

CHAPTER 3

INPUT-OUTPUT TRANSACTIONS - A BRIEF ANALYSIS

3.1 With the completion of present IOTT, we now have six IOTTs for the Indian economy with reference years as 1968-69, 1973-74, 1978-79, 1983-84, 1989-90 and 1993-94. These IOTTs have complete coverage of the economy and are consistent with the NAS and are, therefore, comparable. The detailed IOTT of 1968-69 had 230 sectors whereas the 1973-74, 1978-79, 1983-84, 1989-90 and 1993-94 IOTTs have only 115 sectors. Thus the comparison is possible only at broad groups in the aggregated form of the tables at common 115 or 60 sector classification (Appendix 3 and Appendix 4). It may be mentioned that, though the number of sectors in 1973-74, 1978-79, 1983-84, 1989-90 and 1993-94 IOTTs is same, the sector classification of the first two and subsequent IOTTs is slightly different on account of the separation of electronic and communication equipment and merger of aircraft manufacturing with the miscellaneous manufacturing.

3.2 The IOTT can be viewed as an extensive dis-aggregation of the production account within the System of National Accounts. However, as has already been indicated, the overall discrepancy in the NAS showing the difference between GDP and final expenditure has been absorbed in various categories of final demand while undertaking the manual balancing, to present a balanced IOTT.

3.3 In the open Input-Output system, the components of final demand are exogenous to the basic inter-industry matrix and the analysis technique is useful only under the assumption of consistency of technical coefficients. This assumption is justified unless there are major changes in the technology of production. During the period 1968-69 to 1989-90, the input-output ratios have shown some marginal changes at the sectoral levels in the detailed as well as broad group level classification. It is, however, difficult to say definitely whether these changes are partially attributed to use of data, particularly the results of follow-up surveys of Economic Census and those of the manufacturing sectors or due to technological changes.

3.4 The proportion of imports in aggregate demand (total output) has slightly gone up from 5 per cent in 1983-84 and 1989-90 to 6.5 per cent in 1993-94, as in these years 95 per cent and 93.5 per cent of aggregate demand has respectively been met by domestic output. The corresponding figures for 1968-69, 1973-74 and 1978-79 were 3.4 per cent, 3.2 per cent, 4.5 per cent and 96.6 per cent, 96.8 per cent and 95.5 per cent, respectively. However, the commodity-group composition of imports in the total supply remains almost the same in 1989-90 and 1993-94. The agricultural crops (food, cash and others) and manufactured food items have contributed about 3.2 percent of the total imports in 1993-94 as against 3.8 per cent in 1989-90, 11.0 per cent in 1983-84, 12.3 per cent in 1978-79 and 23.0 per cent in 1973-74. The contribution of crude petroleum and natural gas, petroleum products including fertilizers, chemicals and chemical products in total imports is about 31.4 per cent in 1993-94, 32.2 per cent in 1989-90, 37.3 per cent in 1978-79 and 32.5 per cent in 1973-74. The share of iron and steel industries, basic metal industries, electrical and electronic machinery in the total imports has come down to 22.4 per cent in 1993-94 from 29.5 per cent in 1983-84 as against 26.0 per cent in 1983-84, 24.5 per cent in 1978-79 and 27.6 per cent in 1973-74. The demand for consumer items like beverages, tobacco products and minerals has been met almost fully from the domestic output, as their imports

are negligible. However, there is a marked increase in the demand of motor vehicles and miscellaneous manufacturing in 1993-94, respectively accounting for about 7.9 percent and 8.8 per cent of total imports.

3.5 As regards the exports of commodities during 1993-94, the largest contribution of 13.0 per cent is from textile products, as against 14.2 per cent of 1989-90. The next largest contribution is from the miscellaneous manufacturing, which is about 8.4 per cent, followed by the sector non-metallic mineral products, which accounted for 7.1 per cent of the total exports.

3.6 The intermediate demand of industries accounts for nearly 45 per cent (Table 3.0) of domestic output in 1993-94, whereas it was 46 per cent, 44 per cent, 42 per cent, 38 per cent and 37 per cent in the years 1989-90, 1983-84, 1978-79, 1973-74 and 1968-69, respectively.

Table 3.0: Percentage Distribution of various components in total output

Year	Intermediate Demand	PFCE	GFCE	GFCF	Net Exports
1968-69	37	47	6	10	Neg.
1973-74	38	46	6	10	Neg.
1978-79	42	41	6	11	Neg.
1983-84	44	40	6	10	Neg.
1989-90	46	35	7	12	Neg.
1993-94	45	37	6	12	Neg.

3.7 The contribution of PFCE in the final demand has come down to 37 per cent in 1993-94 from the contribution of 47 per cent in 1968-69, while that of GFCF increased from 10 per cent in 1968-69 to 12 per cent in 1993-94. The contribution of GFCE remained more or less at the same level of 6 percent, since 1968-69. Net foreign trade forms a very negligible proportion in total output.

3.8 To analyse the situation prevailing in 1993-94, the 115 sector *commodity x industry* table has been summarised to show only two sectors in the economy viz., 'commodities' comprising sectors 1 to 102 and 'services' comprising sectors 103 to 115 (Tables 3.1 and 3.2). These tables give a comparative picture of percentage distribution of output dispositions and input structure of commodities and services for the years 1968-69, 1973-74, 1978-79, 1983-84, 1989-90 and 1993-94.

3.9 The six IOTTs compiled so far, reveal some deviation in the inter-industry utilisation of output of various commodities and services. The commodities have utilised 40.3 per cent of commodity output for intermediate consumption in 1993-94 as against 42.5 per cent in 1989-90, 40.3 per cent in 1983-84, 38.0 per cent 1978-79, 34.5 per cent in 1973-74 and 33.6 per cent in 1968-69. The services have utilised 11.7 per cent of service output for intermediate consumption in 1993-94, as against 12.8 per cent in 1989-90, 13.1 per cent in 1983-84, 15.5 per cent in 1978-79, 9.4 per cent each in 1973-74 and 1968-69. The intermediate use of services in commodities have changed marginally in all the five periods of study till 1989-90, but remains more or less at the same level between 1989-90 and 1993-94. The component of final use in the output shows the corresponding decline, but shows marginal increase in the years 1989-90 and 1993-94. Thus, the share of

commodities in final use to total commodity output is 52.0 per cent in 1993-94, as against 51.4 per cent in 1989-90, 53.2 per cent in 1983-84, 56.1 per cent in 1978-79, 60.2 per cent in 1973-74, and 61.2 per cent in 1968-69. There is slight increase in the share of services in final use to total output of services, which is 61.5 per cent in 1993-94 as compared to 59.4 per cent in 1989-90.

Table 3.1: Percentage Distribution of Output

Sl. No.	Item	Year	Commodities	Services	Intermediate use	Final use	Total output
1.	Commo- dities	1968-69	33.6	5.2	38.8	61.2	100
		1973-74	34.5	5.3	39.8	60.2	100
		1978-79	38.0	5.9	43.9	56.1	100
		1983-84	40.3	6.5	46.8	53.2	100
		1989-90	42.5	6.2	48.6	51.4	100
		1993-94	40.3	7.6	48.0	52.0	100
2.	Services	1968-69	21.8	9.4	31.2	68.8	100
		1973-74	21.2	9.4	30.6	69.4	100
		1978-79	23.4	15.5	38.9	61.1	100
		1983-84	24.4	13.1	37.5	62.5	100
		1989-90	27.8	12.8	40.6	59.4	100
		1993-94	26.8	11.7	38.5	61.5	100
3.	Sub-total	1968-69	30.5	6.3	36.8	63.2	100
		1973-74	31.2	6.4	37.6	62.4	100
		1978-79	33.7	8.7	42.4	57.6	100
		1983-84	35.5	8.5	44.0	56.0	100
		1989-90	37.9	8.2	46.2	53.8	100
		1993-94	35.6	9.1	44.6	55.4	100
4.	Net Indirect taxes	1968-69	37.2	17.2	54.4	45.6	100
		1973-74	46.3	11.9	58.2	41.8	100
		1978-79	49.8	14.5	64.3	35.7	100
		1983-84	48.5	11.9	60.4	39.6	100
		1989-90	54.0	10.6	64.5	36.5	100
		1993-94	23.3	17.1	40.4	59.6	100
5.	Gross Value Added	1968-69	69.3	30.7			
		1973-74	70.1	29.9			
		1978-79	63.3	36.7			
		1983-84	63.0	37.0			
		1989-90	71.2	28.8			
		1993-94	56.1	43.9			

Commodities: Sectors 1 to 102 of 115 x 115 Table

Services : Sectors 103 to 115 of 115 x 115 Table

3.10 The net indirect taxes on commodities and services used as intermediate inputs in 1993-94 constitute 23.3 per cent and 17.1 per cent, respectively of the total net indirect taxes while the remaining 59.6 per cent is the share of indirect taxes on final use. The share of net indirect taxes has increased in the case of final use due to allocation of subsidies to the final use, namely, in the PFCE.

3.11 In the year 1993-94, 44.8 per cent of the total output of industries producing commodities forms GVA, 53.4 per cent intermediate inputs and the remaining 1.8 per cent net indirect taxes on inputs (Table 3.2). On the other hand, in the case of services industries the three components, 'gross value added', 'net indirect taxes on inputs' and

Table 3.2: Percentage Distribution of Inputs

Sl. No.	Item	Year	Commodities	Services	Sub-Total	Final Use
1.	Commodities	1968-69	33.6	15.2	28.8	69.2
		1973-74	34.5	16.4	30.0	69.9
		1978-79	38.0	14.1	31.0	66.3
		1983-84	39.5	16.0	32.8	63.9
		1989-90	41.3	14.8	33.7	63.5
		1993-94	39.1	14.8	31.0	57.6
2.	Services	1968-69	7.5	9.4	8.0	27.1
		1973-74	6.9	9.4	7.6	26.4
		1978-79	9.7	15.5	11.4	29.9
		1983-84	10.2	13.7	11.2	32.1
		1989-90	12.0	13.7	12.5	32.6
		1993-94	14.2	12.4	13.6	37.1
4.	Net Indirect taxes	1968-69	2.7	3.6	2.9	3.7
		1973-74	3.5	2.7	3.3	3.7
		1978-79	4.5	3.2	4.1	3.8
		1983-84	4.0	2.4	3.6	4.0
		1989-90	4.8	2.3	4.1	4.0
		1993-94	1.8	2.7	2.1	5.3
5.	Gross Value Added	1968-69	56.2	71.8	60.3	
		1973-74	55.1	71.5	59.1	
		1978-79	47.8	67.2	53.5	
		1983-84	46.3	67.9	52.4	
		1989-90	41.9	69.2	49.8	
		1993-94	44.8	70.1	53.3	
6.	Total Output	1968-69	100	100	100	100
		1973-74	100	100	100	100
		1978-79	100	100	100	100
		1983-84	100	100	100	100
		1989-90	100	100	100	100
		1993-94	100	100	100	100

'intermediate inputs' form 70.1 per cent, 2.7 per cent and 27.2 per cent respectively of these services industries sector output. Thus, the GVA to output ratio in case of the industries producing commodities has gone up to 44.8 per cent in 1993-94 from 41.9 per cent in 1989-90. On the other hand, in the case of services producing industries, the GVA to output ratio is almost the same for 1993-94 and 1989-90, at 70.1 per cent and 69.2 per cent, respectively. The GVA to total output ratio of all industries shows an increase from 49.8 per cent in 1989-90 to 53.3 per cent in 1993-94. The material inputs of commodities has declined from 41.3 per cent in 1989-90 to 39.1 per cent in 1993-94, whereas it is the reverse in the case of services at 12.0 per cent in 1989-90 and 14.2 per cent in 1993-94. The component of commodities as input in the service producing industries has, however, remained unchanged at 14.8 per cent in 1989-90 and 1993-94. But there is a slight decline in the component of services as input in the service producing industries from 13.7 per cent in 1989-90 to 12.4 per cent in 1993-94.

3.12 Looking into the composition of final use, it is observed that of the total final use 57.6 per cent relates to commodities and 37.1 per cent to services. The corresponding figures for 1989-90, 1983-84, 1978-79, 1973-74 and 1968-69 were 63.5 per cent and

32.6 per cent, 63.9 per cent and 32.1 per cent, 66.3 per cent and 29.9 per cent, 69.9 per cent and 26.4 per cent and 69.2 per cent and 27.1 per cent, respectively.

3.13 The IOTT has also been aggregated broadly to correspond to the classification of gross domestic product by industry of origin in Table 3.3. This table gives the actual level in 1993-94, whereas Table 3.4 gives a comparative picture of the first quadrant of inter-industry transactions for the years 1968-69, 1973-74, 1978-79, 1983-84, 1989-90 and 1993-94, under similar classification. Consequently, sectors 1 to 32 of the IOTT are considered as belonging to 'primary' sector. 'secondary' sector corresponds to sectors 33 to 102; 'transport, communication & trade' comes under the sectors 103 to 108 and the rest covering sectors 109 to 114 as 'other services', leaving 'public administration and defence' (PAD), but including 'banking, insurance and real estate'. PAD has been kept as a separate sector in this table.

Table 3.3: Inter-Industry Transactions, 1993-94

(Rs. in crore)

Sl. No.	Sector/Item	P	S	TR	OTH	PAD	Total II Use	Total Final Use	Total Output
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	P	47464	90842	8927	682	0	147915	202087	350002
2.	S	29399	223709	48237	16168	0	317512	302754	620266
3.	TR	18195	93330	20664	5575	0	137765	152780	290544
4.	OTH	3207	27411	26896	8853	0	66368	129840	196207
5.	PAD	0	0	0	0	0	0	43094	43094
6.	Total	98266	435292	104724	31277	0	669559	830555	1500114
7.	NIT	-10447	28587	11780	1557	0	31478	46397	77875
8.	GVA	264016	184221	168985	138761	43094	799077		
9.	Output	351834	648100	285490	171595	43094	1500114	876952	

P-primary; S-secondary; TR- transport, communi-cation and trade; OTH- other services including financial services; and, PAD- public admn & defence

Note : Figures in col. (10) and row (9) do not tally as the columns represent industries whereas rows represent commodities

3.14 In Table 3.3, the basic inter-industry matrix consists of columns (3) to (7) and rows (1) to (5). PAD sector has no entry in the basic matrix, as its entire output is allocated to itself for final consumption. Further, it has no intermediate inputs implying that the total output is equal to its GVA. The diagonal elements of the basic inter-industry matrix show the output of goods and services, produced and consumed by the same sector. The sum of columns (8) (inter-industry use) & (9) (final demand) gives the total supply in the economy.

3.15 During the year 1993-94, the consumption of the sectors' own output is 32.1 per cent in the case of primary sectors and 70.5 per cent for secondary sectors. The corresponding figures for the years 1968-69, 1973-74, 1978-79, 1983-84 and 1989-90 were 54.5 per cent and 68.5 per cent, 44.4 per cent and 69.0 per cent, 43.1 per cent and 71.8 per cent, 39.2 per cent and 70.4 per cent and 34.3 per cent and 74.2 per cent respectively. During this year, rest of the intermediate use of primary sector has been shared by the secondary sector (61.4 per cent) and 'transport, communication and trade' sector (6.0 per cent) and the 'other services' sector (0.5 per cent). The use of secondary sector product by 'primary', 'transport, communication and trade' and 'other services' sectors in the year 1993-94 has been 9.3 per cent, 15.2 per cent and 5.1 per cent respectively. Intermediate

supply of 'transport, communication & trade' and 'other services' sectors has been largely to secondary sector, which is of the order of 67.7 per cent and 41.3 per cent respectively. The shares of 'transport, communication and trade services' used by primary, self and other services are 13.2 per cent, 15.0 per cent and 4.0 per cent respectively. The output of 'other services' has been used by primary, 'transport, communication and trade' and self, having shares of total intermediate use as 4.8 per cent, 40.5 per cent and 13.3 per cent, respectively.

Table 3.4: Inter-Industry Transactions:
(Percentages)

Sl. No.	Sector/Item	Year	P	S	TR	OTH	Total II USE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Primary	1968-69	54.5	41.5	3.8	0.2	100
		1973-74	44.4	47.6	7.9	0.1	100
		1978-79	43.1	50.3	6.3	0.3	100
		1983-84	39.2	54.8	5.6	0.4	100
		1989-90	34.3	60.0	5.1	0.6	100
		1993-94	32.1	61.4	6.0	0.5	100
2.	Secondary	1968-69	10.4	68.5	11.0	10.1	100
		1973-74	12.4	69.0	9.6	9.0	100
		1978-79	10.9	71.8	11.7	5.6	100
		1983-84	11.0	70.4	11.8	6.8	100
		1989-90	9.9	74.2	10.9	5.0	100
		1993-94	9.3	70.5	15.2	5.1	100
3.	Transport, Communication and Trade	1968-69	8.1	67.4	16.8	7.7	100
		1973-74	9.4	59.9	24.2	6.5	100
		1978-79	10.9	52.3	32.6	4.2	100
		1983-84	12.4	57.1	26.0	4.5	100
		1989-90	11.0	63.0	21.5	4.5	100
		1993-94	13.2	67.7	15.0	4.0	100
5.	Total input	1968-69	25.7	57.1	10.9	6.3	100
		1973-74	24.2	58.9	11.7	5.2	100
		1978-79	19.3	60.3	15.9	4.5	100
		1983-84	18.6	62.1	14.3	5.0	100
		1989-90	15.4	66.8	13.1	4.7	100
		1993-94	14.7	65.0	15.6	4.7	100
6.	Net Indirect Taxes	1968-69	7.1	61.2	27.3	4.4	
		1973-74	8.3	71.3	16.2	4.2	
		1978-79	6.0	71.4	19.2	3.4	
		1983-84	(-6.1)	86.1	14.5	5.1	
		1989-90	(-7.5)	91.1	13.6	2.8	
		1993-94	(-33.2)	90.8	37.4	4.9	

3.16 Table 3.5 depicts the input structure of different sectors. The input requirements of primary sector have gone down from 29.7 per cent in 1989-90 to 27.9 per cent in 1993-94 mainly due to the decrease in the consumption of products of primary and secondary sectors.

Table 3.5: Percentage Distribution of Inputs in Different Sectors
(Percentages)

Sl. No.	Sector/Item	Year	P	S	TR	OTH	Total II USE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Primary	1968-69	17.8	15.4	3.5	0.3	12.9

		1973-74	16.5	19.4	8.1	0.2	14.6
		1978-79	16.7	14.2	4.1	0.4	11.5
		1983-84	16.7	15.4	4.2	0.4	12.1
		1989-90	15.4	13.6	3.3	0.7	10.7
		1993-94	13.5	14.0	3.1	0.3	9.9
2.	Secondary	1968-69	4.1	31.2	12.4	18.1	15.9
		1973-74	4.8	29.5	10.3	17.6	15.4
		1978-79	7.1	34.1	12.8	12.1	19.5
		1983-84	8.0	33.9	15.2	11.1	20.7
		1989-90	9.5	36.0	15.0	12.7	22.9
		1993-94	8.4	34.5	16.9	7.5	21.2
3.	Transport, Communication and Trade	1968-69	1.2	11.7	7.1	5.2	6.0
		1973-74	1.5	10.1	10.2	5.0	6.1
		1978-79	3.2	11.0	15.7	4.1	8.6
		1983-84	3.4	10.4	12.7	2.8	7.8
		1989-90	3.7	10.8	10.4	4.0	8.1
		1993-94	5.2	14.4	7.2	2.6	9.2
4.	Other Services include. Financial Services	1968-69	0.8	2.3	5.3	2.5	2.0
		1973-74	0.3	2.5	2.1	1.9	1.5
		1978-79	0.5	3.1	5.2	4.9	2.8
		1983-84	0.8	3.9	7.1	3.2	3.4
		1989-90	1.2	4.8	7.5	6.6	4.4
		1993-94	0.9	4.2	9.4	4.1	4.4
6.	Net Indirect Taxes	1968-69	0.5	5.1	5.6	1.4	2.9
		1973-74	0.7	6.6	3.7	1.8	3.3
		1978-79	0.8	7.1	4.4	1.5	4.1
		1983-84	(-)0.8	7.2	3.2	1.5	3.6
		1989-90	(-)1.3	7.8	3.3	1.3	4.1
		1993-94	(-)3.0	4.4	4.1	0.7	2.1
7.	Gross Value Added	1968-69	75.6	34.3	66.1	72.5	60.3
		1973-74	76.2	31.9	65.6	73.5	59.1
		1978-79	71.7	30.5	57.6	77.0	53.5
		1983-84	71.9	29.2	57.6	81.1	52.4
		1989-90	71.5	27.0	60.6	74.7	49.8
		1993-94	75.0	28.4	59.2	84.7	53.3
8.	Total Output	1968-69	100	100	100	100	100
		1973-74	100	100	100	100	100
		1978-79	100	100	100	100	100
		1983-84	100	100	100	100	100
		1989-90	100	100	100	100	100
		1993-94	100	100	100	100	100

3.17 In 1993-94, the GVA in primary sector is 75.0 per cent of the total output, which is higher than the corresponding figure of 71.5 per cent in 1989-90. The corresponding figures in 1983-84, 1978-79, 1973-74 and 1968-69 are 71.9 per cent, 71.7 per cent, 76.2 per cent and 75.6 per cent in respectively. The GVA output ratios in the sectors of primary, secondary and other services have gone up during 1993-94 in comparison to 1989-90 from 71.5 per cent to 75.0 per cent, 27.0 per cent to 28.4 per cent and 74.7 per cent to 84.7 per cent respectively, while that of "transport, communication & trade" has gone down from 60.6 per cent to 59.2 per cent. The intermediate inputs of 'transport, communication and trade' sector remain more or less same for 1989-90 (36.1 per cent) and 1993-94 (36.1 per cent and 36.7 per cent), as against 39.2, 37.8, 30.7 and 28.3 per cent in 1983-84, 1978-79,

1973-74 and 1968-69, respectively. The input requirement is minimum in other services sector and maximum in secondary sector.

Table 3.6: Purpose-wise Percentage Distribution of Final Use of Output

Sl. No.	Sector/Item	Year	PFCE	GFCE	GFCF	CIS	EXP	IMP	Total F USE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	Primary	1968-69	101.2	0.5	0.3	0.4	1.8	4.2	100
		1973-74	99.5	0.4	0.3	3.3	1.6	5.1	100
		1978-79	100.2	0.0	0.3	2.8	2.2	5.5	100
		1983-84	100.1	0.1	0.3	3.6	4.6	8.7	100
		1989-90	106.3	0.7	0.3	1.4	2.0	10.6	100
		1993-94	105.5	0.7	0.6	0.4	3.5	10.7	100
2.	Secondary	1968-69	49.2	4.9	48.3	1.6	8.8	12.8	100
		1973-74	44.6	5.8	42.6	7.3	8.9	9.2	100
		1978-79	48.2	5.6	43.2	5.2	12.8	15.0	100
		1983-84	49.7	5.8	44.8	5.1	9.9	15.3	100
		1989-90	40.9	6.7	49.4	4.4	12.8	14.1	100
		1993-94	42.2	6.4	57.2	(-)0.7	16.7	21.7	100
3.	Transport, Communication and Trade	1968-69	79.7	8.0	5.6		8.2	1.5	100
		1973-74	79.7	5.9	7.1		8.5	1.2	100
		1978-79	82.5	4.2	4.2		10.9	1.8	100
		1983-84	83.8	3.6	6.0		9.6	3.0	100
		1989-90	74.3	7.1	7.7		14.3	3.5	100
		1993-94	73.7	3.6	8.1		15.3	0.7	100
4.	Other Services include. Financial Services	1968-69	79.4	20.5			0.4	0.3	100
		1973-74	79.4	20.6					100
		1978-79	75.3	23.8			2.3	1.4	100
		1983-84	76.6	20.6			3.2	1.4	100
		1989-90	76.8	22.3			3.0	2.0	100
		1993-94	81.4	19.5			5.6	6.5	100
6.	Total Input	1968-69	76.2	9.2	15.3	0.6	4.5	5.8	100
		1973-74	72.9	8.9	15.0	3.7	4.7	5.2	100
		1978-79	71.1	9.6	16.8	2.8	7.4	7.7	100
		1983-84	71.1	10.3	17.7	2.9	6.9	8.9	100
		1989-90	64.2	12.5	22.0	2.2	8.5	9.3	100
		1993-94	67.3	11.4	22.5	(-)0.2	10.6	11.7	100
7.	Net Indirect Taxes	1968-69	65.7	7.4	18.9		8.0		100
		1973-74	76.0	2.8	20.5		0.7		100
		1978-79	63.4	8.4	27.6		0.6		100
		1983-84	59.5	8.8	37.9		(-)6.2		100
		1989-90	61.7	7.1	42.2		(-)11.0		100
		1993-94	74.2	3.5	23.5		(-)1.2		100
8.	Total Output	1968-69	75.8	9.1	15.4	0.6	4.6	5.5	100
		1973-74	73.0	8.7	15.2	3.6	4.5	5.0	100
		1978-79	70.8	9.6	17.2	2.7	7.2	7.5	100
		1983-84	70.6	10.0	18.5	2.8	6.4	8.5	100
		1989-90	64.1	12.2	22.8	2.1	7.7	8.9	100
		1993-94	67.7	11.0	22.5	(-)0.2	10.0	11.0	100

Note : Col (10) = Total Col (4) to Col (8) minus Col (9)

3.18 Table 3.6 gives a comparative picture of the components of final demand for the years 1968-69, 1973-74, 1978-79, 1983-84, 1989-90 and 1993-94. As regards the supplies from primary sector, it is the Private Final Consumption Expenditure category of the final demand, which accounted for almost entire final use. This has been true for all the six periods under study. Imports have been considered as negative outputs of the corresponding domestic sectors. In 1993-94, the imports of 'primary' sector commodities

have been 10.7 per cent and exports 3.5 per cent of the total final expenditure. In 1993-94, the imports of 'secondary' sector commodities have been 21.7 per cent and exports 16.7 per cent of the total final expenditure.

3.19 The share of PFCE in the final use of secondary sector output has increased from 40.9 per cent in 1989-90 to 42.2 per cent in 1993-94. There is also an increase in the GFCF from the secondary sector from 49.4 per cent in 1989-90 to 57.2 per cent in 1993-94. The shares of CIS, however, declined over the periods and are negligible. During 1993-94, there is an increase in the share of exports from 12.8 per cent in 1989-90 to 16.7 per cent in 1993-94 and the share of imports too have increased from 14.1 per cent in 1989-90 to 21.7 per cent in 1993-94.

3.20 The above analysis is on the basis of *absorption* matrix. Other matrix, which also provides basic information to input-output system, is the *make* matrix. Analysis of *make matrix* can be through the *product-mix* and *market share* matrices, which show the coefficients of the *make* matrix depicting the pattern of industries and commodities respectively.

3.21 The basic input-output table is a commodity x industry table recording the inputs of commodities into industries. Most of these inputs are required to produce the characteristic product of the industry but some are required to produce its subsidiary products. The construction of pure tables viz., commodity x commodity or industry x industry table from the basic data involves transfers of inputs and outputs between sectors and such transfers are in fact possible by suitably combining the make matrix and the absorption matrix under appropriate assumptions. The derived matrices known as product mix and market share matrices are used in arriving at the pure tables.

Product Mix Matrix

3.22 In the product mix matrix, (usually, denoted by C) whose column entries show the proportions in which a particular industry produces various commodities, the diagonal elements give the proportion of the main product in the output of the industry while the off-diagonal elements indicate the subsidiary products and by-products.

3.23 For all industries relating to primary and service activities and large number of manufacturing industries, the main product of the industry practically accounts for the total output. However, in manufacturing industries, there are categories e.g. 'hydrogenated oil (vanaspati)', 'carpet weaving', where the main product accounts for just 48.3 per cent and 47.2 per cent of the total outputs, respectively. But, when the sectors 'hydrogenated oil (vanaspati)' and 'Edible oils other than vanaspati' and the textile group (sectors 41 to 49) are taken together, their main product accounts for practically the entire output.

3.24 In the agriculture sector (1 to 17), 12.3 per cent is of "other crops" as by-products and subsidiary products. These by-products are straw, stalks, etc. and milling activity is the subsidiary product of the industry. For the rest of the industries relating to primary, products hardly any by-product or subsidiary product exists.

3.25 In the case of manufacturing industries, the contribution of the by-products and secondary products is, however, significant. In some cases, the proportion of all the by-products taken together is as high as 51.7 per cent for hydrogenated oil (vanaspati). The

number of secondary products and by-products of an industry is generally small, with a few exceptions.

3.26 Out of the 66 industries listed under manufacturing, 16 industries share proportion of by-products less than 10 per cent, 38 industries share between 10-20 per cent and rest account for more than 20 per cent. For the rest of the industries in the manufacturing group and for all the industries relating to services, the share of by-products or subsidiary products is not much.

Market Share Matrix

3.27 The market share matrix (D), column entries present the proportions in which the various industries produce the total output of a particular commodity, the diagonal elements give the proportions of the output of various commodities produced as main products and the off-diagonal elements show the proportions of the commodities produced as subsidiary products in other industries.

3.28 For the commodity groups relating to primary sectors, the output is produced as main product in all the cases except for the commodity group, 'other crops'. In this particular case, 79.7 per cent of the total output comes as a main product whereas 20.3 per cent is produced as a subsidiary product or by-products by the industries of agriculture crops (sectors 1 to 16).

3.29 As expected, it is only in the manufacturing sector that the off-diagonal elements are significant as compared to primary and tertiary sectors. In other words, in case of manufactured goods each commodity is produced by relatively large number of industries as a subsidiary product or by-product. The number of industries producing the same commodity is as high as 11 for 'miscellaneous manufacturing' and those industries producing only a single by-product are as many as 8 in number.

3.30 More than 95 per cent of the output is produced as main product in the case of 34 commodity groups and less than 80 percent of the output is for 7 commodity groups belonging to manufacturing sectors.
