The Structure of the Korean Economy on the 2000 Input-Output Tables

By

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Ⅰ. Introduction

An Input-output tables is a double-entry system of accounting for tables that record all transactions between producers within a certain region during a certain (normally one year) period. The tables are widely used as basic materials for measuring interindustry linkages, along with the analysis of economic structure.

The 2000 input-output tables compiled and released this time are the 10th benchmark input-output tables constructed by the Bank of Korea since the compilation of its first input-output tables in 1960. The 2000 input-output tables (benchmark input-output tables) were compiled after the drawing up of the 1995 input-output tables to reflect the impact of restructuring on the overall economy following the 1997 currency crisis, changes in production technology structure in the wake of the digitalization of the economy, the development of new technologies and the advent of new products, changes in industrial structure following the development of a service-oriented economy, changes in input-output structure between industries resulting from changed relative price system according to product, the recommendations of the 1993 SNA (System of National Accounts), as well as trade between South and North Korea.

As the 2000 input-output tables were worked out incorporating these diversified changes in economic conditions both at home and abroad, they will be used not only for general analysis of the country's economic structure, including the interdependence of industries in an economy, but also for basic materials useful for anticipating the future economic structure in the future and measuring the various knock-on effects of economic policies. Together with this, they will be used as materials based on the year 2000 for various statistics, including national income statistics.

The 2000 input-output tables were compiled with 404 basic sectors and they were aggregated into 168, 77, and 28 sectors.

In this paper, considering that the 2000 tables are benchmark input-output tables, we compared coefficients by making use of the 1990 and 1995 input-output tables, which were also benchmark input-output tables. Along with this, we compared and analyzed changes in the country's economic structure and interindustry linkage effects by referring to recent materials, including the Japanese 2000 input-output tables (preliminary figures).

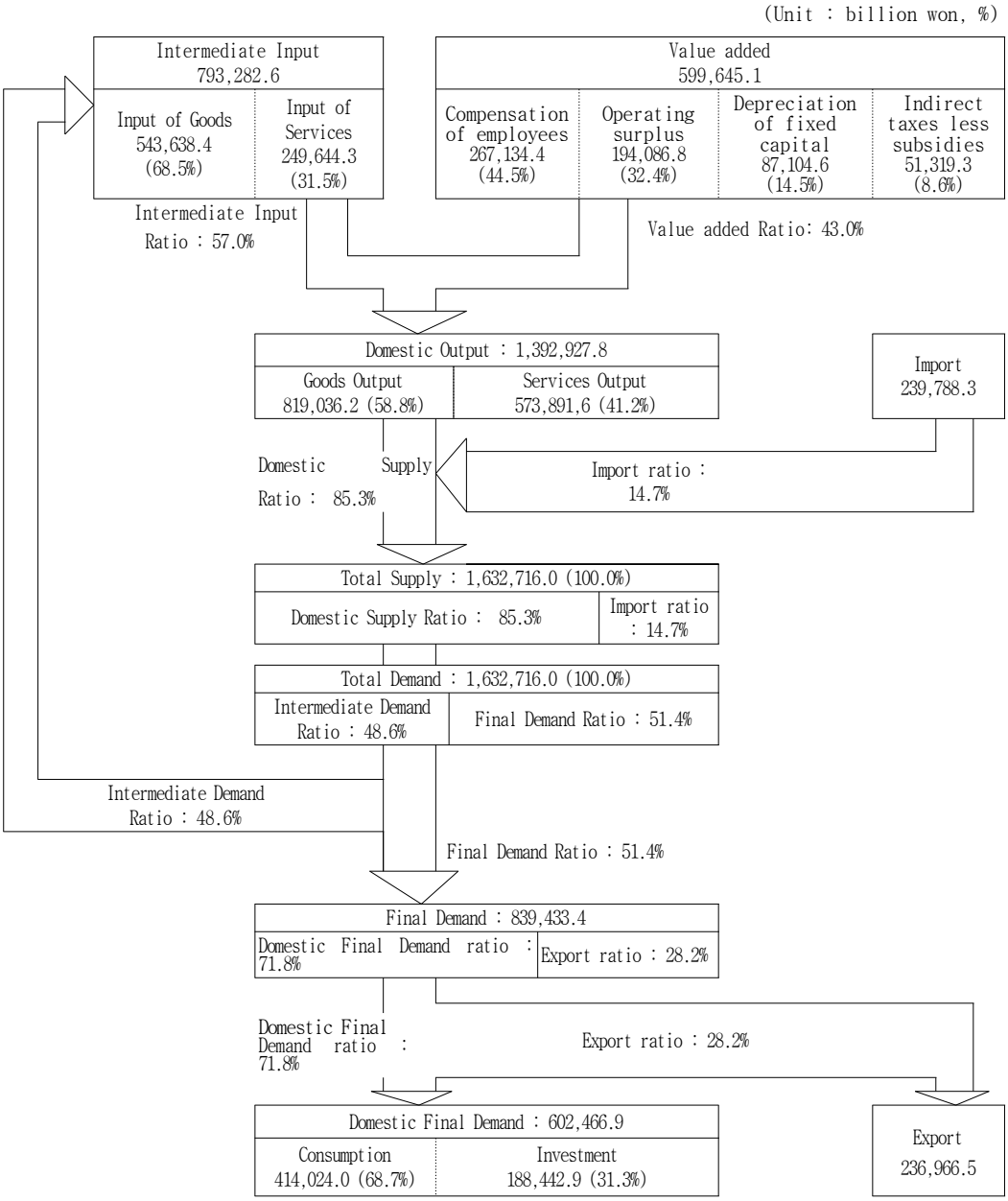
This paper is composed of as follows. Section 2 describes the supply and demand of goods and services, industrial structure, and input and output structure. Section 3 contains an analysis of various repercussion effects of changes in the final demand, such as consumption, investment, and exports, on production, value added, and imports, as well as an analysis of the knock-on effects of changes in the exchange rates and crude oil price.

Ⅱ. Structure of the Korean Economy

1. Flow of the Korean Economy in 2000

The total supply of goods and services in 2000 amounted to 1,632,716 billion won. Of the total, 85.3 percent, or 1,392,927.8 billion won worth, of products was domestic total output, and the remaining 14.7 percent, or 239,788.3 billion won worth, was imports. Also, of the domestic total output, 43.0 percent, or 599,645.1 billion won worth, was value added, and the remaining 57.0 percent, or 793,282.6 billion won worth, was intermediate inputs, including raw materials. In the meantime, of the domestic final demand except exports, consumption accounted for 68.7 percent and investment took the remaining 31.3 percent.

Figure 1. Flow of the Korean economy in 2000



2. Supply and Demand

The total supply (=total demand) of goods and services in 2000 amounted to 1,632,716 billion won (based on market prices), representing a 1.68-fold increase from 969,261.4 billion won in 1995.

Of the total supply, meanwhile, domestic total output amounted to 1,392,927.8

billion won, accounting for 85.3 percent of total supply, and imports came to 239,788.3 billion won, taking 14.7 percent of total supply. The share of imports increased by 1.5 percentage points from 13.2 percent in 1995.

Total demand consisted of 85.5 percent or 1,395,749.6 billion won of domestic demand and 14.5 percent or 236,966.5 billion won of exports. As a result, the share of exports in total demand rose by 2.8 percentage points from 11.7 percent in 1995.

As the proportion of imports to total supply and the that of exports to total demand have steadily risen respectively since 1990, Korea's external dependency ratio[1] moved up constantly from 23.4 percent in 1990 to 24.9 percent in 1995, and further to 29.2 percent in 2000. As a reference, in comparing Korea's external dependency ratio with that of Japan, the former was almost three times the latter (10.8 percent).

Table 1. Total Supply and Demand

Unit : billion won, billion ¥, %

	Domestic Output (A)	Imports (B)	Total Supply(A+B) =Total Demand(C+D)	Domestic Demand(C)			Exports (D)
				Intermediate Demand	Final Demand	Total	
1990	416,965.1 (87.8)	57,929.4 (12.2)	474,894.5 (100.0)	238,647.7 (50.3)	183,092.0 (38.6)	421,739.7 (88.8)	53,154.8 (11.2)
1995	841,518.6 (86.8)	127,742.9 (13.2)	969,261.4 (100.0)	465,715.6 (48.1)	389,693.4 (40.2)	855,409.0 (88.3)	113,852.4 (11.7)
2000	1,392,927.8 (85.3)	239,788.3 (14.7)	1,632,716.0 (100.0)	793,282.6 (48.6)	602,466.9 (36.9)	1,395,749.6 (85.5)	236,966.5 (14.5)
Japan (2000P)	982,467.2 (94.8)	54,161.5 (5.2)	1,036,628.7 (100.0)	481,532.8 (46.5)	497,609.2 (48.0)	979,142.0 (94.5)	57,486.7 (5.5)

3. Industrial Structure

In the case of the composition of Korea's domestic output by industry in 2000, the share of manufacturing industry was the highest at 46.5 percent, followed by service industry with 39.0 percent, and electric, gas, water services, and construction industry with 9.4 percent.

Considering the composition of the output by industry, the share of manufacturing

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1)

	1990	1995	2000	Japan(2000P)
External dependency ratio(%)	23.4	24.9	29.2	10.8

External dependency ratio($= \frac{exports + imports}{total\ supply(total\ demand)} \times 100$) can be cited as a coefficient having a wider meaning than 「the ratio of exports and imports to GDP」 of national income statistics.

industry was 46.5 percent in 2000, off 1.1 percentage points from 47.6 percent in 1995. On the other hand, the share of service industry stood at 39.0 percent in 2000, up 4.9 percentage points from 34.1 percent in 1995.

In the meantime, viewing the output composition ratio by business line of manufacturing industry, the share of assembly and processing sector was 19.2 percent, up from 17.7 percent in 1995 as the share of electronic and other electric equipment rose from 7.9 percent in 1995 to 10.2 percent in 2000. On the other hand, the share of basic raw materials sector dropped from 17.4 percent in 1995 to 17.1 percent in 2000, and that of the consumption goods sector declined from 12.5 percent in 1995 to 10.2 percent in 2000.

Looking at the output composition ratio by business line of service industry, the share of eating and drinking places, and hotels and other lodging places sector was 3.0 percent in 2000, up 2.2 percentage points from 0.8 percent in 1995. The share of real estate and business services sector also rose by 1.3 percentage points from 8.6 percent in 1995 to 9.9 percent in 2000.

When we consider the trend of Korea's industrial structure since 1990, the share of agriculture, forestry and fisheries, mining and quarrying, and manufacturing industries have been on a steady drop. On the other hand, the share of service industry has risen continuously.

Comparing Korea's industrial structure with that of Japan in 2000 in terms of the share of manufacturing industry, Korea's was higher than Japan's (31.2 percent), but Korea trailed Japan (54.4 percent) in terms of the share of service industry.

Figure 2. Output Ratio by Industry

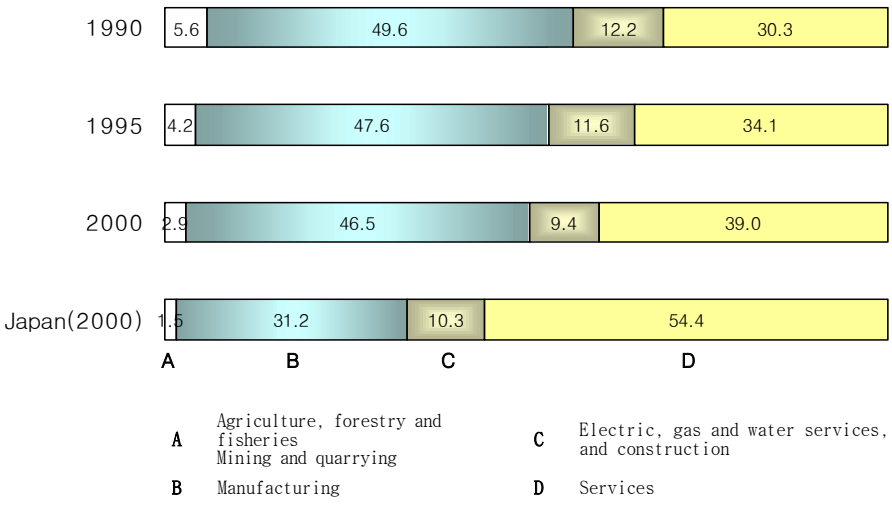

Table 2. Output Ratio by Industry

Unit : billion won, billion ¥, times, %

	1990		1995		2000		B/A	C/B	Japan(2000P)	
	Amount(A)	Compo-sition	Amount(B)	Compo-sition	Amount(C)	Compo-sition			Amount	Compo-sition
Agriculture, forestry and fisheries	**21,389.6**	**5.1**	**31,941.6**	**3.8**	**38,286.6**	**2.7**	**1.49**	**1.20**	**13,783.0**	**1.4**
Mining and quarrying	**2,222.0**	**0.5**	**3,255.6**	**0.4**	**2,648.2**	**0.2**	**1.47**	**0.81**	**1,378.7**	**0.1**
Manufacturing	**206,673.1**	**49.6**	**400,873.1**	**47.6**	**647,344.4**	**46.5**	**1.94**	**1.61**	**306,421.2**	**31.2**
Consumption goods	**72,432.0**	**17.4**	**105,281.2**	**12.5**	**142,723.1**	**10.2**	**1.45**	**1.36**	**80,406.5**	**8.2**
Food and kindred products, and tobacco	29,260.1	7.0	41,910.0	5.0	59,086.1	4.2	1.43	1.41	38,877.7	4.0
Textile mill products, apparel, and leather	28,214.0	6.8	34,736.2	4.1	46,871.9	3.4	1.23	1.35	7,758.1	0.8
Paper and wood products	6,658.7	1.6	13,042.7	1.5	16,863.0	1.2	1.96	1.29	11,882.8	1.2
Printing and publishing	3,078.6	0.7	7,638.6	0.9	9,897.8	0.7	2.48	1.30	12,025.2	1.2
Furniture and miscellaneous manufactured products	5,220.6	1.3	7,953.6	0.9	10,004.3	0.7	1.52	1.26	9,862.7	1.0
Basic raw materials	**71,487.9**	**17.1**	**146,448.3**	**17.4**	**237,644.0**	**17.1**	**2.05**	**1.62**	**97,445.0**	**9.9**
Petroleum and coal products	8,730.8	2.1	18,611.0	2.2	53,147.9	3.8	2.13	2.86	12,983.4	1.3
Chemicals and allied products	26,388.3	6.3	53,766.2	6.4	88,626.9	6.4	2.04	1.65	39,342.8	4.0
Nonmetallic minerals	7,631.7	1.8	15,880.6	1.9	17,173.3	1.2	2.08	1.08	8,369.1	0.9
Primary metal products	21,469.5	5.1	41,795.8	5.0	57,689.0	4.1	1.95	1.38	23,297.3	2.4
Fabricated metal products	7,267.7	1.7	16,394.8	1.9	21,007.1	1.5	2.26	1.28	13,452.4	1.4
Assembly and processing	**62,753.2**	**15.0**	**149,143.5**	**17.7**	**266,977.4**	**19.2**	**2.38**	**1.79**	**128,569.8**	**13.1**
General Machinery and equipment	13,131.4	3.1	29,885.4	3.6	43,132.0	3.1	2.28	1.44	24,619.3	2.5
Electronic and other electric equipment	26,591.7	6.4	66,115.6	7.9	142,426.7	10.2	2.49	2.15	57,344.1	5.8
Precision instruments	1,743.7	0.4	4,424.5	0.5	6,805.0	0.5	2.54	1.54	3,938.9	0.4
Transportation equipment	21,286.4	5.1	48,718.0	5.8	74,613.7	5.4	2.29	1.53	42,667.5	4.3
Electric, gas and water services, and construction	**51,010.3**	**12.2**	**97,578.6**	**11.6**	**130,757.0**	**9.4**	**1.91**	**1.34**	**100,931.2**	**10.3**
Electric, gas and water services	7,288.1	1.7	15,070.3	1.8	31,488.3	2.3	2.07	2.09	23,620.6	2.4
Construction	43,722.2	10.5	82,508.2	9.8	99,268.6	7.1	1.89	1.20	77,310.5	7.9
Services	**126,164.7**	**30.3**	**286,776.1**	**34.1**	**543,909.3**	**39.0**	**2.27**	**1.90**	**534,409.6**	**54.4**
Wholesale and retail trade	27,694.7	6.6	49,598.7	5.9	69,844.2	5.0	1.79	1.41	96,947.6	9.9
Eating and drinking places, and hotels and other lodging places	3,495.2	0.8	7,008.3	0.8	41,143.5	3.0	2.01	5.87	31,267.3	3.2
Transportation and warehousing	15,804.5	3.8	33,320.1	4.0	51,160.9	3.7	2.11	1.54	47,906.9	4.9
Communications and broadcasting services	5,072.5	1.2	11,869.5	1.4	33,890.6	2.4	2.34	2.86	26,122.1	2.7
Finance and insurance	13,166.1	3.2	32,282.8	3.8	63,435.4	4.6	2.45	1.96	38,149.5	3.9
Real estate and business services	26,351.4	6.3	72,498.0	8.6	137,433.5	9.9	2.75	1.90	129,857.1	13.2
Public administration and defense	13,611.8	3.3	25,702.4	3.1	43,601.3	3.1	1.89	1.70	36,225.9	3.7
Educational and health services	14,453.4	3.5	40,021.7	4.8	72,807.6	5.2	2.77	1.82	87,915.9	8.9
Social and personal services	6,515.2	1.6	14,474.6	1.7	30,592.2	2.2	2.22	2.11	40,017.3	4.1
Others	9,505.3	2.3	21,093.7	2.5	29,982.3	2.2	2.22	1.42	25,543.6	2.6
Total	**416,965.1**	**100.0**	**841,518.6**	**100.0**	**1,392,927.8**	**100.0**	**2.02**	**1.66**	**982,467.2**	**100.0**

4. Intermediate Input and Value Added

A. Intermediate Input

Total input (=total output) in the input-output tables is classified into intermediate input and value added. Intermediate input includes goods and services such as materials, parts, fuel, and business services necessary for the production of goods by industry, and value added consists of compensation of employees, consumption of fixed capital, indirect taxes less subsidies(taxes less subsidies on products), and operating surplus that are paid to production factors such as capital and labor needed to create new value.

The intermediate input ratio, which shows the share of intermediate goods, input in the form of raw materials and energy in the domestic total input amount (=total output amount), rose by 1.7 percentage points from 55.3 percent in 1995 to 57.0 percent in 2000.

In the meantime, viewing the share of the input ratio of intermediate goods to total input amount after dividing intermediate goods, which were devoted into production, into domestic and imported, the input ratio of domestically-made intermediate goods dropped from 44.4 percent in 1995 to 43.8 percent in 2000. In contrast, the input ratio of imported intermediate goods rose by 2.2 percentage points from 10.9 percent in 1995 to 13.1 percent in 2000. This was because the input amount of imported intermediate goods increased at a faster pace than domestically-made intermediate goods due to a rise in crude oil prices and the won's depreciation against the U.S. dollar.

When we consider the trend of the composition ratio after dividing intermediate goods, which were injected into production, into goods and services, the input portion of goods in 2000 was 68.5 percent, lower than 70.0 percent in 1995. On the other hand, the input portion of services went up from 30.0 percent in 1995 to 31.5 percent in 2000. It reflected an increase in the degree of dependency of production activities on professional services, including judicial affairs and accounting services, and on communication services.

Table 3. Intermediate input ratio and Composition of intermediate input

Unit : %

	1990	1995	2000
Intermediate Input Ratio	57.2	55.3	57.0
(Domestic)	(46.5)	(44.4)	(43.8)
(Imports)	(10.8)	(10.9)	(13.1)
<localization rate[1)]>	<81.2>	<80.4>	<77.0>
Composition of Intermediate Input	100.0	100.0	100.0
(Input of goods)	(74.6)	(70.0)	(68.5)
(Input of services)	(25.4)	(30.0)	(31.5)

Note : 1) localization rate = (domestic intermediate goods input / intermediate input) ×100

In the case of the intermediate input ratio by industry in 2000, manufacturing industry recorded the highest ratio of 72.6 percent, followed by electric, gas, water services, and construction industry with 55.6 percent, service industry with 38.0 percent, agriculture, forestry, and fisheries industry with 37.6 percent, and mining and quarrying industry with 36.6 percent.

Meanwhile, viewing the trend of the intermediate input ratio by industry, electric, gas, water services, and construction industry dropped from 57.6 percent in 1995 to 55.6 percent in 2000, but all other industries saw their intermediate input ratios go up. In particular, the intermediate input ratio of manufacturing industry climbed by 3.6 percentage points from 69.0 percent in 1995 to 72.6 percent in 2000.

Among manufacturing industry, the intermediate input ratio of assembly and processing sector, led by electronic and other electric equipment(66.4 percent in 1995 → 72.7 percent in 2000) and precision instruments (67.1 percent in 1995 → 74.3 percent in 2000), rose by 5.6 percentage points from 67.5 percent in 1995 to 73.1 percent in 2000.

When comparing Korea's intermediate input ratios by industry with those of Japan(year 2000), Korea's intermediate input ratios were higher than those in Japan in almost all sectors. However, Korea's intermediate input ratios in transportation equipment sector, furniture and miscellaneous manufactured products sector in the manufacturing industry, and finance and insurance sector in the service industry, were lower than those of Japan.

Table 4. Intermediate Input Ratio by Industry

Unit : %

	1990	1995	2000	Japan(2000[p])
Agriculture, forestry and fisheries	**33.9**	**34.4**	**37.6**	**44.5**
Mining and quarrying	**32.6**	**31.5**	**36.6**	**57.5**
Manufacturing	**72.8**	**69.0**	**72.6**	**67.2**
Consumption goods	**74.4**	**69.2**	**71.4**	**62.1**
Food and kindred products, and tobacco	75.6	71.4	73.0	61.6
Textile mill products, apparel, and leather	76.0	69.8	70.3	63.8
Paper and wood products	74.2	70.6	73.4	66.0
Printing and publishing	62.7	59.1	68.8	53.9
Furniture and miscellaneous manufactured products	66.3	62.7	66.0	68.0
Basic raw materials	**74.2**	**70.4**	**72.9**	**66.6**
Petroleum and coal products	83.5	64.3	67.2	60.3
Chemicals and allied products	72.1	70.0	75.4	70.5
Nonmetallic minerals	60.2	63.0	66.0	58.9
Primary metal products	80.1	77.9	78.9	72.1
Fabricated metal products	67.9	66.9	65.5	56.2
Assembly and processing	**69.3**	**67.5**	**73.1**	**70.8**
General Machinery and equipment	66.1	65.9	69.3	62.5
Electronic and other electric equipment	72.3	66.4	72.7	70.0
Precision instruments	68.8	67.1	74.3	60.6
Transportation equipment	67.8	70.1	76.0	77.6
Electric, gas and water services, and construction	**53.1**	**57.6**	**55.6**	**53.0**
Electric, gas and water services	47.4	51.5	54.4	47.9
Construction	54.1	58.7	56.0	54.5
Services	**34.3**	**34.8**	**38.0**	**35.9**
Wholesale and retail trade	31.6	34.1	37.0	33.0
Eating and drinking places, and hotels and other lodging places	38.6	47.0	59.5	55.2
Transportation and warehousing	48.1	49.5	58.3	54.4
Communications and broadcasting services	18.4	20.2	41.5	48.6
Finance and insurance	32.4	28.9	31.2	34.9
Real estate and business services	31.0	33.7	28.7	26.7
Public administration and defense	45.1	40.0	31.8	28.0
Educational and health services	23.8	26.2	32.9	32.9
Social and personal services	40.7	42.3	49.9	42.4
Average	**57.2**	**55.3**	**57.0**	**49.0**

B. Value Added

The value added ratio, which represents the share of value added to domestic total output, was 43.0 percent in 2000, off 1.7 percentage points from 44.7 percent in 1995. As a reference, comparing Korea's value added ratio with that of Japan(year 2000), Korea's value added ratio was lower than Japan's 51.0 percent.

	1990	1995	2000	Japan(2000^{p})
Value added ratio(%)	42.8	44.7	43.0	51.0

Korea's total value added amounted to 599,645.1 billion won in 2000, showing a 1.6-fold rise over the 375,802.9 billion won in 1995. This was lower than the 1.66-fold increase in total domestic output during the same period.

Meanwhile, viewing the composition ratio of value added by item, the ratio of compensation of employees was the highest at 44.5 percent, followed by operating surplus with 32.4 percent, and depreciation of fixed capital with 14.5 percent. In particular, the share of depreciation of fixed capital in value added was much higher than its 11.0 percent in 1995 as a result of the implementation of 1993 SNA.[2)]

Table 5. Value Added by Item

Unit : billion won, billion ￥, %

	1990		1995		2000		Japan(2000^{p})	
	Amount	Compo-sition	Amount	Compo-sition	Amount	Compo-sition	Amount	Compo-sition
Total Value Added	**178,317.4**	**100.0**	**375,802.9**	**100.0**	**599,645.1**	**100.0**	**500,934.4**	**100.0**
Compensation of employees	79,690.2	44.7	179,895.9	47.9	267,134.4	44.5	275,589.1	55.0
Operating surplus	64,046.9	35.9	123,196.5	32.8	194,086.8	32.4	96,375.0	19.2
Depreciation of fixed capital	17,951.1	10.1	41,294.5	11.0	87,104.6	14.5	94,179.0	18.8
Indirect taxes less subsidies	16,629.3	9.3	31,416.0	8.3	51,319.3	8.6	34,791.2	6.9

The compensation ratio of employees, which represents the ratio of compensation of employees to the domestic total output, dropped from 21.4 percent in 1995 to 19.2 percent in 2000.

Looking at the trend of the ratio of compensation of employees by industry, those in all industries except real estate and business services were lower than those in 1995. In particular, the ratio of compensation of employees in the manufacturing industry fell by 2.7 percentage points from 13.3 percent in 1995 to 10.6 percent in 2000, and that in

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2) Viewing the total value added based on the 68 SNA formula before the implementation of 93 SNA, the value added amounted to 584,278 billion won, showing a 1.55-fold rise over the 375,802.9 billion won in 1995.
As a reference, the increase in value added following the implementation of 93 SNA is as follows.

① Effects from the fixed capital formation disposal of computer S/W : 7,867.3 billion won
② Effects from the fixed capital formation disposal of SOC : 7,488.5 billion won
③ Effects from the fixed capital formation disposal of mineral exploration : 11.3 billion won

the service industry fell by 4.8 percentage points from 35.2 percent in 1995 to 30.4 percent.

Considering the trend of the ratio of compensation of employees by subsectors of manufacturing industry, the ratios dropped in all sectors. In particular, the ratio of compensation of employees in assembly and processing sector fell by 2.8 percentage points from 13.9 percent in 1995 to 11.1 percent in 2000. This reflects the fact that facilities investments, including investment in facilities automation, were brisk in assembly and processing sector.

Table 6. Ratio of Compensation of Employees by Industry

Unit : %

	1990	1995	2000	Japan(2000[P])
Agriculture, forestry and fisheries	**9.6**	**8.8**	**8.6**	**7.6**
Mining and quarrying	**25.7**	**25.2**	**21.9**	**17.6**
Manufacturing	**12.2**	**13.3**	**10.6**	**17.2**
Consumption goods	**12.0**	**15.0**	**12.8**	**18.1**
Food and kindred products, and tobacco	6.7	9.3	7.7	13.1
Textile mill products, apparel, and leather	15.0	18.1	16.7	24.4
Paper and wood products	12.5	14.1	11.5	17.7
Printing and publishing	25.0	27.7	20.9	29.5
Furniture and miscellaneous manufactured products	17.4	21.1	18.5	19.7
Basic raw materials	**10.5**	**11.4**	**8.8**	**15.2**
Petroleum and coal products	4.3	3.9	2.5	2.2
Chemicals and allied products	11.2	12.1	9.7	14.3
Nonmetallic minerals	18.1	18.1	15.8	22.3
Primary metal products	7.0	7.7	7.0	13.7
Fabricated metal products	17.3	20.6	19.7	28.8
Assembly and processing	**14.5**	**13.9**	**11.1**	**18.0**
General Machinery and equipment	17.8	18.0	15.5	23.8
Electronic and other electric equipment	13.5	11.6	9.0	17.2
Precision instruments	17.6	17.8	14.2	27.0
Transportation equipment	13.4	14.3	12.1	14.9
Electric, gas and water services, and construction	**23.5**	**22.5**	**22.3**	**29.4**
Electric, gas and water services	9.9	10.8	7.7	12.4
Construction	25.8	24.7	26.9	34.6
Services	**31.5**	**35.2**	**30.4**	**35.7**
Wholesale and retail trade	16.4	27.0	26.2	48.2
Eating and drinking places, and hotels and other lodging places	29.6	29.2	23.7	29.4
Transportation and warehousing	28.5	29.2	24.5	30.8
Communications and broadcasting services	30.9	31.7	21.2	23.9
Finance and insurance	44.2	49.8	39.3	32.7
Real estate and business services	12.0	14.9	16.3	18.2
Public administration and defense	53.1	57.6	48.5	45.7
Educational and health services	68.7	64.6	56.0	56.0
Social and personal services	30.3	31.3	27.7	29.5
Average	**19.1**	**21.4**	**19.2**	**28.1**

5. Intermediate Demand and Final Demand

A. Intermediate Demand

The intermediate demand ratio, which represents the share of intermediate demand in total demand, was 48.6 percent in 2000, up 0.6 percentage points from 48.0 percent in 1995.

By industry, the intermediate demand ratio stood at 54.5 percent in the manufacturing industry in 2000 and 38.2 percent in the service industry. This indicates that over 50 percent of products produced in the manufacturing industry were used as intermediate goods. On the other hand, over 60 percent of the output of the service industry was for final use, such as consumption.

Viewing the intermediate demand ratio by subsectors of manufacturing industry, the intermediate demand ratio was 40.1 percent in assembly and processing sector and 77.1 percent in basic raw materials sector. This suggests that about 80 percent of products produced in basic raw materials sector were used as intermediate goods, whereas a considerable part of products produced in assembly and processing sector were used as final goods.

Table 7. Ratio of Intermediate Demand by Industry

Unit : %

	1990	1995	2000	Japan(2000P)
Agriculture, forestry and fisheries	**70.0**	**58.2**	**69.5**	**69.5**
Mining and quarrying	**102.6**	**100.5**	**99.3**	**100.1**
Manufacturing	**56.5**	**54.2**	**54.5**	**56.7**
Consumption goods	**44.4**	**44.6**	**46.4**	**52.9**
Food and kindred products, and tobacco	35.0	37.0	40.0	32.6
Textile mill products, apparel, and leather	42.0	34.3	36.8	37.7
Paper and wood products	94.8	88.8	87.3	95.7
Printing and publishing	69.4	69.2	74.6	88.3
Furniture and miscellaneous manufactured products	22.7	28.3	30.8	57.9
Basic raw materials	**82.7**	**79.3**	**77.1**	**83.6**
Petroleum and coal products	79.0	68.5	59.7	70.3
Chemicals and allied products	77.9	73.2	76.9	80.7
Nonmetallic minerals	97.0	94.5	93.4	90.3
Primary metal products	92.1	91.1	87.3	90.2
Fabricated metal products	61.3	66.8	80.4	90.7
Assembly and processing	**40.7**	**37.5**	**40.1**	**39.1**
General Machinery and equipment	41.7	39.1	41.9	29.6
Electronic and other electric equipment	43.3	40.5	41.8	37.6
Precision instruments	41.9	29.4	36.2	23.7
Transportation equipment	35.7	33.0	35.4	48.6
Electric, gas and water services, and construction	**19.2**	**18.8**	**23.1**	**25.0**
Electric, gas and water services	78.6	75.6	67.2	69.0
Construction	9.3	8.4	9.1	11.6
Services	**39.4**	**40.5**	**38.2**	**39.8**
Wholesale and retail trade	42.7	29.7	40.4	37.4
Eating and drinking places, and hotels and other lodging places	46.7	52.7	34.9	33.4
Transportation and warehousing	40.3	41.5	37.6	61.3
Communications and broadcasting services	68.8	64.0	57.8	65.7
Finance and insurance	81.6	68.6	61.1	71.8
Real estate and business services	53.8	60.4	50.0	46.2
Public administration and defense	0.2	0.0	0.0	2.0
Educational and health services	5.1	19.7	18.4	18.2
Social and personal services	11.0	13.9	15.6	37.1
Average	**50.3**	**48.0**	**48.6**	**46.5**

B. Final Demand

Considering the composition ratio of final demand by item in 2000, the share of consumption was the highest at 49.3 percent, followed by exports with 28.2 percent and investment with 22.4 percent.

In the meantime, viewing the trend of the composition ratio of final demand by

item, the share of investment declined from 29.6 percent in 1995 to 22.4 percent in 2000, whereas the shares of consumption and exports were higher in 2000 than in 1995. In particular, private consumption expenditures came to 352,371 billion won in 2000, representing 1.74 times the 202,971.3 billion won in 1995. This was higher than the 1.67 times registered by final demand during the same period and the 1.48 times figure for the compensation of employees.[3] This is attributable to relative briskness of private consumption in 2000.

Table 8. Composition of Final Demand by Item

Unit : billion won, billion ¥, %

	1990		1995		2000		Japan(2000P)	
	Amount	Composition	Amount	Composition	Amount	Composition	Amount	Composition
Consumption	**114,809.0**	**48.6**	**240,722.2**	**47.8**	**414,024.0**	**49.3**	**367,532.8**	**66.2**
Private consumption expenditures	96,669.8	40.9	202,971.3	40.3	352,371.0	42.0	281,826.6	50.8
Government consumption expenditures	18,139.2	7.7	37,750.9	7.5	61,653.0	7.3	85,706.2	15.4
Investment	**68,283.0**	**28.9**	**148,971.3**	**29.6**	**188,442.9**	**22.4**	**130,076.4**	**23.4**
Gross fixed capital formation	67,987.6	28.8	146,671.3	29.1	186,903.8	22.3	129,807.4	23.4
Increase in stocks	295.4	0.1	2,299.9	0.5	1,539.1	0.2	269.0	0.0
Exports	**53,154.8**	**22.5**	**113,852.4**	**22.6**	**236,966.5**	**28.2**	**57,486.7**	**10.4**
Total Final Demand	**236,246.8**	**100.0**	**503,545.8**	**100.0**	**839,433.4**	**100.0**	**555,095.9**	**100.0**

The detailed breakdown of final demand by consumption, investment, and exports is as follows.

(1) Consumption

Viewing the details of private consumption expenditure by commodity, the proportion of consumption expenditure to industrial products was 28.5 percent in 2000, having shown a decline in every table since 1990. On the other hand, the proportion of consumption expenditure to service stood at 65.1 percent in 2000, having risen in every

3) Ratios of increase of private consumption expenditures and the compensation ratio of employees

	'95/'90	'00/'95
Private consumption expenditures(times)	2.10	1.74
Compensation of employees(times)	2.26	1.48
Final demand(times)	2.13	1.67

table since 1990. Among industrial products, however, the shares of consumption expenditure in petroleum and coal products (2.6 percent in 1995 → 3.6 percent in 2000) and electronic and other electric equipment (3.7 percent in 1995 → 4.5 percent in 2000) increased.

In case of service consumption, in particular, the share of expenditure for IT(Information Technology)-related services, including communication (share of communications and broadcasting services : 1.4 percent in 1990 → 4.0 percent in 2000) and that for educational and health services (share of educational and health services: 9.1 percent in 1990 → 12.3 percent in 2000) have been on a steady rise due to the development of the IT industry and the improvement of income level.

Comparing the proportions of communications and broadcasting services and educational and health services in total consumption between Korea and Japan (year 2000), that of Korea was higher than Japan. The proportion of communications and broadcasting services to private consumption in Korea was 4.0 percent, compared with 3.2 percent in Japan, and the proportion of educational and health services to private consumption was 12.3 percent in Korea, compared with 7.5 percent in Japan.

Table 9. Composition of Private Consumption Expenditure

Unit : %

	1990	1995	2000	Japan(2000[p])
Agriculture, forestry and fisheries	**6.8**	**6.6**	**3.6**	**1.4**
Manufacturing	**42.8**	**36.8**	**28.5**	**21.8**
Basic raw materials	**6.8**	**6.8**	**5.4**	**3.1**
Petroleum and coal products	1.9	2.6	3.6	1.4
Chemicals and allied products	4.1	3.6	1.5	1.3
Nonmetallic minerals	0.2	0.2	0.1	0.1
Fabricated metal products	0.6	0.5	0.2	0.1
Assembly and processing	**9.4**	**8.2**	**7.4**	**4.8**
General Machinery and equipment	0.4	0.6	0.4	0.0
Electronic and other electric equipment	4.0	3.7	4.5	2.7
Precision instruments	0.3	0.4	0.3	0.3
Transportation equipment	4.7	3.4	2.2	1.8
Consumption goods	**26.6**	**21.8**	**15.7**	**14.0**
Food and kindred products, and tobacco	19.2	13.6	10.6	10.2
Textile mill products, apparel, and leather	4.8	5.1	3.2	2.3
Paper and wood products	0.1	0.4	0.2	0.2
Printing and publishing	1.0	1.1	0.7	0.5
Furniture and miscellaneous manufactured products	1.6	1.5	1.1	0.9
Electric, gas and water services, and construction	**1.6**	**1.8**	**2.9**	**2.7**
Services	**48.8**	**54.8**	**65.1**	**74.1**
Wholesale and retail trade	10.6	11.7	7.4	16.3
Eating and drinking places, and hotels and other lodging places	1.5	1.7	7.5	7.8
Transportation and warehousing	6.0	5.5	4.3	5.2
Communications and broadcasting services	1.4	2.0	4.0	3.2
Finance and insurance	2.3	4.9	6.7	3.7
Real estate and business services	11.1	12.2	15.9	21.2
Public administration and defense	0.8	0.0	0.0	0.3
Educational and health services	9.1	10.8	12.3	7.5
Social and personal services	5.9	5.9	7.0	9.0
Total	100.0	100.0	100.0	100.0

(2) Investment

Investment by fixed capital formation amounted to 186,903.8 billion won in 2000, representing 1.27 times the 146,671.3 billion won recorded in 1995. This was a lower multiple than the 1.67 figure for the increase in final demand at the same period.

In the case of the composition of fixed capital formation by type, construction investment was 48.2 percent in 2000 and machinery accounted for 38.6 percent.

In the meantime, viewing the trend of consumption by type, the share of machinery was similar to that in 1995, but that of construction investment has been on a steady

decline. Notably, among types of machinery, the shares of electronic and other electric equipment rose up from 7.3 percent in 1995 to 12.9 percent in 2000. Its subsectors included IT-related electronic communications equipment (2.7 percent in 1995 → 5.9 percent in 2000) and computer and office equipment (2.5 percent in 1995 → 4.4 percent in 2000) On the other hand, the shares of general machinery and equipment (16.0 percent in 1995 → 13.3 percent in 2000) and of transportation equipment (11.7 percent in 1995 → 8.7 percent in 2000) both dropped.

And the share of construction investment stood at 48.2 percent in 2000, down 3.3 percentage points from 51.5 percent in 1995. Its decline was largely ascribable to a sharp fall in the share of construction of structures, including residential and nonresidential construction, which dropped from 33.8 percent in 1995 to 24.2 percent in 2000 due to sluggish real estate business, and offset the rise in the share of investment in the SOC sector, including roads, from 17.8 percent in 1995 to 24.0 percent.

Table 10. Composition of Gross Fixed Capital Formation by Goods

Unit : %

	1990	1995	2000	Japan(1999)
Machinery and equipment	**34.1**	**38.7**	**38.6**	**27.7**
General machinery and equipment	15.3	16.0	13.3	9.5
Electronic and other electric equipment	6.3	7.3	12.9	12.2
(Electrical machinery and equipment)	(0.9)	(1.3)	(2.1)	(2.2)
(Electronic communications equipment)	(2.9)	(2.7)	(5.9)	(2.9)
(Computer and office equipment)	(1.8)	(2.5)	(4.4)	(5.3)
Precision instruments	1.8	3.6	3.7	1.2
Transportation equipment	10.7	11.7	8.7	4.7
Construction	**58.2**	**51.5**	**48.2**	**52.3**
Residential construction	22.0	18.3	12.2	16.0
Nonresidential construction	18.1	15.5	12.0	8.9
Transportation facility construction	7.2	8.3	11.5	9.2
Other heavy construction	10.9	9.5	12.5	18.1
Others[1)]	**7.7**	**9.8**	**13.3**	**20.1**
Total	**100.0**	**100.0**	**100.0**	**100.0**

Note : 1) Includes large size animals and plants, commercial margin, freight, an leases of real state.

(3) Exports

(A) Trend of Composition Ratio by Export Product

Exports of goods and services in 2000 totaled 236,966.5 billion won, nominally 2.1 times the 113,852.4 billion won recorded in 1995. It was much larger multiple than the increase of 1.67 times posted in the final demand during the same period.

Observing the composition ratio by export commodities, the share of industrial products came in highest at 81.3 percent, followed by other items, including services, with 18.3 percent, and agriculture, forestry, and fisheries products with 0.3 percent. Viewing the trend of composition ratios by export commodities, the export share of industrial products showed a progressive rise, whereas those of agriculture, forestry, and fisheries products and mining and quarrying products showed a downward trend.

Considering industrial products by item, the export share of assembly and processing products, led by electronic and other electric equipment (27.6 percent in 1995 → 30.5 percent in 2000), climbed from 43.6 percent in 1995 to 48.5 percent in 2000. And that of the basic raw materials products went up from 18.3 percent in 1995 to 19.5 percent in 2000. In contrast, the export share of consumer products fell from 18.6 percent in 1995 to 13.3 percent in 2000, led by textile mill products, apparel, and leather (14.3 percent in 1995 → 9.7 percent in 2000) which were main items of Korea's exports in the 1960 and 70s.

Table 11. Composition of Export Commodities

Unit : %

	1990	1995	2000	Japan(2000[P])
Agriculture, forestry and fisheries	**1.6**	**0.8**	**0.3**	**0.1**
Mining and quarrying	**0.1**	**0.1**	**0.0**	**0.0**
Manufacturing	**79.5**	**80.6**	**81.3**	**81.0**
Consumption goods	**31.4**	**18.6**	**13.3**	**3.1**
Food and kindred products, and tobacco	2.2	1.6	1.3	0.3
Textile mill products, apparel, and leather	25.0	14.3	9.7	1.1
Paper and wood products	0.8	0.8	0.9	0.4
Printing and publishing	0.1	0.1	0.1	0.1
Furniture and miscellaneous manufactured products	3.3	1.7	1.3	1.2
Basic raw materials	**17.7**	**18.3**	**19.5**	**14.5**
Petroleum and coal products	1.6	2.1	5.1	0.5
Chemicals and allied products	6.7	8.9	8.4	7.9
Nonmetallic minerals	0.8	0.4	0.4	1.0
Primary metal products	5.4	4.8	4.2	4.2
Fabricated metal products	3.2	2.2	1.3	0.9
Assembly and processing	**30.4**	**43.6**	**48.5**	**63.5**
General Machinery and equipment	2.5	4.0	4.1	11.7
Electronic and other electric equipment	20.8	27.6	30.5	29.1
Precision instruments	1.1	1.0	0.9	2.2
Transportation equipment	6.0	11.0	13.0	20.5
Others	**18.8**	**18.6**	**18.3**	**18.8**
Total	**100.0**	**100.0**	**100.0**	**100.0**

(B) Export Ratio by Commodity

The export ratio, which represents the share of exports in total domestic output, marked 17.0 percent for all industries on average in 2000, up 3.5 percentage points from 13.5 percent in 1995.

By commodity, the export ratio of industrial products rose by 6.9 percentage points from 22.9 percent in 1995 to 29.8 percent in 2000. Among industrial products, in particular, the export ratios of transportation equipment (25.8 percent in 1995 → 41.2 percent in 2000) and electronic and other electric equipment (47.5 percent in 1995 → 50.8 percent in 2000) rose sharply.

Table 12. Export Ratio by Commodity

Unit : %

	1990	1995	2000	Japan(2000P)
Agriculture, forestry and fisheries	**3.9**	**3.0**	**1.8**	**0.5**
Mining and quarrying	**3.2**	**1.8**	**2.6**	**0.8**
Manufacturing	**20.4**	**22.9**	**29.8**	**15.2**
Consumption goods	**23.1**	**20.1**	**22.1**	**2.2**
Food and kindred products, and tobacco	4.0	4.4	5.2	0.5
Textile mill products, apparel, and leather	47.0	47.0	49.2	7.9
Paper and wood products	6.7	7.4	12.5	2.2
Printing and publishing	1.5	1.8	3.6	0.4
Furniture and miscellaneous manufactured products	33.7	24.1	29.7	6.8
Basic raw materials	**13.2**	**14.2**	**19.4**	**8.5**
Petroleum and coal products	9.6	12.8	22.7	2.2
Chemicals and allied products	13.4	18.8	22.5	11.5
Nonmetallic minerals	5.4	3.0	6.1	7.0
Primary metal products	13.5	13.0	17.4	10.3
Fabricated metal products	23.6	15.2	14.6	3.8
Assembly and processing	**25.7**	**33.3**	**43.1**	**28.4**
General Machinery and equipment	10.0	15.2	22.5	27.3
Electronic and other electric equipment	41.6	47.5	50.8	29.2
Precision instruments	32.2	26.2	32.0	31.4
Transportation equipment	15.0	25.8	41.2	27.6
Others	**5.4**	**5.1**	**6.2**	**1.6**
Average	**12.7**	**13.5**	**17.0**	**5.9**

6. Import Structure

A. Composition of Imported Goods and Services

The amount of Korea's total imports amounted to 239,788.3 billion won in 2000, representing the 1.88 times the 127,742.9 billion won recorded in 1995. This was a higher increase multiple than the increase of 1.66 times by total domestic output during the same period. In the case of the composition of imported products by item, industrial products

stood the highest at 67.1 percent, followed by mining and quarrying products with 16.7 percent, services with 13.2 percent, and agriculture, forestry, and fisheries products with 2.3 percent.

The import share of industrial products declined by 8.2 percentage points from 75.3 percent in 1995 to 67.1 percent in 2000. On the other hand, that of services went up from 9.6 percent in 1995 to 13.2 percent in 2000. Among services, particularly, imports of business services increased sharply.

Table 13. Composition of Import Commodities and Services

Unit : %

	1990	1995	2000	Japan(2000P)
Agriculture, forestry and fisheries	**5.7**	**4.3**	**2.3**	**3.9**
Mining and quarrying	**12.4**	**10.1**	**16.7**	**16.0**
Manufacturing	**74.8**	**75.3**	**67.1**	**63.3**
Consumption goods	**13.0**	**13.0**	**10.0**	**22.6**
Food and kindred products, and tobacco	4.7	4.1	3.7	9.1
Textile mill products, apparel, and leather	4.5	4.7	3.3	6.9
Paper and wood products	2.7	2.8	1.7	2.7
Printing and publishing	0.2	0.3	0.3	0.2
Furniture and miscellaneous manufactured products	0.8	1.1	0.9	3.6
Basic raw materials	**27.4**	**24.5**	**20.4**	**15.5**
Petroleum and coal products	4.4	4.2	4.6	3.4
Chemicals and allied products	12.2	9.7	8.0	6.4
Nonmetallic minerals	1.3	1.0	0.7	0.7
Primary metal products	8.5	8.6	6.3	4.3
Fabricated metal products	1.0	0.9	0.7	0.7
Assembly and processing	**34.5**	**37.8**	**36.7**	**25.2**
General Machinery and equipment	13.9	14.4	8.1	3.2
Electronic and other electric equipment	13.4	13.8	21.5	16.6
Precision instruments	3.3	4.6	3.8	2.0
Transportation equipment	3.9	4.9	3.3	3.5
Electric, gas and water services, and construction	**0.0**	**0.0**	**0.0**	**0.0**
Electric, gas and water services	0.0	0.0	0.0	0.0
Construction	0.0	0.0	0.0	0.0
Services	**5.9**	**9.6**	**13.2**	**16.3**
Wholesale and retail trade	0.4	0.2	0.6	1.3
Eating and drinking places, and hotels and other lodging places	0.8	1.8	2.5	4.6
Transportation and warehousing	2.2	2.8	3.9	5.3
Communications and broadcasting services	0.3	0.3	0.4	0.2
Finance and insurance	0.1	0.2	0.6	0.7
Real estate and business services	1.2	2.3	4.0	3.6
Public administration and defense	0.1	0.0	0.0	0.0
Educational and health services	0.7	1.3	0.6	0.2
Social and personal services	0.2	0.5	0.5	0.5
Others	**1.2**	**0.6**	**0.7**	**0.5**
Total	**100.0**	**100.0**	**100.0**	**100.0**

B. Composition of Imported Products by Use

Considering the composition ratio of imported products by use in 2000, the import portion of intermediate goods, which represents the share of imported products used as inputs in domestic production activities, was the highest at 76.1 percent, followed by that of investment goods, which represents the share of imported products used for fixed capital formation and inventories, at 13.9 percent, and that of consumption goods, which represents the share of imported products used for consumption by households, at 9.9 percent.

Meanwhile, viewing the rate of increase in 2000 compared with that in 1995 by use of imported products, it was the highest, at double for intermediate goods, followed by 1.46 times for investment goods, and 1.77 times for consumption goods.

Looking at the trend of composition ratios by use of imported products, the import share of intermediate goods rose by 4.5 percentage points from 71.6 percent in 1995 to 76.1 percent in 2000. On the other hand, the import share of investment goods (17.9 percent in 1995 → 13.9 percent in 2000) and that of consumption goods (10.5 percent in 1995 → 9.9 percent in 2000) both fell.

Table 14. Changes in Composition of Import Commodities by Use

Unit : billion won, %, times

	1990		1995		2000		B/A	C/B
	Amount(A)	Composition	Amount(B)	Composition	Amount(C)	Composition		
Intermediate goods	44,964.8	77.6	91,464.1	71.6	182,571.2	76.1	2.03	2.00
Investment goods	8,602.1	14.8	22,833.9	17.9	33,419.9	13.9	2.65	1.46
Consumption goods	4,362.4	7.5	13,444.9	10.5	23,797.1	9.9	3.08	1.77
Total	**57,929.4**	**100.0**	**127,742.9**	**100.0**	**239,788.3**	**100.0**	**2.21**	**1.88**

C. Import Dependency Ratio

The import dependency ratio, which represents the share of inputs of imported intermediate goods used for total domestic output, was 13.1 percent for all industries on average in 2000, higher than 10.9 percent in 1995.

Observing the import dependency ratio by industry, manufacturing industry showed the highest at 21.8 percent in 2000, followed by electric, gas, water services, and construction industry with 7.8 percent, service industry with 4.8 percent, the agriculture, forestry, and fisheries industry with 2.5 percent, and mining and quarrying industry with 0.8 percent.

Among manufacturing industry, the import dependency ratio of consumption goods sector slipped from 14.7 percent in 1995 to 12.8 percent in 2000. On the other hand, the import dependency ratio of basic raw materials sector(20.9 percent in 1995 →26.4 percent in 2000) and that of the assembly and processing sector (17.5 percent in 1995 →23.1 percent in 2000) both rose.

Strikingly, the import dependency ratios of petroleum and coal products (53.1 percent in 1995 →58.6 percent in 2000), which uses crude oil as a key raw material, in basic raw materials sector, and of electronic and other electric equipment (23.3 percent in 1995 → 32.4 percent in 2000) in assembly and processing sector both rose sharply.

Table 15. Degree of Import Dependency by Industry

Unit : %

	1990	1995	2000
Agriculture, forestry and fisheries	**2.1**	**2.4**	**2.5**
Mining and quarrying	**0.6**	**0.8**	**0.8**
Manufacturing	**18.0**	**18.0**	**21.8**
Consumption goods	**13.7**	**14.7**	**12.8**
Food and kindred products, and tobacco	8.7	10.4	9.6
Textile mill products, apparel, and leather	16.9	18.7	15.2
Paper and wood products	27.6	24.6	21.9
Printing and publishing	4.6	4.8	3.9
Furniture and miscellaneous manufactured products	11.5	13.6	13.6
Basic raw materials	**23.1**	**20.9**	**26.4**
Petroleum and coal products	64.3	53.1	58.6
Chemicals and allied products	20.6	19.5	19.3
Nonmetallic minerals	8.7	7.0	6.9
Primary metal products	18.8	18.9	19.7
Fabricated metal products	10.3	7.7	8.9
Assembly and processing	**18.0**	**17.5**	**23.1**
General Machinery and equipment	13.9	13.6	11.7
Electronic and other electric equipment	23.8	23.3	32.4
Precision instruments	18.7	11.4	17.5
Transportation equipment	10.4	12.6	10.8
Electric, gas and water services, and construction	**4.7**	**4.7**	**7.8**
Electric, gas and water services	14.4	14.2	22.7
Construction	3.1	3.0	3.1
Services	**3.8**	**3.8**	**4.8**
Wholesale and retail trade	2.0	1.4	3.8
Eating and drinking places, and hotels and other lodging places	2.5	2.4	6.0
Transportation and warehousing	13.6	17.9	25.0
Communications and broadcasting services	4.3	3.7	4.3
Finance and insurance	0.9	1.0	1.6
Real estate and business services	0.7	0.4	0.8
Public administration and defense	8.7	6.5	4.6
Educational and health services	1.3	2.0	2.5
Social and personal services	2.0	2.3	2.1
Average	**10.8**	**10.9**	**13.1**

D. Import Coefficient

The import coefficient, which represents the share of imports in total supply (=domestic total output amount + imports), rose from 13.2 percent in 1995 to 14.7 percent in 2000.

In the meantime, viewing the trend of import coefficients by commodity, the import coefficient of industrial products rose by 0.5 percentage points from 19.4 percent in 1995 to 19.9 percent in 2000, and the import coefficient of services went up by 1.4 percentage points from 4.1 percent in 1995 to 5.5 percent in 2000.

Viewing the comparison of import coefficients in 2000 with those in 1995, electronic and other electric equipment (21.1 percent in 1995 → 26.6 percent in 2000) among industrial products and transportation and warehousing (9.8 percent in 1995 → 15.5 percent in 2000) among services showed the biggest rises.

Table 16. Import Coefficient by Commodity

Unit : %

	1990	1995	2000	Japan(2000P)
Agriculture, forestry and fisheries	**13.4**	**14.6**	**12.7**	**13.3**
Mining and quarrying	**76.3**	**79.9**	**93.8**	**86.3**
Manufacturing	**17.3**	**19.4**	**19.9**	**10.1**
Consumption goods	**9.4**	**13.6**	**14.4**	**13.2**
Food and kindred products, and tobacco	8.6	11.0	13.1	11.3
Textile mill products, apparel, and leather	8.4	14.8	14.6	32.7
Paper and wood products	19.1	21.5	19.6	11.1
Printing and publishing	4.2	5.5	6.8	0.7
Furniture and miscellaneous manufactured products	8.2	14.8	18.4	16.5
Basic raw materials	**18.2**	**17.6**	**17.1**	**7.9**
Petroleum and coal products	22.7	22.5	17.1	12.5
Chemicals and allied products	21.1	18.8	17.9	8.1
Nonmetallic minerals	8.8	7.6	9.4	4.5
Primary metal products	18.6	20.9	20.8	9.0
Fabricated metal products	7.6	6.4	7.6	2.6
Assembly and processing	**24.1**	**24.5**	**24.8**	**9.6**
General Machinery and equipment	38.1	38.1	31.1	6.6
Electronic and other electric equipment	22.6	21.1	26.6	13.5
Precision instruments	52.1	57.1	57.3	21.5
Transportation equipment	9.5	11.5	9.7	4.2
Services	**2.6**	**4.1**	**5.5**	**1.6**
Wholesale and retail trade	0.9	0.6	2.0	0.7
Eating and drinking places, and hotels and other lodging places	11.5	24.6	12.8	7.4
Transportation and warehousing	7.5	9.8	15.5	5.7
Communications and broadcasting services	3.2	3.4	2.7	0.5
Finance and insurance	0.3	0.9	2.3	1.0
Real estate and business services	2.5	4.0	6.5	1.5
Public administration and defense	0.2	0.0	0.0	0.0
Educational and health services	2.7	4.0	2.1	0.1
Social and personal services	1.6	4.5	4.1	0.7
Average	**12.2**	**13.2**	**14.7**	**5.2**

E. Trade with North Korea[4)]

Observing the details of trade between South and North Korea in 2000, the South's exports of goods to the North amounted to 308.4 billion won in 2000, accounting for 0.1 percent of its total exports, and its imports of goods from the North came to 177.1

4) The 2000 input-output tables incorporates the details of South Korea's trade with North Korea. Its exports to North Korea are included in the export vector of the producer price appraisal table, and its imports from North Korea is included in the import trade table.

billion won, making up 0.1 percent of its total imports.

Looking at the composition ratio of the South's exports of goods to North Korea by product in 2000, the share of chemicals and allied products was the largest at 37.0 percent, followed by textile mill products, apparel, and leather with 16.5 percent, electronic and other electric equipment at 9.9 percent, and general machinery and equipment with 7.3 percent. Viewing the South's exports of goods to North Korea by use, chemicals and allied products were used as goods for assistance to North Korea, textile mill products, apparel, and leather products and electronic and other electric equipment were used for processing on a commission basis and for commercial trade, and general machinery and equipment were used for the light-water reactor project.

Considering the composition ratio of imports of goods from North Korea by commodity, the share of textile mill products, apparel, and leather products was the highest at 36.1 percent, followed by food and kindred products, and tobacco with 24.3 percent, agriculture, forestry, and fisheries products with 21.5 percent, and primary metal products with 7.5 percent. Most of the products imported from North Korea were goods that had been processed on a commission basis.

Table 17. Volume of South Korea's trade with North Korea in 2000

Unit : billion won, %

	Exports		Imports	
	Amount	Composition	Amount	Composition
Agriculture, forestry and fisheries	**7.6**	**2.5**	**38.1**	**21.5**
Mining and quarrying	**0.1**	**0.0**	**0.7**	**0.4**
Manufacturing	**299.9**	**97.3**	**133.0**	**75.1**
Consumption goods	**78.5**	**25.5**	**107.8**	**60.9**
Food and kindred products, and tobacco	20.2	6.6	43.1	24.3
Textile mill products, apparel, and leather	50.8	16.5	63.9	36.1
Paper and wood products	1.7	0.6	0.0	0.0
Printing and publishing	0.4	0.1	0.2	0.1
Furniture and miscellaneous manufactured products	5.3	1.7	0.5	0.3
Basic raw materials	**154.1**	**50.0**	**13.7**	**7.7**
Petroleum and coal products	18.2	5.9	-	-
Chemicals and allied products	114.0	37.0	0.2	0.1
Nonmetallic minerals	4.6	1.5	0.1	0.1
Primary metal products	6.3	2.0	13.2	7.5
Fabricated metal products	11.1	3.6	0.1	0.1
Assembly and processing	**67.3**	**21.8**	**11.6**	**6.5**
General Machinery and equipment	22.4	7.3	0.6	0.3
Electronic and other electric equipment	30.5	9.9	9.6	5.4
Precision instruments	1.6	0.5	0.0	0.0
Transportation equipment	12.7	4.1	1.4	0.8
Services	**0.7**	**0.2**	**5.3**	**3.0**
Total	**308.4**	**100.0**	**177.1**	**100.0**

Ⅲ. Interindustry Effects

1. Final Demand and Production Inducement

Final demand in Korea, including consumption, investment, and exports, came to 839,433.4 billion won in 2000. The total production of goods and services directly and indirectly induced in the domestic all industries to meet the final demand amounted to 1,392,927.8 billion won.

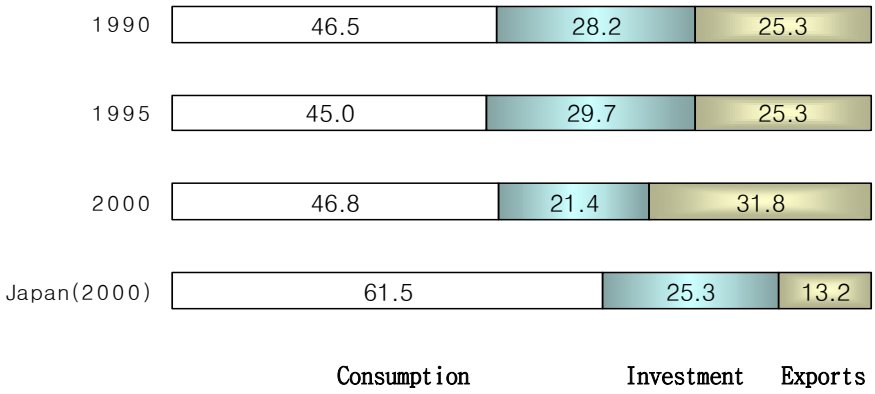
Observing the production inducement amount by item of final demand, the production induced by consumption amounted to 651,368.2 billion won, showing at 46.8 percent the highest ratio in the consumption dependency ratio of production inducement, which represents its share of the total production inducement amount. The production induced by exports came next at 443,167.9 billion won, showing a 31.8 percent ratio of the export dependency ratio for production inducement. The production induced by investment amounted to 298,391.7 billion won, representing an investment dependency ratio of 21.4 percent in terms of production inducement.

In the case of the trend of the dependency ratio(composition ratio) of final demand of production inducement by item, that of production inducement on investment was 29.7 percent in 1995, higher than that of exports standing at 25.3 percent. In 2000, however, the dependency ratio of production inducement on investment was 21.4 percent, due to sluggish construction investment and lower than that of production inducement on exports, which marked at 31.8 percent.

When comparing Korea's dependency ratio of production inducement of final demand by item with that of Japan(year 2000), Korea's dependency ratio of production inducement on consumption was lower than the 61.5 percent in Japan, and its dependency ratio of production inducement on exports was much higher than the 13.2 percent in Japan.

In particular, the share of exports in final demand rose from 22.6 percent in 1995 to 28.2 percent in 2000, and the dependency ratio of production inducement on exports rose from 25.3 percent in 1995 to 31.8 percent in 2000. This indicates that the strength of the impact of overseas economic conditions on the Korean economy has increased.

Figure 3. Dependency Ratio of Production Inducement(%)



The production inducement coefficient of final demand, which represents the effects on production inducement of final demand per unit, dropped from 1.671 in 1995 to 1.659 in 2000.

Looking at the production inducement coefficient per unit of final demand by item in 2000, that by exports was the highest at 1.870, followed by the production inducement coefficient per unit by investment with 1.583, and the production inducement coefficient per unit by consumption with 1.573.

Table 18. Effects of Final Demand on Production Inducement

Unit : billion won, %

	Induced Production Amount[1]			Production Inducement Coefficient[2]			Dependency Ratio of Production Inducement		
	1990	1995	2000	1990	1995	2000	1990	1995	2000
Consumption	193,593.4	378,598.6	651,368.2	1.686	1.573	1.573	46.4	45.0	46.8
Investment	117,715.4	250,348.6	298,391.7	1.724	1.681	1.583	28.2	29.7	21.4
Exports	105,656.3	212,571.3	443,167.9	1.988	1.867	1.870	25.3	25.3	31.8
Total	416,965.1	841,518.6	1,392,927.8	1.765	1.671	1.659	100.0	100.0	100.0

Note: 1) Induced Production Amount = $(I- A^d)^{-1} Y^d$ (by item of final demand)

2) Production Inducement Coefficient = $\frac{(I- A^d)^{-1} Y^d}{\text{Amount of Final Demand by Item}}$ (by item of final demand)

A^d is the matrix of input coefficient of domestic transaction table, Y^d is a domestic final demand (consumption, investment, exports) vector.

In the case of the production inducement coefficient by industry in 2000, which represents the size of production induced directly and indirectly in all industries when one unit of the final demand for goods and services produced by industry occurs, manufacturing industry was the highest at 1.959, followed by electric, gas, water

services, and construction industry with 1.872, agriculture, forestry, and fisheries industry with 1.642, mining and quarrying industry with 1.588, and service industry with 1.581. It is worthy of note that the production inducement effect was relatively low in agriculture, forestry, and fisheries, mining and quarrying, and services sectors which involve a low degree of intermediate production, whereas the production inducement effect was relatively high in manufacturing industry which involves a high degree in processing of products.

Meanwhile, among manufacturing industry, the production inducement coefficient of consumption goods sector rose from 1.968 in 1995 to 2.074 in 2000, and that of the assembly and processing sector went up from 1.943 to 1.97 over the same period. On the other hand, the production inducement coefficient of basic raw materials sector fell from 1.933 in 1995 to 1.877 in 2000. Among basic raw materials sector, in particular, the production inducement coefficients decreased in petroleum and coal products (1.182 in 1995 →1.136 in 2000) and fabricated metal products (2.208 in 1995 →2.151 in 2000).

Table 19. Production Inducement Coefficient by Industry

	1990	1995	2000	Japan(2000[p])
Agriculture, forestry and fisheries	**1.591**	**1.580**	**1.642**	**1.774**
Mining and quarrying	**1.580**	**1.542**	**1.588**	**2.054**
Manufacturing	**2.056**	**1.946**	**1.959**	**2.258**
Consumption goods	**2.135**	**1.968**	**2.074**	**2.098**
Food and kindred products, and tobacco	2.152	2.044	2.104	2.059
Textile mill products, apparel, and leather	2.205	1.949	2.068	2.049
Paper and wood products	1.839	1.808	1.945	2.223
Printing and publishing	2.096	1.988	2.232	2.028
Furniture and miscellaneous manufactured products	2.060	1.895	1.990	2.220
Basic raw materials	**1.993**	**1.933**	**1.877**	**2.162**
Petroleum and coal products	1.312	1.182	1.136	1.375
Chemicals and allied products	1.946	1.903	2.023	2.351
Nonmetallic minerals	1.899	1.968	2.022	1.958
Primary metal products	2.284	2.186	2.193	2.384
Fabricated metal products	2.218	2.208	2.151	2.114
Assembly and processing	**2.039**	**1.943**	**1.970**	**2.431**
General Machinery and equipment	2.063	2.021	2.140	2.207
Electronic and other electric equipment	1.929	1.767	1.712	2.299
Precision instruments	1.950	1.961	2.013	2.064
Transportation equipment	2.170	2.132	2.361	2.773
Electric, gas and water services, and construction	**1.905**	**1.973**	**1.872**	**1.918**
Electric, gas and water services	1.547	1.600	1.499	1.707
Construction	1.965	2.041	1.990	1.982
Services	**1.558**	**1.542**	**1.581**	**1.636**
Wholesale and retail trade	1.523	1.540	1.549	1.577
Eating and drinking places, and hotels and other lodging places	1.609	1.726	1.978	1.966
Transportation and warehousing	1.592	1.504	1.512	1.903
Communications and broadcasting services	1.258	1.293	1.668	1.877
Finance and insurance	1.556	1.475	1.487	1.603
Real estate and business services	1.556	1.584	1.487	1.469
Public administration and defense	1.736	1.656	1.523	1.517
Educational and health services	1.434	1.449	1.563	1.601
Social and personal services	1.748	1.741	1.876	1.810
Average	**1.765**	**1.671**	**1.659**	**1.770**

2. Final Demand and Value Added Inducement

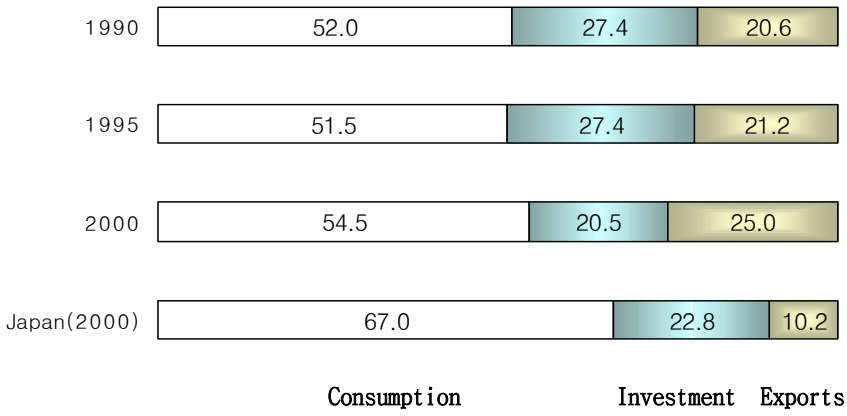
Viewing amount of value added induced by final demand by component to the total value added came to 599,645.1 billion won in 2000, that induced by consumption came to 326,527.2 billion won, giving a 54.5 percent consumption dependency ratio of value added inducement, which represents its share of the total value added. The value added amount induced by exports came next at 149,929.9 billion won, giving a 25.0 percent export dependency ratio to value added inducement. The value added amount induced by investment came to 123,188 billion won, giving a 20.5 percent investment dependency ratio to value

added inducement. This shows that among final consumption items, consumption exercised the largest effect on the creation of value added in 2000 followed by exports.

In the meantime, viewing the trend of the dependency ratio (composition ratio) of value added inducement on final demand in 1995, the dependency ratio of value added inducement on investment was 27.4 percent, higher than the 21.2 percent dependency ratio of value added inducement on exports. In 2000, however, the dependency ratio of value added inducement on exports stood at 25.0 percent higher than the 20.5 percent on investment.

In the event of comparing Korea's dependency ratio of value added inducement on final demand by item with that of Japan in 2000, Korea's dependency ratios of value added inducement on consumption and investment were lower than those in Japan, whereas Korea's dependency ratio of value added inducement on exports was much higher than the 10.2 percent in Japan.

Figure 4. Dependency Ratio of Value added Inducement(%)



The value added inducement coefficient, which represents the value added inducement effect of final demand per unit, dropped from 0.746 in 1995 to 0.714 in 2000. Viewing the value added inducement coefficient per unit of final demand by item, that by consumption was the highest at 0.789 in 2000, followed by that by investment with 0.654, and that by exports with 0.633.

Table 20. Effects of Final Demand on Value Added Inducement

Unit : billion won, %

	Induced Value added Amount [1]			Value added Inducement Coefficient [2]			Dependency Ratio of Value Added Inducement		
	1990	1995	2000	1990	1995	2000	1990	1995	2000
Consumption	92,713.7	193,390.3	326,527.2	0.808	0.803	0.789	52.0	51.5	54.5
Investment	48,828.7	102,925.7	123,188.0	0.715	0.691	0.654	27.4	27.4	20.5
Exports	36,775.0	79,486.9	149,929.9	0.692	0.698	0.633	20.6	21.2	25.0
Total	178,317.4	375,802.9	599,645.1	0.755	0.746	0.714	100.0	100.0	100.0

Note: 1) Induced value added amount = $\widehat{A}^{v}(I-A^{d})^{-1}Y^{d}$ (by item of final demand)

2) Value added inducement coefficient = $\dfrac{\widehat{A}^{v}(I-A^{d})^{-1}Y^{d}}{\text{Amount of Final Demand by item}}$ (by item of final demand)

$\widehat{A}^{v}$ is a diagonal matrix of the input coefficient vector of value added, A^{d} is the matrix of the input coefficient of domestic transactions, Y^{d} is a domestic final demand (consumption, investment, exports) vector.

Looking at the value added inducement coefficient by industry in 2000, which represents the size of value added induced directly and indirectly in all industries when one unit of final demand for goods and services produced by industry occurs, mining and quarrying industry had the highest 0.899, followed by agriculture, forestry, and fisheries industry with 0.892, service industry with 0.886, electric, gas, water services, and construction industry with 0.797, and manufacturing industry with 0.627.

Among manufacturing industry, the value added inducement coefficient of assembly and processing sector fell from 0.692 in 1995 to 0.613 in 2000. Among assembly and processing sector, in particular, the value added inducement coefficient of electronic and other electric equipment slipped sharply from 0.653 in 1995 to 0.541 in 2000.

Table 21. Value Added Inducement Coefficient by Industry

	1990	1995	2000	Japan(2000P)
Agriculture, forestry and fisheries	**0.920**	**0.913**	**0.892**	**0.934**
Mining and quarrying	**0.915**	**0.924**	**0.899**	**0.924**
Manufacturing	**0.670**	**0.686**	**0.627**	**0.869**
Consumption goods	**0.727**	**0.736**	**0.734**	**0.898**
Food and kindred products, and tobacco	0.827	0.810	0.804	0.907
Textile mill products, apparel, and leather	0.653	0.673	0.684	0.839
Paper and wood products	0.573	0.618	0.617	0.892
Printing and publishing	0.780	0.807	0.784	0.938
Furniture and miscellaneous manufactured products	0.730	0.737	0.709	0.864
Basic raw materials	**0.605**	**0.644**	**0.578**	**0.834**
Petroleum and coal products	0.307	0.439	0.384	0.574
Chemicals and allied products	0.641	0.662	0.620	0.892
Nonmetallic minerals	0.800	0.819	0.780	0.872
Primary metal products	0.578	0.609	0.580	0.826
Fabricated metal products	0.707	0.739	0.720	0.908
Assembly and processing	**0.679**	**0.692**	**0.613**	**0.876**
General Machinery and equipment	0.704	0.719	0.704	0.903
Electronic and other electric equipment	0.618	0.653	0.541	0.870
Precision instruments	0.682	0.774	0.661	0.891
Transportation equipment	0.738	0.721	0.693	0.868
Electric, gas and water services, and construction	**0.835**	**0.835**	**0.797**	**0.912**
Electric, gas and water services	0.774	0.755	0.675	0.878
Construction	0.845	0.850	0.836	0.922
Services	**0.903**	**0.908**	**0.886**	**0.964**
Wholesale and retail trade	0.930	0.938	0.908	0.974
Eating and drinking places, and hotels and other lodging places	0.910	0.904	0.837	0.930
Transportation and warehousing	0.756	0.731	0.629	0.914
Communications and broadcasting services	0.930	0.935	0.895	0.970
Finance and insurance	0.956	0.955	0.949	0.979
Real estate and business services	0.945	0.951	0.949	0.983
Public administration and defense	0.831	0.857	0.886	0.969
Educational and health services	0.933	0.926	0.897	0.962
Social and personal services	0.917	0.909	0.876	0.946
Average	**0.755**	**0.746**	**0.714**	**0.902**

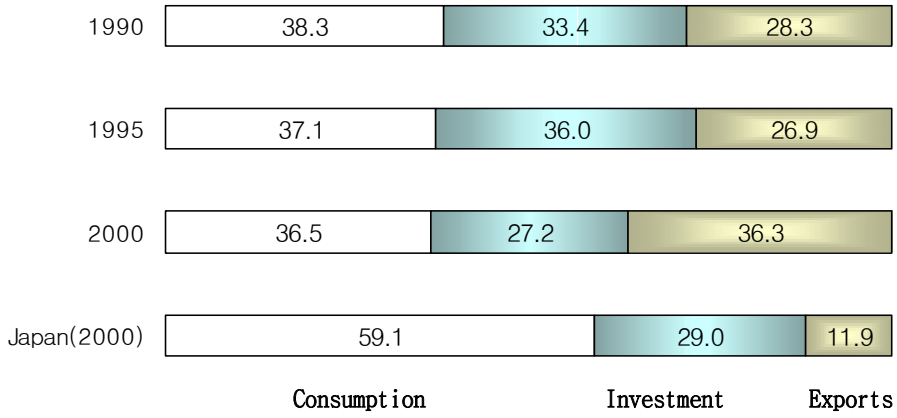
3. Final Demand and Import Inducement

The import inducement amount of final demand by item to total imports stood at 239,788.3 billion won in 2000, imports induced by consumption amounted to 87,496.8 billion won, accounting for the largest share, 36.5 percent, of the total imports. Imports induced by exports came next with 87,036.5 billion won, taking 36.3 percent of total imports. Imports induced by investment amounted to 65,254.9 billion won, accounting for 27.2 percent of total imports. This indicates that among imports, the portion of imports for export use is relatively high.

In the case of the trend of the dependency ratio (composition ratio) of import inducement on final demand by item in 1995, consumption was the highest at 37.1 percent, followed by investment with 36.0 percent, and exports with 26.9 percent. In 2000, however, consumption ranked first at 36.5 percent, followed by exports with 36.3 percent and investment with 27.2 percent. This was ascribable to the fact that Korean enterprises imported a large amount of raw materials and parts from foreign countries in 2000 to produce goods for export.

Comparing Korea's dependency ratio of import inducement on final demand by item with that of Japan in 2000, Korea's dependency ratio of import inducement on exports was much higher than the 11.9 percent in Japan, as were the dependency ratios of production inducement and value added inducement on final demand by item.

Figure 5. Dependency Ratio of Import Inducement(%)



The import inducement coefficient, which represents the import inducement effect of final demand per unit, increased from 0.254 in 1995 to 0.286 in 2000. Viewing the import inducement coefficient per unit of final demand by item, the import inducement coefficient per unit by exports was the highest at 0.367, followed by the import

inducement coefficient per unit by investment with 0.346, and the import inducement coefficient per unit by consumption with 0.211.

The main reason underlying hike in the import inducement coefficient per unit by exports was that the import dependency ratio of electronic and other electric equipment soared from 23.3 percent in 1995 to 32.4 percent in 2000, and the export portion of electronic and other electric equipment also rose from 27.6 percent in 1995 to 30.5 percent in 2000.

Table 22. Effects of Final Demand on Import Inducement

Unit : billion won, %

	Induced Import Amount[1]			Import Inducement Coefficient[2]			Dependency Ratio of Import Inducement		
	1990	1995	2000	1990	1995	2000	1990	1995	2000
Consumption	22,095.3	47,331.8	87,496.8	0.192	0.197	0.211	38.1	37.1	36.5
Investment	19,454.3	46,045.5	65,254.9	0.285	0.309	0.346	33.6	36.0	27.2
Exports	16,379.8	34,365.5	87,036.5	0.308	0.302	0.367	28.3	26.9	36.3
Total	57,929.4	127,742.9	239,788.3	0.245	0.254	0.286	100.0	100.0	100.0

Note: 1) Induced import amount (by item of final demand) $= \widehat{A}^{m} (I - A^{d})^{-1} Y^{d} + Y^{m}$

2) Import inducement coefficient (by item of final demand) $= \dfrac{\widehat{A}^{m} (I - A^{d})^{-1} Y^{d} + Y^{m}}{\text{Amount of Final Demand by item}}$

$\widehat{A}^{m}$ is the matrix of the input coefficient of import transaction table, A^{d} is the matrix of the input coefficient of domestic transactions, Y^{m} is a domestic final demand (consumption, investment, exports) vector, Y^{m} is an import final demand(consumption, investment) vector.

For the year 2000, viewing the import inducement coefficient by industry, which represents the size of imports induced directly and indirectly in all industries when one unit of the final demand for goods and services produced by industry occurs, manufacturing industry was the highest at 0.373, followed by electric, gas, water services, and construction industry with 0.203, and service industry with 0.114.

In particular, the import inducement coefficient of manufacturing industry rose from 0.314 in 1995 to 0.373 in 2000. Accordingly, the value added inducement coefficient dropped from 0.686 in 1995 to 0.627 in 2000. The import inducement coefficient of electronic and other electric equipment soared from 0.347 in 1995 to 0.459 in 2000.

Table 23. Import Inducement Coefficient by Industry

	1990	1995	2000	Japan(2000[p])
Agriculture, forestry and fisheries	**0.080**	**0.087**	**0.108**	**0.066**
Mining and quarrying	**0.085**	**0.076**	**0.101**	**0.076**
Manufacturing	**0.330**	**0.314**	**0.373**	**0.131**
Consumption goods	**0.273**	**0.264**	**0.266**	**0.102**
Food and kindred products, and tobacco	0.173	0.190	0.196	0.093
Textile mill products, apparel, and leather	0.347	0.327	0.316	0.161
Paper and wood products	0.427	0.382	0.383	0.108
Printing and publishing	0.220	0.193	0.216	0.062
Furniture and miscellaneous manufactured products	0.270	0.263	0.291	0.136
Basic raw materials	**0.395**	**0.356**	**0.422**	**0.166**
Petroleum and coal products	0.693	0.561	0.616	0.426
Chemicals and allied products	0.359	0.338	0.380	0.108
Nonmetallic minerals	0.200	0.181	0.220	0.128
Primary metal products	0.422	0.391	0.420	0.174
Fabricated metal products	0.293	0.261	0.280	0.092
Assembly and processing	**0.321**	**0.308**	**0.387**	**0.124**
General Machinery and equipment	0.296	0.281	0.296	0.097
Electronic and other electric equipment	0.382	0.347	0.459	0.130
Precision instruments	0.318	0.226	0.339	0.109
Transportation equipment	0.262	0.279	0.307	0.132
Electric, gas and water services, and construction	**0.165**	**0.165**	**0.203**	**0.088**
Electric, gas and water services	0.226	0.245	0.325	0.122
Construction	0.155	0.150	0.164	0.078
Services	**0.097**	**0.092**	**0.114**	**0.036**
Wholesale and retail trade	0.070	0.062	0.092	0.026
Eating and drinking places, and hotels and other lodging places	0.090	0.096	0.163	0.070
Transportation and warehousing	0.244	0.269	0.371	0.086
Communications and broadcasting services	0.070	0.065	0.105	0.030
Finance and insurance	0.044	0.045	0.051	0.021
Real estate and business services	0.055	0.049	0.051	0.017
Public administration and defense	0.169	0.143	0.114	0.031
Educational and health services	0.067	0.074	0.103	0.038
Social and personal services	0.083	0.091	0.124	0.054
Average	**0.245**	**0.254**	**0.286**	**0.098**

4. Forward and Backward Linkage Effects[5)]

By industry, the power of dispersion index, which represents the relative size of backward linkage effects, that of manufacturing industry declined from 1.083 in 1995 to 1.055 in 2000.

Meanwhile, among manufacturing industry, the power of dispersion index of consumption goods sector rose from 1.095 in 1995 to 1.117 in 2000, but those of basic raw materials sector (1.076 in 1995 →1.011 in 2000) and assembly and processing sector (1.081 in 1995 → 1.061 in 2000) dropped.

In particular, looking at the scale of the power of dispersion index by sector, the power of dispersion index of transportation equipment, including automobiles, was at 1.271 the highest in the manufacturing industry. This indicates that automobiles induce production in various manufacturing sectors, including engines, tires, wheels, and frames, in keeping with the progress in the localization of components.

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5) Each industry engages in production activities by purchasing products from other industries as intermediate goods, and sells goods produced through the process to other industries again as intermediate goods, keeping a mutually dependent relationship. the power of dispersion index and the degree of sensitivity index are figures showing the degree of mutual dependent relationships between industries in terms of relative size based on the average of all industries by making use of production inducement coefficients by industrial sector.

Table 24. Power of Dispersion and Degree of Sensitivity

	Index of Power of Dispersion[1]			Index of Degree of Sensitivity[2]		
	1990	1995	2000	1990	1995	2000
Agriculture, forestry and fisheries	**0.861**	**0.879**	**0.884**	**1.240**	**1.088**	**1.046**
Mining and quarrying	**0.855**	**0.858**	**0.855**	**0.752**	**0.697**	**0.638**
Manufacturing	**1.113**	**1.083**	**1.055**	**1.206**	**1.156**	**1.169**
Consumption goods	**1.155**	**1.095**	**1.117**	**1.112**	**1.004**	**0.964**
Food and kindred products, and tobacco	1.164	1.137	1.133	1.312	1.181	1.082
Textile mill products, apparel, and leather	1.193	1.084	1.113	1.002	0.838	0.847
Paper and wood products	0.995	1.006	1.047	1.277	1.246	1.228
Printing and publishing	1.134	1.106	1.201	0.695	0.763	0.723
Furniture and miscellaneous manufactured products	1.114	1.054	1.071	0.626	0.634	0.607
Basic raw materials	**1.078**	**1.076**	**1.011**	**1.550**	**1.497**	**1.534**
Petroleum and coal products	0.709	0.658	0.612	1.049	1.039	1.217
Chemicals and allied products	1.053	1.059	1.089	1.727	1.742	1.882
Nonmetallic minerals	1.027	1.095	1.089	0.857	0.886	0.823
Primary metal products	1.236	1.216	1.180	2.051	1.883	1.757
Fabricated metal products	1.200	1.228	1.158	0.759	0.823	0.838
Assembly and processing	**1.103**	**1.081**	**1.061**	**0.922**	**0.929**	**0.955**
General Machinery and equipment	1.116	1.125	1.152	0.883	0.884	0.882
Electronic and other electric equipment	1.043	0.983	0.922	0.969	1.001	1.032
Precision instruments	1.055	1.091	1.083	0.611	0.619	0.624
Transportation equipment	1.174	1.186	1.271	0.914	0.888	0.882
Electric, gas and water services, and construction	**1.031**	**1.098**	**1.008**	**0.843**	**0.820**	**0.781**
Electric, gas and water services	0.837	0.891	0.807	1.085	1.082	1.084
Construction	1.063	1.136	1.071	0.803	0.773	0.685
Services	**0.843**	**0.858**	**0.851**	**1.054**	**1.172**	**1.148**
Wholesale and retail trade	0.824	0.857	0.834	1.294	1.046	1.106
Eating and drinking places, and hotels and other lodging places	0.870	0.960	1.065	0.761	0.772	1.047
Transportation and warehousing	0.861	0.837	0.814	0.944	0.973	0.854
Communications and broadcasting services	0.681	0.720	0.898	0.760	0.785	0.939
Finance and insurance	0.842	0.821	0.800	1.284	1.277	1.321
Real estate and business services	0.841	0.882	0.801	1.480	1.926	1.773
Public administration and defense	0.939	0.921	0.820	0.541	0.556	0.538
Educational and health services	0.776	0.806	0.841	0.590	0.822	0.792
Social and personal services	0.946	0.969	1.010	0.600	0.625	0.647

Note : 1) Power of Dispersion of industry j = $\frac{e \cdot r_{\cdot j}}{[(e \cdot r_{ij} \cdot e') / n]}$

2) Degree of Sensitivity of industry i = $\frac{r_{i\cdot} \cdot e'}{[(e \cdot r_{ij} \cdot e') / n]}$

n is the number of sectors, r is the matrix of the Production inducement coefficient, e is a unit row vector, and e' is a unit column vector

By industry, the degree of sensitivity index, which represents the relative size of forward linkage effects, that of the manufacturing industry rose from 1.156 in 1995 to 1.169 in 2000. Viewing the trend of the degree of sensitivity index by business line of manufacturing industry, the index of consumption goods sector slipped from 1.004 in 1995 to 0.964 in 2000, whereas those of the assembly and processing sector (0.929 in 1995 → 0.955 in 2000) and the basic raw materials sector (1.497 in 1995 → 1.534 in 2000) both rose.

In the meantime, observing the scale of the degree of sensitivity index by sector, the degree of sensitivity index (forward linkage effect) of chemicals and allied products was at 1.882 the highest among manufacturing products. This reflects the fact that basic chemicals and allied products are widely used as intermediate goods in all industries, including the production of material parts.[6)]

5. Commodity Prices Repercussion Effects

Among factors affecting commodity prices are public utility charges, raw materials prices, and wages. In this paper, the Bank of Korea calculated the commodity prices repercussion effects in case of a 10 percent rise in the exchange rate, which has a great effect on prices of imported raw materials, and of a 10 percent hike in the price of crude oil, which has a great effect on commodity prices.

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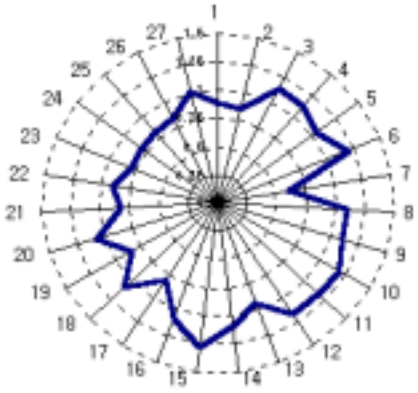
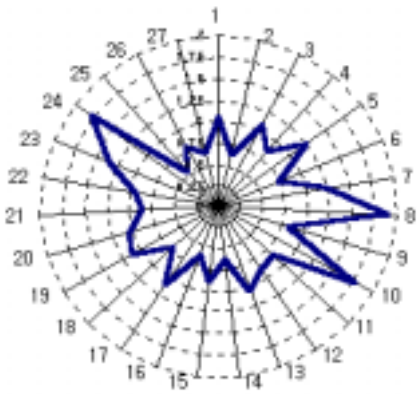
6)

Index of Power of Dispersion



Index of Degree of Sensitivity



1 Agriculture, forestry and fisheries	10 Primary metal products	19 Wholesale and retail trade
2 Mining and quarrying	11 Fabricated metal products	20 Eating and drinking places, and hotels and other lodging places
3 Food and kindred products, and tobacco	12 General Machinery and equipment	21 Transportation and warehousing
4 Textile mill products, apparel, and leather	13 Electronic and other electric equipment	22 Communications and broadcasting services
5 Paper an wood products	14 Precision instruments	23 Finance and insurance
6 Printing and publishing	15 Transportation equipment	24 Real estate and business services
7 Petroleum and coal products	16 Furniture and miscellaneous manufactured products	25 Public administration and defense
8 Chemicals and allied products	17 Electric, gas and water services	26 Educational and health services
9 Nonmetallic minerals	18 Construction	27 Social and personal services

A. Commodity Prices Repercussion Effects of a 10% Rise in the Exchange Rate to U.S. dollar

Calculating the prices repercussion effects following a rise in the exchange rate to U.S. dollar by utilizing the input-output tables in 2000, a 10 percent hike in the exchange rate had an inflationary pressure equivalent to 2.47 percent, up 0.36 of a percentage point from the 2.11 percent in 1995.

Considering the inflationary effect of the rise in the exchange rate by sector, the inflationary effect for industrial products was at 3.73 percent the largest in 2000. This resulted from a rise in the import dependency ratio in electronic and other electric equipment sector (3.47 percent in 1995 →4.59 percent in 2000) and precision instruments sector(2.26 percent in 1995 →3.39 percent in 2000)

Table 25. Commodity Prices Repercussion Effects of a 10% Rise in the Exchange Rate to U.S. dollar

Unit : %

	1990	1995	2000
Agriculture, forestry and fisheries	**0.80**	**0.87**	**1.08**
Mining and quarrying	**0.85**	**0.76**	**1.01**
Manufacturing	**3.30**	**3.14**	**3.73**
Consumption goods	**2.73**	**2.64**	**2.66**
Food and kindred products, and tobacco	1.73	1.90	1.96
Textile mill products, apparel, and leather	3.47	3.27	3.16
Paper and wood products	4.27	3.82	3.83
Printing and publishing	2.20	1.93	2.16
Furniture and miscellaneous manufactured products	2.70	2.63	2.91
Basic raw materials	**3.95**	**3.56**	**4.22**
Petroleum and coal products	6.93	5.61	6.16
Chemicals and allied products	3.59	3.38	3.80
Nonmetallic minerals	2.00	1.81	2.20
Primary metal products	4.22	3.91	4.20
Fabricated metal products	2.93	2.61	2.80
Assembly and processing	**3.21**	**3.08**	**3.87**
General Machinery and equipment	2.96	2.81	2.96
Electronic and other electric equipment	3.82	3.47	4.59
Precision instruments	3.18	2.26	3.39
Transportation equipment	2.62	2.79	3.07
Electric, gas and water services, and construction	**1.65**	**1.65**	**2.03**
Electric, gas and water services	2.26	2.45	3.25
Construction	1.55	1.50	1.64
Services	**0.98**	**0.92**	**1.14**
Wholesale and retail trade	0.70	0.62	0.92
Eating and drinking places, and hotels and other lodging places	0.90	0.96	1.63
Transportation and warehousing	2.44	2.69	3.71
Communications and broadcasting services	0.70	0.65	1.05
Finance and insurance	0.44	0.45	0.51
Real estate and business services	0.55	0.49	0.51
Public administration and defense	1.69	1.43	1.14
Educational and health services	0.67	0.74	1.03
Social and personal services	0.83	0.91	1.24
Average	**2.22**	**2.11**	**2.47**

B. Commodity Prices Repercussion Effects of a 10% Rise in Price of Crude Oil

Calculating the prices repercussion effects following a rise in the price of crude oil by utilizing the input-output tables in 2000, a 10 percent rise in the price of imported crude oil brought about inflationary pressure equivalent to 0.43 percent, up 0.20 of a percentage point from the 0.23 percent in 1995.

Considering the inflationary pressure exerted by a rise in the price of crude oil by sector, the inflationary pressure for petroleum and coal products in 2000 was 5.70 percent at the highest, up 1.0 percentage point from its 4.70 percent in 1995. The hike in the inflationary pressure caused by the rise in the price of crude oil in 2000 was attributable to the fact that both the exchange rate and oil prices rose much more sharply in 2000 than in 1995.

Table 26. Commodity Prices Repercussion Effects of a 10% Rise in the Price of Crude Oil

Unit : %

	1990	1995	2000
Agriculture, forestry and fisheries	**0.11**	**0.09**	**0.23**
Mining and quarrying	**0.20**	**0.17**	**0.41**
Manufacturing	**0.45**	**0.36**	**0.70**
Consumption goods	**0.14**	**0.10**	**0.21**
Food and kindred products, and tobacco	0.12	0.09	0.20
Textile mill products, apparel, and leather	0.15	0.11	0.23
Paper and wood products	0.16	0.11	0.23
Printing and publishing	0.12	0.08	0.20
Furniture and miscellaneous manufactured products	0.15	0.10	0.22
Basic raw materials	**1.04**	**0.82**	**1.62**
Petroleum and coal products	5.84	4.70	5.70
Chemicals and allied products	0.35	0.24	0.51
Nonmetallic minerals	0.34	0.28	0.60
Primary metal products	0.46	0.30	0.35
Fabricated metal products	0.23	0.17	0.25
Assembly and processing	**0.14**	**0.09**	**0.14**
General Machinery and equipment	0.16	0.12	0.20
Electronic and other electric equipment	0.12	0.06	0.10
Precision instruments	0.12	0.08	0.14
Transportation equipment	0.14	0.09	0.20
Electric, gas and water services, and construction	**0.20**	**0.17**	**0.25**
Electric, gas and water services	0.28	0.43	0.39
Construction	0.19	0.12	0.21
Services	**0.16**	**0.11**	**0.19**
Wholesale and retail trade	0.14	0.10	0.16
Eating and drinking places, and hotels and other lodging places	0.21	0.19	0.25
Transportation and warehousing	0.55	0.40	0.75
Communications and broadcasting services	0.04	0.03	0.08
Finance and insurance	0.07	0.04	0.06
Real estate and business services	0.07	0.05	0.08
Public administration and defense	0.13	0.11	0.15
Educational and health services	0.10	0.07	0.16
Social and personal services	0.12	0.08	0.21
Average	**0.31**	**0.23**	**0.43**