

# *7. Composition and Impact of State Government Purchases—A Case Study of Gujarat*

## **Introduction**

It may be recalled that while examining the impact of the Central government purchases in Chapter 7 it was pointed out that a sizeable proportion of the expenditure by the Central government consisted of grants and loans to the State governments. The impact of these transfers on the economy can only be studied through an analysis of the impact of the expenditures of the State governments. Besides, the States account for more than 50 per cent of the total revenue expenditure of the Centre and the States put together. Hence, the impact of the commodity purchases by the State governments is bound to be at least as significant as the impact of those by the Centre.

The pattern of expenditure by the various States is not uniform. Therefore, an analysis based on the aggregate expenditures of all the States would give misleading results; the impact of the expenditure by each State government will have to be studied separately. This is a stupendous task, which would require a considerable length of time and a large volume of resources. We shall, therefore, confine ourselves to a case study of one State.

## **Choice of the State**

Gujarat State has been chosen for this purpose. The choice is partly because Gujarat has a well-organised system of government purchases and the records of the purchases are well maintained by agencies such as the Central Stores Purchase Organisation and the Departmental Purchase Committees, who handle most of the purchases. Secondly, we had originally thought it would be desirable to choose a State for which an input-output table was available. In a sense, of course, the

choice is arbitrary because there are several other States which would satisfy the two criteria.

As in the case of Central government expenditure, the main objective is to work out the commodity composition of the State government's expenditure. Having obtained the commodity composition of expenditure, i.e., the State government's demand vector, as before, we wish to compute the likely indirect demand for the outputs of different sectors. For this we need a fairly up-to-date input table. We shall first consider the methodology of constructing the government's demand vector and then turn to the choice of the input-output table.

### **Earlier Attempts at Constructing State Government Demand Vector**

Only three attempts have been made to work out the commodity composition of government expenditure at the State level. These are by Mehta, B.C. (1977), Kashyap, S.P. (1979) and Sarma, A. and Parekh, K.M. (1980). Mehta and Kashyap were not specially interested in working out the detailed composition of government commodity purchases; they estimated the government vector as one of the components of final demand in the input-output table they were constructing for Rajasthan and Gujarat. Mehta estimated the government vector for Rajasthan on the basis of the pattern of expenditure contained in the government vector in the all-India input-output table given in the *Technical Note* appended to the *Fifth Five Year Plan*. Kashyap obtained the commodity composition of Gujarat Government expenditure by disaggregating the total expenditure on commodities and services in the same proportions as obtained by Paithankar (1969) who estimated DGS&D purchases for the State governments for 1963-64 by 32 commodity groups. Thus, essentially, Mehta and Kashyap derived the government vector on the basis of the pattern of the Central government purchases.

Recently, Sarma and Parekh (1980) have constructed the government demand vector for four States, namely, Maharashtra, Gujarat, Rajasthan and Madhya Pradesh. For this purpose, they used as their main source of data, the *Demands for Grants*, of the respective State budgets. According to them, they could

obtain from the *Demands for Grants* the commodity composition for as much as 84 per cent of government expenditure for Gujarat. However, we find it difficult to accept their claim of having been able to work out commodity composition of such a large proportion of government expenditure on the basis of the *Demands for Grants*, because with our best efforts, we could not arrive at the commodity composition for more than 24 per cent of the total expenditure on goods and services.<sup>1</sup> Our sources of data and methodology are described below.

### Sources of Data and Methodology

In estimating the government vector for Gujarat, four sources have been used:

- i. *Detailed Demands for Grants* (DDG) of the Departments;
- ii. *Economic-cum-Functional Classification of the State Budget*;
- iii. Central Stores Purchase Organisation (CSPO); and
- iv. Departmental Purchase Committees (DPC's).

The DDG for the various administrative units gives the details of expenditure (items 1 to 25 in Table 7.1). Such details indicate fairly well the way the government spends money on different programmes and are of help to the political authorities in sanctioning the demands for grants. They do not enable us to gain an idea of the commodity-wise expenditure of the government in detail. However, by close observation, it is possible to identify a large part of the commodity expenditures. Thus, office expenses, payments for professional and special services, major work, minor work, machinery and equipment, motor vehicles, materials and supplies, and diet charges can be said to represent commodity expenditure. In addition, there are two expenditures shown as "suspense", other charges and lump-sum expenses. For want of information 50 per cent of these can be treated as commodity expenditure. Thus, roughly speaking, it is possible to identify (from DDG) commodity expenditure to the tune of Rs. 22,622.58 lakh which is roughly 24 per cent of the total State government expenditure (Table 7.1). But this is not an accurate figure.

The economic and functional classification of the State budget provides a correct picture of total government expenditure on goods and services and is particularly useful for our

**TABLE 7.1**  
**Demands for Grants of Gujarat Government (1977-78)**

<i>Sl. No.</i>	<i>Item</i>	<i>Total expenditure under all demands (Rs lakh)</i>	<i>Per cent of total</i>
(1)		(2)	(3)
1.	Salaries and wages	9639.48	10.02
2.	Travel expenses	681.33	0.71
*3.	Office expenses	1608.59	1.67
*4.	Payment for professional and special services	132.84	0.14
5.	Rent, rates and taxes/royalties	131.13	0.14
*6.	Publication	5.99	0.01
*7.	Advertising	476.11	0.49
8.	Grants-in-aid/contribution/subsidies	19264.15	20.22
9.	Scholarships and stipends	244.23	0.25
10.	Hospitality expenses/sumptuary allowances	0.76	—neg.
*11.	Major work	61.37	0.06
*12.	Minor work	943.87	0.98
*13.	Machinery and equipment/tools and plant	362.96	0.38
*14.	Motor vehicles	221.35	0.23
*15.	Maintenance	166.95	0.17
16.	Investment/loans	21463.20	22.31
*17.	Materials and supplies	1327.47	1.38
**18.	Suspense	16384.37	17.03
19.	Pensions/gratuities	2065.47	2.15
20.	Depreciation	7.25	0.01
21.	Inter-account transfers	2787.67	2.90
22.	Write off/losses	87.62	0.09
*23.	Other charges/expenditure	558.24	0.58
*24.	Diet charges	88.28	0.09
25.	Other expenditure	1.30	—neg.
**26.	Lump sum	17510.98	18.20
	<b>TOTAL</b>	<b>96222.26</b>	<b>100.00</b>

*Note:* All items marked \* plus 5 per cent of items marked \*\* can be identified as expenditure on goods and services.

*Source:* Government of Gujarat (1979-80), *Budget Documents*.

**TABLE 7.2**  
**Expenditure of Gujarat Government by Economic Categories**  
**(1973-74 to 1977-78)**

(Rs. lakh)

<i>Economic category</i>	1973- 74	1974- 75	1975- 76	1976- 77	1977- 78
	(1)	(2)	(3)	(4)	(5)
1. Consumption expenditure	14146	10729	12749	15486	15996
1.1 Compensation to employees	6457	5923	7758	10833	10782
1.2 Commodities and services	6456	4168	4405	4017	3760
1.3 Repairs and maintenance	1233	638	586	636	1454
2. Gross capital formation	7953	10163	9685	9691	13987
2.1 Construction	7452	8335	10469	8915	13735
2.2 Machinery and equipment	351	293	282	346	326
2.3 Increase in inventories	150	1535	-1066	430	-74
Total expenditure (1+2)	22099	20892	22434	25177	29983
Total government expenditure on goods and services	15642	14969	14676	14344	19201

*Source:* Government of Gujarat, Bureau of Economics and Statistics, *An Economic and Functional Classification of the Gujarat Government Budget* (various issues).

purpose. Current expenditure on goods and services (shown in consumption expenditure), gross fixed capital expenditure on the construction of buildings for office, residential and other purposes, road construction and other capital projects, machinery and equipment (shown in gross capital formation) and charges in inventories constitute the total spending on goods and services.

The bulk of government purchases are routed through the CSPO and the DPC's. In fact until 1964, The CSPO played a vital role in purchasing goods for the government. After 1964, with a view to expediting the purchases and reducing the time involved in the whole process, two major procedural amendments were made. Firstly, the government departments were allowed to buy those items for which rate or running contracts had been entered into either by the DGS&D or by the CSPO, i.e., these items could be bought directly without placing indents with the CSPO. Such purchases are operated by the

direct demanding officers who are Class I gazetted officers in the State government. Secondly, for a few specific departments, the government has appointed some purchase committees to look after their purchases of certain specialised items, which are required by those departments occasionally (See Appendix Table D.1) These DPC's are empowered to make purchases upto a monetary ceiling<sup>2</sup>.

It would have been ideal if we could have gathered complete data from all the three sources. For then, we could have accounted for all purchases and obtained the commodity-wise break-down of those purchases. Unfortunately, while we could get, through the good offices of the Finance Department of Government of Gujarat, fairly comprehensive information with the desired details from the CSPO and the various DPC's, we could not get the figures of purchases by the direct demanding officers. The main reason for this is that such direct demanding officers are large in number and are scattered throughout the State.

In order to arrive at the commodity composition of the Gujarat Government expenditure, we have made use of information obtainable from all the sources mentioned above. First, we have to determine the total expenditure on goods and services. We have two estimates of this: one from DDG amounting to Rs. 226.2 crore and the other from the *Economic and Functional Classification of the Budget* (Table 7.2) amounting to Rs. 192.0 lakh (for 1977-78). The former figure is the less accurate one, as the break-down of some of the budgetary items has been worked out on the basis of an assumption (see p. 100). Hence we have taken Rs. 192.0 crore to be the total expenditure on goods and services for 1977-78. The corresponding figures for the other years are also given in Table 7.2.

The next step is to work out the commodity composition of this total for 1977-78. For this purpose we first subtracted from the total expenditure the amount spent on construction as given in *An Economic and Functional Classification of the Gujarat Government Budget*. The problem was then reduced to one of allocating the remainder of the expenditure given in the *Economic and Functional Classification*. For this purpose, the figures of purchases gathered from the CSPO and DPC's as well as

TABLE 7.3  
Data on the State Government Purchases Obtained for Various Sources (1977-78)

Sl. No.	Sectors	(Rs. lakh)										
		Demand Central		Departmental purchase committees						Total		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			for stores & purchase grants	Employment and training	Employees and State insurance	Forensic laboratories	Medical and health	Ports and navigation	Technical education	Engineering & research		Per cent of total
1.	Food items	88.28	—	—	—	—	—	—	—	—	88.28	3.78
2.	Minerals	—	—	—	—	—	—	—	—	—	—	—
3.	Edible oils	—	—	—	—	—	—	—	—	—	—	—
4.	Beverages	—	—	—	—	—	—	—	—	—	—	—
5.	Tobacco & tobacco products	—	—	—	—	—	—	—	—	—	—	—
6.	Cotton textiles	—	41.27	0.10	—	—	—	—	—	—	41.37	1.77
7.	Woollen & silk textiles	—	4.47	—	—	—	—	—	—	—	4.47	0.19
8.	Jute textiles	—	—	—	—	—	—	10.79	—	—	10.79	0.46
9.	Wood & wood products	—	0.29	0.29	0.16	—	—	—	—	—	0.74	0.03
10.	Paper & paper products	—	24.27	—	—	—	—	—	—	—	24.27	1.04

TABLE 7.3 (Contd.)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
11. Leather & leather products	—	13.37	—	—	—	—	—	—	—	13.37	0.57
12. Rubber & rubber products	—	—	—	—	—	—	—	—	—	—	—
13. Petroleum products	—	7.65	0.95	—	0.12	—	—	—	—	8.63	0.37
14. Chemicals & chemical products	—	6.01	0.13	177.83	0.63	—	1.90	0.42	—	186.92	7.99
15. Construction materials	—	—	—	—	—	—	—	—	—	—	—
16. Metal & non-metal products	—	20.75	2.59	—	0.08	—	—	0.40	—	23.82	1.02
17. Non-electrical machinery & transport equipments	—	93.62	10.27	5.85	0.41	26.90	0.57	9.47	5.07	152.79	6.53
18. Electric machinery	—	29.65	1.26	—	0.66	—	3.80	5.81	—	41.18	1.76
19. Gas, electricity, water supply & communication	1608.59	—	—	—	—	—	—	—	—	1608.59	68.80
20. Other services	132.84	—	—	—	—	—	—	—	—	132.84	5.68
<b>TOTAL</b>	<b>1829.71</b>	<b>241.26</b>	<b>15.59</b>	<b>183.84</b>	<b>1.90</b>	<b>26.90</b>	<b>17.06</b>	<b>16.10</b>	<b>5.07</b>	<b>2338.06</b>	<b>100.00</b>



from DDG were grouped into the 19 sectors other than construction. (Table 7.3), and their relative proportions were obtained. The unallocated Government expenditure was multiplied by these proportions in order to obtain its break-down. The results are presented in Table 7.4. It may be noted that we have obtained the proportions on the basis of the purchases made by CSPO and DPC's. Thus it has been assumed that the pattern of purchases by the direct demanding officers is more or less the same, as those routed through the CSPO and the DPC's.

It was possible to obtain information on the CSPO and DPC purchases only for the year 1977-78. On the assumption that the pattern of Government expenditure does not change significantly from year to year, the proportions of 1977-78 were applied to the years 1973-74 to 1976-77. The Government demand vectors thus worked out for all the years from 1973-74 to 1977-78 are given in Table 7.4. These vectors at market prices were converted into producers' prices to put them on the same basis as the input-output table. The conversion was made on the basis of the producers' purchase's price ratios estimated by Venkatramaiah, *et. al.* (1979). The resulting figures are presented in Table 7.5.

### Composition of Government Purchases

Tables 7.4 and 7.5 show the composition of government purchases. Three items, namely, construction materials; gas, electricity, water supply and communication; and chemicals and chemical products accounted for more than 90 per cent of the government purchases in 1977-78. Other commodities like jute textiles, woollen and silk textiles, wood and wood products, paper and paper products, and leather and leather products accounted for negligible proportions. In 1977-78, of the total government purchases worth Rs. 13,138 lakh, at producer prices (Rs. 19,201 lakh at market prices), Rs. 8,814 lakh were on account of construction materials, and Rs 3,110 lakh were on account of gas, electricity, water supply and communication.

It will be noticed that according to the break-down available there were no purchases of rubber and rubber products by the Government. But this should not be construed to mean that the Government did not purchase rubber and rubber pro-

ducts at all. It is possible that the information collected from DPC's did not contain the purchases of rubber and rubber products or that such purchases were merged with some category. This is indicative of the weakness of data collected from DPC's.

### **Total Impact of Government Purchases**

#### *a. Input-output table*

The latest available input-output table for Gujarat is a decade old. Further, it is a highly aggregated one and does not correspond to the sectors mentioned in the earlier chapters. Constructing a new input-output table for Gujarat would be a separate study by itself. On the other hand, it would not serve our purpose to make use of the existing one. There is another important reason why we decided not to use the input-output table for Gujarat. The economy of a State is an open one in the sense that imports into the State from the other States tend to form a large proportion of the total demands emanating from the State and the industries operating in the State likewise tend to export a large proportion of their products to the other States. Thus, a substantial part of the direct demand of the State government as well as the indirect demand arising from it may spill over to the industries located in the other States. Therefore, the full impact of the State government's demand on the economy would not be captured, if we confine ourselves to the computation of the impact on Gujarat's economy. Moreover, even for that computation, it would be necessary to know the break-down of the State government's commodity expenditure by "imports" and home purchases. Such a break-down with the necessary degree of disaggregation is not available. We have, therefore, opted to use the input-output table for the Indian economy and to compute the total impact of the commodity purchases by the Government of Gujarat on the industries in the economy as a whole. In using the input-output table for 1977-78, we have aggregated the 89-sector table into 20 sectors.

#### *b. Measurement of indirect demand*

In order to measure the indirect demand of Government purchases for the years 1973-74 to 1977-78, the vector of Government expenditure for each year was first expressed in terms

TABLE 7.4  
Gujarat Government Vector at Market Prices  
(1973-74 to 1977-78)

<i>Sl. No.</i>	<i>Sector</i>	1973-74	1974-75	1975-76	1976-77	1977-78
		(1)	(2)	(3)	(4)	(5)
1.	Food items	309.58	250.77	159.02	205.22	206.61
2.	Minerals	—	—	—	—	—
3.	Edible oils	—	—	—	—	—
4.	Beverages	—	—	—	—	—
5.	Tobacco & tobacco products	—	—	—	—	—
6.	Cotton textiles	144.96	117.42	74.46	96.09	96.75
7.	Woollen & silk textiles	15.56	12.60	7.99	10.32	10.39
8.	Jute textiles	37.67	30.52	19.35	24.97	25.14
9.	Wood & wood products	2.46	1.99	1.26	1.63	1.64
10.	Paper & paper products	85.18	68.99	43.75	56.46	56.85
11.	Leather & leather products	46.68	37.81	23.98	30.95	31.16
12.	Rubber & rubber products	—	—	—	—	—

TABLE 7.4 (Contd.)

	(1)	(2)	(3)	(4)	(5)
13. Petroleum products	30.30	24.55	15.57	20.09	20.22
14. Chemicals & chemical products	654.38	530.06	336.14	433.78	436.73
15. Construction materials	7452.00	8335.00	10469.00	8915.00	13735.00
16. Metal & non-metal products	83.54	67.67	42.91	55.38	55.75
17. Non-electrical machinery	534.81	433.20	274.72	354.51	356.93
18. Electric machinery	144.14	116.76	74.04	95.55	96.20
19. Gas, electricity, water supply & communication	5634.72	4564.19	2894.42	3735.15	3760.61
20. Other services	465.19	376.81	238.96	308.37	310.47
<b>TOTAL</b>	<b>15641.17</b>	<b>14968.34</b>	<b>14675.57</b>	<b>14343.47</b>	<b>19200.45</b>

**TABLE 7.5**  
**Gujarat Government Vector at Producer Prices**  
**(1973-74 to 1977-78)**

<i>Sl. No.</i>	<i>Sector</i>	<i>Price indices</i>	<i>1973-74</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>
		(1)	(2)	(3)	(4)	(5)	(6)
1.	Food items	0.83	257.76 (2.29)	209.69 (1.98)	132.40 (1.32)	170.87 (1.71)	172.02 (1.31)
2.	Minerals	0.64	—	—	—	—	—
3.	Edible oils	0.72	—	—	—	—	—
4.	Beverages	0.72	—	—	—	—	—
5.	Tobacco & tobacco products	0.68	—	—	—	—	—
6.	Cotton textiles	0.71	103.30 (0.92)	83.67 (0.79)	53.06 (0.53)	68.47 (0.68)	68.94 (0.52)
7.	Woollen & silk textiles	0.71	11.09 (0.10)	8.98 (0.08)	5.69 (0.06)	7.35 (0.07)	7.40 (0.06)
8.	Jute textiles	0.69	26.09 (0.23)	21.14 (0.20)	13.40 (0.13)	17.29 (0.17)	17.41 (0.13)
9.	Wood & wood products	0.68	1.67 (0.01)	1.35 (0.01)	0.86 (0.01)	1.11 (0.01)	1.12 (0.01)
10.	Paper & paper products	0.71	60.75 (0.54)	49.20 (0.46)	31.20 (0.31)	40.27 (0.40)	40.55 (0.31)
11.	Leather & leather products	0.65	30.34 (0.27)	24.58 (0.23)	15.59 (0.16)	20.12 (0.20)	20.25 (0.15)

TABLE 7.5 (Contd.)

	(1)	(2)	(3)	(4)	(5)	(6)
12. Rubber & rubber products	0.77	—	—	—	—	—
13. Petroleum products	0.22	6.67 (0.06)	5.40 (0.05)	3.43 (0.03)	4.42 (0.04)	4.45 (0.03)
14. Chemicals & chemical products	0.67	438.17 (3.89)	354.93 (3.35)	225.08 (2.24)	290.46 (2.90)	292.43 (2.23)
15. Construction materials	0.64	4781.95 (42.46)	5348.57 (50.47)	6717.96 (66.87)	5720.76 (57.12)	883.75 (67.08)
16. Metal & non-metal products	0.74	61.59 (0.55)	49.89 (0.47)	31.64 (0.31)	40.83 (0.41)	41.10 (0.31)
17. Non-electric machinery	0.76	406.46 (3.61)	329.23 (3.11)	208.79 (2.08)	269.43 (2.69)	271.27 (2.06)
18. Electrical machinery	0.67	96.01 (0.85)	77.77 (0.73)	49.32 (0.49)	63.65 (0.64)	64.08 (0.49)
19. Gas, electricity, water supply & communication	0.83	4660.48 (41.38)	3775.04 (35.62)	2393.97 (23.83)	3089.34 (30.84)	3110.40 (23.67)
20. Other services	0.69	319.49 (2.84)	258.79 (2.44)	164.12 (1.63)	211.79 (2.11)	213.23 (1.62)
<b>TOTAL</b>	—	11261.82 (100.00)	10598.23 (100.00)	10046.51 (100.00)	10016.16 (100.00)	13138.40 (100.00)

Notes: 1. Figures in parentheses are percentage shares in total purchases.

2. Totals may not tally because of rounding off.

**TABLE**  
**Sectoral Multipliers of Government**  
**(1973-74 to**

S. No.	Sector	1973-74			1974-75		
		Direct impact	Indirect Impact	Total Impact	Direct Impact	Indirect Impact	Total Impact
		(1)	(2)	(3)	(4)	(5)	(6)
1.	Food items	2.29	2.77	5.06	1.98	2.54	4.51
2.	Minerals	—	15.73	15.73	—	14.96	14.96
3.	Edible oils	—	5.50	5.50	—	5.07	5.07
4.	Beverages	—	0.35	0.35	—	0.32	0.32
5.	Tobacco and tobacco products	—	1.12	1.12	—	0.97	0.97
6.	Cotton textiles	0.92	1.01	1.93	0.79	0.91	1.70
7.	Woollen and silk textiles	0.10	0.16	0.26	0.08	0.16	0.24
8.	Jute textiles	0.23	6.83	7.06	0.20	7.36	7.55
9.	Wood and wood products	0.01	2.48	2.49	0.01	2.21	2.22
10.	Paper and paper products	0.54	7.40	7.94	0.46	6.67	7.13
11.	Leather and leather products	0.27	8.51	0.78	0.23	0.45	0.69
12.	Rubber and rubber products	—	22.85	22.85	—	19.82	19.82
13.	Petroleum products	0.06	22.74	22.80	0.05	20.31	20.36
14.	Chemicals and chemical products	3.89	9.71	13.60	3.35	8.81	12.16
15.	Construction materials	42.46	5.65	48.11	50.47	5.40	55.67
16.	Metal and non-metal products	0.55	5.76	6.31	0.47	5.49	5.96
17.	Non-electric machinery and transport equipments	3.61	3.78	7.39	3.11	3.48	6.59
18.	Electric machinery	0.85	1.86	2.71	0.73	1.65	2.38
19.	Gas, electricity, water supply and communication	41.38	2.18	43.56	35.52	2.05	37.67
20.	Other services	2.84	3.20	5.04	2.44	2.96	5.40
Total		100.00	121.59	221.59	100.00	111.57	211.57

*Note:* Totals and sub-totals may not tally because of rounding off.

## 7.6

Commodity Expenditure in Gujarat  
1977-78)

(Per cent)

1975-76			1976-77			1977-78		
<i>Direct impact</i>	<i>Indirect impact</i>	<i>Total impact</i>	<i>Direct impact</i>	<i>Indirect impact</i>	<i>Total impact</i>	<i>Direct impact</i>	<i>Indirect impact</i>	<i>Total impact</i>
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1.32	2.04	3.36	1.71	2.33	4.04	1.31	2.04	3.35
—	13.36	13.36	—	14.31	14.31	—	13.34	13.34
—	4.18	4.18	—	4.71	4.71	—	4.16	4.16
—	0.25	0.25	—	0.29	0.29	—	0.25	0.25
—	0.66	0.66	—	0.85	0.85	—	0.66	0.66
0.53	0.69	1.22	0.68	0.82	1.50	0.52	0.68	1.21
0.06	0.15	0.21	0.07	0.15	0.23	0.06	0.15	0.21
0.13	8.44	8.57	0.17	7.79	7.97	0.13	8.45	8.58
0.01	1.65	1.66	0.01	1.98	1.99	0.01	1.64	1.65
0.31	5.17	5.48	0.40	6.06	5.46	0.31	5.15	5.45
0.16	0.36	0.52	0.20	0.42	0.62	0.15	0.35	0.51
—	13.62	13.62	—	17.31	17.31	—	13.54	13.54
0.03	15.34	15.37	0.04	18.30	18.34	0.03	15.27	15.31
2.24	6.95	9.19	2.90	8.06	10.96	2.23	6.93	9.16
66.87	4.88	71.75	57.12	5.19	62.31	67.08	4.88	71.96
0.31	4.93	5.24	0.41	5.26	5.67	0.31	4.92	5.24
2.08	2.88	4.95	2.69	3.24	5.93	2.06	2.87	4.93
8.49	1.22	1.71	0.64	1.47	2.11	0.49	1.21	1.70
23.83	1.78	25.61	30.84	1.94	32.78	23.67	1.78	25.45
1.63	2.44	4.07	2.11	2.75	4.86	1.62	2.44	4.06
100.00	90.99	190.99	100.00	103.22	203.22	100.00	90.73	190.73



TABLE

**Direct and Indirect Demands of  
(1973-74 to**

S. Sector No.	1973-74			1974-75		
	Direct demand	Indirect demand	Total demand	Direct demand	Indirect demand	Total demand
	(1)	(2)	(3)	(4)	(5)	(6)
1. Food items	257.76	312.37	570.13	209.69	268.77	478.46
2. Minerals	—	1771.89	1771.89	—	1585.18	1585.18
3. Edible oils	—	619.76	619.76	—	537.29	537.29
4. Beverages	—	39.30	39.30	—	33.62	33.62
5. Tobacco and tobacco products	—	126.66	126.66	—	103.07	103.07
6. Cotton textiles	103.30	113.88	217.18	83.67	95.99	179.66
7. Woollen & silk textiles	11.09	18.17	29.26	8.98	16.80	25.77
8. Jute textiles	26.09	768.89	794.98	21.04	779.57	800.61
9. Wood & wood products	1.67	279.04	280.71	1.35	233.88	235.23
10. Paper & paper products	60.75	833.03	893.78	49.20	706.47	755.66
11. Leather and leather products	30.34	57.10	87.44	24.58	48.65	73.22
12. Rubber and rubber products	—	2572.86	2572.86	—	2100.45	2100.45
13. Petroleum products	6.67	2560.98	2567.65	5.41	2152.84	2158.24
14. Chemicals and chemical products	438.17	1093.75	1531.92	354.93	934.08	1289.01
15. Construction materials	4781.95	636.09	5418.04	5348.57	572.27	5920.84
16. Metal & non- metal products	61.59	648.87	710.46	49.89	581.75	631.64
17. Non-electric machinery	406.46	425.46	831.92	329.23	369.07	698.31
18. Electric machinery	96.01	208.95	304.96	77.77	174.52	252.29
19. Gas, electricity, water supply & communication	4660.48	245.64	4906.12	3775.04	217.24	3992.28
20. Other services	319.49	360.90	680.38	258.79	313.24	572.03
<b>Total</b>	<b>11261.82</b>	<b>13693.58</b>	<b>24955.47</b>	<b>10598.23</b>	<b>11824.63</b>	<b>22422.86</b>

*Note:* Totals and sub-totals may not tally due to rounding off.

## 7.7

Government Purchases in Gujarat  
(1977-78)

(Rs. lakh)

1975-76			1976-77			1977-78		
<i>Direct demand</i>	<i>Indirect demand</i>	<i>Total demand</i>	<i>Direct demand</i>	<i>Indirect demand</i>	<i>Total demand</i>	<i>Direct demand</i>	<i>Indirect demand</i>	<i>Total demand</i>
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
132.40	205.20	337.60	170.87	233.85	404.71	172.02	267.50	439.52
—	1342.50	1342.50	—	1433.32	1433.32	—	1752.93	1752.93
—	419.55	419.55	—	471.40	471.40	—	547.14	547.14
—	25.31	25.31	—	29.12	29.12	—	32.98	32.98
—	66.42	66.42	—	84.77	84.77	—	86.32	86.32
53.06	69.06	122.12	68.47	81.80	150.27	68.94	89.93	158.87
5.69	15.34	21.03	7.35	15.64	22.99	7.40	20.05	27.45
13.45	847.47	860.93	17.29	780.55	797.84	17.41	1110.16	1127.56
0.86	165.92	166.78	1.11	198.48	199.59	1.12	216.03	217.15
31.20	518.96	550.17	40.27	606.72	646.99	40.55	676.10	716.6
15.59	36.25	51.84	20.12	41.99	62.11	20.25	47.23	67.48
—	1368.83	1368.83	—	1733.77	1733.77	—	1779.45	1779.45
3.43	1541.01	1544.44	4.42	1832.61	1837.02	4.45	2006.72	2011.17
225.08	698.68	923.77	290.46	806.94	1097.40	292.43	910.52	1202.95
6717.96	490.75	7208.71	5720.76	519.82	6240.58	8813.75	640.89	9454.64
31.64	495.27	526.91	40.83	527.07	567.90	41.10	646.74	687.83
208.79	288.91	497.69	269.43	324.14	593.58	271.27	376.77	648.04
49.32	122.47	171.79	63.63	147.57	211.20	64.08	159.42	223.50
2393.97	178.76	2572.73	3089.34	194.30	3283.65	3110.48	233.31	3343.79
164.12	245.37	409.49	211.79	275.13	486.92	213.24	319.99	533.22
0046.51	9142.10	19188.61	10016.14	10338.99	20355.13	13138.49	11920.18	25058.64

**TABLE**  
**Percentage Distribution of Direct & Indirect Demand of**  
**(1973-74 to**

S. No.	Sector	1973-74			1974-75		
		Direct demand	Indirect demand	Total demand	Direct demand	Indirect demand	Total demand
		(1)	(2)	(3)	(4)	(5)	(6)
1.	Food items	2.29	2.28	2.28	1.98	2.27	2.13
2.	Minerals	—	12.93	7.10	—	13.41	7.07
3.	Edible oils	—	4.52	2.48	—	4.54	2.40
4.	Beverages	—	0.29	0.15	—	0.28	0.15
5.	Narcotics	—	0.92	0.51	—	0.87	0.46
6.	Cotton textiles	0.92	0.83	0.87	0.79	0.81	0.80
7.	Woollen textiles	0.10	0.13	0.12	0.08	0.14	0.11
8.	Jute textiles	0.23	5.61	3.19	0.20	6.59	3.57
9.	Wood & wood products	0.01	2.04	1.12	0.01	1.98	1.05
10.	Paper and paper products	0.54	6.08	3.58	0.46	5.97	3.37
11.	Leather & leather products	0.27	0.42	0.35	0.23	0.41	0.33
12.	Rubber & rubber products	—	18.79	10.31	—	17.76	9.37
13.	Petroleum products	0.06	18.70	10.28	0.05	18.21	9.63
14.	Chemicals & chemical products	3.89	7.99	6.14	3.35	7.90	5.75
15.	Construction materials	42.46	4.65	21.71	50.47	4.84	26.41
16.	Metal & non-metal products	0.55	4.74	2.85	0.47	4.92	2.82
17.	Non-electric machinery	3.61	3.11	3.33	3.11	3.12	3.11
18.	Electric machinery	0.85	1.53	1.22	0.73	1.48	1.13
19.	Gas, electricity, water supply & communications	41.38	1.79	19.65	35.62	1.84	17.80
20.	Other services	2.84	2.64	2.73	2.44	2.65	2.55
Total		100.00	100.00	100.00	100.00	100.00	100.00

*Note:* Totals may not tally due to rounding off.



of proportions to total and then was pre-multiplied by the Leontief inverse to obtain the desired output multipliers. Table 7.6 gives the sectoral multiplier for each of the sectors during the period 1973-74 to 1977-78. The first column under each year gives the percentage shares of the expenditures of the State government on different commodities. These percentage shares represent the direct impact. The entries in the second column indicate the indirect impact, and the entries in the third column indicate the total of direct and indirect impact. Several interesting results may be noted:

- i. The output multiplier for the year 1977-78 works out to 1.9, i.e., if Gujarat government spends Rs. 100 crore on goods and services, the total demand for output in the economy would go up by Rs. 191 crore (Table 7.6). Thus the commodity expenditure of Rs. 131.38 crore incurred in 1977-78 would generate an additional indirect demand worth 119.20 crore making a total demand worth Rs. 250.58 crore (Table 7.7).
- ii. The pattern of indirect demand for goods and services seems to have little relationship with the direct demand for goods and services. This is evident from the fact that while the major portion of the direct demand is for construction and gas, electricity, water supply and communication, the major portion of indirect demand is for minerals, petroleum products, chemicals and chemical products, jute and textiles and construction materials;
- iii. The pattern of indirect demand arising from direct demand falls into three categories: (i) food items, cotton textiles, woollen and silk textiles, jute textiles, wood and wood products, paper and paper products, leather and leather products, chemicals and chemical products, metal and non-metal products, non-electric machinery and transport equipment, electric machinery and other services, have high indirect demand although direct demand for them is low (i.e., the ratio of indirect demand to direct demand is more than one); (ii) construction materials, gas, electricity, water supply and communications have low indirect demand although direct demand for them is high (i.e., the ratio of indirect demand

- to direct demand is less than one); and (iii) minerals, edible oils, beverages, tobacco and tobacco products, rubber and rubber products, are subject to high indirect demand although direct demand for them is nil;
- iv. The output multiplier has declined from 2.22 in 1973-74 to 2.12 in 1974-75, 1.99 in 1976-77 and 1.91 in 1977-78. This means that during those four years, indirect demand created by purchases of the government has been declining. Since we have used the same input-output matrix and since we have kept the pattern of all expenditures other than construction the same for all the years, the fall in the value of the multiplier should be traced to the increase in the proportion of construction expenditure.

#### NOTES

1. In respect of Maharashtra, Madhya Pradesh and Rajasthan, they claim to have identified specific items of expenditure accounting for 76 per cent, 88 per cent and 84 per cent, respectively, of the expenditure of the concerned governments.
2. For more details see Appendix D.