

Rebasing the Input-Output Price Index of the Manufacturing Industry by Sector (IOPI) to the base year 2005

1. Introduction

The Input-Output Price Index of the Manufacturing Industry by Sector (IOPI) has been rebased, which means the index has been re-referenced from 2000=100 to 2005=100. The revised data set is published on our website (click [here](#)).

2. Major points of the revision

The IOPI has been rebased in order to maintain the statistical accuracy and to enhance the convenience for the users. Major changes are as follows.

(1) Introduction of services into the Input Price Index

Up to the 2000 base index, services were not included in the Input Price Index. Although services were consumed in the production processes as well as goods, the Input Price Index covered only goods related to production activities in the manufacturing industry. From the 2005 base index, the Input Price Index newly covers inputs from service sectors in addition to goods consumed in the production processes of the manufacturing industry. Item indexes in the CSPI are adopted in compiling the IOPI as well as commodity indexes in the CGPI.

To enhance the convenience for the users, the 2000 base Input Price Index including services (from January 2000 to December 2005) is also newly compiled and released.

(2) Division of major sector “Electrical machinery”

In accordance with development of information technology and diversification of electromechanical industry, sector classification “Electrical machinery” of the “Input-Output Tables (I-O Tables)” published by Ministry of Internal Affairs and Communications was divided into three sector classifications, “Electrical machinery,” “Information and communications equipment,” and “Electronic components.” With this division, Major sector “Electrical machinery” of the IOPI has also been divided into three Major sectors. The number of Major sectors is increased from 14 to 16.

(3) Extension of long-term index series

Up to the 2000 base IOPI, the linked index was available only from January 1990. So the sudden rise and fall of resource price around 1980’s (e.g., oil crisis) could not be seen from the long-term index. From the 2005 base, the linked index for the Manufacturing industry sector and the Major sector is extended. The linked index is available from January 1975 for the Manufacturing industry sector, and from January 1980 for the Major sector.

(4) Discontinuation of compiling Output/Input Price Ratio Index

The Output/Input Price Ratio Index was calculated by dividing the Output Price Index by the Input Price Index. As the intermediate inputs ratio was not considered in the Output/Input Price Ratio Index, the index did not necessarily reflect a short-term profit environment of the manufacturing industries correctly. For that reason, the BOJ decided to stop compiling the Output/Input Price Ratio Index.

(5) Schedule change

Since the CSPI has been newly used to compile the IOPI, the release date of the monthly index has been changed from “the tenth working day of the following month” to “the 20th working day of the following month,” in principle. The release date may be brought forward a few working days when the number of working days in the month is limited.

3. Purpose and uses

The IOPI focuses on the prices of products in the manufacturing industry. The IOPI consists of the Input Price Index and the Output Price Index, which covers prices of goods and services used for production and goods made by production, respectively. The main purposes of the index are: 1) facilitating comparative analyses of price fluctuations in inputs and outputs for various sectors of the manufacturing industry, and 2) facilitating analyses of price fluctuations among sectors in the manufacturing industry.

4. Classification and weights

The Input Price Index covers raw and intermediate materials that include scrap and by-products used for production, fuel, and energy that are consumed in production processes (both domestic products and imports), and services provided in production processes. The Output Price Index covers manufactured products that include scrap and by-products (both domestic products and exports).

For the Input Price Index, the weights are based on the input values of goods (i.e., raw and intermediate materials, fuel, and energy) and services for the manufacturing industry at purchasers' prices in the I-O Tables during the base year 2005, published by the Ministry of Internal Affairs and Communications. For the Output Price Index, the weights are based on the values of domestic products for the manufacturing industry at producers' prices in the I-O Tables during the base year 2005. ^{*1}

The IOPI has two levels of sector classifications: the Manufacturing industry sector and the Major sector. The former consists of one category and the latter consists of 16 categories. Each sector has three levels of commodity groups: Aggregated major commodity group, Major commodity group and Commodity group (except for the Major sector in the Output Price Index, which is equal to Major commodity group). The Manufacturing industry sector also has sub-indexes of Domestic products, Imports, and Services for Input Price Index, and those of Domestic products and Exports for Output Price Index, respectively ^{*2}.

A sub-index for the Major sector “Electrical machinery, Information and communication electronics equipment, and Electronic components” is compiled as Reference index.

*¹Weights of Commodity group are calculated by using the weights of Commodity of the Corporate Goods Price Index (CGPI) and those of Item of the Corporate Services Price Index (CSPI).

*²For reference, a sub-index of Goods (Domestic products and Imports) for Input Price Index is also compiled.

5. Base year for the index and the weight calculation

The base year is 2005 for both the index calculation and the weight calculation.

6. Price data (Selection of Commodities and Items)

Commodity indexes in the CGPI and Item indexes in the CSPI are adopted in order to compile Commodity group indexes of the IOPI and they are the sole source for the IOPI price data. The total number of selected Commodities and Items amounts to 1,317 for the Input Price Index and 1,283 for the Output Price Index. Both the Input Price Index and the Output Price Index exclude the consumption tax.

7. Index formula

The index formula is the fix-weighted Laspeyres formula. For details, refer to column 6, "Index formula for the CGPI," in *Outline of “Corporate Goods Price Index (CGPI, 2005 base).”*

8. Publication

In principle, the preliminary figures are released at 8:50 a.m. on the 20th working day of the month following the survey month. The release date may be brought forward a few working days, when the number of working days in the month is limited.

Scheduled retroactive revisions are made to the released indexes four times a year (in March, April, September, and October, along with the release of the preliminary figures for the February, March, August, and September indexes).

9. The 2005 Base Linked Indexes

The 2005 Base Linked Index is available from January 1975 for the Manufacturing industry sector, and from January 1980 for the Major sector.*¹

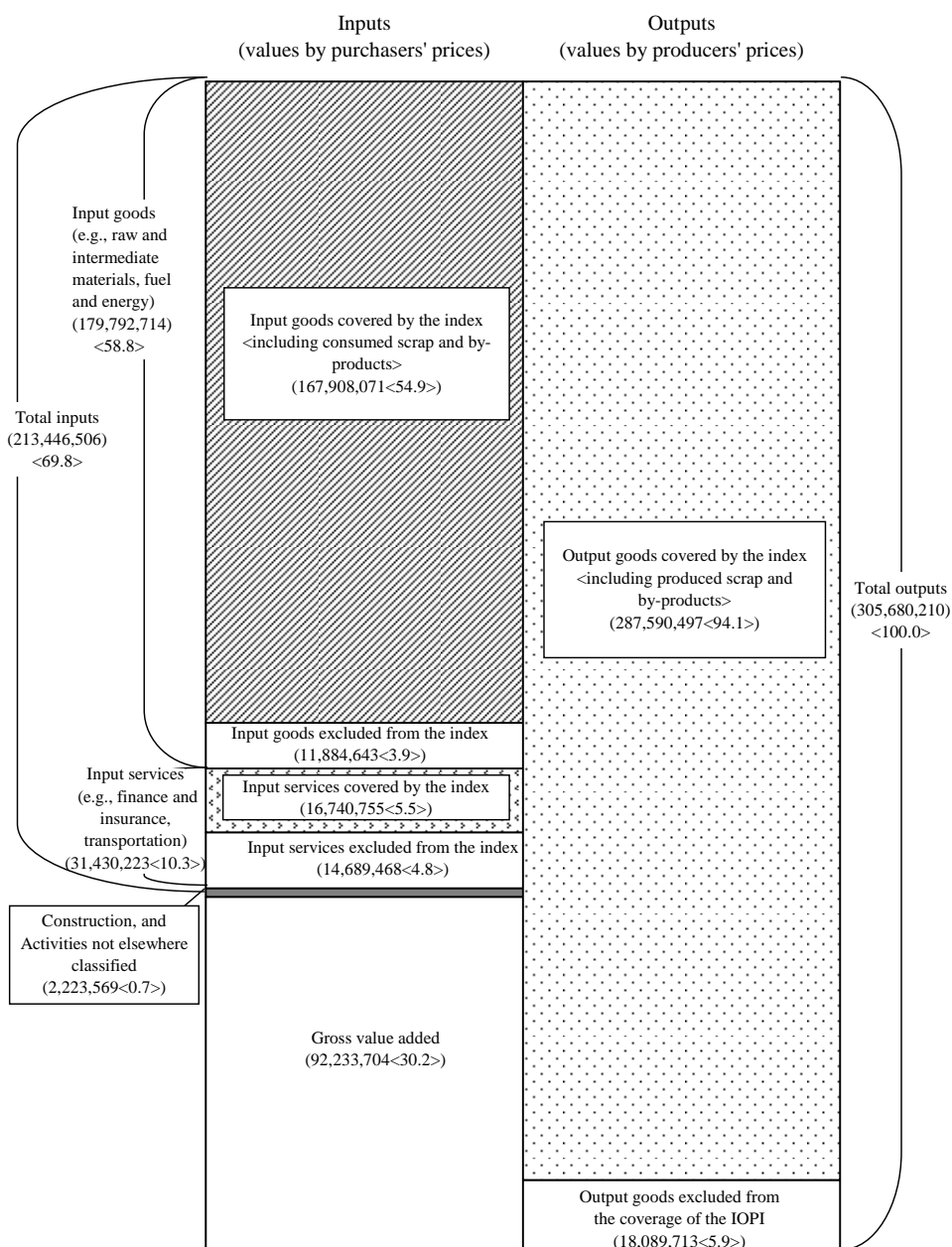
*¹ The linked index of “Electrical machinery,” “Information and communications equipment,” and “Electrical components” are compiled from January 2000 onward.

10. Notes on Usage

It should be noted that price data obtained from the CGPI include those collected from producers or wholesalers and those on CIF or FOB basis even though they are called input prices or output prices for the manufacturing sector.

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Correspondence between Input and Output Value Covered by the IOPI (2005 base) and 2005 I-O Tables



Notes: 1. Figures in parentheses() indicate values in million yen.

2. Figures in brackets<> denote percentages to the total outputs.

Source: Ministry of Internal Affairs and Communications, "2005 Input-Output Tables"

Changes in the Number of Commodity Groups

1. Input price index

Aggregated major commodity group	2005 base (A)	2000 base (B)	Change (A)-(B)				
				Newly selected	Abolished	Combined	Divided
Manufacturing industry	370	322	+48	+59	-11	0	0
Agriculture, forestry and fishery	26	25	+1	+3	-2	0	0
Mining	10	10	0	0	0	0	0
Beverages and Foods	39	37	+2	+4	-2	0	0
Textile products	14	14	0	0	0	0	0
Pulp, paper and wooden products	18	17	+1	+1	0	0	0
Chemical products	53	55	-2	0	-2	0	0
Petroleum and coal products	10	10	0	0	0	0	0
Ceramic, stone and clay products	16	16	0	0	0	0	0
Iron and steel	18	17	+1	+1	0	0	0
Non-ferrous metals	11	10	+1	+1	0	0	0
Metal products	10	10	0	0	0	0	0
General machinery	28	27	+1	+2	-1	0	0
(Reference) Electrical machinery, Information and communication electronics equipment, and Electronic components	31	31	0	0	0	0	0
Electrical machinery	15	-	-	-	-	-	-
Information and communication electronics equipment	10	-	-	-	-	-	-
Electronic components	6	-	-	-	-	-	-
Transportation equipment	8	6	+2	+2	0	0	0
Precision instruments	6	6	0	0	0	0	0
Miscellaneous manufacturing products	23	27	-4	0	-4	0	0
Electricity, gas and heat supply	2	2	0	0	0	0	0
Water supply and waste disposal business	5	2	+3	+3	0	0	0
Finance and insurance	3	0	+3	+3	0	0	0
Real estate	1	0	+1	+1	0	0	0
Transport	11	0	+11	+11	0	0	0
Information and communications	10	0	+10	+10	0	0	0
Education and research	1	0	+1	+1	0	0	0
Business services	14	0	+14	+14	0	0	0
Personal services	1	0	+1	+1	0	0	0
Office supplies	1	0	+1	+1	0	0	0

Note: "(Reference) Electrical machinery, Information and communication electronics equipment, and Electronic components" corresponds to "Electrical machinery" of the 2000 base.

Changes in the Number of Commodity Groups (cont'd)

2. Output price index

Aggregated major commodity group	2005 base (A)	2000 base (B)	Change (A)-(B)	Change			
				Newly selected	Abolished	Combined	Divided
Manufacturing industry	335	321	+14	+17	-4	0	+1
Beverages and Foods	41	40	+1	+1	0	0	0
Textile products	15	14	+1	+1	0	0	0
Pulp, paper and wooden products	20	19	+1	+1	0	0	0
Chemical products	59	58	+1	+3	-2	0	0
Petroleum and coal products	13	12	+1	+1	0	0	0
Ceramic, stone and clay products	21	18	+3	+3	0	0	0
Iron and steel	22	22	0	0	0	0	0
Non-ferrous metals	10	10	0	0	0	0	0
Metal products	12	12	0	0	0	0	0
General machinery	32	30	+2	+2	0	0	0
(Reference) Electrical machinery, Information and communication electronics equipment, and Electronic components	39	37	+2	+2	0	0	0
Electrical machinery	19	-	-	-	-	-	-
Information and communication electronics equipment	12	-	-	-	-	-	-
Electronic components	8	-	-	-	-	-	-
Transportation equipment	16	13	+3	+2	0	0	+1
Precision instruments	7	7	0	0	0	0	0
Miscellaneous manufacturing products	28	29	-1	+1	-2	0	0

Note: "(Reference) Electrical machinery, Information and communication electronics equipment, and Electronic components" corresponds to "Electrical machinery" of the 2000 base.

(Appendix 3)

**Changes in Weights of Aggregated Major Commodity Groups
in the Manufacturing Industry Sector**

1. Input price index

	2005 base (A)	2000 base (including services) (B)	2000 base (excluding services) (C)	(A)-(B)	(A)-(C)
Manufacturing industry	1,000.0	1,000.0	1,000.0	-	-
Manufacturing industry (Goods)	909.3	894.1	1,000.0	+15.3	-90.7
Manufacturing industry (Services)	90.7	105.9	0.0	-15.3	+90.7
Agriculture, forestry and fishery	40.9	43.5	48.4	-2.7	-7.6
Mining	74.0	49.6	54.5	+24.3	+19.5
Beverages and Foods	35.9	38.6	42.8	-2.6	-6.9
Textile products	9.0	13.8	15.3	-4.8	-6.3
Pulp, paper and wooden products	44.4	56.6	62.8	-12.3	-18.4
Chemical products	92.6	95.0	105.5	-2.4	-12.9
Petroleum and coal products	24.9	19.8	21.3	+5.1	+3.6
Ceramic, stone and clay products	17.1	19.9	21.9	-2.8	-4.8
Iron and steel	100.5	78.1	84.5	+22.4	+16.1
Non-ferrous metals	50.1	43.9	46.9	+6.2	+3.1
Metal products	30.3	31.2	34.8	-0.9	-4.4
General machinery	42.7	42.6	47.4	+0.1	-4.7
(Reference) Electrical machinery, Information and communication electronics equipment, and Electronic components	108.7	135.1	150.4	-26.4	-41.7
Electrical machinery	30.2	35.7	39.8	-5.5	-9.6
Information and communication electronics equipment	4.7	9.1	10.1	-4.4	-5.4
Electronic components	73.8	90.3	100.5	-16.5	-26.7
Transportation equipment	139.2	107.2	119.3	+32.1	+19.9
Precision instruments	2.7	4.9	5.5	-2.2	-2.8
Miscellaneous manufacturing products	72.5	85.7	106.8	-13.3	-34.4
Electricity, gas and heat supply	20.5	26.1	29.1	-5.6	-8.6
Water supply and waste disposal business	4.2	4.5	2.7	-0.3	+1.5
Finance and insurance	6.7	6.3	-	+0.4	-
Real estate	2.2	3.7	-	-1.5	-
Transport	8.3	10.4	-	-2.1	-
Information and communications	14.2	18.1	-	-3.9	-
Education and research	0.7	-	-	-	-
Business services	56.5	65.2	-	-8.7	-
Personal services	0.1	0.1	-	0.0	-
Office supplies	1.2	-	-	-	-

Note: Weights are expressed as one-thousandths of the manufacturing industry sector, rounded off the first decimal place.

Changes in Weights of Aggregated Major Commodity Groups
in the Manufacturing Industry Sector (cont'd)

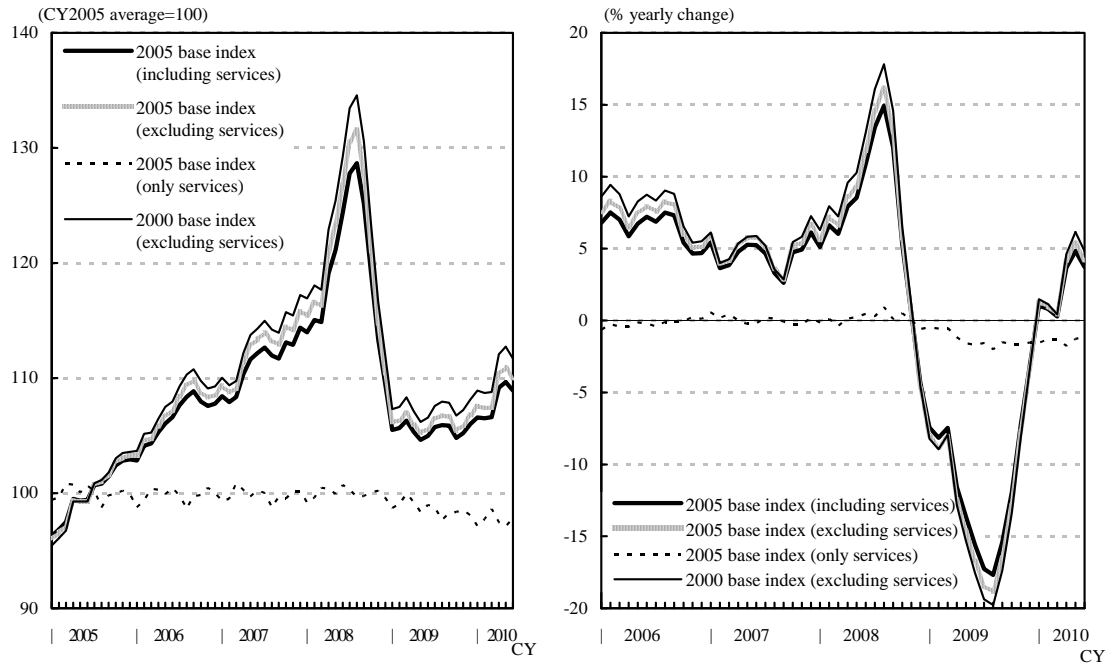
2. Output price index

	2005 base (A)	2000 base (B)	(A)-(B)
Manufacturing industry	1,000.0	1,000.0	-
Beverages and Foods	116.1	118.0	-1.8
Textile products	13.6	22.8	-9.2
Pulp, paper and wooden products	44.7	52.7	-7.9
Chemical products	93.5	90.7	+2.8
Petroleum and coal products	57.7	44.8	+12.8
Ceramic, stone and clay products	24.9	29.7	-4.8
Iron and steel	69.6	49.4	+20.2
Non-ferrous metals	24.9	21.0	+3.8
Metal products	35.4	38.3	-2.9
General machinery	97.4	87.0	+10.4
(Reference) Electrical machinery, Information and communication electronics equipment, and Electronic components	149.8	189.2	-39.4
Electrical machinery	55.1	66.1	-11.0
Information and communication electronics equipment	38.3	60.0	-21.7
Electronic components	56.4	63.1	-6.7
Transportation equipment	175.1	133.7	+41.5
Precision instruments	12.9	14.0	-1.0
Miscellaneous manufacturing products	84.3	108.7	-24.4

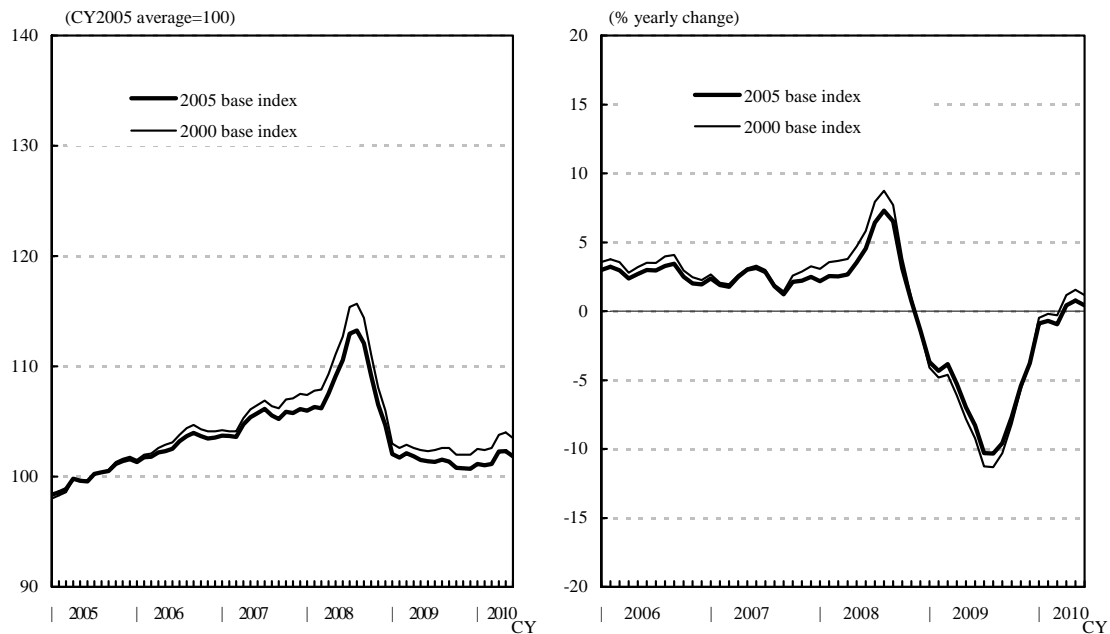
Note: Weights are expressed as one-thousandths of the manufacturing industry sector, rounded off the first decimal place.

Indexes for the Manufacturing Industry Sector

1. Input price index



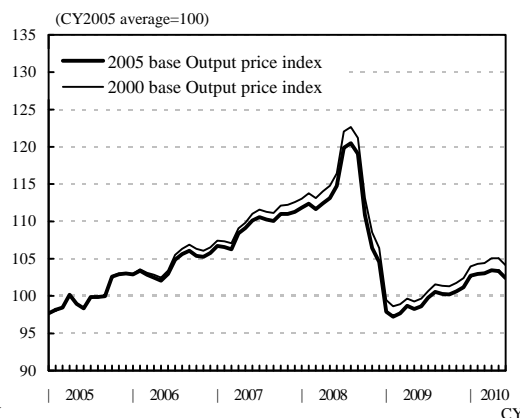
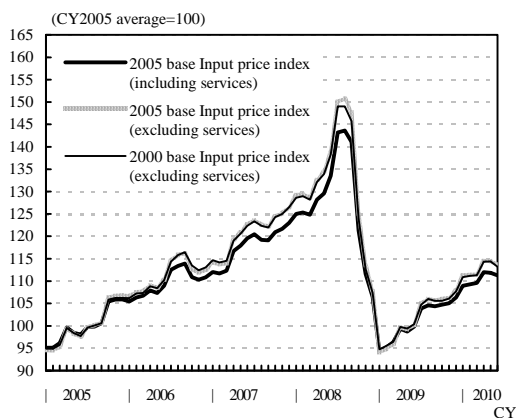
2. Output price index



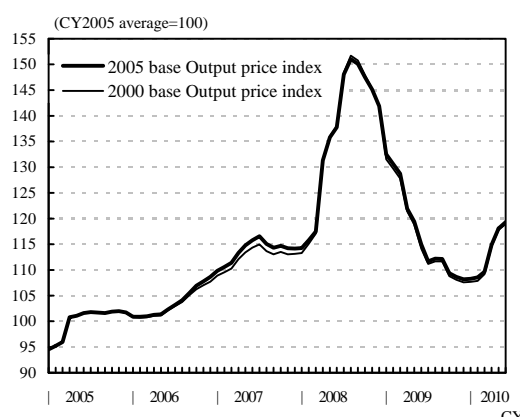
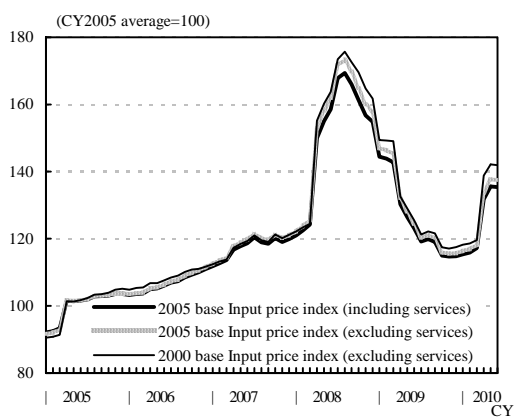
Note: The 2000 base indexes are converted by the average of CY2005=100.

2005 Base Indexes for Major Sectors

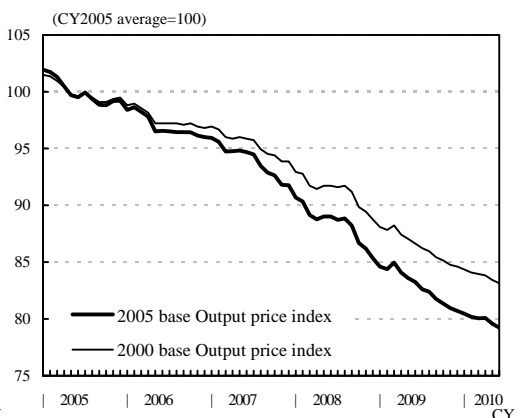
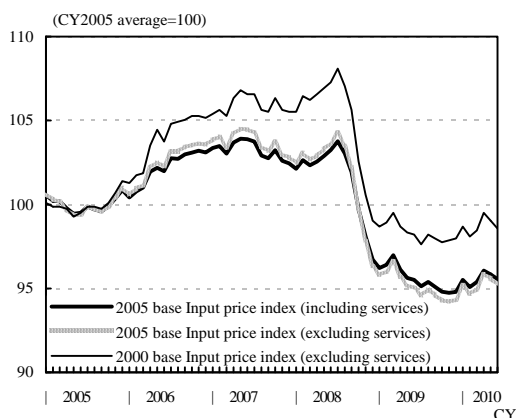
1. "Chemical products"



2. "Iron and steel"



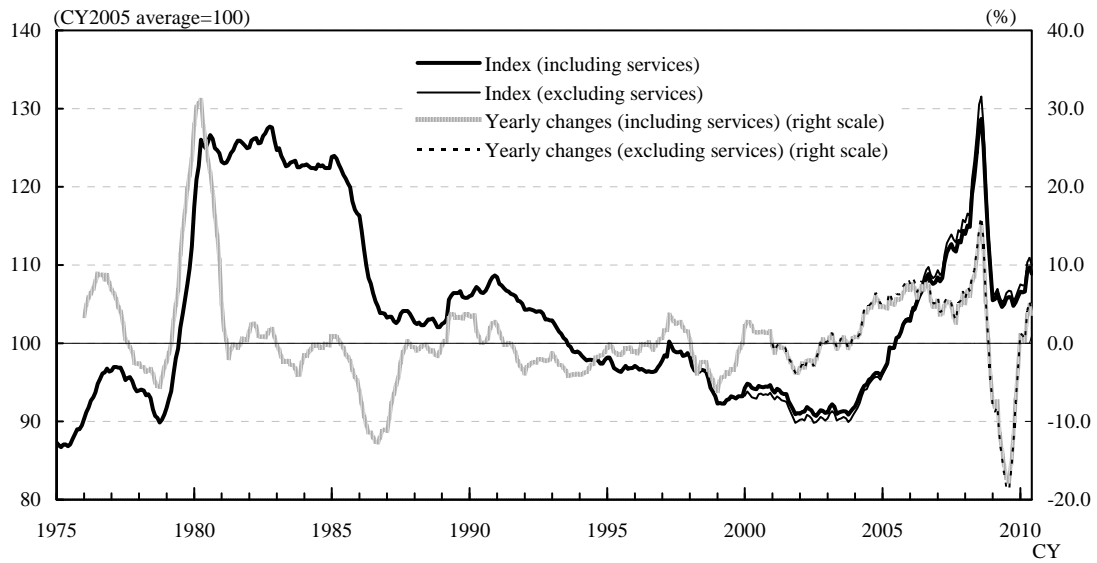
3. "Electrical machinery, Information and communication electronics equipment, and Electronic components"



Note: The 2000 base indexes are converted by the average of CY2005=100.

Long-Term Time-Series Data for the Manufacturing Industry Sector

1. Input price index



2. Output price index

