Quality Report

Producer prices of industrial products (domestic sale)

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1 General information on the statistics

1.1 Name of the statistics: Producer prices of industrial products (domestic sale)
1.2 Reporting period: Reference month
1.3 Survey date: 15th day of the reporting month
1.4 Periodicity: monthly
1.5 Regional coverage: federal territory
1.6 Survey population, principle of allocating the survey units: The statistics of producer prices is based on a representative survey, with the scope of survey being delimited according to the NACE\(^1\), which applies to the whole EU (Sections C, D and E). The survey population includes all enterprises whose seat is in Germany and which sell industrial products (GP\(^2\) divisions 10 to 41) within Germany.
1.7 Survey units: The survey unit is the legally independent enterprise.
1.8 Legal bases, Regulations, Recommendations:
1.9 Confidentiality and data protection: The individual data collected are generally kept secret, following Article 16 of the Federal Statistics Law. Only in exceptional cases explicitly regulated by law may individual data be passed on. The names and addresses of the respondents are in no case passed on to third parties. According to Article 16 paragraph 6 of the Federal Statistics Law, it is possible to supply individual data to institutions of higher education or to other institutions involved in independent scientific research for the purpose of performing scientific projects, if such data are anonymised in a way allowing to identify the respondent or party concerned only by employing an unreasonable amount of time, cost and manpower. The obligation to keep the data secret also applies to persons receiving individual data.

2 Purpose and goals of the statistics

2.1 Survey content: What is collected is selling prices including excise duties (e.g. mineral oil tax, tobacco tax) and similar charges (eg. oil storage contribution), but excluding VAT, of representatively selected products. The price data should refer to the reference day or to the contracts concluded shortly before or after. If no contracts are concluded, the prices to be reported are those that would have been obtained on the relevant reference day, according to solid knowledge of the market. The survey programme also includes the detailed product description and other variables influencing the price (e.g. purchaser's stage in the economic process, type of forwarding, delivery terms, discounts/surcharges, type of packaging, quantitative unit, amount purchased/delivered, terms of payment).
2.2 Purpose of the statistics: The producer prices collected are used to calculate producer price indices. As such indices measure price changes at an early stage of the economic process,

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1 NACE: "Nomenclature générale des activités économiques dans les Communautés Européennes" (Statistical Classification of Economic Activities in the European Communities).
2 GP: National Product Classification for Production Statistics
they are considered as indicators of future inflationary trends. Producer price indices or average prices of selected mineral oil products, which are also calculated as part of that statistics, are frequently used in business contracts to adjust repeated payments (stable-value clauses). Also, producer price indices are used to deflate other aggregates of economic statistics, such as the production index.

2.3 **Major users of the statistics:** Major users of the producer price statistics at the international level are the European Commission and the European Central Bank, while at the national level there are various federal ministries, especially the Federal Ministry of Economics and Labour and the Bundesbank. Economic associations and interest groupings of various industrial branches are also users of producer price statistics. As results of the producer price statistics are often used in stable-value clauses, they are intensively used by contracting partners. Producer price indices are also included in calculations of national accounting of the Federation and the Länder.

2.4 **Involving the users:** Major users are involved especially when the producer price statistics is rebased to a new base year (generally every 5 years). In that context, many users – and especially interested associations – participate in updating the major calculation bases. This includes in particular the basket of goods (selection of goods for which prices are to be collected regularly), the weighting pattern (weights of the individual items of the basket) and the sample of reporting units (sample of enterprises reporting the prices). Also, many users are involved in shaping the publication programme. In the context of monthly index calculations, too, there are manifold contacts with users, especially as regards analysing the causes of current price trends.

3 **Survey methodology**

3.1 **Type of data collection:** The data are collected in writing. The survey involves the obligation to provide information. Respondents are the proprietors or directors of the enterprises. For selected items, secondary sources (stock market listings, market reports, etc.) are evaluated.

3.2 **Sampling method:** Theoretically, the population of producer price statistics consists of all cases of selling industrial products (delimited according to GP divisions 10 to 41) which are sold by domestic enterprises of NACE sections C, D and E within Germany. The sample is drawn in a multi-stage procedure using the purposive sampling method applied in all price statistics. At the first stage, representative products are taken to form a basket of goods, based on evaluations of the quarterly production survey in the industry, at the most detailed level of breakdown (GP 9-digit headings). At the second stage, enterprises are selected that are to report prices on a monthly basis. The selection criterion is the level of the output for the relevant basket item. At the third stage, the selected enterprises use given criteria to define representative cases of sale for the relevant basket items, for which prices are reported.

3.3 **Sample size, sampling fraction:** The basket of goods of producer price statistics currently comprises 1627 items, for which prices of a total of some 13 000 representatively selected cases of sale (price representatives) are covered monthly in about 7 100 enterprises.

3.4 **Stratification:** With the above-described method of purposive sampling (cf. 3.2), the basic material is not explicitly stratified. Only for the selection of enterprises, elements of stratification by the output level for the individual basket items are included in the examination.

3.5 **Expansion:** Producer price indices are calculated using the Laspeyres index formula, i.e. based on weights of a fixed base year. Index weight calculation is a two-stage process. At the first stage, domestic sales of German enterprises in the selected base year are broken down according to the national classification of economic activities (WZ) down to the 4-digit level. This is based on data from the monthly report for local units in mining and manufacturing and from the annual report for enterprises of energy and water supply. At the second stage, the
weights within the individual WZ 4-digit headings are allocated to the headings selected for the basket of goods (GP 9-digit headings). This is based on the quarterly production survey in the industry.

3.6 Data collection tools and reporting channel: The survey generally is conducted in a decentralised manner by the statistical offices of the Länder. For respondents of the Länder of Hamburg, Bremen, Berlin and Mecklenburg-Western Pomerania, the data are collected in a centralised way by the Federal Statistical Office. The Länder report non-aggregated individual data to the Federal Statistical Office by way of letter post of electronic transmission. There, federal results are calculated from the individual data. Länder results are not calculated.

3.7 Burden on respondents: The composition of the sample of reporting units is checked at regular intervals.

4 Accuracy

4.1 Overall qualitative assessment of accuracy: The producer price index is calculated as an index number with one decimal place. The figures are final for the reference months. Rebasing to a more recent base year leads to slight revision-related differences because new calculation bases (basket of goods, weighting pattern, sample of reporting units) are used.

4.2 Sampling errors: Sampling errors cannot be quantified because the sample is not based on random sampling. However, the method of purposive sampling used in drawing the sample allows to achieve a high degree of representativity. In any case it is ensured that the leading companies in any market segment are included in the sample.

Non-sampling errors: In producer price statistics, this group of errors includes especially wrong or inaccurate data of the responding enterprises and non-response. Wrong or inaccurate data are generally corrected by data editing and by direct queries with the enterprises during the current reporting month. Plausibility checks focus on checking the relevant price trend rather than the price level. In case of non-response (e.g. because of shut-down or restructuring of the enterprise, change in the product range, etc.) the prices are extrapolated with suitable updating indicators (e.g. average price trend of the relevant item or of a higher aggregate). At the same time, it is attempted to rapidly obtain other reporting units for replacement.

5 Timeliness

The prices collected refer to the 15th day of the reference month. The federal results are published around the 20th day of the subsequent month. With that release date, Germany is ranking among the top countries in Europe.

6 Comparability in terms of time and region

The Laspeyres concept applied in producer price statistics is based on the principle of all calculation bases being constant (basket of goods, sample of reporting units, sample of price representatives, weighting pattern), which in theory ensures the comparability over time of the calculated indices within a base period. In practice, however, that principle cannot entirely be implemented. Especially for the composition of the sample of reporting units, changes are required because of permanent non-responses, which impairs comparability in the narrow sense. Adjustments in the description of price representatives that become necessary over time are assessed by means of suitable quality adjustment methods. This means that price changes resulting from quality changes are eliminated from the price development. Quality adjustment methods frequently applied are the matched-model approach, the price comparison between the old and new quality in the overlap period, direct chain-linking, and assessment of quality changes by experts. For EDP goods, mathematical-statistical methods (regression analysis) are applied, too.

The calculation bases mentioned are kept constant over a base period, which is generally 5 years. Price indices for base periods of different lengths are often chain-linked to form long-
term index series, although – strictly speaking – they are not comparable. The price trend shown in this way includes “non-genuine price changes”, i.e. price changes resulting e.g. from different weighting structures in the base periods. A particular problem regarding comparability between different base periods is changes in the underlying classifications.

Regional comparability of the producer price indices calculated for Germany as a whole is ensured for data from 1991. For earlier periods, results are available only for the former territory of the Federal Republic of Germany.

However, for the main goals of producer price statistics, that is measuring short-term to medium-term inflationary trends, the above-described comparability problems are irrelevant.

7 Connection with other surveys

Producer price statistics is part of the German system of price statistics, showing price trends for all major stages in the economic process. What is calculated for the production stage is not only producer price indices for industrial products but also price indices for agricultural and forestry products and construction price indices. Producer price indices for services are currently being set up. At the distribution stage, the system of price statistics contains indices of wholesale prices and of retail prices. The stage of final consumption of households is covered by consumer price indices. Price trends in transactions with foreign markets are shown by import and export price indices.

In producer price statistics, other statistical surveys are used as data sources for setting up the major calculation bases. Such statistics include in particular the monthly report for local units of mining and manufacturing, the annual report for enterprises of energy and water supply and the quarterly production survey in the industry.

8 Other information sources

The results of producer price statistics are offered both in a printed and in an electronic form.

Printed publications:
The monthly Fachserie 17, Reihe 2 (Preise und Preisindizes für gewerbliche Produkte – Prices and price indices for industrial products) contains price indices for a total of 669 selected items (current month, previous month, same month of previous year and annual average of previous year) as well as rates of change on the previous year and on the same month of the previous year in percent. Weights and linking factors are also shown. In addition, average prices of selected mineral oil products (supergrade petrol, diesel fuel, domestic fuel and heavy fuel oil) are contained for the current month, the previous month, the same month of the previous year and the annual average of the previous year. The Fachserie may be obtained both from our distribution partner SFG Servicecenter Fachverlage, Part of the Elsevier Group, Postfach 43 43, 72774 Reutlingen, Germany, tel: (+49) 7071 93 53 50, fax: (+49) 7071 93 53 35 and through the Statistics Shop of the Federal Statistical Office (www.destatis.de/shop).

Electronic publications:
Statistics Shop: In the Statistics Shop (www.destatis.de/shop) it is possible to obtain free of charge Fachserie 17, Reihe 2 as an xls or pdf file (product number 21702) and long-time series for all items published in Fachserie 17, Reihe 2 (product number 5612401). The Statistics Shop also offers for direct download against a charge long-time series of average prices for selected mineral oil products (product number 5612402).
Genesis-Online: Through the database system GENESIS-Online (www.destatis.de/genesis → Tables), detailed results of producer price statistics can directly be loaded in various file formats (.xls, .html and .csv). Access to the basic data stock is free of charge (guest user). More detailed results and additional functions are available to registered users against an annual flat rate of EUR 50.00.
Further information:

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