

## Methodical Notes

Industrial producer price indices cover the prices of products produced in branches C to E of NACE Rev. 1. The publication contains price indices for divisions and groups, aggregated into subsections and sections of CZ-CPA and industry total. For some aggregations no indices are presented in order to protect the individual character of the data. Industry total means the sum of C, D and E sections. The classification of products in its current 2<sup>nd</sup> version, valid since 1<sup>st</sup> January 2003, is prepared on the basis of the European standard of CPA 2002 (Classification of Products by Activity).

During the year 2006 the revision of price indices had taken place and since January 2007 the revised industrial producer price indices have been published. The calculation of the revised indices is based on the new revised index patterns, following the structure of 2005 domestic sales (indices from 2001-2006 period are based on 1999 sales structure, and indices from 1995-2000 period on 1993 sales structure).

Within the complex revision the weighting system was revised and the choice of price representatives and reporting units (respondents) optimized. In order to increase the comparability of the national index with the European Union concept, the work and services of production character were newly put into the survey. At the same time, the base period price of the indices published from the year 2007, was changed to December 2005 (formerly December 1999). The year 2005 average was introduced as a standard index reference period for all price indices (formerly 2000 average).

The price indices calculations are based on the prices of selective files of representatives and selected reporting units by aggregating simple price indices into an aggregate using a modified Laspeyres formula. The calculation uses constant weights.

$$I = \frac{\sum \frac{p_1}{p_0} p_0 q_0}{\sum p_0 q_0} \cdot 100$$

where:

$p_1$  the reference period price,

$p_0$  the basic period price (December 2005),

$p_0 q_0$  the constant weight – value indicator, in terms of per mill (2005 domestic sales).

Industrial producer price index is still calculated monthly using the prices reported by the national statistical questionnaire Industry Prices 1-12. The questionnaire is filled out by selected organizations for selected representatives. The prices reported are domestic prices agreed between supplier and customer for domestic market products (excluding VAT, excise tax and transport and incidental costs). The period for price observation was extended and the prices between the first to eighteenth calendar day of the reference month are included (formerly the tenth to twelfth calendar day).

The weights in the revised industrial producer price indices were determined using the year 2005 domestic sales structure given by P 5-01 questionnaires (at CPA 4-digit level), by Industry 2-01 questionnaires (at CPA 6-digit level and individual representatives) and further by Prices Industry 1-12 (at CPA 6-digit level and individual representatives).

The new industrial producer price indices are calculated and published to following bases: December 2005 = 100 (base index), 2005 average = 100 (derived base index), previous period = 100, corresponding period of the preceding year = 100. Besides, the ratio of rolling averages index (ratio of average of last 12 months' indices to average of previous 12 months' indices, calculated from the indices to December 2005 = 100 base) is published.

Comparability of the time series published before 2007, still valid, and of the revised indices released since January 2007 is maintained using the coefficients (conversion bridges) calculated from the ratio of revised to original indices for December 2006/December 2005. The converted time series of the indices are available on the Czech Statistical Office web pages ([www.czso.cz](http://www.czso.cz)) under 'Comprehensive data' and 'Time series'.

During the first half-year 2006 an internal audit of industrial producer price index had taken place with the participation of public experts. The aim of the audit was to consider whether the current practice of index assembling and presentation corresponds to EU rules and the needs of users.

Reservations were made primarily to an excessive width of the selective file and to an unacceptable loading of the reporting units. The results of the audit were implemented within the revision by excluding aggregations in accord with the relevant EU rule (as amended by EC Council Regulation 1165/98) and also by excluding all insignificant groups (with a share smaller than 5% at higher aggregations). The number of reporting units was reduced (from 1352 to 1201), the number of price representatives was reduced (from 5760 to 4713) and the number of aggregations was reduced (from published 92 groups of CPA 3-digit level to 83). In particular, E 40.2 aggregation is newly published from January 2007 (split of natural gas price into commodity price and other costs gave possibility to include distribution costs in the survey). The statistics of CB 14.5, DB 17.6, DC 19.1, DG 24.2, DG 24.7, DK 29.6, DL 33.5, DM 35.5, DN 36.2 and DN 36.4 groups was ended. Simultaneously, the contents in CA subsection changed by inclusion of crude oil price. Divisions CA 10 and CA 11 are published since August 2007.

Since January 2003, Industrial producer price indices are published by Main Industrial Groupings (MIGs), too. The Main Industrial Groupings are defined by the Commission Regulation (EC) No 586/2001 of 26 March 2001 on implementing the Council Regulation (EC) No 1165/98 concerning short-term statistics.

Since 2003 the delivered prices of oil products to households and industry have been released monthly. The methods of average price surveys are based on the Council Decision 1999/280/EC regarding a Community procedure for information and consultation on crude oil supply costs and the consumer prices of petroleum products and on the Commission Decision 1999/566/EC. The prices of oil products are collected monthly by the national statistical survey Prices E3-12. The recorded prices are the most frequently charged delivered prices excluding transport costs, inclusive of VAT and excise tax and net of VAT and excise tax, agreed between supplier and customer inland at the 15th calendar day of the month. The „supplier“ means producer or distributor of domestically produced or imported oil products. The „customer“ means end user, characterized by the size of an offtake. In low sulphur fuel oil (lines 1 and 2) and high sulphur fuel oil (lines 3 and 4) it means by deliveries of less than 2000 tonnes per month or less than 24000 tonnes per year for industry. In heating gas oils (lines 5 to 8) it means by individual deliveries of 2000 to 5000 litres for households and less than 2000 litres for industry.

At 1<sup>st</sup> January 2008 the council directive 90/377/EEC was amended by the commission decision 2007/394/EC of 7<sup>th</sup> June 2007. The standard consumers are replaced by the standard consumption bands and average prices at 1<sup>st</sup> day of current quarter are replaced by the average prices for the previous quarter, or half-year. For example, average prices, which would be observed according to previous methodology at 1<sup>st</sup> January 2008 and published at 25<sup>th</sup> February 2008, are replaced by the average prices for 4<sup>th</sup> quarter 2007 (or 2<sup>nd</sup> half-year 2007) and published at the same date at 25<sup>th</sup> February 2008. Due to these reasons, Eurostat does not recommend the data comparison between these methodologies. For the possible analysis, we state the differences between previous and new methodology in the attached tables.

Prices according to the new methodology for the third and fourth quarters 2007 and second half-year 2007 are for the first time published in the publication for January 2008 issued at 25<sup>th</sup> February 2008. Prices for every following calendar quarter (half-year) will be published in April, July and October publications. The prices published now are prices for consumption bands together with average quarterly prices of electricity and natural gas supplied to industry total.

Prices of natural gas are surveyed by the national statistical questionnaire Cený E 6-04. Average prices of natural gas for consumption band total are calculated as a weighted arithmetic average of prices recorded by the individual reporting units in the given band, where weights are market shares of individual bands.

Prices of electricity are surveyed by the national statistical questionnaire Cený Elek 1-12. Average prices of electricity for the individual bands are calculated as a weighted arithmetic average of prices of individual consumers, which cover the consumption in the individual bands and are reported by the most important electricity traders. Reported prices are domestic prices agreed between trader and its end consumer.

Since 1<sup>st</sup> January 2008, in accord with the new methodology, there is a change of calculation of the average quarterly prices of electricity and natural gas for industry total (for the first time for the 1<sup>st</sup> quarter 2008, publication April 2008). Average prices are calculated as a weighted arithmetic average of average prices for the individual standard bands and their share on the annual consumption instead of average prices in total of individual natural gas and electricity traders and their share on the annual consumption in total.

**The comparison of electricity consumption bands according to the new and previous methodology**

Previous methodology				New methodology	
Standard consumer	Annual consumption (MWh)	Maximum demand (kW)	Annual utilisation (h)	Standard consumption bands	Annual consumption of electricity (MWh)
Standard consumer is not specified.				Band - IA	< 20
la	30	30	1 000	Band - IB	21 - 500
lb	50	50	1 000		
lc	160	100	1 600		
ld	1 250	500	2 500	Band - IC	501 - 2 000
le	2 000	500	4 000	Band - ID	2 001 - 20 000
lf	10 000	2 500	4 000		
lg	24 000	4 000	6 000		
lh	50 000	10 000	5 000	Band - IE	20 001 - 70 000
li	70 000	10 000	7 000		
Standard consumer is not specified.				Band - IF	70 001 - 150 000

**The comparison of natural gas consumption bands according to the new and previous methodology**

Previous methodology				New methodology	
Standard consumer	Annual consumption (MWh)	Load factor (days)	Bands of annual consumption (MWh)	Standard consumption bands	Annual consumption of natural gas (MWh)
l <sub>1</sub>	116,30	x	< 1 045	Band - I1	do 278
l <sub>2</sub>	1 163	200	1 046 - 10 465	Band - I2	279 - 2 778
l <sub>3-1</sub>	11 630	200	10 466 - 104 650	Band - I3	2 779 - 27 783
l <sub>3-2</sub>	11 630	250			
l <sub>4-1</sub>	116 300	250	104 651 - 1 046 500	Band - I4	27 784 - 277 831
l <sub>4-2</sub>	116 300	330			
l <sub>5</sub>	1 163 000	330	1 046 501 - 2 222 000	Band - I5	277 832 - 1 111 323

**Electricity prices - a comparison of new and previous methodology**

	Previous methodology	New methodology
Validity of methodology:	till 31st December 2007	since 1st January 2008
Reporting units:	electricity traders	electricity traders
Object of observing:	standard consumer	standard consumption band
Reporting:	quarterly	monthly
The observed price:	average price valid at 1st day in quarter	average price for the last quarter
The observed period:	1st calendar day in quarter	whole calendar quarter
Data source:	quarterly questionnaire Cený Elek 7-04	monthly questionnaire Cený Elek 1-12
End of data collection:	30.calendar day after the observed period	last day of the observed quarter
End of data processing:	50.calendar day after the observed period	50.calendar day after the observed period
The calculation of prices:	weighted arithmetic average	weighted arithmetic average
Weights:	supplied electricity in MWh	sales in CZK and supplied electricity in MWh

**Natural gas prices - a comparison of new and previous methodology**

	Previous methodology	New methodology
Validity of methodology:	till 31st December 2007	since 1st January 2008
Reporting units:	natural gas traders	natural gas traders
Object of observing:	standard consumer	standard consumption band
Reporting:	quarterly	quarterly
The observed price:	average price valid at 1st day in quarter	average price for the last quarter
The observed period:	1st calendar day in quarter	whole calendar quarter
Data source:	quarterly questionnaire Cený E 6-04	quarterly questionnaire Cený E 6-04
End of data collection:	30.calendar day after the observed period	30.calendar day after the observed period
End of data processing:	50.calendar day after the observed period	50.calendar day after the observed period
The calculation of prices:	weighted arithmetic average	weighted arithmetic average
Weights:	market share in CZK	market share in CZK