Statistics Finland

Producer Price Indices 2005=100
User's Handbook

1. Introduction

Statistics Finland has revised its producer price indices as from the beginning of 2009. The new base year of the indices is 2005.

New producer price indices 2005=100

Producer Price Index for Manufactured Products 2005=100
Export Price Index 2005=100
Import Price Index 2005=100
Basic Price index for Domestic Supply 2005=100
Wholesale Price Index 2005=100

Key changes

The weight structure and the monitored commodity headings of the new indices have been revised to correspond to the structure of production, imports and exports in 2005. Currently the index weight structures are based on the value data on production, imports and exports in Statistics Finland's National Accounts 2005.

The industrial classification in use is the national TOL 2008 classification, which is based on the revised NACE Rev 2. classification of industries (**N**omenclature générale des **A**ctivités économiques dans les **C**ommunautés **E**uropéennes).

Correspondingly, the new 6-digit Finnish version of the EU CPA 2008 classification of goods and services by activity (Statistical **C**lassification of **P**roducts by **A**ctivity in the European Community) is used as the classification of the commodity headings included the indices.

2. Producer price indices as part of the system of statistics on prices

Producer price indices measure the development of commodity prices from the perspective of enterprises. The producer price indices comprise five separately calculated indices: the Producer Price Index for Manufactured Products, the Export Price Index, the Import Price Index, the Wholesale Price Index and the Basic Price index for Domestic Supply. All these indices measure price development slightly differently because the price concepts used and the industries covered vary by index.

2.1 Descriptions of the producer price indices

Producer Price Index for Manufactured Products 2005=100

The Producer Price Index for Manufactured Products measures average changes in the prices of goods sold by domestic producers. The index includes both goods sold at home and goods sold abroad. The price used for goods intended for the domestic market is the so-called factory price exclusive of taxes.

The price of goods intended for export is usually the f.o.b. price[1] (free on board). The Producer Price Index for Manufactured Products covers TOL 2008 categories B-E, that is, commodities ranging from minerals to water and waste management services.

Export Price Index 2005=100

The Export Price Index measures changes in the f.o.b. prices of export goods. Foreign-currency export prices are converted to EUR using the Bank of Finland's mean rate for the statistical reference month. The Export Price Index covers TOL 2008 categories A-E, that is, commodities ranging from agricultural products to water and waste management services.

Import Price Index 2005=100

The Import Price Index measures development in the c.i.f.[2] prices of imported goods. C.i.f. prices are inclusive of expenses, insurances and freight. Foreign-currency import prices are converted to EUR using the Bank of Finland's mean rate for the statistical reference month. The Import Price Index covers TOL 2008 industries A-E, that is, commodities ranging from agricultural products to water and waste management services.

Basic Price index for Domestic Supply 2005=100

The Basic Price index for Domestic Supply measures changes in the tax-free prices of goods used in Finland as they first enter the market.[3] The index includes both domestic and imported goods. The price for domestic goods is the factory price exclusive of taxes. The price for imported goods is the c.i.f. price of the imports plus customs duties. The Basic Price Index for Domestic Supply covers TOL 2008 industries A-F, that is, commodities ranging from agricultural products to construction.

Wholesale Price Index 2005=100

The Wholesale Price Index measures average change in the purchase prices inclusive of taxes of goods used in Finland. The index includes both domestic and imported goods. Regardless of its name, the Wholesale Price Index does not describe the price development of wholesale trade, as it does not include the wholesaler margins. The Wholesale Price Index includes value-added tax as well as other indirect taxes. In addition to value-added tax, indirect taxes include diverse excise duties[4], and motor car and motorcycle tax. The wholesale price for domestic goods comprises the factory price, value-added tax and other indirect taxes. The wholesale price of imported goods comprises the c.i.f. price of the imports, customs duties, value-added tax and other indirect taxes. The Wholesale Price Index covers TOL 2008 industries A-E, that is, commodities ranging from agricultural products to water and waste management services.

Producer price indices are compiled on product basis. The indices describe developments in the prices of certain types of goods irrespective of the main industry of the enterprise. If the enterprise also produces services, its service production is not included in the scope of the producer price indices. Industrial services form an exception to this rule as they are included in the scope of the producer price indices. On the other hand, an enterprise that mainly produces services may also produce goods, in which case its goods production is included in the scope of description of the producer price indices.

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[1] f.o.b. = free on board. Value of goods at basic prices inclusive of transport and delivery to a specific border location and possible taxes on export goods less subsidies.
[2] c.i.f. = cost, insurance and freight. The vendor delivers the goods when the goods are taken on board the vessel at the designated loading harbour. The vendor pays the sea freight fare until the agreed destination harbour and purchases, in the name of the purchaser, sea insurance to guard against risks during transport.
[3] As the index measures the tax-free price development of total domestic supply at the stage when products leave the producers and enter the market, and correspondingly as products arrive in the country after customs, it is more accurate to talk of the basic price of a product than of the producer price.
[4] Excise duties include i.a. the excise duty on fuels, tobacco tax, alcohol tax, soft drink tax and electricity tax.

2.2 Price index system

The price indices concerning commodities compiled by Statistics Finland can be described as a system whose aim is to measure the development of prices at different stages of production and distribution. The producer price indices describe the price development at the early stage of price formation as products leave their producers or enter the country. The Wholesale Price Index describes the second stage of distribution when goods arrive at wholesale buyers[5]. Development in the final consumption prices of consumer goods is measured with the Consumer Price Index.

Figure 1. Price Index System
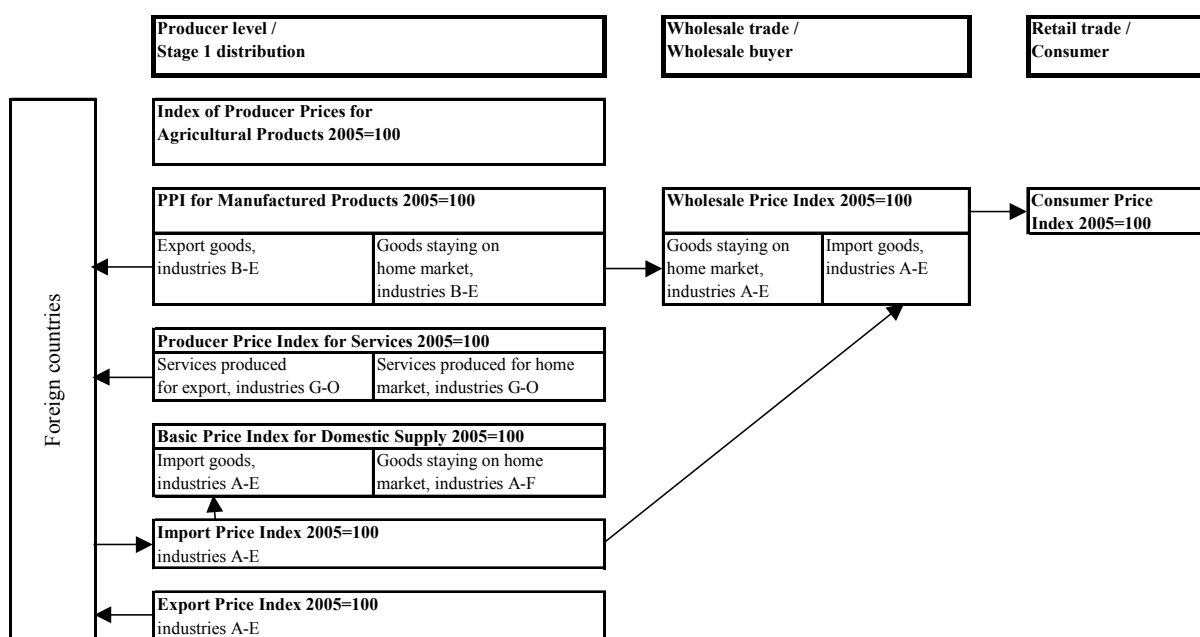
3. Producer price indices - sampling

The calculation of producer price indices is based on a sample. First the CPA headings are selected and then the enterprise sample is drawn. The price data used to calculate the index are collected from enterprises included in the sample. These price indices are considered to be descriptive of the average development in the prices of all manufactured products. The samples of CPA headings and enterprise data suppliers included in the producer price indices are generally revised at five-year intervals to maintain the timeliness of the indices. The CPA headings of the producer price indices 2005=100 have been selected from the total group of headings for which production, export or import was recorded during the year 2005.

3.1 Construction of sample frames

The producer price indices' CPA heading frame has been produced using the data of National Accounts supply and use tables. The frame includes the summed up value of Finnish enterprises' production,

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[5] In an optimal situation the Wholesale Price Index would also describe the sales prices of wholesalers and would include, in addition to taxes, also the wholesaler margins. Under the current system the wholesaler margins are not taken into account.

exports and imports by heading. The import and export data of the supply and use tables include also transit exports via Finland. In exports the transit exports are deducted from the total, and the figure that remains is the value of exports of Finnish producers only. In imports transit exports are correspondingly deducted from the total and the figure that remains is the value of imports remaining in Finland. The value of production staying on the domestic market is obtained by deducting exports from the value of domestic supply.

The frames of the data supplier sample have been formed on the basis of data obtained from industrial commodity statistics and Board of Customs statistics on foreign trade. The enterprise sample frames for exports and imports are obtained from Board of Customs statistics on foreign trade. As regards exports, enterprises engaged in exports in the field of trade without own manufacturing of products were removed. As regards production staying on the domestic market, the enterprise frame was formed on the basis of heading-specific enterprise data obtained from statistics on industrial commodities.

To reduce small enterprises' data supply burden, enterprises whose exports, imports of domestic supply had a value of less than EUR 200,000 were removed from the sample frame. In addition, enterprises were removed from specific headings if the value of their exports, imports or domestic supply in those headings was less than EUR 20,000.

3.2 Selection of CPA headings

The current view is that the most important function of producer price indices is to serve as deflators. Producer price indices are used to deflate the value of production i.a. in National Accounts calculations. From the deflator perspective it is important that also a price index is compiled for all CPA headings with high levels of domestic supply/exports/imports.

The emphasis on the indices' function as deflator affected the selection of headings for producer price indices. Previously a part of the headings have been selected by random sampling. This time a cut-off method was used in heading selection, that is, those CPA headings were selected for price indices in which the value of domestic supply/exports/imports was highest.[6] Table 1 below describes the proportion of the value of the included CPA headings of the total value of domestic supply/exports/imports.

Table 1. Coverage of headings included in producer price indices

Frame	Proportion of included CPA headings of total value
Producer Price Index for Manufactured Goods	90%
Export Price Index	85%
Import Price Index	88%
Basic Price Index for Domestic Supply	90%
Wholesale Price Index	90%

3.3 Data supplier sample and selection of products

The enterprise sample was drawn using stratified sampling. Stratification was based on the value of the enterprises' domestic supply/exports/imports. A simple random sampling was done within the strata. The dominant[7] enterprises in each heading were, however, selected to the sample with a probability of

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[6] The original frame still used the TOL 2002 classification, so the headings were selected according to TOL 2002. After a reclassification of headings, the sample was supplemented according to the TOL 2008 classification.

[7] The value of the enterprise's imports, exports or domestic supply exceeded 50% of the corresponding value of the entire heading or 2 enterprises together represented over 80% of the value of the entire heading.

one. The number of enterprises selected for each heading depended on the size of the entire frame. The more enterprises were included in the frame, the more enterprises were selected from it.[8]

Table 2. Stratification of producer price indices' sample and numbers of selected enterprises

Group	Strata	Selected enterprise per stratum
1	1 (1-3 dominant enterprises)	all
2	2 (one dominant/others)	1/2
3	2 (two dominant/others)	2/2
4	2 (large/small)	2/2
5	3 (large/medium/small)	2/2/2

The products selected for actual price monitoring were selected in cooperation with data suppliers. The objective is that the monitored product would be as representative as possible and could be monitored as well as possible. The selection criteria for products were:

−   The proportion of the product of the domestic supply, export or import of the heading in question is significant.
−   The product is as representative as possible of the average price development of other similar products.
−   The price for the product concerning a certain unit (e.g. number, litres, kilograms) and quality can be quoted regularly each month (or less frequently). Quality is defined e.g. with a trademark or product code or some other quality identifier.

Table 3. Number of data suppliers, headings and price data for producer price indices

Index	No. of data suppliers	No. of headings	No. of price data
Producer Price Index for Manufactured Goods	1,000	580	2,700
Export Price Index	460	350	1,000
Import Price Index	960	620	2,500
Basic Price Index for Domestic Supply	1,700	850	4,300
Wholesale Price Index	1,700	850	4,400

4. Weight structure

The overall index of the Producer Price Index for Manufactured Products describes the average development in the prices of the headings included in the index. Individual variants reported by the enterprise do not have their own weights; enterprise-specific heading indices, or micro indices, are calculated as the geometric average of the price ratios (= current price/price at base period) of the products belonging to that heading. Micro indices are combined into an overall index with a weight coefficient corresponding to each heading. In other words, changes in the price ratios of individual commodities have different-sized effects on the overall index. At the TOL 2008 classification 4-digit level producer price indices are Laspeyres indices. At a more detailed level than the 4-digit level weight can be revised as needed and new commodities or data suppliers can be included in the index.

For the purpose of formation of weights, the values of domestic production, imports and exports were obtained from National Accounts supply and use tables. The formation of weights was started by deducting transit export from import and export values and by deducting exports from domestic values.

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[8] The number of selected enterprises could be proportioned to the variance of the price development of products included in each CPA heading. This was not done in this sampling, however, as the variance of price development could not be calculated.

This yielded for import the value of imports staying in Finland, for export the value of exports of goods produced in Finland and for domestic production the value of production staying in Finland.

The value of the production/exports/imports of small CPA headings excluded from the sampling frame was also taken into account in the formation of weight structures. So-called bootstrapping of representative values was used in calculating the weights. Bootstrapping of representative values means that the headings included in the index get their value weight based on the gross value of the entire industry so that the included headings from an industry share the gross value of that entire industry. Thus the headings included in the index represent, via the weight structure, also those headings in the industry that are not included in the index.

Table 4. Producer price indices 2005=100: 2-digit level weight structures[9]

Industry	Name	PPI for Manuf. Products	Export PI	Import PI	Basic PI for Dom. Supply	Wholesale PI
	TOTAL INDEX	**1000,0**	**1000,0**	**1000,0**	**1000,0**	**1000,0**
A	**Agriculture, Forestry and fishing**	-	**7,5**	**33,7**	**67,8**	**75,2**
A01	Crop and animal production, hunting and related service activities	-	6,4	17,7	39,1	42,8
A02	Forestry and logging	-	1,1	14,6	27,2	30,8
A03	Fishing and aquaculture	-	0,0	1,4	1,6	1,7
B	**Mining and quarrying**	**11,4**	**2,6**	**125,2**	**55,2**	**63,2**
B05	Mining of coal and lignite	0,0	0,0	8,7	3,2	4,0
B06	Extraction of crude petroleum and natural gas	0,0	0,0	86,5	32,3	37,0
B07	Mining of metal ores	1,5	0,5	24,9	10,4	11,7
B08	Other mining and quarrying	9,9	2,1	5,2	9,3	10,5
C	**Manufacturing**	**931,8**	**987,4**	**829,4**	**670,4**	**800,5**
C10	Manufacture of food products	71,6	18,2	34,6	65,0	70,6
C11	Manufacture of beverages	9,1	2,4	7,3	9,3	19,1
C12	Manufacture of tobacco products	0,0	0,0	2,4	0,9	6,7
C13	Manufacture of textiles	5,9	6,1	11,7	6,8	7,7
C14	Manufacture of wearing apparel	4,0	4,7	23,6	10,3	11,7
C15	Manufacture of leather and related products	1,9	1,9	8,1	3,9	4,4
C16	Manufacture of wood and of products of wood and cork, except furniture; manuf.	58,8	53,6	10,2	30,2	34,2
C17	Manufacture of paper and paper products	127,7	172,4	16,1	39,6	44,9
C18	Printing and reproduction of recorded media	9,7	0,6	0,6	8,1	9,2
C19	Manufacture of coke and refined petroleum products	54,2	48,3	40,5	39,9	67,5
C20	Manufacture of chemicals and chemical products	56,3	55,6	81,0	53,8	60,9
C21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	8,2	14,8	32,7	12,8	12,9
C22	Manufacture of rubber and plastic products	24,0	23,4	23,5	19,0	21,5
C23	Manufacture of other non-metallic mineral products	24,6	12,9	11,4	19,3	21,8
C24	Manufacture of basic metals	87,3	105,9	71,9	54,9	62,2
C25	Manufacture of fabricated metal products, except machinery and equipment	43,6	23,4	27,2	36,7	41,5
C26	Manufacture of computer, electronic and optical products	126,6	216,9	162,9	74,8	84,7
C27	Manufacture of electrical equipment	38,7	52,3	62,3	33,5	37,9
C28	Manufacture of machinery and equipment n.e.c.	92,9	124,5	92,7	59,5	67,4
C29	Manufacture of motor vehicles, trailers and semi-trailers	17,6	20,6	66,5	31,0	44,2
C30	Manufacture of other transport equipment	20,3	13,9	14,7	16,5	19,2
C31	Manufacture of furniture	12,6	5,0	10,0	12,1	13,7
C32	Other manufacturing	7,7	10,2	17,6	8,7	9,9
C33	Repair and installation of machinery and equipment	28,4	0,0	0,0	23,7	26,8
D	Electricity, gas, steam and air conditioning supply	47,8	0,6	10,4	43,5	52,8
D35	Electricity, gas, steam and air conditioning supply	47,8	0,6	10,4	43,5	52,8
E	**Water supply; sewerage, waste management and remediation activities**	**9,1**	**1,8**	**1,3**	**7,3**	**8,2**
E36	Water collection, treatment and supply	4,2	0,0	0,0	3,5	4,0
E38	Waste collection, treatment and disposal activities; materials recovery	4,8	1,8	1,3	3,7	4,2
F	**Construction**	-	-	-	**155,9**	-
F41	Construction of buildings	-	-	-	119,6	-
F42	Civil engineering	-	-	-	33,8	-
F43	Specialised construction activities	-	-	-	2,4	-

Weights at the enterprise level were formed after the bootstrapping of representative values. Enterprise weights are based on the stratification used in sampling and they were formed in the following way:

- If the heading included dominant enterprises[10], they were given a proportion of the total value of the heading based on their own domestic production/imports/exports. The remainder of the heading's value was distributed evenly among the other enterprises.

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[9] The 4-digit level weights of the producer price indices are given in Annex 1.
[10] The value of the enterprise's imports, exports or domestic supply exceeded 50% of the corresponding value of the entire heading or two enterprises together represented over 80% of the value of the entire heading.

- If there were no dominant enterprises in the heading, a certain proportion of the total value of the heading was distributed evenly among the enterprises in each stratum. Large enterprises shared a bigger proportion and small enterprises a smaller proportion of the total value of the heading.

The table below describes the distribution of enterprise weights in different strata.

Table 5. Distribution of enterprise level weights in producer price indices

Group	Number of strata	Distribution of weights
1	1 (1-3 dominant enterprises)	own weight
2	2 (one dominant/others)	own weight/even distribution
3	2 (two dominant/others)	own weight/even distribution
4	2 (large/small)	60%/40%
5	3 (large/medium/small)	60%/30%/10%

5. Collection of price data

The price data of producer price indices are collected mostly directly from enterprises. The data are primarily collected with a web-based data collection system or by email. In addition to data collected directly from enterprises, the price data or point figures of other Statistics Finland's statistics are also used in calculating producer price indices. Such statistics are e.g. the Index of Producer Prices of Agricultural Products, the building cost index as well as the cost index of civil engineering works. Data from the Index of Producer Prices of Agricultural Products are used e.g. in monitoring the prices of vegetables, certain building cost index sub-indices are used in monitoring the prices of construction products and the cost index of civil engineering works belongs to the construction included in the Basic Price Index for Domestic Supply.

The price development of certain import and export headings based on raw materials is measured with the import and export unit price data obtained from Board of Customs foreign trade statistics. Unit values are used to measure the price development of only homogeneous product groups[11], such as timber and cereal.

In addition to Board of Customs data, producer price indices use data on timber prices from the Finnish Forest Research Institute, data on electricity prices from the Energy Market Authority and data from Finnish Energy Industries/District heating.[12]

The price data collected from enterprises are average prices for the product in question in the month of the inquiry. If an average price cannot be determined, the price data notation may also be the price of the delivery/billing/payment time on the 15th day of the month.

Producer price indices are monthly statistics, which means that as a rule all prices are collected every month. However, some price data are collected less often due to practical reasons. The proportion of price data collected less often than quarterly of all price data is roughly one-fourth.

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[11] The change of the unit value index corresponds to a pure change in prices only when the unit value has been calculated from a homogeneous group or, in the case of a heterogeneous group, if the sales volumes and quality of products in the group have stayed unchanged for two periods. For example, for mobile phones the unit value index is not suitable for monitoring price changes as it is possible that more basic phones were sold in one month, whereas in another month the sales volumes of higher-quality phones were higher. This would change the unit value even if there was no change in the prices.

[12] Previously the monitoring of electricity prices for large enterprises focused on the 12-month moving average based on data from Nord Pool. Currently the monitoring of electricity prices is largely based on Statistics Finland's own data collection. Data are collected directly from electricity producers and a regional average price for Finland is calculated on the basis of that data.

Export and import prices are generally collected as currency prices. The conversion is performed at Statistics Finland using the currency-specific monthly average rates published by the Bank of Finland.

The monthly response rate of the price data collection is roughly at the 95 per cent level. Efforts are made to reduce non-response by actively reminding respondents to supply the requested data.

5.1 Quality changes

Producer price indices are "pure" price indices, which should not be affected by changes in the quality of the products. Qualitative changes and their treatment are among the biggest challenges in index calculations. In producer price indices the changes in quality are controlled for with several methods so that the best possible method for measuring price change is always used.

First and foremost an **overlapping price observation** is collected for the changed product. In practice this means that as the product changes the price of the preceding month is collected in addition to the price of the reference month. This allows the real change in price to be calculated and the price history stays unbroken despite the change in the monitored product. If overlapping price observations cannot be obtained, **expert assessment** is used. In these cases the data supplier is asked to assess which proportion of the price change is a pure change in price and which proportion is due to the change in the quality of the product. The expert assessment is based on the idea that the data supplier enterprise has the best possible estimate of the price development of its own products. If neither an overlapping price observation nor an expert assessment can be obtained, the price development of the product is **imputed** with the average change in the prices of other products belonging to the same commodity group. Imputation is based on the assumption that the prices of products in a commodity group develop in a roughly similar way.

If none of the above methods can be used, also the following methods can be used on a judicious basis:

- The quality of the changed product is assumed to be the same as that of the product before the change. In this case the price change is included in the index as such.
- The price change is assumed to derive entirely from a change in quality, in which case the index is not changed at all as a product changes.

Methodologies to control for changes in quality are constantly being developed and international guidelines and recommendations are taken into account when applying different methods.

5.2 Commodities with seasonal variation

Commodities with seasonal variation refer to commodities whose price reacts strongly to different seasons. In extreme cases the seasonal commodity is available only for a limited time in the year. Commodities with seasonal variation include i.a. fresh fruit and vegetables as well as winter and summer clothing. In producer price indices commodities with seasonal variation are treated with a method in which prices are recorded only for the months during which the commodity is typically used and in other months the latest recorded price is used.

6. Compilation of indices

6.1 Calculation method

The overall index describes the average development in the prices of the headings included in the index. Geometric averages for the headings of each enterprise are calculated on the basis of price ratios (= current price/price at base period) derived from individual variants. These micro indices are combined into an overall index/industry-specific index by weighting each micro index with its own weighting coefficient. In other words, price changes of individual commodities have different-sized effects on the overall index. At the TOL 2008 classification 4-digit level producer price indices are Laspeyres indices. At a more detailed level than the 4-digit level weights can be revised as necessary and new commodities or data suppliers can be included in the index.

The index for point in time t is calculated with the formula:

$$I_t = \sum \frac{P_{(0)i}Q_{(0)i}}{\sum P_{(0)i}Q_{(0)i}} * \frac{P_{(t)i}}{P_{(0)i}},$$

in which

$P_{(t)i}$ = price of commodity i at point in time t
$P_{(o)i}$ = basic price of commodity i, that is, average price at base year
$P_{(o)i} Q_{(o)i}$ = value of commodity i at base year (price*volume)
$\Sigma P_{(o)i} Q_{(o)i}$ = sum of values of commodities

Example: Let us calculate the price index for a heading with two data supplier enterprises. Take January 2005 as base period and February 2009 as the inquiry month. At the base period the index point figure is 100. Both enterprises supply price data on three products belonging to the heading.

Enterprise 1
Product A price in February 2009: EUR 35
Product A price in January 2005: EUR 42
Product B price in February 2009: EUR 14
Product B price in January 2005: EUR 11
Product C price in February 2009: EUR 53
Product C price in January 2005: EUR 60

Enterprise 2
Product D price in February 2009: EUR 67
Product D price in January 2005: EUR 62
Product E price in February 2009: EUR 52
Product E price in January 2005: EUR 62
Product F price in February 2009: EUR 43
Product F price in January 2005: EUR 45

Let the total value of the heading be EUR 1,000,000 of which enterprise 1 accounts for EUR 300,000 and enterprise 2 for the remaining EUR 700,000.

First the geometric averages of price ratios are calculated for both enterprises:
Enterprise 1

$$g_1 = \left(\frac{35}{42} \times \frac{14}{11} \times \frac{53}{60} \right)^{\frac{1}{3}} = 0.978497$$

Enterprise 2

$$g_2 = \left(\frac{67}{62} \times \frac{52}{62} \times \frac{43}{45} \right)^{\frac{1}{3}} = 0.953199$$

From which we obtain the price index:

$$I = \frac{\left(0.978497 \times 300000 + 0.953199 \times 700000 \right)}{\left(300000 + 700000 \right)} = 0.960789$$

When this is multiplied by 100, we obtain a point figure of 96.1 for the February 2009 price index. This means that the prices of the examined heading have fallen, on average, by 3.9 per cent during the examination period.

6.2 Compilation of old indices

Old producer price indices are not calculated genuinely but instead they are chained according to the new 2005=100 indices using a coefficient calculated from December 2008 index point figures. The chaining of a certain industry in the old index is performed with the corresponding industry in the new index. The coefficients are calculated from figures truncated to two decimal places. The coefficient includes five decimal places.

Table 6. Chaining coefficients of old indices

	1949=100	1975=100	1980=100	1985=100	1990=100	1995=100	2000=100
Producer Price Index for Manufactured Products, domestic production	-	-	-	-	-	1,09612	-
Producer Price Index for Manufactured Products / Production Price Index	17,02199	2,83584	1,79709	1,30737	1,18169	-	0,97198
Basic Price Index for Domestic Supply	-	2,96028	1,82504	1,33096	1,20474	1,12763	1,03502
Export Price Index	16,61810	2,53846	1,69914	1,29243	1,19649	0,99471	0,92024
Import Price Index	13,66914	2,80432	1,59857	1,27903	1,37579	1,13194	1,01793
Whole Price Index	17,68513	-	1,89888	1,36500	1,23790	1,11727	1,01610

6.3 Possible sources of error in producer price indices

Producer price indices use the Laspeyres index formula. Scientific literature on indices often refers to the substitution bias that Laspeyres' index formula may create. The direction of the bias depends on the target of measurement. In the case of the producer price index, substitution bias may arise because (when maximising their profits) enterprises react to changes in relative prices by changing their production volumes. For example, if the price of light fuel oil rises relative to petrol, an enterprise engaged in the oil industry can produce more light fuel oil. In such a case, an index calculated with Laspeyres' formula underestimates price development from the enterprises' viewpoint[13]. The significance of the substitution bias depends on the scale at which individual enterprises are able to redirect their production when relative prices change.

Producer price indices may contain a bias resulting from the entry of new products to the market. When speaking of new products reference is often made to electrical products whose production and sales can grow quite rapidly in the course of a five-year time span. If the change is vigorous, the index may not describe sufficiently accurately the average development in the prices of the commodities produced in the economy. However, in practice the bias caused by new products is not very significant, because, as

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[13] In the consumer price index the possible substitution bias is exactly the opposite as consumers shift their consumption to commodities that become relatively cheaper.

from the industrial classification 4-digit level onwards, a new commodity can be added to those whose prices are monitored with the index if its production and sales volumes have increased significantly.

The objective of producer prices indices is to describe pure price development. Therefore, changes in the quality of products must be taken into consideration in the calculations. The problem of quality change is usually encountered either when a data supplier reports that a variant on which data are collected is no longer produced, imported or exported, or that changes have been made to the variant concerned. Changes in quality may cause error in the index as the effect of pure price change vs. quality change to total price change can be difficult to define. If, as a product changes, we assume that the entire price change is due to a change in quality, we may disregard genuine changes in price. In such a case the index does not change at all for the commodity in question. If, then again, we assume that the entire price change is due to a genuine change in prices, we can disregard changes in quality and the index changes too much. The methods used to control for changes in quality applied in producer price indices are described in Chapter 5.1.

The calculation of producer price indices is based on a sample. Sampling error is always associated with sampling. Sampling error can be measured with standard error. In the producer price index sample judicious and statistical sampling were combined. Confidence intervals cannot be calculated for judicious samples.

Other factors that have a bearing on the accuracy of the index are accuracy of the data on which the sampling frame and weight structure are based, possible errors in the processing of individual data items, and non-response. In producer price indices monthly non-response is roughly 5 per cent.

7. Harmonised producer price indices

European Union regulations 1165/1998 and 1158/2005 define at what level and with which price concepts Finland must supply data to Eurostat, the Statistical Office of the European Communities. The regulations are available in the European Union legislation database and can be found by entering the number and year of the regulation as search criteria at http://eur-lex.europa.eu/en/index.htm.

The officially published producer price indices in Finland differ from the harmonised series supplied to Eurostat in the following ways:

- The weight structure of the series delivered to Eurostat *includes commodity taxes*, whereas the weight structure of the Finnish producer price indices is exclusive of taxes.
- The indices delivered to Eurostat include only industries B-E36 for domestic production and exports and industries B-D for imports (TOL 2008).

International data on producer price indices compiled in different countries can be found from the following sources, among others:

- Eurostat compiles a producer price index which measures the price development of goods produced in the EU area. EU index data are published in the Eurostat publication series Statistics in Focus. Eurostat prepares a press release on the publication of the index.
- The IMF has produced a producer price index manual which is available at http://www.imf.org/external/np/sta/tegppi/index.htm.

International index data included in publications and databases are available from the Library of Statistics at Statistics Finland.

8. Producer price index publications and other information service

Producer price indices are published on the 17th day of the month following the statistical reference month or on the first working day following it. A short release on the latest figures is published on the home page of the statistics (http://tilastokeskus.fi/til/thi/index_en.html).

The published producer price index point figures are available in Statistics Finland's StatFin service. The service is free of charge and located under Tables on the producer price indices' web page. Time series of the new 2005=100 indices are available since the index data of January 1995 (however, for years 1995-2004 only at the 2-digit level and without the Producer Price Index for Manufactured Products division into domestic and export goods and the Basic Price Index for Domestic Supply and Wholesale Price Index division into domestic and imported goods). As regards old indices, 2000=100 series are producer for the time being, excluding the Producer Price Index for Manufactured Products division into domestic and export goods and the Basic Price Index for Domestic Supply and Wholesale Price Index division into domestic and imported goods. All publishable point figures are produced from the 1949=100 series.

A monthly publication is produced of the producer price indices, which can be downloaded for free in pdf format under Available products and services on the producer price indices' web page. For the time being, the publication can also be ordered as a chargeable printed version.

9. Customer-specific indices

A customer-specific index can be compiled for such goods groups which are not included in Statistics Finland's regular index production or classification. Such indices can be produced from all price indices.

A customer-specific index can be compiled either at the industry or the heading level. It is calculated from the price data used in regular index production. Thus customer-specific indices can only include industries and headings which are included in the regular indices. By contrast, as regards the weights of the included industries and heading, the customer can use either the index weights or form its own value weights for industries or headings. The CPA heading level weights of the index are available from Statistics Finland.

A customer-specific index is formed in the following way:

- Select the index that is best suited for the customer.
- Select the industries and/or headings of interest to the customer.
- Select either the value weights of the index or the customer's own value weights.

The compilation of customer-specific indices is subject to the same data protection rules as other published point figures. Customer-specific indices cannot be produced for industries in which the price development of an individual enterprise can be deduced from the development of the index.

10. Usages of producer price indices

Producer price indices have i.a. the following usages:

- One of the key usages of producer price indices is to function as a deflator in national accounts calculations. With them the value of production or sales is converted to volume of production.

- Producer price indices can be used for describing short-term inflationary pressures on various sectors of the economy. Especially central banks and government ministries utilise producer price indices for this purpose. Many enterprises, such as investment banks, can also exploit the data in their macroeconomic forecasting models.

- Producer price indices can be used as an index clause in agreements. An index clause means that the final amount of a payment specified in an agreement is tied to a change in some index. Indexing is a means of seeking protection against inflationary risks. In practice an index clause is generally used in long-term agreements in which the period of time between the placing of an order and the delivery of goods is relatively long. Limitations on the use of an index clause are laid down in the Act on the Restriction of the Use of Index Clauses.

- Enterprises can use the data of the producer price indices when comparing the price development of their purchases or sales with the average development.

- Data from producer price indices can be combined with other data on business trends, such as those on the volume index of industrial output in order to analyse business trends more closely.

11. Calculating with indices

11.1 Change coefficients for value of money

Change coefficients for value of money provide answers to the following questions:
- How much would an amount of money in a previous year be at current value?
- How much would an amount of money at current value be at the value of a previous year?

Change coefficients for value of money are formed from index series. The purpose of use of the coefficient determines which index the coefficient will be calculated from. Usually the coefficient for value of money is calculated from the cost-of-living index, but if the change in value of money is monitored from the perspective of an enterprises' production, it is advisable to use coefficients calculated from the Producer Price Index for Manufactured Products. If, then again, the change in value of money is monitored from the perspective of an enterprise's purchases, coefficients calculated from Wholesale Price Index should be used.

Example: To calculate how much EUR 500 at year 2002 value is in EUR at year 2008 value, here we use the point figures of the Wholesale Price Index 2000=100 to calculate the coefficient for value of money. The average of the overall index of the Wholesale Price Index in year 2002 is 97.7. In 2008 the corresponding figure is 116.4. Calculated from these values, the coefficient for value of money is

$$\frac{116.4}{97.7} \approx 1.1914$$

Now the EUR 500 at year 2002 value can be multiplied with the coefficient for value of money and we obtain 1.1914 x 500 ≈ 595.7. Thus EUR 500 at year 2002 value equals EUR 595.7 at year 2008 value.

Example: To calculate how much EUR 500 at year 2008 value is in EUR at year 2002 value, we use the same point figures of the Wholesale Price Index 2000=100 as above to calculate the coefficient for value of money. Calculated from these, the coefficient for value of money is

$$\frac{97.7}{116.4} \approx 0.8393$$

Now the EUR 500 at year 2008 value can be multiplied with the coefficient for value of money and we obtain 0.8393 x 500 ≈ 419.7. Thus EUR 500 at year 2008 value equals EUR 419.7 at year 2002 value.

11.2 Calculation of price adjustment in an agreement with an index clause

Using index clauses in agreements is forbidden, in principle. It is, however, possible to use index clauses in exceptional cases, such as foreign trade agreements. If an index clause is used, the agreement should include the following information:

- The exact name of the index to which the agreement is tied.

- The base period of the agreement (month) and the corresponding index point figure.

- The agreed amount of money at base period prices.

- The adjustment period and month, whose index point figure is used in the adjustment.

In the next example a three-year trade agreement is tied to the Producer Price Index for Manufactured Products (overall index, incl. home sales and exports) 2005=100. The trade agreement is signed on 1 March 2006 when the January 2006 index point figure 101.7 is known. The value of the trade agreement is EUR 4.5 million. EUR one million is paid immediately and EUR one million together with the index adjustments on both 1 March 2007 and 1 March 2008. The remaining EUR 1.5 million and the remaining index adjustments are paid on 1 March 2009. The unpaid part of the total sum is tied to the index. It is adjusted three times, always on 1 March according to the overall point figure of the producer price index (January).

Date	Point figure	Sum, outstanding share, EUR	Paid (agreed sum+index adjustment)
1 March 2006	101.7	4,500,000	1,000,000
1 March 2007	103.6	(103.6/101.7) x 3,500,000 = 3,565,388	1,000,000 + 65,388 = 1,065,388
1 March 2008	108.9	(108.9/101.7) x 2,500,000 = 2,676,991	1,000,000 + 176,991 = 1,176,991
1 March 2009	104.8	(104.8/101.7) x 1,500,000 = 1,545,723	1,545,723
		Total	**4,788,102**

The share of index adjustments for the entire agreement period is EUR 288,102.

11.3 Calculating changes

The change in index figures between two points in time is usually calculated as a percentage. The change percentage is calculated as follows:

$$\frac{I_t - I_0}{I_0} * 100,$$ where I_t = index for the reference point in time I_0 = index for the comparison point in time.

Monthly and annual changes in producer price indices are calculated at Statistics Finland from figures truncated to two decimal places. In the following imaginary example the annual and monthly changes of the Producer Price Index for Manufactured Products 2005=100 in March 2008 are calculated:

Point figure in March 2007: 108.2
Point figure in February 2008: 110.1
Point figure in March 2008: 111.2

$$Annual\ change = \frac{111.2 - 108.2}{108.2} * 100 \approx 2.8 \text{ or roughly 2.8 per cent}$$

$$Monthly\ change = \frac{111.2 - 110.1}{110.1} * 100 \approx 1.0 \text{ or roughly 1 per cent}$$

11.4 Changing an index reference year

To monitor the development of the index starting from a point in time for which an index series is not yet calculated, the reference year of the index can be changed. The first step is to select the index from which the point figures of the new index area calculated. The average index of the selected new reference year is 100 and the point figures of the following points in time are calculated in the following way:

$$\frac{I_t}{I_0} * 100 = \text{point figure of new index series at point in time t}$$

I_t = value of the index used at point in time t
I_0 = value of used index at reference point in time

Example: To monitor changes in the Wholesale Price Index since year 1971, we use the Wholesale Price Index 1949=100.

Year	Wholesale Price Index 1949=100	Wholesale Price Index 1971=100
1971	312	312 / 312 * 100 = 100
1972	338	338 / 312 * 100 ≈ 108
1973	398	398 / 312 * 100 ≈ 128
*	*	*
*	*	*
2002	1693	1693 / 312 * 100 ≈ 543

In this example the figures of the new reference year were calculated for annual averages, but they can of course be calculated also for monthly point figures.

11.5 Nominal and real values

Nominal quantities can be converted to real quantities with a suitable deflator. With this procedure the impact of changes to the value of money can be eliminated from nominal quantities.

$$\frac{nominal\ value}{suitable\ deflator} * 100 = \text{real value}$$

Example: nominal interest rates are up by 0.8 per cent and simultaneously inflation, that is, the annual change in consumer prices, has been roughly 1.5 per cent.

$\frac{100.8}{101.5} * 100 \approx 99.3$. Thus, real interest rates have fallen by 0.7 per cent (99.3-100).

11.6 Deflation and volume calculations

Price indices, such as the producer price indices, can be used as deflators in volume calculations. In such instances, the change in a certain value, such as the value of the sales of an enterprise (value index), is known. To find out the change in the volume over the same time period, a suitable price index, such as the Producer Price Index for Manufactured Products or one of its sub-indices, is used as a deflator. The volume index is calculated with to the following formula:

$$\text{Volume index} = \frac{\text{value index}}{\text{price index}} * 100.$$

Example: The value of the sales of an enterprise went up by 8.9 per cent from 2000 to 2001. The prices of the products sold by the enterprise rose by 0.3 per cent over the same period. Thus the change in the volume of the sales was:

$\frac{108.9}{100.3} * 100 \approx 108.6$. Growth in the volume from 2000 to 2001 was 8.6 per cent.

The unit value index is a price index which measures the development of unit value prices, such as price per tonne. A unit value index can be calculated with the value index and the volume index with the following formula:

$$\text{Unit value index} = \frac{\text{value index}}{\text{volume index}} * 100.$$

11.7 Effect of price change on overall index

When examining the monthly and annual changes in producer price indices, the price changes must be proportioned to the weight of the commodity or commodity group. Even a small change in the price of a commodity with a large weight, such as that of oil products in the producer price index, has a significant effect to the overall index.

The following is an example of the effect of a price change of oil products on the annual change of the Import Price Index in March 2008. For the calculation we need:

- Weight of oil products in the overall index (w): 3.64%

- March 2007 point figure of oil products (ind^{t-12}): 110.5

- March 2008 point figure of oil products (ind^{t}): 146.3

- Import Price Index 2005=100 overall point figure in March 2007 ($overall\_ind^{t-12}$): 108.2. In March 2008 the point figure is 111.2.

Thus the annual change in the Import Price Index is $\frac{(111.2-108.2)}{108.2} \times 100\% \approx 2.773\%$. We want to break down this change into additive components, that is percentage points, and find out which part of

the 2.773 percentage point change was due to the increases in prices of oil products. In practice some import prices rose and some fell, but at the annual level import prices rose by an average of 2.8 per cent.

The effect of the price change on the annual change is calculated with the formula:

$$\frac{w\left(ind^{t} - ind^{t-12}\right)}{overall\_ind^{t-12}},$$

and the effect of price changes of oil products on the Import Price Index is

$$\frac{3.64 \cdot (146.3 - 110.5)}{108.2} \approx 1.204$$ percentage points. Thus, of the 2,773 per cent rise 1.204 percentage points is due to an increase in the prices of oil products and the remaining 1.569 percentage points is due to increases in the prices of other products.

Further information about index calculations can be found e.g. in the Indices module of the eCourse in Statistics on Statistics Finland's website.

Annex 1. Weight structures for producer price indices

Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
SSSS	**Total index**	**1000,0**	**1000,0**	**1000,0**	**1000,0**	**1000,0**
A	**Agriculture, Forestry and fishing**	-	**7,5**	**33,7**	**67,8**	**75,2**
A01	Crop and animal production, hunting and related service activities	-	6,4	17,7	39,1	42,8
A011	Growing of non-perennial crops	-	1,6	6,0	16,9	18,6
A0111	Growing of cereals (except rice), leguminous crops and oil seeds	-	1,6	2,0	6,3	6,8
A0113	Growing of vegetables and melons, roots and tubers	-	0,0	3,9	5,0	5,4
A0119	Growing of other non-perennial crops	-	0,0	0,0	5,6	6,4
A012	Growing of perennial crops	-	0,0	10,5	4,9	5,3
A0121	Growing of grapes	-	0,0	0,6	0,2	0,2
A0122	Growing of tropical and subtropical fruits	-	0,0	1,8	0,7	0,7
A0123	Growing of citrus fruits	-	0,0	1,5	0,6	0,6
A0124	Growing of pome fruits and stone fruits	-	0,0	1,7	1,1	1,2
A0125	Growing of other tree and bush fruits and nuts	-	0,0	0,5	0,7	0,7
A0127	Growing of beverage crops	-	0,0	3,0	1,1	1,2
A0129	Growing of other perennial crops	-	0,0	1,4	0,5	0,6
A013	Plant propagation	-	0,0	1,3	0,7	0,8
A0130	Plant propagation	-	0,0	1,3	0,7	0,8
A014	Animal production	-	4,8	0,0	16,6	18,1
A0141	Raising of dairy cattle	-	0,0	0,0	8,1	8,8
A0146	Raising of swine/pigs	-	0,0	0,0	5,6	6,1
A0147	Raising of poultry	-	0,0	0,0	2,5	2,7
A0149	Raising of other animals	-	4,8	0,0	0,5	0,5
A02	Forestry and logging	-	1,1	14,6	27,2	30,8
A022	Logging	-	1,1	14,5	27,1	30,7
A0220	Logging	-	1,1	14,5	27,1	30,7
A023	Gathering of wild growing non-wood products	-	0,0	0,1	0,0	0,0
A0230	Gathering of wild growing non-wood products	-	0,0	0,1	0,0	0,0
A03	Fishing and aquaculture	-	0,0	1,4	1,6	1,7
B	**Mining and quarrying**	**11,4**	**2,6**	**125,2**	**55,2**	**63,2**
B05	Mining of coal and lignite	0,0	0,0	8,7	3,2	4,0
B051	Mining of hard coal	0,0	0,0	8,7	3,2	4,0
B0510	Mining of hard coal	0,0	0,0	8,7	3,2	4,0
B06	Extraction of crude petroleum and natural gas	0,0	0,0	86,5	32,3	37,0
B061	Extraction of crude petroleum	0,0	0,0	74,4	27,8	31,4
B0610	Extraction of crude petroleum	0,0	0,0	74,4	27,8	31,4
B062	Extraction of natural gas	0,0	0,0	12,1	4,5	5,6
B0620	Extraction of natural gas	0,0	0,0	12,1	4,5	5,6
B07	Mining of metal ores	1,5	0,5	24,9	10,4	11,7
B071	Mining of iron ores	0,0	0,0	4,9	1,8	2,1
B0710	Mining of iron ores	0,0	0,0	4,9	1,8	2,1
B072	Mining of non-ferrous metal ores	1,5	0,5	20,0	8,5	9,7
B0729	Mining of other non-ferrous metal ores	1,5	0,5	20,0	8,5	9,7
B08	Other mining and quarrying	9,9	2,1	5,2	9,3	10,5
B081	Quarrying of stone, sand and clay	5,6	0,9	4,3	5,9	6,7
B0811	Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate	1,2	0,6	0,8	1,0	1,1
B0812	Operation of gravel and sand pits; mining of clays and kaolin	4,4	0,3	3,6	4,9	5,6
B089	Mining and quarrying n.e.c.	4,3	1,2	0,9	3,4	3,8
B0891	Mining of chemical and fertiliser minerals	0,6	0,0	0,0	0,5	0,6
B0892	Extraction of peat	2,6	0,3	0,0	2,1	2,3
B0893	Extraction of salt	0,0	0,0	0,6	0,2	0,2
B0899	Other mining and quarrying n.e.c.	1,1	0,9	0,3	0,6	0,7
C	**Manufacturing**	**931,8**	**987,4**	**829,4**	**670,4**	**800,5**
C10	Manufacture of food products	71,6	18,2	34,6	65,0	70,6
C101	Processing and preserving of meat and production of meat products	20,0	2,8	3,4	16,8	18,3
C1011	Processing and preserving of meat	8,8	2,6	2,1	7,1	7,7

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Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
C1012	Processing and preserving of poultry meat	0,9	0,0	0,4	0,9	1,0
C1013	Production of meat and poultry meat products	10,3	0,2	0,9	8,8	9,6
C102	Processing and preserving of fish, crustaceans and molluscs	1,4	0,2	2,4	2,0	2,2
C1020	Processing and preserving of fish, crustaceans and molluscs	1,4	0,2	2,4	2,0	2,2
C103	Processing and preserving of fruit and vegetables	3,7	0,0	4,7	4,9	5,3
C1031	Processing and preserving of potatoes	0,6	0,0	0,6	0,7	0,8
C1032	Manufacture of fruit and vegetable juice	1,5	0,0	1,0	1,6	1,8
C1039	Other processing and preserving of fruit and vegetables	1,7	0,0	3,1	2,6	2,8
C104	Manufacture of vegetable and animal oils and fats	1,7	1,2	2,5	1,9	2,1
C1041	Manufacture of oils and fats	1,0	0,6	1,9	1,3	1,5
C1042	Manufacture of margarine and similar edible fats	0,7	0,6	0,7	0,6	0,6
C105	Manufacture of dairy products	16,9	7,2	4,0	12,5	13,6
C1051	Operation of dairies and cheese making	16,2	7,2	3,4	11,7	12,7
C1052	Manufacture of ice cream	0,7	0,0	0,6	0,8	0,8
C106	Manufacture of grain mill products, starches and starch products	3,2	1,2	3,4	3,4	3,7
C1061	Manufacture of grain mill products	1,5	0,0	1,2	1,7	1,8
C1062	Manufacture of starches and starch products	1,7	1,2	2,2	1,8	1,9
C107	Manufacture of bakery and farinaceous products	8,4	1,1	2,9	7,6	8,3
C1071	Manufacture of bread; manufacture of fresh pastry goods and cakes	6,4	0,0	1,0	5,7	6,2
C1072	Manufacture of rusks and biscuits; manufacture of preserved pastry goods and cakes	1,9	1,1	1,9	1,8	2,0
C1073	Manufacture of macaroni, noodles, couscous and similar farinaceous products	0,1	0,0	0,0	0,1	0,1
C108	Manufacture of other food products	11,3	4,1	9,5	11,2	12,2
C1081	Manufacture of sugar	2,7	0,8	1,3	2,4	2,6
C1082	Manufacture of cocoa, chocolate and sugar confectionery	3,4	2,3	4,0	3,3	3,6
C1083	Processing of tea and coffee	1,7	0,0	1,0	1,8	1,9
C1084	Manufacture of condiments and seasonings	0,9	0,0	1,8	1,4	1,5
C1085	Manufacture of prepared meals and dishes	1,4	0,0	1,5	1,7	1,8
C1086	Manufacture of homogenised food preparations and dietetic food	0,3	0,0	0,0	0,3	0,3
C1089	Manufacture of other food products n.e.c.	1,0	0,9	0,0	0,4	0,5
C109	Manufacture of prepared animal feeds	4,9	0,4	1,7	4,6	5,0
C1091	Manufacture of prepared feeds for farm animals	4,8	0,4	0,6	4,1	4,4
C1092	Manufacture of prepared pet foods	0,1	0,0	1,2	0,6	0,6
C11	Manufacture of beverages	9,1	2,4	7,3	9,3	19,1
C110	Manufacture of beverages	9,1	2,4	7,3	9,3	19,1
C1101	Distilling, rectifying and blending of spirits	1,5	1,4	2,6	1,6	4,6
C1102	Manufacture of wine from grape	0,2	0,0	2,9	1,2	2,9
C1103	Manufacture of cider and other fruit wines	1,0	0,0	0,3	0,9	2,3
C1105	Manufacture of beer	2,9	0,4	1,3	2,7	5,8
C1106	Manufacture of malt	0,5	0,5	0,0	0,2	0,2
C1107	Manufacture of soft drinks; production of mineral waters and other bottled waters	3,1	0,0	0,3	2,6	3,3
C12	Manufacture of tobacco products	0,0	0,0	2,4	0,9	6,7
C120	Manufacture of tobacco products	0,0	0,0	2,4	0,9	6,7
C1200	Manufacture of tobacco products	0,0	0,0	2,4	0,9	6,7
C13	Manufacture of textiles	5,9	6,1	11,7	6,8	7,7
C131	Preparation and spinning of textile fibres	0,2	0,0	0,8	0,5	0,5
C1310	Preparation and spinning of textile fibres	0,2	0,0	0,8	0,5	0,5
C132	Weaving of textiles	0,5	0,5	2,7	1,2	1,4
C1320	Weaving of textiles	0,5	0,5	2,7	1,2	1,4
C139	Manufacture of other textiles	5,2	5,6	8,2	5,1	5,8
C1391	Manufacture of knitted and crocheted fabrics	0,1	0,2	0,4	0,2	0,2
C1392	Manufacture of made-up textile articles, except apparel	1,5	0,8	3,8	2,3	2,6
C1393	Manufacture of carpets and rugs	0,1	0,2	0,9	0,3	0,4
C1394	Manufacture of cordage, rope, twine and netting	0,0	0,0	0,0	0,0	0,0
C1395	Manufacture of non-wovens and articles made from non-wovens, except apparel	1,0	1,6	1,1	0,5	0,6
C1396	Manufacture of other technical and industrial textiles	2,5	2,6	2,0	1,7	2,0

Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
C14	Manufacture of wearing apparel	4,0	4,7	23,6	10,3	11,7
C141	Manufacture of wearing apparel, except fur apparel	3,6	4,1	19,2	8,5	9,6
C1411	Manufacture of leather clothes	0,0	0,0	0,3	0,1	0,1
C1412	Manufacture of workwear	0,6	0,0	0,9	0,8	0,9
C1413	Manufacture of other outerwear	1,9	2,2	8,8	4,0	4,5
C1414	Manufacture of underwear	0,4	0,8	3,6	1,3	1,5
C1419	Manufacture of other wearing apparel and accessories	0,7	1,1	5,6	2,3	2,6
C142	Manufacture of articles of fur	0,1	0,1	0,1	0,0	0,0
C1420	Manufacture of articles of fur	0,1	0,1	0,1	0,0	0,0
C143	Manufacture of knitted and crocheted apparel	0,4	0,4	4,3	1,8	2,0
C1431	Manufacture of knitted and crocheted hosiery	0,2	0,1	0,9	0,5	0,5
C1439	Manufacture of other knitted and crocheted apparel	0,1	0,2	3,5	1,3	1,5
C15	Manufacture of leather and related products	1,9	1,9	8,1	3,9	4,4
C151	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness; dressing an	0,3	0,7	2,2	0,8	1,0
C1511	Tanning and dressing of leather; dressing and dyeing of fur	0,2	0,4	0,5	0,2	0,2
C1512	Manufacture of luggage, handbags and the like, saddlery and harness	0,2	0,3	1,7	0,7	0,7
C152	Manufacture of footwear	1,5	1,2	5,8	3,0	3,4
C1520	Manufacture of footwear	1,5	1,2	5,8	3,0	3,4
C16	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of s	58,8	53,6	10,2	30,2	34,2
C161	Sawmilling and planing of wood	31,3	28,9	4,5	15,6	17,7
C1610	Sawmilling and planing of wood	31,3	28,9	4,5	15,6	17,7
C162	Manufacture of products of wood, cork, straw and plaiting materials	27,5	24,7	5,7	14,6	16,5
C1621	Manufacture of veneer sheets and wood-based panels	9,0	14,8	2,8	2,3	2,6
C1622	Manufacture of assembled parquet floors	1,2	1,6	0,3	0,5	0,5
C1623	Manufacture of other builders' carpentry and joinery	15,8	8,3	1,7	10,3	11,6
C1624	Manufacture of wooden containers	1,2	0,0	0,0	1,0	1,1
C1629	Manufacture of other products of wood; manufacture of articles of cork, straw and plaiting	0,4	0,0	0,8	0,6	0,7
C17	Manufacture of paper and paper products	127,7	172,4	16,1	39,6	44,9
C171	Manufacture of pulp, paper and paperboard	117,9	165,8	11,3	32,4	36,7
C1711	Manufacture of pulp	25,0	18,7	2,8	14,0	15,9
C1712	Manufacture of paper and paperboard	92,8	147,2	8,4	18,4	20,8
C172	Manufacture of articles of paper and paperboard	9,9	6,6	4,9	7,2	8,2
C1721	Manufacture of corrugated paper and paperboard and of containers of paper and paperboard	3,7	0,9	1,2	3,2	3,6
C1722	Manufacture of household and sanitary goods and of toilet requisites	3,1	3,2	2,6	2,2	2,5
C1723	Manufacture of paper stationery	1,3	0,5	0,5	1,1	1,2
C1729	Manufacture of other articles of paper and paperboard	1,8	2,0	0,6	0,8	1,0
C18	Printing and reproduction of recorded media	9,7	0,6	0,6	8,1	9,2
C181	Printing and service activities related to printing	9,5	0,6	0,6	7,9	9,0
C1811	Printing of newspapers	1,5	0,0	0,0	1,3	1,5
C1812	Other printing	7,3	0,6	0,5	6,1	6,9
C1813	Pre-press and pre-media services	0,6	0,0	0,1	0,5	0,6
C1814	Binding and related services	0,1	0,0	0,0	0,1	0,1
C182	Reproduction of recorded media	0,2	0,0	0,0	0,2	0,2
C1820	Reproduction of recorded media	0,2	0,0	0,0	0,2	0,2
C19	Manufacture of coke and refined petroleum products	54,2	48,3	40,5	39,9	67,5
C191	Manufacture of coke oven products	0,0	0,0	4,1	1,5	1,7
C1910	Manufacture of coke oven products	0,0	0,0	4,1	1,5	1,7
C192	Manufacture of refined petroleum products	54,2	48,3	36,4	38,4	65,8
C1920	Manufacture of refined petroleum products	54,2	48,3	36,4	38,4	65,8
C20	Manufacture of chemicals and chemical products	56,3	55,6	81,0	53,8	60,9
C201	Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in	45,1	43,8	55,2	39,8	45,1
C2011	Manufacture of industrial gases	1,2	0,0	0,0	1,0	1,1
C2012	Manufacture of dyes and pigments	3,5	5,7	2,7	1,5	1,7
C2013	Manufacture of other inorganic basic chemicals	10,3	5,7	8,4	9,4	10,6

Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
C2014	Manufacture of other organic basic chemicals	11,5	13,3	21,5	12,1	13,7
C2015	Manufacture of fertilisers and nitrogen compounds	4,2	3,1	3,3	3,4	3,9
C2016	Manufacture of plastics in primary forms	11,1	14,9	17,8	9,6	10,9
C2017	Manufacture of synthetic rubber in primary forms	3,2	1,1	1,5	2,8	3,2
C202	Manufacture of pesticides and other agrochemical products	0,0	0,0	1,4	0,5	0,6
C2020	Manufacture of pesticides and other agrochemical products	0,0	0,0	1,4	0,5	0,6
C203	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	4,5	5,3	3,9	2,9	3,3
C2030	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	4,5	5,3	3,9	2,9	3,3
C204	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet prepara	2,0	1,1	6,9	3,8	4,3
C2041	Manufacture of soap and detergents, cleaning and polishing preparations	1,4	0,0	2,9	2,3	2,6
C2042	Manufacture of perfumes and toilet preparations	0,6	1,1	3,9	1,5	1,7
C205	Manufacture of other chemical products	3,9	4,0	12,4	6,2	7,0
C2051	Manufacture of explosives	0,4	0,0	0,0	0,4	0,4
C2052	Manufacture of glues	1,4	0,0	0,4	1,3	1,5
C2059	Manufacture of other chemical products n.e.c.	2,1	4,0	12,0	4,5	5,1
C206	Manufacture of man-made fibres	0,8	1,3	1,2	0,5	0,6
C2060	Manufacture of man-made fibres	0,8	1,3	1,2	0,5	0,6
C21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	8,2	14,8	32,7	12,8	12,9
C211	Manufacture of basic pharmaceutical products	0,8	1,6	1,9	0,7	0,8
C2110	Manufacture of basic pharmaceutical products	0,8	1,6	1,9	0,7	0,8
C212	Manufacture of pharmaceutical preparations	7,4	13,2	30,8	12,1	12,1
C2120	Manufacture of pharmaceutical preparations	7,4	13,2	30,8	12,1	12,1
C22	Manufacture of rubber and plastic products	24,0	23,4	23,5	19,0	21,5
C221	Manufacture of rubber products	5,2	6,9	7,4	4,2	4,7
C2211	Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres	3,7	5,4	4,1	2,4	2,7
C2219	Manufacture of other rubber products	1,4	1,5	3,3	1,8	2,0
C222	Manufacture of plastics products	18,8	16,5	16,1	14,8	16,7
C2221	Manufacture of plastic plates, sheets, tubes and profiles	9,8	10,2	7,4	6,6	7,5
C2222	Manufacture of plastic packing goods	3,0	1,4	2,5	2,8	3,2
C2223	Manufacture of builders' ware of plastic	1,3	0,7	1,0	1,2	1,3
C2229	Manufacture of other plastic products	4,7	4,2	5,2	4,1	4,7
C23	Manufacture of other non-metallic mineral products	24,6	12,9	11,4	19,3	21,8
C231	Manufacture of glass and glass products	5,7	6,5	4,2	3,6	4,1
C2311	Manufacture of flat glass	0,2	0,0	1,5	0,7	0,8
C2312	Shaping and processing of flat glass	2,8	3,8	0,5	1,0	1,1
C2313	Manufacture of hollow glass	0,3	0,0	0,8	0,6	0,7
C2314	Manufacture of glass fibres	2,3	2,7	0,9	1,1	1,3
C2319	Manufacture and processing of other glass, including technical glassware	0,0	0,0	0,5	0,2	0,2
C232	Manufacture of refractory products	0,0	0,1	1,2	0,5	0,5
C2320	Manufacture of refractory products	0,0	0,1	1,2	0,5	0,5
C233	Manufacture of clay building materials	0,4	0,0	1,3	0,8	0,9
C2331	Manufacture of ceramic tiles and flags	0,0	0,0	1,3	0,5	0,6
C2332	Manufacture of bricks, tiles and construction products, in baked clay	0,4	0,0	0,0	0,3	0,4
C234	Manufacture of other porcelain and ceramic products	1,5	1,2	1,3	1,3	1,5
C2341	Manufacture of ceramic household and ornamental articles	0,5	0,0	1,3	0,9	1,0
C2342	Manufacture of ceramic sanitary fixtures	0,8	1,2	0,0	0,2	0,2
C2349	Manufacture of other ceramic products	0,3	0,0	0,0	0,2	0,3
C235	Manufacture of cement, lime and plaster	1,9	0,1	1,2	2,0	2,2
C2351	Manufacture of cement	1,1	0,0	0,6	1,2	1,3
C2352	Manufacture of lime and plaster	0,8	0,1	0,6	0,8	0,9
C236	Manufacture of articles of concrete, cement and plaster	9,9	0,9	0,0	7,9	8,9
C2361	Manufacture of concrete products for construction purposes	5,4	0,2	0,0	4,4	5,0
C2362	Manufacture of plaster products for construction purposes	0,5	0,3	0,0	0,3	0,4
C2363	Manufacture of ready-mixed concrete	2,2	0,0	0,0	1,8	2,0

Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
C2364	Manufacture of mortars	1,1	0,0	0,0	0,9	1,1
C2365	Manufacture of fibre cement	0,3	0,4	0,0	0,1	0,1
C2369	Manufacture of other articles of concrete, plaster and cement	0,3	0,0	0,0	0,3	0,3
C237	Cutting, shaping and finishing of stone	1,6	0,9	0,0	1,0	1,1
C2370	Cutting, shaping and finishing of stone	1,6	0,9	0,0	1,0	1,1
C239	Manufacture of abrasive products and non-metallic mineral products n.e.c.	3,5	3,2	2,0	2,3	2,6
C2391	Production of abrasive products	1,6	3,2	0,6	0,2	0,3
C2399	Manufacture of other non-metallic mineral products n.e.c.	1,9	0,0	1,4	2,1	2,3
C24	Manufacture of basic metals	87,3	105,9	71,9	54,9	62,2
C241	Manufacture of basic iron and steel and of ferro-alloys	50,4	63,6	40,4	30,2	34,2
C2410	Manufacture of basic iron and steel and of ferro-alloys	50,4	63,6	40,4	30,2	34,2
C242	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	5,1	7,9	6,7	3,4	3,8
C2420	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	5,1	7,9	6,7	3,4	3,8
C243	Manufacture of other products of first processing of steel	3,3	4,3	3,0	2,1	2,4
C2431	Cold drawing of bars	0,0	0,0	1,0	0,4	0,4
C2432	Cold rolling of narrow strip	1,4	1,4	1,0	0,9	1,1
C2433	Cold forming or folding	1,4	2,9	0,2	0,1	0,1
C2434	Cold drawing of wire	0,5	0,0	0,8	0,7	0,8
C244	Manufacture of basic precious and other non-ferrous metals	25,5	30,1	21,8	16,7	18,9
C2442	Aluminium production	3,2	1,9	5,2	3,8	4,3
C2443	Lead, zinc and tin production	2,7	5,4	0,0	0,0	0,0
C2444	Copper production	12,9	11,9	4,6	7,5	8,4
C2445	Other non-ferrous metal production	6,7	11,0	12,0	5,4	6,2
C245	Casting of metals	3,0	0,0	0,0	2,5	2,8
C2451	Casting of iron	1,5	0,0	0,0	1,2	1,4
C2452	Casting of steel	0,6	0,0	0,0	0,5	0,6
C2453	Casting of light metals	0,7	0,0	0,0	0,6	0,7
C2454	Casting of other non-ferrous metals	0,1	0,0	0,0	0,1	0,1
C25	Manufacture of fabricated metal products, except machinery and equipment	43,6	23,4	27,2	36,7	41,5
C251	Manufacture of structural metal products	14,2	5,4	4,0	11,1	12,5
C2511	Manufacture of metal structures and parts of structures	12,3	5,0	3,4	9,4	10,6
C2512	Manufacture of doors and windows of metal	2,0	0,4	0,6	1,7	1,9
C252	Manufacture of tanks, reservoirs and containers of metal	2,2	1,8	0,0	1,1	1,2
C2521	Manufacture of central heating radiators and boilers	1,0	1,4	0,0	0,2	0,3
C2529	Manufacture of other tanks, reservoirs and containers of metal	1,2	0,4	0,0	0,9	1,0
C253	Manufacture of steam generators, except central heating hot water boilers	2,9	3,5	0,0	0,9	1,0
C2530	Manufacture of steam generators, except central heating hot water boilers	2,9	3,5	0,0	0,9	1,0
C254	Manufacture of weapons and ammunition	0,7	0,9	0,0	0,2	0,2
C2540	Manufacture of weapons and ammunition	0,7	0,9	0,0	0,2	0,2
C255	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	0,6	0,0	0,0	0,5	0,5
C2550	Forging, pressing, stamping and roll-forming of metal; powder metallurgy	0,6	0,0	0,0	0,5	0,5
C256	Treatment and coating of metals; machining	10,4	0,0	0,0	8,7	9,8
C2561	Treatment and coating of metals	6,4	0,0	0,0	5,3	6,0
C2562	Machining	4,0	0,0	0,0	3,3	3,8
C257	Manufacture of cutlery, tools and general hardware	4,6	4,8	9,9	5,6	6,3
C2571	Manufacture of cutlery	0,3	0,3	0,7	0,4	0,5
C2572	Manufacture of locks and hinges	1,8	2,3	4,1	2,1	2,4
C2573	Manufacture of tools	2,4	2,1	5,1	3,0	3,4
C259	Manufacture of other fabricated metal products	8,0	7,0	13,3	8,7	9,9
C2591	Manufacture of steel drums and similar containers	0,2	0,0	0,4	0,3	0,3
C2592	Manufacture of light metal packaging	0,5	0,5	1,1	0,6	0,7
C2593	Manufacture of wire products, chain and springs	1,8	0,6	0,7	1,5	1,7
C2594	Manufacture of fasteners and screw machine products	0,5	0,9	2,3	0,9	1,0
C2599	Manufacture of other fabricated metal products n.e.c.	5,1	4,9	8,7	5,4	6,2
C26	Manufacture of computer, electronic and optical products	126,6	216,9	162,9	74,8	84,7
C261	Manufacture of electronic components and boards	7,6	5,7	31,9	15,8	17,9
C2611	Manufacture of electronic components	2,3	4,5	28,5	10,6	12,0

Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
C2612	Manufacture of loaded electronic boards	5,3	1,2	3,4	5,2	5,9
C262	Manufacture of computers and peripheral equipment	1,6	0,9	29,7	12,1	13,7
C2620	Manufacture of computers and peripheral equipment	1,6	0,9	29,7	12,1	13,7
C263	Manufacture of communication equipment	95,3	169,9	42,5	23,6	26,7
C2630	Manufacture of communication equipment	95,3	169,9	42,5	23,6	26,7
C264	Manufacture of consumer electronics	9,8	19,0	35,5	13,5	15,2
C2640	Manufacture of consumer electronics	9,8	19,0	35,5	13,5	15,2
C265	Manufacture of instruments and appliances for measuring, testing and navigation; watches and	8,7	14,4	13,1	6,1	6,9
C2651	Manufacture of instruments and appliances for measuring, testing and navigation	8,7	14,4	12,5	5,8	6,6
C2652	Manufacture of watches and clocks	0,0	0,0	0,6	0,2	0,3
C266	Manufacture of irradiation, electromedical and electrotherapeutic equipment	3,5	6,8	2,6	1,0	1,1
C2660	Manufacture of irradiation, electromedical and electrotherapeutic equipment	3,5	6,8	2,6	1,0	1,1
C267	Manufacture of optical instruments and photographic equipment	0,1	0,1	3,7	1,4	1,6
C2670	Manufacture of optical instruments and photographic equipment	0,1	0,1	3,7	1,4	1,6
C268	Manufacture of magnetic and optical media	0,0	0,0	3,8	1,4	1,6
C2680	Manufacture of magnetic and optical media	0,0	0,0	3,8	1,4	1,6
C27	Manufacture of electrical equipment	38,7	52,3	62,3	33,5	37,9
C271	Manufacture of electric motors, generators, transformers and electricity distribution and control ap	24,8	34,7	15,3	11,7	13,3
C2711	Manufacture of electric motors, generators and transformers	19,4	28,5	10,2	7,9	9,0
C2712	Manufacture of electricity distribution and control apparatus	5,4	6,2	5,2	3,8	4,3
C272	Manufacture of batteries and accumulators	0,0	0,0	3,0	1,1	1,3
C2720	Manufacture of batteries and accumulators	0,0	0,0	3,0	1,1	1,3
C273	Manufacture of wiring and wiring devices	6,1	7,9	10,1	5,5	6,3
C2731	Manufacture of fibre optic cables	0,1	0,0	0,3	0,2	0,2
C2732	Manufacture of other electronic and electric wires and cables	3,1	4,6	4,8	2,5	2,8
C2733	Manufacture of wiring devices	2,8	3,3	5,0	2,8	3,2
C274	Manufacture of electric lighting equipment	2,0	2,7	5,4	2,5	2,9
C2740	Manufacture of electric lighting equipment	2,0	2,7	5,4	2,5	2,9
C275	Manufacture of domestic appliances	1,9	2,7	12,8	5,2	5,9
C2751	Manufacture of electric domestic appliances	1,7	2,7	11,9	4,7	5,3
C2752	Manufacture of non-electric domestic appliances	0,2	0,0	0,9	0,5	0,6
C279	Manufacture of other electrical equipment	4,0	4,2	15,6	7,4	8,3
C2790	Manufacture of other electrical equipment	4,0	4,2	15,6	7,4	8,3
C28	Manufacture of machinery and equipment n.e.c.	92,9	124,5	92,7	59,5	67,4
C281	Manufacture of general-purpose machinery	17,1	24,5	30,2	15,2	17,2
C2811	Manufacture of engines and turbines, except aircraft, vehicle and cycle engines	4,9	9,6	10,7	4,0	4,5
C2812	Manufacture of fluid power equipment	2,3	2,2	3,7	2,3	2,7
C2813	Manufacture of other pumps and compressors	2,2	3,8	5,2	2,2	2,5
C2814	Manufacture of other taps and valves	4,0	4,7	4,3	3,0	3,4
C2815	Manufacture of bearings, gears, gearing and driving elements	3,7	4,2	6,3	3,7	4,2
C282	Manufacture of other general-purpose machinery	24,7	32,5	29,7	17,9	20,3
C2821	Manufacture of ovens, furnaces and furnace burners	0,5	0,7	0,0	0,1	0,1
C2822	Manufacture of lifting and handling equipment	13,8	19,0	9,3	6,9	7,9
C2823	Manufacture of office machinery and equipment (except computers and peripheral equipment)	0,0	0,0	3,1	1,2	1,3
C2824	Manufacture of power-driven hand tools	0,0	0,0	2,8	1,0	1,2
C2825	Manufacture of non-domestic cooling and ventilation equipment	5,7	5,9	6,8	4,8	5,5
C2829	Manufacture of other general-purpose machinery n.e.c.	4,7	7,0	7,7	3,9	4,4
C283	Manufacture of agricultural and forestry machinery	9,7	13,5	5,8	4,5	5,1
C2830	Manufacture of agricultural and forestry machinery	9,7	13,5	5,8	4,5	5,1
C284	Manufacture of metal forming machinery and machine tools	3,2	5,8	4,4	1,9	2,1
C2841	Manufacture of metal forming machinery	1,9	3,2	2,3	1,1	1,2
C2849	Manufacture of other machine tools	1,3	2,6	2,1	0,8	0,9
C289	Manufacture of other special-purpose machinery	38,2	48,1	22,6	20,0	22,6
C2892	Manufacture of machinery for mining, quarrying and construction	13,7	21,0	9,8	6,2	7,1

Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
C2893	Manufacture of machinery for food, beverage and tobacco processing	0,3	0,6	1,6	0,6	0,7
C2894	Manufacture of machinery for textile, apparel and leather production	0,0	0,0	0,8	0,3	0,3
C2895	Manufacture of machinery for paper and paperboard production	17,8	16,8	2,6	8,7	9,8
C2896	Manufacture of plastics and rubber machinery	0,0	0,0	1,2	0,4	0,5
C2899	Manufacture of other special-purpose machinery n.e.c.	6,4	9,8	6,6	3,7	4,2
C29	Manufacture of motor vehicles, trailers and semi-trailers	17,6	20,6	66,5	31,0	44,2
C291	Manufacture of motor vehicles	8,8	11,8	45,3	19,4	31,1
C2910	Manufacture of motor vehicles	8,8	11,8	45,3	19,4	31,1
C292	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	4,1	4,4	3,4	2,8	3,1
C2920	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	4,1	4,4	3,4	2,8	3,1
C293	Manufacture of parts and accessories for motor vehicles	4,8	4,3	17,8	8,9	10,0
C2931	Manufacture of electrical and electronic equipment for motor vehicles	0,3	0,0	2,4	1,1	1,3
C2932	Manufacture of other parts and accessories for motor vehicles	4,5	4,3	15,4	7,7	8,8
C30	Manufacture of other transport equipment	20,3	13,9	14,7	16,5	19,2
C301	Building of ships and boats	17,5	11,0	2,3	10,8	12,2
C3011	Building of ships and floating structures	13,7	5,8	1,2	9,4	10,7
C3012	Building of pleasure and sporting boats	3,8	5,2	1,0	1,4	1,6
C302	Manufacture of railway locomotives and rolling stock	0,0	0,0	3,6	1,3	1,5
C3020	Manufacture of railway locomotives and rolling stock	0,0	0,0	3,6	1,3	1,5
C303	Manufacture of air and spacecraft and related machinery	2,1	2,0	5,0	2,8	3,1
C3030	Manufacture of air and spacecraft and related machinery	2,1	2,0	5,0	2,8	3,1
C309	Manufacture of transport equipment n.e.c.	0,7	1,0	3,8	1,7	2,4
C3091	Manufacture of motorcycles	0,0	0,0	2,4	0,9	1,5
C3092	Manufacture of bicycles and invalid carriages	0,3	0,1	1,4	0,7	0,8
C3099	Manufacture of other transport equipment n.e.c.	0,5	0,9	0,0	0,0	0,0
C31	Manufacture of furniture	12,6	5,0	10,0	12,1	13,7
C310	Manufacture of furniture	12,6	5,0	10,0	12,1	13,7
C3101	Manufacture of office and shop furniture	0,6	0,4	0,0	0,4	0,4
C3102	Manufacture of kitchen furniture	1,1	0,0	0,0	0,9	1,0
C3103	Manufacture of mattresses	0,2	0,0	0,6	0,4	0,4
C3109	Manufacture of other furniture	5,7	2,7	4,9	5,4	6,1
C32	Other manufacturing	7,7	10,2	17,6	8,7	9,9
C321	Manufacture of jewellery, bijouterie and related articles	1,0	0,4	1,0	1,0	1,1
C3211	Striking of coins	0,1	0,0	0,0	0,1	0,1
C3212	Manufacture of jewellery and related articles	0,6	0,3	1,0	0,8	0,9
C3213	Manufacture of imitation jewellery and related articles	0,2	0,1	0,0	0,1	0,1
C322	Manufacture of musical instruments	0,0	0,0	0,4	0,2	0,2
C3220	Manufacture of musical instruments	0,0	0,0	0,4	0,2	0,2
C323	Manufacture of sports goods	1,6	1,9	3,2	1,7	1,9
C3230	Manufacture of sports goods	1,6	1,9	3,2	1,7	1,9
C324	Manufacture of games and toys	0,0	0,0	1,6	0,6	0,7
C3240	Manufacture of games and toys	0,0	0,0	1,6	0,6	0,7
C325	Manufacture of medical and dental instruments and supplies	3,7	6,9	8,3	3,3	3,7
C3250	Manufacture of medical and dental instruments and supplies	3,7	6,9	8,3	3,3	3,7
C329	Manufacturing n.e.c.	1,4	0,9	3,1	2,0	2,3
C3291	Manufacture of brooms and brushes	0,7	0,9	0,5	0,4	0,4
C3299	Other manufacturing n.e.c.	0,8	0,0	2,6	1,6	1,8
C33	Repair and installation of machinery and equipment	28,4	0,0	0,0	23,7	26,8
C331	Repair of fabricated metal products, machinery and equipment	22,3	0,0	0,0	18,6	21,1
C3311	Repair of fabricated metal products	3,5	0,0	0,0	2,9	3,3
C3312	Repair of machinery	17,5	0,0	0,0	14,6	16,5
C3313	Repair of electronic and optical equipment	1,1	0,0	0,0	0,9	1,0
C3315	Repair and maintenance of ships and boats	0,0	0,0	0,0	0,0	0,0
C3316	Repair and maintenance of aircraft and spacecraft	0,3	0,0	0,0	0,3	0,3
C332	Installation of industrial machinery and equipment	6,1	0,0	0,0	5,1	5,8
C3320	Installation of industrial machinery and equipment	6,1	0,0	0,0	5,1	5,8

Industry	Name	PPI	Export PI	Import PI	BPIFDS	Wholesale PI
D	**Electricity, gas, steam and air conditioning supply**	**47,8**	**0,6**	**10,4**	**43,5**	**52,8**
D35	Electricity, gas, steam and air conditioning supply	47,8	0,6	10,4	43,5	52,8
D351	Electric power generation, transmission and distribution	33,2	0,6	10,4	31,3	39,1
D3511	Production of electricity	20,1	0,6	10,4	20,4	23,0
D3512	Transmission of electricity	13,2	0,0	0,0	11,0	16,1
D352	Manufacture of gas; distribution of gaseous fuels through mains	0,2	0,0	0,0	0,2	0,2
D3521	Manufacture of gas	0,2	0,0	0,0	0,2	0,2
D353	Steam and air conditioning supply	14,3	0,0	0,0	11,9	13,5
D3530	Steam and air conditioning supply	14,3	0,0	0,0	11,9	13,5
E	**Water supply; sewerage, waste management and remediation activities**	**9,1**	**1,8**	**1,3**	**7,3**	**8,2**
E36	Water collection, treatment and supply	4,2	0,0	0,0	3,5	4,0
E360	Water collection, treatment and supply	4,2	0,0	0,0	3,5	4,0
E3600	Water collection, treatment and supply	4,2	0,0	0,0	3,5	4,0
E38	Waste collection, treatment and disposal activities; materials recovery	4,8	1,8	1,3	3,7	4,2
E381	Waste collection	4,8	1,8	1,3	3,7	4,2
E3811	Collection of non-hazardous waste	4,8	1,8	1,3	3,7	4,2
F	**Construction**	-	-	-	**155,9**	-
F41	Construction of buildings	-	-	-	119,6	-
F42	Civil engineering	-	-	-	33,8	-
F43	Specialised construction activities	-	-	-	2,4	-
F432	Electrical, plumbing and other construction installation activities	-	-	-	1,4	-
F4329	Other construction installation	-	-	-	1,4	-
F439	Other specialised construction activities	-	-	-	1,1	-
F4399	Other specialised construction activities n.e.c.	-	-	-	1,1	-