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**REPORT FROM THE COMMISSION TO THE COUNCIL  
AND THE EUROPEAN PARLIAMENT**

**Concerning Short Term Statistics**

**Containing a summary of the Quality Report as required by  
the Council Regulation (EC) No 1165/98 of 19 May 1998**

## **Introduction**

The Commission has to submit to the European Parliament and to the Council a report on the Short-term statistics (STS)-Regulation 1165/98.

The Report is requested by Article 14, paragraph 2 of the Council Regulation 1165/98. The Regulation is very clear in that the report should deal with the statistics compiled for the STS-Regulation and should focus in particular on relevance, quality and the burden of business.

Main findings are presented below as of the end of 2001 (unless otherwise stated in the text):

## **Current Data Situation**

Three years after the adoption of the Regulation on short-term statistics the overall data situation is far from satisfactory. Although Eurostat can calculate important EU15/Euro-zone indicators, no aggregates can be estimated for 14 of the 32 demanded indicators. The situation should improve in 2002 as about 60% of the derogations will lapse during this year. However, the remaining 40% of Member States' derogations will expire only by mid-2003.

## **Results of a User Survey**

One major concern for users is the availability of historic time series. This concerns all indicators, especially retail trade and output prices. Timeliness and the issue of revisions are concerns for industrial production and particularly critical for the volume of retail sales index. Compared to these issues, the accessibility of data is considered a minor problem. Users also expressed their need for additional business cycle indicators.

## **Timeliness**

Timeliness and availability of source data from Member States at the time of the first estimate have recently improved. No further major improvements in timeliness for key indicators seem possible within the existing legal framework. To reduce publication delays any further, additional efforts are therefore needed from Eurostat and the Member States which go beyond the existing regulation.

## **Availability of Metadata**

The metadata situation is currently satisfactory. However, some areas - especially in construction, retail trade and other services - lack sufficient information. The challenge for the future is to keep the metadata-base STS-Sources up to date.

## **Towards Common Definitions**

Many indicators are already transmitted according to common definitions although this is not yet obligatory. However, this is not the case for some important indicators, such as the index of domestic output prices. Quality problems will persist for these indicators until all Member States apply the common definitions.

## **A note on national methods for working days adjustment**

Currently the situation concerning working day adjustment methods for raw data can only be described as lacking harmonisation. Aggregation of these non-harmonised working day adjusted data may consequently lead to serious quality problems. There is a strong case to be made for progressing towards the formulation and implementation of common general guidelines in this area.

## **Revisions**

Revision practices are not harmonised between Member States. This leads to significant problems for the users of the indicators. The evidence presented here supports strongly the case for additional steps towards a common revision policy.

## **Selected Sampling Characteristics**

For their surveys Member States use various methods for replacing enterprises (units) which have disappeared and for estimating missing answers. The unweighted and weighted sample coverage compared to the overall population in percent differs widely between Member States. Most but not all Member States use size classes for different indicators. Questions arising from sampling characteristics should be studied further in order to seek common approaches.

## **Sources of potential non-sampling errors**

A slight majority of Member States measures the weighted and unweighted response rate of their samples, but only a very small minority looks at other possible errors in the process of data collection, processing or transmission to Eurostat. These errors are therefore not recorded and can consequently not be reduced systematically.

## **Statistical burden on business**

The time needed for the business community to compile necessary information for the purpose of statistical indicators, the number of enterprises asked and the policies in place for reducing the burden on small businesses differ between Member States. Eurostat proposes to exchange best practices in these areas in order to reduce the burden on business.

## **Cost for the National Statistical System**

This chapter presents an overview of a first collection of data about costs for the national statistical system. Together with Member States, this issue should be further explored in order to arrive at a better and more harmonised measurement, and consequently a deeper understanding of the costs involved in producing business cycle statistics.

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AND THE EUROPEAN PARLIAMENT**

**Concerning Short Term Statistics**

**Containing the annexes of the Quality Report as required by  
Council Regulation (EC) No 1165/98 of 19 May 1998**

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## **Summary**

Under Council Regulation 1165/98 the Commission has to submit to the European Parliament and to the Council a report on Short-Term Statistics (STS) .

The Report is required by Article 14 (2) of Regulation 1165/98. The Regulation is very clear in that the report should deal with the statistics compiled for the STS Regulation and should focus in particular on relevance, quality and the burden of business.

The discussion with the Member States concerning the outline of the structure for the report started in the short-term statistics Working Party of October 2000. In December of the same year, Eurostat sent out a first initial proposal for chapter topics and used a written procedure in the spring of 2001 to let Member States express their approval or disapproval of the proposed structure. Most chapters were approved in this procedure, but some had to be re-discussed in a Working Party in June 2001, where Eurostat presented a first incomplete draft of the report, reflecting the information available at that time.

The second draft proposal, which updated most of the information to September 2001, was discussed with Member States in the Working Party of December 2001.

Two further rounds of consultations with Member States (versions 3.0 and 3.1) allowed them to comment in early 2002 on further drafts. The comments have been taken into account as much as possible and the Member States have been informed about the detailed changes based on their comments.

Draft version 3.2 was finalised in April 2002 and submitted to Member States for their position as a preparatory committee for the SPC through a written procedure. This version was discussed during the STS Working Party (6 and 7 June 2002) especially with Germany, France and Finland.

The current draft version 3.3 takes into account comments made by Member States.

## **Main Findings**

### **1. Current Data Situation**

Three years after the adoption of the Regulation on short-term statistics the overall data situation is far from satisfactory. Although Eurostat can calculate important EU15/Euro-zone indicators, no aggregates can be estimated for 14 of the 32 demanded indicators. The situation should improve in 2002 as about 60% of the derogations will lapse during this year. However, the remaining 40% of Member States' derogations will expire only by mid-2003.

### **2. Results of a User Survey**

One major concern for users is the availability of historic time series. This concerns all indicators, especially retail trade and output prices. Timeliness and the issue of revisions are concerns for industrial production and particularly critical for the volume of retail sales index. Compared to these issues, the accessibility of data is considered a minor problem. Users also expressed their need for additional business cycle indicators.

### **3. Timeliness**

Timeliness and availability of source data from Member States at the time of the first estimate have recently improved. No further major improvements in timeliness for key indicators seem possible within the existing legal framework. To reduce publication delays any further, additional efforts are therefore needed from Eurostat and the Member States which go beyond the existing regulation.

### **4. Availability of Metadata**

The metadata situation is currently satisfactory. However, some areas - especially in construction, retail trade and other services - lack sufficient information. The challenge for the future is to keep the metadata-base STS-Sources up to date.

### **5. Towards Common Definitions**

Many indicators are already transmitted according to common definitions although this is not yet obligatory. However, this is not the case for some important indicators, such as the index of domestic output prices. Quality problems will persist for these indicators until all Member States apply the common definitions.

#### **A note on national methods for working days adjustment**

Currently the situation concerning working day adjustment methods for raw data can only be described as lacking harmonisation. Aggregation of these non-harmonised working day adjusted data may consequently lead to serious quality problems. There is a strong case to be made for progressing towards the formulation and implementation of common general guidelines in this area.

### **6. Revisions**

Revision practices are not harmonised between Member States. This leads to significant problems for the users of the indicators. The evidence presented here supports strongly the case for additional steps towards a common revision policy.

### **7. Selected Sampling Characteristics**

For their surveys Member States use various methods for replacing enterprises (units) which have disappeared and for estimating missing answers. The unweighted and weighted sample coverage compared to the overall population in percent differs widely between Member States. Most but not all Member States use size classes for different indicators. Questions arising from sampling characteristics should be studied further in order to seek common approaches.

### **8. Sources of potential non-sampling errors**

A slight majority of Member States measures the weighted and unweighted response rate of their samples, but only a very small minority looks at other possible errors in the process of data collection, processing or transmission to Eurostat. These errors are therefore not recorded and can consequently not be reduced systematically.

## **9. Statistical burden on business**

The time needed for the business community to compile necessary information for the purpose of statistical indicators, the number of enterprises asked and the policies in place for reducing the burden on small businesses differ between Member States. Eurostat proposes to exchange best practices in these areas in order to reduce the burden on business.

## **10. Cost for the National Statistical System**

This chapter presents an overview of a first collection of data about costs for the national statistical system. Together with Member States, this issue should be further explored in order to arrive at a better and more harmonised measurement, and consequently a deeper understanding of the costs involved in producing business cycle statistics.

## 1. CURRENT DATA SITUATION

In May 1998, Member States adopted a new regulation concerning short-term statistics. This regulation covers four parts, namely industry (Annex A), construction (Annex B), retail trade (Annex C) and other services (Annex D). In total, Member States have asked for 32 indicators. The following is an overview of the data situation as of end 2001.

Eurostat is in a position to calculate 13 EU15/Euro-zone aggregates out of the 32 indicators required by the regulation. These includes important indicators such as industrial production, output prices of the domestic market and the turnover indicator in retail trade. Estimates can also be made for production in construction, construction costs and number of persons employed in both industry and construction.

Five of the 32 indicators can be rated as partially operational. Although it is possible to calculate aggregates for these indices, serious concerns persist relating to coverage, methodological quality or timeliness. The indicators concerned are total turnover, hours worked, and wages and salaries (all three indicators in industry), building permits in square metres for the construction sector and employment in retail trade.

No aggregates can be calculated for 14 indicators. In Annex A (Industry) these are domestic and non-domestic turnover and the new order indicators, plus output prices for the total and the external market. Construction (Annex B) has no aggregates for the new order indices, wages and salaries indicators and for building permits (dwellings). No aggregates at all can currently be estimated in Annex D (Other Services).

On a Member State scoreboard of data non-availability, most indicators are missing from Greece (78%), Ireland (66%) and Portugal (63%). Spain (46%) covers about half of the indicators. Roughly three out of ten are missing from Sweden (34%), France (31%), Belgium (28%) and Italy (27%). The UK (21%) and Denmark (22%) are fairly well advanced. Germany (3%), Finland (3%), Austria (5%), the Netherlands (11%) and Luxembourg (14%) are near completing implementation of the Regulation.

| Annex | Vari-<br>ables | B  | DK | D | EL | E  | F  | IRL | I  | L  | NL  | A | P  | FIN | S  | UK |
|-------|----------------|----|----|---|----|----|----|-----|----|----|-----|---|----|-----|----|----|
| A     | 13             | 3  | 3  | 0 | 11 | 10 | 5  | 8   | 2  | 0  | 0   | 0 | 5  | 1   | 3  | 5  |
| B     | 14             | 3  | 4  | 0 | 11 | 3  | 5  | 10  | 6  | 4  | 3   | 1 | 12 | 0   | 6  | 1  |
| C     | 3              | 1  | 0  | 0 | 1  | 0  | 0  | 1   | 0  | 0  | 0   | 0 | 1  | 0   | 1  | 1  |
| D*    | 2              | 2  | 0  | 1 | 2  | 2  | 0  | 2   | ½  | ½  | ½   | ½ | 2  | 0   | 1  | 0  |
| Total | 32             | 9  | 7  | 1 | 25 | 15 | 10 | 21  | 8  | 4  | 3 ½ | 1 | 20 | 1   | 11 | 9  |
| In %  | 100            | 28 | 22 | 3 | 78 | 46 | 31 | 66  | 27 | 14 | 11  | 5 | 63 | 3   | 34 | 21 |

Scoreboard on non-availability of data (data delivered by mid-November 2001 is included); The short-term statistics regulation covers a wide range of different 'other service' sectors in Annex D. A half (½) point has been attributed for Member States for which data on service sectors are available, but where the coverage is limited to a few sectors only. The table lists also temporary transmission disruptions of more than two months as no data available.

The derogation period for non-available indicators will elapse within the coming 18 months. A look into the derogation document reveals that about 40% of the remaining derogations lapsed at the end of 2001, and another 20% during or at the end of 2002. It will be mid-2003 (the maximum derogation period allowed) before the last 40% of the indicators are transmitted by Member States.

The following table shows whether indicators are operational or not as well as the situation for individual Member States.

| Indicator                                                                                                                          |                                      | Oper-<br>ational? | Comments                                                                                                                                                                                                           | Missing<br>Member States    |
|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Data is declared missing if major aggregates and most detailed data (> 90% of the data required by the STS Regulation) are missing |                                      |                   |                                                                                                                                                                                                                    |                             |
| <b>Annex A: Industry</b>                                                                                                           |                                      |                   |                                                                                                                                                                                                                    |                             |
| A 110                                                                                                                              | Production                           | YES               | All MS provide data. Delay for European aggregate slowly approaching the required 45 days. EL and L do not provide data in time, but L transmits early econometric estimate. EL, IRL, UK send old MIGs.            |                             |
| A 120                                                                                                                              | Turnover                             | YES<br>(part.)    | European coverage just sufficient. F has started to provide data, but not yet on time.                                                                                                                             | EL, E                       |
| A 121                                                                                                                              | Domestic turnover                    | NO                | Insufficient weight of data for European aggregate. B has started to provide data.                                                                                                                                 | EL, E, F, IRL, UK           |
| A 122                                                                                                                              | Non-domestic turnover                | NO                | Insufficient weight of data for European aggregate. B has started to provide data.                                                                                                                                 | EL, E, F, IRL, UK           |
| A 130                                                                                                                              | New orders received                  | Partial           | Questionable quality of European aggregate due to missing data. Missing alignment to common variable definition puts European aggregation into question.                                                           | EL, E, F, IRL, P            |
| A 131                                                                                                                              | Domestic new orders                  | NO                | A European aggregate would have too little coverage. Methodological problem as with total new orders.                                                                                                              | E, F, EL, IRL, P            |
| A 132                                                                                                                              | Non-domestic new orders              | NO                | A European aggregate would have too little coverage. Methodological problem as with total new orders.                                                                                                              | E, F, EL, IRL, P            |
| A 210                                                                                                                              | Number of persons employed           | YES               | Data available for European coverage. European aggregates possible for most 2-digits. Nevertheless, issues of data quality persist. B, NL and UK do not send the new MIGs.                                         | EL, IRL, S                  |
| A 220                                                                                                                              | Hours worked                         | YES<br>(part.)    | The weight is sufficient for European aggregate for total industry but not for all MIGs and more detailed levels. F transmits data very late. B, NL and UK do not send the new MIGs. F sends them partially.       | DK, EL, E, IRL, S           |
| A 230                                                                                                                              | Gross wages and salaries             | YES<br>(part.)    | The weight is sufficient for a European aggregate for total industry, but not for MIGs or detailed levels. Problem of timeliness persists. F transmits late. B and UK do not send new MIGs. NL MIGs are too short. | EL, E, IRL, S, UK           |
| A 310                                                                                                                              | Output prices                        | NO                | No sufficient weight of available data for European aggregate.                                                                                                                                                     | DK, E, F, EL, I, P, FIN, UK |
| A 311                                                                                                                              | Output prices of domestic market     | YES               | All MS supply data. The index is on time and of good quality. B and IRL send still the old MIGs.                                                                                                                   |                             |
| A 312                                                                                                                              | Output prices of non-domestic market | NO                | No sufficient weight of available data for European aggregate.                                                                                                                                                     | DK, E, F, EL, I, P, UK      |

| Annex B: Construction |                                                    |         |                                                                                                                                                                                                                           |                                |
|-----------------------|----------------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| B 110                 | Production                                         | YES     | Data missing from some Member States but European aggregate can be constructed. However, there are some long delays for data from E, I and UK                                                                             | EL, IRL, P, S                  |
| B 115                 | Production of building construct.                  | YES     | Data missing from some Member States but European aggregate can be constructed. Long delays from E, I and UK.                                                                                                             | EL, IRL, P, S                  |
| B 116                 | Production of civil engineering                    | YES     | Data missing from some Member States but European aggregate can be constructed. However, there are some long delays for data from E, I and UK.                                                                            | DK, EL, IRL, P, S              |
| B 130                 | New orders                                         | NO      | Insufficient weight of available data for European aggregate.                                                                                                                                                             | DK, EL, F, IRL, I, NL, P, S    |
| B 135                 | New orders for building construct.                 | NO      | Insufficient weight of available data for European aggregate.                                                                                                                                                             | DK, EL, F, IRL, I, L, NL, P, S |
| B 136                 | New orders civil engineering                       | NO      | Insufficient weight of available data for European aggregate.                                                                                                                                                             | DK, EL, F, IRL, I, L, NL, P, S |
| B 210                 | Number of persons employed                         | YES     | European aggregate is possible. There are serious issues of timeliness and data quality.                                                                                                                                  | EL, E, I, P                    |
| B 220                 | Hours worked                                       | YES     | European aggregate is possible. There are serious issues of timeliness and data quality.                                                                                                                                  | DK, EL, E, I, P, S             |
| B 230                 | Gross wages and salaries                           | NO      | Insufficient weight for calculation of European aggregate. There are also problems of quality.                                                                                                                            | EL, E, F, P, S                 |
| B 320                 | Construction costs                                 | YES     | Some countries provide data on output prices or on other branches than new residential buildings, so that methodological issues of aggregating quite different indicators to European aggregates persist.                 | B, P                           |
| B 321                 | Material costs                                     | YES     | Some countries provide data on output prices or on other branches than new residential buildings, thus methodological issues of aggregating different indicators to European aggregates. Long delay for E.                | B, IRL, L, P                   |
| B 322                 | Labour costs                                       | YES     | Some countries provide data on output prices or on other branches than new residential buildings, so that methodological issues of aggregating quite different indicators to European aggregates persist.                 | B, IRL, L, P                   |
| B 411                 | Building permits: dwellings                        | NO      | European aggregates are not possible for all foreseen branches. Data from NL and E are very late. Due to shortness of time series, A and S currently not usable.                                                          | EL, I                          |
| B 412                 | Building permits: m <sup>2</sup> useful floor area | Partial | European aggregates are not possible for all foreseen branches. There remain considerable questions on the data quality. Data from E and NL are very late. Due to shortness of time series, F and S currently not usable. | EL, A, UK                      |

| <b>Annex C: Retail Trade and Repair</b> |                            |         |                                                                                                                                                                                                       |                                                                                     |
|-----------------------------------------|----------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| C 120                                   | Turnover                   | YES     | Data available from all countries, but not for all sectors required by regulation. F is very late.                                                                                                    |                                                                                     |
| C 210                                   | Number of persons employed | Partial | F and NL only supply confidential data. European aggregates exist only for the total retail trade index. A supplies only very recent data that cannot be used for European aggregation.               | B, EL, IRL, P, S, UK                                                                |
| C 330                                   | Deflator of sales          | YES     | Identical to variable 120. Almost all MS supply deflated turnover (EL supplies deflator of sales)                                                                                                     |                                                                                     |
| <b>Annex D: Other Services</b>          |                            |         |                                                                                                                                                                                                       |                                                                                     |
| D 120                                   | Turnover                   | NO      | The situation is very mixed in the different service sectors. I, NL and UK supply only very recent data. European aggregates would be possible for certain sectors but weights are not yet available. | No or almost no data from B, EL, E, IRL, P. Many series missing from D, I, L, NL, A |
| D 210                                   | Number of persons employed | NO      | Situation is very heterogeneous as for variable 120. DK, A and UK transmit very short series. Weights are also missing.                                                                               | No or almost no data from B, EL, E, IRL, P, S. Many series missing from D           |

(data delivered by 15 November 2001 included)

Of particular interest for the future evolution of the STS Council Regulation is the service sector part. The following table provides an overview.

| Sector                                                                                                         | Turnover                                                                                                                                                                                                                                                                                                                                                                                               | Number of persons employed                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Division 50:<br>Sale, maintenance and repair of motor vehicles and motorcycles: retail sale of automotive fuel | Data missing completely from: B, EL, E, I, P<br>Data partially missing from: D (sends only 5050) Data partially missing from: NL (sends only 5020,5050).<br>Data sent only starting 1998: NL<br>According to current derogation requests, a European aggregate is likely to be possible by end of 2002.                                                                                                | Data missing completely from: B, EL, E, L, P, S<br>Data sent only starting 1999: DK Data sent only starting 1998: UK, IRL. According to current derogation requests, a European aggregate is likely to be possible by end of 2002, at the latest June 2003.                                               |
| Division 51:<br>Wholesale trade and commission trade, except of motor vehicles and motorcycles                 | Data missing completely from B, EL, E, I, P<br>Data partially missing from: D, FR (does not send 5110). Data sent only starting 1998: IRL<br>European aggregates are probably possible now. Work on weights has to be completed.<br>NL sends data starting in 2000 not currently possible to integrate.                                                                                                | Data missing completely from: B, EL, E, L, P, S<br>I and NL (sends part of three digits series). Data sent only starting 1999: DK Data sent only starting 1998: UK, IRL. According to current derogation requests, European aggregates are likely to be possible by end of 2002, at the latest June 2003. |
| Division 55:<br>Hotels and restaurants                                                                         | Data missing completely from B, EL, E, I, A, P<br>Data partially missing from: NL (does not send 5500, but all three-digits). Data sent only starting 1998: IRL, NL. According to current derogation requests, a European aggregate is likely to be possible by end of 2002.                                                                                                                           | Data missing completely from: BE, EL, E, P, S.<br>Sends data only since 1999: DK Send data only since 1998: IRL, UK According to current derogation requests, a European aggregate is likely to be possible by June 2003                                                                                  |
| Section I<br>(Division 60-64):<br>Transport, storage and communication                                         | Data completely missing from B, D, EL, E, L, A, P.<br>Data is partially missing from: I (does not send 6000, 6300). Data are partially missing from: UK (sends only 6300, 6420). Data sent only starting 1998: IRL, I, UK. According to current derogation requests, a European aggregate is likely to be possible by end of 2002. NL sends data starting in 2000 not currently possible to integrate. | Data missing completely from: B, D, EL, E, L, P, S. Data sent only starting 1999: DK. Data sent only starting 1998: UK, IRL. According to current derogation requests, a European aggregate is likely to be possible by June 2003.                                                                        |
| Division 72:<br>Computer and related activities                                                                | Data completely missing from B, D, EL, E, L, A, P.<br>Data sent only starting 1998: IRL, NL. Data sent only starting 1999: IT. According to current derogation requests, a European aggregate is likely to be possible by end of 2002.                                                                                                                                                                 | Data missing completely from: B, D, EL, E, L, P, S. Data sent only starting 1999: DK. Data sent only starting 1998: UK, IRL. According to current derogation requests, a European aggregate is likely to be possible by June 2003.                                                                        |
| Division 74:<br>Other business activities                                                                      | Data completely missing from B, D, E, EL, I, L, NL, A, P. Data sent only starting 1998: IRL. According to current derogation requests, a European aggregate is likely to be possible by end of 2002.                                                                                                                                                                                                   | Data missing completely from: B, D, EL, E, L, P, S. Data sent only starting 1999: DK. Data sent only starting 1998: UK, IRL. According to current derogation requests, a European aggregate is likely to be possible by June 2003.                                                                        |

(data delivered by end December 2001 included)

## Conclusions

Three years after the adoption of the Regulation on short-term statistics the overall data situation is far from satisfactory. Although Eurostat can calculate important EU15/Euro-zone indicators, no aggregates can be estimated for 13 of the 32 required indicators. The situation should improve in 2002 as about 60% of the derogations will lapse during this year. However, the remaining 40% of Member States' derogations will expire only by mid-2003.

## 2. RESULTS OF A USER SURVEY

The following chapter looks at the results of a user survey compiled during summer 2001. Users were asked to give their opinion on three key indicators, which are all currently published via a News Release. Eurostat was especially interested in their assessment concerning the aspects of timeliness, revisions, accessibility of data and the lengths of the available time series. Respondents also had the chance to give their opinion about the need for any additional indicators which are currently not available or planned in the STS Regulation, but might be useful for the future.

The Eurostat unit in charge of short-term statistics sent questionnaires to the ECB, DG ECFIN and certain users who at the time occasionally contacted the unit for additional information when press releases were issued. The Eurostat press office contacted News Agencies and the Eurostat unit in charge of the Datashops asked their network, which is constantly in contact with users, for their views.

Answers came from the ECB, DG ECFIN, Eurostat datashops in Berlin, New York, Paris, Rome and Voorburg as well as from Goldman Sachs, Reuters and Kyodo. The ECB pointed out that their answers would refer to Euro-zone aggregates only. In order to distinguish the needs of different users better, Eurostat formed four different groups of users, namely:

- ECB
- DG ECFIN
- Datashops
- Other external users

The questionnaire gave users the opportunity to give each issue a rating of “Excellent”, “Good”, “Sufficient” or “Insufficient”. In order to calculate overall results, Eurostat attributed 3 points for “excellent”, 2 for “good”, 1 for “sufficient” and 0 for “insufficient”. In a few cases, when answers were not entirely clear or not easy attributable, Eurostat tried to map the respective replies by making best guesses<sup>1</sup>.

Eurostat wishes to stress that the survey gives a snapshot of the perception of the data situation for key indicators among respondents as of summer 2001. It is, however, not a representative survey of all users. Furthermore, the size of the sample of respondents is relatively small. It could also be argued that the scale of response possibilities is not symmetrical as the terms “excellent” and “good” might associate positive feelings for some persons, while there is only the term “insufficient” which associates clearly negative sentiments and the term “sufficient” is for some persons connected with a more neutral assessment. Eurostat took therefore steps to neutralise

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<sup>1</sup> For example, this was the case for the ECB, which rated the availability of historic time series as sufficient for the overall aggregate, but as insufficient for the Main Industrial Groupings (MIGs). In this case 0.5 points were attributed (average of “sufficient” (1) and “insufficient” (0) points). Another example concerns the New York datashop, which did not fill in the provided forms, but gave instead only a general indication that the lengths of the historic time series are not sufficient. This comment was mapped to each of the 3 rated indicators. Not all respondents replied to all questions and in these cases they were not taken into account for calculating the averages of the issues involved. The rounded averages are calculated from non-rounded numbers

this issue in the numerical calculation of overall results. Without wanting to give too much importance to the survey, Eurostat believes that the overall results show a valid picture of the current state of the perception of users. The following are the results of the survey.

## 2.1. Industrial production

The overall grade of 1.6 is slightly closer to “good” than to “sufficient”.

For industrial production, the best rating is given to the dimension accessibility with a rating of “good” (2.4). DG ECFIN and the ECB assessed this issue as “excellent”, while the datashops and external users viewed accessibility generally as “good”.

The assessment of the availability of historic time series is between “sufficient” and “good” with a value of 1.5. While datashops and external users gave a rating lower than the average, DG ECFIN judged this issue as “excellent”. The ECB, however, gave an assessment of 0.5 (between “insufficient” and “sufficient”). Comments included “backdata is often limited to 1995 because of lack of backdata for small countries” and “one of the main complaints we have is the lack of history. Many people really would like to see more history available”.

The perception of timeliness is 1.3, closer to “sufficient” than to “good” and slightly lower than that for the availability of historic time series. The ECB assessment of this issue (0.5) is between “insufficient” and “sufficient”. External users rate timeliness as “sufficient”, while DG ECFIN and the datashops assess this dimension as “good”.

Revisions are graded as “sufficient” (1.2), the lowest score of all dimensions for the industrial production indicator. While DG ECFIN rates this dimension as “good”, the ECB considers it “unsatisfactory”. Comments included “important revisions of the data are frequent and not sufficiently documented” and “series considered unreliable as revisions are so big”.

By averaging these four dimensions, the overall grade for the industrial production index sums up to 1.6, which is slightly closer to “good” than to “sufficient”.

| Industrial Production; overall grade*= 1.6 |            |            |               |                      |
|--------------------------------------------|------------|------------|---------------|----------------------|
|                                            | Timeliness | Revisions  | Accessibility | Historic time series |
| ECB                                        | 0.5        | 0.0        | 3.0           | 0.5                  |
| DG ECFIN                                   | 2.0        | 2.0        | 3.0           | 3.0                  |
| Datashops                                  | 1.8        | 1.5        | 1.8           | 1.2                  |
| External Users                             | 1.0        | 1.3        | 1.7           | 1.3                  |
| <b>Average</b>                             | <b>1.3</b> | <b>1.2</b> | <b>2.4</b>    | <b>1.5</b>           |

\*Overall grade is the average of the four averages presented, but calculated with more decimals than shown; ratings: 3=excellent, 2=good, 1=sufficient, 0=insufficient

## 2.2. Output prices of the domestic market

The overall grade is 1.8, close to “good”.

The best rating for this indicator comes for timeliness with “good” (2.0), with all user groups consistently giving marks of around 2. The only group which rates timeliness slightly lower is the external users (1.7).

Revisions are viewed as “good” (1.9), with all users giving a straight 2 except the datashops, who rate this issue 1.5 (between “sufficient” and “good”). Comments included “data is ... revised less frequently and is generally stable.”

The accessibility of data is viewed as close to “good” (2.1), although the datashops rate it “sufficient”, which is below the average. The ECB assess this issue as “excellent”.

The lowest score for the output price index is recorded for the category availability of historic time series with close to “sufficient” (1.2). Negative ratings from the ECB and datashops more than wipe out the more positive perceptions from DG ECFIN and external users.

By averaging the four dimensions, the overall grade comes to 1.8, which is close to “good”.

| Output prices of the domestic market; overall grade*= 1.8 |            |            |               |                      |
|-----------------------------------------------------------|------------|------------|---------------|----------------------|
|                                                           | Timeliness | Revisions  | Accessibility | Historic time series |
| ECB                                                       | 2.0        | 2.0        | 3.0           | 0.0                  |
| DG ECFIN                                                  | 2.0        | 2.0        | 2.0           | 2.0                  |
| Datashops                                                 | 2.5        | 1.5        | 1.0           | 1.0                  |
| External Users                                            | 1.7        | 2.0        | 2.3           | 1.7                  |
| <b>Average</b>                                            | <b>2.0</b> | <b>1.9</b> | <b>2.1</b>    | <b>1.2</b>           |

\*Overall grade is the average of the four averages presented, but calculated with more decimals than shown; ratings: 3=excellent, 2=good, 1=sufficient, 0=insufficient

## 2.3. Volume index of retail sales

The overall grade is 1.2, close to “sufficient”

Of all dimensions, timeliness is rated worst, between “insufficient” and “sufficient” with 0.6. Both the ECB and the DG ECFIN give an “insufficient”, while both datashops and external users rate this issue 1.3 closer to “sufficient” than to “good”. Comments included “The index is published within the deadline of the STS-Regulation, but 60 days is not satisfactory” or “the usefulness of the indicator is reduced by the delay with which it is published”.

The quality of revisions is perceived as “sufficient”, with the “insufficient” assessment from the ECB weighting heavily on the score. The datashops (1.3) and external users (1.7) are slightly more positive. Comments included “the indices tend to be heavily revised”.

The same rating is given for the availability of historic time series, which are rated overall as “sufficient”, but “insufficient” from the ECB and under average from the datashops. DG ECFIN gave the most positive assessment here with viewing the issue as “good”. Comments included “many people complain that there is not enough (back)data for proper analysis”.

The best score comes for accessibility of data, which is perceived as “good”. All user groups rate this issue consistently as “good”, the ECB gives “excellent”.

By averaging the four dimensions, the overall grade is 1.2, close to “sufficient”.

| Volume index of retail sales; overall grade*= 1.2 |            |            |               |                      |
|---------------------------------------------------|------------|------------|---------------|----------------------|
|                                                   | Timeliness | Revisions  | Accessibility | Historic time series |
| ECB                                               | 0.0        | 0.0        | 3.0           | 0.0                  |
| DG ECFIN                                          | 0.0        | n.a.       | 2.0           | 2.0                  |
| Datashops                                         | 1.3        | 1.3        | 1.7           | 0.6                  |
| External Users                                    | 1.3        | 1.7        | 2.0           | 1.3                  |
| <b>Average</b>                                    | <b>0.6</b> | <b>1.0</b> | <b>2.2</b>    | <b>1.2</b>           |

\*Overall grade is the average of the four averages presented, but calculated with more decimals than shown; ratings: 3=excellent, 2=good, 1=sufficient, 0=insufficient

## 2.4. Cross-indicator comparison

Looking at a cross-indicator comparison it becomes evident that the perception of domestic output prices and industrial production is, at 1.8 and 1.6 respectively, closer to “good” than to “sufficient”. In contrast, the volume index of retail sales is rated lowest at 1.2, which is close to “sufficient”.

The available information suggests that accessibility is not a major concern for any of the indicators as all are rated slightly better than “good”.

Revision practice is perceived as “good” for the domestic output price index; however, the same issue is only rated as “sufficient” for the industrial production index and the volume index of retail trade.

Another area of major indicator difference is timeliness, which is rated for the domestic output price index as “good” (2.0), closer to “sufficient” than to “good” for the industrial production index (1.3) and between “sufficient” and “insufficient” for the volume index of retail trade (0.6).

The rating concerning availability of historic time series is not considered “good” for any of the indicators. The best grading comes for the production index with 1.5 (exactly between “good” and “sufficient”). For the output price index and the index of retail sales the grades are close to “sufficient” with 1.2.

### Cross indicator comparison

|                              | Timeliness | Revisions | Accessibility | Historic time series | Overall grade |
|------------------------------|------------|-----------|---------------|----------------------|---------------|
| Industrial production        | 1.3        | 1.2       | 2.4           | 1.5                  | <b>1.6</b>    |
| Domestic output price index  | 2.0        | 1.9       | 2.1           | 1.2                  | <b>1.8</b>    |
| Volume index of retail trade | 0.6        | 1.0       | 2.2           | 1.2                  | <b>1.2</b>    |

\*Overall grade is the average of the four averages presented, but calculated with more decimals than shown; ratings: 3=excellent, 2=good, 1=sufficient, 0=insufficient

## **2.5. Additional Indicators which might be useful**

A open-ended question asked users to describe their need for additional indicators which might help them to assess the evolution of the business cycle. Only two users, the ECB and Goldman Sachs, responded to this question.

The ECB pointed to their need for import prices, employment for services, “reliable” new orders data, prices in the services sector and output/turnover in the services sector. Concerning existing indicators, the ECB would like to have monthly data for construction and working days adjusted series for turnover, gross wages and salaries as well as for hours worked. Another concern is the geographical breakdown between activities relating to the “domestic” and “external” market, which should be available for domestic Euro-zone activities and transactions with non Euro-zone Member States for turnover, new orders and prices.

Goldman Sachs asked for industrial orders, level of stocks (as an index indicator), monthly average earnings, stock of capital, business productivity, household savings and vacancies.

### **Conclusions**

One major concern for users is the availability of historic time series. This concerns all indicators, especially retail trade and output prices. Timeliness and the issue of revisions are concerns for industrial production and particularly critical for the volume of retail sales index. Compared to these issues, the accessibility of data is a minor problem. Users also expressed their need for additional business cycle indicators.

## **3. TIMELINESS**

The early publication of EU15/Euro-zone figures depends on the rapid availability of sufficient information from Member States. This chapter explains the release of EU15/Euro-zone data in the light of series sent from Member States by focusing on indices for which Eurostat currently issues a News Release, including the production of construction index for which a quarterly News Release was recently launched.

Eurostat calculates EU15/Euro-zone aggregates if the weighted Member State coverage reaches at least 60%. However, if timeliness allows, Eurostat tries to attain a higher coverage in order to keep revisions low and to improve quality. In the first estimation, industrial production and domestic output price data are currently published with over 90% of the possible weight. The volume of retail sales index was published with 70% during the first half of 2001, but the coverage rose when France started to provide the monthly figures on time. No News Release for production in construction was published until September 2001, and only the current schedule of release dates from Member States is therefore shown for this indicator.

The situation concerning timeliness has improved markedly since the adoption of the short-term statistics Regulation in May 1998 and the run-up to the introduction of the Euro, but further improvements are urgent and necessary.

The ECB, as the most important user of short-term statistics, has demanded the availability of monthly data between 30 and 40 days after the reference month<sup>2</sup>. Currently only domestic output prices meet this target. The other key indicators presented here are published with a longer delay<sup>3</sup>.

However, the current legal framework does not leave much room to improve timeliness further as the publications for the key indicators are already close to the delays demanded by the regulation of 1998. This is shown in the table below. All four key indicators are released either on time or within one week or less after the deadline set by the Regulation. But this is well short of the ECB's demands. Compared with ECB demands, key indicators are late by 1 to 2 weeks (industrial production) or almost a month (retail sales and production in construction). Further improvements can only come through additional initiatives. In 2001, Eurostat therefore started discussions with Member States about shorting delays.

Another persistent problem is additional delays caused by some Member States, such as France and Italy during the summer period. Due to national holiday patterns, a large proportion of establishments close in the summer months, complicating the timely provision of indices. This adds to delays for the publication of some indices for these reference periods.

It should be noted that the information presented reflects the situation of July 2001.

|                                    | <b>I:<br/>Current Delay</b> | <b>II:<br/>Demands of<br/>Regulation<sup>4</sup></b> | <b>III:<br/>ECB needs</b> | <b>II-III: Difference<br/>Regulation and<br/>ECB needs</b> |
|------------------------------------|-----------------------------|------------------------------------------------------|---------------------------|------------------------------------------------------------|
| Industrial production index        | 49 days                     | 45 days                                              | 30-40 days                | 5-15 days                                                  |
| Output price index domestic market | 34 days                     | 35 days                                              | 30-40 days                | On time                                                    |
| Retail sales volume index          | 63 days                     | 60 days                                              | 30-40 days                | 20-30 days                                                 |
| Production in construction index*  | 65 days                     | 60 days                                              | 30-40 days                | 20-30 days                                                 |

\* some Member States send monthly data, others quarterly

### 3.1. Industrial Production Index

The delay in the publication of the EU15/Euro-zone index as well as the weighted Member State coverage available at the time of the first publication has been improved considerably over time. The figure is now normally published within 50 days after the reference period. This is very close to the deadline required by the Regulation. The available weighted Member State coverage is now typically about

<sup>2</sup> Statistical requirements of the European Central Bank in the field of general economic statistics, European Central Bank, August 2000

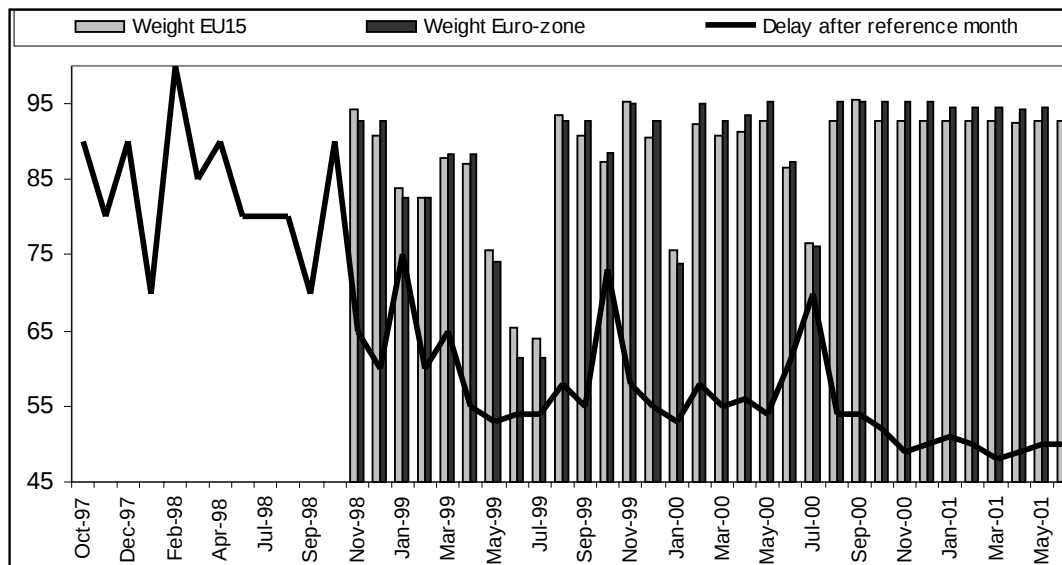
<sup>3</sup> In addition to that, many EU15/Euro-zone aggregates for other indices cannot be calculated due to a lack of available Member State data (see chapter 1 of the Quality Report)

<sup>4</sup> For large Member States; smaller Member States have 15 additional days to transmit the data. For the retail sales volume index smaller Member States have 30 additional days. For the purposes of the Council Regulation on short-term statistics large Member States are: Germany, Spain, France, Italy and UK

90% for the first estimation. The delay for the summer 2000 was caused by the additional delay of data coming from France and Spain<sup>5</sup>.

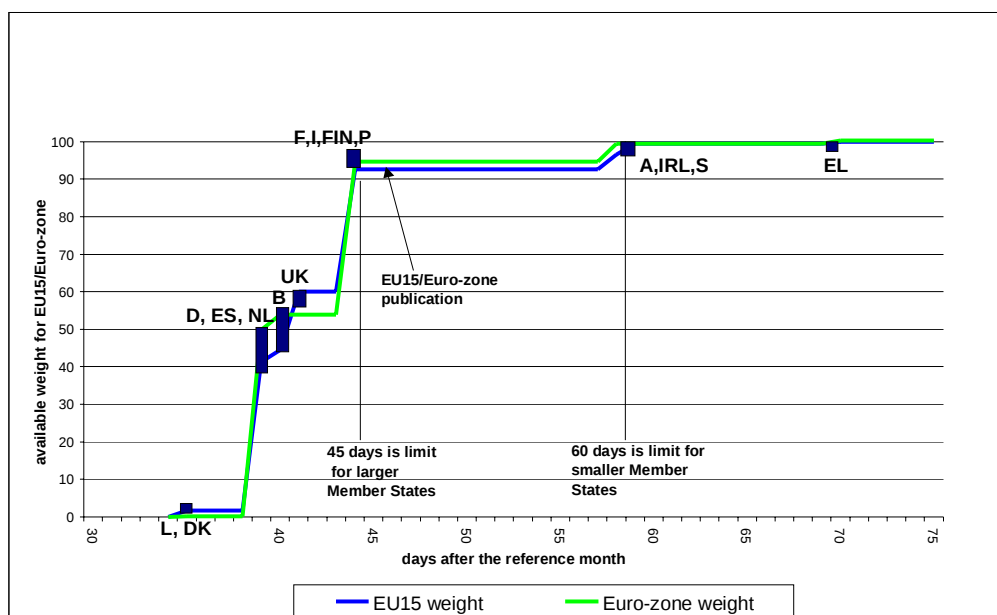
#### EU15/Euro-zone Industrial Production Index:

First estimation coverage, in % (bars),  
delay after reference month, in days (line)



The following graph shows the typical data transmission delay for each Member State (data arrivals until 31 July 2001).

#### Comparison of data release timetables for Industrial Production Index

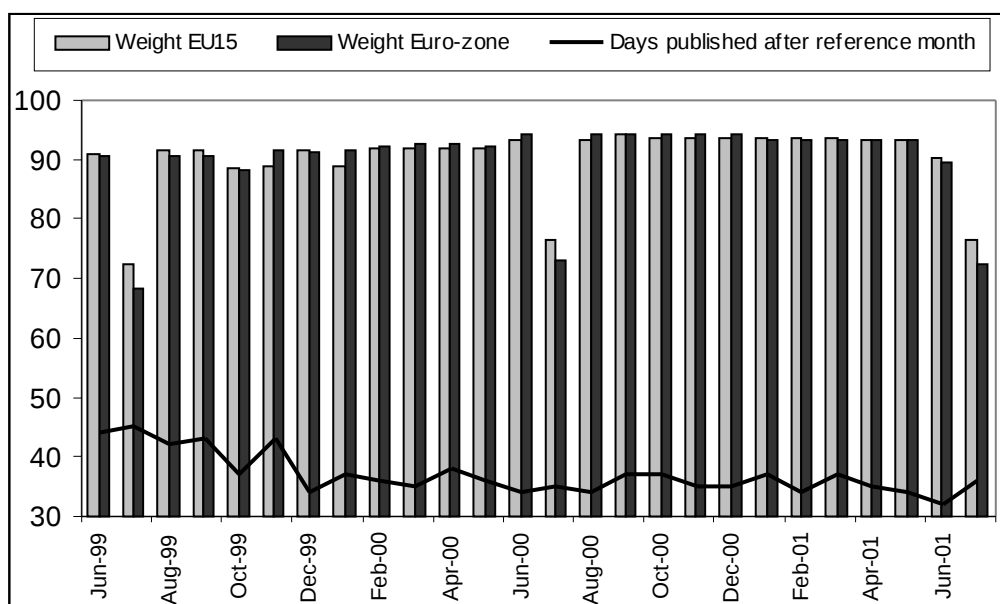


<sup>5</sup> Spain now publishes regularly each month, but the problem for France is unchanged.

### 3.2. Domestic Output Price Index

This index has been published in a News Release since July 1999, the delay situation has improved from about 45 days after the reference month to about 35 days in 2001. The available coverage for the first estimate has been typically around 90% for EU15 and Euro-zone.

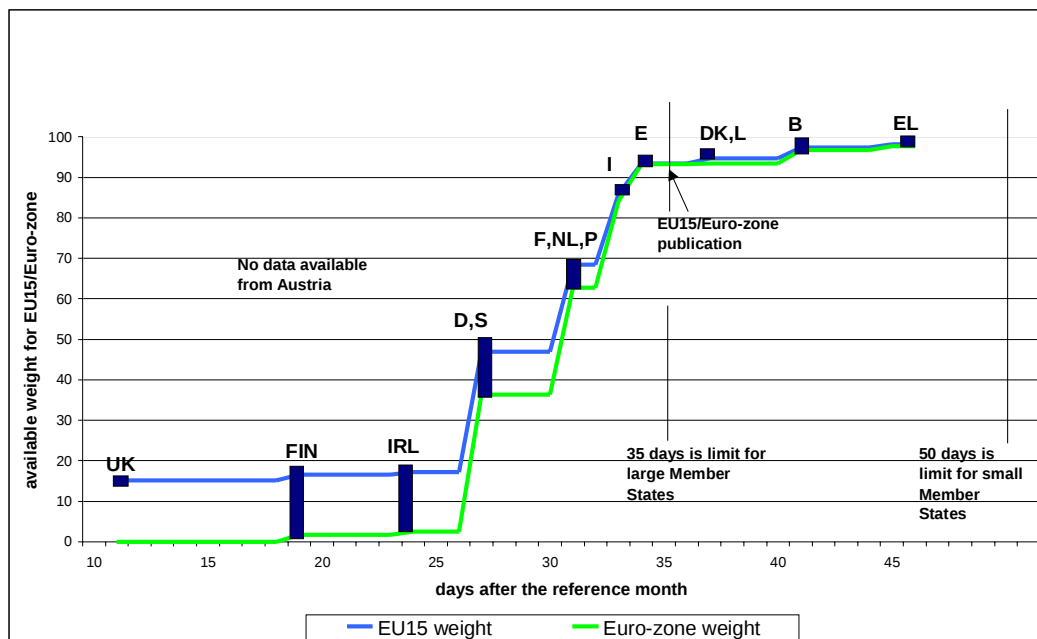
**Publication of Domestic Output Price Index:  
First estimation coverage, in % (bars),  
delay after reference month, in days (line)**



The following graph shows the current delay for each Member State. Austria does not supply data for the index<sup>6</sup> (data arrivals until 31 July 2001).

<sup>6</sup> Derogation until July 2001

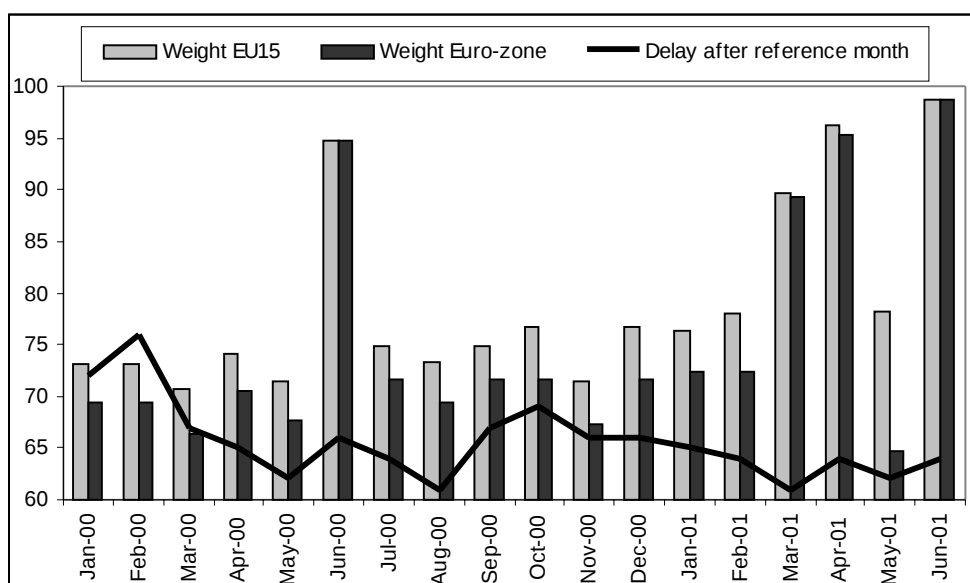
### Comparison of data release timetables for Domestic Output Price Index



### 3.3. Volume of Retail Sales Index

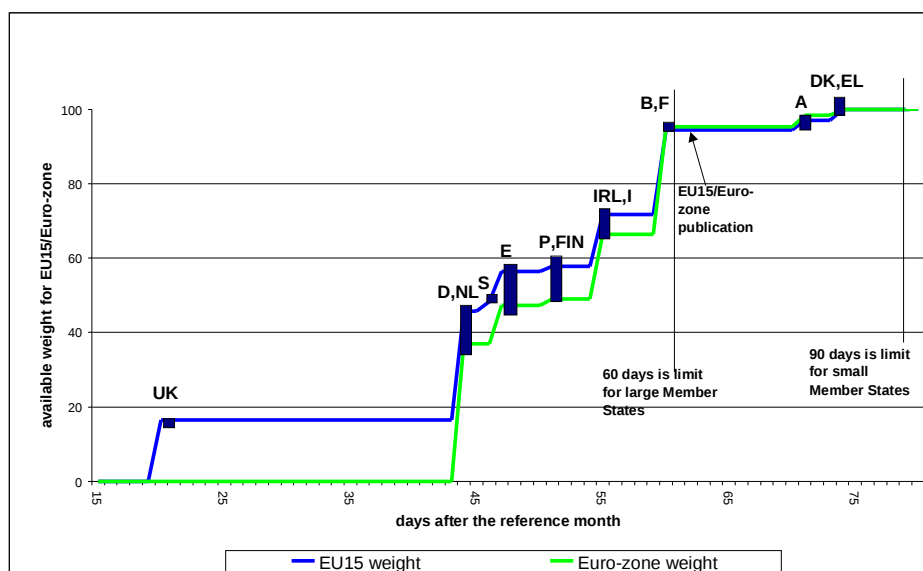
The first News Release on retail trade was published for the reference month of January 2000. Initially the index came out around 73 days after the reference month and is now released after 63 days. Since France has started to provide the index on time, the coverage has increased to over 95% for the first estimation.

#### EU15/Euro-zone Volume of Retail Sales Index: First estimation coverage, in % (bars), delay after reference month, in days (line)



The current transmission dates of Member States can be seen in the following graphic. What is visible here is the unequal distribution of the release dates between Member States. While the figure from UK is published after 19 days, the other Member States publish their figures 20 or more days later (data arrivals until 31 July 2001).

Comparison of data release timetables for Volume of Retail Sales

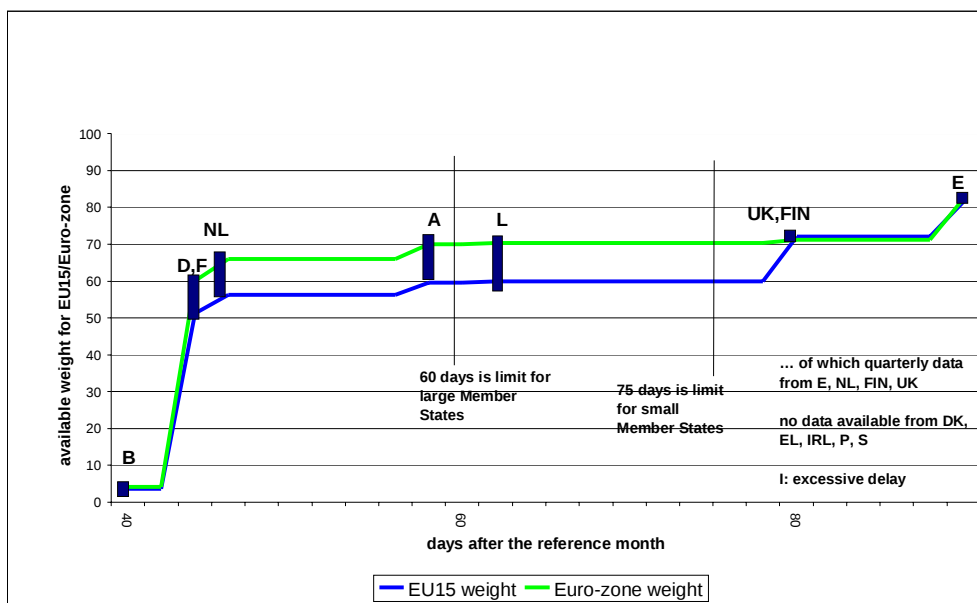


### 3.4. Production in Construction Index

Eurostat started a regular News Release on production in construction in autumn 2001. One problem is the possibility for Member States to transmit quarterly or monthly data. Denmark, Greece, Ireland, Portugal and Sweden<sup>7</sup> do not supply data at all. The current transmission dates of Member States can be seen in the following graphic. (data arrivals until 31 July 2001).

<sup>7</sup> Derogation until end 2001 for Portugal and Sweden. Derogation until March and December 2002 for Greece and Ireland respectively

## Comparison of data release timetables for Production in construction



## Conclusions

Timeliness and availability of source data from Member States at the time of the first estimate has recently improved. No further major improvements in timeliness for key indicators seem possible within the existing legal framework. To reduce publication delays any further, additional efforts are therefore needed from Eurostat and the Member States which go beyond the existing regulation.

## 4. AVAILABILITY OF METADATA

A comprehensive and coherent set of meta-information enhances users' ability to get a good understanding of published series. Moreover, a lack of background information may lead to misinterpretation or misunderstandings of trends in the economy. The following chapter looks at the availability of metadata for short-term business statistics.

In 2000 Eurostat created a new database gathering meta-information from all Member States on all indicators. The collected information covers now over 600 pages and is available under the name of STS-Sources (sources of short-term statistics). In addition to that information, Eurostat has started to compile meta-information for EU15/Euro-zone based on the agreed definitions.

STS-Sources is based on a per Member State information of the national statistical system, followed by details for each indicator. In addition to the compiled meta-information, the name of a contact person is given. However, not every Member State has produced meta-information for all indicators. The following is an overall assessment of the current situation (see table below for an overview).

The situation for meta-information for the production index in industry is highly satisfactory. Meta-information is available from all Member States based either on the year 2000 or 1999. The information on output prices is available for all Member States. However, the information from Sweden and Belgium is more than 6 years old, and might need some updating. Metadata availability for turnover in retail sales is missing from Belgium, Ireland, Luxembourg and Sweden. For some Member States, metadata is missing for number of persons employed, hours worked and building permits in the construction sector.

For other indicators, the situation mostly resembles the availability of the indicators themselves. Member States which send data as a general rule also make the necessary metadata available. In contrast, Member States which do not send the requested indicator due to a total derogation, send no metadata either. The following table gives an overview of the available meta-information. Member States - which are marked with an asterisk (\*) - have a complete derogation for this indicator and might therefore not be in a position to send the respective metadata.

The table represents the data base at the end of 2001. Some methodological remarks have been submitted by the Member States outside the official procedure. A new collection of metadata will be launched in 2002.

| Indicator                               |                                                           | Meta-information<br>EU15/Euro-zone | Meta-information available for<br>Member States<br>(reference year)                                         | No meta-information<br>from Member States<br>(* = Member State with a<br>complete derogation) |
|-----------------------------------------|-----------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Annex A: Industry</b>                |                                                           |                                    |                                                                                                             |                                                                                               |
| A 110                                   | Production                                                | Yes                                | All Member States (2000), except UK (1999)                                                                  |                                                                                               |
| A 120<br>A 121<br>A 122                 | Turnover (total, domestic, non-domestic)                  | Yes                                | DK, D, F, I, L, P, FIN, S (2000), A, UK (1999) B, IRL, NL (1995)                                            | EL*, E*                                                                                       |
| A 130                                   | New orders received (total, domestic, non-domestic)       | Yes                                | DK, D, I, L, FIN, S (2000), A, UK (1999), B, NL (1995)                                                      | EL*, E*, F*, IRL*, P*                                                                         |
| A 210                                   | Number of persons employed                                | Yes                                | DK, D, IRL, I, L, NL, P, FIN (2000), A, UK (1999), EL (1998), B, F, S (1996)                                | E                                                                                             |
| A 220                                   | Hours worked                                              | Yes                                | D, IRL, I, L, NL, P, FIN (2000), A, UK (1999), EL (1998), B, F, S (1996)                                    | DK*, E*                                                                                       |
| A 230                                   | Gross wages and salaries                                  | Yes                                | D, DK, IRL, I, L, NL, P, FIN (2000), A, UK (1999), EL (1998), B, F, S (1996)                                | E*                                                                                            |
| A 310<br>A 311<br>A 312                 | Output prices (total, domestic, non-domestic)             | Yes                                | DK, D, EL, E, F, IRL, I, L, NL, P, FIN (2000), UK (1999), S (1994), B (1993)                                | A*                                                                                            |
| <b>Annex B: Construction</b>            |                                                           |                                    |                                                                                                             |                                                                                               |
| B 110<br>B 115<br>B 116                 | Production (total, buildings, civil engineering)          | Yes                                | B, DK, D, E, F, I, L (2000), A, FIN, UK (1999)                                                              | EL*, IRL*, NL, P*, S*                                                                         |
| B 130<br>B 135<br>B 136                 | New orders received (total, buildings, civil engineering) | Yes                                | B, D, E, L, NL, FIN (2000), A, UK (1999)                                                                    | DK*, EL*, F* IRL, I*, P*, S*                                                                  |
| B 210                                   | Number of persons employed                                | Yes                                | B, DK, D, IRL, L, NL, FIN (2000), A (1999), EL (1998)                                                       | E, I, P*, S*, UK                                                                              |
| B 220                                   | Hours worked                                              | Yes                                | B, D, IRL, L, NL, FIN (2000), A, UK (1999), EL (1998)                                                       | DK*, E, I*, P*, S*                                                                            |
| B 230                                   | Gross wages and salaries                                  | Yes                                | B, DK, D, IRL, L, NL, FIN (2000), E, A, UK (1999), EL (1998)                                                | I*, P*, S*                                                                                    |
| B 320<br>B 321<br>B 322                 | Costs (construction, material, labour)                    |                                    | DK, D, EL, E, I, L, F, NL (output prices), FIN (2000), A, UK (1999), B (1996), IRL, S (input prices) (2000) | P*                                                                                            |
| B 411<br>B 412                          | Building permits (number of dwellings, square meters)     | Yes                                | DK, D, I, FIN, S (2000), E (1999), IRL (1994)                                                               | B, EL, F, L, NL, A, P, UK*                                                                    |
| <b>Annex C: Retail Trade and Repair</b> |                                                           |                                    |                                                                                                             |                                                                                               |
| C 120<br>C 330                          | Turnover (deflated, non-deflated)                         | Yes                                | DK, D, EL, E, NL, P, FIN (2000), I, A, UK (1999)                                                            | B, IRL, L, S                                                                                  |

|                                |                            |     |                                                         |                            |
|--------------------------------|----------------------------|-----|---------------------------------------------------------|----------------------------|
| C 210                          | Number of persons employed | Yes | DK, D, E, NL, P, FIN (2000), I, A, UK (1999), EL (1998) | B*, IRL, L*, S*            |
| <b>Annex D: Other Services</b> |                            |     |                                                         |                            |
| D 120                          | Turnover                   | Yes | DK, D, NL, P, FIN (2000), A, UK (1999)                  | B, EL*, E*, IRL, I*, L*, S |
| D 210                          | Number of persons employed | Yes | DK, D, I, NL, P, FIN (2000), A, UK (1999), EL (1998)    | B*, E*, IRL, L*, S*        |

Overview status mid 2001.

## Conclusions

The situation of meta-information is currently satisfactory. However, some areas - especially in construction, retail trade and other services - lack sufficient information. The challenge for the future is to keep the meta-database STS-Sources up to date.

## 5. TOWARDS COMMON DEFINITIONS

On 26 March 2001 the Commission adopted Regulation 588/2001, which defined common definitions for the indicators of short-term statistics. Many discussions with Member States concerning the usefulness of a common approach in this area had preceded this decision. Finally, however, a broad understanding emerged that this was the right way forward. The regulation specifies that indices are to be transmitted in accordance with the common definitions no later than 2003. The common definitions will improve the comparability of statistics between Member States. This chapter presents a roadmap for the application of common definitions as well as information about the current state of observation units used for the various indicators.

Many indicators are already transmitted according to common definitions although this is not yet obligatory. This is the case for industrial production, where all reporting Member States provide the indicator within the common definitions, except Denmark, which does not take into account the changes in stocks.

For the production in construction indicator, most Member States are transmitting indices based on the common definitions, except Italy, which does not include maintenance. Italy does not use the correct observation unit and bases its information on administrative data.

For the deflated turnover of retail sales, all reporting Member States transmit the indicators already based on the common definitions, except Denmark, Greece, Spain and UK, which include VAT.

However, only Germany, Spain, Luxembourg and UK are currently sending the domestic output price index in accordance with to the common definitions. Greece, France, the Netherlands, Portugal, Finland and Sweden do not yet include all duties and taxes as required. However, most intend to switch within the timeframe provided by the Regulation. Other deviations include issues such as list prices (not actual transaction prices/Portugal), invoices (not the moment of order/Sweden) and the use of the old NACE (Ireland). Sweden has indicated that they would not switch to the common definitions within the required time frame.

A brief overview of the four annexes of the Regulation shows the following: For each indicator in industry a maximum of 13 Member States (industrial production) are currently already transmitting their data based on the common definitions. The weak points are the price indicators, where currently only between 2 and 4 Member States supply information in accordance with the common definitions. UK has given no indication about when they would implement the agreed definition for new orders and numbers of persons employed. Finland sends an alternative leading indicator for new orders, which is permitted until 2008.

The required observation unit is for the most part respected for industry statistics, but there are some exceptions. Portugal uses other observation units for all indicators in Annex A except production and output prices. Observation units other than those agreed are used by Denmark (wages and salaries), Spain (persons employed), Italy (all social variables) and Austria (all turnover variables).

For indicators in construction, most Member States already transmit the figures within the common definitions. Compliance ranges from 9 to 11 Member States for the three production indicators and construction costs to a low of six Member States for civil engineering new orders. There is currently no indication that any Member State would not be able to deliver their indicators on the basis of the common definitions on time, except for Italy, which plans to convert to the common definitions for their building and civil engineering figures only in 2004.

Most Member States respect the agreed observation units in the construction sector. An exception is Italy, which uses other observation units for a whole range of available (and planned) indicators. Denmark uses another observation unit for hours worked and wages and salaries, and Spain for the persons employed indicator.

In the retail trade sector there are no indications that any Member State might not send data based on the common definitions within the required time-frame. Already now, for each of the indicators, a clear majority sends data based on the definitions. But Italy has so far not given any date on when it plans to apply the common definitions to turnover. Denmark is the only Member State which does not use the prescribed observation units, deviating for all three retail trade indicators.

For other services, a clear majority of Member States indicated that they would be following the common definition by now for turnover, but only a slight majority said the same for employment. No time-frame for implementation was given in the questionnaire by Denmark (for turnover) and Austria, UK (for persons employed). Denmark (turnover, persons employed) and Austria (persons employed) do not send their data in accordance with the required observation units.

## **Conclusions**

Many indicators are already transmitted according to common definitions although this is not yet obligatory. However, this is not the case for some important indicators, such as the index of domestic output prices. Quality problems will persist for these indicators until all Member States apply the common definitions.

## Current state and implementation plans for common definitions

| Indicator                     | B   | DK    | D   | EL   | E    | F    | IRL  | I     | L   | NL   | A     | P    | FIN  | S    | UK   |
|-------------------------------|-----|-------|-----|------|------|------|------|-------|-----|------|-------|------|------|------|------|
|                               |     |       |     |      |      |      |      |       |     |      |       |      |      |      |      |
| <b>Industry</b>               |     |       |     |      |      |      |      |       |     |      |       |      |      |      |      |
| Production                    | Yes | 2003  | Yes | Yes  | Yes  | Yes  | Yes  | Yes   | Yes | Yes  | Yes   | Yes  | Yes  | Yes  | Yes  |
| Turnover                      | Yes | 2003  | Yes | D    | D    | Yes  | Yes  | Yes   | Yes | 2002 | 2002* | Yes* | Yes  | Yes  | Yes  |
| Domestic                      | Yes | 2003  | Yes | D    | D    | Yes  | D    | Yes   | Yes | 2002 | 2002* | Yes* | Yes  | Yes  | Yes  |
| non-domestic                  | Yes | 2003  | Yes | D    | D    | Yes  | D    | Yes   | Yes | 2002 | 2002* | Yes* | Yes  | Yes  | Yes  |
| New orders received           | Yes | 2003  | Yes | D    | D    | Yes  | D    | Yes   | Yes | 2002 | Yes   | Yes* | (No) | Yes  | No   |
| domestic                      | Yes | 2003  | Yes | D    | D    | Yes  | D    | Yes   | Yes | 2002 | Yes   | Yes* | (No) | Yes  | No   |
| non-domestic                  | Yes | 2003  | Yes | D    | D    | Yes  | D    | Yes   | Yes | 2002 | Yes   | Yes* | (No) | Yes  | No   |
| Number of persons             | Yes | 2003* | Yes | D    | Yes* | 2003 | Yes  | Yes*  | Yes | Yes  | 2002  | Yes* | Yes  | Yes  | No   |
| Hours worked                  | Yes | D     | Yes | D    | D    | 2003 | 2003 | Yes*  | Yes | 2003 | 2002  | Yes* | Yes  | D    | Yes  |
| Gross wages and salaries      | Yes | Yes*  | Yes | D    | D    | Yes  | Yes  | Yes*  | Yes | Yes  | Yes   | Yes* | Yes  | D    | D    |
| Output prices                 | Yes | D     | Yes | D    | D    | D    | 2002 | D     | Yes | 2002 | D     | ?    | 2003 | 2005 | D    |
| domestic market               | Yes | 2003  | Yes | 2002 | Yes  | 2003 | 2002 | ?     | Yes | 2002 | D     | 2002 | 2003 | 2005 | Yes  |
| non-domestic market           | Yes | D     | Yes | D    | D    | D    | 2002 | D     | Yes | 2002 | D     | ?    | Yes  | 2005 | D    |
| <b>Construction</b>           |     |       |     |      |      |      |      |       |     |      |       |      |      |      |      |
| Production                    | Yes | Yes   | Yes | D    | Yes  | Yes  | D    | 2002* | Yes | Yes  | Yes   | Yes  | Yes  | D    | Yes  |
| building construction         | Yes | Yes   | Yes | D    | Yes  | Yes  | D    | 2004* | Yes | Yes  | Yes   | Yes  | Yes  | D    | Yes  |
| civil engineering             | Yes | Yes   | Yes | D    | Yes  | Yes  | D    | 2004* | Yes | Yes  | Yes   | Yes  | Yes  | D    | Yes  |
| New orders received           | Yes | D     | Yes | D    | Yes  | Yes  | Yes  | D     | Yes | D    | Yes   | Yes  | D    | D    | Yes  |
| building construction         | Yes | D     | Yes | D    | Yes  | Yes  | D    | D     | D   | D    | Yes   | Yes  | Yes  | D    | Yes  |
| civil engineering             | Yes | D     | Yes | D    | Yes  | Yes  | D    | D     | D   | D    | Yes   | Yes  | D    | D    | Yes  |
| Number of persons             | Yes | Yes   | Yes | D    | Yes* | 2003 | Yes  | 2001* | Yes | Yes  | 2002  | Yes  | Yes  | Yes  | Yes  |
| Hours worked                  | Yes | Yes*  | Yes | D    | D    | 2003 | Yes  | D     | Yes | 2003 | 2002  | Yes  | Yes  | D    | Yes  |
| Gross wages and salaries      | Yes | Yes*  | Yes | D    | D    | Yes  | Yes  | D     | Yes | Yes  | Yes   | Yes  | Yes  | D    | Yes  |
| Construction costs            | Yes | Yes   | Yes | 2003 | Yes  | Yes  | Yes  | ?     | Yes | Yes  | Yes   | Yes  | Yes  | D    | Yes  |
| Material costs                | Yes | Yes   | Yes | 2003 | Yes  | Yes  | D    | ?     | D   | Yes  | Yes   | Yes  | Yes  | D    | Yes  |
| Labor costs                   | Yes | Yes   | Yes | 2003 | Yes  | Yes  | D    | ?     | D   | Yes  | Yes   | Yes  | Yes  | D    | Yes  |
| Building permits (number of   | Yes | Yes   | Yes | 2003 | Yes  | Yes  | Yes  | Yes*  | Yes | Yes  | Yes   | Yes  | Yes  | Yes  | D    |
| Building permits (sq. metres) | Yes | 2003  | Yes | 2003 | Yes  | Yes  | Yes  | Yes*  | Yes | Yes  | D     | Yes  | Yes  | Yes  | D    |
| <b>Retail trade</b>           |     |       |     |      |      |      |      |       |     |      |       |      |      |      |      |
| Turnover                      | Yes | 2003* | Yes | 2003 | No   | Yes  | Yes  | No    | Yes | 2002 | Yes   | Yes  | Yes  | Yes  | 2001 |
| Number of persons             | Yes | 2003* | Yes | D    | Yes  | 2003 | Yes  | Yes   | Yes | Yes  | Yes   | Yes  | Yes  | Yes  | No   |
| Deflator                      | Yes | 2003* | Yes | Yes  | No   | ?    | Yes  | Yes   | Yes | Yes  | Yes   | Yes  | Yes  | Yes  | 2001 |
| <b>Services</b>               |     |       |     |      |      |      |      |       |     |      |       |      |      |      |      |
| Turnover                      | Yes | No*   | Yes | D    | ?    | Yes  | Yes  | Yes   | Yes | 2002 | Yes   | Yes  | Yes  | Yes  | Yes  |
| Number of persons             | Yes | 2003* | Yes | D    | ?    | 2003 | Yes  | Yes   | Yes | Yes  | No*   | Yes  | Yes  | Yes  | No   |

Yes = In accordance with common definitions

No = No date for availability in common definition

2003 = Year of availability in common definition

D = Complete derogation and/or no data available

\* = Not in accordance with required observation unit ? = No information

(NO) = Alternative leading indicator, allowed up to 2008

### 5.1. A note on national methods for working days adjustment

Another area where discussions about common approaches have recently begun is the working days adjustment methods used by Member States. A major incentive to Eurostat to look into working days adjustment was the release of the production figures for industry for the reference months of December 2000 and January 2001. The growth rates for December 2000 showed a strong increase, followed by a sharp drop in the rates for January 2001. Why?

Subsequent investigations revealed that those Member States which had used a proportional method (in contrast to those who had used a regression method) had overestimated the December figure that was characterised by fewer working days than an average December. But it was not the first time this had happened. In the past when this calendar phenomenon occurred, two times out of three a sharp increase in December was followed by a strong decline in January. See table below (similar examples could be given for some Member States).

| Euro-zone growth rates | December of indicated year | January of following year | Number of working days in December | Average Number of working days for December of last 11 years |
|------------------------|----------------------------|---------------------------|------------------------------------|--------------------------------------------------------------|
| 1990                   | 0.6%                       | 0.9%                      | 20                                 | 21.36                                                        |
| 1995                   | 1.2%                       | -1.1%                     | 20                                 |                                                              |
| 2000                   | 1.7%                       | -1.9%                     | 20                                 |                                                              |

The working days adjusted series is therefore a crucial element for certain indicators<sup>8</sup> as it forms the basis for most aggregation processes for EU15/Euro-zone figures. The Regulation demands these figures directly from National Statistical Institutes, as each Member State should know best its particularities that count in this process. However, if the general statistical approach for the correction of these effects differs too widely between Member States, the result might be an EU15/Euro-zone aggregate which lacks harmonisation. The following is an overview on how Member States approach this issue.

A fundamental choice each Member State has to make is to decide whether to use a proportional or a regression method for the working days adjustment. Here the choices differ widely. Just to take the example of the production index: five Member States use a regression method and nine a proportional method. One Member State does not make any working day adjustment.

It has to be noted, however, that in practice all Member States use different regression methods (proportional methods also differ). This starts with the choice of the software packages and probably ends with the different versions of each program. A first look reveals that some Member States take a package from the X11 family, while others opt for Tramo Seats. Some use six regressors and others two.

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<sup>8</sup> Currently the production indices in industry and construction as well as the turnover indices in retail trade and other services have to be provided on the basis of a working days adjusted presentation

## Overview over working days adjustment methods in the European Union

| Member State | Regression or Proportional | Method used                                                                                                                         |
|--------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>B</b>     | Regression                 | 1 or 2-Regression (P, C), 6 or 7-Regression (R), 2 or 7-Regression (rest) with TRAMO-SEATS (Excel Macro (R, P, C), DEMETRA (rest)). |
| <b>DK</b>    | No adjustment              |                                                                                                                                     |
| <b>D</b>     | Regression                 | Regression (P, C) with Modified X-11; 8-Regression (R, OS) with BV4 (R, OS);                                                        |
| <b>EL</b>    | Proportional               | Proportional (P, R).                                                                                                                |
| <b>E</b>     | Regression                 | 2-Regression (P)                                                                                                                    |
| <b>F</b>     | Regression                 | "1+"-Regression (P, C, R, OS)                                                                                                       |
| <b>IRL</b>   | Proportional               | Proportional (P, R) with internal CSO programs used                                                                                 |
| <b>I</b>     | Proportional               | Proportional (P)                                                                                                                    |
| <b>L</b>     | Proportional               | Proportional (P, C, R, OS)                                                                                                          |
| <b>NL</b>    | Proportional               | Proportional (P, C)                                                                                                                 |
| <b>A</b>     | Regression                 | Regression method developed by the Deutsche Bundesbank                                                                              |
| <b>P</b>     | Proportional               | Proportional (P, R)                                                                                                                 |
| <b>FIN</b>   | Both                       | Proportional (P), Regression (R, C, OS) with X-11 ARIMA (SAS)                                                                       |
| <b>S</b>     | Both                       | Proportional (P, OS), Regression (R, OS)                                                                                            |
| <b>UK</b>    | Regression                 | 7-Regression is chosen, 6 for the working days and one for the Easter effect, using X-11 ARIMA.                                     |

P Industrial Production  
R Turnover in Retail Trade  
C Production in Construction  
OS Turnover in Other Services

## Conclusions

Currently the situation concerning working day adjustment methods for raw data can only be described as lacking harmonisation. Aggregation of these non-harmonised working day adjusted data may consequently lead to serious quality problems. There is a strong case to be made for progressing towards the formulation and implementation of common general guidelines in this area.

## 6. REVISIONS

Due to late responses, further data from additional sources, corrections and other reasons, revisions are in many cases unavoidable in the area of business statistics. This chapter looks in a first section at how users are affected by revisions and in a second at the revision practices indicated by Member States.

Indicators for which Eurostat issues a press release as well as the series for production in construction are examined.

## 6.1. STS-Revisions as seen by a user

This section looks at revision rates for Euro-zone and individual Member States figures as seen by a user<sup>9</sup>.

The STS-Regulation asks Member States to transmit data for different indicators within a specific time period. Nothing, however, is mentioned in the regulation concerning revisions or any kind of common revision policy. Therefore, Member States revise according to their own timetables and traditions and some Member States do not revise at all. This lack of co-ordination leads to a situation where the EU15 and Euro-zone aggregates, which are based on Member States' information, are frequently revised.

To get a first idea of the dimensions involved here, a revision measure has been applied in the following table for the mentioned indicators covering the Member States and the Euro-zone (see footnote). The table covers the time period from January 1999 (Q1 1999) to September 2000 (Q3 2000) and measures updates and revisions of the indices. The measure (ABoR = average of the monthly sum of the balance of revisions) is basically the first estimate of an index value compared with the final estimate for the monthly index, averaged over time.

To give an example: Say that the index values for the reference month January 1998<sup>10</sup> are in subsequent weeks 101 (first observation), 105 (first revision), 100 (last revision), then ABoR would be estimated by comparing the original number 101 with the last number 100, which results equally in 1.

The table shows the situation as experienced by the ECB, as user of the data. Please note that this indicator might also include data errors, i.e. that Member States coded data wrongly, or that false figures were transmitted to Eurostat, or that a mistake was made in the data entry within Eurostat<sup>11</sup>. The table therefore shows the average "real-life" picture as experienced by a user. Note however, that most revisions are not due to these "errors", but were made for other reasons.

For industrial production and output prices, the first estimation is on average within 0.4 index points around the "final" estimate (as represented by the ABoR values). However, the first Euro-zone estimate for production in construction is on average 1.5 index points away from the final estimate.

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<sup>9</sup> Tables and graphs in Section 6.1. are taken from a presentation by the European Central Bank delivered at an international seminar on short-term statistics held in Luxembourg on 8-9 March 2001. Only editing changes have been performed. The text and the conclusions drawn, however, are fully shared by Eurostat. No EU15 aggregate information was available; however the conclusions for the Euro-zone aggregate can be considered as equally relevant for EU15

<sup>10</sup> Only one reference month is given in this example and therefore no average – as would be the case if more, additional reference values were presented - is calculated

<sup>11</sup> Several Member States have indicated that the amount of revisions could not possibly come from them as their revisions are much smaller. Other possible factors might explain divergences, such as those mentioned above

|                               |      | Industrial<br>production | Industrial<br>producer prices | Retail Trade | Production in<br>construction |
|-------------------------------|------|--------------------------|-------------------------------|--------------|-------------------------------|
| <b>Euro-zone<sup>1)</sup></b> | ABoR | 0.4                      | -0.4                          | 0.2          | 1.5                           |
| <b>B</b>                      | ABoR | 1.4                      | 0.2                           | -0.2         | 2.4                           |
| <b>D</b>                      | ABoR | 1.2                      | 0.0                           | 1.0          | 1.0                           |
| <b>EL</b>                     | ABoR | 0.1                      | 0.2                           | 3.8          | -                             |
| <b>E</b>                      | ABoR | -0.5                     | 0.0                           | -0.27        | 0.5                           |
| <b>F</b>                      | ABoR | 0.6                      | -2.2                          | 0.1          | 5.4 <sup>12</sup>             |
| <b>IRL</b>                    | ABoR | 0.4                      | 0.0                           | -3.8         | -                             |
| <b>I</b>                      | ABoR | 0.2                      | 0.0                           | -1.4         | -0.2                          |
| <b>L</b>                      | ABoR | -0.1                     | 3.5                           | 0.9          | 0.3                           |
| <b>NL</b>                     | ABoR | -0.6                     | 0.1                           | 0.1          | 0.6                           |
| <b>A</b>                      | ABoR | 0.5                      | -                             | 0.0          | 5.3                           |
| <b>P</b>                      | ABoR | 0.5                      | 0.0                           | 0.0          | -                             |
| <b>FIN</b>                    | ABoR | 0.7                      | 0.0                           | -0.8         | 2.2                           |
| <b>DK</b>                     | ABoR | 0.4                      | 0.0                           | 0.0          | 10.0                          |
| <b>S</b>                      | ABoR | 0.6                      | 0.0                           | -0.2         | -                             |
| <b>UK</b>                     | ABoR | 0.8                      | -0.1                          | 0.1          | -                             |

Source: ECB calculations based on Eurostat data.

Notes: ABoR: average of the monthly sum of the balance of revisions  
i.e. taking into account the sign of the revision.

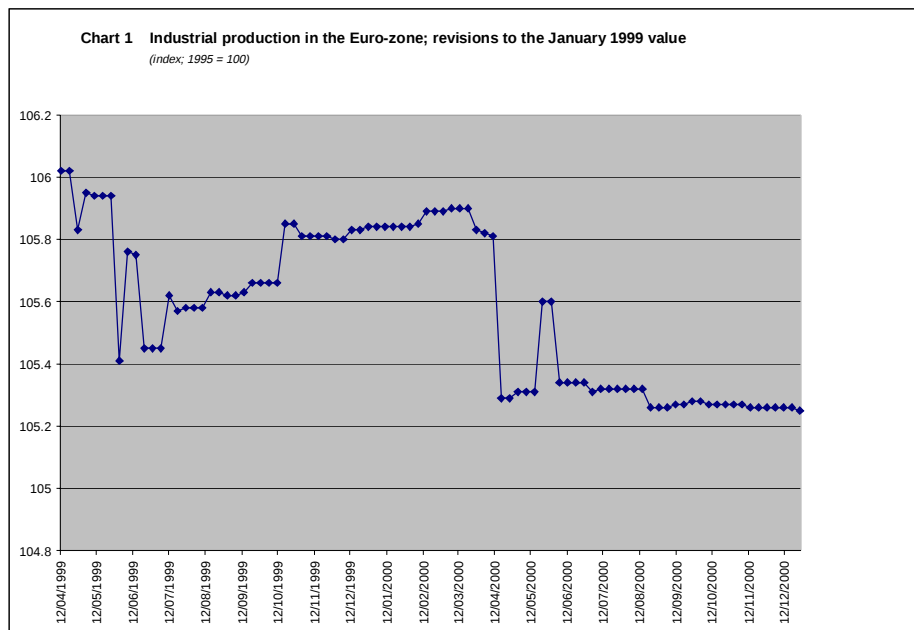
1) Excluding Greece

However, average numbers – such as those above - sometimes mask the unaveraged real life picture. But what is it for the user? The following graphs try to give an idea. One specific reference month is taken (here January 1999) and the respective index values of January 1999, which are in many cases revised each and every month, are mapped.

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<sup>12</sup> This value is known to have been due to a coding error and transmission problem. This phenomenon, which is different from pure revisions, could occur in other countries

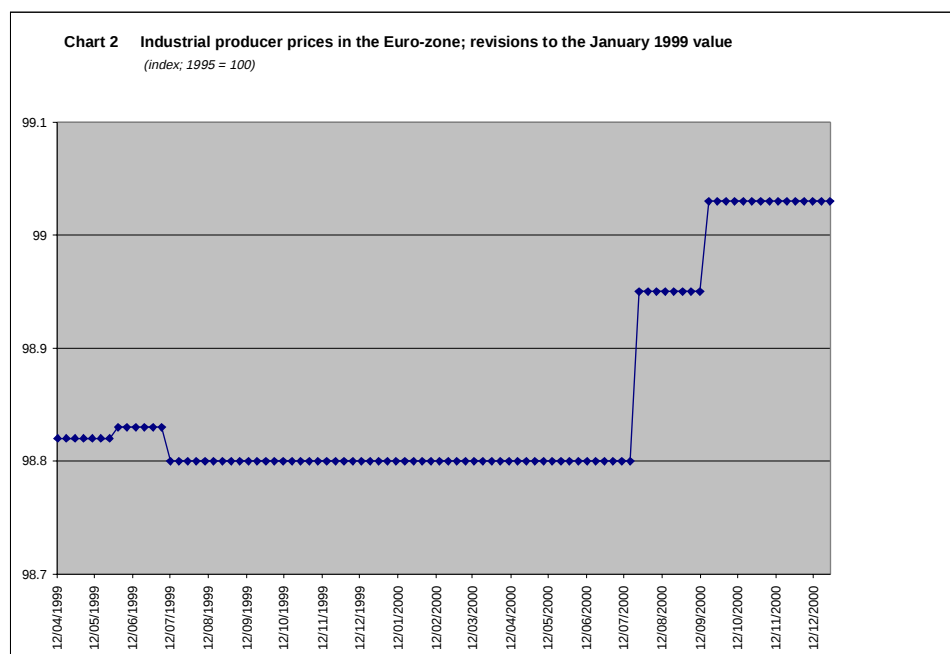
**Chart 1: Industrial production in the Euro-zone,  
revisions to the January 1999 value (1995=100)**



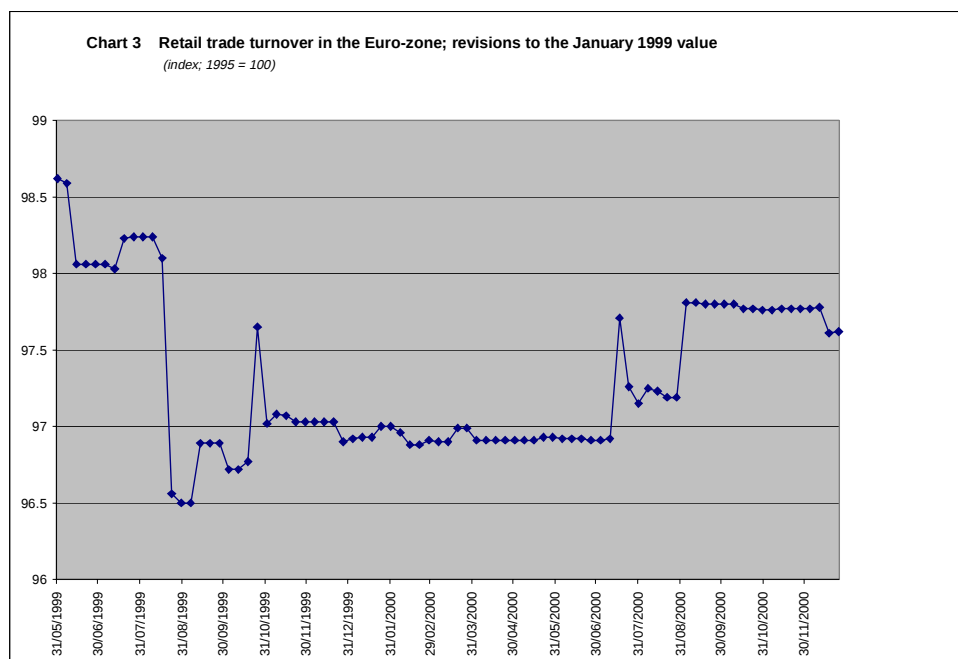
The index value for the reference month January 1999 changes practically every month, especially in the year following its first publication. Within two months after the first estimation, the Euro-zone value changes from 106 to 105.4, goes up to 105.8, only to fall to 105.3 in April 2000. Even a full year after the first Euro-zone estimation, the “facts” about the index value “January 1999” changed for users of Euro-zone data.

The following tables show the revision patterns for the industrial producer price index, the retail trade turnover index and the production in construction index respectively, all for the reference month January 1999, over time. Note that the scales are not always the same.

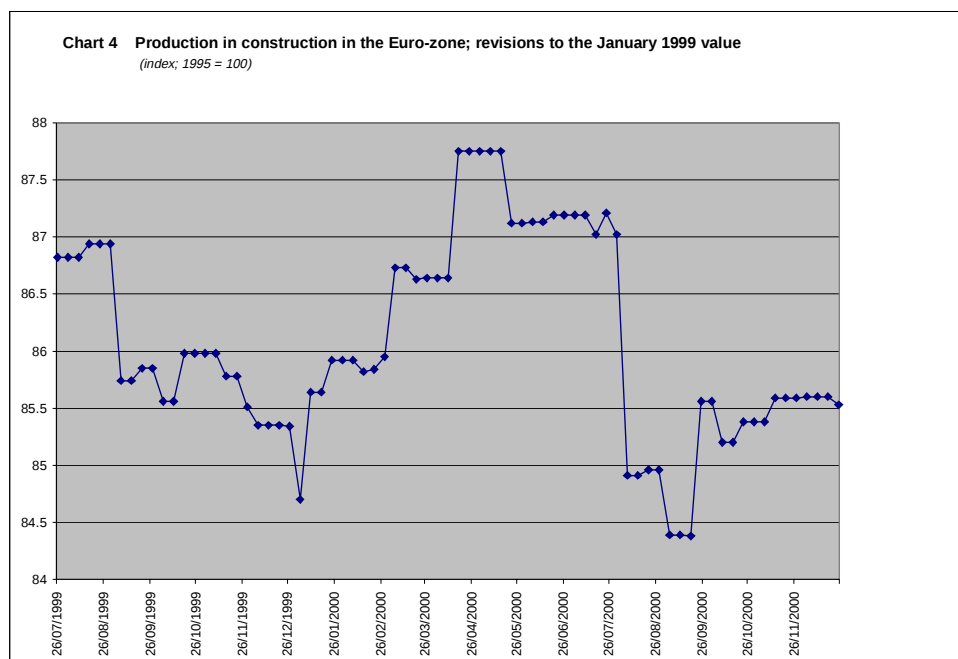
**Chart 2: Industrial producer prices in the Euro-zone,  
revisions to the January 1999 value (1995=100)**



**Chart 3: Retail trade turnover in the Euro-zone,  
revisions to the January 1999 value (1995=100)**



**Chart 4: Production in the construction in the Euro-zone,  
revisions to the January 1999 value (1995=100)**



## 6.2. Revision Practices in Member States

The following section shows the revision practices of Member States for the mentioned indicators as reported by them.

The following four issues are presented:

- Existence of revisions
- Frequency of revisions
- Source of additional information, which leads to revisions
- Existence of systematic bias

All reporting Member States made revisions for the industrial production index and the figures are revised at different frequencies and according to different timetables. Revisions come usually within one or two months after the first estimate based on additional information from monthly, quarterly and/or annual surveys. No Member States reported a bias in its first estimate (see following table).

| Industrial production index |           |                                                                                                     |                                                                                                                                                                |      |
|-----------------------------|-----------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|                             | Existence | Frequency                                                                                           | Source                                                                                                                                                         | Bias |
| <b>B</b>                    | Yes       | After one month, after three month                                                                  | From original sample                                                                                                                                           | No   |
| <b>DK</b>                   | Yes       | The following two months                                                                            | From original sample                                                                                                                                           | No   |
| <b>D</b>                    | Yes       | Once per month/ once per quarter/<br>once per year/ other periodicities                             | From original sample                                                                                                                                           | No   |
| <b>EL</b>                   | Yes       | Once per month and in March of<br>following year                                                    | Original sample                                                                                                                                                | No   |
| <b>E</b>                    | Yes       | When the definitive figures are<br>available. In the practice when next<br>two months are published | From original sample                                                                                                                                           | No   |
| <b>F</b>                    | Yes       | The following month, quarterly,<br>annual                                                           | From original sample (one month after first<br>publication) and from additional sample                                                                         | No   |
| <b>IRL</b>                  | Yes       | Once                                                                                                | From original sample                                                                                                                                           | No   |
| <b>I</b>                    | Yes       | Once                                                                                                | From original sample                                                                                                                                           | No   |
| <b>L</b>                    | Yes       | Following three months; yearly<br>revision                                                          | From original sample Estimates are corrected<br>when definitive figures are available.                                                                         | No   |
| <b>NL</b>                   | Yes       | Once a month                                                                                        | Original sample; annual National Accounts                                                                                                                      | No   |
| <b>A</b>                    | Yes       | After one month and in September<br>of year t+1                                                     | From original sample                                                                                                                                           | No   |
| <b>P</b>                    | Yes       | The following two months and the<br>annual revision in March of year<br>t+1.                        | From original sample                                                                                                                                           | No   |
| <b>FIN</b>                  | Yes       | After one month, when errors are<br>detected and annual revision.                                   | From annual index, which is calculated based<br>on structural business statistics and<br>PRODCOM statistics. The benchmarking<br>takes place at T + 18 months. | No   |
| <b>S</b>                    | Yes       | For late respondents                                                                                | From original sample                                                                                                                                           | No   |
| <b>UK</b>                   | Yes       | Once per month; for latest quarter                                                                  | From original sample, also from revisions to<br>price data and inventory changes. Revisions<br>also come from the Annual Business Inquiry                      | No   |

About half the Member States make revisions for the domestic output price index, while the others make no revisions. Revisions come usually in the months following the publication of the index and sometimes within the frame of an annual revision. Additional information comes from the original sample and no reporting Member States had observed a systematic bias in its first estimate.

| Domestic output price index |           |                                                                                               |                                                                                      |      |
|-----------------------------|-----------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------|
|                             | Existence | Frequency                                                                                     | Source                                                                               | Bias |
| <b>B</b>                    | No        | -                                                                                             | -                                                                                    | n.a. |
| <b>DK</b>                   | No        | -                                                                                             | -                                                                                    | -    |
| <b>D</b>                    | No        | -                                                                                             | -                                                                                    | -    |
| <b>EL</b>                   | No        | -                                                                                             | -                                                                                    | -    |
| <b>E</b>                    | Yes       | When the definitive figures are available. In the practice when next two months are published | From original sample                                                                 | No   |
| <b>EL</b>                   | No        | -                                                                                             | -                                                                                    | -    |
| <b>F</b>                    | Yes       | The following months                                                                          | From original sample                                                                 | No   |
| <b>IRL</b>                  | No        | -                                                                                             | -                                                                                    | -    |
| <b>I</b>                    | Yes       | Once per month                                                                                | From original sample                                                                 | No   |
| <b>L</b>                    | Yes       | The following three months. Yearly revision some months after end of year                     | From original sample, Estimates are corrected when definitive figures are available. | No   |
| <b>NL</b>                   | Yes       | For up to 6 months                                                                            | From original sample                                                                 | No   |
| <b>A</b>                    | Yes       | After one month and in September of year t+1                                                  | STS Sample (PRODCOM data)<br>Wholesale price index                                   | No   |
| <b>P</b>                    | Yes       | Each month revised twice; annual revision March of year t+1. However, index is rarely revised | From the original sample                                                             | No   |
| <b>FIN</b>                  | No        | -                                                                                             | -                                                                                    | -    |
| <b>S</b>                    | No        | -                                                                                             | -                                                                                    | -    |
| <b>UK</b>                   | Yes       | Can be revised for 3 months after first publication. Revisions unusual after that             | From original sample                                                                 | No   |

Ten Member States revise their retail sales index, while four do not (no information from one Member State). Common revision frequencies are shortly after the first release or once per month. Additional information comes usually from the original sample and none of the reporting Member States had observed a systematic bias in its first estimate.

| Retail Sales Index |           |                                                               |                                                               |      |
|--------------------|-----------|---------------------------------------------------------------|---------------------------------------------------------------|------|
|                    | Existence | Frequency                                                     | Source                                                        | Bias |
| <b>B</b>           | n.a.      | n.a.                                                          | n.a.                                                          | n.a. |
| <b>DK</b>          | Yes       | One time 14 days after the first release                      | From original sample                                          | No   |
| <b>D</b>           | Yes       | Once per month                                                | From original sample                                          | No   |
| <b>EL</b>          | No        | -                                                             | -                                                             | -    |
| <b>E</b>           | Yes       | Twice per month                                               | From original sample                                          | No   |
| <b>F</b>           | Yes       | Each month revised twice and an annual revision in summer t+1 | From original sample                                          | No   |
| <b>IRL</b>         | Yes       | Once                                                          | From original sample                                          | No   |
| <b>I</b>           | No        | -                                                             | -                                                             | No   |
| <b>L</b>           | Yes       | Once per month                                                | From original sample                                          | No   |
| <b>NL</b>          | Yes       | Once per month                                                | From original sample                                          | No   |
| <b>A</b>           | No        | -                                                             | -                                                             | -    |
| <b>P</b>           | Yes       | Each month revised twice and the annual revision every March  | From original sample                                          | No   |
| <b>FIN</b>         | Yes       | Monthly for up to six months as the VAT data accumulates      | First release based on survey. Later also administrative data | No   |
| <b>S</b>           | No        | -                                                             | -                                                             | -    |
| <b>UK</b>          | Yes       | Monthly for 2nd & 3rd estimate                                | From original sample                                          | No   |

Available information for the production in construction index shows that most Member States make revisions for this index, with the exception of Italy. Revisions are common after one month and after one quarter. Some Member States make an annual revision as well. Additional information comes mostly from the original sample and from other sources such as updated administrative registers, annual Prodcom surveys and Quarterly Accounts data. None of the reporting Member States had observed a systematic bias in its first estimate.

| Production in Construction Index |            |                                                                          |                                                                                      |            |
|----------------------------------|------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------|
|                                  | Existence  | Frequency                                                                | Source                                                                               | Bias       |
| <b>B</b>                         | Yes        | After one month, after three month                                       | From original sample                                                                 | No         |
| <b>DK</b>                        | Yes        | Once per quarter                                                         | Administrative register; quarterly due to gradually updated register                 | Not known  |
| <b>D</b>                         | Yes        | Once per month and once per year                                         | From original sample                                                                 | No         |
| <b>EL</b>                        | Derogation | Derogation                                                               | Derogation                                                                           | Derogation |
| <b>E</b>                         | Yes        | Once per quarter                                                         | From original sample                                                                 | No         |
| <b>F</b>                         | Yes        | The following month, quarterly, annual                                   | From original sample (one month after first publication) and from additional sample  | No         |
| <b>F</b>                         | Yes        | Once per quarter                                                         | From original sample                                                                 | No         |
| <b>IRL</b>                       | Derogation | Derogation                                                               | Derogation                                                                           | Derogation |
| <b>I</b>                         | No         | -                                                                        | -                                                                                    | -          |
| <b>L</b>                         | Yes        | Following 3 months. Yearly some months after end of year                 | From original sample, Estimates are corrected when definitive figures are available. | No         |
| <b>NL</b>                        | Yes        | Once per quarter due to the regular Quarterly Accounts; Annual           | From original sample; Alignment with Quarterly Accounts and production statistics    | No         |
| <b>A</b>                         | Yes        | After one month and in September of year t+1                             | From original sample                                                                 | No         |
| <b>P</b>                         | Derogation | Derogation                                                               | Derogation                                                                           | Derogation |
| <b>FIN</b>                       | Yes        | For up to 6 months, due to administrative data and revisions of deflator | Accumulation and changes in administrative registers.                                | No         |
| <b>S</b>                         | Derogation | Derogation                                                               | Derogation                                                                           | Derogation |
| <b>UK</b>                        | Yes        | Once                                                                     | From original sample                                                                 | No         |

## Conclusions

Revision practices are not harmonised between Member States. This leads to significant problems for the users of the indicators. The evidence presented here supports strongly the case for additional steps towards a common revision policy.

## 7. SELECTED SAMPLING CHARACTERISTICS

Sampling characteristics influence the quality of economic business indicators. Consequently, a new meta-database, STS-Sources, has been established in order to collect the overall sampling designs of various indicators. But some essential points, such as the treatment of enterprises (units) which have disappeared, the treatment of non-responses, the weighted and unweighted coverage rate of the sample when compared to the overall population of enterprises (units) as well as eventual size classes are mostly missing in this database. Therefore, this chapter looks at the following issues in more detail:

- Treatment of disappearing enterprises (units)

- Treatment of missing answers
- Sample coverage compared to overall population in %
- Weighted coverage rate compared to overall population in %
- Size classes

The following chapter looks at the results for indicators for which Eurostat issues a press release as well as for production in construction.

### **7.1. Treatment of disappearing enterprises (units)**

Most Member States replace disappearing enterprises (units) for their key business cycle indicators. There are only a few exceptions such as Greece, Luxembourg (which add only new enterprises), the Netherlands and Sweden in industrial production and Luxembourg for turnover in retail sales. Some Member States, however, perform their replacement less than once every year.

### **7.2. Treatment of non-respondents or missing answers**

Non-respondents or missing answers are estimated in some form in all responding Member States, but different methods are used for the estimation. This can be seen in industrial production, where the value of the previous month is taken (Germany), the estimation is based on information from the previous month (Austria, Portugal), the growth rates of the known averages are used (Denmark, Italy, the Netherlands and UK) or the cases are studied individually (Spain). Greece takes the value of one year previously, modified by the past evolution of the index, and Finland estimates the missing data only if it is essential to do so. The other Member States did not specify their method of estimation.

### **7.3. Sample coverage compared to overall population in %**

When looking at the unweighted<sup>13</sup> share of the sample when compared with the overall population of enterprises (units) in %, the differences between Member States and between indicators are striking. However it is not yet possible to draw conclusions. The comparability of this type of statistics on quality must be ensured before they are compared.

### **7.4. Weighted coverage rate compared to overall population in %**

A similar picture emerges when looking at the weighted shares. The sample size, when compared to the overall population, on a weighted basis ranges from a little over 60% (in Denmark and UK) to 90% or higher (in Spain, Ireland, Luxembourg, the Netherlands, Austria and Portugal) for industrial production. For output prices the share varies between 10-30% (in Sweden) and over 90% (in Spain). The few Member States which report in the construction sector indicated that their share was between 35% (the Netherlands) and 100% (France), while the coverage for retail trade was between 20% (Ireland, Italy) and 100% (France).

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<sup>13</sup> Which gives each enterprise (unit) the same weight, regardless of size

## 7.5. Size classes

A clear majority of Member States report that they use size classes, which usually spare small enterprises the burden of response. This was generally the case for all indicators except retail sales turnover, where Spain, France, Italy, Luxembourg, the Netherlands, Austria, Sweden and UK reported that they apply no size classes.

The following tables give more detailed information.

| Indicator: Industrial production |                                               |                                                    |                                            |                                              |                                  |
|----------------------------------|-----------------------------------------------|----------------------------------------------------|--------------------------------------------|----------------------------------------------|----------------------------------|
|                                  | Treatment of disappearing enterprises (units) | Treatment of missing answers                       | Sample coverage in % of overall population | Weighted coverage in % of overall population | Size class                       |
| <b>B</b>                         | n.a.                                          | n.a.                                               | n.a.                                       | n.a.                                         | n.a.                             |
| <b>DK</b>                        | Additional enterprises included               | Growth rates of known average assumed              | 10% for total; 41% for over 19 employees   | 63% for total; 74% for over 19 employees     | 19 employees                     |
| <b>D</b>                         | Annual replacement                            | Value of previous month is taken                   | 30%                                        | 78%                                          | No                               |
| <b>EL</b>                        | No replacement                                | Year ago value modified by past evolution of index | 35%                                        | 80%                                          | At least 10 employees            |
| <b>E</b>                         | Replaced with another similar unit            | Estimation, cases are individually studied         | n.a.                                       | 90%                                          | At least 20 employed             |
| <b>F</b>                         | Annual replacement                            | Estimation                                         | n.a.                                       | 83%                                          | Generally more than 20 employees |
| <b>IRL</b>                       | New units are introduced                      | Estimation                                         | n.a.                                       | 90%                                          | At least 20 employed             |
| <b>I</b>                         | Replaced by similar enterprises               | Estimation based on known average and trend        | 25%                                        | 70%                                          | Generally more than 20 employees |
| <b>L</b>                         | No replacement; new units are introduced      | Estimation and later replaced by authentic value   | 27%                                        | 97%                                          | No                               |
| <b>NL</b>                        | No                                            | Estimation based on known values                   | 100% of enterp. > 20 employees             | 90%                                          | At least 20 employed             |
| <b>A</b>                         | Replaced based on different sources           | Estimation based on previous month information     | 25%                                        | 90%                                          | Normally at least 20 employed    |
| <b>P</b>                         | Replacement                                   | Estimation based on latest known estimation        | 25%                                        | 90%                                          | No                               |
| <b>FIN</b>                       | Replacement once a year                       | Estimation if missing data is significant          | 4.6%                                       | 80%                                          | At least 20 employed             |
| <b>S</b>                         | Annual replacement                            | Estimation                                         | 30%                                        | 75% of employees                             | At least 10 employed             |
| <b>UK</b>                        | Replacement                                   | Estimation based on known answers                  | n.a.                                       | 65%                                          | No                               |

| Indicator: Domestic Output prices |                                                                     |                                                                                                                  |                                               |                                               |                                                          |
|-----------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------------------|
|                                   | Treatment of disappearing enterprises (units)                       | Treatment of missing answers                                                                                     | Sample coverage in % of overall population    | Weighted coverage in % of overall population  | Size class                                               |
| <b>B</b>                          | n.a.                                                                | n.a.                                                                                                             | n.a.                                          | n.a.                                          | n.a.                                                     |
| <b>DK</b>                         | Inclusion of additional units in survey                             | Response rate at 99.5%, missing info regarded as unchanged                                                       | 5% for total, 25% for over 19 employees       | 42% for total, 49% for over 19 employees      | 20 Mio. DKK and 19 employees                             |
| <b>D</b>                          | Immediate replacement; if impossible extrapolation                  | Immediate contact to get answer or replacement product; if impossible same procedure like with disappearing unit | No precise answer possible, but high coverage | No precise answer possible, but high coverage | No enterprises with less than 20 employees               |
| <b>EL</b>                         | Replaced by enterprises with same products                          | Price of previous month used                                                                                     | n.a.                                          | 70%                                           | No enterprise with less than 20 employees                |
| <b>E</b>                          | replaced                                                            | Estimation from units, which send data                                                                           | n.a.                                          | 92.7% of 1990 weight                          | Normally, units with less than 20 employees not surveyed |
| <b>F</b>                          | Every five years                                                    | Estimation                                                                                                       | n.a.                                          | 86.7%                                         | No, some exceptions (shoes,...)                          |
| <b>IRL</b>                        | Renewed annually; earlier replacement when coverage falls below 40% | Missing data treated as unchanged data                                                                           | 19%                                           | 40%                                           | At least 3 employees                                     |
| <b>I</b>                          | Replaced                                                            | Estimation by using data from previous month; These estimations are used until enterprise is replaced            | 1%                                            | n.a.                                          | No                                                       |
| <b>L</b>                          | Replaced when base year is changed                                  | Estimation based on previous data                                                                                | 17%                                           | 90%                                           | No                                                       |
| <b>NL</b>                         | Another enterprise from original sample is selected                 | Estimation by taking into account rate of higher aggregate                                                       | 51%                                           | 80%                                           | At least 20 persons employed                             |
| <b>A</b>                          | Replaced based on different sources                                 | Extrapolation of preceding month                                                                                 | 25%                                           | 90%                                           | Normally at least 20 employed                            |
| <b>P</b>                          | Replacement                                                         | Estimation based on information from previous month                                                              | 30%                                           | No precise answer, but high coverage          | No                                                       |
| <b>FIN</b>                        | Replacement                                                         | Estimation based on previous month information                                                                   | n.a.                                          | n.a.                                          | At least 5 persons employed                              |
| <b>S</b>                          | Not during the year                                                 | Estimation based on information from previous month                                                              | Only some %                                   | 10-30%                                        | At least 20 persons employed                             |
| <b>UK</b>                         | Replacement                                                         | Estimation based on known answers                                                                                | n.a.                                          | n.a.                                          | No                                                       |

| Indicator: Production in Construction |                                                              |                                                                                     |                                                                                               |                                                                             |                                                                                                                            |
|---------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|                                       | Treatment of disappearing enterprises (units)                | Treatment of missing answers                                                        | Sample coverage in % of overall population                                                    | Weighted coverage in % of overall population                                | Size class                                                                                                                 |
| <b>B</b>                              | n.a.                                                         | n.a.                                                                                | n.a.                                                                                          | n.a.                                                                        | n.a.                                                                                                                       |
| <b>DK</b>                             | n.a.                                                         | n.a.                                                                                | n.a.                                                                                          | n.a.                                                                        | n.a.                                                                                                                       |
| <b>D</b>                              | Annual replacement                                           | Growth rates of known average assumed                                               | 15%                                                                                           | 63%                                                                         | No                                                                                                                         |
| <b>EL</b>                             | Derogation                                                   | Derogation                                                                          | Derogation                                                                                    | Derogation                                                                  | Derogation                                                                                                                 |
| <b>E</b>                              | Other enterprises selected with same size in same region     | Cases are studied individually with an estimation based on the previous information | 100% for enterprises with 100 employees or more and 2% for those with less than 100 employees | 100% for enterprises with 100 employees and 2% for those with less than 100 | Enterprises without persons employed are not surveyed                                                                      |
| <b>F</b>                              | Monthly data do not take disappearing units into account     | Growth rates of known average assumed                                               | 35% of building and 29% of civil engineering                                                  | 100%                                                                        | Less than 10 employees are not sampled for building and all sampled for civil engineering                                  |
| <b>IRL</b>                            | Derogation                                                   | Derogation                                                                          | Derogation                                                                                    | Derogation                                                                  | Derogation                                                                                                                 |
| <b>I</b>                              | Administrative source                                        |                                                                                     |                                                                                               |                                                                             |                                                                                                                            |
| <b>L</b>                              | Replaced when base year is changed                           | Estimation based on previous values                                                 | 12%, but all enterprises included with more than 20 persons                                   | 56%                                                                         | Over 20 persons all enterprises included                                                                                   |
| <b>NL</b>                             | Replaced by enterprise of same size class in following month | Try to get data from other sources or use averages of higher aggregate              | 2%                                                                                            | 35%                                                                         | At least 10 employees for sample; data for less than 10 is taken from VAT                                                  |
| <b>A</b>                              | Replaced based on different sources                          | Estimation based on previous month information                                      | 27%                                                                                           | 78%                                                                         | Normally at least 20 persons employed, less only in case of insufficient sector coverage, but at least 10 persons employed |
| <b>P</b>                              | Derogation                                                   | Derogation                                                                          | Derogation                                                                                    | Derogation                                                                  | Derogation                                                                                                                 |
| <b>FIN</b>                            | n.a.                                                         | n.a.                                                                                | 0.9%                                                                                          | n.a.                                                                        | Only the largest construction companies are directly surveyed.                                                             |
| <b>S</b>                              | Derogation                                                   | Derogation                                                                          | Derogation                                                                                    | Derogation                                                                  | Derogation                                                                                                                 |
| <b>UK</b>                             | Rotational sampling                                          | Estimation based on known answers                                                   | 7.3%                                                                                          | n.a.                                                                        | No enterprises, which do not have VAT register                                                                             |

| Indicator: Turnover in Retail Sales |                                                                        |                                                                                         |                                            |                                              |                                                              |
|-------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------|--------------------------------------------------------------|
|                                     | Treatment of disappearing enterprises (units)                          | Treatment of missing answers                                                            | Sample coverage in % of overall population | Weighted coverage in % of overall population | Size class                                                   |
| <b>B</b>                            | n.a.                                                                   | n.a.                                                                                    | n.a.                                       | n.a.                                         | n.a.                                                         |
| <b>DK</b>                           | replacement every 3 <sup>rd</sup> year; 2002 from supplementary sample | Almost all reply                                                                        | 28%                                        | 70%                                          | Only over 2,5 Mio. DKK included                              |
| <b>D</b>                            | New units                                                              | All reply                                                                               | 7%                                         | 75%                                          | No enterprises with less than 500 000 DM annual turnover     |
| <b>EL</b>                           | Replaced by other enterprises                                          | Turnover of previous month and year on year percentage change                           | 4%                                         | n.a.                                         | Over 15 Mio. Drachmas in cities with over 10.000 inhabitants |
| <b>E</b>                            | Old sample no replacement, new sample replacement                      | Currently no treatment, but changes with new sample                                     | 0.55% in old and 2.22% in new sample       | n.a.                                         | No                                                           |
| <b>F</b>                            | Annual replacement                                                     | Estimates based on year earlier data                                                    | 24.7%                                      | 100%                                         | No                                                           |
| <b>IRL</b>                          | Supplementary panel used                                               | Not used in calculation                                                                 | 6%                                         | 20%                                          | 4 size classes used                                          |
| <b>I</b>                            | Replaced with similar units from same stratum                          | Estimation on bases of mean values observed by other enterprises                        | 0.7%                                       | 20%                                          | No                                                           |
| <b>L</b>                            | No replacement                                                         | Estimation                                                                              | 75%                                        | 95%                                          | No                                                           |
| <b>NL</b>                           | Replaced monthly                                                       | Estimation                                                                              | 10%                                        | 70%                                          | No                                                           |
| <b>A</b>                            | Replaced if possible                                                   | Estimation by using the value of previous month and stratum specified percentage change | 8%                                         | 70%                                          | No                                                           |
| <b>P</b>                            | Replacement                                                            | Estimation by using the value of previous month                                         | 15%                                        | 75%                                          | At least 2 persons employed, usage of 7 size classes.        |
| <b>FIN</b>                          | Replacement during the year                                            | No treatment                                                                            | 1.3%                                       | 68%                                          | Largest industries covered, threshold varies                 |
| <b>S</b>                            | Only large enterprises replaced                                        | Estimation based on average value of strata                                             | 6%                                         | 80%                                          | No                                                           |
| <b>UK</b>                           | n.a.                                                                   | n.a.                                                                                    | n.a.                                       | 68%                                          | No                                                           |

## Conclusions

For their surveys Member States use various methods for replacing enterprises (units) which have disappeared and for estimating missing answers. The unweighted and weighted sample coverage compared to the overall population in % differs widely between Member States. Most but not all Member States use size classes for different indicators. Questions arising from sampling characteristics should be studied further in order to seek common approaches.

## **8. SOURCES OF POTENTIAL NON-SAMPLING ERRORS**

In order to detect and eliminate potential non-sampling errors, it is helpful to observe their possible sources and measure the results of this exercise. The following chapter looks whether or not this is done in Member States and its available results.

Member States were asked to indicate three items, which are in this chapter identified as potential non-sampling errors:

- Their unweighted non-response rate for an indicator (giving each enterprise {unit} the same weight)
- Their weighted non-response rate (applying a relevant weighting factor to each enterprise {unit})
- Other possible errors in the collection, processing and tabulation or in the transmission of data to Eurostat

The following chapter looks at the results for indicators for which Eurostat issues a press release as well as for production in construction.

### **8.1. Industrial production and output prices**

For the industrial production survey, the unweighted non-response rate of all enterprises which have been canvassed by Member States is between 1% and 5% in the first published estimate in Finland, Spain and Austria on the low end, but 15% in Italy (first estimation) and Luxembourg and up to slightly over 20% in Portugal and Sweden.

The weighted non-response rate, which gives a greater weight to bigger enterprises than to smaller ones, is between 1% and 3% in Finland and about 4% in the Netherlands and Austria, while the rate is around 10% in Sweden, rising to 15% - 20% for France (for direct surveys).

The only Member State which measures other possible non-sampling errors is Portugal, which checks revisions. No results of this action were available.

For the output price survey the unweighted non-response rate is 5% or less in Denmark as well as in Spain, Ireland, Luxembourg and Sweden, while UK has a non-response rate of 18% for the first estimation (which subsequently falls to 5% in the following months), and Italy records 30% non-response (which falls to 15% for the second estimate).

Only two reporting Member States measure the weighted non-response rate: the Netherlands (30% for the first estimation and 4% for the final number) and France, whereby no result is available for the latter.

For the other possible non-sampling errors, measurements were made for Italy, which checked quality adjustments and large price deviations, Portugal, which looked into the levels of revisions and Finland, which investigated large price changes. No results of these checks were available.

|            | Industrial production                                    |                                                                          |                                      | Output prices                                                                 |                                                  |                                                        |
|------------|----------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|
|            | Non response rate in %                                   | Weighted non response rate in %                                          | Measurement of other possible errors | Non response rate in %                                                        | Weighted non response rate in %                  | Measurement of other possible errors                   |
| <b>B</b>   | n.a.                                                     | n.a.                                                                     | n.a.                                 | n.a.                                                                          | n.a.                                             | n.a.                                                   |
| <b>DK</b>  | 3% for first estimation, falls to 0 in subsequent months | Not measured                                                             | Not measured                         | 0.5%                                                                          | Not measured                                     | Not measured                                           |
| <b>D</b>   | Not measured                                             | Below 10% in most of the data (observations available from 1999 onwards) | Not measured                         | Not measured                                                                  | Not measured                                     | Not measured                                           |
| <b>EL</b>  | Not measured                                             | Not measured                                                             | Not measured                         | Not measured                                                                  | Not measured                                     | Not measured                                           |
| <b>E</b>   | 5% for first estimation                                  | Not measured                                                             | Not measured                         | 3%                                                                            | Not measured                                     | Not measured                                           |
| <b>F</b>   | Not measured                                             | 15 to 20% for direct surveys, second estimate 5 to 10%                   | Not measured                         | Not measured                                                                  | Measured, but no results available               | Not measured                                           |
| <b>IRL</b> | Not yet measured                                         | Under 10%                                                                | Not measured                         | 2%                                                                            | Not measured                                     | Not measured                                           |
| <b>I</b>   | 15% for first estimation and 10% for second              | 8% for first estimation and 4% for second                                | Not measured                         | 30% for first estimation and 15% for second                                   | Not measured                                     | Quality adjustments and large price deviations checked |
| <b>L</b>   | 15%                                                      | 5% to 10%                                                                | Not measured                         | Less than 5%                                                                  | Not measured                                     | Not measured                                           |
| <b>NL</b>  | 8.5%                                                     | 4%                                                                       | Not measured                         | Not measured                                                                  | 30% for first estimation and 4% for final number | Not measured                                           |
| <b>A</b>   | 5%                                                       | 4%                                                                       | Not measured                         | 5%                                                                            | 4%                                               | Not measured                                           |
| <b>P</b>   | 23%                                                      | 5% to 10%                                                                | Levels of revisions checked          | Measured, but results not available                                           | Not measured                                     | Levels of revisions checked                            |
| <b>FIN</b> | 1% for first estimate, 0 in following estimate           | 1 to 3% in first estimate, around 0 for final estimate                   | Not measured                         | 7%                                                                            | Not measured                                     | Large price changes are checked                        |
| <b>S</b>   | 20 to 22%                                                | 9 to 10%                                                                 | Not measured                         | 2 to 5%                                                                       | Not measured                                     | Not measured                                           |
| <b>UK</b>  | Not measured, survey is statutory                        | Not measured, survey is statutory                                        | n.a.                                 | 18% for first estimation and 5% for following estimation, survey is statutory | n.a.                                             | n.a.                                                   |

## 8.2. Production in construction and retail trade

For the production in construction survey, non-response rates are clearly higher than for any other indicator. At the lower end are the non-response rates in Austria (5%)

and Luxembourg (15%), while Spain (45% for large and 30% for small enterprises), UK (35% for first estimate) and the Netherlands (40-50% for first estimate and 20% for the final number) topped the table. Only six Member States could provide answers for this question.

The little information available for the weighted non-response rate showed Austria (with 5%) again at the lower end, while Finland records 15-25% weighted non-response rate and Spain 20% for large enterprises. No information was available from other Member States.

No Member State reported a check of other possible non-sampling errors, except Finland, which checks the VAT source concerning data coverage. No result of this exercise was available.

The non-response rates for the volume of retail trade index fall between 6% and 10% in Austria and Denmark. Higher non-response rates were reported from France (15-20% for the first estimation), Sweden (18-22%), Finland (18.9% in first estimation) and Portugal (25% to 30%). Italy had a non-response rate of 45%.

The weighted non-response rate was about 1% in Denmark, 5% and 8% in Austria and Italy respectively and between 7-10% in Sweden. The rate was 7.3% in Finland for the first estimation (while dropping to 1.6% in the following month) and 10% to 15% in Portugal.

No Member State reported additional measurements of other non-sampling errors, except Austria which checks the standard error and Portugal which looks at the levels of revisions. No results of these checks were available.

|            | Production in Construction                             |                                         |                                         | Volume of Retail Trade index                                                                                              |                                                                                                                          |                                      |
|------------|--------------------------------------------------------|-----------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|            | Non response rate in %                                 | Weighted non response rate in %         | Measurement of other possible errors    | Non response rate in %                                                                                                    | Weighted non response rate in %                                                                                          | Measurement of other possible errors |
| <b>B</b>   | n.a.                                                   | n.a.                                    | n.a.                                    | n.a.                                                                                                                      | n.a.                                                                                                                     | n.a.                                 |
| <b>DK</b>  | Administrative source                                  | Administrative source                   | Not measured                            | 10%                                                                                                                       | 1%                                                                                                                       | Not measured                         |
| <b>D</b>   | Not measured                                           | Not measured                            | Not measured                            | Not measured                                                                                                              | Not measured                                                                                                             | Not measured                         |
| <b>EL</b>  | Derogation                                             | Derogation                              | Derogation                              | Not measured                                                                                                              | Not measured                                                                                                             | Not measured                         |
| <b>E</b>   | 45% for large enterprises, 30% for small               | 20% for large enterprises, 4% for small | Not measured                            | Not measured                                                                                                              | Not measured                                                                                                             | n.a.                                 |
| <b>F</b>   | Not measured                                           | Not measured                            | Not measured                            | 15 to 20% for first estimation, and 5% to 10% for following months                                                        | Not measured, but smaller than unweighted non-response rate                                                              | Not measured                         |
| <b>IRL</b> | Derogation                                             | Derogation                              | Derogation                              | Measured, but no results available                                                                                        | Not measured                                                                                                             | n.a.                                 |
| <b>I</b>   | Administrative source                                  | Administrative source                   | Not measured                            | 45%                                                                                                                       | 8%                                                                                                                       | n.a.                                 |
| <b>L</b>   | 15%                                                    | Not measured                            | Not measured                            | Not measured                                                                                                              | Not measured                                                                                                             | Not measured                         |
| <b>NL</b>  | 40 to 50% for first estimation, 20% for final number   | n.a.                                    | n.a.                                    | Not measured                                                                                                              | Between 10 and 15%                                                                                                       | Not measured                         |
| <b>A</b>   | 5%                                                     | 5%                                      | Not measured                            | 6%                                                                                                                        | 5%                                                                                                                       | Standard error is calculated         |
| <b>P</b>   | Derogation                                             | Derogation                              | Derogation                              | 25% to 30%                                                                                                                | 10% to 15%                                                                                                               | Levels of revisions checked          |
| <b>FIN</b> | 18 to 24%                                              | 15 to 25%                               | VAT source is checked for data coverage | Falls from 18.9% for first estimation to 7.6% for second and 6.1% for third to 0% for final estimation (after six months) | Falls from 7.3% for first estimation to 1.6% for second and 0.7% for third to 0% for final estimation (after six months) | Not measured                         |
| <b>S</b>   | Derogation                                             | Derogation                              | Derogation                              | 18 to 22%                                                                                                                 | 7 and 10%                                                                                                                | Not measured                         |
| <b>UK</b>  | 35% for first estimation falls to 30% for final number | Not measured                            | Not measured                            | Not measured                                                                                                              | Not measured                                                                                                             | Not measured                         |

## Conclusions

A slight majority of Member States measures the weighted and unweighted response rate of their samples, but only a very small minority looks at other possible errors in the process of data collection, processing or transmission to Eurostat. These errors are therefore not recorded and can consequently not be reduced systematically.

## **9. STATISTICAL BURDEN ON BUSINESS**

The need for fast and reliable statistics demands the co-operation and help of the business community. Without their contribution, these statistics would be impossible to compile. This chapter tries to give an assessment of the statistical burden on business and looks at what Member States are doing in order to spare small enterprises as much as possible from this burden.

### **9.1. Number of enterprises (units) surveyed for key indicators**

The following table shows the number of enterprises asked per month for those indicators on which Eurostat issues a press release as well as for the indicator production in construction.

For the industrial production index, “large” Member States ask between 8 000 and 15 000 enterprises per month, while “small” Member States tend to survey between 1 000 and 2 500. The two exceptions are Luxembourg, which - given its small size – asks only about 185 enterprises and Austria, which, despite being a “small” Member State, asks 6 800 enterprises, slightly more than the larger Netherlands and 800 more than France.

Only a limited amount of data is available for the production in construction indicator. However according to the available information, Germany (12 500), France (9 200) and UK (12 000) are the Member States surveying the most enterprises. Austria surveys 5 000 enterprises, and the Netherlands about 1 600.

For output prices in industry, “larger” Member States tend to demand information from between 3 600 and 13 000 enterprises, with Italy (3 680) and UK (3 000) at the lower end of the range and Spain (7 000) and Germany (13 000) at the top. “Smaller” Member States tend to ask less than 1 000 enterprises per month.

For the volume index of retail trade, UK, the Member State with the shortest delay in the provision of this indicator, surveys 5 000 enterprises. UK is at the lower end of the “larger” Member States as France (6 000)<sup>14</sup>, Italy (7 300), Spain (11 445) and Germany (24 000) request information from significantly more enterprises. Austria and Sweden survey around 3 500 businesses, while Greece and Ireland ask roughly 2 000. Denmark (750) and Finland (330) demand information from less than 1 000.

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<sup>14</sup> plus 42 000 from administrative sources

|            | Industrial production                                 | Production in construction                                 | Output prices in industry                             | Retail sales index                                    |
|------------|-------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
|            | Number of enterprises asked per month/other frequency | Number of enterprises asked per month/other frequency      | Number of enterprises asked per month/other frequency | Number of enterprises asked per month/other frequency |
| <b>B</b>   | n.a.                                                  | n.a.                                                       | n.a.                                                  | n.a.                                                  |
| <b>DK</b>  | 1.300                                                 | Administrative source                                      | 750                                                   | 750                                                   |
| <b>D</b>   | 15.000                                                | 12.500                                                     | 13.000                                                | 24.000                                                |
| <b>EL</b>  | 2.441                                                 | Derogation                                                 | 970                                                   | 2.185                                                 |
| <b>E</b>   | 10.000                                                | 3 000                                                      | 7.000                                                 | 11.445                                                |
| <b>F</b>   | 6.000                                                 | 9.200                                                      | 4.500                                                 | 6.000 (additional 42.000 from administrative source)  |
| <b>IRL</b> | 2.000                                                 | Derogation                                                 | 800                                                   | 2.000                                                 |
| <b>I</b>   | 8.000                                                 | Administrative source                                      | 3.680                                                 | 7.300                                                 |
| <b>L</b>   | 185                                                   | 180                                                        | 117                                                   | Administrative source                                 |
| <b>NL</b>  | 6.500/400 per quarter                                 | 1.600                                                      | 727 (460 half-yearly, 149 yearly)                     | 10.000                                                |
| <b>A</b>   | 6.800                                                 | 5.000                                                      | 1700                                                  | 3.600                                                 |
| <b>P</b>   | 1800 (2.500 for base year 2000)                       | Derogation (3000 for base year 2000)                       | 2500 (3600 for base year 2000)                        | 1500 (2100 for base year 2000)                        |
| <b>FIN</b> | 1.300                                                 | 200                                                        | 800                                                   | 330                                                   |
| <b>S</b>   | 2.400                                                 | Derogation                                                 | 650                                                   | 3.200                                                 |
| <b>UK</b>  | 9.000                                                 | 12.000 three quarters per year and 30.000 in final quarter | Approximately 3.000                                   | 5.000                                                 |

## 9.2. Time needed for questionnaire

This section looks at the total person/years per year needed for the business community to compile the necessary information for selected short-term statistics indicators and to fill in the questionnaires.

Eurostat asked Member States to reply to the following question for table 9.2:

How many person/years per year do all surveyed enterprises need in order to compile the necessary data and to fill in the questionnaire for the index? (If there is only one questionnaire for several indicators, try to estimate the time needed for the mentioned indicators only)

The table 9.2. reports on the sum of the time needed for all enterprises (the whole business community) for

- A: compilation of the necessary information
- B: filling in (of this information) the questionnaire
- C: handling of the questionnaires received from the Statistical Institutes

The answer should therefore comprise the sum of A+B+C. The answer was to be given in person/years per year. Member States could provide estimates.

More detailed information for those Member States, who did not follow this methodology, or wished to specify more explicitly their methodology used for providing this information, is available below, after the following table. These Member States are marked in the following table with a single asterisk (\*).

Although this question seems to be relatively straightforward, the utmost caution should be used when comparing different Member States, as the measurement may not have been done in the same way.

|            | Industrial production                   | Production in construction              | Output prices in industry               | Retail sales index                      |
|------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
|            | Person/years per year needed to fill in | Person/years per year needed to fill in | Person/years per year needed to fill in | Person/years per year needed to fill in |
| <b>B</b>   | n.a.                                    | n.a.                                    | n.a.                                    | n.a.                                    |
| <b>DK*</b> | 0.75                                    | Administrative source                   | 0.4                                     | 2.6                                     |
| <b>D*</b>  | 46                                      | 38                                      | 40                                      | 22                                      |
| <b>EL*</b> | 8                                       | Derogation                              | 3                                       | 6                                       |
| <b>E*</b>  | 16                                      | 4.6                                     | 11                                      | 36                                      |
| <b>F*</b>  | n.a.                                    | n.a.                                    | 10                                      | 6                                       |
| <b>IRL</b> | n.a.                                    | Derogation                              | n.a.                                    | n.a.                                    |
| <b>I</b>   | 16                                      | Administrative source                   | 8                                       | 11                                      |
| <b>L</b>   | 0.55                                    | 0.25                                    | 0.35                                    | 1                                       |
| <b>NL*</b> | 15                                      | 10                                      | 3                                       | 13                                      |
| <b>A</b>   | n.a.                                    | n.a.                                    | n.a.                                    | n.a.                                    |
| <b>P</b>   | 30                                      | Derogation                              | 5.6                                     | 5                                       |
| <b>FIN</b> | 5.1                                     | 0.3                                     | 3.2                                     | 0.5                                     |
| <b>S*</b>  | 5                                       | Derogation                              | 2                                       | 6                                       |
| <b>UK</b>  | 15                                      | 44                                      | 2                                       | 8                                       |

\* For Member States marked with a \*, see more detailed methodological explanation below.

| <i>The following Member States asked Eurostat to add additional methodological explanations:</i> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Denmark</b>                                                                                   | For industrial production and output prices in industry, Denmark conducts several surveys in the two questionnaires, which includes more indicators than shown in the table. Overall person/years per year figures are nationally available for these surveys. The figures shown above are based on these overall figures, but adjusted in order to show only the relevant persons/years per year for the indicators, i.e. only a part of the overall figures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Germany</b>                                                                                   | Based on 163 working hours per month in 1999.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Greece</b>                                                                                    | Figures are estimations based on the year 2000.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Spain</b>                                                                                     | <p><i>Industrial production:</i> estimation. Number of persons engaged full time during one year needed to fill in the 120.000 questionnaires (10.000 questionnaires per month) of one year of the industrial production index sample.</p> <p><i>Production in construction:</i> estimation. Number of persons engaged full time during one year needed to fill in the 9.000 questionnaires (2.250 questionnaires per quarter) of one year of the production in construction index sample. The data are for the year 2000.</p> <p><i>Output prices in industry:</i> estimation. Number of persons engaged full time during one year needed to fill in the 84.000 questionnaires (7.000 questionnaires per month) of one year of the industrial price index sample.</p> <p><i>Retail sales index:</i> estimation. Number of persons engaged full time during one year needed to fill in the 137.340 questionnaires (11.445 questionnaires per month) of one year of the retail sales index sample.</p> |
| <b>France</b>                                                                                    | France explains that for industrial production, 3500 enterprises receive directly pre-printed questionnaires from the administration, covering only those products on which information is collected. This procedure makes it easier for enterprises to answer the questionnaires. An annual survey allows for the correct calibration of the monthly survey. The survey for construction is performed by a professional organisation, and includes more questions than needed for the production in construction indicator. It should be noted that these surveys for production (in industry and construction) are also used for the collection of data on new orders.                                                                                                                                                                                                                                                                                                                              |
| <b>The Netherlands</b>                                                                           | <i>For industrial production and production in construction:</i> refers to the burden of collecting information for the source statistics of the indices. This information is also used for and published in several other statistics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Sweden</b>                                                                                    | <p>Calculation formula used for person/years per year needed to fill in: Number of enterprises multiplied with the Number of surveyed months multiplied with the time needed for enterprises to fill in questionnaire every month (h/month) divided by working hour per person/year</p> <p>The response burden has been surveyed for industrial production and retail sales, but is estimated for output prices.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

### 9.3. Burden on small business

The following table gives some indications about policies in place for the reduction of statistical burden on small enterprises. All responding Member States try to avoid burden on small business. Approaches include size thresholds (such as no surveys of enterprises with less than 20 employees), the use of administrative data or rotating samples.

No information on this issue is available from Belgium, Spain, Italy and Luxembourg. The following table gives an overview of the situation of policies concerning the reduction of burden for small enterprises.

|            | Policy for reducing burden on small business                                                                                                                                                                                                                                                                                                                                                 |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>B</b>   | n.a.                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>DK</b>  | Policy of reducing response burden, specifically for small enterprises by omitting them from a sample or requiring only minimal representation                                                                                                                                                                                                                                               |
| <b>D</b>   | Enterprises with less than 20 employees are normally not surveyed. For retail trade enterprises with less than 500.000 DM of the annual turnover are excluded from the monthly survey.                                                                                                                                                                                                       |
| <b>EL</b>  | No specific policy, but for industrial production index, the sample is selected in a way that enterprises employing 10-20 persons do not exceed 10% of the total sample. Enterprises employing less than 10 persons are not surveyed. For the (domestic) producer prices, enterprises employing less than 20 persons are excluded from the survey.                                           |
| <b>E</b>   | Enterprises with less than 20 employees are not normally surveyed for Industrial Production Index and for Output Price Index. Concerning the Production in Construction, enterprises without persons employed are not surveyed.                                                                                                                                                              |
| <b>F</b>   | Enterprises with less than 20 employees for production and less than 10 employees for construction are normally not surveyed. For the producer price indicator no enterprises are surveyed with less than 5 million Euros turnover. Usage of administrative data for Retail Trade for larger enterprises and rotating sample for survey of smaller enterprises.                              |
| <b>IRL</b> | Size thresholds and rotating samples are applied                                                                                                                                                                                                                                                                                                                                             |
| <b>I</b>   | A size threshold of 20 employees is applied for Industrial Production and Industrial Turnover indexes. Rotating samples of small enterprises are applied in Retail Trade survey. Administrative sources are used to produce Hours worked and Wages and Salaries data for enterprise with less than 500 employees.                                                                            |
| <b>L</b>   | Use of administrative data for indicators of annexes C and D. Turnover uses monthly and quarterly VAT declarations and employment uses monthly declarations towards the social security system.                                                                                                                                                                                              |
| <b>NL</b>  | Preferably, small businesses are not surveyed; they are estimated or VAT information is used. If proportion of small businesses is relatively large, they are sampled                                                                                                                                                                                                                        |
| <b>A</b>   | For Production in Industry and Construction enterprises with less than 20 employees are only included if the 90% criteria is not covered by the enterprises with 20 and more persons employed. Enterprises with less than 10 employees are excluded. Rotation concept in Retail Trade for small enterprises.                                                                                 |
| <b>P</b>   | There are specific policies in this field. For Turnover, Hours worked and wages and salaries (in industry, retail trade and other services) a small sample is selected for enterprises with 20 employees or less.                                                                                                                                                                            |
| <b>FIN</b> | Businesses with less than 20 persons employed are practically exempted in all surveys (except the business register survey of new enterprises) and in many individual surveys the cut-off point is higher, even as high as 50 persons employed. Statistical data on small businesses are based on administrative data, for example monthly VAT reports or annual business income tax reports |
| <b>S</b>   | Special consideration is taken to see if information from small enterprises is needed. Administrative data, cut-off samples or model estimation are used to reduce need to ask small enterprises.                                                                                                                                                                                            |
| <b>UK</b>  | Sampling strategies adopted to avoid troubling smaller businesses as far as possible. Businesses with less than 10 employees have a 1 in 16 chance of being selected for an inquiry and respondents are encouraged to provide best estimates when precise figures are not readily available.                                                                                                 |

## Conclusions

The time needed for the business community to compile necessary information for the purpose of statistical indicators, the number of enterprises asked and the policies in place for reducing the burden on small businesses differ between Member States. Eurostat proposes to exchange best practices in these areas in order to reduce the burden on business.

## 10. COST FOR THE NATIONAL STATISTICAL SYSTEM

The production of statistics involves costs for the national statistical system. This chapter makes a first excursion into this subject. It starts with the reflection that costs can be measured via person/years per year of work inside the statistical institute (as well as local branches) and via a budget for the outsourcing of work.

For this chapter, Member States were asked the following two questions:

First question: How many person/years per year are needed for the operational work of “internal” persons (persons in the statistical office as well as local branches, who have a direct contractual/legal relationship with the NSI or one of their representatives {through for example a work contract}) to collect, process and calculate data and indices (counting the head of unit and secretaries, but not for example the share of the persons from the personnel department or other persons not directly linked with the production of statistics - for example not persons from the computer help department, persons from the administration etc.)? If professional organisations collect the data free of charge, their person/years per year should be indicated in this question. Only one number should be given.

Second question: How much budget (in Euro) does the National Statistical Office spend to get work done outside the statistical institute (outsourcing of work)?

The costs for the National Statistical System should therefore be split into two categories:

- First question: Person/years per year for operational work of “internal persons”
- Second question: Budget used for outsourcing of work (for “external persons”)

“Internal persons” are therefore - for the purpose of this question - those, who have a direct contract/legal relationship with the National Statistical Institute (or one of their representations in a region/department of a Member State), through a work contract for example. “Non-Internal persons” or “external persons” - for the purpose of this question - are those, who do not have a direct legal/contract relationship with the NSI, but are employed by another enterprise which has won a call for tender for performing a certain activity and which then supplies the necessary persons for the performance of the contract.

Therefore persons with direct legal/contractual obligations (“internal persons”) should be counted in the first question, while persons without direct legal/contractual obligations (“external persons”) should not be counted. Instead, the sum of the money provided to the contracting enterprise should be stated in the second question.

Some Member States did not follow this methodology, or wished to specify more explicitly their way of counting these costs. These Member States are marked in the following table with a single \* and more details are given below the following table.

Although these questions seem to be relatively straightforward, the utmost caution should be used when comparing different Member States, as the measurement may not have been done in each Member State in exactly the same way and the definitions leave some room for different interpretations.

|            | Industrial production                                              |                                                    | Production in construction                                         |                                                    | Output prices in industry                                          |                                                    | Volume index of retail sales                                       |                                                    |
|------------|--------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------|
|            | Number of person/<br>years per<br>year in<br>statistical<br>system | Budget (in<br>Euro)<br>subcon-<br>tracting<br>work | Number of person/<br>years per<br>year in<br>statistical<br>system | Budget (in<br>Euro)<br>subcon-<br>tracting<br>work | Number of person/<br>years per<br>year in<br>statistical<br>system | Budget (in<br>Euro)<br>subcon-<br>tracting<br>work | Number of person/<br>years per<br>year in<br>statistical<br>system | Budget (in<br>Euro)<br>subcon-<br>tracting<br>work |
| <b>B</b>   | n.a.                                                               | n.a.                                               | n.a.                                                               | n.a.                                               | n.a.                                                               | n.a.                                               | n.a.                                                               | n.a.                                               |
| <b>DK*</b> | 1.05                                                               | 0                                                  | 0.5                                                                | 0                                                  | 0.7                                                                | 0                                                  | 3.33                                                               | 0                                                  |
| <b>D**</b> | 26.1**                                                             | 0                                                  | n.a.                                                               | n.a.                                               | 15                                                                 | 0                                                  | 48                                                                 | 0                                                  |
| <b>EL*</b> | 17                                                                 | 0                                                  | Derog.                                                             | Derog.                                             | 14                                                                 | 0                                                  | 16                                                                 | 0                                                  |
| <b>E*</b>  | 26                                                                 | 0                                                  | 2.85                                                               | 199 606                                            | 18                                                                 | 0                                                  | 20                                                                 | 0                                                  |
| <b>F*</b>  | 60                                                                 | n.a.                                               | 5                                                                  | n.a.                                               | 33                                                                 | n.a.                                               | 3                                                                  | n.a.                                               |
| <b>IRL</b> | 16                                                                 | 0                                                  | Derog.                                                             | Derog.                                             | 10                                                                 | 0                                                  | 7                                                                  | 0                                                  |
| <b>I</b>   | 18                                                                 | 24 000                                             | 14                                                                 | 15 000                                             | 13                                                                 | 11 500                                             | 8                                                                  | 17 500                                             |
| <b>L</b>   | 0.75                                                               | 0                                                  | 0.75                                                               | 0                                                  | 0.6                                                                | 0                                                  | 1                                                                  | 0                                                  |
| <b>NL*</b> | 4.5                                                                | 0                                                  | 1                                                                  | 0                                                  | 17                                                                 | 0                                                  | 6                                                                  | 0                                                  |
| <b>A*</b>  | 17                                                                 | 100 000                                            | 6                                                                  | 53 000                                             | n.a.                                                               | n.a.                                               | 5                                                                  | 83 000                                             |
| <b>P</b>   | 3.8                                                                | 0                                                  | Derog.                                                             | Derog.                                             | 6                                                                  | 0                                                  | 2.4                                                                | 0                                                  |
| <b>FIN</b> | 4                                                                  | 0                                                  | 1.2                                                                | 0                                                  | 4                                                                  | 0                                                  | 1.8                                                                | 0                                                  |
| <b>S*</b>  | 3                                                                  | 0                                                  | Derog.                                                             | Derog.                                             | 7                                                                  | 0                                                  | 3                                                                  | 0                                                  |
| <b>UK</b>  | 27                                                                 | 0                                                  | 33                                                                 | 0                                                  | 32                                                                 | 0                                                  | 16                                                                 | 0                                                  |

\* for these Member States see methodological explanations below.

\*\*Germany gives only an overall figure of 26.1 for industrial production and production in construction

| <i>The following Member States asked Eurostat to add additional methodological explanations:</i> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Denmark</b>                                                                                   | Denmark conducts a survey in a joint questionnaire, which includes more variables than shown in the table. The overall person/years per year figure for this survey is nationally available. The figures shown above are based on these findings, but adjusted in order to show only the relevant persons/years per year for the above mentioned indicators.                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Greece</b>                                                                                    | Greece wants to stress that figures are estimates which refer to year 2000. Persons belonging to relevant departments (permanent staff) and the persons employed by NSSG to collect data for indicators (private collaborators). These persons are not on the payroll of the NSSG, but their payment depends on the number of the questionnaires they collect. They have a direct and legal relationship with the NSSG and therefore “internal persons” and their payment should therefore not be counted. Consequently there is no subcontracting of work.                                                                                                                                                                                           |
| <b>Spain</b>                                                                                     | <p><i>For industrial production, output prices in industry and volume index of retail sales:</i> Number of internal persons (which have a direct legal/contractual relationship with the Spanish NSI) carrying out the operational work to collect, process, calculate, carry out the quality control and data analysis as well as index calculation and publication. The personnel in charge of the elementary data collection are as well included in this item.</p> <p><i>Production in construction:</i> Same as for other indicators, but contractual relationship is with Ministry of Formento and the personnel in charge of the elementary data collection are not included in this item. The budget refers to the four quarters of 2000.</p> |
| <b>France</b>                                                                                    | Figure for France includes information on new orders as well.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>The Netherlands</b>                                                                           | <i>For industrial production and production in construction:</i> Only staff needed for calculating the index on the basis of source statistics, not the staff needed for processing the source statistics themselves.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Austria</b>                                                                                   | As the monthly questionnaires in the production and trade domain cover a whole range of indicators, and not only production and retail trade, Austria tried to calculate the relevant share of person/years per year needed for the mentioned indicators in the table of this chapter. Austria included persons involved in the processing of the monthly questionnaires as well as those for the index calculation, whereby not included are persons, who receive the data questionnaire (administration), the secretariat and the director. A similar mapping was made in order to get results for the budget of subcontracting.                                                                                                                    |
| <b>Sweden</b>                                                                                    | Hours worked divided by Working hours per person/year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Conclusions

This chapter presents an overview of a first collection of data about costs for the national statistical system. Together with Member States, this issue should be further explored in order to arrive at a better and more harmonised measurement, and consequently a deeper understanding of the costs involved in producing business cycle statistics.