in their countries, the decline in some countries cannot be attributed to a change in the Commission’s financing procedures (European Commission, 2021). Potential reasons for the decreases include:

- reductions in eligible costs in the budgets submitted by the partner institutes, including through more effective financial ex-ante checks of eligible costs by the EC;
- efficiency gains from technological improvement leading to cost savings (e.g. online surveys);
- reorganisation and subcontracting of certain activities;
- underestimation of costs in the partner institute's budget planning.

A more detailed investigation of the reasons for the partial decline in grants is beyond the scope of this evaluation, but may deserve closer examination in the future.

Given the current economic situation with rising inflation, higher costs can be expected in the short term. To counter those and provide financial headroom to develop the programme further (e.g. through ad hoc questions in times of economic turmoil), current developments

in online surveying and their statistical treatment (Elliott & Valliant, 2017) should be closely monitored.

Although it is difficult to quantify the benefits of the Programme due to the fact that there is no comparable fee-based programme, this evaluation found that the EU BCS Programme offers substantial benefits to its users in the media, the private sector (e.g. banks), academia and among policy-makers. Firstly, the online questionnaire showed that 100% of the surveyed users considered the EU BCS data to be an essential input for monitoring and now-/forecasting of economic developments in their country. Secondly, the EU BCS data are frequently used by academic researchers to monitor and forecast GDP and inflation as well as for other analytical purposes (Grech & Ellul, 2021; Sorić, 2018; Österholm, 2014). The usefulness of the EU BCS data for monitoring and forecasting GDP and inflation was also confirmed in our own quantitative analysis. Thirdly, the EU BCS Programme offers important advantages compared to other existing indicators: the publication of the EU BCS data is more timely and more frequent (monthly). Furthermore, when compared to other survey programmes, the EU BCS Programme has a broader sectoral and geographic scope, thereby providing a comprehensive and comparable overview of business cycle developments across European countries and sectors.

In summary, the evidence shows that EU spending on the EU BCS Programme was overall stable in recent years. At the national level, however, some differences can be observed. While grants increased for some countries, other countries received less funding from the EC over time. The reasons behind these trends (such as cost reduction due to reorganisation, technical progress, enhanced financial control) are beyond the scope of this evaluation. Although the benefits of the EU BCS Programme are hard to quantify, this evaluation finds that the EU BCS Programme has offered substantial benefits to its users in the media, private sector, academia and among policy-makers across Europe. The EU BCS data have been an essential input to monitoring and forecasting economic developments across European countries. Compared to other existing indicators and surveys, the EU BCS Programme offered the unique advantage of a broader sectoral and geographic scope. In addition, publication of EU BCS data was more timely and more frequent than other indicators, which made them particularly useful for policy-makers who need information on economic developments before official data are available.

*Q13: What is the simplification, cost and burden reduction potential?*

Survey costs are determined by a variety of factors including the costs of survey preparation, survey implementation, sample size, response rates and data processing and analysis (Olson, Wagner, & Anderson, 2021; Yansaneh, 2005). A detailed analysis of individual cost factors is usually difficult as many factors – such as travel time, interviewer training hours or preparation of emails – are difficult to quantify (Wagner, 2019). Despite the difficulty in determining the cost of each and every element of a survey, there is a consensus that the data collection process is the main cost driver (United Nations, 2015).

In theory, data can be collected either by an interviewer or by the respondents themselves using self-completed questionnaires. Since the mere presence of an interviewer is already a cost-inflating decision, self-completed surveys always have a cost advantage. This cost advantage must be weighed against potential differences in response rates, as well as measurement error and non-response bias between the survey modes.

The empirical evidence has been ambiguous so far. While it was initially found that interviewer-administered surveys such as Computer-Assisted Personal Interviewing (CAPI) or Computer-Assisted Telephone Interviewing (CATI) achieved higher response rates (United Nations, 2015; Jäckle, Lynn, & Burton, 2015; Felderer, Kirchner, & Kreuter, 2019), more recent studies have found that response rates tend to be higher for self-completed web surveys (Olson, et al., 2021; Mackeben & Sakshaug, 2022).

As regards measurement error, several studies have found that the social desirability bias is lower for web surveys than for interview-administered surveys (Felderer, Kirchner, & Kreuter, 2019; Kreuter, Presser, & Tourangeau, 2008; Braunsberger, Wybenga, & Gates, 2007). However, Felderer, Kirchner & Kreuter caution that “the web does not consistently outperform the telephone mode for sensitive questions”. When it comes to non-response bias, there is some evidence that interviewer-administered surveys perform better than web surveys (Felderer, Kirchner, & Kreuter, 2019; Mackeben & Sakshaug, 2022).

A significant share of the EU BCS Programme’s consumer surveys is (still) conducted with the help of interviewer-administered survey models. Only 25% of the surveys rely exclusively on CAPI, which incurs additional travel costs. The majority (53%) use CATI models, where the interviewer and the respondent do not have to be in the same place (DG EFCIN, 2022b)<sup>44</sup>. 18% of partner institutes use a mixed method approach. At the moment, only 4% of the partner institutes rely exclusively on an online approach to conducting the surveys. Meanwhile, another 10% use Computer Assisted Web Interviewing (CAWI) as part of their mixed-methods approach.

When trying to explain the persistent focus on interviewer-administered survey modes, the feedback received from the partner institutes in the stakeholder consultation suggests that, indeed, the inconclusive findings from the academic literature on the pros and cons of the competing survey modes play an important role. Several partner institutes, for instance, expressed the fear that a change in the survey method would lead to lower response rates and thus seemed to be sceptical as to whether recent findings from the literature on the benefits of online questionnaires (Olson, et al., 2021) were sufficiently robust.

Beyond changing survey modes, several partner institutes considered that there was potential for cost savings in the administrative financial processes. In particular, the detailed reporting of annual costs in funding applications was perceived to be associated with avoidable costs. Suggestions for improvement included reducing the number of cost

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<sup>44</sup> The figures are based on the metadata of the consumer survey. As the information provided by the partner institutes is partially ambiguous, the figures can only be considered as an approximate reference value.

factors to be reported, e.g. by eliminating the separate reporting for each survey, and the standardisation of certain cost factors, which should only be adjusted in the event of methodological changes. The transmission of data to the EC was generally considered efficient. Only a few partner institutes pointed out that there was potential for cost savings on this point, but without specifying how.

Overall, our analysis shows that the digitalisation of survey data collection processes by using the CAWI method offers cost reduction potential. However, there is still conflicting evidence on the effects of CAWI methods on response rates, as well as measurement error and non-response bias, which seems to be one of the reasons why only 14 % of institutes currently deploy CAWI methods (fully or partially in a mixed method) in the consumer surveys. Arguably, a clearer verdict by the academic literature in favour of web surveys would be a precondition for a recommendation to shift towards that data collection mode. In the administrative sphere, several partner institutes identified cost reduction potential, e.g. by reducing the number of cost factors to be reported.

#### *Alternative approaches to monitoring the economy (Q14)*

*Q14: Could alternative approaches to monitoring the economy in (quasi) real-time, such as big data analysis, have achieved the same benefits at less cost, or greater benefits at the same cost?*

In recent years, novel approaches have been developed to monitor the economy in real-time based on big data methods. In a number of cases, those new approaches have been found to be very useful for tracking/forecasting relevant reference series. For example, web scraping approaches (e.g. the Billion Prices Project which collected real-time data on online prices) are reported to be useful for forecasting inflation (Aparicio & Bertolotto, 2020; Hull, Löf, Tibblin, & Riksbank, 2017). Several studies find a strong correlation between online prices and future inflation (Cavallo, 2017; Cavallo & Rigobon, 2016; Cavallo, 2012). Further benefits of web scraping approaches identified in the literature include reduced collection costs, a wide range of goods covered, access to up-to-date information, the prospect of automatization of the data collection and analysis processes as well as the improved ability to construct new indicators which were not feasible with more traditional methods (Eurostat, 2021).

Web scraping also has a number of drawbacks. One challenge of big data methods based on web scraping is that the information collected online may be incomplete because it does not cover the whole economy (i.e. no online information on certain goods or activities). Furthermore, the comparability of the data across countries may be compromised by differences in the availability of online information across countries (Cavallo, 2017; Cavallo & Rigobon, 2016; Cavallo, 2012).

Another big data approach for monitoring the economy is based on the analysis of textual information. For example, textual information from social networks, newspaper websites, Google search or Google Trends can be used to forecast real GDP growth and other

macroeconomic aggregates (Götz & Knetsch, 2019; Beckers, Kholodilin, & Ulbricht, 2017). Kholodilin et al. (2009; 2010) and Ferrara and Simoni (2022) found that Google Trends and Google search data are particularly useful for forecasting private consumption in recessionary times, while the predictive power was found to be significantly weaker in normal phases of the business cycle. Big data approaches based on textual information raise questions, however, about how to process the large scale of the data and how to deal with the velocity of changes in the databases (Richardson, 2018; Sharef, Zin, & Nadali, 2016; Bing & Chan, 2014). Moreover, when looking at social media sentiment data, sample selection may pose a significant problem. Since people posting on social media do not constitute a random sample, social media data cannot be considered representative. In addition, developing sectoral confidence indicators from such data is prohibitively difficult at the moment since it requires linking the contributions of social media users to specific industrial sectors.

Other big data approaches, such as monitoring night-time light remote sensing (NTL) and monitoring changes in construction and agricultural utilisation based on satellite data, also show promising results (Gu, Shao, & Huang, 2022; Galimberti, 2020; Juergens, Meyer-Heß, Goebel, & Schmidt, 2021). However, the results are heterogeneous not only across but also within countries. The night lights analysis fares better in bigger, high-income countries.

Currently, Eurostat is testing a project called Smart Business Cycle Statistics (SBCS), which analyses satellite images of the number of ships and containers in harbours or occupancy of parking spaces in front of shopping centres and companies to nowcast trade activities, production volumes or consumption behaviour (Destatis, 2019). Matsumura et al. (Matsumura & Oh, 2021) and Babii et al (2022) show that mobile phone GPS data can be used to predict future unemployment and real economic activity.

A major problem with these approaches is that they implicitly assume a static structure of the economy, i.e. they rely on the assumption that increased mobility in terms of goods and households correlates with higher economic activity. Trends such as de-globalisation, energy conservation and remote work may undermine the relationship between mobility-based observations and real economic activity though.

To further investigate whether new big data approaches can provide the same or even greater benefits compared to the EU BCS data, users were asked in the stakeholder consultations about the relative benefits of big data approaches. There was a strong consensus among users that big data approaches cannot provide the same benefits as the EU BCS Programme because they do not cover the whole economy and because big data are mostly backward-looking. Another criticism was that web scraping data are ‘noisy’ and therefore hard to interpret.

Overall, big data approaches offer promising new avenues for tracking the economy in real-time. However, big data approaches cannot offer the same benefits as the EU BCS data (e.g. they cannot cover the whole economy, while at the same time providing sector-

and activity-specific breakdowns) and should thus be considered as a complement to the EU BCS data rather than a substitute.

### 4.1.3 COHERENCE

#### *Internal coherence (Q26,27)*

*Q26: To what extent is the Programme coherent internally, i.e. between the different sectoral surveys and between the different countries? Are possibly identified incoherencies justified?*

#### Coherence across countries

The evaluation of the coherence between countries was based on country-specific questionnaires that were provided on the website of the Commission (European Commission, 2022).<sup>45</sup>

A detailed examination of the questionnaires reveals minor linguistic differences between certain questions. For example, the User Guide lists a harmonised question for the consumer survey that reads: “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.?”. While the same examples are given in the German questionnaire, more detailed examples are used in the Polish questionnaire. Instead of furniture and electrical/electronic devices, the example products are furniture, televisions and washing machines (GfK Germany, 2022; GfK Poland, 2022). However, as the enumeration of more specific items strictly follows the expenditure items mentioned in the harmonised question, such deviations are not an indication of incoherence. In other cases, minor deviations in the questionnaires may be necessary for idiomatic reasons and therefore do not affect the coherence of the surveys in the different countries (DG ECFIN, 2022).

Furthermore, the questions are sometimes asked in a different order across national questionnaires. For example, the German consumer survey module starts with questions on the current financial situation of the households surveyed, in line with the EC’s harmonised questionnaire. The French questionnaire, in contrast, starts off by asking participants for an assessment of the overall economic situation in France (INSEE, 2022). These differences between national questionnaires have primarily arisen due to historical reasons. The partner institutes interviewed confirmed that the differences between the national surveys were not a cause for concern. The respondents share the assessment that

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<sup>45</sup> Due to the large number of different questionnaires, we focused our evaluation on those used in Austria, France, Germany, Ireland, Malta, Poland, Serbia and Sweden. It should be noted that questionnaires published on the ECFIN website are partly not up-to-date. However, since the national questionnaires mostly do not change from year to year, the analysis provided here should still be valid.

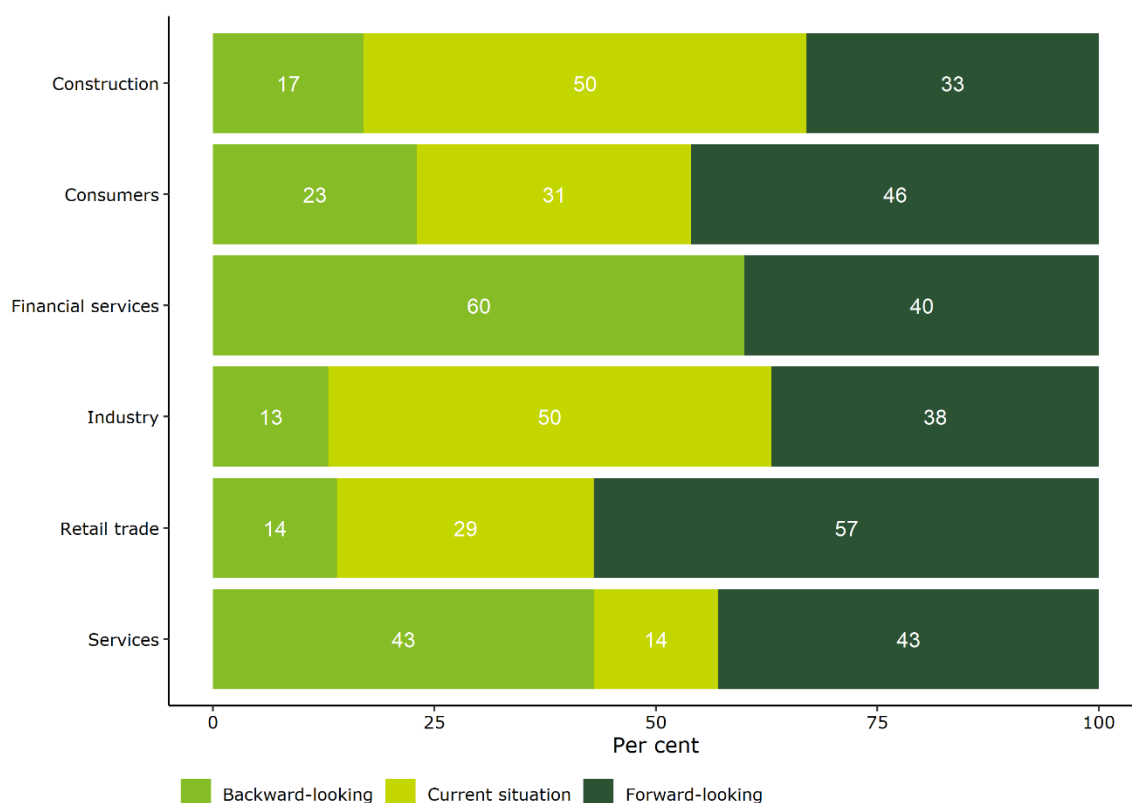
the Programme was coherent across countries and that differences due to country-specific needs were justified.

Overall, the EU BCS surveys have been implemented coherently across countries and differences identified in the questionnaires across countries have been of minor concern. This assessment was also shared by partner institutes in the stakeholder consultations.

#### Coherence across sectors

The analysis of the harmonised survey questions used across sectors shows that the EU BCS surveys generally include questions on the past and current economic situation as well as assessments by companies (managers) and consumers of future economic developments (DG ECFIN, 2022). A comparison of the sector-specific questions shows that the proportion of forward-looking and backward-looking questions as well as of questions focussing on the current situation differs across sectors. Figure 9 illustrates this uneven distribution based on the questions asked in the monthly surveys and shows that, for example, the FSSS does not include any questions on the current situation whereas forward-looking questions dominate the survey for the retail sector.

Figure 9 – Proportion of forward-looking, backward-looking and current situation questions in the monthly BCS questionnaires (%)



Source: Compiled by DIW Econ based on questions from the User Guide (DG ECFIN, 2022).

The proportions of future-, past- and present-oriented questions also differ when looking at the survey questions used for the sectoral confidence indicators calculated by the EC.



The industry confidence indicator is based on two present-oriented questions on current order books and current stocks of finished products and one future-oriented question on production expectations. The confidence indicators for the services and financial services sectors, on the other hand, are based on responses to two questions on the development of the business climate in the recent past and one on the expected development of demand (DG ECFIN, 2022).

The different uses of past-, present- and future-oriented questions in the sectoral confidence indicators have a potential impact on the predictive power of those indicators and on their comparability. The extent to which the differences between the sectoral questionnaires and the selection of questions that are included in the overarching confidence indicators affect the cross-country comparability of the indicators is examined in more detail in the following section of this report.

*Q27: How appropriate are differences between the sectoral surveys in terms of the survey questions asked and the selection of the questions entering a sector’s overarching confidence indicator?*

As the analysis of the previous question has shown, there are differences in the time horizons of the questions asked in the questionnaires across the sectors. In addition, there are also differences in the time horizons of the questions making up the composite indicators across the sectors. Table 5 presents an overview of these differences in the time horizons of questions included in the sectoral confidence indicators. It shows the number of backward-, current- and forward-looking questions in each sectoral confidence indicator. The Table 5 reveals, for example, that the services confidence indicator includes two backward-looking questions, while the industry confidence indicator none.

Table 5 – Time horizons of questions used in sectoral confidence indicators

| <b>Confidence indicator</b>   | <b>Number of questions in indicator</b> | <b>Backward- /current/forward-looking</b> |
|-------------------------------|---|---|
| Construction confidence       | 2                                       | 0/1/1                                     |
| Consumer confidence           | 4                                       | 1/0/3                                     |
| Financial services confidence | 3                                       | 2/0/1                                     |
| Industrial confidence         | 3                                       | 0/2/1                                     |
| Services confidence           | 3                                       | 2/0/1                                     |
| Retail confidence             | 3                                       | 1/1/1                                     |

Source: Deloitte and DIW Econ

Backward-looking questions in questionnaires can be justified since they provide a point of reference for subjective questions about the current and future states of the world ((Kapteyn, Smith, & Soest, 2007; King & Wand, 2007; Chevalier & Fielding, 2011). Using backward-looking questions to construct composite indices can be justified if past states have a strong correlation with the future state of the economy or in the case of households,

to account for a tendency of consumption smoothing<sup>46</sup> over time (Romer, 2018). Furthermore, backward-looking questions are helpful for nowcasting. For example, in March, backward-looking questions provide valuable information for nowcasting developments in the first quarter of the year.

Differences in the share of backward-, current- and forward-looking questions across sectoral indicators were also considered justified by users and partner institutes in the online questionnaire conducted as part of this evaluation. Among the users of the EU BCS data, a majority of 66% considered the differences in the questions asked and questions selected for the indicators across sectors to be appropriate, while only 7% considered these differences to be inappropriate. Similarly, 56% of the partner institutes stated that the differences were appropriate, while only 4% of the partner institutes considered them inappropriate<sup>47</sup>.

Even if the existing differences in the questions used for the sectoral confidence indicators are justified, it is instructive to explore in how far these differences affected the development of the indicators over time. In particular, it is interesting to examine in how far differences observed in the development of the sectoral indicators were an artefact of the construction of the indicators and hence could have led to wrong conclusions about the relative performance of different sectors.

We addressed this question by comparing the development of the existing indicators with the development of alternative indicators which we construct by using the same underlying survey questions for each sector<sup>48</sup>. Table 6 summarises the questions that are to a large extent identical across the industry, retail, services and construction sector<sup>49</sup>. We used those questions to re-calculate the sectoral indices.

Table 6 – Survey questions similar across different sectoral surveys

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**Questions/Indicators**

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Business activity development over the past 3 months

Business activity expectations over the next 3 months

Employment expectations over the next 3 months

Source: Deloitte and DIW Econ

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<sup>46</sup> Consumption smoothing refers to the tendency of consumers to create a balance between spending and saving during the different phases of their lives to achieve a higher overall standard of living.

<sup>47</sup> The remainder of the users and partner institutes replied “do not know”.

<sup>48</sup> Another way of addressing the question would be to impose the structure of one sectoral indicator (e.g. industry) on another (service) and then see whether any differences in the development of sectoral indicators reduce. Unfortunately, this test is not feasible because, for example, there are no current-situation questions in the monthly survey in the service sector.

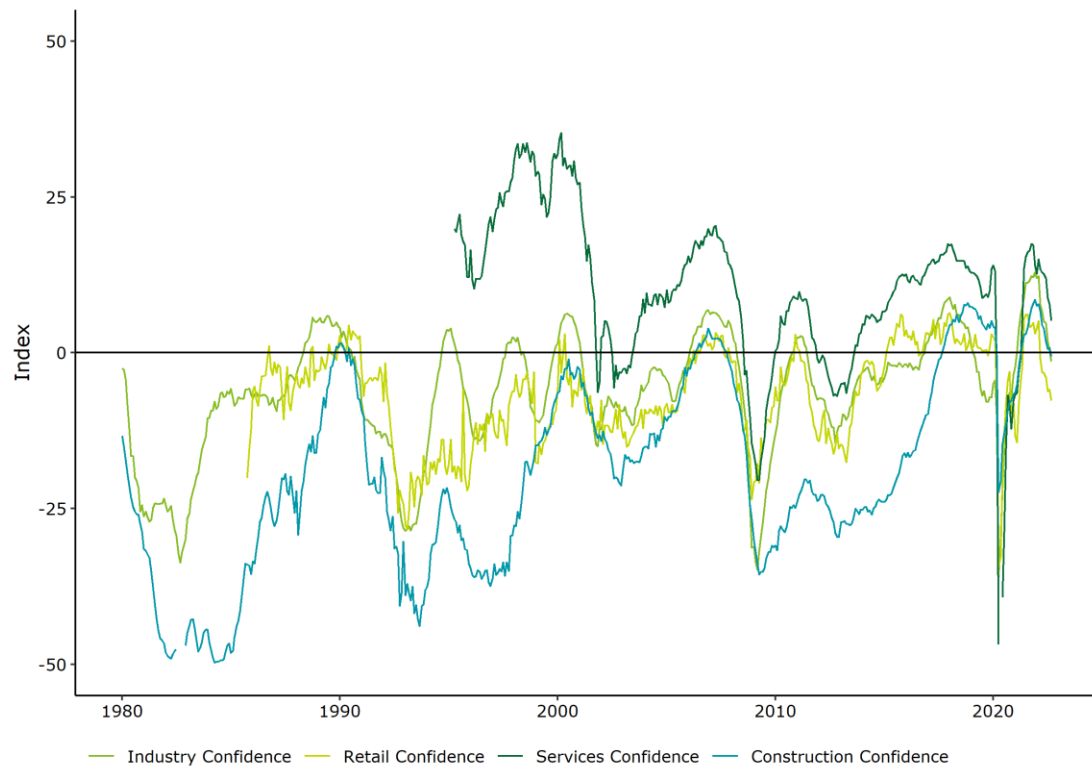
<sup>49</sup> While there is also a harmonised question on price expectations in all four surveys, we excluded the question from our analysis, since the focus of the confidence indicators is on real developments in each sector.

Figure 10 compares the current confidence indicators (upper panel) with those constructed with the three questions listed in Table 6 (lower panel). The graph reveals that the overall development of the sectoral indicators is similar for both versions of the indicators. The correlation coefficient between the actual indicator and alternative indicators ranges from 0.97 for the retail confidence indicator to 0.99 for the construction confidence indicator, implying a very strong correlation between the actual and alternative indicators.

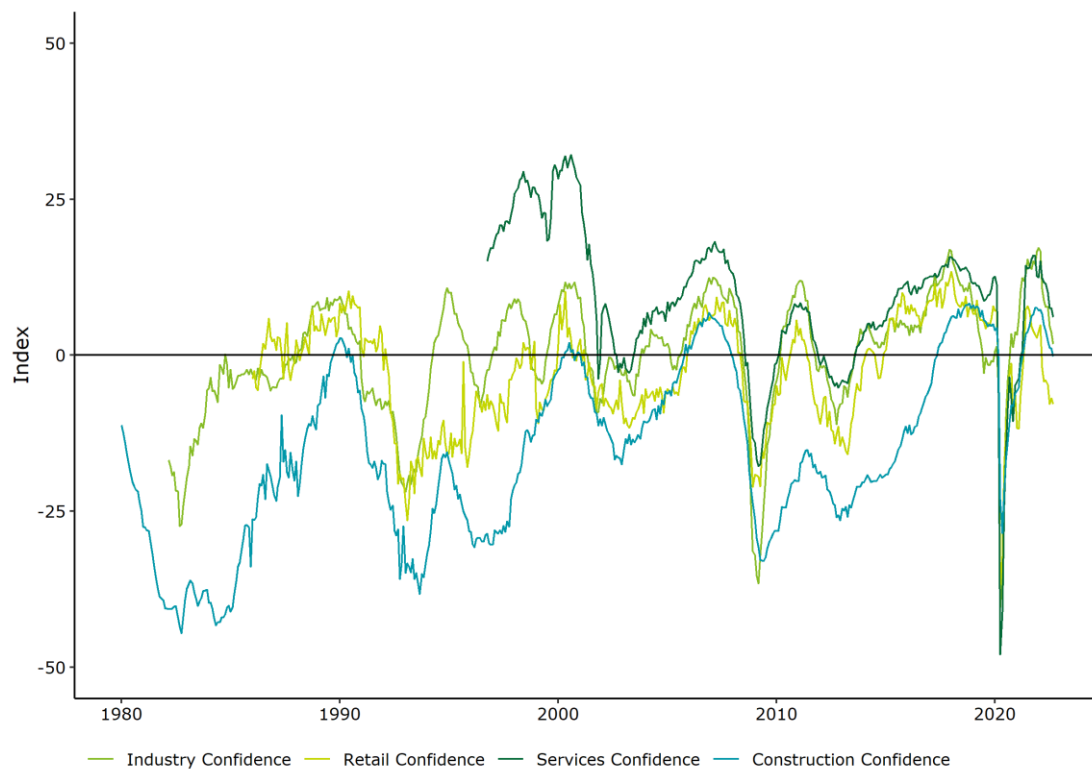
In both graphs, the confidence in the service sector is higher than in the other sectors and the confidence in the construction sector is below the other sectors. However, it can also be seen that, especially after the year 2000, the difference between services confidence and the other sectoral indicators becomes smaller when the same questions are used to construct the indicators. Nevertheless, it should be noted that economists and policy makers are not per se interested in the differences in the long-term averages of the sectoral indicators, but rather in the movements of the indicators over time. Therefore, the reduction found in the difference between the sectoral indicators for the alternative indicators is not a cause for concern, and it is reassuring that the correlations between the actual and alternative indicators are very strong, showing that they move closely together.

Figure 10 – Comparison of development of sectoral indicators

Current composition of sectoral indicators:



Alternative composition of sectoral indicators using similar questions:



Based on the judgment of the users and partner institutes as well as theoretical arguments from the literature, it is therefore possible to conclude that the differences in the questions asked in sectoral surveys and selected for the sectoral confidence indicators are appropriate. While the overall development of the sectoral indicators is not affected by the selection of different questions across sectors, they account to only a small extent for the differences observed in the development of the sectoral indicators in recent decades. However, since economists and policy makers are not per se interested in the differences in the long-term averages of the sectoral indicators, but rather in the movements of the indicators over time, the effect identified here on the differences between sectoral indicators is irrelevant, and it is reassuring that the correlations between the actual and alternative indicators are very strong, showing that they move closely together.

#### *External coherence (Q.28,29)*

*Q28: What is the degree of complementarity of the EU BCS Programme with other EU survey Programmes, for instance with the ECB's Consumer Expectations Survey and the Bank Lending Surveys, as well as comparable private/national surveys?*

The euro area bank lending survey (BLS) provides information on bank lending conditions in the EA. It is conducted four times a year and addressed to senior loan officers of a representative sample of EA banks. The BLS contains 22 standard questions (eighteen backward-looking questions, and four forward-looking questions) and one open-ended question (ECB, 2022a).

The Programme's FSSS, by contrast, is conducted monthly and covers financial service activities in general, i.e. credit institutions, insurance, reinsurance and pension funds and activities auxiliary to financial services (DG ECFIN, 2022a). Therefore, the two surveys tend to complement each other, as they are conducted with different frequencies and with a different focus. While the FSSS provides a broad overview of current sentiment in the financial services industry, the BLS provides a focused view on bank lending conditions.

The Consumer Expectations Survey (CES) is an online panel survey of consumers which is carried out by the ECB on a monthly basis. It was first piloted in January 2020. The aggregate results published each month by the ECB currently cover participants from the six EA countries included in the initial pilot: Belgium, France, Italy, Germany, the Netherlands and Spain. In 2022, work began on the collection of data for five more EA countries: Austria, Greece, Finland, Ireland and Portugal (ECB, 2022). The BCS Programme thus has the advantage of a much broader geographical coverage and longer time series.

In contrast to the Programme, which mainly relies on qualitative questions, the CES includes both qualitative and quantitative questions (ECB, 2022a; DG ECFIN, 2022). The quantitative data collected in the CES can complement the qualitative information from the EU BCS surveys. For example, the EU BCS consumers survey contains questions on qualitative assessments of the current financial situation of the households, with a set of

answer options ranging from “We are saving a lot” to “We are running into debts” (DG ECFIN, 2022). The CES, on the other hand, contains questions on specific amounts of spending on various goods and services, including debt repayments, which can complement the qualitative information provided in the EU BCS surveys (ECB, 2022a). Furthermore, the fact that the CES data are collected from a fixed panel of households allows for a more robust analysis of dynamic effects at the household level, while controlling for differences across households (Bańkowska, et al., 2021). The added value for research will become apparent in the future. The CES microdata have been available to the public only since November 2022.

The Purchasing Managers' Index (PMI) is one of the most widely used indicators for monitoring GDP growth and business sentiment, and the survey to which the Programme is most often compared (European Commission, 2017). The PMI was originated by the Institute for Supply Management (ISM) in the US and currently, S&P Global produces the PMI based on ISM's methods for over 30 countries worldwide. A fundamental difference between both surveys is the time horizon of the survey questions. While the BCS survey questions focus on developments in the last 3 months, the next 3 months, the next 12 months and the current situation, the PMI asks how the indicators have changed this month compared to the previous month. In terms of geographic scope, the PMI covers a smaller number of countries, but it goes beyond the EU and its candidate countries. The PMI spans all continents; it includes countries in North and South America, Africa, Asia and Oceania as well as Europe. There is thus complementarity between the PMI and the BCS Programme when comparing developments in EU countries with countries outside the EU (Marcellino, Porqueddu, & Venditti, 2016; Leboeuf & Morel, 2014; Camacho & Perez-Quiros, 2010). In addition, for countries covered by both the BCS programme and the PMI, the data can be used to cross-check the results of the other survey. Furthermore, the PMI covers fewer sectors than the BCS Programme. The PMI covers the manufacturing sector in 30 countries, while it covers the services sector and the construction sector in only 13 and 5 countries, respectively. The EU BCS programme also includes a retail trade survey and a consumer survey and the business and consumer surveys are conducted in all countries covered by the Programme. In addition, the EU BCS surveys also cover subsectors at NACE level 2 (e.g. the industrial sector is broken down further into manufacture of food products, manufacture of beverages, manufacture of tobacco products, etc). Similar to the Programme's ESI, the PMI also publishes a composite indicator (based on the manufacturing and service sector) which is designed to reflect developments in the economy as a whole. Empirical evidence from the literature shows that the PMI is better suited to track quarter-on-quarter economic growth, while the ESI performs best in tracking year-on-year movements in economic activity (European Commission, 2017).

It can thus be concluded that the EU BCS Programme complements other survey programmes. The Programme complements the ECB bank lending survey by covering more countries in Europe and by providing a broader overview of the current situation in

the financial services sector, which goes beyond bank lending conditions. The EU BCS surveys complement the ECB Consumer Expectations Survey by providing long historic time series on qualitative consumer sentiment that can be usefully combined with the much shorter quantitative time series from the CES. The EU BCS surveys also complement the PMI in terms of the time horizons of the survey questions and in terms of the geographic coverage, as the Programme covers more countries in Europe while the PMI covers countries on other continents. In addition, the PMI is better suited for tracking quarter-on-quarter economic growth, while the ESI is best suited for tracking the development of economic activity on a year-on-year basis.

*Q29: What is the additional value of a harmonised EU survey Programme compared to existing national economic tendency surveys?*

Harmonisation of the methodology across the EU Member States and five candidate countries is an essential advantage compared to national surveys as it allows the comparison of business cycles between Member States as well as the calculation of meaningful EU and EA aggregates. This harmonisation not only allows accurate comparability between countries but also between sectoral aggregates at national level. Most partner institutes interviewed highlighted that the intervention is one of the first and only survey programmes which provides input on the future of the economy which is comparable at the EU level. Through the online questionnaire, both partner institutes and users confirmed that the Programme provides invaluable information on economic developments: 78% of the former and 85% of the latter agreed or strongly agreed with the following statement: "The Programme is well known for the added value it brings compared to other data."

Thanks to the consistency between the national data and the EU aggregate data provided by the intervention, some private users from the financial sector explained that they use the Programme data to check whether the tendencies from other national and EU surveys are correct. In other words, the consistency of the Programme data increases the EU BCS Programme's trustworthiness and reliability for users.

All in all, as the stakeholder consultation results confirmed, the EU BCS Programme, in comparison to existing national economic tendency surveys, brings additional value to the market, namely the comparability of its data between countries and sectors, the consistency of its data, and its ability to provide harmonised input on the future of the economy at the EU level.

As a general conclusion of this section 4.1, it can be said that the findings from the questions addressed here suggest that the intervention was successful when measured against the criteria of effectiveness, efficiency and internal/external coherence. Nonetheless, a few areas for improvement were identified in the analysis of the literature, the quantitative analysis and the stakeholder consultation. In particular, several adjustments could help improve i) the use of the data (e.g. a more practical illustration of the type of analyses and insights that can be obtained from the EU BCS data in the User

Guide; better reporting of methodological changes implemented, and updating the metadata and questionnaires); ii) the efficiency of the collaboration between the partner institutes and DG ECFIN, especially in terms of administrative processes (e.g. developing a centralised platform to address administrative issues and having workshops more geared towards practical issues) and iii) the data dissemination (e.g. offering search and filter options and additional download formats other than Excel).

## **4.2 HOW DID THE EU BCS PROGRAMME MAKE A DIFFERENCE?**

The analysis in this section, centred around the EU added value criterion, was carried out to determine whether the data generated by the intervention enriches both discussions and analysis of the economic developments in the EU/EA, and whether it is appropriate for the EC to lead this intervention rather than the Member States.

### **4.2.1 EU ADDED VALUE**

#### *Prevalence of EU BCS data in economic discussions and analyses (Q.30)*

*Q30: How prevalent are the data generated by the EU BCS Programme in discussions and analyses of short-term economic developments in the EU/EA and other (cross-sectoral) economic analyses?*

The prevalence of the EU BCS Programme in discussions of short-term economic developments can be studied at different levels: in the press, in academia and among private users.

Turning first to the press, the fact that EU BCS data are frequently quoted in the media shows that the BCS figures for the EU are widely used. As noted previously, for the year 2022, Google listed 1 920 search results when searching for “economic sentiment indicator”. The economic press and news agencies regularly report on the publication of the data and analyse the underlying trends for which the data is providing evidence. For example, Reuters regularly reports on the evolution of the ESI. Statistical offices and partner institutes also publish media contributions and press releases to promote the EU BCS data and increase their visibility to the general public (WIFO, 2022; ifo Institut, 2020).

In academia, the Programme data are widely used for a variety of monitoring, forecasting and analytical research purposes (Grech & Ellul, 2021; Sorić, 2018; Österholm, 2014). For the year 2022, Google Scholar listed 150 academic publications citing the Programme’s economic sentiment indicator. Beyond their ability to monitor GDP and inflation, the EU BCS data have been successfully used to analyse and monitor developments in foreign direct investments (FDI) in EU economies (Ciešlik & Ghodsi, 2021), as well as to predict recessions (Erjavec, Sorić, & Čizmešija, 2016), retail sales and future unemployment developments (Claveria O. , 2021; Claveria, O. , 2019; van Aarle & Kappler, 2012). In



addition, the data has been used to analyse and describe the demand for tourist services or the quality of life in EU countries (Skikiewicz & Blonski, 2018; Altin & Uysal, 2014).

Finally, the EU BCS data have also been used extensively by the private sector to forecast short-term trends and analyse economic developments. For example, the VDMA (Germany Machinery and Plant Engineering Association) has used the EU BCS data for its international economic bulletin to analyse business sentiment and its implications for the economy<sup>50</sup>. In the stakeholder interviews, private sector users reported heightened interest in the data since the COVID-19 pandemic in 2020, which considerably increased the uncertainty of economic developments. As such, the EU BCS data have been a very useful tool to monitor the sentiment and uncertainty of consumers and businesses.

Overall, it can thus be concluded that the EU BCS data have been used widely by the press, academia and the private sector to monitor, discuss and analyse short-term economic developments.

### *Perception of the Programme as an EU effort (Q.31)*

*Q31: Is the connection between national and EU level survey results accurately perceived by stakeholders? Is the survey perceived as a national or an EU effort in Member States or candidate countries?*

The inputs gathered from interviews with users and partner institutes indicate that the users' perception of the Programme largely depends on how they access the data and how they use the data. The national statistical agencies interviewed (i.e. partner institutes) highlighted that for most of the users who receive (download) the data directly from national statistical offices and only use the Programme's national data, the data is associated with a national effort. On the other hand, for the users interviewed who mainly access the data through the DG ECFIN website and/or Eurostat and make use of the entire data for comparisons between Member States, it is clear that it is an EU-wide effort. National statistics institutes that did not have similar data before joining the Programme indicated, when interviewed, that for the majority of users it is clear that the data collected are part of an EU Programme. In some countries, such as Germany, as similar indices were already provided by academic institutes, the partner institute and users explained that the perception is now of a joint effort.

When asked about whether the survey was perceived as a national or an EU effort in member states or candidate countries: 70% of users indicated they perceived it as an EU effort, while 15% believed it was a national effort<sup>51</sup>. Of the partner institutes, 43% responded that the Programme is viewed as an EU effort and 43% as a national effort (the remaining 14% answered "Do not know"). Based on the online questionnaire of users, the dominant view is that the EU BCS Programme is the product of an EU effort. The mixed

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<sup>50</sup> VDMA, (2022), Konjunkturbulletin international, vdma.org, <https://www.vdma.org/konjunktur>

<sup>51</sup> The 15% remaining answered "do not know".

responses provided by the partner institutes should be put in perspective as in many cases they are speculating on what users might think.

Partner institutes are required contractually to indicate in all communications and/or publications relating to the BCS action that it has received funding from the Union, and display the European Union emblem. Beyond giving more prestige to partner institutes, mentioning the EU-funded nature of the survey was reported as lending extra credibility to the data, since users of the data consider the EC as a particularly reliable data source. In fact, several partner institutes explained that they have received many requests from all stakeholder groups (especially news agencies) wanting confirmation that the data carry an EC ‘stamp’. Based on that experience, some partner institutes stated that most users do not tend to pay attention to whether the Programme data are the result of an EU effort or a national effort as long as the data are reliable and endorsed by the EC.

In conclusion, the stakeholder consultation results provide evidence that among users the predominant perception is that the data is the result of an EU-wide effort. Evidence from partner institutes is that EU endorsement is key to positive perceptions. In particular, it seems that the EU-funded nature of the Programme lends extra credibility to the data.

To sum up, the findings of section 4.2 suggest that the EU BCS data is very relevant for short-term forecasting and nowcasting, is in high demand, and is especially valuable during periods of crisis. Most users associate the availability of such data with an EU effort rather than a national effort, especially in countries where similar data was not available before joining the Programme.

### 4.3 IS THE EU BCS PROGRAMME STILL RELEVANT?

This section assesses the relevance of the intervention by analysing the survey questions covered by the Programme, the data it generates, the Programme's capacity to adapt and its methodology.

#### 4.3.1 RELEVANCE

*Relevance of the Programme compared to alternative short-term indicators (Q.16,17)*

*Q16: To what extent is the Programme still relevant & Q17: Given the Programme's aim to provide quasi real-time information on the state of the EU and EU candidate economies, is the Programme still relevant in the light of recent progress in accelerating the release of important statistical data, such as EU/euro area GDP (preliminary flash estimate), and the availability of alternative short-term indicators?*

Official figures on macroeconomic aggregates such as GDP, inflation or unemployment are usually published with a significant delay. Since these variables play an important role in policy-makers', business leaders' and investors' decision-making processes, they are keen to consult indicators which correlate strongly with those reference series, but which are published sooner. Indicators fulfilling this condition can be separated into "hard" indicators, such as industrial production and flash estimates of GDP growth, and "soft" indicators such as survey data (Angelini, Camba-Mendez, Giannone, Reichlin, & Rünstler, 2008). Table 7 provides an overview of various hard and soft indicators and their frequency of publication and publication lags compared to the reference month.

Table 7 – Overview of publication lags of selected economic indicator variables for the euro area

| <b>Indicator</b>   | <b>Frequency</b> | <b>Publication lag compared to the reference month</b> |
|--|------------------|--|
| <b>Hard Indicators</b>   |                  |  |
| Industrial Production  | Monthly          | 1.5 to 3 months after the reference month              |
| GDP Flash Estimates  | Quarterly        | 1.5 months after the reference quarter                 |
| Preliminary GDP Flash Estimates  | Quarterly        | 1 month after the reference quarter                    |
| Certain Big Data Approaches<br>(e.g. Billion Prices Project)                     | Daily            | None   |
| <b>Soft Indicators</b>   |                  |  |
| Economic Sentiment Indicator & Business confidence indicators                    | Monthly          | Same month or only a few days delay.                   |
| Purchasing Managers Index (PMI)  | Monthly          | Same month or only a few days delay.                   |
| Country-Specific Indicators (e.g. ifo Business Climate Index)                    | Monthly          | Same month   |
| Certain Big Data Approaches (e.g. Twitter and Google-based sentiment indicators) | Daily            | None   |

Source: Deloitte and DIW Econ

Since 2016, preliminary flash estimates of GDP have become available as an alternative timely bellwether of economic developments. This raises the question of whether the publication of those preliminary flash estimates of GDP reduces the relevance of the EU BCS data as a timely indicator. To address this question, it should first be noted that flash estimates are published on a quarterly basis, while the Programme data are published monthly. As shown in the above table, preliminary GDP flash estimates are published 30 days and GDP flash estimates 45 days after the end of the quarter. Around 65 days after the end of the quarter, new estimates ('preliminary estimates') of GDP are published. These may revise the flash estimates and contain some additional detail. Finally, about 100 days after the end of the quarter, a full set of quarterly national accounts is published, which includes GDP data, institutional sector accounts and quarterly balance of payments data.

Flash estimates are more accurate predictors of their respective macroeconomic variables such as GDP than the EU BCS indicators, but this is not surprising given their delayed publication. The correlation between GDP flash estimates and official GDP data is 0.99 for the EU-27 and similarly strong for most EU Member States. However, the EU BCS data are published more frequently (monthly instead of quarterly) and in a timelier manner (by the end of the respective reference month instead of 30-45 days after the end of the quarter). The EU BCS data can thus already be used to produce nowcasts for a particular quarter at the end of the first month of that quarter. Hence, the timeliness of the EU BCS data tends to outweigh the sacrifice in accuracy compared to the flash estimates.

The frequency and timeliness of the EU BCS data was also emphasised as a key advantage in the stakeholder consultations. In particular, stakeholders noted positively that the EU BCS data were published in a timely manner even in unforeseen crises such as the COVID-19 pandemic.

The Dutch Statistical Office has investigated the option of changing the construction of their current GDP flash estimate so that it includes survey data, specifically data from the Programme. They arrived at the conclusion that this method of estimation outperforms their current method (Kuiper & Pijpers, 2020). This shows that the EU BCS data does not necessarily stand in opposition to flash estimates; but that their timely publication and sectoral coverage are important additions to early GDP growth estimates.

Another important advantage of the EU BCS data, beyond the timeliness and high frequency, is the broad sectoral coverage. Flash estimates of GDP only provide information on economic growth as a whole but do not provide separate data for individual economic sectors or consumption, as the EU BCS Programme does. The Programme's sectoral data facilitate specific sector-related analyses in addition to giving signals about the overarching economic state (Lehmann, 2015).

Having established the continued relevance of the EU BCS data when compared to flash estimates, the question is whether the data is also relevant in the presence of alternative available survey data such as the PMI. Similar to the EU BCS indicators, the PMI has the key advantage of timeliness. Empirical studies find that the PMI is better suited to tracking quarter-on-quarter GDP growth, while the ESI performs best in tracking year-on-year movements in economic activity (European Commission, 2017). However, compared to the EU BCS data, the PMI lacks sectoral coverage (consumption, construction and retail trade), as well as geographic coverage, which means that developments cannot be compared across all EU Member States. This comparability was highlighted in the stakeholder consultations as one of the Programme's major strengths and is further evidence of its relevance compared to other survey data.

The ongoing relevance of the EU BCS data despite alternative early indicators, such as flash estimates or alternative survey data, was also confirmed by stakeholders. In the online questionnaire, 100 % of the users and 91 % of the partner institutes indicated that they either agree or strongly agree with the statement "The Programme is still relevant in the

light of recent progress in accelerating the release of important statistical data, such as EU/euro area GDP (preliminary flash estimate), and the availability of alternative short-term indicators (e.g. big data).”

It can thus be concluded that the EU BCS data remains relevant as an early indicator of economic developments in the EU Member States. Compared to flash estimates, the Programme data has offered the advantages of timeliness, a higher frequency and a broader sectoral coverage. The broader sectoral coverage as well as a broader geographic coverage has also been the main advantage of the EU BCS data compared to the PMI.

#### *Relevance of the data for users (Q.18-21)*

*Q18: Do the survey questions used in the EU BCS Programme focus on the most relevant economic issues or could the Programme benefit from additional or modified questions and could some of the questions be dropped from the survey?*

The online questionnaire responses show that 89% of users and 96% of partner institutes consider that the EU BCS Programme focuses on relevant economic issues.

When asked about possible additional questions to be implemented in the Programme, users and partner institutes alike suggested that the addition of a question on supply chain disruptions in the construction, retail trade and industry surveys would be beneficial. Institutional users as well as users from the financial sector explained that it would be interesting to explore the shortage of materials in the building and industry surveys and whether it is the result of disruption in the supply chain or other factors<sup>52</sup>.

Although partner institutes agreed on the idea that new questions could be beneficial, several voiced concerns as to whether long questionnaires (i.e. adding new questions) could compromise response rates and the quality of the data. Best practice shows that, in general, the response burden should be kept low to ensure a consistently high response rate and thus good data quality<sup>53</sup>. This might be an issue as the questionnaires in some countries already include additional questions from the respective partner institutes (DG ECFIN, 2022). Despite the requirement for the business and consumer survey questionnaires to remain short, the introduction of the new harmonised questions on capacity utilisation in the services sector and on uncertainty provided a considerable gain in information and therefore were justified (Pavlova, 2014; Gayer, 2013).

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<sup>52</sup> Although none of the interviewees specified to which survey question the proposed sub-question on supply chain should be added they agreed that such an additional question would give more granularity and insight into supply constraints.

<sup>53</sup> When considering alternative options, such as rotating panels, to reduce the burden on individual respondents, the disadvantage is that such a strategy is associated with higher costs and methodological issues. For example, the use of a fixed panel rather than a rotating sample increases the quality of the data over time by avoiding changes in the responses only being caused by changes in the survey samples (United Nations, 2015).

In principle, for questionnaires to be as user-friendly and short as possible, if new questions are added, others should be removed. This, in the opinion of most partner institutes and users, would not be desirable as it would break long time series, which are one of the main benefits of the Programme. Due to the cyclical nature of the economy, the vast majority of stakeholders highlighted the fact that some questions might not seem relevant at a specific point in time, but could become relevant a few years later.

In conclusion, the feedback obtained from the stakeholder consultation supports the hypothesis that the EU BCS Programme focuses on the most important economic questions. While both partner institutes and users would appreciate additional questions on specific topics, best practice recommends having questionnaires that are as user-friendly and short as possible in order not to increase the response burden, which in turn might compromise the quality of the data. While deleting questions to make room for new survey questions could be a solution, the stakeholder consultation highlighted that this would need to be based on a careful analysis, as questions currently appearing irrelevant might gain importance in a changing economic environment.

*Q19: Is the surveying frequency (monthly for most questions, quarterly for some) appropriate?*

The Programme consists of six surveys that are conducted monthly, with some additional questions asked quarterly<sup>54</sup>. In addition, twice a year, extra questions on companies' investment plans are added to both the industry and services surveys (DG ECFIN, 2022).

The monthly implementation of the survey is in line with the general recommendations of the Handbook on Economic Tendency Surveys (United Nations, 2015). At the last evaluation all interviewees were either "satisfied" or "very satisfied" with the frequency of publication of data and were in favour of the status quo (GHK Consulting & DIW Berlin, 2012). For this evaluation, most of the interviewed partner institutes considered that the frequency is appropriate, both from their perspective and from the perspective of participants in the surveys as the questionnaires are very short and, in the case of panel surveys, the respondents are used to them. The results of the online questionnaire show that 100% of the users and 87% of partner institutes consider the surveying frequency appropriate.

When asked for their views on a more frequent implementation of the surveys, the view of partner institutes was that a higher frequency than monthly would place too much of a burden on the respondents and would compromise the response rates. Furthermore, respondents would need to understand why they have to answer more frequently than before and, from the partner institutes' perspective, this would be hard to justify. In addition, a higher surveying frequency would also impose a higher workload on the partner institutes and, possibly, compromise the quality of the data. In fact, the previous evaluation

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<sup>54</sup> This corresponds to surveys in the industry, construction, services, financial services and among consumers.

concluded that increasing the frequency of the monthly surveys could potentially make the data too volatile and ‘noisy’ (GHK Consulting & DIW Berlin , 2012). This was still the view of most of the partner institutes interviewed, who shared these concerns. Furthermore, as highlighted by the news agencies interviewed, from a communication point of view, a higher frequency of data could end up being overwhelming for the general public and there might not be enough interest from the media to report on the (more frequent) data releases as readers might not be interested in more frequent updates.

Despite the general approval of the monthly surveying frequency, a significant number of users said that times of crisis require a higher frequency. Some users suggested that, during periods of crisis, a weekly frequency could potentially offer interesting insights. In addition, a majority of private sector users interviewed thought that, as a general rule, all quarterly questions should be moved to a monthly basis if possible, especially because of the heightened uncertainty since 2020 due to the COVID-19 pandemic and the war in Ukraine in 2022. In fact, some partner institutes decided many years ago to ask every question every month to render the processes easier rather than having different versions of the survey for different times of the year.<sup>55</sup> These partner institutes explained that since there are not many quarterly questions and respondents are already familiar with these questions, asking for the quarterly data every month would not add much burden to respondents and should not compromise response rates.

In the light of the results of the stakeholder consultation, as well as the impact that a higher surveying frequency could have on the quality of the data and the general public’s interest in the EU BCS data, the conclusion can be drawn that the current surveying frequency is appropriate. A higher surveying frequency would not add much value to analyses. Instead, private sector users would appreciate the quarterly questions being moved to monthly frequency. Some partner institutes also agree with this as it would decrease their burden of having different versions of the questionnaires; while they do not foresee a risk of this compromising response rates and the quality of the data, it would however imply a higher response burden.

*Q19a: In your view, does the Financial Services Sector Survey complement other data provided by other financial services surveys?*

The relevance of the FSSS was questioned by stakeholders<sup>56</sup> during the interviews as none of the users were able to provide feedback on the FSSS i.e. they did not use it. Responses to the online questionnaire confirmed these insights as 37% of users answered “Do not know” when asked if the FSSS complements other data provided by other financial

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<sup>55</sup> Partner institutes’ point is that moving quarterly questions to a monthly basis help to reduce internal tasks/processes and therefore ultimately simplifies the work.

<sup>56</sup> Stakeholders consulted on the FSSS during this evaluation included national central banks, private sector companies, academics and researchers as well as institutional users



services surveys, while only 18% selected “Agree” or “Strongly Agree”. The remaining 45% of respondents did not provide an answer to this question<sup>57</sup>.

Some of the central banks and commercial banks interviewed pointed out that they had developed their own financial surveys, which fit and are tailored to their specific needs, thus rendering the FSSS redundant. At the same time, they mentioned that their analyses were complemented and nourished (e.g. for the construction of indices) by the Programme’s services, industry, retail trade, consumer, and construction surveys, which provide forward-looking inputs to their financial stability analysis and contribute to assessing the risks in the macro environment and sectoral credit risks.

These stakeholders also pointed out that information provided by the financial sector is highly sensitive and that financial companies are, in general, hesitant to share such information. Having full control and visibility of the context of the survey, the questions asked and the profiles of the respondents were identified as key elements in making the data reliable and having all relevant information available for accurate analysis.

In conclusion, it is not possible to determine whether the FSSS complements data provided by other financial services surveys. The feedback received from the EU BCS Programme users shows that the FSSS is not relevant to them as it is not integrated in most users’ analyses. Potential users of the FSSS acknowledged that they prefer to construct their own indices and use the other sectoral EU BCS Programme surveys to provide further input/context to their financial stability analyses. Given the low usage and the users’ preference for other similar surveys, discontinuation of the FSSS could be considered.

*Q20: Does the sectoral aggregation of the survey results meet users’ needs or should different aggregates be introduced?*

The sectoral aggregation was considered satisfactory as such by users and partner institutes as it follows the official classification from the European statistical offices. This was supported by the online questionnaire answers: 96% of the respondents said that the sectoral aggregation of the survey results is appropriate (the remaining 4% did not provide an answer).

For most users interviewed and across all stakeholder groups, excessively rapid changes in the sectoral aggregation should be avoided, as most economic models are based on this type of structure. Any change would mean that models would need to be redeveloped from scratch. Nevertheless, when asked about other approaches to aggregation, a few pointed out that, for economic interpretation, it is not always useful to classify economic sectors by product types. An economy ecosystem classification was identified as an alternative approach as, in terms of economics, industries are all related, meaning that changes in one industry will have an impact on others. Through an ecosystem classification, analyses and interpretations of economic developments might be more understandable for the general

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<sup>57</sup> Respondents did not answer due to the later integration of the question into the survey

public and the data might be more easily usable. However, the cost of implementing such aggregation would need to be assessed bearing in mind that aggregates would need to be modified across all surveys for harmonisation purposes and to ensure accurate interpretation of the results.

Finally, some private sector users pointed out that some questions are not asked across all sectors (e.g. capacity utilisation is asked for industry and services but not construction). Some institutional users pointed to the fact that some NACE sectors are not included in the survey (e.g. the health sector, the proximity and social economies<sup>58</sup>, etc.) and would benefit from being included in the future as they would allow the Commission services to analyse the survey results through the industrial ecosystem lens.

Overall, the current sectoral aggregation of the survey results meets users' needs. Some suggestions for improvements were voiced in the stakeholder consultations, such as taking an ecosystem approach to the aggregation of the EU BCS data. However, this would pose a risk to the integrity of the data and time series as current ones would be replaced by the new ones. There might be a case for coverage of all NACE sectors across the surveys. This would ensure full coverage of all sectors, while users interested in an ecosystem approach would build ecosystem indicators on their own, based on their needs.

*Q21: Is the disaggregation of the results in terms of sub-sectors and consumer categories sufficient/appropriate?*

For all the business surveys in the Programme, the results are broken down by branches in accordance with the NACE, Rev. 2, at the two-digit level (DG ECFIN, 2022). A more detailed breakdown of the data could raise confidentiality concerns as the totality of the information (country, activity sub-sector, company size) might make it possible to identify individual firms (United Nations, 2015).

In the consumer survey, the answers are currently categorised and published in accordance with six criteria: income, occupation, working full-/part-time, education, age and gender (DG ECFIN, 2022). 89% of the online questionnaire respondents consider the disaggregation of survey results (both for the consumer and business surveys) sufficient, while 11% indicated that further disaggregation would be needed.

Partner institutes from several countries mentioned that disaggregating results below the 2-digit level would not be useful as it would increase noise and the sample sizes for the individual sub-sectors would be too small.

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<sup>58</sup> The proximity economy consists of local and short value chains, local production and consumption, human-centric city models and social economy business models. One characteristic vision for the proximity economy is the '15-minute city', where everything a citizen needs is within a 15-minute walk or bike ride. The social economy encompasses a variety of businesses, organisations and different legal entities. They share the objective of systematically putting people first, producing a positive impact on local communities and pursuing a social cause. For further explanations see [the EC Internal Market, Industry, Entrepreneurship and SMEs](#)

The few stakeholders in favour of greater disaggregation were mostly users from academia, who argued that a breakdown at 3-digit level would be very valuable for their research. Some academic users even suggested disaggregating to the 4-digit NACE code.

A few private sector users voiced interest in further disaggregation of sub-sectoral data (i.e. beyond the current breakdown) but understood that this would be difficult to implement in practice. Additionally, some banking sector users, asked for further disaggregation in services, as well as further differentiation between traditional and e-commerce, and separation of SME (Small and Medium-sized Enterprise) and MNE (Multinational Enterprise) data.

In conclusion, for the vast majority of users, the current level of disaggregation of the results in terms of sub-sectors (i.e. 2-digit level) and consumer categories (income, age, etc.) is appropriate.

*Relevance relating to Programme capacity to adapt (Q.22,23)*

*Q22: Are microdata on individual businesses' responses needed for up-to-date statistical analysis?*

A majority of users interviewed considered that growing economic uncertainty, especially since 2020 due to the COVID-19 pandemic, and further aggravated since the beginning of the war in Ukraine in 2022, had increased the need and case for access to business survey microdata. Academics, private sector users and institutional users interviewed would like to use microdata to:

- analyse shortages in the labour market for skilled workers;
- pinpoint a moment and analyse the direct impact of a shock (i.e. in one specific firm or similar firms across countries and industries);
- build experimental models that allow for an in-depth study of the investment/consumption preferences of companies and individuals (regression type models and multivariable analysis).

The utility of microdata was confirmed by users' responses to the online questionnaire, as 59% of the respondents indicated that they "Agree" or "Strongly Agree" that public access to microdata on individual businesses' responses would significantly improve up-to-date statistical analysis of economic developments, while only 19% of respondents answered "Disagree" or "Strongly Disagree".

In the light of repeated requests from researchers to obtain access to the microdata underlying the business surveys, partner institutes were asked whether they would be willing to share that microdata with the Commission for centralised dissemination. A majority of partner institutes said that if the Commission were to want them to provide access to microdata, the contract between partner institutes and the EC should state this and partner institutes should be compensated for providing that information.

It is important to note that the delivery of business microdata results to the EC is not part of its grant agreements with partner institutes. The microdata remains in the possession of the partner institutes only and any decision to analyse or share the data for research is exclusively the partner institutes' decision. Including business microdata delivery in the EC contracts with data-collecting partner institutes would presumably require a significantly higher budget for the Programme.

In addition, some partner institutes did not want to share the microdata on individual businesses' responses because of their agreements with those businesses not to share that information. The main concern here is that the data provided by the survey is sensitive as it provides insights into companies' economic situations and their expectations and gives indirect insights into their strategy. Partner institutes are concerned that, by not respecting the agreement, i.e. providing access to microdata, response rates could be negatively affected, as companies could become reluctant to provide that information.

Should a decision be taken to share microdata as part of the EU BCS Programme, which would require an increase of the Programme's budget, all partner institutes said that the data should be anonymised. However, many also pointed out that this might still not be enough, especially in a number of smaller sectors and countries, as it would still be possible to identify respondents. One partner institute suggested publishing the microdata with a time lag of 2-3 years rather than current microdata to avoid the pitfalls cited above. This would avoid the risk of compromising response rates and would still allow academia to use the microdata for their research. However, this might not be a viable suggestion for private sector users, who would need current information. Although users understood that non-anonymised microdata cannot be provided, some said that anonymised microdata would not be as useful as contextualised information which is one of the main benefits of microdata.

In conclusion, the information gathered from the stakeholder consultation showed that microdata on individual businesses' responses would open the door to research topics of interest to academics, private sector users and institutional users. Interested researchers can in principle turn to the national data-collecting partner institutes and negotiate the terms of the usage of the data as the EC does not have access to partner institutes' business survey microdata. The majority of partner institutes requested additional compensation should the EC want to have access to those survey results for centralised dissemination. The risk that sharing business microdata might pose to response rates, as explained by partner institutes, might be mitigated by publishing the microdata with a two- or three-year delay, even though this might not provide relevant information for private sector users. Considering the unwillingness of some partner institutes to share business microdata and the expected budgetary impact of any decision to share microdata as part of the Programme, a change to the current contractual set up is not considered appropriate.

*Q23: Is there capacity to adapt to very specific needs in particular moments, as was the case during the COVID-19 pandemic? Is there a way in which ad-hoc survey questions could be introduced more rapidly / with less administrative burden?*

When answering this question, it should be recalled that the majority of partner institutes think that the Programme's surveys need to adapt to economic change to remain relevant while changes should remain limited so as not to break time series. When asked about their capacity to adapt in the short term, partner institutes voiced some concerns; their answers to this question were quite diverse although a majority believed they have the capacity to adapt to very specific needs at particular moments. In fact, 61% of the partner institutes stated that they could adapt very or rather quickly with little to almost no administrative burden. The remaining 39% stated that it would be very or rather slow with considerable to huge administrative burden.

The main reason some partner institutes reported a lack of capacity is the complexity such changes might imply in terms of the administrative and financial burden. Partner institutes interviewed expressed the opinion that to create room for ad hoc questions, a new clause should be agreed in the contract as the current administrative and financial requirements were too rigid to allow for this adaptability. This feedback from the partner institutes shows that they are apparently unaware of the existence of a clause allowing for the introduction of ad hoc questions in the currently applicable Framework Partnership Agreements. It would be interesting for the EC to make sure that partner institutes are aware of its existence so that both parties could explore together the practical details of the provision, inter alia how to coordinate the content of the (harmonised) ad hoc questions and how to reimburse the partner institutes. Irrespective of these efforts, the stakeholder consultation suggests that there is likely to remain some reticence among partner institutes to introduce ad hoc questions. First of all, interviewees said that obtaining reliable information from ad hoc questions would require a thorough (and time-consuming) ex-ante testing of those questions. Second, ad hoc questions would increase the response burden on survey participants and might, hence, compromise the response rates.

A few others were undecided and said that introducing ad hoc questions when surveys are conducted online should not be a problem, but more time and resources would be needed for print surveys. This would be obviated if all data collection would be done via online surveys. However, as argued in a previous section, there is still conflicting evidence on the effects of online survey methods on response rates, as well as measurement error and non-response bias, so that shifting towards online data collection would not come without potential downsides.

In the light of the intricacies related to the introduction of ad hoc questions, it is worth highlighting that the stakeholder consultation also presented some innovative ideas on how to collect extra/topical information in the surveys without actually introducing ad hoc questions. One partner institute, for instance, added the possibility for respondents to specify in a free-text field what exactly they meant when choosing the answering category

“other” in response to the question about factors limiting their business activity. The answers collected included “war”, “inflation” and “COVID-19”.

In conclusion, most partner institutes considered that they have the capacity to adapt to very specific needs at particular moments. For the particular case of ad hoc questions, it seems that partner institutes are unaware of the existence of a specific clause on ad hoc questions in the applicable Framework Partnership Agreements. The Commission should raise awareness of this clause so that it could, jointly with the partner institutes, explore the practical details of the provision, inter alia how to coordinate the content of the (harmonised) ad hoc questions and how to reimburse the partner institutes.

#### *Relevance of the methodology (Q.24,25)*

*Q24: Has the Programme or survey methodology been adopted in third countries?*

The EU BCS Programme was initially launched by the EC to harmonise business and consumer surveys across the EU Member States to be able to monitor and forecast economic developments across Member States and at the aggregate EU level. Over time, the Programme became a reference for business and consumer surveys around the world. The OECD and EU have supported other countries in adopting the Programme system (Kershoff, 2019; Tosetto & Gyomai, 2009; Nilsson, 2003). Table 8 provides an overview of countries which have at least partly adopted the methodology of the EC's Business and consumer surveys<sup>59</sup>.

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<sup>59</sup> This table includes all countries which were identified as having adopted the BCS methodology at least in part. This list is not necessarily exhaustive. Additional countries may have adopted parts of the BCS methodology without explicitly referring to the EU BCS Programme in their metadata. In this case, these countries are missing from this overview table.

Table 8 – Overview of adoption of the European Commission's business and consumer survey methodology, in whole or in part

| <b>Region</b>  | <b>Countries</b>  |
|----------------|---|
| Europe         | EU-27 & UK, EU candidate countries (Albania, Montenegro, Republic of North Macedonia, Serbia, Turkey), Georgia, Kosovo*, Norway, Russia, Switzerland, Ukraine |
| Americas       | Brazil, Canada, US  |
| Africa         | South Africa  |
| Asia           | China, Indonesia, Israel, India, Japan, South Korea   |
| Asia & Oceania | Australia, New Zealand  |

\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Deloitte and DIW Econ

Thus, the BCS method has been widely adopted in different countries around the world.

*Q25: Have changes to the Programme's methodology and coverage enhanced its relevance?*

To strengthen the relevance of the EU BCS Programme, the Programme's methodology should be able to respond to new needs arising from technological, social, environmental or economic changes. In recent years, unforeseen events, most notably the COVID-19 pandemic, have unsettled consumers and businesses since it was uncertain how the pandemic and the policy measures to fight the pandemic would play out. Measures of economic uncertainty have thus received increasing attention as a key indicator for monitoring and forecasting economic developments (European Commission, 2021a; Cascaldi-Garcia, et al., 2020).

In 2021, the Economic Uncertainty Indicator (EUI) was added to the EU BCS Programme to track the development of economic uncertainty in the EU. Empirical research shows that the EUI captured the increasing uncertainty over the course of the COVID-19 pandemic well (Verwey, Morice, Reuter, & Gayer, 2021). Furthermore, the indicator could be shown to have some superior properties compared to the European Economic Policy Uncertainty Index (Baker, Bradburn, & Johnson, 1995), which is based on text-mining of newspaper articles, as well as uncertainty indicators derived from the dispersion of economic actors' views on the economic outlook (Bachmann, 2021). In particular, the EUI has been found to be less volatile. This is a desirable quality. A smooth indicator will be easier to interpret and deliver a faster signal. In addition, the EUI has the conceptual advantage that it is based

on firms' and consumers' perceptions of the foreseeability of future economic developments, and is thus a genuine and direct measure of perceived uncertainty, rather than a derived one.

This positive assessment was confirmed in the online survey. 70% of the partner institutes and 52% of the users agreed with the statement that the EUI had had a discernible impact on the Programme, while only 9% and 7% respectively disagreed. However, in separate interviews, several partner institutes also explained that it was too early to draw definite conclusions on the impact of the EUI. In conclusion, tentative evidence from the literature and the stakeholder consultation suggests that the introduction of the EUI has improved the relevance of the EU BCS Programme by responding to the increasing need to monitor developments in the perceived uncertainty of consumers and businesses.

The findings from section 4.3 suggest that the Programme is relevant given that, for both partner institutes and stakeholders, the EU BCS data stand out from other data because of their timely publication, high frequency, broad coverage of different areas of the economy, and above all their harmonisation and consistency, which made it possible to compare economic developments across the EU Member and candidate countries. In addition to the utility of this data, the methodology behind the whole Programme is also relevant as it has become a reference for business and consumer surveys around the world. The changes implemented in the Programme prove that this intervention is still relevant and dynamic.



## 5 WHAT ARE THE CONCLUSIONS AND LESSONS LEARNED?

### 5.1 CONCLUSIONS

The following conclusions are based on triangulation of the data sources described in the previous sections.

#### 5.1.1 EFFECTIVENESS

The EU BCS Programme:

- achieved its goal of business cycle analysis and economic surveillance, offers timely and harmonised data on economic developments in Member States and candidate countries that are particularly strongly correlated with real GDP growth and HICP inflation one to three months ahead, and are useful for nowcasting and forecasting these variables;
- has led to knowledge exchange between DG ECFIN and the partner institutes, and knowledge transfer among those institutes, but could achieve more if the annual workshop dealt more with the practical aspects of running survey programmes;
- is and is likely to continue to be a methodological benchmark for other business and consumer surveys around the world;
- has undergone recent changes which are likely to improve effectiveness, though it is still too early for a final evaluation;
- cannot unequivocally be improved in terms of its effectiveness by data-driven aggregation methods and machine-learning techniques, as these would entail difficulties in communication in terms of constant data revisions and changes in weights;
- could be more effective if the User Guide were to provide illustrative examples on using the data to make the Guide more user-friendly for the private sector and the economic press; the metadata forms filled out by partner institutes and national questionnaires on the DG ECFIN website were all up-to-date; search and filter options were added to the database and data science good practice were applied to the change logs (i.e. record of all notable changes made in the Programme) so as to optimise data dissemination.

#### 5.1.2 EFFICIENCY

The EU BCS Programme;

- has been efficient in terms of costs and benefits; has an appropriate design and methodology which are appropriately implemented, generates data comparability on long time series that are harmonised and reliable, has managed methodological changes well while safeguarding the integrity of the time series, and has no potential at present to be replaced by alternative approaches using big data;

- could be more efficient by creating a centralised platform for exchanges between DG ECFIN and partner institutes.

### 5.1.3 COHERENCE

The EU BCS Programme:

- is internally coherent as minor differences in questionnaire wording and time horizons of survey questions are justifiable and do not affect the data validity and reliability overall;
- is externally coherent as it complements other survey programmes and offers data comparability across countries and sectors, consistency and harmonisation that no other programmes offer.

### 5.1.4 EU ADDED VALUE

The EU BCS Programme:

- adds value by providing comparable, harmonised data which are not available elsewhere and are frequently used in short-term forecasting; is providing data that would not exist for some countries if the Programme did not exist; acquires credibility from being EU-funded and being widely understood to be the result of an EU effort.

### 5.1.5 RELEVANCE

The EU BCS Programme:

- is relevant because it provides a tool that enables Treaty obligations on economic surveillance to be fulfilled; meets a need for timeliness, an appropriate frequency, sectoral coverage based on an internationally recognised methodology that is not available elsewhere; focusses on the most important economic questions; offers an appropriate level of sectoral aggregation and disaggregation of results;
- could be more relevant if it added an ecosystem approach to aggregation (i.e. economy ecosystem classification); provisions in EC contracts with partner institutes were clarified concerning the harmonisation and remuneration of additional ad hoc questions to assess expectations at the time of one-off topical events; it discontinued the FSSS which is not meeting a market need.

## 5.2 LESSONS LEARNED

The overall objective of this evaluation was to assess the extent to which the EU BCS Programme has achieved its objectives in terms of effectiveness, efficiency, coherence, EU added value and relevance. Triangulation of the findings from the desk research, stakeholder surveys and consultations, as well as the quantitative analysis, leads to different lessons learned for each of the Programme's objectives.

### 5.2.1 EFFECTIVENESS

The analysis has shown that the EU BCS Programme provides valuable and timely information for monitoring the business cycle across the EU Member States and candidate countries, thus achieving the objective of providing data for economic surveillance. However, the analysis of the effectiveness also highlighted different opportunities for future improvements to the Programme.

First, desk research and stakeholder consultations identified a need for further improvements in the data dissemination and the provision of the metadata:

- **Updating metadata:** To improve the transparency of the Programme, it would be advisable to update the partly outdated metadata and national questionnaires on DG ECFIN's website.
- **Standardising the change log:** There is also room for improvement to the current change logs in the files that can be downloaded from DG ECFIN's website<sup>60</sup>. To better capture changes in the methodology, it is proposed that a change log standard be introduced that lists the changes in reverse chronological order, gives each change a meaningful heading, provides a brief description of the change, explains the reasons for the change and finally outlines the impact of the change.
- **Enhancing data dissemination:** To make it easier for users to find certain data series, it would be helpful to implement search and filter options on DG ECFIN's website. Furthermore, it would be an improvement to offer other data formats for download to facilitate the automation of data processing.
- **Providing contextual information:** To help non-expert users understand how to interpret and use the data, press releases could provide more context. In particular, consideration could be given to including more information on why certain indicators had changed and how they related to their respective reference series.
- **Didactic User guide:** Users from the private sector and economic press would benefit from a more user-friendly/didactic user guide providing examples that

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<sup>60</sup> See section 4.1.1, Q6 - Are data disseminated in a clear and understandable form?

illustrate a variety of possible analyses and insights that can be obtained from the EU BCS data.

Second, the analysis revealed several lessons concerning the transfer of knowledge within the Programme.

- **Rethinking the workshops:** The annual workshops provide a good platform for knowledge exchange between the partner institutes. However, the consultations revealed that the topics are often too academic for the participants. In the future, the workshops could be redesigned to cover academic and technical topics and practical management issues separately.
- **Providing a centralised and continuous platform at EU level:** In addition to the annual platform provided by the workshops, partner institutes expressed a need for a continuous platform for the exchange of information on methodological and administrative issues.

Third, the analysis identified a **need for future research on the differences in the monitoring and forecasting quality of the EU BCS data across countries.**<sup>61</sup>

- **Investigating differences in monitoring and forecasting quality:** Despite the clear overall benefits of EU BCS data in monitoring economic developments in the EU and the candidate countries, our analysis revealed considerable cross-country differences in the monitoring quality and predictive power of BCS indicators. The underlying causes of these differences should be further investigated in the future.

## 5.2.2 EFFICIENCY

The evaluation of the efficiency of the Programme examined the implementation and financing concept, the costs and benefits of the measure, and possible alternative approaches to monitoring the economy, and highlighted some important points for future consideration:

**Simplifying financing:** To reduce survey costs, the administrative structures for financing could be simplified. In order to achieve this, an exchange with partner institutes could be organised in order to identify specific fields of action, acknowledging the limits set for the EC by the EU's Financial Regulation. The stakeholder consultations have so far only been able to reveal that cost estimation and the paperwork were perceived as particular burdensome. Stakeholders mentioned that more efficient communication through a centralised platform for the exchange of information on administrative aspects of the Programme would help to learn from other partner institutes' experiences.

Additionally, **new developments and research should be monitored closely in two areas.**

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<sup>61</sup> Also see Annex III. New Research

- **Research on web survey approaches:** Compared to more traditional survey methods (e.g. telephone interviews), web-surveying tends to be cheaper and allows for easier integration of ad hoc survey questions. However, there is still conflicting evidence on the effects of web-survey approaches on response rates, as well as measurement error and non-response bias, which is why ongoing research in the field should be monitored.
- **Monitoring new data sources and approaches:** New data sources such as big data approaches still have too many shortcomings to serve as a complement to the EU BCS Programme. However, it is recommended that future research on this topic be followed as, for example, online price data has already provided promising results in inflation monitoring. In line with that and considering the current developments in online surveying, it is recommended that those developments be monitored since they could provide a further degree of financial freedom that could be used to e.g. implement ad-hoc questions during times of economic distress.

### 5.2.3 COHERENCE

Our analysis has shown that the BCS surveys are implemented coherently across countries, sectors and time, thus ensuring the internal coherence of the EU BCS Programme.

With regard to the Programme's external coherence with other programmes, the analysis revealed the following lesson:

- **Monitoring developments in sentiment and tendency analysis:** Currently, the EU BCS Programme is complementary to other EU surveys such as the ECB Consumer Expectations Survey (CES), the bank lending survey (BLS) and the PMI. To avoid possible redundancies in the future, it will be important to keep an eye on developments in other surveys and current developments such as Big Data analytics.

### 5.2.4 EU ADDED VALUE

The geographic coverage of the Programme, i.e. 27 Member States and 5 candidate countries is the clearest proof of the EU added value of the EU BCS Programme as this is what allows users to have access to methodologically harmonised assessments and expectations of consumers and businesses. This benefit is reinforced by the fact that without the Programme many national institutes would not collect this information and harmonised data would not be available for a number of Member States and candidate countries.

### 5.2.5 RELEVANCE

The relevance of this Programme is based on enabling Member States and data users to be informed about economic developments at the national and the EU level. This analysis

showed that the continued relevance of the EU BCS Programme has been ensured by focusing on the most important economic questions, ensuring a broad sectoral coverage, releasing the results frequently and in a timely manner and by having the capacity to adapt to very specific needs at particular moments. Any change to improve the Programme and its relevance (e.g. new specific questions) should be contingent on the impact that the change would have on the quality of the data (e.g. increasing response burden, or breaking time series) or the need to increase the Programme's budget or new clauses in the financial agreement (i.e. changes in the EC contracts).

With regard to possible additional questions and actions that would further enhance the relevance of the Programme, the report delivered the following concrete proposals:

- **Discontinue the FSSS** as its relevance was questioned by users, especially in the private sector (users prefer to construct their own indices, complemented by the use of the other sectoral EU BCS Programme surveys rather than using the FSSS);
- **Explore taking an ecosystem approach to the aggregation of the EU BCS data** In addition to the NACE sector breakdown, further analysis could be carried out on the interest and usefulness for society of presenting the survey results with a sectoral aggregation similar to the EC industrial ecosystem (i.e. 14 ecosystems);<sup>62</sup>
- **Explore the practical details of the Framework Partnership Agreements (FPAs) in respect of the possibility of introducing ad hoc questions.** Partner institutes were unaware of the existence of a clause on ad-hoc questions in the FPAs. It could therefore be interesting to make them aware of its existence and to explore with them (e.g. during the workshop) the practical details of how to coordinate the content of the questions and the most efficient way of reimbursing them (i.e. lowest financial burden);
- **Explore the pros and cons of including business microdata delivery in the EC contracts:** The potential usefulness of the microdata for economic analysis has to be weighed against the possible negative impact on response rates due to data-protection concerns among respondents, as well as the additional budget required to include the microdata in the data delivery by partners.

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<sup>62</sup> Tourism, Creative & Cultural Industries, Aerospace & Defence, Textiles, Electronics, Mobility Transports Automotives, Energy- intensive Industries, Renewable Energy, Agri-Food, Health, Digital, Construction, Retail, Proximity & Social Economy. There is a confidence indicator for industrial ecosystems updated every month that is based on data extracted by the EU BCS Programme ([Industrial ecosystems confidence indicator](#))

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## ANNEX II. CHANGES IN THE BCS SURVEYS SINCE 2012

### Year Changes to the BCS survey

|      |   |
|------|---|
| 2012 | <b>Introduction of new question on capacity utilisation in the services survey.</b>   |
| 2013 | The Italian partner institute (ISTAT) introduces some methodological improvements in sampling and survey techniques.<br>German services data revised to be fully in line with the NACE rev.2 statistical classification of economic activities.<br><b>Croatia included in the EU aggregate.</b> Historical values, as well as country weights, revised accordingly.   |
| 2014 | <b>Latvia joined euro area on 1 January 2014 and was included in euro area aggregates.</b>  |
| 2015 | Revision of Romanian investment survey data between 2011 and 2015.<br>Change of partner institutes in Serbia and Turkey.<br><b>Lithuania joined the euro area on 1 January 2014 and was included in the euro area aggregates.</b><br>Portuguese consumer data based on a new sample. For the back-casting of the series, the two samples were collected simultaneously between November 2014 and October 2015.<br>Revision of the Bulgarian data for the five investment surveys conducted between March/April 2013 and March/April 2015.<br>British partner institute (CBI) updated the sampling weights for the industry, investment, retail and services surveys in line with changes in officially available data from various UK government sources.<br>Historical consumer survey series for Ireland revised from 2003 to 2015 for questions 1, 2, 4, 7, 8 and 10). |
| 2016 | Correction of discrepancies between partner institute (ISTAT) and DG ECFIN data for the industry, services, building and retail trade surveys.<br>Consumer categories PR0 to PR9 discontinued Europe-wide.<br>Due to a revision of the breakdown by occupation of the respondents as of May 2016, time series corresponding to consumer categories PR0 to PR9 discontinued until further notice.<br>Statistics Portugal publishes the results for the services, construction, industry and trade surveys based on new samples and sampling frames.<br>Change of partner institutes in Ireland and Montenegro.   |

Correction of Slovenian investment structure data for the two aggregates Food and beverages industry (FOBE) and Consumer goods (CONS) for 2013, 2014 and 2015.

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In October 2016, French partner institute (INSEE) modified the industry capacity utilisation data (Q13) back to October 2004 to correct a break in the series introduced by the questionnaire harmonisation in 2004.

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Correction of data for Q10 of the Swedish industry survey (at total level).

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Correction of Dutch data for the industry, retail trade and services surveys between January and June 2016.

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Correction of French data for the services survey between January 2013 and May 2016, with significant revisions mostly for three NACE2 sub-sectors (56, 68 et 96).

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French partner institute (INSEE) introduced a modification of the secondary weights used when computing the industry survey balances.

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2017 Revision of the design of the Dutch consumer survey.

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Change in weighting procedure in Turkey.

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Revision of Italian data for services due to the inclusion of sub-sectors 75 and 90 to 96.

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2018 Revision of past data for Germany back to 1991 , reflecting changes in the aggregation of firm-level data and the inclusion of late responses implemented by the data provider (Ifo Institute).

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Revision of question 2 of the construction survey on factors limiting building activity in France.

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2019 European aggregate recalculated and UK data excluded after the UK construction survey was halted in November 2019.

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Ireland included in the European aggregates. Historical values, as well as the country weights, revised accordingly. Country weights used to calculate the EU and the euro area aggregates updated.

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Structural change in the way consumer data is collected in Finland and Germany.

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Change of partner institute in Austria.

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### **Revision of the Consumer Confidence Indicator.**

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Correction of Hungarian data for question 8 of the industry survey on factors limiting activity.

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2020 Temporary changes in survey modes due to **COVID-19**. Containment measures resulted in lower response rates than usual. The partner institutions took different approaches to dealing with non-response, which led to several revisions.

---

All EU aggregates calculated on the basis of 27 Member States (i.e. excluding the UK, which withdrew from the EU on 31 January 2020). Historical values of EU series revised accordingly.

---

Structural change in the way consumer data is collected in Sweden.

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Correction for a change in several questions on order books and stocks in the industry, construction and retail trade surveys in Denmark in 2014 in order to harmonise them with the EU BCS Programme guidelines.

---

Starting year of the standardisation window used for the construction of the ESI changed to 2000.

---

**Launch of an 'Employment Expectations Indicator' (EEI), which condenses the employment expectations in industry, services, retail trade and construction into a composite indicator.**

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2021 Factors limiting production (Q2) revised for Belgium.

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Revisions of Equipment & Material (F5) and other factors (F6) as factors limiting production (question Q2) for Finland and France.

---

Following the introduction of a new sampling method and weighting procedure, time-series related to the Turkish services, construction survey back-casted for the period until December 2020.

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Misallocation in Latvian data of survey results from answers to the categories BUIL Q2 remedied.

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**Introduction of the survey-based Economic Uncertainty Indicator.**

---

Country weights used to calculate the EU and the euro area aggregates updated.

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Back-cast conducted of the Slovenian time series most affected by the change in the consumer survey collection method in 2016.

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Revision of the weighting scheme of the Italian consumer survey.

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**Change from quantitative to qualitative questions in the investment survey (DG ECFIN, 2022)**

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Revision of factors limiting production (Q8) for Portugal

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Revision of Equipment & Material (F4) as a factor limiting production (question Q8) for Belgium, Finland and France. Revision of Other factors (F5) as factors limiting production (Q8) for Belgium and Finland.

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**Revised weighting scheme introduced for the answers to the financial services sector survey.**

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**2022 Change in seasonal adjustment procedure and revision of affected data.**

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Revision of factors limiting production (Q8) for Czechia, Denmark, Italy, Hungary, Montenegro and Sweden.

---

Correction of the French industry survey results for “shortage of material and/or equipment” (Q8-F4) for October 2021.

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This evaluation identified several avenues for new research that could be conducted with the survey data generated by the BCS Programme. These can be divided into two main categories, namely methodological research related to technical aspects of the survey and topical research related to economic analysis using the BCS data.

#### Topical research

News and expectations are important drivers of macroeconomic fluctuations in standard macroeconomic models (Galí, 2015; Beaudry & Portier, 2006). Moreover, anticipation effects are an identification issue in standard vector autoregressive models, such that these models are not invertible (Leeper, Walker, & Yang, 2013; Forni, Gambetti, & Sala, 2021; Mertens & Ravn, 2010). This is particularly relevant for models containing fiscal variables since households and firms have ample time to adjust their behaviour between the moment of the fiscal policy decision and the effect of the fiscal policy change. The EU BCS data contain news and expectations about the future state of the (sectoral) economy. Hence, the data could be utilised to solve such identification issues in vector autoregressive models. DG ECFIN might also want to look into the possibility and usefulness of adding questions about the expected development of the tax burden for firms and of consumers' fiscal expectations to the questionnaire at quarterly frequency in order to obtain a direct measure of fiscal foresight in each sector.

Sectoral issues are at the core of the EA as an optimum currency area (Mundell, 1961; Kenen, 1963). Moreover, sectoral and firm-level shocks have been identified as an important source of aggregate fluctuations in recent years (Gabaix, 2011; Acemoglu, Carvalho, Ozdaglar, & Tahbaz-Salehi, 2012). While aggregate shocks have been studied extensively within the EU and the EA, the question of whether or not sectoral shocks have synchronised across countries, and if not, whether they act as a means of risk sharing across the EA could be studied at the expectation level using the EU BCS data.

In the same vein, there has not been much investigation of the effect of sectoral news shocks on intra-EU real exchange rates. Such research could easily be extended to candidate countries. For example, in addition to the synchronisation of business cycles and the symmetry of aggregate shocks, research on the synchronisation and convergence of expectations in EU (candidate) countries and the endogeneity of preferences and expectations could be supported by the use of the Programme data.

Another interesting research question relates to the dynamic inconsistency and rational expectations of individuals and firms taking part in the survey. The fact that the EU BCS data contain questions on the same issues from a backward-looking and forward-looking perspective makes it possible to investigate dynamic inconsistencies. In the absence of significant aggregate or sectoral shocks, actions planned at the time of the question and expected states of the economy in three months' time should coincide with the reported

state in three months' time. Hence, using real data to filter out unanticipated shocks from the survey data could be a starting point for such research.

Rational inattention and limited rationality are well established topics in macroeconomic research. In particular, there is growing evidence that households and firms do not really form rational expectations about the future state of the macroeconomy; they are rather just extrapolating from their sectoral observations. However, sectoral linkages are an important transmission channel of shocks across the economy and the EU BCS data series from one sector explain a significant part of the volatility in other sectors and countries. Explaining how much these cross-sector correlations are due to expectations and real factors appears to be an interesting topic for future research.

#### Methodological research

A starting point for new avenues of methodological research on the EU BCS Programme could be an in-depth look at the current state of play of the EU BCS Programme using meta regressions. Since part of the meta data available on the DG ECFIN website are potentially outdated, the following exercise should be replicated with more recent data.

Figure 11 shows the coefficient plot of the meta regression for real GDP growth. The dependent variable is the contemporaneous correlation between log real GDP growth and the sectoral confidence indicators in each country. The explanatory variables are taken from the meta data available for each sector in each country augmented by changes published in the EU BCS data.

The base categories for the categorical variables below are phone directory for the sampling frame, systematic sampling for the sampling method and statistical agencies for the partner institutes. For non-response treatment, the base category is no treatment.

As shown by Figure 11, both proprietary lists and official data, i.e. a firm or population register, increase the correlation between sectoral confidence indicators and real GDP. The coefficients for the different types of partner institutes suggest that commercial partners as well as ministries perform worse on average than other types of partner institutes. However, this could also be seen as an indicator of the quality of the meta data provided and may not imply that those institutes do worse than others.

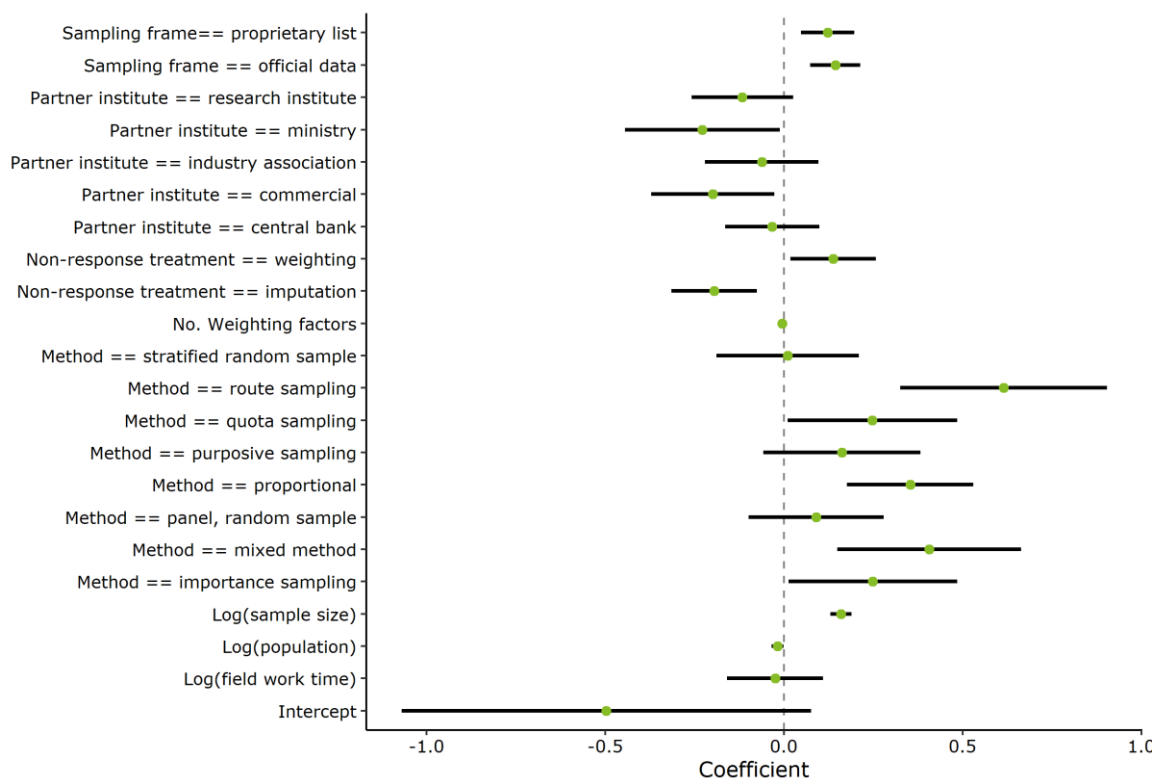
Dealing with non-response by weighting apparently outperforms currently implemented imputation models among the partner institutes. This is presumably due to the lack of firm level information to set up such imputation models. DG ECFIN may wish to devote further research to this issue.

Looking at the sampling method suggests that stratified samples and panels of firms do not necessarily perform better than other sampling methods. In fact, various other approaches appear to generate stronger correlations between sectoral confidence indicators and real GDP. It could be that some firms have better information about the state of the sector and the economy as a whole, such that a truly representative sample only adds noise to the data

by adding firms that have less information about the current state of the economy. This is an interesting avenue for future research.

Finally, as shown by Figure 12, larger sample sizes tend to yield stronger correlations than smaller.

Figure 11 – Meta data and correlations between real GDP growth and the composite indicators



Note: Sample size  $n = 165$ . Error bands represent 90%-confidence intervals. Dependent variable: Absolute value of contemporaneous correlation between BCS indicators and real GDP growth.

Source: Estimates by DIW Econ.

Representativeness and dealing with non-response in firm-level surveys are well-known problems (see e.g. Wiedenbeck, (1984)). While household surveys usually offer numerous factors to adjust for design factors and non-response, this seldom applies to firm-level surveys. Moreover, firm-level surveys may suffer from severe selection issues, i.e. there is anecdotal evidence that firm-level surveys are biased towards small unproductive firms on the one hand and very large firms on the other, as the most productive small and medium-sized firms do not have the capacity to reply to these surveys. Microdata, even from previous waves, may be helpful to address these issues. Utilising microdata and building on the research by Gelman (2007), Chen and Ibrahim (2000) and Little (2012) on Bayesian weighting strategies might improve the quality of the EU BCS data as well as contributing to the realm of firm-level surveys.

Access to microdata across all EU countries would also allow exploration of alternative ways to construct country and EU-wide composite indicators. At the moment, individual



and firm-level factors are used to weigh the data for non-response and design factors and then aggregated using simple arithmetic averages and value added to weigh for the importance of different sectors. Microdata would allow the use of firm-level characteristics when aggregating and generating composite indicators at the country and EU level.

## 1. Desk Research

### *Methodology*

In the course of this report, a comprehensive literature review was conducted to obtain an overview of the current state of discussion and research on the BCS Programme. The different steps of the process are described below.

First, based on the evaluation questions defined in relation to the evaluation criteria of effectiveness, efficiency, coherence, EU added value and relevance, a range of literature databases were identified that might provide relevant literature:

- Google Scholar is an internet search engine that indexes the full text or metadata of scientific literature in a variety of publication formats and disciplines.
- IDEAS is one of the largest bibliographic databases on economic research topics covering more than 4 200 000 research articles.
- EconBiz is a research portal for economics and is operated by the ZBW - Leibniz Information Centre for Economics.

In order additionally to obtain a representative overview of the grey literature<sup>63</sup> and the opinions and assessments of politicians and the media on the Programme and on specific evaluation questions, the search was extended to general search engines (Google in particular). Subsequently different keywords relating to the EU BCS Programme and the evaluation criteria were used to screen the relevant databases and sources. The list of keywords was extended using buzzwords from the specific evaluation questions. The resulting list of documents was further extended with Commission documents on the EU BCS Programme, including papers and presentations from the EC workshops on current developments in business and consumer surveys as well as specific working papers and studies, all of which were available on DG ECFIN's website.

Next, duplicates and documents that could not be assigned to an author or institution were removed from the list of documents. In total, some 120 EC documents (workshop documents, working papers, reports and user guides) and about 200 external publications (peer-reviewed articles, external assessments, grey literature) were included in the subsequent in-depth analysis.

Finally, the results of the literature review were cross-checked with the findings from the stakeholder interviews, the online questionnaire and the quantitative analysis.

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<sup>63</sup> Grey literature refers to materials and research produced by organisations outside of the traditional commercial or academic publishing. It includes reports, working papers, government documents and evaluations.

### *Robustness and Limitations*

There were several potential risks and limitations to the robustness of the results derived from the review of the EU BCS documentation, evaluation reports, and EC and external research. These – and corresponding mitigation actions – are listed in Table 9. Two of these risks proved to be particularly challenging, i.e. some areas where literature is sparse and others where it is ambiguous. Discussion of this follows Table 9.

Table 9 – Risks and mitigation actions during the desk research

| <b>Type of literature</b>        | <b>Risk</b>  | <b>Potential Impact</b> | <b>Occurred</b> | <b>Mitigation measure</b>  |
|----------------------------------|--|-------------------------|-----------------|--|
| <b>EC &amp; external sources</b> | Lack of available reliable literature  | High                    | Yes             | <ul style="list-style-type: none"> <li>Using several bibliographic databases (Google Scholar, IDEAS, EconBiz) and different search terms.</li> <li>Extending the scope of the research to multi-disciplinary literature with similar questions/problems and to grey literature</li> </ul>  |
| <b>EC &amp; external sources</b> | Drawing wrong conclusions due to equal weighting of information obtained   | Medium                  | Yes             | <ul style="list-style-type: none"> <li>Subjecting the findings obtained from the literature to critical evaluation using the results of the stakeholder consultations.</li> <li>Repeatedly discussing the insights gained within the team.</li> </ul>  |
| <b>External sources</b>          | False conclusions due to biased literature selection and lack of representativeness of the information collected | High                    | No              | <ul style="list-style-type: none"> <li>Using several bibliographic databases (Google Scholar, IDEAS, EconBiz) and different search terms.</li> <li>Establishing clear research questions early on and developing a detailed plan on how to answer each question.</li> <li>Subjecting the findings obtained from the literature to critical evaluation using the results of the stakeholder consultations.</li> </ul> |

Source: Deloitte and DIW Econ

Two particular risks did materialise in the course of the desk research for the evaluation of the EU BCS Programme.

First, due to the specific nature of some of the evaluation questions to be addressed, the body of available literature was sparse for some questions. For example, the literature research did not provide much evidence on the impact on the effectiveness and relevance of the EU BCS Programme of changes in the methodology. In addition, the limited amount of empirical evidence on the cost reduction potential of different survey methods is ambiguous. As a consequence of a limited range of available sources, there was a risk that false conclusions would be drawn or that no conclusive assessment would be possible. To mitigate these risks, the scope of the literature review was broadened to the grey literature, such as working papers, evaluations and summary papers (white papers) to screen for additional suitable evidence. Lastly, the triangulation with the results of the stakeholder interviews, the online questionnaire and the quantitative analysis served as a mitigation measure that made it possible to assess the findings from the literature review critically and close the gaps in the literature available.

Second, the evidence was ambiguous for some evaluation questions. For example, some country-specific studies report a weak BCS forecasting performance for specific countries, while other studies emphasise the added value of the EU BCS data for forecasting economic developments in the EU. This poses the risk of drawing false conclusions or of being unable to draw any definite conclusions. To address these risks, ambiguous findings from the literature were discussed within the project team. In addition, the results of the stakeholder online questionnaire and the quantitative analysis served as a reference point for validating the findings from the literature. Where the ambiguity of the results could not be resolved, the contradictory findings were expounded transparently and potential avenues for future research were outlined.

In conclusion, although for some of the evaluation questions, the relevant literature was limited or ambiguous, an extended search and triangulation with the results from the stakeholder consultations and quantitative analysis were able to mitigate the risk of drawing false conclusions.

## **2. Stakeholder Consultations**

One of the main challenges of the stakeholder consultations was to be sure of covering the wide geographic coverage of the Programme and obtaining feedback from all stakeholder groups.

When establishing the consultation strategy, several elements were identified as potential risks for interviews and surveys as data collection tools (Table 10 and Table 11). These risks fell into two categories: 1) stakeholders might not want to participate in data collection activities and, therefore, 2) the data obtained might be biased (i.e. the results would only capture the insights of stakeholder groups that were more likely to participate) and might not cover the geographical scope.

To mitigate these risks, the project team established a dynamic and flexible process to contact and schedule interviews with all targeted stakeholder groups. This process was based on three main pillars:

- First, a thorough stakeholder mapping was conducted, which was enriched by inputs provided by interviewees (during interviews stakeholders were asked to identify potential interviewees who were aware of the Programme and might be willing to contribute to the consultation process).
- Second, a tracking system was put in place to monitor reminders to be sent to different stakeholders every two weeks and to keep track of their responses, especially for the least represented stakeholder groups.
- Finally, for the interviews, the project team adapted the interview content, format and duration to the availability and needs of stakeholders.

To capitalise on every interaction with stakeholders, online questionnaires were systematically sent as a follow-up to the interviews. As a result, the project team managed to extract as much information as possible from each interview and gathered quantitatively comparable answers from all stakeholder groups (51% of the interviewees completed the survey).

Table 10 – Risks and mitigation actions by data collection tool

| <b>Data collection tools</b>               | <b>Risk</b>   | <b>Potential Impact</b> | <b>Occurred</b> | <b>Mitigation measure</b>  |
|--|---|-------------------------|-----------------|--|
| <b>Online questionnaire</b>                | Low response rate to survey   | High                    | Yes             | <ul style="list-style-type: none"> <li>• Extending the consultation period to ensure a sufficient number of replies.</li> <li>• Monitoring the response rate and sending reminders to boost participation.</li> <li>• Receiving feedback from all groups and verifying that the responses and concerns were consistent across stakeholder groups.</li> </ul> |
| <b>Online questionnaire and interviews</b> | Low or lack of stakeholder engagement in the data collection activities | High                    | Yes             | <ul style="list-style-type: none"> <li>• Using the accreditation letter from DG ECFIN to increase the chance of stakeholder response.</li> <li>• Asking interviewees and DG ECFIN to provide us with contacts who were already aware of the Programme and</li> </ul>   |

| <b>Data collection tools</b> | <b>Risk</b> | <b>Potential Impact</b> | <b>Occurred</b> | <b>Mitigation measure</b>                                  |
|------------------------------|-------------|-------------------------|-----------------|--|
|                              |             |                         |                 | would be interested in collaborating with this evaluation. |

Source: Deloitte and DIW Econ

Table 11 – Risks and mitigation actions by stakeholder group

| <b>Stakeholders</b>                       | <b>Risk</b>  | <b>Potential impact</b> | <b>Occurred</b> | <b>Mitigation measure</b>   |
|---|--|-------------------------|-----------------|---|
| <b>Private sector companies and media</b> | Low or lack of engagement of stakeholder group in the data collection activities | High                    | Yes             | <ul style="list-style-type: none"> <li>Putting a full confidentiality process in place, including individual non-disclosure agreements to encourage companies to participate.</li> <li>Making use of the Deloitte network, when possible to encourage companies to participate.</li> <li>Verifying that feedback had been received from different private companies to obtain a variety of responses, following up on contacts proactively if there appeared to be gaps.</li> </ul> |
| <b>All</b>                                | Limited time to participate in interviews  | Medium                  | Yes             | <ul style="list-style-type: none"> <li>Remaining flexible and proposing several different slots to accommodate the diaries of the different stakeholders.</li> <li>Extending the consultation period to collect feedback from under-represented groups (economic press) and always proposing that they send us their answers in writing and completing the survey when they were not available for an interview.</li> </ul>   |
| <b>All</b>                                | Contacting someone not in a position to  |                         |                 | <ul style="list-style-type: none"> <li>Liaising with DG ECFIN to ensure that the right representatives of stakeholder</li> </ul>  |

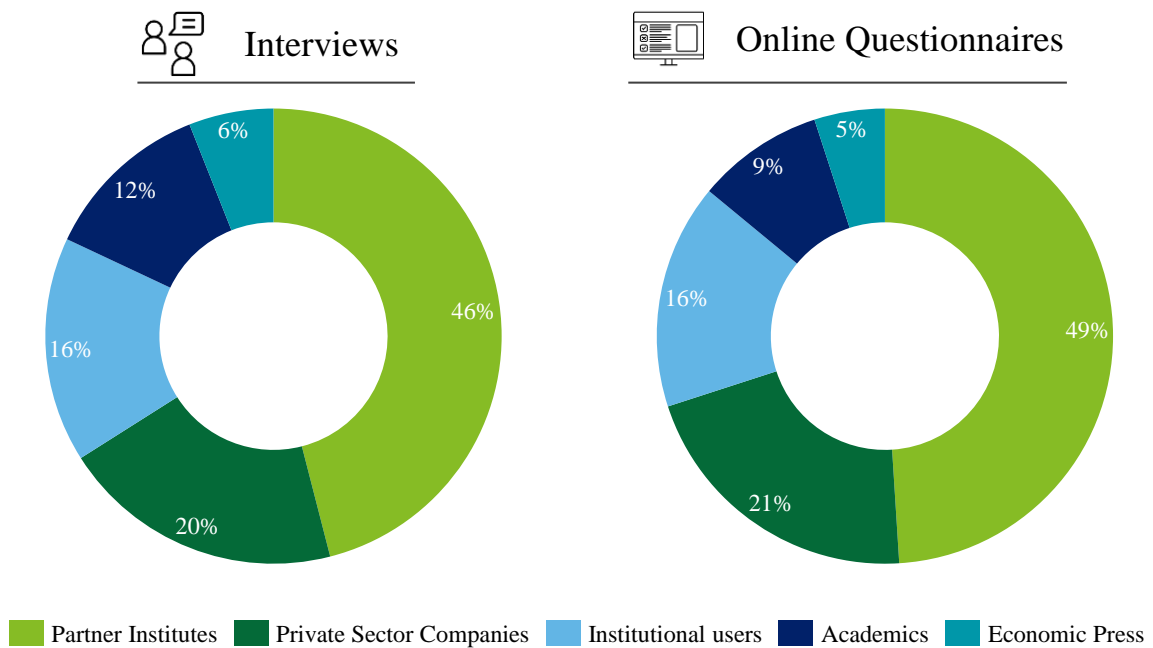
| Stakeholders | Risk  | Potential impact | Occurred | Mitigation measure  |
|--------------|---|------------------|----------|---|
|              | provide information                                     | High             | Yes      | <p>groups were contacted for both the surveys and interviews.</p> <ul style="list-style-type: none"> <li>Ensuring that when the contact was not the right one, we always managed to get in touch with someone within the organisation who could answer our questions.</li> </ul>  |
| <b>All</b>   | Limited knowledge of the topic                          | High             | Yes      | <ul style="list-style-type: none"> <li>Ensuring our contact was the right person to reply to our questions.</li> <li>Sharing the interview guides with stakeholders before the interviews to allow them to have available the necessary information on the objectives of the interview and the type of insights we needed from them.</li> <li>Stakeholder answers have been weighted giving more relevance to stakeholders with higher experience using the Programme data or working in the Programme.</li> </ul>                                |
| <b>All</b>   | Limited ability to provide relevant data or information | High             | Yes      | <ul style="list-style-type: none"> <li>Preparing targeted interview guides allowed asking the right questions to the right people.</li> <li>When not able to provide relevant information to a specific question, stakeholders were asked to tell us what prevented them from answering the question and, if possible, to provide us with the contact details of a colleague who could answer the question.</li> <li>Inquiring stakeholders about qualitative information or narratives, as a substitute for data or hard information.</li> </ul> |

Source: Deloitte and DIW Econ

Despite all the above, the level of stakeholder engagement with the data collection was low or very low, for some stakeholder groups. The stakeholder response rates were low for interviews (34% of all stakeholders contacted agreed to an interview) and very low for the online questionnaire (15% of the stakeholders only contacted for the survey completed the online questionnaire and 52% of the stakeholders responded the online questionnaire after the interview)).<sup>64</sup>

Despite the low participation rates, the project team managed to cover all the stakeholder groups even though partner institutes are the stakeholder group most represented. Almost 50% of the feedback and data obtained from the interviews and online questionnaire represented the point of view of the partner institutes, with the remaining 50% representing the point of view of a range of EU BCS data user groups (i.e. private sector companies, institutional users, academics and economic press). This representation of the stakeholders was not by design, as participation in these activities was purely voluntary. A higher representation of partner institutes is the result of the higher interest of this stakeholder group in participating in this evaluation.<sup>65</sup> The main limitation of our data is the under-representation of private sector companies outside the financial sector and especially of users from the economic press.

Figure 12 – Coverage of interviews and online questionnaires, by stakeholder groups



Source: Deloitte and DIW Econ

<sup>64</sup> One factor that could explain the low stakeholder participation rate is the project timeline i.e. the consultation took place during the summer (i.e. June, July, and August) as illustrated in Figure 1.

<sup>65</sup> To obtain more participation from under-represented users (e.g. media and private sector companies from sectors other than the financial sector) the consultation period was extended until the end of October for these groups, but this nevertheless did not bring adequate representation of these groups).



In terms of geographic coverage 28 countries were covered with both data collection tools: 24 of the 27 Member States were covered (Bulgaria, Cyprus and Portugal were *not* covered); only two of the five candidate countries were covered (Turkey and Serbia). The UK and Switzerland were also covered.

The online questionnaire allowed us to collect quantitatively comparable answers and some qualitative responses to open questions which allowed us to complement the qualitative insights gathered during the interviews. To that end, two separate interview guides and online surveys were prepared for partner institutes and users<sup>66</sup>. Users were mainly asked how they use the Programme data. Partner institutes were asked about operational aspects of the Programme and also replied to questions on the use of the Programme data, as some of them use the EU BCS data as research institutes or national statistical agencies, and/or could provide inputs on behalf of national users who buy their EU BCS national data or have reached out to them with questions on the Programme data.

To address any issue of bias when analysing the information gathered, the stakeholders' responses were triangulated with the results of our desk research and literature review, and weighted taking into account question topics and stakeholder experience with the data/ Programme. In other words: 1) interview and survey responses were triangulated and contrasted with the results of our literature review and quantitative analysis, and 2) for each question, the stakeholders' experience with the Programme and data as well as their knowledge of the issue were taken into account. By knowing the background of the respondent, it was easy to assess, especially for the technical questions, which feedback was more relevant.

In summary, despite the low participation rate of some stakeholder groups in both interviews and surveys, the project team did succeed in collecting information from all stakeholder groups and to match the geographical coverage of the Programme. The results and conclusions of the stakeholder consultation were therefore robust as, on the one hand, responses were triangulated to avoid and clarify any discrepancies, and on the other, answers were weighted taking into account the stakeholder's experience with the Programme/data and their knowledge of the topic of the questions.

### **3. Quantitative Analysis**

#### *Methodology*

The quantitative analysis was structured into the following activities:

- Activity 1: Determining the aim and scope of the analysis
- Activity 2: Data preparation
- Activity 3: Bivariate analysis
- Activity 4: Multivariate analysis

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<sup>66</sup> The type of questions asked to the different user groups was also filtered see Annex VIII.

- Activity 5: Meta-analysis and other quantitative evaluations
- Activity 6: Alternative aggregation procedures of the data
- Activity 7: Summary and visualisation.

Activity 1 determined the aim and scope of the analysis, which was followed by data preparation (Activity 2). While Activities 3 and 4 focused on the predictive and explanatory power of the EU BCS data relative to other leading indicators, Activity 5 used the results of the previous steps to find correlates, e.g. between certain methodological features of the surveys and the quality of the data generated by the surveys. Activity 6 specifically corresponded to Question 3 of the evaluation matrix (Could the ability of the data to capture economic developments be enhanced through different aggregation techniques?). Activity 7 summarised and comprehensively visualised the findings.

### Activity 1: Determining the aim and scope of the analysis

The main goal of the quantitative analysis was to assess whether the EU BCS survey data accurately captures economic developments in the EU Member States and candidate countries. There was a particular focus on whether the survey data can be used to nowcast and forecast real GDP growth and HICP-based inflation. However, that left the question of which other variables should be included in the nowcasting and forecasting models. We therefore scanned the now- and forecasting literature to identify current best practices. Due to the increased use of machine learning methods in now- and forecasting, we also scanned the literature for applications of machine learning methods, such as ensemble and shrinkage estimators, to the forecasting of (economic) time series data. We focused our review of the literature on numerical forecasting since these are the forecasting methods most commonly used by academics and professional economists. The literature on turning point and recession forecasts is thus beyond the scope of our quantitative analysis. Table 12 summarises the meta information of the literature reviewed.

Table 12 – Literature search: Literature on now- and forecasting

|                           |  |
|---------------------------|--|
| Number of papers reviewed | 129  |
| Areas                     | Papers on forecasting: 84<br>Papers on nowcasting: 59<br>Papers using survey-based indicators: 101   |
| Models used               | Dynamic Factor models<br>VAR, VEC, BVAR<br>MIDAS<br>DSGE models<br>Machine learning models (e.g. Random forest, LASSO)   |
| Data used                 | Papers usually use data for the US, UK, the euro area and Japan. US data are by far the most often used, due in part to the data availability.<br>Data sets use up to 400 variables depending on data availability |

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|-------------------------------|---|
| Key aspects of the literature | <p>Most studies on now- and forecasting use dynamic factor models due to the short time series. The benefits of mixed frequency BVAR models are often highlighted in this context.</p> <p>The number of papers using machine learning methods is growing.</p> |
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Source: Deloitte and DIW Econ

### Activity 2: Data preparation

The baseline data set for the evaluation of the EU BCS survey data consisted of two key variables of interest: quarterly real GDP and monthly HICP inflation. The data was complemented by all available data produced by the Programme at a monthly frequency. In addition, all macroeconomic data available at the monthly frequency was added. The data spanned all 27 Member States plus the five candidate countries. For the majority of countries, the EU BCS series were available from January 1985 onwards. Data on economic sentiment, industrial and construction confidence for DE, DK, FR, IT, LU, NL were available from January 1980 onwards. The variable selection for the data set followed the standard practice in the literature (Carriero, Galvao, & Kapetanios, 2019; Angelini, Camba-Mendez, Giannone, Reichlin, & Rünstler, 2011). Data were taken from Eurostat and downloaded via Eurostat’s API using R’s Eurostat library. EU BCS data that is not available via Eurostat, such as the sub-sector EU BCS data, was downloaded manually from the ECFIN website in June 2022. The seasonally adjusted data series were used; the financial services sector data were the only exception since they only exist unadjusted due to the short time series. However, to fit the rest of the data set we used a simple AR-based de-seasonalisation procedure to avoid data loss. In addition to the data available on Eurostat, we used the RWI Container Throughput Index (RWI, 2022); national stock market indices were taken from OECD. For the countries for which such data was available, price indices from The Billion Prices Project (Cavallo & Rigobon, 2016) were used as a real-time measure for inflation. Since the data is by and large non-stationary, we generated year-on-year (log-) differences of the data where appropriate. Table 13 summarises the data sets and the relevant transformations.

Table 13 – Data series and their transformations

| Variable   | Differenced | Log | Frequency | Source   |
|--|-------------|-----|-----------|----------|
| Real GDP   | X           | x   | Q         | Eurostat |
| Harmonised consumer price index                      | X           | x   | M         | Eurostat |
| Construction confidence indicator                    |             |     | M         | Eurostat |
| Construction development of orders                   |             |     | M         | Eurostat |
| Construction employment expectations next 3 months   |             |     | M         | Eurostat |
| Construction price expectations in 3 months          |             |     | M         | Eurostat |
| Building activity development over the past 3 months |             |     | M         | Eurostat |

| <b>Variable</b>   | <b>Differenced</b> | <b>Log</b> | <b>Frequency</b> | <b>Source</b> |
|---|--------------------|------------|------------------|---------------|
| Factors limiting construction activity – demand                         |                    |            | M                | Eurostat      |
| Factors limiting construction activity – labour                         |                    |            | M                | Eurostat      |
| Factors limiting construction activity – financial                      |                    |            | M                | Eurostat      |
| Factors limiting construction activity – material                       |                    |            | M                | Eurostat      |
| Factors limiting construction activity – none                           |                    |            | M                | Eurostat      |
| Factors limiting construction activity – other                          |                    |            | M                | Eurostat      |
| Factors limiting construction activity – weather                        |                    |            | M                | Eurostat      |
| Industry confidence indicator   |                    |            | M                | Eurostat      |
| Industry assessment of export order-book levels                         |                    |            | M                | Eurostat      |
| Industry assessment of order-book levels                                |                    |            | M                | Eurostat      |
| Industry assessment of the current level of stocks of finished products |                    |            | M                | Eurostat      |
| Industry production development observed over the past 3 months         |                    |            | M                | Eurostat      |
| Industry employment expectations over the next 3 months                 |                    |            | M                | Eurostat      |
| Industry selling price expectations over the next 3 months              |                    |            | M                | Eurostat      |
| Industry production expectations over the next 3 months                 |                    |            | M                | Eurostat      |
| Services confidence indicator   |                    |            | M                | Eurostat      |
| Services business situation development over the past 3 months          |                    |            | M                | Eurostat      |
| Services evolution of demand over the past 3 months                     |                    |            | M                | Eurostat      |
| Services evolution of employment over the past 3 months                 |                    |            | M                | Eurostat      |
| Services expectation of the demand over the next 3 months               |                    |            | M                | Eurostat      |
| Expectations of employment over the next 3 months                       |                    |            | M                | Eurostat      |
| Services expectations of prices over the next 3 months                  |                    |            | M                | Eurostat      |
| Consumer confidence indicator   |                    |            | M                | Eurostat      |
| Consumer statement on financial situation of household                  |                    |            | M                | Eurostat      |
| Consumer major purchases at present                                     |                    |            | M                | Eurostat      |
| Consumer savings at present   |                    |            | M                | Eurostat      |
| Consumer general economic situation over last 12 months                 |                    |            | M                | Eurostat      |
| Consumer general economic situation over next 12 months                 |                    |            | M                | Eurostat      |
| Consumer financial situation over next 12 months                        |                    |            | M                | Eurostat      |
| Consumer major purchases over next 12 months                            |                    |            | M                | Eurostat      |
| Consumer price trends over next 12 months                               |                    |            | M                | Eurostat      |
| Consumer savings over next 12 months                                    |                    |            | M                | Eurostat      |
| Consumer financial situation over last 12 months                        |                    |            | M                | Eurostat      |
| Consumer price trends over last 12 months                               |                    |            | M                | Eurostat      |
| Consumer unemployment expectations over next 12 months                  |                    |            | M                | Eurostat      |
| Retail confidence indicator   |                    |            | M                | Eurostat      |

| <b>Variable</b>  | <b>Differenced</b> | <b>Log</b> | <b>Frequency</b> | <b>Source</b> |
|--|--------------------|------------|------------------|---------------|
| Retail current stocks  |                    |            | M                | Eurostat      |
| Retail business expectations over the next 3 months            |                    |            | M                | Eurostat      |
| Retail employment expectations over the next 3 months          |                    |            | M                | Eurostat      |
| Retail expected order over the next 3 months                   |                    |            | M                | Eurostat      |
| Retail expected sales over the next 3 months                   |                    |            | M                | Eurostat      |
| Other financial services business situation previous 3 months  |                    |            | M                | Eurostat      |
| Other financial services confidence indicator                  |                    |            | M                | Eurostat      |
| Other financial services demand previous 3 months              |                    |            | M                | Eurostat      |
| Other financial services employment previous 3 months          |                    |            | M                | Eurostat      |
| Other financial services expected demand next 3 months         |                    |            | M                | Eurostat      |
| Other financial services employment expectations next 3 months |                    |            | M                | Eurostat      |
| Financial services business situation previous 3 months        |                    |            | M                | Eurostat      |
| Financial services confidence indicator                        |                    |            | M                | Eurostat      |
| Financial services demand previous 3 months                    |                    |            | M                | Eurostat      |
| Financial services employment previous 3 months                |                    |            | M                | Eurostat      |
| Financial services expected demand next 3 months               |                    |            | M                | Eurostat      |
| Financial services employment expectations next 3 months       |                    |            | M                | Eurostat      |
| Financial intermediation business situation previous 3 months  |                    |            | M                | Eurostat      |
| Financial intermediation confidence indicator                  |                    |            | M                | Eurostat      |
| Financial intermediation demand previous 3 months              |                    |            | M                | Eurostat      |
| Financial intermediation employment previous 3 months          |                    |            | M                | Eurostat      |
| Financial intermediation expected demand next 3 months         |                    |            | M                | Eurostat      |
| Financial intermediation employment expectations next 3 months |                    |            | M                | Eurostat      |
| Insurance business situation previous 3 months                 |                    |            | M                | Eurostat      |
| Insurance confidence indicator                                 |                    |            | M                | Eurostat      |
| Insurance demand previous 3 months                             |                    |            | M                | Eurostat      |
| Insurance employment previous 3 months                         |                    |            | M                | Eurostat      |
| Insurance expected demand next 3 months                        |                    |            | M                | Eurostat      |
| Insurance employment expectations next 3 months                |                    |            | M                | Eurostat      |
| Economic sentiment indicator                                   |                    |            | M                | Eurostat      |
| Gross wages capital goods sector                               | x                  | x          | M                | Eurostat      |
| Hours worked capital goods sector                              | x                  | x          | M                | Eurostat      |
| Employment capital goods sector                                | x                  | x          | M                | Eurostat      |
| Production capital goods sector                                | x                  | x          | M                | Eurostat      |

| <b>Variable</b>   | <b>Differenced</b> | <b>Log</b> | <b>Frequency</b> | <b>Source</b> |
|---|--------------------|------------|------------------|---------------|
| Domestic turnover capital goods sector                  | x                  | x          | M                | Eurostat      |
| Foreign turnover capital goods sector                   | x                  | x          | M                | Eurostat      |
| Total turnover capital goods sector                     | x                  | x          | M                | Eurostat      |
| Gross wages consumer goods sector                       | x                  | x          | M                | Eurostat      |
| Hours worked consumer goods sector                      | x                  | x          | M                | Eurostat      |
| Employment consumer goods sector                        | x                  | x          | M                | Eurostat      |
| Production capital goods sector                         | x                  | x          | M                | Eurostat      |
| Domestic turnover consumer goods sector                 | x                  | x          | M                | Eurostat      |
| Foreign turnover consumer goods sector                  | x                  | x          | M                | Eurostat      |
| Total turnover consumer goods sector                    | x                  | x          | M                | Eurostat      |
| Gross wages durable goods sector                        | x                  | x          | M                | Eurostat      |
| Hours worked durable goods sector                       | x                  | x          | M                | Eurostat      |
| Employment durable goods sector                         | x                  | x          | M                | Eurostat      |
| Production durable goods sector                         | x                  | x          | M                | Eurostat      |
| Domestic turnover durable goods sector                  | x                  | x          | M                | Eurostat      |
| Foreign turnover durable goods sector                   | x                  | x          | M                | Eurostat      |
| Total turnover durable goods sector                     | x                  | x          | M                | Eurostat      |
| Gross wages gas/electricity sector                      | x                  | x          | M                | Eurostat      |
| Hours worked gas/electricity sector                     | x                  | x          | M                | Eurostat      |
| Employment gas/electricity sector                       | x                  | x          | M                | Eurostat      |
| Production gas/electricity sector                       | x                  | x          | M                | Eurostat      |
| Gross wages energy sector w/o gas and electricity       | x                  | x          | M                | Eurostat      |
| Hours worked energy sector w/o gas and electricity      | x                  | x          | M                | Eurostat      |
| Employment energy sector w/o gas and electricity        | x                  | x          | M                | Eurostat      |
| Production energy sector w/o gas and electricity        | x                  | x          | M                | Eurostat      |
| Domestic turnover energy sector w/o gas and electricity | x                  | x          | M                | Eurostat      |
| Foreign turnover energy sector w/o gas and electricity  | x                  | x          | M                | Eurostat      |
| Total turnover energy sector w/o gas and electricity    | x                  | x          | M                | Eurostat      |
| Production energy sector w/o gas and electricity        | x                  | x          | M                | Eurostat      |
| Gross wages intermediate goods sector                   | x                  | x          | M                | Eurostat      |
| Hours worked intermediate goods sector                  | x                  | x          | M                | Eurostat      |
| Employment intermediate goods sector                    | x                  | x          | M                | Eurostat      |
| Production intermediate goods sector                    | x                  | x          | M                | Eurostat      |
| Domestic turnover intermediate goods sector             | x                  | x          | M                | Eurostat      |
| Foreign turnover intermediate goods sector              | x                  | x          | M                | Eurostat      |
| Total turnover intermediate goods sector                | x                  | x          | M                | Eurostat      |
| Gross wages manufacturing                               | x                  | x          | M                | Eurostat      |

| <b>Variable</b>                            | <b>Differenced</b> | <b>Log</b> | <b>Frequency</b> | <b>Source</b> |
|--|--------------------|------------|------------------|---------------|
| Hours worked manufacturing                 | x                  | x          | M                | Eurostat      |
| Employment manufacturing                   | x                  | x          | M                | Eurostat      |
| Production manufacturing                   | x                  | x          | M                | Eurostat      |
| Domestic turnover manufacturing            | x                  | x          | M                | Eurostat      |
| Foreign turnover manufacturing             | x                  | x          | M                | Eurostat      |
| Total turnover manufacturing               | x                  | x          | M                | Eurostat      |
| Gross wages mining                         | x                  | x          | M                | Eurostat      |
| Hours worked mining                        | x                  | x          | M                | Eurostat      |
| Employment mining                          | x                  | x          | M                | Eurostat      |
| Production mining                          | x                  | x          | M                | Eurostat      |
| Domestic turnover mining                   | x                  | x          | M                | Eurostat      |
| Foreign turnover mining                    | x                  | x          | M                | Eurostat      |
| Total turnover mining                      | x                  | x          | M                | Eurostat      |
| Gross wages non-durable goods sector       | x                  | x          | M                | Eurostat      |
| Hours worked non-durable goods sector      | x                  | x          | M                | Eurostat      |
| Employment non-durable goods sector        | x                  | x          | M                | Eurostat      |
| Production non-durable goods sector        | x                  | x          | M                | Eurostat      |
| Domestic turnover non-durable goods sector | x                  | x          | M                | Eurostat      |
| Foreign turnover non-durable goods sector  | x                  | x          | M                | Eurostat      |
| Total turnover non-durable goods sector    | x                  | x          | M                | Eurostat      |
| Gross wages water industry                 | x                  | x          | M                | Eurostat      |
| Hours worked water industry                | x                  | x          | M                | Eurostat      |
| Employment water industry                  | x                  | x          | M                | Eurostat      |
| Price index capital goods                  | x                  | x          | M                | Eurostat      |
| Price index consumer goods                 | x                  | x          | M                | Eurostat      |
| Price index durable goods                  | x                  | x          | M                | Eurostat      |
| Price index electricity                    | x                  | x          | M                | Eurostat      |
| Price index gas                            | x                  | x          | M                | Eurostat      |
| Price index energy w/o electricity and gas | x                  | x          | M                | Eurostat      |
| Price index high-tech manufacturing        | x                  | x          | M                | Eurostat      |
| Price index intermediate goods             | x                  | x          | M                | Eurostat      |
| Price index low-tech manufacturing         | x                  | x          | M                | Eurostat      |
| Price index manufacturing                  | x                  | x          | M                | Eurostat      |
| Price index mid-tech manufacturing         | x                  | x          | M                | Eurostat      |
| Price index mining                         | x                  | x          | M                | Eurostat      |
| Price index non-durable consumer goods     | x                  | x          | M                | Eurostat      |
| Producer price index industry              | x                  | x          | M                | Eurostat      |

| <b>Variable</b>                                       | <b>Differenced</b> | <b>Log</b> | <b>Frequency</b> | <b>Source</b> |
|---|--------------------|------------|------------------|---------------|
| Number of construction starts                         | x                  | x          | M                | Eurostat      |
| Production index construction                         | x                  | x          | M                | Eurostat      |
| Production index civil engineering                    | x                  | x          | M                | Eurostat      |
| Gross wages construction                              | x                  | x          | M                | Eurostat      |
| Hours worked construction                             | x                  | x          | M                | Eurostat      |
| Employment construction                               | x                  | x          | M                | Eurostat      |
| Production construction                               | x                  | x          | M                | Eurostat      |
| Number of construction starts – residential           | x                  | x          | M                | Eurostat      |
| Number of construction starts excl. community housing | x                  | x          | M                | Eurostat      |
| Cost index construction                               | x                  | x          | M                | Eurostat      |
| Input prices construction                             | x                  | x          | M                | Eurostat      |
| Labour cost construction                              | x                  | x          | M                | Eurostat      |
| Output prices construction                            | x                  | x          | M                | Eurostat      |
| Turnover hospitality                                  | x                  | x          | M                | Eurostat      |
| IT/communication turnover                             | x                  | x          | M                | Eurostat      |
| Turnover real estate sector                           | x                  | x          | M                | Eurostat      |
| Turnover transportation                               | x                  | x          | M                | Eurostat      |
| Hospitality Services                                  | x                  | x          | M                | Eurostat      |
| Gross wages hospitality                               | x                  | x          | M                | Eurostat      |
| Hours worked hospitality                              | x                  | x          | M                | Eurostat      |
| Employment hospitality                                | x                  | x          | M                | Eurostat      |
| Gross wages IT/communication                          | x                  | x          | M                | Eurostat      |
| Hours worked IT/communication                         | x                  | x          | M                | Eurostat      |
| Employment IT/communication                           | x                  | x          | M                | Eurostat      |
| Gross wages real estate sector                        | x                  | x          | M                | Eurostat      |
| Hours worked real estate sector                       | x                  | x          | M                | Eurostat      |
| Employment real estate sector                         | x                  | x          | M                | Eurostat      |
| Gross wages transportation                            | x                  | x          | M                | Eurostat      |
| Hours worked transportation                           | x                  | x          | M                | Eurostat      |
| Employment transportation                             | x                  | x          | M                | Eurostat      |
| Retail turnover                                       | x                  | x          | M                | Eurostat      |
| Gross wages retail                                    | x                  | x          | M                | Eurostat      |
| Hours worked retail                                   | x                  | x          | M                | Eurostat      |
| Employment retail                                     | x                  | x          | M                | Eurostat      |
| Consumption brown coal                                | x                  | x          | M                | Eurostat      |
| Consumption diesel                                    | x                  | x          | M                | Eurostat      |
| Consumption electricity                               | x                  | x          | M                | Eurostat      |



| Variable                                     | Differenced | Log | Frequency | Source   |
|--|-------------|-----|-----------|----------|
| Consumption fuel                             | x           | x   | M         | Eurostat |
| Consumption kerosene                         | x           | x   | M         | Eurostat |
| Consumption motor spirit                     | x           | x   | M         | Eurostat |
| Consumption natural gas                      | x           | x   | M         | Eurostat |
| Imports crude oil                            | x           | x   | M         | Eurostat |
| Imports electricity                          | x           | x   | M         | Eurostat |
| Imports natural gas                          | x           | x   | M         | Eurostat |
| Production diesel                            | x           | x   | M         | Eurostat |
| Production electricity                       | x           | x   | M         | Eurostat |
| Production motor spirit                      | x           | x   | M         | Eurostat |
| Production natural gas                       | x           | x   | M         | Eurostat |
| Energy total supply                          | x           | x   | M         | Eurostat |
| Stock market index                           | x           | x   | M         | OECD     |
| Crude oil prices (Brent)                     | x           | x   | M         | EIA      |
| Extra-euro area exports capital goods        | x           | x   | M         | Eurostat |
| Extra-euro area exports consumer goods       | x           | x   | M         | Eurostat |
| Extra-euro area exports intermediate goods   | x           | x   | M         | Eurostat |
| Extra-euro area exports total                | x           | x   | M         | Eurostat |
| Extra-euro area imports capital goods        | x           | x   | M         | Eurostat |
| Extra-euro area imports consumer goods       | x           | x   | M         | Eurostat |
| Extra-euro area imports intermediate goods   | x           | x   | M         | Eurostat |
| Extra-euro area imports total                | x           | x   | M         | Eurostat |
| Government bond yield (10 years)             | x           |     | M         | ECB      |
| Money market rate (3 months)                 | x           |     | M         | ECB      |
| Overnight money market rate                  | x           |     | M         | ECB      |
| Unemployment total                           | x           |     | M         | Eurostat |
| Real effective exchange rate (broad concept) | x           | x   | M         | Eurostat |
| Industrial import price index                | x           | x   | M         | Eurostat |
| Container throughput                         | x           | x   | M         | RWI      |
| Industrial production                        | x           | x   | M         | Eurostat |
| Number of air passengers carried             | x           | X   | M         | Eurostat |
| Number of commercial flights                 | X           | X   | M         | Eurostat |

Source: Deloitte and DIW Econ

### Activity 3: Bivariate analysis

The bivariate analysis of the EU BCS data proceeded in two steps:

1. First, we analysed the dynamic cross-correlations of the Economic Sentiment Indicator with log differences in real GDP and of 12-months-ahead price expectations with the log differences of the HICP.
2. Second, we ran bivariate Granger causality tests between the real GDP and HICP variables and the relevant EU BCS series.

In both cases, we used the monthly EU BCS data, monthly HICP data and quarterly real GDP data. For the cross-correlation analyses, we treated quarterly real GDP data as a monthly variable in the last month of the quarter in order to conduct the analysis at the monthly frequency. For example, quarterly real GDP in the first quarter of the year was used as an observation for real GDP in March. The next observation of real GDP in June is then GDP in the second quarter. For the Granger causality tests, the analysis was performed at the quarterly frequency, so quarterly averages were calculated for the EU BCS data.

The key performance indicators for these two procedures are the magnitude of the correlation coefficient between real GDP and lagged values of the EU BCS data, and a significant F-test for the Granger causality test. We conducted both tests for all available series of the EU BCS data across all countries and their corresponding EA and EU aggregates.

#### Activity 4: Multivariate analysis

For the multivariate evaluation of the quality of the EU BCS data, we estimated a forecasting model using all available data. The analysis was conducted at the quarterly frequency, with quarterly averages calculated for the monthly EU BCS data. The models were run separately for all available countries and the EA. We chose a random forest model for this exercise. While MIDAS or dynamic factor models are used by most authors for this type of estimation, recent studies have shown that ensemble methods or shrinkage estimators perform equally well in terms of their forecasting performance. Moreover, using machine learning models allows us to be agnostic about the variables that enter the model without the risk of over-fitting.

To evaluate the forecasting power of the EU BCS data, we first ran a model for each country using all available data and secondly a model excluding the EU BCS data. To evaluate the predictive power, the root-mean-squared errors (RMSEs) of both models were compared. Hence, if the RSME of the model using the EU BCS data is smaller than the RMSE of the model without the EU BCS data, then the EU BCS data adds valuable information to the model.

#### Activity 5: Meta-analysis

This step used the metadata to explain differences in the forecasting performance across countries and sectors. The approach used was to take the Granger causality tests and the contemporaneous correlations between the sectoral confidence indicators and log real GDP growth for each country. In the case of the Granger causality tests, we constructed a dummy

variable that is 1 if the particular confidence indicator Granger causes real GDP growth and 0 otherwise and then used the classified metadata as explanatory variables of the model. The variables created from the model and their data transformations are summarised in Table 14. The model was estimated using OLS including country fixed effects. Our evaluation metric here was whether or not a specific factor, such as sample size or sampling procedure had a significant positive or negative impact on the Granger causality.

Table 14 – Metadata tested as explanatory variables for forecasting performance

| <b>Variable</b>             | <b>Type</b>             | <b>Transformation</b> |
|-----------------------------|-------------------------|-----------------------|
| Number of weighting factors | Numeric                 |                       |
| Sampling method             | List of dummy variables |                       |
| Type of partner institute   | List of dummy variables |                       |
| Non-response treatment      | List of dummy variables |                       |
| Sample size                 | Numeric                 | Log                   |
| Population size             | Numeric                 | Log                   |
| Fieldwork period            | Numeric                 | Log                   |
| Type of interview           | List of dummy variables |                       |

Source: Deloitte and DIW Econ

#### Activity 6: Alternative aggregation procedures of the data

This step explored alternative ways of aggregating the EU BCS survey data and constructing confidence indicators, and evaluated their impact on the forecasting performance of the BCS indicators.

First, composite indicators across sectors were compared qualitatively based on their proportion of forward/backward-looking and contemporaneous questions to see how far deviations between sectoral indicators could be explained by the different focus of the questions. Second, alternatives to simple unweighted averages to construct the sectoral confidence indicators were investigated.

In addition, based on the information given in the Programme User Guide, we constructed two alternative versions of the ESI, namely one that was only forward-looking and one that was only backward-looking, and then compared their cross-correlations with log real GDP growth.

#### Activity 7: Summary and Visualisations

In the last activity of the quantitative analysis, the results were summarised and visualised so that the main results of the analysis could easily be understood by the reader of the evaluation report.

### *Robustness and limitations*

In the quantitative analysis, there was the possibility of robustness issues arising from spurious results, model misspecification and data limitations.

The risk of spurious results may particularly arise for cross-correlations and Granger causality tests. For example, the observed strong correlation between real GDP growth and the ESI may be spurious if both variables are correlated with a third factor that drives the observed correlation, even though the true correlation between the two variables is zero. However, this is a highly unlikely case since the ESI and the sectoral confidence indicators aim to capture expectations about the observed current state of the economy. Standard macroeconomic models constantly highlight the importance of expectations for macroeconomic outcomes. Therefore, we consider the results to be reliable.

In transforming the variables for the model specifications, we followed closely standard practices in the academic literature. A potential issue that remained regarding the bivariate models was that the relationship between e.g. real GDP growth and economic sentiment might be non-linear and thus simple linear models might not suffice to capture the relationship between economic sentiment or confidence and the outcome variable. This could be a potential explanation for why the relationship between real GDP growth and economic sentiment in a few countries is rather weak. On the other hand, the meta-analysis showed that several structural factors of the Programme are able to explain significant parts of the differences. Moreover, the multivariate random forecast models were able to address potential non-linearities between EU BCS-based variables and real GDP growth and inflation respectively.

In terms of sampling, we conducted robustness tests, such as excluding recessionary periods and the COVID-19 crisis where necessary. This applies particularly to the results of the multivariate forecasting models. In general, by virtue of their construction, multivariate random forecast results can be considered more robust than the bivariate models. Similarly, one of the important features of random forecasts is that the model and variable selection are purely data-driven and consist of the “most optimal specification” given the training sample. Therefore, we consider the results more reliable than models in which the specification of the model is chosen subjectively.

In terms of data limitations, we need to point out that the covariates for the meta-regressions were constructed from the 2016 metadata publicly available on the EU BCS website and augmented by changes documented in the downloadable Excel data sets. These observations constitute a snapshot of the current state of play at a particular point in time, while the dependent variables are the outcome of bivariate time series models over a longer horizon. Hence changes in the collection of the EU BCS data, and thus changes in the relationship between EU BCS data and economic aggregates may not be fully reflected

in the metadata on the right-hand side of the model. Furthermore, in the multivariate analysis of the forecasting performance, several countries were omitted from the estimation of the forecasting model because there were not enough data points for a consistent estimation.

While some evaluation questions, such as ‘*Have changes to the Programme enhanced its effectiveness?*’, would have lent themselves to quantitative investigation, this could not be done due to the lack of data from before the changes. Similarly, answers to questions such as the ‘*Coherence of the survey across countries*’ had to be based on potentially outdated questionnaires shown on the DG ECFIN website.

In summary, the results of the quantitative analysis can be considered robust in most cases. In the case of a few questions, however, no data were available or the data were insufficient, implying a need for cautious interpretation of the empirical findings as highlighted in the corresponding sections of the report. Table 15 illustrates the risks in the quantitative analysis of the data collection tools and the mitigation measures that were taken.

Table 15 – Risks and mitigation actions during the quantitative analysis

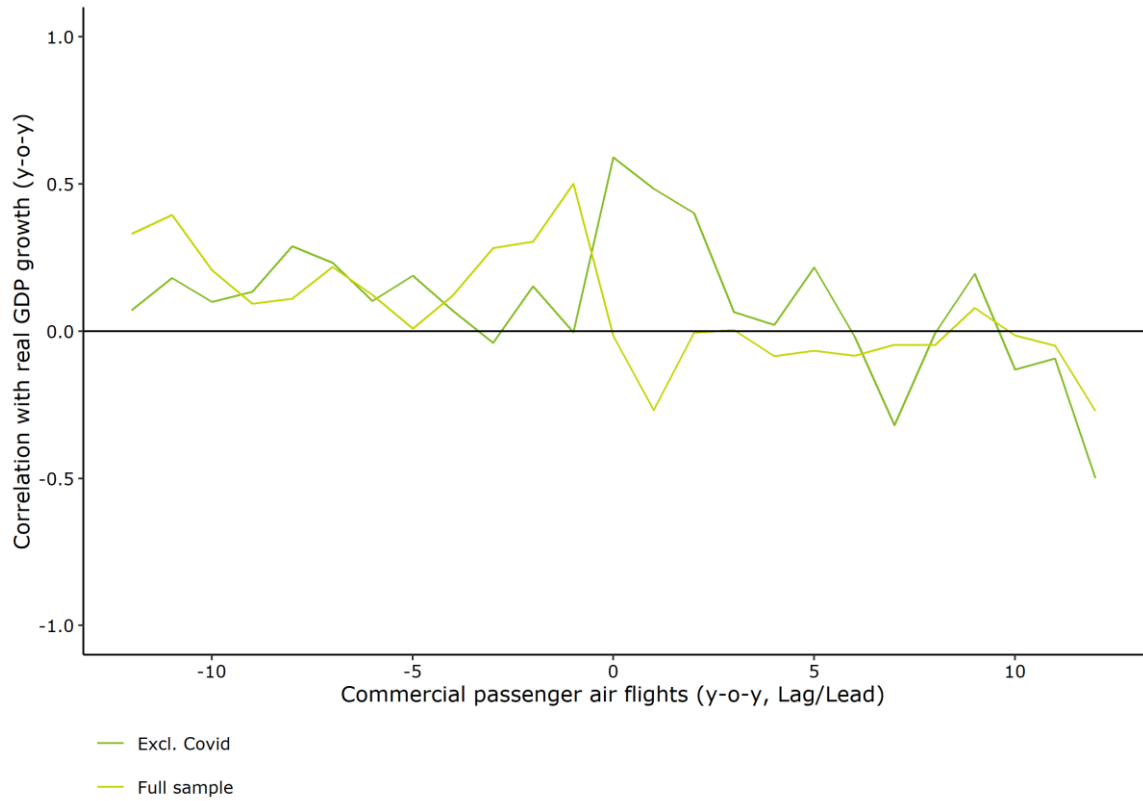
| <b>Data collection tools</b> | <b>Risk</b>                               | <b>Potential Impact</b> | <b>Occurred</b> | <b>Mitigation measure</b>   |
|------------------------------|---|-------------------------|-----------------|---|
| <b>Correlation Analysis</b>  | Spurious correlation                      | High                    | No              | <ul style="list-style-type: none"> <li>Comparing correlation results to studies from the literature and triangulating bivariate results with multivariate analysis.</li> </ul>  |
| <b>Multivariate Analysis</b> | Model mis-specification & sampling issues | High                    | No              | <ul style="list-style-type: none"> <li>Choosing modelling approaches that reflect the current state of research.</li> <li>Applying a data-driven specification and variable selection to rule out subjective specification errors.</li> <li>Comparing and testing the quantitative results against results from the literature, where available.</li> <li>Conducting different model specifications to provide a robustness check of the findings.</li> </ul> |

|                              |                                   |        |     |   |
|------------------------------|-----------------------------------|--------|-----|---|
| <b>Multivariate Analysis</b> | Lack of data or poor data quality | Medium | Yes | <ul style="list-style-type: none"> <li>Estimating forecasting model only for those countries for which sufficient data are available for consistent estimation</li> </ul> |
|------------------------------|-----------------------------------|--------|-----|---|

Source: Deloitte and DIW Econ

Additional results

Figure 13 - Passenger air flight correlations with and without the COVID-19 period



Source: Deloitte and DIW Econ

**ANNEX V. EVALUATION MATRIX, DETAILS ON ANSWERS TO THE EVALUATION QUESTIONS (BY CRITERION)**

| Question   | Judgement Criteria   | Indicators   | Information/Data Source  |
|--|--|--|--|
| <p><i>Q1.</i> How successful was the programme in achieving the objective of providing data for economic surveillance in the European Union enabling to compare business cycles between Member States and giving an overall view of the business cycle in the Union?</p> <p><i>Q2.</i> How accurately and reliably do the survey data collected by the programme capture economic developments in the Member States and candidate countries?</p> | <ul style="list-style-type: none"> <li>• Extent to which the BCS data is used to nowcast and forecast the business cycle</li> <li>• Usefulness of the BCS data for monitoring and predicting business cycle fluctuations</li> <li>• Accuracy and reliability of BCS data for capturing economic developments in Member States and Candidate Countries</li> </ul> | <ul style="list-style-type: none"> <li>• Cross Correlations between BCS indicators and real GDP growth and HICP-based inflation</li> <li>• Use cases and evaluation of the BCS data in the literature</li> <li>• Survey question: "The BCS data are an essential input for the monitoring and now/forecasting of economic developments in our country?"</li> </ul> | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Quantitative analysis<sup>67</sup></li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |
| <p><i>Q3.</i> Could the ability of the data to capture economic developments be enhanced through different aggregation techniques?</p>   | <ul style="list-style-type: none"> <li>• Extent to which alternative aggregation methods have better tracking performance of economic developments in EU and candidate countries</li> </ul>  | <ul style="list-style-type: none"> <li>• Comparison of cross-correlations of existing indicators and alternative indicators (based on alternative aggregation) with real GDP growth</li> <li>• Evaluation of alternative aggregation methods in the literature</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk Research (User guide, Academic Literature, Documentation of other Survey Institutions)</li> <li>• Quantitative analysis</li> </ul>   |
| <p><i>Q4.</i> Are the data timely enough?</p>  | <ul style="list-style-type: none"> <li>• Perception of timeliness of data by users</li> <li>• Timeliness of BCS data compared to other indicators</li> </ul>   | <ul style="list-style-type: none"> <li>• Survey question: "Are the EU BCS data timely enough?"</li> <li>• Evaluation of timeliness in literature</li> <li>• Comparison of publication lag and cross-</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research</li> <li>• Quantitative analysis</li> </ul>   |

<sup>67</sup> A quantitative analysis of the use of BCS data based on counts of citations was not meaningful because observed citations are a noisy measure of actual use of the data and because of a lack of a meaningful benchmark.

|   |   |   |   |
|---|---|---|---|
|   |   | correlations between alternative indicators / BCS data and real GDP growth/HICP inflation   | <ul style="list-style-type: none"> <li>• Stakeholder interviews</li> <li>• Online survey</li> </ul>   |
| Q5. How useful are they for nowcasting/forecasting relevant economic variables?                               | <ul style="list-style-type: none"> <li>• Accuracy of nowcasts/forecasts for predicting economic developments</li> </ul>   | <ul style="list-style-type: none"> <li>• Granger Causality Test between BCS ESI indicator and real GDP</li> <li>• Comparison of root mean squared forecasting errors (RMSE) of multivariate forecasting model with and without BCS indicator</li> <li>• Use of BCS data for forecasting as reported in stakeholder consultation</li> <li>• Evaluation of forecasting accuracy of BCS data in academic literature</li> </ul> | <ul style="list-style-type: none"> <li>• Desk research (academic literature)</li> <li>• Quantitative analysis</li> <li>• Stakeholder interviews</li> </ul>  |
| Q6. Are data disseminated in a clear and understandable form?   | <ul style="list-style-type: none"> <li>• The degree to which BCS data are accessible and understandable for the users</li> <li>• Availability of relevant information for expert users</li> </ul> | <ul style="list-style-type: none"> <li>• Survey questions: "Do you think the data from the EU BCS Programme is easily accessible and presented in an understandable way?" "How do you usually access the survey data related to your country?" &amp; "How do you usually access the survey data?"</li> <li>• Comparison to best practices of data dissemination</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research (Press Releases, Programme Webpage)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>   |
| Q7. Are there sufficient supporting metadata and guidance for users?  | <ul style="list-style-type: none"> <li>• The degree to which metadata are comprehensive, up-to-date and easily accessible</li> </ul>  | <ul style="list-style-type: none"> <li>• Survey Question "Are the metadata and guidance for users sufficient and understandable?"</li> <li>• Comparison to best practices for metadata</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (User Guide, Methodological guidelines, Reference metadata on methodology and quality, Programme Webpage)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |
| Q8. Has the programme enhanced the capabilities of partner institutes, for example through knowledge sharing? | <ul style="list-style-type: none"> <li>• Partner institutions' assessment of whether the BCS programme has improved their capabilities.</li> </ul>  | <ul style="list-style-type: none"> <li>• Documented perception of the partner institutes in the literature</li> <li>• Survey Questions " In your opinion does the EU BCS Programme enhance partner institutes' capabilities (e.g., reporting) and contribute to the</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research (Workshop documents)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>  |



|   |  |   |   |
|---|--|---|---|
|   |  | development of new indices and products?" & "Which capabilities would you say are enhanced?"  |   |
| <i>Q9.</i> Has the programme created methodological spillovers?   | <ul style="list-style-type: none"> <li>• The degree to which BCS methodology is referenced in other trend surveys and best practice examples.</li> </ul>   | <ul style="list-style-type: none"> <li>• Documented references to the methodology of the BCS programme</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> </ul>  |
| <i>Q10.</i> Have changes to the programme's methodology and coverage enhanced its effectiveness?  | <ul style="list-style-type: none"> <li>• Impact of programme changes on the effectiveness of the BCS programme.</li> </ul>   | <ul style="list-style-type: none"> <li>• Impact assessments in the literature</li> <li>• Assessments of specific changes by different stakeholders</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (academic literature, workshops documents)</li> <li>• Stakeholder interviews</li> </ul>  |
| <i>Q11.</i> To what extent was the design, implementation, and financing of the programme appropriate? Have changes improved its appropriateness? | <ul style="list-style-type: none"> <li>• Programme design, implementation and financing in line with best practices</li> <li>• Programme design, implementation and financing well-justified and adaptive to issues encountered</li> <li>• Programme changes had a discernible impact</li> </ul> | <ul style="list-style-type: none"> <li>• Evaluative judgment of the programme's budget and administration</li> <li>• Comparison of the programme's design and implementation with best practices (e.g. UN/OECD Handbook on BCS)</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Quantitative analysis</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |
| <i>Q12.</i> What are the cost and benefits of the BCS for different stakeholders?   | <ul style="list-style-type: none"> <li>• Quantitative or qualitative figures/estimation of costs and benefits</li> </ul>   | <ul style="list-style-type: none"> <li>• Evolution of the costs and benefits of the BCS programme over time</li> <li>• Evaluation of Cost &amp; Benefits from users and Partner Institutes</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (previous programme evaluation, Financial Transparency System, Budget figures provided by DG ECFIN)</li> <li>• Stakeholder interviews</li> </ul>       |
| <i>Q13.</i> What is the simplification, cost and burden reduction potential?  | <ul style="list-style-type: none"> <li>• Qualitative assessment of potential cost or burden reductions</li> </ul>  | <ul style="list-style-type: none"> <li>• Self-assessment of stakeholders</li> <li>• Stakeholders' narrative of potential reductions</li> <li>• Feasibility of potentially cost reducing methods according to the academic literature</li> <li>• Cost reduction when compared to best practice implementation</li> </ul> | <ul style="list-style-type: none"> <li>• Desk research (academic literature, Programme meta data on methodology and quality)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>     |

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| <p><i>Q14.</i> Could alternative approaches to monitoring the economy in (quasi) real-time, such as big data analysis, have achieved the same benefits at less cost, or greater benefits at the same cost?</p>   | <ul style="list-style-type: none"> <li>• Costs and benefits of alternative indicators for predicting economic developments</li> </ul>  | <ul style="list-style-type: none"> <li>• Evaluation of alternative indicators in the literature</li> <li>• Stakeholders' assessment of alternative indicators</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> </ul>   |
| <p><i>Q15.</i> To what extent is the financial administration of the programme, namely through the annual award of grant agreements and reimbursement based on incurred costs under multi-year framework partnership agreements efficient?</p>   | <ul style="list-style-type: none"> <li>• The extent to which the financial administration of the programme is considered efficient.</li> </ul>   | <ul style="list-style-type: none"> <li>• Evaluative judgment of the programme administration</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> </ul>   |
| <p><i>Q16.</i> To what extent is the programme still relevant?</p> <p><i>Q17.</i> Given the programme's aim to provide quasi real time information on the state of the EU and EU candidate economies, is the programme still relevant in the light of recent progress in accelerating the release of important statistical data, such as EU/euro-area GDP (preliminary flash estimate), and the availability of alternative short-term indicators?</p> | <ul style="list-style-type: none"> <li>• Extent to which the BCS surveys offers unique benefits compared to other surveys and indicators</li> </ul>  | <ul style="list-style-type: none"> <li>• Timeliness of alternative indicators</li> <li>• Geographical coverage of the alternative indicators</li> <li>• Stakeholders' assessment of the relevance of the BCS programme</li> <li>• Survey Question: "The Programme is still relevant in the light of recent progress in accelerating the release of important statistical data, such as EU/euro-area GDP (preliminary flash estimate), and the availability of alternative short-term indicators (e.g., big data)."</li> </ul> | <ul style="list-style-type: none"> <li>• Desk research (academic literature, press releases, web pages)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |
| <p><i>Q18.</i> Do the survey questions used in the EU BCS programme focus on the most relevant economic issues or could the programme benefit from additional or modified questions and could some of the questions be dropped from the survey?</p>  | <ul style="list-style-type: none"> <li>• Programme has no gaps with regards to what would be useful for stakeholders</li> <li>• Programme has no unused parts with regards to the needs of stakeholders</li> </ul> | <ul style="list-style-type: none"> <li>• Comparison of programme content with the needs of stakeholders</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>         |

|   |   |   |  |
|---|---|---|--|
| <i>Q19.</i> Is the surveying frequency (monthly for most questions, quarterly for some) appropriate?  | <ul style="list-style-type: none"> <li>• Assessment whether the surveying frequency is appropriate</li> </ul>   | <ul style="list-style-type: none"> <li>• Survey Question: “Would you say the surveying frequency (monthly for most questions, quarterly for some) is appropriate?”</li> <li>• Users’ assessment of survey frequency in interviews</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |
| <i>Q19a.</i> In your view, does the Financial Services Sector Survey complement other data provided by other financial services surveys?  | <ul style="list-style-type: none"> <li>• Assessment of the usefulness of the Financial Services Sector Survey and its complementary value in view of other financial services surveys</li> </ul>  | <ul style="list-style-type: none"> <li>• Survey Question: “The Financial Services Sector Survey is complementary to other data (e.g., other financial services surveys /indicators or additional financial services forecast)?”</li> <li>• Users’ assessment of usefulness in interviews</li> </ul> | <ul style="list-style-type: none"> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>   |
| <i>Q20.</i> Does the sectoral aggregation of the survey results meet users’ needs, or should different aggregates be introduced?  | <ul style="list-style-type: none"> <li>• Assessment of whether the current sectoral aggregation of the results is appropriate for users’ needs</li> <li>• Assessment of whether other aggregates would be more useful</li> </ul>  | <ul style="list-style-type: none"> <li>• Survey Question: “Does the sectoral aggregation of the survey results (industry, services, retail trade, construction, consumers) meet user needs?”</li> <li>• Users’ assessment of sectoral aggregation in interviews</li> </ul>                          | <ul style="list-style-type: none"> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>   |
| <i>Q21.</i> Is the disaggregation of the results in terms of sub-sectors and consumer categories sufficient/appropriate?  | <ul style="list-style-type: none"> <li>• Extent to which disaggregation is appropriate for research / analytical purposes and for monitoring economic developments</li> </ul>   | <ul style="list-style-type: none"> <li>• Survey Question: “Is the disaggregation of survey results in terms of sub-sectors and consumer categories sufficient?”</li> <li>• Users’ assessment of disaggregation in interviews</li> </ul>   | <ul style="list-style-type: none"> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>   |
| <i>Q22.</i> In particular, are microdata on individual businesses’ responses needed for up-to-date statistical analysis?  | <ul style="list-style-type: none"> <li>• Extent to which microdata are needed for up-to-date statistical analysis</li> </ul>  | <ul style="list-style-type: none"> <li>• Survey Question: “Would public access to the microdata on individual businesses’ responses significantly improve up-to-date statistical analysis of economic developments?”</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (Programme documentation)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>                |
| <i>Q23.</i> Is there capacity to adapt to very specific needs in particular moments, as was the case during the COVID pandemic? Is there a way in which ad-hoc survey questions could be introduced more rapidly / with less administrative burden? | <ul style="list-style-type: none"> <li>• Extent to which the programme has adapted to specific needs, for example, by adjusting the survey collection methodology, introducing ad-hoc survey questions, or by producing ad-hoc reports on specific issues</li> <li>• Availability of new mechanism for swift</li> </ul> | <ul style="list-style-type: none"> <li>• Survey Question: “How do you evaluate the Programme capacity to adapt to very specific needs in particular moments, as was the case during the COVID-19 pandemic?”</li> <li>• Partner institutes’ assessment in interviews</li> </ul>                      | <ul style="list-style-type: none"> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>   |

|   |  |   |   |
|---|--|---|---|
|   | introduction of ad-hoc survey questions in surveys   |   |   |
| Q24. Has the programme or survey methodology been adopted in third countries?   | <ul style="list-style-type: none"> <li>• Adoption of the BCS methodology in third countries</li> </ul>   | <ul style="list-style-type: none"> <li>• Documented references to the methodology of the BCS programme in tendency surveys in third countries</li> </ul>  | <ul style="list-style-type: none"> <li>• Desk research</li> </ul>   |
| Q25. Have changes to the programme's methodology and coverage enhanced its relevance?   | <ul style="list-style-type: none"> <li>• Degree to which changes in the Programme's methodology and coverage enhanced its relevance</li> </ul> | <ul style="list-style-type: none"> <li>• Survey Question: "The introduction of the Employment expectations Indicator (2020) and Economic Uncertainty indicator (2021) have had a discernible impact on the Programme and its outputs?"</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul>                                       |
| Q26. To what extent is the programme coherent internally, i.e., between the different sectoral surveys and between the different countries? Are possibly identified incoherencies justified?      | <ul style="list-style-type: none"> <li>• Coherence between of surveys across countries and across sectors.</li> </ul>                          | <ul style="list-style-type: none"> <li>• Differences in (national) survey questionnaires across countries</li> <li>• Differences between sectoral surveys and sectoral confidence indicators in terms of the time horizon to which the survey questions refer</li> <li>• Assessment of differences by partner institutes in interviews</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (national questionnaires, User Guide)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |
| Q27. How appropriate are differences between the sectoral surveys in terms of the survey questions asked and the selection of the questions entering a sector's overarching confidence indicator? | <ul style="list-style-type: none"> <li>• Extent to which the differences across sectors are appropriate</li> </ul>                             | <ul style="list-style-type: none"> <li>• Survey question: "The differences between the sectoral surveys in terms of the survey questions asked (e.g. expected demand in services has no matching question in industry survey) and the selection of the questions entering a sector's overarching confidence indicator (e.g. services confidence includes a question on past developments, while industry confidence features only questions reg. current/expected situation) are appropriate"</li> <li>• Comparison of sectoral developments between existing sectoral indicators and alternative indicators which use the same survey questions in all surveyed</li> </ul> | <ul style="list-style-type: none"> <li>• Desk research (national questionnaires, User Guide)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |

|   |  |  |  |
|---|--|--|--|
|   |  | sectors <sup>68</sup>  |  |
| <i>Q28.</i> What is the degree of complementarity of the EU BCS Programme with other EU survey programmes, for instance with the ECB’s Consumer Expectations Survey and the Bank Lending Surveys, as well as comparable private/national surveys? | <ul style="list-style-type: none"> <li>• Assessment of the usefulness of the EU BCS Programme and its complementary value in view of other EU survey programmes</li> </ul> | <ul style="list-style-type: none"> <li>• Evaluative judgment of the complementarities</li> <li>• Survey question: “The EU BCS Programme is complementary with other EU survey Programmes, for instance with the ECB’s Consumer Expectations Survey and the Bank Lending Surveys, as well as comparable private/national surveys?”</li> </ul> | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |
| <i>Q29.</i> What is the additional value of a harmonised EU survey programme compared to existing national economic tendency surveys?   | <ul style="list-style-type: none"> <li>• Benefits of harmonised BCS Programme compared to other existing tendency surveys</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Assessment of benefits of BCS Programme and other surveys in the literature</li> <li>• Assessment of benefits by users in interviews</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> </ul>                                 |
| <i>Q30.</i> How prevalent are the data generated by the EU BCS Programme in discussions and analyses of short-term economic developments in the EU/euro area and other (cross-sectoral) economic analyses?  | <ul style="list-style-type: none"> <li>• Assessment of the prevalence of the EU BCS data for the analysis of short-term economic developments</li> </ul>                   | <ul style="list-style-type: none"> <li>• Prevalence in the media measured by Google search results</li> <li>• Citations in academia measured by Google Scholar citations</li> <li>• Use of BCS data in the private sector as reported in interviews</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> </ul>                                 |
| <i>Q31.</i> Is the connection between national and EU level survey results accurately perceived by stakeholders? Is the survey perceived as a national or an EU effort in member states or candidate countries?                                   | <ul style="list-style-type: none"> <li>• Extent to which stakeholders are fully aware of the EU-level programme and how national surveys are part of it</li> </ul>         | <ul style="list-style-type: none"> <li>• Survey Question: “In your opinion, is the survey perceived as a national or an EU effort in member states or candidate countries?”</li> </ul>   | <ul style="list-style-type: none"> <li>• Desk research (academic literature, policy literature)</li> <li>• Stakeholder interviews</li> <li>• Online questionnaire</li> </ul> |

Source: Deloitte and DIW Econ

<sup>68</sup> Another way of addressing the question would be to impose the structure of one sectoral indicator (e.g., Industry) on another (e.g., Services) and then see whether any differences in the development of sectoral indicators become smaller. Unfortunately, this test is not feasible because, for example, there are no current-looking questions in the monthly survey in the service sector.

**ANNEX VI. OVERVIEW OF COSTS AND BENEFITS**

*Table 1. Overview of costs and benefits identified in the evaluation*

|                                |                  | Citizens/Consumers |         | Businesses   |         | Administrations   |   | Partner institutions   |   |
|--------------------------------|------------------|--------------------|---------|--------------|---------|---|---|--|---|
|                                |                  | Quantitative       | Comment | Quantitative | Comment | Quantitative  | Comment   | Quantitative   | Comment   |
| <b>Costs</b>                   |                  |                    |         |              |         |   |   |  |   |
| <b>Direct compliance costs</b> | <b>Recurrent</b> | N/A                |         | N/A          |         | <p>The EC granted € 5 159 222 in total on average per year.</p> <ul style="list-style-type: none"> <li>• € 4 966 667 for grants for the EU BCS Programme.</li> <li>• € 192 556 for the FSSS.</li> <li>• The amount ranged across countries from € 30 442 to € 386 468.</li> </ul> | <p>The Commission supported the activities of the partner institutions with action grants, which were limited to a maximum of 50% of the total cost of the surveys.</p> <p>The figures are average values for the period 2012/13-2020/21.</p> | <p>The annual costs for the implementation of the EU BCS Programme amounted to € 10 718 662 for the national partner institutes.</p> | <p>Due to country-specific factors, there are considerable differences between country-specific costs.</p> <p>The costs are average values for the period 2005-2010 and are based on the last evaluation of the EU BCS programme from 2012.</p> |
|                                |                  |                    |         |              |         |   |   |  |   |
| <b>Benefits</b>                |                  |                    |         |              |         |   |   |  |   |

|  |  |
|--|--|
| <p><b>Direct &amp; Indirect benefits</b></p> | <p>Although it is difficult to quantify the benefits of the Programme due to the fact that there is no comparable fee-based programme, this evaluation found that the EU BCS Programme offers substantial benefits to its users in the media, the private sector (e.g. banks), academia and among policy-makers. Firstly, the online survey showed that 100% of the surveyed users considered the EU BCS data to be an essential input for monitoring and now-/forecasting of economic developments in their country. Secondly, the EU BCS data are frequently used by academic researchers to monitor and forecast GDP and inflation as well as for other analytical purposes. The usefulness of the EU BCS data for monitoring and forecasting GDP and inflation was also confirmed in our own quantitative analysis. Thirdly, the EU BCS Programme offers important advantages compared to other existing indicators: the publication of the EU BCS data is more timely and more frequent (monthly). Furthermore, when compared to other survey programmes, the EU BCS Programme has a broader sectoral and geographic scope, thereby providing a comprehensive and comparable overview of business cycle developments across European countries and sectors. It is therefore an essential point of reference for economic policy in the EU and beyond.</p> |
|--|--|

**Table 2: *Potential simplification and burden reduction (savings)***

|   | Citizens/Consumers/Workers |         | Businesses   |         | Administrations   |         | Partner institutions |         |
|---|----------------------------|---------|--------------|---------|---|---------|----------------------|---------|
|   | Quantitative               | Comment | Quantitative | Comment | Quantitative  | Comment | Quantitative         | Comment |
| <b>Digitalisation of the data collection process</b>            |                            |         |              |         |   |         |                      |         |
| <b>Type: recurrent</b>  |                            |         |              |         | Increasing the digitalisation of the data collection process offers cost reduction potential. In order to quantify precise savings effects, further research is needed on differences in data quality and response rates of different data collection methods.  |         |                      |         |
| <b>Reducing administrative burdens in the financing process</b> |                            |         |              |         |   |         |                      |         |
|   |                            |         |              |         | Suggested improvements include a reduction in the number of cost factors that need to be reported, e.g. by eliminating separate reporting for each survey, and standardising certain cost factors that are only adjusted in the event of methodological changes.<br><br>In order to quantify the exact savings effects, further research is needed that addresses specific accounting issues. |         |                      |         |



## ANNEX VII. STAKEHOLDER CONSULTATION (SYNOPSIS REPORT)

Stakeholder consultations were set up as a methodology to contribute to and complement desk research findings needed for this evaluation. From that point of view, the interviews and the online questionnaires were critical in collecting the necessary inputs from stakeholders on the use and the impact of the Programme data in their work.

Through a stakeholder mapping exercise, the project team identified stakeholders that use or are affected by the EU BCS Programme in the performance of their work (i.e. users), as well as those who contribute to its functioning (i.e. partner institutes). The stakeholder mapping included contacts facilitated by DG ECFIN as well as stakeholders identified by the project team and contact points provided by interviewees during the consultation phase.

The stakeholder mapping was approached as a living process throughout the project due to the continual addition of newly identified stakeholders. To keep track of stakeholders, the project team developed an Excel file containing a detailed list of the stakeholders categorised by group, kept track of reminders sent, indicated the interview date and whether the online questionnaire had been completed. This made it possible to avoid overburdening the stakeholders while reaching as many stakeholders as possible. A total of **91 interviews were conducted**, of which were with 46 users and 45 with stakeholders within partner institutes, and **50 online questionnaires were completed** (see Table 16).

Table 16 – Stakeholder interview key performance indicators

|  | <b>Partner<br/>Institutes</b> | <b>Private<br/>sector<br/>users</b> | <b>Institutional<br/>users</b> | <b>Press</b> | <b>Academics</b> | <b>Total</b> |
|--|-------------------------------|-------------------------------------|--------------------------------|--------------|------------------|--------------|
| Stakeholders contacted                   | 68                            | 72                                  | 66                             | 20           | 43               | <b>269</b>   |
| Weekly reminders sent                    | 7                             | 10                                  | 7                              | 10           | 7                | N/A          |
| Response rate <sup>69</sup>              | 78%                           | 40%                                 | 42%                            | 25%          | 42%              | 39%          |
| Negative responses as share of responses | 15%                           | 37%                                 | 43%                            | 20%          | 56%              | 40%          |

<sup>69</sup> Includes negative responses

|                                    | <b>Partner<br/>Institutes</b> | <b>Private<br/>sector<br/>users</b> | <b>Institutional<br/>users</b> | <b>Press</b> | <b>Academics</b> | <b>Total</b> |
|------------------------------------|-------------------------------|-------------------------------------|--------------------------------|--------------|------------------|--------------|
| Interviews conducted <sup>70</sup> | <b>45</b>                     | <b>19</b>                           | <b>15</b>                      | <b>4</b>     | <b>8</b>         | <b>91</b>    |

Source: Deloitte and DIW Econ

Table 17 – Online questionnaire key performance indicators

|  | <b>Partner<br/>Institutes</b> | <b>Private sector<br/>users</b> | <b>Institutional<br/>users</b> | <b>Press</b> | <b>Academia</b> | <b>Total</b> |
|--|-------------------------------|---------------------------------|--------------------------------|--------------|-----------------|--------------|
| Stakeholders contacted only for the online questionnaire     | 2                             | 0                               | 15                             | 0            | 3               | 20           |
| No. of responses from online questionnaire-only stakeholders | 0                             | 0                               | 3                              | 0            | 0               | 3            |
| Response rate of online questionnaire-only stakeholders      | 0%                            | 0%                              | 33%                            | 0%           | 0%              | 15%          |
| Weekly reminders sent  | 7                             | 10                              | 7                              | 10           | 7               | N/A          |
| Online questionnaire sent after interviews                   | 45                            | 19                              | 15                             | 4            | 8               | 91           |
| Number of responses from stakeholders after interviews       | 23                            | 10                              | 5                              | 3            | 6               | 47           |

<sup>70</sup> Includes stakeholders who sent their feedback in writing due to unavailability for a live interview. The number of interviews does not correspond to the number of interviewed partner institutes but to the number of interviewed stakeholders, i.e. in some instances multiple stakeholders were interviewed within the same organisation to cover different aspects and elements of the Programme. Stakeholders from different departments of the same organisation had different uses for the data. In some countries, there were two partner institutes carrying out different surveys of the EU BCS Programme. In the case of the economic press, journalists from the same newspaper were interviewed as they were covering the EU BCS Programme different countries.

|   | <b>Partner<br/>Institutes</b> | <b>Private sector<br/>users</b> | <b>Institutional<br/>users</b> | <b>Press</b> | <b>Academia</b> | <b>Total</b> |
|---|-------------------------------|---------------------------------|--------------------------------|--------------|-----------------|--------------|
| Response rate of stakeholders after interviews        | 51%                           | 53%                             | 33%                            | 75%          | 75%             | 52%          |
| Total number of responses to the online questionnaire | 23                            | 10                              | 9                              | 3            | 6               | 51           |
| Overall response rate                                 | 49%                           | 53%                             | 27%                            | 75%          | 55%             | 45%          |

Source: Deloitte and DIW Econ

Table 18 below lists the organisations consulted. All stakeholders interviewed received the link to the online questionnaire with a view to gathering their feedback on all questions. **Error! Not a valid bookmark self-reference.** indicates whether stakeholders completed the online questionnaire.

Table 18 – Organisations interviewed

| <b>Organisation name</b>                                      | <b>Interview (Y/N)</b> | <b>Online questionnaire (Y/N)</b> |
|---|------------------------|-----------------------------------|
| <b>Academics</b>  |                        |                                   |
| CIRET   | Y                      | N                                 |
| Research Institute of Industrial Economics (Sweden)           | Y                      | N                                 |
| KOF Swiss Economic Institute                                  | Y                      | Y                                 |
| Netherlands Bureau for Economic Policy Analysis               | Y                      | Y                                 |
| The Vienna Institute for International Economic Studies       | Y                      | N                                 |
| University of Zagreb  | Y                      | Y                                 |
| <b>Institutional User</b>                                     |                        |                                   |
| DG ECFIN Country Desk Croatia, Spain                          | N                      | Y                                 |
| DG ECFIN Country Desk Estonia, Latvia, Lithuania, Netherlands | Y                      | Y                                 |
| DG ECFIN Country Desk Ireland                                 | Y                      | Y                                 |

|   |   |   |
|---|---|---|
| DG ECFIN Country Desk Portugal  | Y | Y |
| DG ECFIN Country Desk Romania   | Y | Y |
| DG ECFIN Unit B3  | Y | N |
| DG EMPL   | Y | Y |
| DG GROW   | Y | N |
| ECB   | Y | Y |
| Eurostat  | Y | N |
| <b>Central Banks</b>  |   |   |
| Bank of Finland   | Y | N |
| Bank of Latvia  | Y | Y |
| Croatian National Bank  | Y | N |
| National Bank of Belgium  | Y | N |
| <b>Partner Institutes</b>   |   |   |
| Bank of Ireland   | Y | N |
| Central Statistical Bureau of Latvia                                  | Y | Y |
| Confederation of Finnish Industries                                   | Y | Y |
| Czech Statistical Office  | Y | Y |
| Data Collect s.r.o.   | Y | Y |
| EMCS Malta  | Y | Y |
| Foundation for Economic and Industrial Research, Greece               | Y | Y |
| GfK SE  | Y | Y |
| GfK Spółka z ograniczoną odpowiedzialnością, Poland                   | Y | Y |
| GKI Economic Research, Hungary  | Y | Y |
| Institut National de la Statistique et des Etudes Économiques, France | Y | N |
| Ipsos GmbH, Germany   | Y | Y |
| Ipsos Market, Media and Public opinion research, Ltd, Croatia         | Y | Y |

|  |   |   |
|--|---|---|
| Ipsos, Belgium   | Y | N |
| Istituto Nazionale di Statistica (ISTAT), Italy                                    | Y | Y |
| Latvian Facts, Ltd.  | Y | N |
| Leibniz Institut für Wirtschaftsforschung an der Universität München e.V., Germany | Y | N |
| Lithuanian Department of Statistics  | Y | Y |
| National Institute of Statistics of Romania  | Y | Y |
| Österreichisches Institut für Wirtschaftsforschung, Austria                        | Y | N |
| Simple Lógica Investigación, S.A., Spain   | Y | N |
| Statistics Denmark   | Y | N |
| Statistical Office of the Republic of Serbia                                       | Y | Y |
| Statistical Office of the Republic of Slovenia                                     | Y | Y |
| Statistical Office of the Slovak Republic  | Y | Y |
| Statistics Finland   | Y | Y |
| Statistics Poland  | Y | N |
| The Malta Chamber of Commerce, Enterprise and Industry                             | Y | N |
| Turkish Statistical Institute  | Y | N |
| <b>Economic press and news agencies</b>  |   |   |
| DG ECFIN Unit A4   | Y | Y |
| Reuters  | Y | Y |
| <b>Private Sector</b>  |   |   |
| Berenberg Economics  | Y | N |
| BNP Paribas  | Y | N |
| Czech Banking Association  | Y | N |

|   |   |   |
|---|---|---|
| German Association of Machinery Producers | Y | N |
| ING Think                                 | Y | Y |
| JP Morgan                                 | Y | Y |
| Luminor Group                             | Y | Y |
| Union investment                          | Y | N |

Source: Deloitte and DIW Econ

Interviews were semi-structured as interview guides were used to frame the discussion. The tables below present the main insights from the stakeholder interviews and online questionnaires. Further insights are provided in the Evaluation Matrix.

- **Do you think EU BCS data is timely enough? Is the surveying frequency (monthly for most questions, quarterly for some) appropriate?**

| INTERVIEWS  |   |
|---|---|
| Users   | Partner Institutes  |
| <ul style="list-style-type: none"> <li>• The data is <b>timely enough as it is available online immediately when a press release comes out</b>. The survey frequency is good for most respondents. However, some users indicated that speeding up publication would be good.</li> <li>• Some remarks were made on frequency during the interviews: <b>even though the monthly frequency is fine under normal circumstances, a significant number of users said that the current times of crisis require a higher frequency</b>. At such times, weekly frequency could be better; however, there is a general concern that this could compromise the quality of answers and response rates.</li> <li>• A majority of respondents said that <b>quarterly questions should be moved to a monthly basis if possible</b>, especially due to heightened uncertainty since 2020.</li> <li>• Users from the press did not request additional data or a higher frequency as too much data could be overwhelming and the interest from users would not be high enough to have more frequent reports on the surveys.</li> <li>• Some users remarked that the publication time is irregular from one month to the other.</li> </ul> | <ul style="list-style-type: none"> <li>• The questionnaires are very short and most of the respondents are used to them. Consequently, most partner institutes consider that the frequency is appropriate as it is, both from their and the respondents' perspective.</li> <li>• A <b>higher frequency than monthly would impose too much of a burden on the respondents and would compromise the response rate</b> (i.e. respondents need to understand why they have to answer frequently, and it would be complicated to justify a shorter responding period from the partner institutes' perspective).</li> <li>• <b>Some partner institutes have decided to ask all questions every month to render the processes easier rather than having different versions of the survey for different times of the year</b>. Since there are not many quarterly questions, this does not add much of a burden for respondents.</li> </ul> |
| ONLINE QUESTIONNAIRE  |   |
| <ul style="list-style-type: none"> <li>• 93% of respondents said that the EU BCS data is timely enough while 7% indicated that it is not.</li> <li>• 100% of users said that the surveying frequency is appropriate.</li> </ul>   | <ul style="list-style-type: none"> <li>• 87% of partner institutes said that the surveying frequency is appropriate while 13% did not agree.</li> </ul>   |

- **Do you think the EU BCS data are disseminated in a clear and understandable form? Are there sufficient supporting metadata and guidance for users?**

| INTERVIEWS   |  |
|--|--|
| Users  | Partner Institutes   |
| <ul style="list-style-type: none"> <li>• The dissemination is <b>clear and straightforward enough for expert users</b>. A majority of users pointed out particularly that the communication of the Programme is overall satisfactory compared to other survey programmes.</li> <li>• Academics and other expert users pointed out that it is not possible to serve all target groups. In particular, non-expert users might need more guidance. In this instance, a <b>more practical focus</b>, rather than the current methodological focus would be helpful as well (e.g. <b>provide examples of how to use the data</b>).</li> <li>• Private companies have <b>data providers</b>, mostly DataStream, Ava and MacroBond. Most users access the data from the DG ECFIN website or Eurostat website.</li> <li>• Many users across all stakeholder groups pointed out that the <b>format of the data could be improved on the DG ECFIN website to enable easier automation and updating of data sets</b>. The current format requires a lot of manual work and is not very user-friendly.</li> <li>• Most expert and academic users suggested that key features to be integrated would be a <b>search function and filters to avoid having to search for specific data manually</b>. Many users said that the Eurostat website is more user-friendly in its presentation and that it would be beneficial if the two websites could be harmonised for a better user experience that would require knowledge of only one set of functionalities. Others suggested that Eurostat disseminate the data directly for more efficient communication.</li> <li>• Integrating all the data and aggregates in the Eurostat datasets was also mentioned as a potential improvement. To get around this, a few users access the data through data aggregator websites which provide the data in better format for free (for example DB Nomics). A few users also receive the data directly from national statistical offices.</li> <li>• Some expert users pointed out that <b>the metadata has not been updated since 2016</b>. Adapting metadata to have a more practical approach to the data would be much appreciated by users.</li> <li>• Users from the press suggested that the press releases do not provide much-added value as they merely describe what is in the data. <b>It would be more interesting for these users to have more context and for the press releases to be usable by journalists as quotes</b>. In particular, more context as to why an indicator has changed or evolved would be needed.</li> <li>• Overall, a significant number of users across all stakeholder groups said that the <b>visibility of the Programme could be improved</b>.</li> <li>• Users provided some improvement suggestions: <ul style="list-style-type: none"> <li>• Improve the presentation of the data</li> <li>• make a search function available for particular data series</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• The Programme follows a standard dissemination strategy, which is satisfactory.</li> <li>• The clarity of the information might depend on the target audience as it is largely understood by researchers. However, <b>the general media does not usually deep dive into the data as the raw presentation of the data might be more challenging for them</b>. Many partner institutes pointed out that guidelines and supporting documentation are targeted at stakeholders that are already users of the data. <b>The general public might need more detailed guidance</b>.</li> <li>• A majority of partner institutes pointed out that the <b>visibility of the data and the Programme could be improved by communicating more on the practical use of the data sets</b>. Making the platform more user-friendly would also help in that regard.</li> <li>• One partner institute said that the PMI (Purchasing Managers' Index) has a better communication strategy than the EU BCS Programme, which means that it also has better visibility for the general public and for use and promotion of its data.</li> <li>• Some partner institutes suggested that the Excel database should remain available but a more user-friendly presentation should also be provided. In particular, filters and a search bar to easily and quickly find information on a specific indicator or variable would be appreciated.</li> <li>• Multiple partner institutes mentioned that some users might need more guidance, as it depends on the target group.</li> <li>• Partner institutes remarked that on the DG ECFIN website, metadata at country level is outdated (last update was 2016).</li> </ul> |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• have all the data synchronised in Eurostat</li> <li>• make the User Guide more practical in how the data can be used</li> <li>• make use of AI to create a chatbox to help users find their way.</li> </ul> |  |
|--|--|

**ONLINE QUESTIONNAIRE**

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• 44% of respondents agreed the data from the EU BCS Programme is easily accessible and presented in an understandable form, while 48% provided no answer and 7% disagreed.</li> <li>• 11% of respondents indicated that they access the data directly through the national data provider, 52% access it through the EU BCS website of DG ECFIN and 22% through the Eurostat website. Others indicated that they access the data through the ECB Statistical Data Warehouse or private data providers such as Haver or Macrobond.</li> <li>• 85% of users indicated that the metadata and supporting documentation provided are sufficient and appropriate, while 11% disagreed and 4% did not provide an answer.</li> </ul> | <ul style="list-style-type: none"> <li>• This question was not asked in the partner institutes' online questionnaire.</li> </ul> |
|---|--|

- **In your opinion does the EU BCS enhance partner institutes' capabilities and contribute to the development of new indices and products? Which capabilities were enhanced? How could the EU BCS Programme be modified to improve knowledge sharing?**

**INTERVIEWS**

| Users | Partner institutes  |
|-------|---|
| N/A   | <ul style="list-style-type: none"> <li>• For a majority of partner institutes, being part of this Programme is a <b>good credential, which allows them to have more visibility in the market</b>. This can help them secure new contracts as well.</li> <li>• Several partner institutes indicated that the EU BCS Programme is <b>not particularly demanding methodologically</b> so in that sense it does not enhance their capabilities (i.e. usual processes for other surveys).</li> <li>• Some partner institutes pointed out that the <b>methodology and required coverage of the Programme is quite rigid and does not allow for much innovation</b>, but they do not perceive it as a barrier. Instead, <b>the rigidity allows harmonisation across geographies and stability for long time series</b>, and these are the most important aspects of the Programme.</li> <li>• The <b>diversity of partner institutes participating in this Programme is an added value in learning different uses of the data and sharing experience on technical issues</b>. This is particularly appreciated during the annual workshop.</li> <li>• Multiple partner institutes indicated that having a centralised platform at the EC level would help knowledge sharing. This should be an interface through which the EC and partner institutes could communicate, for example on changes of the methodology or addition of questions. Even though the annual workshop is very helpful, it remains very academic and the number of participants prevents</li> </ul> |



|  |   |
|--|---|
|  | sharing on a more practical level. Such a platform, or more regular workshops, would help in this regard. |
|--|---|

#### ONLINE QUESTIONNAIRE

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This question was not asked in the users' online questionnaire.</li> </ul> | <ul style="list-style-type: none"> <li>95% of respondents indicated that the EU BCS Programme enhances partner institutes' capabilities and contributes to the development of new indices and products, while 5% indicated that it does not.</li> </ul> |
|---|---|

- To what extent was the design, implementation and financing of the Programme appropriate? Have changes improved its appropriateness and efficiency?**

#### INTERVIEWS

| Users | Partner institutes  |
|-------|---|
| N/A   | <ul style="list-style-type: none"> <li>Some countries have specific teams who take care of the administrative and financial parts, so the financing and design of the Programme is not a problem for them. Some countries see some improvements from the past, especially in terms of the <b>paperwork burden</b>.</li> <li>Multiple countries identified an issue in the move from "traditional" financing (i.e. via a call for proposals through which DG ECFIN selected one partner institute and then cover the full amount) to the current partnership agreement (i.e. annual award through a grant agreement) where, since 2021, there has been a unit cost per staff category which did not allow for correction for any labour cost inflation suffered after the COVID-19 pandemic in 2020 as unit costs are calculated on the basis of historic payroll data and thus refer to staff costs incurred during the reference year 2020 (i.e. the financial management was considered inefficient as the summary of costs did not reflect the actual costs incurred, but rather those that would have been incurred if salaries had not changed since 2020).</li> <li>Several countries pointed out that the <b>administrative paperwork is very time-consuming and was more efficient in the past</b>.</li> <li>All partner institutes are now requested to estimate the costs in a very detailed manner, in terms of labour costs, telephone, etc. This has to be based on a previous reference year to develop a detailed estimation of costs. At the end of the period, they have to justify the actual working time spent by the different staff categories. This works when the economy is stable, with low inflation, as there are no major changes in salaries. However, the costs are currently significantly affected by salary increases and high inflation rates.</li> <li>Overall, <b>the recent changes have been criticised by several partner institutes</b>. The financial design is rigid and does not help their innovative capacity. Indeed, when questions are added, the funding grant goes down.</li> <li>Multiple partner institutes indicated that having a centralised platform at the EC level would help the Programme management be more efficient. An interface in which the EC and partner institutes could</li> </ul> |

|  |   |
|--|---|
|  | communicate, for example on changes in the methodology or the addition of questions would help communication between the partners (see above) and could also be used for administrative purposes. |
|--|---|

**ONLINE QUESTIONNAIRE**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This question was not asked in the users' online questionnaire.</li> </ul> | <ul style="list-style-type: none"> <li>52% of respondents answered that the changes in the design of the Programme have improved its efficiency while 48% said that they have not.</li> </ul> |
|---|---|

- Do you have a use for the FSSS? If yes, in your view, does the Financial Services Sector Survey complement other data provided by other financial services surveys?**

**INTERVIEWS**

| Users   | Partner institutes   |
|---|--|
| <ul style="list-style-type: none"> <li><b>None of the users interviewed through stakeholder consultations were able to provide feedback on the FSSS as they did not have a use for it.</b> Stakeholders consulted on this question included national central banks, private sector companies, academics and researchers as well as institutional users.</li> <li>Some central banks and commercial banks pointed out that <b>they have developed their own internal financial surveys</b> tailored to their specific needs, which rendered the FSSS redundant for them. However, they mentioned that <b>their analysis is complemented by the five other surveys in the EU BCS Programme which provide a forward-looking perspective to their financial stability analysis and help them assess the risks from the macro environment and sectoral credit risks.</b></li> <li>These stakeholders also pointed out that information provided by the <b>financial sector is highly sensitive and that financial companies are hesitant about sharing information.</b> Having full control and visibility of the context of the survey, the questions asked and the profiles of the respondents were identified as key elements for making the data reliable enough for users' needs, and having all the relevant information available for accurate analysis.</li> </ul> | <ul style="list-style-type: none"> <li>The partner institute responding to this survey <b>did not have visibility on the users of the data</b>, but shares the two reports produced each year with the panel of respondents to keep them engaged. This respondent mentioned that <b>giving more visibility to the data would provide encouragement to respondents.</b></li> <li>Partner institute is aware of reports produced and sold by private companies based on the data. Partner institutes <b>does not have visibility on similar potential competing products on the market.</b></li> </ul> |

**ONLINE QUESTIONNAIRE**

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Responses to the online questionnaire confirmed these insights as 37% of respondents answered "Do not know" to the question of whether the FSSS complements other data provided by other financial services surveys, while 18% "Agreed" or "Strongly Agreed". 44% of respondents did not answer as the question was included in the survey after it had been launched.</li> </ul> | <ul style="list-style-type: none"> <li>This question was not asked in the partner institutes' online survey.</li> </ul> |
|--|---|

- **Does the sectoral aggregation of the results meet your (users) needs? Should different aggregates be introduced? If that's the case which ones do you consider the most useful?**

| INTERVIEWS  |   |
|---|---|
| Users   | Partner Institutes  |
| <ul style="list-style-type: none"> <li>• The sectoral aggregation is <b>good as such, as it follows the official classification from the European statistical offices.</b></li> <li>• Some users voiced specific opinions during the interviews: <b>some questions are not asked across all sectors</b> (e.g. capacity utilisation is asked for industries and services but not construction), which can limit the coverage of the questions. A few users did not consider these differences justified.</li> <li>• Most academics and other expert users said that the sectoral aggregation <b>should not be changed too quickly as most models are based on this type of structure</b> and it would add a burden for researchers and other users.</li> <li>• <b>Some users pointed out that classifying industries by product types is not always the most useful for economic interpretation.</b></li> <li>• Most users said that if any changes were to be implemented, <b>sample size should be taken into consideration</b>, especially for small countries, as a small sample size would compromise the results.</li> </ul> | <ul style="list-style-type: none"> <li>• A large majority of partner institutes said that the sectoral aggregation is good as such, as it follows the official classification from the European statistical offices.</li> <li>• Some partner institutes pointed out that the <b>services aggregate could be further broken down</b> as it is too broad.</li> <li>• One partner institute pointed out that <b>some industries are misclassified</b>: 45-2 (Casting of steel/Maintenance and repair of motor vehicles/Maintenance and repair of motor vehicles) and 45-3 (Casting of light metals/sales of motor vehicles and accessories/wholesale trade of motor vehicle parts and accessories/retail of motor vehicle parts and accessories).</li> </ul> |
| ONLINE QUESTIONNAIRE  |   |
| <ul style="list-style-type: none"> <li>• 96% of respondents said that the sectoral aggregation of the survey results is appropriate, the remaining 4% did not provide an answer.</li> </ul>   | <ul style="list-style-type: none"> <li>• This question was not asked in the partner institutes' online questionnaire.</li> </ul>  |

- **Is the disaggregation of the results in terms of sub-sectors and consumer categories sufficient/appropriate?**

| INTERVIEWS   |  |
|--|--|
| Users  | Partner Institutes   |
| <ul style="list-style-type: none"> <li>• The disaggregation is <b>enough as it is for forecasting.</b></li> <li>• Expert users voiced an interest in having sub-sectoral data with disaggregation that goes beyond the NACE two-digit level but they understood that this would be difficult to implement in practice.</li> <li>• Expert users and academics said that <b>microdata would be of more interest than further disaggregation</b> by ECFIN so that each user could aggregate/disaggregate the data as needed.</li> <li>• Some expert users, mainly from the private sector, asked for specific changes, such as separation of the shortage of materials and equipment as factors limiting building activity in the construction and industry surveys, further differentiation between traditional and e-commerce, and separation of SME and MNE data. In particular, services is too broad a categorisation and should be further broken down. Some users pointed out that some services (e.g. hospitality or banking) are prevalent in some countries but not in others. A further breakdown of services would therefore be useful.</li> <li>• Other users remarked that further disaggregation of investment and expected investment would be</li> </ul> | <ul style="list-style-type: none"> <li>• Partner institutes had received <b>no negative feedback from users so far.</b> They had received requests from clients for more regional disaggregation, which they cannot provide.</li> <li>• Some partner institutes suggested <b>classifying aggregates at the letter level rather than at a double-digit level.</b></li> <li>• <b>Partner institutes in most countries said that disaggregating results below the 2-digit level would not be useful</b> as it would increase noise and the sample size would be too small.</li> </ul> |

interesting for forecasting. The interest is mainly in knowing where the expected investments are directed (internal (e.g. staff, machinery, R&D) / external (e.g. acquisition of other companies))

#### ONLINE QUESTIONNAIRE

- 89% of respondents considered that the disaggregation of survey results is sufficient while 11% indicated that further disaggregation would be needed.
- This question was not asked in the partner institutes' online questionnaire.

- **How far is access to the microdata of EU BCS needed for up-to-date statistical analysis? In light of repeated requests from researchers to get access to the micro-data underlying the business survey, would you be willing to share that microdata with the Commission for dissemination?**

#### INTERVIEWS

##### Users

- **A majority of users considered that the Programme should be as open as possible with its data collection and data publication to enrich research projects.** This includes the publication of microdata.
- Growing uncertainty increases the need and case for access to microdata. **If access to microdata cannot be granted, academic users said that 3-digit level data would be very valuable.**
- Microdata would be useful to: **study how the price expectation/inflation expectation is created** (i.e. how expectations are formed); **analyse shortages in the labour market for skilled workers; pinpoint a moment and the direct impact of a shock** (i.e. impact of business behaviour); **build experimental models** (regression type models and multivariable analysis).
- Some users suggested that anonymised microdata would not be useful as it defeats the purpose of having access to microdata. Indeed microdata would be most useful if it were complemented by the context of the respondents. Anonymised data would therefore not be as useful. However, users understand that non-anonymised data cannot be provided.

##### Partner Institutes

- Some partner institutes **do not want to share the microdata** as they have agreements with the respondents not to share that information.
- A majority of partner institutes said that if access to microdata were to be granted, **the contract between partner institutes and the European Commission should state that and the partner institutes should be compensated for providing it.**
- A significant number of partner institutes formulated some concerns about this and made the following points:
  - Access and use should be granted only to researchers
  - The data provided by the survey is sensitive as it provides insights into companies' economic situation, their expectations and indirect insight into their strategy. **Providing access to microdata could affect response rates as companies could become reluctant to provide that information.**
  - All partner institutes said that any microdata should be anonymised, but many pointed out that this might not be enough, especially in certain smaller sectors and countries, where it would still be possible to identify respondents.
  - One partner institute suggested **publishing the microdata with a time lag of 2-3 years** rather than current microdata to avoid the pitfalls cited above.
  - Partner institutes in some countries have already implemented an application process for users to request access to microdata.

#### ONLINE QUESTIONNAIRE

- 59% of respondents "Agreed" or "Strongly Agreed" that access to microdata would improve up-to-date statistical analysis of economic developments. 19% of respondents "Disagreed" or "Strongly Disagreed" while 22% answered "Do not know".
- This question was not asked in the partner institutes' online questionnaire.

- **Is there a capacity to adapt to very specific needs in particular moments, as was the case during the COVID-19 pandemic? Is there a way in which ad-hoc survey questions could be introduced more rapidly/ with less administrative burden? Would you have a concrete idea how what an easy system for including ad hoc questions could look like?**

| INTERVIEWS  |  |
|---|--|
| Users   | Partner institutes   |
| <ul style="list-style-type: none"> <li>• N/A</li> </ul>   | <ul style="list-style-type: none"> <li>• Partner institutes' answers to this question were quite divided and diverse.</li> <li>• Some partner institutions expressed the view that there is no capacity for this as it is too complex. It implies new requirements and agreements in the contract as the current administrative and financial burdens are too rigid to allow this flexibility.</li> <li>• <b>Obtaining reliable information would be more difficult as new questions would need to be tested first and respondents might not respond given the unexpected additional burden.</b> If the set of questions were too long, there would be a risk of this compromising the response rate. Any change would be costly to implement and the quality of the questions and their insights would have to take priority to ensure the integrity of the data rather than adding a new question rapidly.</li> <li>• Others were undecided and said that introducing ad-hoc questions when surveys are conducted online should not be a problem, but more time and resources would be needed for printed surveys.</li> <li>• Finally, some partner institutes did consider that there is the capacity to add ad-hoc questions.</li> <li>• <b>Some countries have already implemented solutions for respondents to identify ad-hoc factors that influence their business decisions.</b> One country has adapted one of the questions on identification of factors limiting economic activities. The question lists a few factors and respondents can also click "other". If they do that, they have to write down the factor. In the period leading up to this study, many answered war, inflation or COVID-19. This approach allows new factors to be identified, but does not require addition of a new question.</li> </ul> |
| ONLINE QUESTIONNAIRE  |  |
| <ul style="list-style-type: none"> <li>• This question was not asked in the users' online questionnaire.</li> </ul> | <ul style="list-style-type: none"> <li>• 61% of respondents answered that it would be possible to adapt rather quickly with little administrative burden or very quickly with almost no administrative burden. The remaining 39% indicated that adaptation would either be rather slow or very slow, with a considerable to very large administrative burden.</li> </ul>   |

- What is your perception about the effort needed to take the Programme forward? Is the connection between national and EU survey results accurately perceived by stakeholders? Is the survey perceived as a national or an EU effort in member states or candidate countries?

| INTERVIEWS  |   |
|---|---|
| Users   | Partner institutes  |
| <ul style="list-style-type: none"> <li>• The users' perception of the Programme <b>largely depends on how they access the data</b>. If they receive the data directly from national statistical offices and only use their national data, they view the surveys as a national effort. When users access the data through the DG ECFIN website or Eurostat and make use of the entire data to compare data between countries, it is clear to them that it is an EU-wide effort.</li> <li>• <b>Where national statistics institutes did not have similar data before the Programme, it is clearer that it is a European Commission Programme</b>. In some countries, such as Germany, where similar indices were already provided by national statistical offices, the perception is that this is now a joint effort.</li> <li>• A majority of users, across all stakeholder groups, highlighted that the strength of the Programme is <b>cooperation in data collection and data publication which enables comparability at EU scale</b>.</li> </ul> | <ul style="list-style-type: none"> <li>• From the partner institutes' point of view, <b>it does not appear that users pay attention to this</b>. In some countries, respondents to the surveys think that it is a local initiative, even though it is clearly communicated that it is funded by the EU.</li> <li>• In countries where the Business and consumer surveys were already provided before the EU BCS Programme, users might think that there are two separate surveys and not understand that they are part of the same Programme.</li> <li>• A number of partner institutes indicated the feedback they received is that when users are aware that the Programme is funded by the EU, they are not interested in knowing more as they consider the EC a reliable data source, and it is that which matters to them most.</li> </ul> |
| ONLINE QUESTIONNAIRE  |   |
| <ul style="list-style-type: none"> <li>• 15% of respondents answered that the survey is perceived as a national effort, while 70% indicated it is perceived as an EU effort. The remaining 15% answered "Do not know".</li> </ul>   | <ul style="list-style-type: none"> <li>• 43% of respondents answered that the survey is perceived as a national effort, while 43% indicated it is perceived as an EU effort. The remaining 13% answered "Do not know".</li> </ul>   |

## ANNEX VIII. INTERVIEW QUESTIONNAIRES

### *Interview Guide for Users*

- Which of the EU BCS indices are **most useful for the performance of your activity**?
  - How many years have you been using the data?
  - Where do you normally **download the data**?
  - What **use do you make of EU BCS data**?
    - For which type of model or analysis do these data fit best?<sup>71</sup>
  - How useful are the EU BCS data for **nowcasting/forecasting**?<sup>72</sup>
- Based on your experience working with EU BCS data,
  - Do you think the data are **disseminated in a clear and understandable form**?  
What could be improved?

<sup>71</sup> This additional question will only be asked to academics, institutional users (such as ECB, finance ministries, etc.), as well as research departments of banks/insurers.

<sup>72</sup> This additional question will only be asked to academics, institutional users (such as ECB, finance ministries, etc.), as well as research departments of banks/insurers.

- In your view, are there sufficient **supporting metadata and guidance** for users? Do you find the information difficult to understand for a non-expert?
- Do you consider EU BCS data **timely enough**?
- Is the **surveying frequency** (monthly for most questions, quarterly for some) appropriate?
- Does the construction of indicators (e.g.. business climate indicator) based on the survey questions meet user needs?<sup>73</sup>
- In your opinion, do the survey questions used in the EU BCS Programme **focus on the most relevant economic issues** or could the Programme benefit from **additional or modified questions**?
  - Do you think there are any questions that are **no longer relevant and should be removed from the survey**?
- Does the **sectoral aggregation of the survey results meet your needs?** (*The sectoral aggregation here refers to the industry, service, retail, construction, financial services and consumers*).
  - Should **different aggregates be introduced** (e.g.. based on the notion of sectoral “eco-systems”)? If that is the case which ones do you consider the most useful?
- Is the **disaggregation of the results** in terms of sub-sectors and consumer categories **sufficient/appropriate?** (*Subsectors here refer to the 2-digit level NACE sub-sectors within the broader sector. For example, "manufacture of food products" and "manufacture of textile" as sub-sectors of the manufacturing sector). Consumer categories refer to consumers with different occupations or part-time vs full-time workers*).
  - Which additional sub-sectors or categories could be interesting to add in a future version of the survey?
- In your view, in how far is access to the **microdata of the EU BCS Programme needed for up-to-date statistical analysis?**<sup>74</sup>
  - To what extent microdata would improve the level of accuracy of an analysis?<sup>75</sup>
  - What kind of innovative analysis would be feasible with access to microdata?

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<sup>73</sup> This additional questions was only asked to both, expert users and academics

<sup>74</sup> This question was only asked to experts (i.e. institutional users, academia, private sector companies)

<sup>75</sup> This additional question was only asked to academics



- In your opinion, to what extent do the changes in the methodology and the coverage of the EU BCS between 2012 and 2021 (e.g.. introduction of uncertainty questions in 2021, new employment expectations indicator in 2020, capacity utilisation in services in 2013/14) contribute to **enhancing the Programme effectiveness** i.e. economic surveillance, short-term forecasting and economic research?
  - Did these changes have had a discernible impact on your work? Which changes were particularly good or bad and why?
  
- Based on your need for up-to-date data, is the EU BCS Programme **still relevant in the light of recent progress in accelerating the release of important statistical data**, such as EU/Euro Area GDP (preliminary flash estimate), and the availability of alternative short-term indicators?
  - What would you say is the **additional value** of a harmonised EU survey Programme compared to existing national economic tendency surveys?
  
- In your view, does the Financial Services Sector Survey complement other data provided by other financial services surveys?<sup>76</sup>
  
- In your view, how **prevalent are the data generated by the EU BCS Programme in discussions and analyses** of short-term economic developments in the EU/Euro Area and other (cross-sectoral) economic analyses?
  - Could **alternative approaches** to monitoring the economy in (quasi) real-time, such as big data analysis, have achieved the same benefits at less cost, or greater benefits at the same cost?<sup>77</sup>
  
- Thinking ahead,
  - what changes do you think could be implemented in the Programme that would help it to **better fulfil its function**? How would you implement them?<sup>78</sup>
  - What is your perception about the **effort** needed to take the Programme forward? Would you say most of it comes mainly from the member countries or that is it an EU-wide effort?

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<sup>76</sup> This additional question was only asked to expert users and academics

<sup>77</sup> This question was only asked to experts (i.e. institutional users, academia, and private sector companies)

<sup>78</sup> For academics: what changes do you think could be implemented in the Programme that would help it to improve academic research? How would you implement them?



### *Interview Guide for Partner Institutes*

- Do you think the EU BCS data are **disseminated in a clear and understandable form**? What could be improved?
  - Can expert audiences find all the relevant background information they might need (i.e. are the metadata complete and understandable)?
- In your opinion does the EU BCS Programme **enhance partner institutes' capabilities** and contribute to the **development of new indices and products**? Which capabilities were enhanced?
  - How could the EU BCS Programme be modified to improve knowledge sharing?
- Does the construction of indicators (e.g.. business climate indicator) based on the survey questions meet user needs?
- In your opinion, to what extent do the changes in the methodology and the coverage of the BCS between 2012 and 2021 contribute to **enhancing the Programme effectiveness** i.e. economic surveillance, short-term forecasting and economic research? (e.g.. introduction of uncertainty questions in 2021, new employment expectations indicator in 2020, capacity utilisation in services in 2013/14)
  - Did these changes have a discernible impact on your work? Which changes were particularly good or bad and why?
- Do you consider the **design, implementation and financing** of the Programme appropriate? Have changes improved its appropriateness?
- In your opinion, what would you say are the **main cost and benefits** generated by the EU BCS Programme for all the parties involved (DG ECFIN, partner institutes, external users)?
- Which are the potential **cost or burden reductions** within the Programme?
- Would you say there are **changes in the design of the Programme** that could improve its efficiency? Which ones?
- In your opinion, to what extent is the **financial administration** of the Programme, namely through the annual award of grant agreements and reimbursement based on incurred costs under multi-year framework partnership agreements efficient?
- Would you say the **surveying frequency** (monthly for most questions, quarterly for some) is appropriate?

- Does the **sectoral aggregation of the survey results meet your needs?** (*The sectoral aggregation here refers to the industry, service, retail, construction, financial services and consumers*).
  - Should **different aggregates be introduced**? If that is the case which ones do you consider the most useful?
- Is the **disaggregation of the results** in terms of sub-sectors and consumer categories sufficient/appropriate?
- In the light of repeated requests from researchers to get **access to the micro-data** underlying the business surveys, would you be willing to share those micro-data with the Commission for dissemination?
- In your view, is there a capacity to **adapt to very specific needs in particular moments**, as was the case during the COVID-19 pandemic?
  - Is there a way in which ad-hoc survey questions could be introduced more rapidly / with less administrative burden? Would you have a concrete idea how an easy system for including ad-hoc questions could look like?
- To what extent is the Programme **coherent internally**, i.e. between the different sectoral surveys and between the different countries?
  - Are possibly identified incoherencies justified?
- As you know, the different sectoral surveys differ in terms of the survey questions included (e.g.. expected demand in services has no matching question in industry survey). How appropriate are those differences?
- Similarly, there are differences in terms of the survey questions entering the sectoral confidence indicators (e.g.. services confidence includes a question on past developments, while industry confidence features only questions reg. current/expected situation). How appropriate are those differences?
- In your opinion, what is the **degree of complementarity of the EU BCS Programme with other EU survey Programmes**, for instance with the ECB's Consumer Expectations Survey and the Bank Lending Surveys, as well as comparable private/national surveys?
- What would you say is the **additional value** of a harmonised EU survey Programme compared to existing national economic tendency surveys?

- In your view, how **prevalent are the data generated by the EU BCS Programme in discussions and analyses** of short-term economic developments in the EU/Euro Area and other (cross-sectoral) economic analyses?
- Is the connection between national and EU survey results accurately perceived by stakeholders? Is the survey perceived as a national or an EU effort in member states or candidate countries?
- Thinking ahead,
  - What changes do you think could be implemented in the Programme that would help it to **better fulfil its function with fewer burdens**? How would you implement them?

*Online Questionnaire for Users*

- How do you usually access the survey data related to your country?
  - Directly via the national data provider
  - via the BCS website of DG ECFIN
  - via the Eurostat website
  - Others
  - If others, which?
    - *For respondents downloading the data from DG ECFIN's BCS website: Do you think the data from the EU BCS Programme is easily accessible and presented in an understandable way?*
  - Yes
  - No
  
- In your opinion, are the metadata and guidance for users sufficient and understandable?
  - Yes
  - No
  
- To what extent do you agree with the following statements:
  - “The EU BCS data are an essential input for the monitoring and now/forecasting of economic developments in our country”
    - Strongly agree
    - Agree
    - Disagree
    - Strongly disagree
    - Do not know
  - “The introduction of the Employment expectations Indicator (2020) and Economic Uncertainty indicator (2021) have had a discernible impact on the Programme and its outputs”
    - Strongly agree
    - Agree
    - Disagree
    - Strongly disagree
    - Do not know
  - “The Integration of investment survey in services and industry survey in 2021 has had a discernible impact on the Programme and its outputs”
    - Strongly agree
    - Agree
    - Disagree

- Strongly disagree
- Do not know
  - “The Introduction of a question on capacity utilisation in services in 2013/14 has had a discernible impact on the Programme and its outputs”
- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know
  - " The Financial Services Sector Survey is complementary to other data (e.g., other financial services surveys /indicators or additional financial services forecast)?
- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know
  
- In your opinion, are the EU BCS data timely enough?
  - Yes
  - No
  
- Would you say the surveying frequency (monthly for most questions, quarterly for some) is appropriate?
  - Yes
  - No
  
- Does the sectoral aggregation of the survey results (industry, services, retail trade, construction, consumers) meet user needs?
  - Yes
  - No
  - If No, please indicate how the aggregation should be modified.
  
- Is the disaggregation of survey results in terms of sub-sectors and consumer categories sufficient?
  - Yes
  - No
  - If no, which additional subsector and categories should be introduced?
  
- To what extent do you agree with the following statements:
  - “ The Programme is well known for the added value it brings compared to other data”

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know
  - “The Programme is still relevant in the light of recent progress in accelerating the release of important statistical data, such as EU/Euro Area GDP (preliminary flash estimate), and the availability of alternative short-term indicators (e.g.. big data)”
- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know
  - “The differences between the sectoral surveys in terms of the survey questions asked (e.g.. expected demand in services has no matching question in industry survey) and the selection of the questions entering a sector’s overarching confidence indicator (e.g.. services confidence includes a question on past developments, while industry confidence features only questions reg. current/expected situation) are appropriate”
- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know
  - Would public access to the microdata on individual businesses’ responses significantly improve up-to-date statistical analysis of economic developments?
- Yes
- No
- Do not know
  - Do you think the survey questions used in the EU BCS Programme focus on the most relevant economic issues?
- Yes
- No
  - Would you say that could the Programme could benefit from additional or modified questions?
- Yes
- No

- If yes, please give an example
  - Does the construction of indicators (e.g.. business climate indicator) based on the survey questions meet user needs?
- Yes
- No
- Do not know
  
- In your opinion, is the survey perceived as a national or an EU effort in member states or candidate countries?
- National effort
- EU effort
- Do not know

*Online Questionnaire for Partner Institutes*

- In your opinion does the EU BCS Programme enhance partner institutes' capabilities (e.g.. reporting) and contribute to the development of new indices and products?
- Yes
- No
  
- If the answer is yes, which capabilities are enhanced?
- Survey Design
- Survey Implementation
- Processing of survey results/aggregation of results
- Dissemination
  
- How do you evaluate the Programme capacity to adapt to very specific needs in particular moments, as was the case during the COVID-19 pandemic? How easily and quickly can ad-hoc survey questions be introduced?
- Very quickly, with almost no administrative burden
- Rather quickly, with little administrative burden
- Rather slowly, with considerable administrative burden
- Very slowly, with huge administrative burden
  
- Does the construction of indicators (e.g.. business climate indicator) based on the survey questions meet user needs?
- Yes

- No
- Do not know

If no: Please indicate how the construction of indicators could be modified.

- To what extent do you agree with the following statements:
  - “The introduction of the Employment expectations Indicator (2020) and Economic Uncertainty indicator (2021) have had a discernible impact on the Programme and its outputs”
    - Strongly agree
    - Agree
    - Disagree
    - Strongly disagree
    - Do not know
      - *In case the partner follows the EU definition of the consumer confidence indicator: “The change in the composition of the consumer confidence indicator in 2019 has had a discernible impact on the Programme and its outputs”*
        - Strongly agree
        - Agree
        - Disagree
        - Strongly disagree
        - Do not know
          - “The Integration of (qualitative) investment questions in the services and industry survey in 2021 has had a discernible impact on the Programme and its outputs”
            - Strongly agree
            - Agree
            - Disagree
            - Strongly disagree
            - Do not know
              - “The Introduction of a question on capacity utilisation in services in 2013/14 has had a discernible impact on the Programme and its outputs”
                - Strongly agree
                - Agree
                - Disagree
                - Strongly disagree
                - Do not know
                  - “There are alternative approaching to monitoring the economy in (quasi) real-time, such as big data analysis, which allows achieving the same benefits of the EU BCS Programme at less costs, or event great benefits at the same costs”
                    - Strongly agree
                    - Agree



- Disagree
- Strongly disagree
- Do not know

Please comment on your rationale for any of the above statements.

- Do you think there are potential cost or burden reductions within the Programme stages?

- Yes
- No
- Please, comment on your rationale for any of the above statements (optional)

- Would you say there are changes in the design of the Programme (i.e. methodology and survey design) that could improve its efficiency?

- Yes
- No
- If yes, please identify the changes

- Would you say the surveying frequency (monthly for most questions, quarterly for some) is appropriate?

- Yes
- No

- To what extent do you agree with the following statements:

- “The Programme is well known for the added value it brings compared to other data”

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know

- “The Programme is still relevant in the light of recent progress in accelerating the release of important statistical data, such as EU/Euro Area GDP (preliminary flash estimate), and the availability of alternative short-term indicators (e.g. big data)”

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know

- “The differences between the sectoral surveys in terms of the survey questions asked (e.g. expected demand in services has no matching question in industry survey) and the selection of the questions entering a sector’s overarching

confidence indicator (e.g.. services confidence includes a question on past developments, while industry confidence features only questions reg. current/expected situation) are appropriate”

- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know
  - If answers are “disagree” / “strongly disagree”: Which inconsistencies, in particular, should be removed?
  - “The EU BCS Programme is complementary with other EU survey Programmes, for instance with the ECB’s Consumer Expectations Survey and the Bank Lending Surveys, as well as comparable private/national surveys?”
- Strongly agree
- Agree
- Disagree
- Strongly disagree
- Do not know
  - Do you think the survey questions used in the EU BCS Programme focus on the most relevant economic issues?
    - Yes
    - No
  - Would you say that the Programme could benefit from additional or modified questions?
    - Yes
    - No
    - If yes, please give an example
  - Do you think there are any questions that are no longer relevant and should be removed from the survey?
    - Yes
    - No
    - If yes, please give an example
  - In your opinion, is the survey perceived as a national or an EU effort in member states or candidate countries?
    - National effort
    - EU effort
    - Do not know