

Consumer Price Index



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Abstract

1 General information on the statistics page 3

- *Name of the statistics:* consumer price statistics
- *Survey date:* a minimum of one week around the middle of the month
- *Periodicity and period for which a time series is available without any break:* monthly from January 2005
- *Survey population and principle of allocating the survey units:* representative survey among providers of goods and services
- *Legal bases:* Price Statistics Law, Federal Statistics Law, EU Regulation regarding the Harmonised Index of Consumer Prices

2 Purpose and goals of the statistics page 4

- *Survey content:* selling prices inclusive of VAT and other excise duties
- *Purpose of the statistics:* compilation of consumer price indices to be used as an inflation standard and compensation measure (contract adjustments) and to deflate nominal values of economic statistics
- *Major users of the statistics:* central banks, economic research institutes, science and research, policy community, private individuals, statistics (national accounts)

3 Survey methodology page 4

- *Type of data collection:* price collectors in the reference municipalities, analysis of catalogues, price systems and offers on the internet
- *Sampling procedure:* multi-stage sampling (reference municipalities, reporting units, goods and services); the prices of more than 300,000 price representatives are recorded in about 30,000 reporting units for about 700 types of products
- *Data collection tools and reporting channel:* to a larger extent decentralised price collection, calculation indices of the Länder in the statistical offices of the Länder, calculation of the overall index using Länder and type-of-shop weights and the relevant weighting pattern

4 Accuracy page 5

- *Overall qualitative assessment of accuracy:* index value with one digit after the decimal point
- *Sampling errors:* quantification not possible because no random sample
- *Non-sampling errors:* changes of products or reporting units between the revision dates and the resulting quality adjustments

5 Timeliness and punctuality page 6

- *Timeliness of preliminary results:* preliminary estimate based on final results from several Länder about two to three working days before the end of the reference month
- *Timeliness of final results:* around the middle of the following month
- *Punctuality:* All release deadlines are met.

6 Comparability over time and space page 6

- *Qualitative assessment of comparability:* ensured within a given base period (usually five years), to a limited extent over several base periods
- *Changes affecting comparability over time:* introduction of new weighting patterns

7 Connection with other surveys page 7

- *Input for other statistics:* national accounts
- *Differences regarding other comparable statistics or results:* The revision practices differ between HICP and CPI. The former does not include several expenditures.

8 Other information sources page 7

- *Publication channels, order address:*
www.destatis.de › Publikationen
www.destatis.de › Genesis-Online
- *Contact information:* www.destatis.de/contact/

1 General information on the statistics

1.1 Name of the statistics (according to EVAS)

Consumer price index, EVAS No.: 61111

1.2 Reference period

The reference period is the reference month.

1.3 Survey date

A minimum of one week around the middle of the month.

1.4 Periodicity and period for which a time series is available without any break

Monthly from January 2005.

1.5 Regional coverage

Germany and the Länder.

1.6 Survey population and principle of allocating the survey units

The survey population of consumer price statistics comprises all providers of goods and services in the economic territory (domestic concept) who offer products that are part of the consumption expenditure of households. Expenditure on owner-occupied dwellings is included based on what is called the rent equivalence approach. Consumer price statistics are based on a representative survey. The Classification of Receipts and Expenditure of Households (SEA 98) serves as a basis for specifying the survey units to be included at the product level.

1.7 Survey units

The units to be surveyed (reporting units) are the local units of all providers of goods and services (e.g. retail shops, chain stores, hairdresser's shops, etc.). Information on rents is collected from landlords (lessors) and partly also from tenants (lessees). Furthermore, generally accessible sources (internet, mail order catalogues, travel brochures, schedules of charges, etc.) are used for price collection.

1.8 Legal bases

1.8.1 EU law

As a matter of fact, Council Regulation (EC) No 2494/95 of 23 October 1995 concerning harmonized indices of consumer prices and the related supplementary Commission and Council regulations and guidelines only apply to the Harmonised Index of Consumer Prices (HICP). Since, however, the German Consumer Price Index (CPI), the HICP, the index of retail prices and the price index for the hotel and restaurant industry are derived from the same price survey, the above regulations and guidelines are of indirect relevance to these indices, too.

1.8.2 Federal law

Price Statistics Law in the amended version published in the Federal Law Gazette, Part III, Subsection No. 720-9, last amended by Article 20 of the Law of 07 September 2007 (Federal Law Gazette I, p. 2246); Ordinance regarding the Implementation of the Price Statistics Law of 29 May 1959 (Federal Bulletin No. 104, p. 1), last amended by Article 5 of the Ordinance of 20 November 1996 (Federal Law Gazette I, p. 1804), in conjunction with the Federal Statistics Law (BStatG) of 22 January 1987 (Federal Law Gazette I, pp. 462, 565), last amended by Article 3 of the Law of 7 September 2007 (Federal Law Gazette I, p. 2246).

1.8.3 Land law

No Land law as a legal basis.

1.8.4 Other bases

No other legal basis.

1.9 Confidentiality and data protection

The individual data collected are generally kept secret according to Article 16 of the Federal Statistics Law. Only in a small number of exceptional cases explicitly regulated by law may individual data be passed on. The names and addresses of the respondents are never passed on to third parties. Pursuant to Article 16, para. 6 of the Federal Statistics Law, individual data may be passed on to institutions of higher education or other institutions entrusted with independent scientific research for the purpose of carrying out scientific projects, if such data have been anonymised in a way that identifying the relevant respondents or parties concerned is possible only with unreasonable efforts in terms of time, cost and manpower. Persons receiving individual data are also obliged to adhere to the principle of confidentiality.

2 Purpose and goals of the statistics

2.1 Survey content

In the context of the statistics, selling prices inclusive of VAT and other excise duties (e.g. mineral oil tax, tobacco tax) are recorded for goods and services selected on a representative basis. The survey programme comprises a detailed description of the goods and other characteristics which have a price-determining effect (e.g. type of shop, warranty, mode of shipment, price reductions, type of packaging, unit of quantity, and terms of payment).

2.2 Purpose of the statistics

The consumer prices recorded are used to calculate consumer price indices which serve the following three main purposes:

They are used as an inflation standard to measure price stability in the national economy (together with other price indices).

As a compensation measure, they are designed for the adjustment of regular payments based on stable-value clauses in civil law contracts (e.g. in accordance with the Price Clause Act (PrKG) of 7 September 2007 (Federal Law Gazette I, pp. 2246, 2247) and Article 557b of the Civil Code (BGB) concerning "index-linked rents" or the Act on the Improvement of Company Provision Schemes for Old Age (BetrAVG)).

Finally, they are used for the deflation of nominal values of economic statistics.

2.3 Major users of the statistics

In accordance with the major purposes of the statistics, the main groups of users are the following:

An inflation standard is of special interest to ministries, central banks, economic research institutes, economic departments of big enterprises (e.g. commercial banks), science and research, trade unions and employers, and the media.

A compensation measure is above all required by tenants and landlords, payers and recipients of company pensions or life annuities and by other persons with payment obligations or recipients of regular payments. Also, the consumer price index is often used to calculate compensation or adjustment payments (e.g. inheritance or divorce-related payments).

In national accounting, for instance, the consumer price index or some of its elements are used as a basis for deflating economic aggregates.

2.4 User involvement

Above all, the main users are involved in the context of specialised committee meetings at intervals of several years. In cases of fundamental changes, however, the groups of users concerned are given information or are asked for their opinion or consent in between the above meetings (examples: consumer price indices are no longer to be compiled for certain types of households – ministries are contacted; the publication practice is to be basically revised – subscribers to the regular publication series are contacted).

3 Survey methodology

3.1 Type of data collection

Usually, price collectors collect the relevant prices in selected reference municipalities. In addition, catalogues, price systems, schedules of charges, laws and administrative rules, offers on the internet and (to a smaller extent) also postal surveys are evaluated for this purpose.

3.2 Sampling procedure

3.2.1 Sampling design

The universe of consumer price statistics comprises all cases of selling goods and services to households in the economic territory. Sampling is based on a multi-stage procedure. The technique of purposive sampling is used like in all other areas of price statistics. As a first step, the reference municipalities and secondly, the reporting units are selected. At five-year intervals, this selection is systematically revised in the context of changing over to a new price base year. As a third step, concrete goods and services are selected for price collection. However, adjustments are made to the above selection in between the revision dates if, for instance, certain products are no longer available or reporting units cease to exist or if new products or reporting units with a rapidly increasing importance for consumption enter the market.

3.2.2 Sample size, sampling fraction and sampling unit

Currently, the basket of goods and services used in the context of consumer price statistics comprises a total of about 700 types of products. The prices of these products are collected on a monthly basis for a total of more than 300,000 representatively selected sales cases (price representatives) in approximately 30,000 reporting units.

3.2.3 Sample stratification

The sample is stratified by Länder, types of shops and about 700 types of goods and services in the basket of goods and services.

3.2.4 Expansion

An expansion is not made. The result is a weighted average of the price trends observed for the types of goods and services covered.

3.3 Seasonal adjustment procedure

The original series of the consumer price index are not adjusted for seasonal effects. However, seasonally adjusted series are published in parallel. The consumer price index as a whole and the subindex for food and non-alcoholic beverages are available in a calendar and seasonally adjusted form. The Federal Statistical Office uses the Berlin method BV4.1 for the seasonal adjustment of consumer price indices. The Deutsche Bundesbank calculates and publishes seasonally adjusted consumer price indices, too. For this purpose, it uses the X-12-ARIMA census method.

3.4 Data collection tools and reporting channel

Regarding about two thirds of the total consumption expenditure, prices are collected in a decentralised manner. Price collection is organised by the statistical offices of the Länder and, partly, staff of the reference municipalities are engaged for this purpose. In general, the price collectors visit the relevant reporting units every month. As regards approximately one third of the consumption expenditure, however, prices are collected in a centralised manner by staff of the Federal Statistical Office. To a large extent, the sources used for this purpose are generally accessible sources such as catalogues, the internet, and schedules of charges.

Based on the prices collected and after potentially necessary conversions (e.g. in cases of quantity or quality changes), the statistical offices of the Länder calculate elementary indices (by Dutot formula) in a breakdown by types of shops for the total of about 700 individual items. These index numbers are transmitted to the Federal Statistical Office. Based on the index numbers, the latter compiles the overall index for the Federal Republic of Germany. For this purpose, it uses Länder weights, product-specific type-of-shop weights and a weighting pattern. The Federal Statistical Office, in turn, provides the statistical offices of the Länder with individual prices, average prices or price relatives (depending on the items concerned) for the series compiled in a centralised manner. The Länder offices include the information in their index calculations at the Länder level.

3.5 Burden on the respondents

The price collectors collect the relevant prices (and associated product characteristics) on their own. Hence the reporting units are largely not burdened (though, in the case of revisions or product changes a certain burden cannot always be avoided).

3.6 Documentation of the questionnaire

Questionnaires in the narrow sense are not used for the compilation of consumer price statistics. The price collectors use survey forms (either printed or electronic – on their laptops) to collect prices and also information on price-determining characteristics and to transmit the relevant information to the statistical offices. Usually, however, these survey forms are not given to respondents.

4 Accuracy

4.1 Overall qualitative assessment of accuracy

The consumer price index is calculated as an index value with one digit after the decimal point. This corresponds to the level of accuracy that can be achieved. An indirect measurement of accuracy can be made based on the revision differences. At the time of revision, the results are recalculated for a backward period of about three years, using all the most recent information available (e.g. on new consumption patterns). For this purpose, however, the revision differences must be analysed in more detail and attributed to different causes (including methodological changes such as an extension of coverage). The results are published in the *Wirtschaft und Statistik* periodical (see item 8). The provisional results published for the Federal Republic of Germany on a monthly basis meet high accuracy standards, too. Deviations between the preliminary and the final results amount to a maximum of 0.1 percentage points.

4.2 Sampling errors

A quantification of sampling errors is not possible because consumer price statistics are not based on a random sample.

4.2.1 Standard error

None.

4.2.2 Biases due to the data expansion procedure

None, because an expansion procedure is not applied.

4.3 Non-sampling errors

4.3.1 Errors due to coverage

None.

4.3.2 Unit non-response

None due to price recording by price collectors.

4.3.3 Item non-response

None due to price recording by price collectors.

4.3.4 Imputation methods

The prices of products that are temporarily not on offer are updated using the prices of comparable products (e.g. seasonal articles, company holidays).

4.3.5 More detailed analyses of the systematic error

More detailed analyses of the systematic error are not made.

4.4 Continuous revisions

At five-year intervals, the results of consumer price statistics are subjected to a basic revision. In this context, modified expenditure weights resulting from changes in the consumption pattern are included in the index calculation. At the time of revision, methodological changes which are due, for instance, to new European requirements are included in the index compilation, too.

4.4.1 Extent of revision

The extent to which the results calculated so far have to be revised due to the inclusion of changed consumption habits by a new weighting pattern is mostly smaller than 0.1 percentage points (measured by the price change on the comparable period of a year earlier). Implementing methodological changes can result in deviations that are by far bigger (cf., for instance, WiSta 4/2008).

4.4.2 Reasons for revision

Availability of time series without structural breaks due to considering changed consumption habits and implementing methodological changes.

4.5 Extraordinary sources of error

Extraordinary sources of error include unexpected circumstances which affect considerably the use of preliminary or final results and therefore have to be pointed out in a special form. Such phenomena comprise, for instance, particularly important reports which are inaccurate or delayed and (natural) phenomena which lead to a strong modification of the survey object directly after the survey so that the informative value of the statistics is deteriorated. Such circumstances were not observed in this case.

5 Timeliness and punctuality

5.1 Timeliness of preliminary results

Preliminary results are estimated about two to three working days before the end of the reference month based on the results from several Länder.

5.2 Timeliness of final results

Final results for the Federation are published around the middle of the month following the reference month.

5.3 Punctuality

All publication deadlines are met.

6 Comparability over time and space

6.1 Qualitative assessment of comparability

Comparability over time is fully ensured as regards the results for the period between two revision dates. The same applies to space-related comparability of the index trends for the Länder. As far as index comparisons at the international level are concerned, however, the Harmonised Index of Consumer Prices should rather be used because it is compiled on the basis of the same concepts in all of the EU Member States.

6.2 Changes affecting comparability over time

Introduction of new weighting patterns (adjustment to changes in the consumption patterns of households), implementation of new methods; this is only made in the context of large-scale revisions which are undertaken every five years.

7 Connection with other surveys

7.1 Input for other statistics

Deflator for nominal values, e.g., in national accounts (cf. 2.2, 2.3).

7.2 Differences regarding other comparable statistics or results

The Harmonised Index of Consumer Prices (HICP) for Germany is derived from identical basic data. Unlike the national consumer price index, however, the HICP does not include expenditure on owner-occupied dwellings, games of chance and –till December 2009–motor vehicle tax as soon as admission fee. Furthermore, the revision practices differ between the CPI and the HICP (cf. WiSta 8/2008).

8 Other information sources

8.1 Publication channels, order address

The results of consumer price statistics are offered both in printed and in electronic form.

Printed publications of *Fachserie 17, Reihe 7*:

- *Eilbericht*: The publication contains price indices and rates of price increases of the 12 divisions of the Classification of Income and Expenditure of Households (SEA)/Classification of Individual Consumption by Purpose (COICOP) and for selected special groupings (seasonal goods and services, energy, rents, price index for the purchase and operation of motor vehicles) and also some results regarding the index of retail prices.
- *Monatsbericht*: The publication contains, in addition, results at the three and four-digit level of SEA (COICOP) and more detailed results for the index of retail prices.

After each changeover to a new price base year, the above *Fachserie* contains an additional report which presents the results recalculated for a longer period.

The *Fachserie* may be obtained from the publication service of the Federal Statistical Office (www.destatis.de › Publikationen › Fachveröffentlichungen).

Electronic publications:

At www.destatis.de › Publikationen › Fachveröffentlichungen, *Fachserie 17, Reihe 7* can be downloaded in a pdf-format free of charge. In addition the *Jahresbericht* with results since 1991 alternatively 1995 is published once a year.

Data on the energy price development: The cross-section publication includes price indices for various types of energy in form of long time series. It shows not only consumer price indices but also import, export and producer price indices.

Through the database system GENESIS-Online (www.destatis.de › Genesis-Online › 61 › 611 › 61111 › Tabellen), detailed results of the consumer price statistics can directly be loaded in various file formats (.xls, .html and .csv).

Länder results can be accessed via the home page of the Land statistical office concerned. The offices are generally accessible through the home page of the Federal Statistical Office (www.destatis.de › Regional statistics).

8.2 Contact information

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8.3 Further publications

Papers on the consumer price index are issued in the cross-section publication *Wirtschaft und Statistik* (www.destatis.de › Publikationen › Querschnitt › Wirtschaft und Statistik), eg:

Elbel, Günther; Egner, Ute: „Umstellung der Verbraucherpreisstatistik auf Basis 2005“, 04/2008, p. 339

Further information on the Consumer prices can be found at www.destatis.de › Prices.