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# INDIAN SCHOOL OF POLITICAL ECONOMY



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# SMALL FIRMS IN INDIAN INDUSTRY
# ECONOMIC CHARACTERISTICS AND FUNCTIONING

Ashok V. Desai and Nisha Taneja

*This survey-based study evaluates the various constraints faced by small and medium firms in India and makes suggestions for improving their contribution to industrial development. The study points out that the rational for promoting small firms to save capital no longer applies. There is no evidence that small firms are unequivocally less capital intensive than large firms; they do not therefore necessarily save capital and promote employment.*

*The chief constraint faced by small firms is seen to be that of credit, especially long-term and risk capital. Of the existing government incentives, only interest concessions on loans from official institutions and excise concessions were found to be significant. Abandonment of controls and privileges in all aspects of government policy, the authors feel, aid the small industry much better than direct measures. They conclude that schemes to assist small firms would be a lot simpler and more effective if they were to be based on just two elements designed primarily to help new firms - an indirect tax exemption and access to capital.*

## I DEFINITIONS

Small firms are defined in this study as firms employing 10-99 persons. This definition does not fit easily into those adopted by the Government of India. The official statistics define small firms in two ways. First, large firms are required to register with the Government of India and, among other things, to submit annual statistical returns under the Factories Act; small firms may be defined as those which do not have to get themselves registered under the Factories Act. Second, small firms may be defined as those that are eligible for the promotional assistance available from the central and the state governments as well as the banks. They *may* be registered as SSI (small-scale industry) firms with the Department of Industries of the government of a state or union territory, but they do not have to be. The first definition is based on employment, the second on the product and fixed investment. In this Section we shall review the information available on small firms under both definitions. Part A deals with small firms under the first definition. In Part B we describe the firms assisted by the government, which consist of firms in rural and cottage industries on the one hand and 'modern' small firms on the other. In Part C we describe how small firms under the two definitions stand in relation to each other. Finally, in Part D we estimate the share of small firms (as defined by us) in total employment.

### *A. Registered and Unregistered Firms*

Under the Factories Act, all manufacturing establishments are required to register themselves with the central government if they (a) employ more than 50 workers and use electric power or (b) employ more than 100 workers but do not use power. By virtue of this Act, the government has fairly complete information on registered firms, which is compiled in the Annual Survey of Industries (ASI). Unregistered firms are under no such obligation to supply information to the government; but it collects information from a sample of them on a voluntary basis, which is

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We are deeply indebted to Solomon Raj and Jayant Sinha for help with the computations. Jayant virtually saved our database, Jayant and his friends worked day and night to reconstruct it. Never has such arduous work been done so cheerfully.

Finally, we would like to thank the representatives of the firms who so kindly and readily granted us interviews and answered our questions.

for unregistered firms. These estimates are embodied into national income estimates, which are summarized for two financial years (*i.e.*, year running from April to March), 1970-71 and 1982-83, in Table 1.1. Firms employing over 50 workers and not employing power are rare except in a handful of industries such as the manufacture of *bidis* (local leaf-wrapped cigarettes) and matches. Hence unregistered firms may be taken to be mainly firms with fewer than 50 workers.

TABLE 1.1. VALUE ADDED IN UNREGISTERED FACTORIES (AT 1970-71 PRICES), IN 1970-71 AND 1982-83

| | Value added in unregistered factories | | Proportion of value added in manufacturing | | Annual growth rate |
|---|---|---|---|---|---|
| | Rs million | | per cent | | |
| | 1970-71 | 1982-83 | 1970-71 | 1982-83 | |
| Food products | 1,840 | 2,230 | 40.7 | 37.1 | 1.6 |
| Drinks and tobacco | 1,040 | 1,810 | 51.2 | 58.7 | 4.7 |
| Textiles | 4,460 | 8,870 | 42.8 | 47.4 | 5.9 |
| Wood and furniture | 2,200 | 2,060 | 87.7 | 84.3 | -0.5 |
| Paper and printing | 510 | 1,000 | 25.4 | 33.7 | 5.8 |
| Leather and fur products | 690 | 840 | 75.3 | 81.1 | 1.7 |
| Rubber, plastics, and hydrocarbons | 180 | 390 | 12.4 | 16.7 | 6.7 |
| Chemicals | 580 | 1,200 | 13.7 | 13.8 | 6.2 |
| Nonmetallic mineral products | 930 | 1,890 | 45.0 | 53.2 | 6.1 |
| Basic metals and alloys | 50 | 80 | 1.6 | 1.6 | 4.0 |
| Metal products | 1,180 | 1,750 | 55.5 | 55.5 | 3.3 |
| Machinery | 640 | 1,190 | 24.7 | 23.4 | 5.3 |
| Electrical equipment | 360 | 620 | 16.6 | 13.5 | 4.6 |
| Transport equipment | 530 | 830 | 18.0 | 18.4 | 3.8 |
| Other manufacturing | 1,330 | 1,690 | 41.5 | 41.3 | 2.0 |
| Repair services | 1,060 | 1,730 | 100.0 | 70.3 | 4.2 |
| Net value added including bank charges | 17,590 | 28,170 | 37.3 | 36.3 | 4.0 |
| Less imputed bank charges | 140 | 760 | 13.5 | 23.1 | 15.1 |
| Net value added | 17,450 | 27,420 | 37.8 | 36.9 | 3.8 |
| Add depreciation | 720 | 1,220 | 11.9 | 14.7 | 4.5 |
| Gross value added | 18,170 | 28,640 | 35.0 | 34.6 | 3.9 |

Source: Sandesara (1988:643).

As Table 1.1 shows, unregistered firms have accounted for just over a third of value added in manufacturing. This also implies that the growth rate of output of unregistered firms has not been very different from that of manufacturing industry in general - 3.8 per cent a year between 1970-71 and 1982-83 - despite all the encouragement given by the government to small industry. However, we shall argue in Section VII that the small firms aided by the government are very different from the firms that are small enough to avoid registration under the Factories Act: in fact it is likely that most of the firms that benefit from government incentives are not small in terms of employment.

Small firms may have grown faster within each industry, but may still not have achieved higher growth in the aggregate if they were concentrated in stagnant industries. To test this possibility, we calculated what the value added of small firms would have been in 1982-83 if their share in the value added of each industry had remained constant at the 1970-71 level. The figure works out to be Rs 27.6 billion, 5.2 per cent less than the actual figure for 1982-83. In other words, the share of small firms in manufacturing value added did rise slightly within industries in the intervening period, but this rise was masked by the slightly greater concentration of small firms in industries that exhibited lower growth.

Small firms predominate in a few industries - for instance, wood and furniture, leather goods

and repair services. They produce more than half of the output in drinks and tobacco (mainly on account of firms producing *bidis*), nonmetallic mineral products (chiefly on account of brick and tile kilns, which are scattered throughout the countryside where the right type of clay is available), and metal products (which include consumer goods of common use such as buckets and lanterns, as well as tins and containers). Their share is small in the more 'modern' industries - hydrocarbons and plastics, chemicals and engineering. As we shall see below, it is in these industries that the government has given special protection and encouragement to small firms; it is here too that our Table suggests that the benefits of government promotion went to small firms according to the official definition (given in the next section) rather than to those that were small in terms of employment. In fact, it is precisely in the older industries drinks and tobacco, textiles, leather goods and non-metallic mineral products that the share of unregistered firms increased significantly. The only new industries in which the share of small firms increased are paper and printing, and rubber, plastics and hydrocarbons. Printing is done on a small scale everywhere; and the producers of rubber and plastic goods are also generally small. So the technological characteristics of these industries suffice to explain the rise in the share of unregistered firms where it occurred.

The statistics in Table 1.1 refer to the period after 1970-71. The share of unregistered firms in manufacturing value added at 1970-71 prices fell in the two preceding decades, from 46.3 per cent in 1950-51 to 42.6 per cent in 1960-61 and 37.3 per cent in 1970-71. However, the share of industry in net domestic product has been rising, so the share of small firms in NNP has also risen very slowly from 4.6 per cent in 1950-51 to 5 per cent in 1970-71 and 5.3 per cent in 1983-84 [Sandesara, 1988, p. 642].

### *B. Small Firms as Targets of Official Promotion*

In the above section we used a negative definition of small firms, namely firms that do not have to register under the Factories Act. But small firms are also eligible for official assistance. Initially (*i.e.* in 1956) such small firms were defined in terms of an employment criterion: the firms that employed fewer than 50 workers with power and fewer than 100 without power (*i.e.* those that did not need to be registered under the Factories Act) were also eligible for promotion, if in addition their fixed investment did not exceed Rs 500,000 - the limit beyond which public borrowings required the consent of the Controller of Capital Issues at that time. Then under pressure to extend the scope of the definition, the employment limit was redefined in 1959 as 50 workers with power and 100 without power per shift; and in 1960 it was removed altogether. In 1966 the investment limit was raised to Rs 750,000 invested in plant and machinery only. Since then the investment limit has been raised a number of times [Tyabji, 1989, Pp. 175-177].

The firms that are eligible to receive official assistance or encouragement either fall into a few designated industries, such as khadi, village industries, handicrafts, etc., or they are 'modern' small firms. In the latter case they must be either (1) firms with investment in machinery up to Rs 3.5 million, or (2) firms that supply materials or components to large firms with investment in plant and machinery up to Rs 4.5 million (termed ancillary units).

The definition of small firms eligible for assistance has been changing over time. Nevertheless, they are the only ones for which we have continuous time series available over a number of years from official sources. The 1973 census of small-scale industry also refers to them, and so does the Reserve Bank of India survey of 1977. We shall call them by the name generally used in India, namely SSI firms.

The assistance or encouragement they receive will be specified in Section V on promotion policies. Here we give some statistics for assistance. The statistics in Table 1.2 refer to eligible firms, and not necessarily to assisted firms.

The figures in Table 1.2 are estimates made up for the Seventh Five-Year Plan. The figures for

unmechanized firms are given by official promotion agencies which are inclined to overstate achievements; the rest have a shaky statistical basis. Further, the figures are not comparable with those in Table 1.1. Table 1.1 gives value added at constant prices; Table 1.2 gives gross value of output at current prices. But Table 1.2 illustrates certain important contrasts among small firms.

TABLE 1.2. OUTPUT AND EMPLOYMENT IN SMALL FIRMS ELIGIBLE FOR OFFICIAL ASSISTANCE, 1973-74 AND 1979-80

| | Output (Rs million) | | Employment (million) | | Output per head (Rupees/Year) | |
|---|---|---|---|---|---|---|
| | 1973-74 | 1979-80 | 1973-74 | 1979-80 | 1973-74 | 1979-80 |
| Handspun cloth | 0.3 | 0.9 | 0.9 | 1.1 | 373 | 821 |
| Handwoven cloth | 8.4 | 17.4 | 5.2 | 6.2 | 1,612 | 2,829 |
| Sericulture | 0.6 | 1.3 | 1.2 | 1.6 | 525 | 819 |
| Coir | 0.6 | 0.9 | 0.5 | 0.6 | 1,200 | 1,538 |
| Handicrafts | 10.7 | 20.5 | 1.5 | 2.0 | 7,100 | 10,099 |
| Other village industries[1] | 1.2 | 3.5 | 0.9 | 1.6 | 1,316 | 2,157 |
| Unmechanized firms | 21.8 | 44.5 | 10.2 | 13.1 | 2,136 | 3,402 |
| Powerwoven cloth | 19.8 | 32.5 | 1.0 | 1.1 | 19,800 | 29,545 |
| Other small firms I | 72.0 | 216.4 | 4.0 | 6.7 | 18,158 | 32,291 |
| Other small firms II[2] | 22.4 | 42.1 | 2.5 | 2.5 | 8,948 | 16,824 |
| All small firms | 136.0 | 335.4 | 17.6 | 23.4 | 7,711 | 14,349 |

Notes: 1. Foodgrain processing, leather goods, matches, gur, oil milling, soap, handmade paper, beekeeping, pottery, fibres, carpentry, metalwork, lime and biogas.
2. According to the source, "this relates to units in the village and small industries sector not covered by the specified groups".
Source: Planning Commission, 1985, Pp. 99, 103.

The first is the enormous difference in productivity between the unmechanized and mechanized small firms. As the figures refer to gross output, we cannot be sure about value added per worker. But the difference is so great that even if the unmechanized firms (with the exception of those making handicrafts) used no outside materials and added value to the full extent of their gross output, it is likely that their value added per worker would be less than that of mechanized small firms. This is particularly striking for textiles: the output per worker in powerloom factories in 1982-83 was 10 times that of handloom weavers, and 36 times that of firms in which cloth was woven on handlooms from handspun yarn.

The second point follows from the first, namely that while unmechanized firms accounted for a large proportion of the total employment in small firms, their share of output was small. In 1982-83 they employed 56 per cent of the workers, but produced only 13 per cent of the output.

This point becomes significant once we note that most of the unmechanized firms face competition from mechanized ones. Handspun and handwoven cloth face competition from powerlooms, silk from rayon, nylon and acrylic fibres, and coir from plastics. So do most of the rural industries that are assisted. Hence the quantum, and type of assistance given to them has to be, and is, very different from that given to mechanized industries.

Finally, unmechanized small firms have grown much less rapidly than mechanized firms; their output doubled in six years, while the output of mechanized 'small firms I' tripled. The contrast would be even greater in terms of output at constant prices. This is only partly because the unmechanized firms face competition from mechanized ones; it is largely because they are concentrated in industries that are growing slowly. The growth of the output of powerlooms, for instance, was actually slower than that of handlooms (and the output of both grew slowly) - although it is highly likely that the statistics, based on the sales of yarn wound in hanks for handlooms and on cones for powerlooms, are misleading in so far as much yarn is illegally rewound and sold to powerlooms.

Handicrafts are an exception. The output per worker in handicrafts is three times that in other

unmechanized industries, and a third of that in mechanized industries. This is partly because they use more expensive materials like silk and brass. But it is also because craftsmen specialize in more sophisticated, expensive handicrafts which are not easily imitated by mechanized industry. This phenomenon is very evident in industrialized countries: there, handicrafts, in so far as they survive, specialize in high-quality goods based on creative design and a heavy input of art, and make up for the low productivity of manual work by high value of output. They have thus carved out a market niche for themselves. This process has not gone far in India, but it is emerging in handicrafts, whereas there are no signs of it in the other unmechanized industries.

### *C. Employment and Investment*

In the previous two Parts we have presented three definitions of small firms. The first refers to firms not registered under the Factories Act - *i.e.* firms employing less than 50 workers with power and less than 100 workers without power. These do not figure in official statistics except in the *National Accounts Statistics*. The second refers to firms that are eligible to receive official assistance or encouragement, generally known as SSI firms. Finally, we have our definition of small firms, namely firms with 10-99 workers. What is the relationship between SSI firms and small firms under our definition? The employment profile of SSI firms, given in Table 1.3, goes some way towards answering the question.

On the one hand there are SSI firms that employ less than 10 or more than 99 workers. Their shares of SSI employment in 1972-73 were 20.3 and 12.7 per cent respectively, or almost a third of total SSI employment.

On the other hand there are firms with investment in plant and machinery over Rs 750,000 (the limit at the time of the SSI census) and employment under 100. It is much more difficult to make a guess about their share. If we take account of the steep decline in the density of the firms' frequency distribution as investment increases, the *number* of excluded SSI firms cannot be large; it is unlikely to exceed 10 per cent of the number of included firms. But with their large investment in machinery, their average employment is likely to be nearer the upper end - *i.e.*, it would be a multiple of the average employment in SSI firms. Hence their total employment may be of the order of 20-30 per cent of that in the included firms. Their high fixed investment must also be accompanied by higher labour productivity. If it were higher by a factor of 2-3, the output of the excluded firms could be as high as 40-90 per cent of the output of included firms. Thus it is the firms with high investment and productivity, with a substantial share in the output of small firms, that are excluded from the SSI sample.

Although there has been no comprehensive SSI survey since 1974, there is some evidence to suggest that the bias of the SSI towards small size and low technology has accentuated over the years. The number of registered SSI units went up from 140,000 in 1973 to 789,000 at the end of 1984. At the same time, the average number of workers per SSI firms went down from 12 to 6. It exceeded 9 in 12 industries out of 16 in 1973, and in 3 industries out of 17 in 1984 [DCSSI 1977; 1986].

TABLE 1.3. OUTPUT OF SSI UNITS BY NUMBER OF WORKERS AND INVESTMENT IN MACHINERY, 1972-73

| Investment in machinery (Rs thousand) | Number of workers | | | | Number of workers | | | |
|---|---|---|---|---|---|---|---|---|
| | 1-9 | 10-99 | over 99 | Total | 1-9 | 10-99 | over 99 | Total |
| | (Rupees million) | | | | (per cent) | | | |
| Up to 25 | 3,655 | 3,622 | 412 | 769 | 69.2 | 20.8 | 12.5 | 29.5 |
| 26 to 50 | 803 | 2,252 | 177 | 3,233 | 15.2 | 12.9 | 5.4 | 12.4 |
| 51 to 100 | 501 | 2,965 | 202 | 3,668 | 9.5 | 17.0 | 6.1 | 14.1 |
| 101 to 300 | 276 | 4,929 | 745 | 5,851 | 5.2 | 28.3 | 22.6 | 22.9 |
| 301 to 600 | 35 | 2,353 | 876 | 3,354 | 0.6 | 13.5 | 26.5 | 12.9 |
| 601 to 750 | 11 | 1,231 | 891 | 2,133 | 0.2 | 7.1 | 27.0 | 8.2 |
| Total | 5,281 | 17,422 | 3,303 | 26,027 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: DCSSI, 1986, p. 42.

Here we should add a comment on the quality of official statistics. First, the State Departments of Industry register SSI firms as they come, and keep a cumulative total. (This SSI registration is different from the registration under the Factories Act. Registration under the Factories Act is with the Central Government and is compulsory for large firms. SSI registration is voluntary and with state governments.) In preparation for the 1973-74 SSI census, their lists were checked, and it was discovered that 12 per cent of the registered units did not respond. The threat of deregistration led some units to come forward, and brought down the proportion of non-responding units to 9 per cent. Of the rest, a high proportion was not working; untraceable and non-working units together came to 38 per cent of the sample. The census data were finally based on returns from 54 per cent of the units. No census has been held since, and annual statistics are constructed from information on an unspecified but small sample. Even amongst the firms covered by the RBI survey, which had at some point taken a loan from a bank and therefore existed at least as borrowers, 14.3 per cent were found to be closed, and another 11.4 per cent did not respond [Reserve Bank of India,1979].

Second, the registration of SSI units is itself a rather haphazard affair. The Annual Survey of Industries (ASI) covers all registered factories employing 50 workers or more with power or 100 workers or more without power. Of the 64,000 factories in 1973-74, 40,000 were estimated to be SSI units. Of these 40,000, 17,500 were found to be registered with State Departments of Industry. Amongst nonfactory establishments, registration as SSI units is even less common. The reasons are not entirely clear, but two seem to be important. First, some state governments use deregistration as a punishment for misbehaviour (*e.g.*, misuse of allocated materials); in general, the ease of registration varies across the states. Further, many establishments avoid registration because it makes them liable to the application of labour laws, especially to the collection of provident fund contributions from workers, the making of matching employer's contributions, and their deposition at the office of the Provident Fund Commissioner. The managerial time taken up by having to deal with government departments is so much that many firms avoid registration for that reason.

Unregistered firms generally tend to distrust outsiders; but we managed to talk to a few. Our respondents said that banks did not lend to unregistered units. But there was other evidence that firms not registered as SSI units had got bank loans. Whether unregistered firms get bank loans or not seems to depend on the supply and demand for bank credit. When banks have enough potential borrowers, they insist on various qualifying conditions including registration. But the banks are subject to minimum quotas for lending to small-scale industry; in addition, they are often under pressure from ministers to lend to small firms. They probably relax their standards to fulfil quotas or in response to political pressure.

*D. Share of Small Firms in Total Employment*

For assessing the importance of SSIs in total employment we have two sources: the population census of 1971 and the economic census of 1977. The employment in manufacturing shows only a small increase from the first to the second (Table 1.4). This is, however, very probably due to the under-enumeration of small enterprises in the economic census, for employment in firms with 1-9 workers came down from 3 million in the population census to 2.37 million in the economic census. If the proportion of employment in this size class had been the same in both the censuses (and employment in the other two size classes had been correctly enumerated in the economic census), employment in firms with 1-9 workers would have been 3.416 million, and total employment would have been 10.165 million - 14 per cent higher than in 1971. This, in our view, is the minimum increase in the intervening six years.

TABLE 1.4. INDUSTRIAL EMPLOYMENT IN ESTABLISHMENTS WITH 10-99 WORKERS, 1971 AND 1977

| Industry | Number of workers in establishments employing | | | | Proportion of workers in establishments employing | | |
|---|---|---|---|---|---|---|---|
| | 1-9 | 10-99 | >99 | All | 1-9 | 10-99 | >99 |
| | (Thousand) | | | | (per cent) | | |
| | (a) Population Census 1971 | | | | | | |
| 20&21 Food products | 686 | 288 | 574 | 1,548 | 44.3 | 18.6 | 37.1 |
| 22 Drinks & tobacco | 167 | 395 | 168 | 730 | 22.9 | 54.1 | 23.0 |
| 23 Cotton textiles | 234 | 308 | 767 | 1,309 | 17.9 | 23.5 | 58.6 |
| 26 Garments | 382 | 109 | 62 | 553 | 69.1 | 19.7 | 11.2 |
| 32 Cement, tiles, etc. | 70 | 254 | 294 | 618 | 11.3 | 41.1 | 47.6 |
| 34 Metal products | 233 | 139 | 130 | 502 | 46.4 | 27.7 | 25.9 |
| 35 Machinery | 89 | 97 | 244 | 430 | 20.7 | 22.6 | 56.7 |
| 38 Electricals | 196 | 74 | 138 | 408 | 48.0 | 18.1 | 33.9 |
| Other industries | 941 | 674 | 1203 | 2,819 | 33.3 | 23.9 | 42.7 |
| 2&3 All manufacturing | 2,998 | 2,338 | 3,580 | 8,917 | 33.6 | 26.2 | 40.2 |
| | (b) Economic Census 1977 | | | | | | |
| Rural | 928 | 1,523 | 1,407 | 3,858 | 24.0 | 39.5 | 36.5 |
| Urban | 1,442 | 1,360 | 2,461 | 5,263 | 27.4 | 25.8 | 46.8 |
| All manufacturing & repairs | 2,370 | 2,883 | 3,868 | 9,121 | 26.0 | 31.6 | 42.4 |

Source: Registrar General, 1981; Central Statistical Organisation, 1984 p. 79.

The economic census allows us only to distinguish between employment in rural and in urban areas. Comparing the two, it is surprising that the share of firms employing 10-99 workers in total employment is appreciably lower in urban than in rural areas, whereas the proportion of employment in firms employing 1-9 workers is about the same in rural and in urban areas. One would have thought that urban facilities were more important to smaller firms than to large firms, which could build up their own infrastructure in rural areas. However, the location of small firms is explained by their industry mix, which is given by the population census. A large proportion of employment in small firms is concentrated in food, drinks and tobacco, bricks and tiles; these are industries whose raw materials are either bulky, low-value or perishable, and which therefore tend to be located near their rural sources of raw materials. Also, whereas very small firms with under 10 workers use much family labour which is equally available in rural and in urban areas, the low rural wages make more difference to small firms in competition with larger firms.

It is possible to distinguish amongst three types of industries - industries in which small firms are relatively large firms that have grown from an even smaller size, industries in which small firms are on the way to becoming big firms, and industries in which they fill small market niches. The firms in garments are predominantly small; the proportion of employment in firms employing 100 workers and over is quite small. The small size of the modal firm in this industry is due to the fragmentation of the market: there are neighbourhood tailors, just like neighbourhood barbers and washermen. Mass production is just emerging in this industry under the stimulus of large-scale exports; and here too, mass production is confined to the upstream process of cutting; all other processes are still undertaken in very small firms. Here the small firms are a transitional form; they are in the same market as big firms, but are small generally because they are new or have failed to weather the competition and grow (or, in some cases, to maintain their size).

At the other end is an industry where large firms

are the norm, namely textiles. The textile industry was the prime large-scale industry, and the first one to emerge in India. But under the influence of discriminatory policies these large firms have declined and yielded place to mechanized small-scale firms whose size is limited by policy-based inducement to stay below a certain size. Here small firms would grow into large firms if it were not for the penalty on size imposed by policy; the result of policy is that the growth of the industry takes the form of a proliferation of firms (and often, of establishments belonging to the same firm).

In machinery, on the other hand, mass production techniques are seldom used. A number of firms in this industry have grown large by specializing in large or expensive machinery for process industries such as cement, steel, power and fertilisers. But many smaller firms specialise in machinery that is not so expensive, such as textile machinery, irrigation pumps or simple machine tools. Amongst firms producing the same product, *e.g.*, engines, there is a range of firms of different sizes manufacturing products differing in size, quality and sophistication. Thus the spread in the size of firms arises from product differentiation. This is also the case in metal products and in electricals.

Similarly in food, drinks and tobacco products, differentiation in firm size is based upon the distribution of inputs or the market. In food products, small firms manufacture products made out of locally available raw materials that are difficult to transport, such as fruit and fish, and generally for local markets. But there are other, bigger firms which produce on a large scale products based on materials available in bulk - for instance, bread, biscuits, hydrogenated cooking oil and sugar. In drinks and tobacco, on the other hand, the size of firms is limited by the size of the market. The centre-point of this industry group is squashes, aerated drinks and ice cream, which have a large market because of India's hot climate. Availability of raw materials does not limit the size of firms in this industry; but the costs of transport of the product are high, so firms serve local markets. Hence the size of firms is determined by the population and purchasing power of the local population: big cities support large firms, and *vice versa.*

Thus the size distribution of firms emerges from the interaction of raw material supply, size of market, product differentiation and economies of scale; and it is being continuously renewed or altered by the growth and decline of firms.

## II SOME ECONOMIC CHARACTERISTICS

In this Section we propose to explore some characteristics of small firms. First, in Part A, we take up the question on which the rationale for promoting small firms in a labour-surplus economy rests to a considerable extent: namely, whether they are less capital-using than large firms. In the next part we take up small firms, contribution to foreign trade; and in Part C we look at their location in towns and countryside as well as regionally.

### *A. Firm Size, Factor Proportions and Productivity*

The case for the promotion of small enterprises in a developing economy rests on their relative factor intensities. Developing economies are short of capital and have relatively abundant labour. Small firms are believed to be more labour-intensive and less capital-intensive than large ones and hence better suited to the factor proportions in a developing economy.

Smaller firms are generally found to be more labour-intensive. Hence the case for promoting them rests crucially on their capital productivity. If it is higher in smaller than in larger firms, small firms deserve to be encouraged. But if it is lower, small firms use both labour and capital less efficiently, and there is no case for assisting them.

On whether they do so or not, the Indian evidence has long been controversial. In the early 1960s, Dhar and Lydall [1961] analysed data from the Census of Manufacturing Industries (CMI) as well as data collected by the Planning Commission. Their conclusion was: In general, the *most capital-intensive* type of manufacturing

establishment is the small factory using modern machinery, and employing up to 50 workers. Their conclusion about the relative inefficiency of small firms was borne out by more extensive analyses of CMI data by Hajra [1965] and Sandesara [1966 and 1969a].

The Census of Manufacturing Industries covered all factories using power and employing more than 20 employees, though it also recorded data for the smaller factories that submitted returns. It was replaced in 1960 by the Annual Survey of Industries (ASI), which had two parts: a census of all registered factories, employing 50 or more workers with power or 100 or more workers without power; and a sample survey of smaller firms with a lower cut-off point of 10 workers. Its industrial breakdown was much more detailed than that of the CMI.

Mehta [1969] analysed the data for 32 industries from the ASI for four years from 1960 to 1963, giving him 127 points of observation (excluding one for which there were no data). He distinguished between three size-classes consisting of factories with book value of fixed capital under Rs 500,000, Rs 500,000-2.5 million and over Rs 2.5 million. For 74 industry-years he found that labour productivity rose and capital productivity fell with size; in another 24 cases, capital productivity fell (but labour productivity did not rise) as size increased. He also compared the census sector (larger factories) with the sample sector (smaller ones), and found that in almost three-quarters of the cases, smaller factories had higher capital productivity. Thus his results were much more favourable to small firms than those of all previous researchers.

In a reply, Sandesara [1969b] compared the sample sector with factories in the census sector with fixed capital under Rs 500,000 for 1963, and showed that the sample sector had lower capital productivity than the small census sector in 24 of 30 industries. Mehta's and Sandesara's results show the danger of defining size in terms of capital; by doing so, the firms which use capital more efficiently tend to be included among small firms, and the likelihood of getting "correct" results (*i.e.*, lower labour productivity and higher capital productivity amongst small firms), such as obtained by Mehta, is increased. The same bias works in the opposite direction in Sandesara's comparison.

Bhavani [1980] avoided this bias by comparing the entire census sector (larger firms) of the ASI with the sample sector (smaller firms) in 1973-74. In that year, the ratio of fixed capital to output was higher in smaller firms in 31 out of 46 industries. Bhavani also used estimates for small firms from the Census of Small-scale Industries (CSSI) held in that year. In a comparison with the census sector of the ASI, smaller firms were found to have lower capital productivity in 18 out of 46 industries - a lower figure than in the comparison with the sample sector of the ASI, but nevertheless a large figure.

In a further comparison of the CSSI with the census sector of the ASI for 1974-77, Little, Majumdar and Page [1987] divided the industries into four classes, consisting of industries in which small units employed more than 85 per cent, 70-84 per cent, 50-69 per cent and under 50 per cent of the workers. Capital productivity was higher in the ASI (*i.e.*, large) firms for all groups except the last; labour productivity was the same in the first group and higher in the ASI firms in the other three groups. The ASI figures were deflated to 1974, so price differences are unlikely to account for the results. What is interesting is that the capital productivity of small firms was lower precisely in industries which they dominated. Little, Majumdar and Page also divided the ASI census sector into employment size classes, and showed that capital productivity rose with size up to 50-99 workers and then declined.

The Reserve Bank of India [1979] made a sample survey of over 12,000 small firms in 1976-77. It adopted the (then) official definition of a small firm as one with investment in plant and machinery of Rs 1 million or less or an ancillary unit with investment of Rs 1.5 million or less. The estimates from this survey were compared by Goldar [1988] with those for the ASI census sector in 1976-77 for 37 industries. In all except one, labour productivity was lower in the small firms. Their capital productivity exceeded

that in large firms in 22 industries if fixed capital was reckoned gross. Goldar also made some doubtful estimates of net capital. If those were used, capital productivity was lower in small firms than in large ones in 22 industries.

At the individual industry level, therefore, Goldar got mixed results like Bhavani, but less favourable ones than Mehta's [1969]. Goldar also calculated an index of relative efficiency as a geometric sum of labour and capital productivity, and found it to be lower for small firms in all industries except one. The relative efficiency index showed a fairly high correlation coefficient (0.645) with the ratio of average employment in the small firms to that in the large firms: in other words, small firms were relatively less efficient in those industries where the difference between the size of small and large firms was greater - a result corroborating that of Little, Page and Majumdar.

One of Goldar's conclusions is of particular relevance to the present study: he found a significant *negative* correlation between the relative efficiency index and the ratio of small firms' bank loans to their inventories: in other words, their efficiency was lower in those industries where they had borrowed more from the banks. Goldar was at a loss to explain this result. We would recall Hajra's finding that the ratio of material inputs to output tended to be higher for small units. Goldar himself found that small firms were less efficient in their use of materials in 35 out of his 37 industries. Banerjee [1988] noted the same inefficiency in using materials among small firms manufacturing fans in Calcutta, and attributed it to their less mechanized techniques. It is evident that this tendency of small firms is reinforced by the availability of bank credit. Bank credit is generally given to small firms against the collateral of inventories, with little regard to profitability, so it is not surprising that banks' clients are to be found to be less efficient.

We repeated the calculations of Little, Majumdar and Page on the figures from the ASI census sector (Table 2.1), and confirmed that while labour productivity increases with size throughout the range, capital productivity peaks in the size group with 50-99 workers and then declines for larger firms. Thus we would conclude that there is no general evidence of the inefficiency of small firms, but that among the small firms, employing less than 100 workers, absolute efficiency does appear to increase with size. This is confirmed amongst the smallest by the analysis of data from the Reserve Bank of India survey by Little, Majumdar and Page, which shows that firms employing more than 20 workers are more efficient than those employing less. Very small firms are a different kettle of fish from the rest in a number of ways. First, as Mehta pointed out, there are among them firms that have declined to a small size and which exhibit the inefficiency that led to their decline, as well as inefficiency resulting from chronic shortage of resources. There are also new firms which have not begun to utilize their assets fully. Second, as Banerjee pointed out, many owners of the smallest firms are entrepreneurs *manque* - persons who would rather have been workers with a regular wage and a provident fund, but who have started on their own for lack of a secure job. We have ourselves encountered retired men who started small factories for lack of something better, and who have neither the energy nor the experience to make a success of it. Finally, precisely because of the abundant supply of entrepreneurs by default, there is overcrowding and keen competition among the smallest firms. Even in the Annual Survey of Industries (1983-84), which covers only a sample of small factories, 75,000 out of 97,000 factories employed fewer than 50 workers. 8,600 factories employing under 50 workers with power or under 100 workers without power were found closed. The keen competition leads to low capacity utilization, reflected in high capital-output ratios. Thus the smallest firms continue to survive despite being absolutely inefficient by paying much lower wages, but above all because of the low supply price of entrepreneurs to them.

TABLE 2.1. SELECTED ECONOMIC RATIOS BY EMPLOYMENT SIZE GROUPS, 1983-84

| Number of workers | Y/L | K/L | W (Rs thousand) | Y/K | WL/Y | (Y-WL)/K |
|---|---|---|---|---|---|---|
| 1-49 | 17.4 | 27.4 | 4.6 | 0.64 | 0.26 | 0.48 |
| 50-99 | 18.8 | 20.6 | 5.0 | 0.91 | 0.27 | 0.67 |
| 100-199 | 24.3 | 35.1 | 6.2 | 0.69 | 0.26 | 0.51 |
| 200-499 | 31.7 | 42.2 | 8.0 | 0.75 | 0.25 | 0.56 |
| 500-999 | 41.4 | 89.3 | 12.1 | 0.46 | 0.29 | 0.33 |
| 1000-1999 | 44.1 | 75.9 | 13.9 | 0.58 | 0.31 | 0.40 |
| 2000-4999 | 37.9 | 64.0 | 14.2 | 0.59 | 0.37 | 0.37 |
| 5000 & over | 45.1 | 236.7 | 12.7 | 0.19 | 0.28 | 0.14 |

Source: Calculated from Central Statistical Organisation 1987, p. 11.
Y = value added; K = capital employed; L = number of workers; W = average wage.

Important though the contrast between firms employing fewer or more than 50 workers is, another distinction emerges strongly from Table 2.1: that between firms employing fewer and more than 500 workers. The profitability of firms employing 500 or more workers is distinctly lower; and this low profitability is clearly related to their low output-capital ratios. This fact was noted by Little, Majumdar and Page as well, and there is growing realisation in India that far from requiring protection against large firms, small firms have increased their market shares in a number of industries. Large enterprises have tended to blame their lower profitability on the pushing up of their wage costs by trade unions backed by labour legislation. Majumdar [1988] has provided an alternative explanation of the higher wages in large firms in terms of their more stable, skilled and experienced labour force. However, even without resorting to his explanation we can dismiss high wages as the *sole* cause of the lower profitability of the large firms included in Table 2.1. Looking at the figures for the four largest size classes, it can be seen that even if they had to pay no wages at all, firms in the first (500-999 workers) and the last (5,000 or more workers) classes would still not be as profitable as firms in the four smallest size classes. Firms in the two middle size classes (1,000-1,999 workers and 2,000-4,999 workers) would be able to raise their profitability to 0.58 and 0.59 respectively, comparable to the figures for smaller firms, if they did not have to pay any wages, but as long as they had to pay wages of Rs 4,000-8,000 a year, compared to those paid by smaller firms, they would remain less profitable than smaller firms. Thus their high capital-output ratios are an essential part of the explanation of their low profitability. It is outside the scope of this study to go into the causes of their poor capital-output ratios; the limited point we wish to make here is that the small-scale sector as a whole does not need protection from the large-scale sector.

### *B. SSI Firms and the Balance of Trade*

SSI firms have consistently exported 5-7 per cent of their output since the 1970s. However, since their output has been growing faster than total exports, their share of exports has also been going up, and now exceeds a fifth of total exports (Table 2.2).

About SSI imports we have no precise information. The value of import licences issued to SSIs in 1983-84 was Rs 2.16 billion - 10 per cent of SSI exports, and 0.5 per cent of their output. This is an underestimate of their import-intensity for two reasons. First, there are imports that are on Open General Licence (OGL), and do not require an import licence. Second, SSI units buy imported inputs from other importers, particularly from government agencies such as the Electronics Technology and Trade Development Corporation (ETTDC), which looks after the import requirements of small electronics manufacturers. Nevertheless, it is clear that even if adjustments were made for these indirect imports, SSIs are substantial net earners of foreign exchange, and have low import-intensity (with a few exceptions like gem-cutters and television assemblers).

TABLE 2.2. OUTPUT AND EXPORTS OF SSI FIRMS, 1973-74, 1978-79 AND 1983-84

| | 1973-74 | 1978-79 | 1983-84 |
|---|---|---|---|
| SSI output (Rs billion) | 72.0 | 143.0 | 416.0 |
| SSI exports (Rs billion) | 3.9 | 10.7 | 21.6 |
| Total exports (Rs billion) | 25.2 | 57.3 | 98.7 |
| Proportion of SSI output exported (%) | 5.5 | 6.8 | 5.2 |
| Share of SSI in exports (%) | 15.6 | 18.7 | 21.9 |

Source: DCSSI (1975; 1980; 1986).

The major exporters amongst SSI firms are concentrated in a few industries (Table 2.3). The biggest SSI exchange earner is the garment industry. Exporting firms in it do not always fall within our definition of small firms: they often employ more than 100 workers, and many more if their indirect employment through subcontracting is included. But they do fall within the official definition of SSI firms because their fixed investment is less than the official limit.

The next important export is engineering goods. Unlike in garments where exports are the dominant activity of the firms and a high proportion of their output is exported, the engineering industry is more dependent on the domestic market, and exports a small proportion of its output. Apart from engineering, a number of newer industries using industrial inputs have become exporters - for instance, chemicals, plastics and synthetic fibre textiles. Export subsidies - which in theory countervail domestic taxes and higher prices of domestic input - play an important role in the exports of these industries.

The third most important exchange earner is the leather goods industry. It is basically a handicraft industry with a low level of mechanization, and shares some of the features of the garment industry. First, its competitiveness is based on the large domestic output of hides, just as the garment industry relies on cloth from cheap domestic cotton. Second, leather goods exports, like garment exports, encounter trade restrictions in industrial countries, though not to the same extent. Finally, both have developed a dual structure in which a small number of exporter-manufacturers also act as intermediaries and buy from a large number of small, labour-intensive firms.

TABLE 2.3. MAJOR SSI EXPORTS, 1981-82 TO 1983-84

| Industry | 1981-82 | 1982-83 | 1983-84 |
|---|---|---|---|
| | | (Rs million) | |
| Garments and knitwear | 5,660 | 6,610 | 8,530 |
| Engineering goods | 2,990 | 3,630 | 3,870 |
| Marine products | 3,320 | 3,430 | 3,550 |
| Finished leather and products | 3,150 | 3,380 | 3,250 |
| Cashewnuts | 890 | 1,050 | 1,480 |
| Basic chemicals, pharmaceuticals and cosmetics | 1,000 | 1,130 | 1,410 |
| Processed food | 1,250 | 880 | 1,280 |
| Woollen garments and knitwear | 610 | 460 | 570 |
| Semi-finished leather | 440 | 430 | 490 |
| Plastic products | 320 | 340 | 360 |
| Lac | 130 | 140 | 300 |
| Sports goods | 290 | 280 | 290 |
| Chemicals and allied products | 240 | 190 | 260 |
| Processed tobacco | 80 | 150 | 120 |
| Rayon & synthetic fibre products | 30 | 60 | 70 |

Source: DCSSI, 1986.

There are a number of industries with a cultural base, which export primarily to Indians settled abroad or cater to exotic tastes. Amongst these are processed foods, spices, and processed tobacco, which consists to a great extent of snuff.

Sports goods exports date back to before World War II. Exports of cricket equipment to Britain had then developed from Sialkot. After India was divided in 1947, Sialkot went to Pakistan; it continues to be an export centre. But a number of exporters migrated to India and settled down in Jullunder. The high cost or scarcity of temperate softwoods has constrained the growth of this industry; now, however, the industry in India has diversified to equipment for hockey and football as well.

Thus SSI exports have been based on a number of factors. Cheap local inputs are perhaps the most important factor, and account for the success of garments, marine products and leather goods. However, cheap labour is also important, for instance in the case of cashew exports. Cultural factors are behind the exports of food and tobacco products and handicrafts. And subsidies play a significant role in promoting the exports of the newer industries such as engineering and chemicals.

### *C. Location*

The economic census shows employment in firms with 10-99 workers to be greater in rural than in urban areas (Table 1.4). This is true, however, of only a few industries (Table 2.4). Essentially, those industries whose inputs are to be found in rural areas - food products, drinks and tobacco and non-metalliferous mineral products - are located to a greater extent in the rural areas; those using industrial inputs, namely textiles, metals and plastics, are located more in urban areas. The locational pattern suggests that the best way of promoting rural industrialization may well be to encourage increased production of industrial raw materials that arise in rural areas, especially agricultural products.

TABLE 2.4. RURAL-URBAN LOCATION OF EMPLOYMENT IN FIRMS EMPLOYING 10-99 WORKERS, 1971

| | Industry | Employment | | | | |
|---|---|---|---|---|---|---|
| | | Rural | Urban (Thousand) | Total | Rural (per cent) | Urban |
| 20.21 | Food products | 214 | 74 | 288 | 74.3 | 25.7 |
| 22 | Drinks and tobacco | 290 | 105 | 395 | 73.4 | 26.6 |
| 23 | Cotton textiles | 79 | 229 | 308 | 25.6 | 74.4 |
| 26 | Garments | 39 | 70 | 109 | 35.8 | 64.2 |
| 32 | Cement, bricks, tiles etc. | 183 | 71 | 254 | 72.1 | 29.9 |
| 34 | Metal products | 23 | 116 | 139 | 16.5 | 83.5 |
| 35 | Machinery | 11 | 86 | 97 | 11.3 | 89.7 |
| 38 | Electricals | 18 | 56 | 74 | 24.3 | 75.7 |
| 39 | Other Manufacturing | 80 | 15 | 95 | 84.2 | 15.8 |
| 2&3 | All Manufacturing | 937 | 822 | 1759 | 53.3 | 46.7 |

Source: Registrar General (1981).

The pattern of interstate location reflects the tendency of industries based on agricultural raw materials to be based near their source of materials (Table 2.5). Thus, the food processing industry is relatively more heavily concentrated in the Gangetic plain - in Uttar Pradesh and Haryana, which produce sugar cane, and the north-eastern states - Assam and Tripura - which produce fruit. The tobacco products industry is more heavy represented in the two major tobacco - producing states, Andhra Pradesh and Madhya Pradesh. The bricks and tiles industry is more heavily represented in the Gangetic plains, where ceramic clays are more widespread.

But there is no such tendency for industries using industrial inputs to be concentrated in the states that produce those inputs. Thus textiles and garments are to be found in states that produce

cotton and synthetics - principally Maharashtra, Gujarat and Tamil Nadu - but also in other industrialized states and union territories, such as Punjab, Delhi and West Bengal. Metal products are more concentrated in West Bengal, which produces steel, but also in Punjab, Haryana and Delhi in the North, and Tamil Nadu in the South, which do not produce metals in any significant quantity.

Perhaps the strongest tendency in the location of establishments with 10-99 workers is an attraction towards the market. In the case of products like unrefined sugar and tobacco, the costs and prices are low where their agricultural inputs are grown, the per capita consumption is high, and hence such products seem to be located near their sources of materials. In the case of industrial inputs, their transport costs are low in relation to their value, and industries using them tend to be located in industrial and urban areas with high purchasing power.

TABLE 2.5. DISTRIBUTION BY STATES OF EMPLOYMENT IN FIRMS WITH 10-99 WORKERS, 1971

| State | Share of all-India employment in firms with 10-99 workers in industry | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 20-21 | 22 | 23 | 26 | 32 | 34 | Other | Total |
| Andhra Pradesh | 9.6 | 40.4 | 4.0 | 2.7 | 3.5 | 3.7 | 3.6 | 10.9 |
| Assam | 5.7 | 0.2 | 0.4 | 1.0 | 0.7 | 1.5 | 2.2 | 1.8 |
| Bihar | 3.8 | 6.5 | 1.0 | 1.5 | 8.2 | 5.7 | 3.6 | 4.1 |
| Gujarat | 3.9 | 6.5 | 1.0 | 1.5 | 8.2 | 5.7 | 3.6 | 4.1 |
| Haryana | 2.5 | 0.0 | 1.0 | 2.1 | 1.9 | 5.8 | 1.9 | 1.8 |
| Himachal Pradesh | 0.2 | 0.0 | 0.0 | 0.4 | 0.1 | 0.2 | 0.5 | 0.2 |
| Jammu and Kashmir | 0.2 | 0.0 | 0.1 | 1.0 | 1.0 | 0.3 | 0.5 | 0.5 |
| Karnataka | 4.4 | 4.0 | 6.8 | 4.4 | 3.1 | 2.9 | 3.9 | 4.8 |
| Kerala | 5.7 | 4.0 | 5.1 | 25.1 | 4.0 | 2.6 | 2.8 | 5.6 |
| Madhya Pradesh | 3.9 | 9.6 | 1.1 | 2.0 | 1.9 | 2.8 | 3.5 | 4.1 |
| Maharashtra | 8.8 | 12.3 | 32.7 | 14.0 | 7.2 | 17.6 | 18.4 | 16.3 |
| Manipur | 0.1 | 0.0 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 |
| Meghalaya | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 |
| Nagaland | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Orissa | 2.0 | 1.3 | 1.6 | 0.6 | 1.0 | 1.3 | 2.2 | 1.5 |
| Punjab | 2.2 | 0.0 | 3.6 | 7.8 | 4.8 | 4.7 | 5.6 | 4.0 |
| Rajasthan | 1.5 | 0.8 | 2.9 | 1.3 | 3.2 | 1.5 | 2.4 | 1.8 |
| Tamil Nadu | 6.9 | 3.9 | 12.8 | 5.6 | 3.0 | 8.1 | 10.6 | 7.1 |
| Tripura | 0.4 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.2 | 0.2 |
| Uttar Pradesh | 26.1 | 5.2 | 6.7 | 8.3 | 36.1 | 12.1 | 9.6 | 14.4 |
| West Bengal | 10.6 | 7.1 | 6.7 | 13.4 | 12.0 | 18.4 | 13.2 | 11.3 |
| Andaman & Nicobar | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 |
| Arunachal Pradesh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Chandigarh | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 |
| Dadra Nagar Haveli | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 |
| Delhi | 0.9 | 0.0 | 0.7 | 5.1 | 0.9 | 5.0 | 3.8 | 2.4 |
| Goa Daman Diu | 0.3 | 0.1 | 0.0 | 0.1 | 0.4 | 0.2 | 0.4 | 0.3 |
| Pondicherry | 0.1 | 0.0 | 0.2 | 0.1 | 0.0 | 0.2 | 0.2 | 0.1 |

Source: as for Table 1.8. Industry codes as in Table 2.4.

### *D. Conclusions*

Since we rely a good deal on official statistics in this study, the distinction made in Section I between the small firms that are the subject of this study and the SSI firms that official statistics refer to, needs to be borne in mind; SSI firms exclude some of the technologically dynamic, high-productivity firms at the upper end of employment which would be small firms under our definition. Small firms in our sense accounted for about a quarter of the industrial employment in

1971.

Apart from excluding the more productive small firms at the upper end, official statistics of small firms also include very small firms with poor economic performance, arising from lack of enterprise, keen competition, instability and lack of resources. Underutilization of capital in these firms has given rise to the impression that small firms are absolutely inefficient in comparison with large firms. This impression, however, arises from over-aggregation of small firms. If the smallest firms are excluded, small firms are more labour-intensive and less capital-intensive than large firms, and not necessarily less efficient. They pay much lower wages, and earn higher profits on investment than large firms. But amongst small firms it is necessary to distinguish between three types: firms that have grown in industries, such as garments, where the modal firm is small; either new or unsuccessful firms in industries in firms where the modal firm is large, such as textiles or machinery; and firms that occupy specialist niches in industries where there is much product differentiation, such as food, drinks and tobacco.

The share of SSI firms in exports has been rising, and was 22 per cent in 1983. Only in some industries were SSI firms export-intensive; these were mainly industries in which either cheap inputs were locally available, or cheap labour was an advantage, or there was a sizable market abroad for goods from the Indian cultural milieu.

The location of small firms followed two types of patterns: those in industries using primary raw materials tended to cluster near their source of materials, whilst the others were more concentrated in urban and industrial areas. With the growth of more modern small firms based on industrial materials, the orientation of small firms towards urban areas is likely to increase.

This brief survey underlines the importance of the variety of small firms and the need to distinguish amongst the different types. The prime task of small industry studies should be to destroy the stereotype of the representative small firm, and to replace it by a meaningful differentiation. In Section IV we experiment with some possible typologies.

## III. THE FUNCTIONING OF SMALL FIRMS

In this and the next Section we present the results of our sample survey of small firms. In this Section we describe certain basic characteristics of the firms. The survey covered 220 firms. Excluding incomplete interviews and firms that fell outside the range of 10-99 workers, we obtained data for 186 firms: 132 with employment in the range of 10-39 workers, 29 with employment between 40 and 69 workers, and 25 employing 70-99 workers. Our plan was to cover 20 firms each in six cities. But some of the interviewed firms turned out to have fewer than 10 or more than 99 workers, and some of the questionnaires had to be rejected for incompleteness or inconsistency after scrutiny. So the number fell short of 20 in three cities. On the other hand, we got an unexpectedly good response in Hyderabad and Madras. Thus we ended up with 186 usable interviews in Ahmedabad (13), Bangalore (20), Calcutta (19), Hyderabad (58), Madras (34), and Poona (23). There is much regional specialization in the industries we proposed to cover; and interviewers also do better interviews if they concentrate on particular industries. Hence we concentrated on electronics in Ahmedabad, apparel in Bangalore, food products in Goa, vehicle ancillaries in Madras and metal products and engineering in Calcutta, Hyderabad and Poona.

The results are presented Table 3.1 of this Section in terms of employment and industry. The figures relate to the percentage of firms in an employment or industry class having a particular characteristic. The importance of that characteristic in the specified class of firms can be judged by a comparison across other figures in the row, and the importance of that class of firms amongst those sharing the characteristic can be judged by a comparison along the column.

TABLE 3.1. EMPLOYMENT AND INDUSTRY

| | Employment | | | | Industry | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | 10-39 (2) | 40-69 (3) | 70-99 (4) | Total (5) | 311 (6) | 322 (7) | 381 (8) | 382 (9) | 383 (10) | 384 (11) | 770 (12) |
| **Number of firms** | 132 | 29 | 25 | 186 | 19 | 16 | 46 | 37 | 12 | 40 | 16 |
| **Per cent of firms** | 71 | 16 | 13 | 100 | 10 | 9 | 25 | 20 | 6 | 21 | 9 |
| | TABLE 3.1.1. (per cent of total) | | | | TABLE 3.1.2. (per cent of total) | | | | | | |
| **Employment** | | | | | | | | | | | |
| 10-39 | 100 | 0 | 0 | 71 | 63 | 63 | 63 | 81 | 75 | 75 | 75 |
| 40-69 | 0 | 100 | 0 | 16 | 5 | 19 | 24 | 8 | 17 | 13 | 25 |
| 70-99 | 0 | 0 | 100 | 16 | 32 | 18 | 13 | 11 | 8 | 12 | 0 |
| | TABLE 3.1.3. (per cent of total) | | | | TABLE 3.1.4. (per cent of total) | | | | | | |
| **Year of establishment** | | | | | | | | | | | |
| Before 1970 | 20 | 31 | 40 | 24 | 16 | 6 | 25 | 22 | 58 | 35 | 0 |
| 1970-79 | 39 | 34 | 44 | 39 | 37 | 44 | 39 | 46 | 17 | 45 | 25 |
| After 1979 | 41 | 35 | 16 | 37 | 47 | 50 | 36 | 32 | 25 | 20 | 75 |
| | TABLE 3.1.5. (per cent of total) | | | | TABLE 3.1.6. (per cent of total) | | | | | | |
| **Sales (Rs thousand)** | | | | | | | | | | | |
| 1-300 | 11 | 3 | 0 | 8 | 5 | 25 | 9 | 5 | 8 | 5 | 6 |
| 301-900 | 26 | 3 | 4 | 19 | 21 | 13 | 20 | 27 | 8 | 25 | 0 |
| 901-2700 | 30 | 10 | 8 | 24 | 16 | 31 | 14 | 27 | 17 | 35 | 19 |
| 2701-8100 | 26 | 48 | 24 | 29 | 42 | 13 | 28 | 22 | 33 | 23 | 62 |
| over 8100 | 3 | 31 | 60 | 20 | 16 | 6 | 22 | 16 | 17 | 10 | 13 |
| Unknown | 4 | 5 | 4 | 5 | 0 | 12 | 6 | 3 | 17 | 2 | 0 |
| | TABLE 3.1.7. (per cent of total) | | | | TABLE 3.1.8. (per cent of total) | | | | | | |
| **Legal Status** | | | | | | | | | | | |
| Individual | 17 | 7 | 8 | 14 | 0 | 50 | 7 | 11 | 17 | 20 | 6 |
| Family | 6 | 3 | 0 | 5 | 0 | 0 | 13 | 5 | 8 | 0 | 0 |
| Partnership | 44 | 24 | 36 | 40 | 58 | 44 | 37 | 19 | 42 | 50 | 44 |
| Private ltd. company | 30 | 38 | 56 | 35 | 42 | 6 | 28 | 59 | 33 | 30 | 31 |
| Public ltd. company | 3 | 28 | 0 | 6 | 0 | 0 | 15 | 5 | 0 | 0 | 19 |
| | TABLE 3.1.9. (per cent of total) | | | | TABLE 3.1.10. (per cent of total) | | | | | | |
| **Number of products** | | | | | | | | | | | |
| 1 | 39 | 34 | 28 | 37 | 11 | 0 | 67 | 56 | 75 | 0 | 31 |
| 2-3 | 25 | 28 | 28 | 26 | 42 | 75 | 19 | 16 | 25 | 13 | 31 |
| 4-10 | 14 | 14 | 24 | 15 | 32 | 25 | 4 | 14 | 0 | 18 | 25 |
| over 10 | 5 | 10 | 8 | 6 | 0 | 0 | 7 | 14 | 0 | 3 | 13 |
| Unknown | 17 | 14 | 12 | 16 | 15 | 0 | 3 | 0 | 0 | 66 | 0 |
| | TABLE 3.1.11. (per cent of total) | | | | TABLE 3.1.12. (per cent of total) | | | | | | |
| **Number of establishments** | | | | | | | | | | | |
| 1 | 86 | 83 | 76 | 84 | 95 | 94 | 87 | 87 | 83 | 68 | 94 |
| 2 | 8 | 14 | 4 | 8 | 0 | 6 | 7 | 8 | 0 | 18 | 6 |
| 3-4 | 5 | 3 | 16 | 6 | 5 | 0 | 4 | 5 | 17 | 10 | 0 |
| over 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| (average establish-ments per firm) | 1.2 | 1.2 | 1.7 | 1.3 | 1.1 | 1.1 | 1.2 | 1.2 | 1.5 | 1.7 | 1.1 |
| | TABLE 3.1.13. (per cent of total) | | | | TABLE 3.1.14. (per cent of total) | | | | | | |
| **5-year growth rate** | | | | | | | | | | | |
| Over 20% | 20 | 17 | 16 | 19 | 37 | 13 | 17 | 16 | 25 | 8 | 38 |
| 10-20% | 30 | 28 | 36 | 31 | 32 | 31 | 28 | 35 | 17 | 38 | 19 |
| 1-10% | 21 | 24 | 40 | 24 | 16 | 6 | 22 | 27 | 25 | 43 | 6 |
| Residual | 29 | 34 | 8 | 26 | 16 | 50 | 33 | 22 | 33 | 13 | 37 |
| | TABLE 3.1.15. (per cent of total) | | | | TABLE 3.1.16. (per cent of total) | | | | | | |
| **Ratio of skilled workers** | | | | | | | | | | | |
| 0 | 14 | 7 | 4 | 11 | 26 | 0 | 0 | 0 | 0 | 40 | 0 |
| 1-25% | 6 | 7 | 8 | 6 | 32 | 0 | 2 | 3 | 0 | 10 | 0 |
| 26-50% | 19 | 14 | 20 | 18 | 32 | 0 | 20 | 14 | 25 | 13 | 38 |
| 51-75% | 31 | 41 | 20 | 32 | 5 | 31 | 50 | 46 | 50 | 13 | 13 |
| 75-100% | 30 | 31 | 48 | 32 | 5 | 69 | 28 | 38 | 25 | 25 | 50 |

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TABLE 3.1. (CONTD.)

| | Employment | | | | Industry | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | 10-39 (2) | 40-69 (3) | 70-99 (4) | Total (5) | 311 (6) | 322 (7) | 381 (8) | 382 (9) | 383 (10) | 384 (11) | 770 (12) |
| | TABLE 3.1.17. (per cent of total) | | | | TABLE 3.1.18. (per cent of total) | | | | | | |
| **Value added/worker** | | | | | | | | | | | |
| Up to Rs 50,000 | 42 | 24 | 40 | 39 | 63 | 63 | 35 | 30 | 33 | 48 | 6 |
| Rs 50,000-100,000 | 27 | 21 | 12 | 24 | 26 | 6 | 17 | 38 | 25 | 28 | 13 |
| Rs 100,000-200,000 | 11 | 28 | 28 | 16 | 5 | 19 | 17 | 16 | 17 | 13 | 31 |
| Over Rs 200,000 | 10 | 14 | 8 | 10 | 0 | 0 | 22 | 14 | 8 | 0 | 19 |
| Unknown | 10 | 13 | 12 | 13 | 6 | 12 | 9 | 2 | 17 | 11 | 31 |
| | TABLE 3.1.19. (per cent of total) | | | | TABLE 3.1.20. (per cent of total) | | | | | | |
| **Fixed assets/worker** | | | | | | | | | | | |
| Up to Rs 50,000 | 51 | 40 | 52 | 49 | 37 | 100 | 39 | 35 | 50 | 70 | 25 |
| Rs 50,000-100,000 | 30 | 34 | 16 | 28 | 16 | 0 | 41 | 38 | 33 | 18 | 38 |
| Over Rs 100,000 | 12 | 24 | 16 | 15 | 21 | 0 | 17 | 16 | 8 | 8 | 31 |
| Unknown | 7 | 2 | 16 | 8 | 26 | 0 | 3 | 11 | 9 | 4 | 6 |
| | TABLE 3.1.21. (per cent of total) | | | | TABLE 3.1.22. (per cent of total) | | | | | | |
| **Educated managers** | | | | | | | | | | | |
| None | 47 | 24 | 16 | 39 | 26 | 53 | 37 | 41 | 33 | 46 | 19 |
| Fractional | | | | | | | | | | | |
| - in administration | 22 | 21 | 8 | 20 | | 24 | 20 | 22 | 33 | 10 | 50 |
| - in marketing | 22 | 10 | 8 | 18 | | 6 | 28 | 27 | 25 | 5 | 31 |
| - in purchases | 17 | 21 | 4 | 16 | | 24 | 20 | 16 | 42 | 5 | 31 |
| - in finance | 23 | 14 | 8 | 19 | | 6 | 28 | 24 | 42 | 5 | 31 |
| | TABLE 3.1.23. (per cent of total) | | | | TABLE 3.1.24. (per cent of total) | | | | | | |
| At least one | | | | | | | | | | | |
| - in administration | 19 | 41 | 52 | 27 | 35 | 24 | 28 | 24 | 25 | 26 | 25 |
| - in marketing | 20 | 59 | 68 | 32 | 74 | 29 | 26 | 19 | 25 | 28 | 25 |
| - in purchases | 36 | 55 | 80 | 45 | 63 | 24 | 43 | 43 | 25 | 51 | 56 |
| - in finance | 22 | 48 | 64 | 32 | 68 | 18 | 22 | 24 | 8 | 38 | 50 |
| | TABLE 3.1.25. (per cent of total) | | | | TABLE 3.1.26. (per cent of total) | | | | | | |
| **Family member managers** | | | | | | | | | | | |
| At least one | 57 | 31 | 32 | 49 | 63 | 82 | 37 | 43 | 42 | 69 | 44 |
| Fractional | | | | | | | | | | | |
| - in administration | 42 | 10 | 8 | 33 | 37 | 47 | 22 | 30 | 17 | 44 | 38 |
| - in marketing | 47 | 10 | 20 | 37 | 58 | 11 | 30 | 32 | 42 | 51 | 31 |
| - in purchases | 38 | 14 | 16 | 32 | 32 | 47 | 20 | 27 | 25 | 44 | 38 |
| - in finance | 40 | 24 | 12 | 33 | 42 | 6 | 33 | 30 | 33 | 49 | 25 |
| | TABLE 3.1.27. (per cent of total) | | | | TABLE 3.1.28. (per cent of total) | | | | | | |
| At least one | | | | | | | | | | | |
| - in administration | 13 | 10 | 20 | 13 | 21 | 18 | 13 | 11 | 8 | 15 | 6 |
| - in marketing | 10 | 7 | 12 | 10 | 5 | 18 | 7 | 11 | 0 | 18 | 0 |
| - in purchases | 15 | 17 | 16 | 16 | 32 | 35 | 9 | 16 | 25 | 8 | 6 |
| - in finance | 12 | 4 | 2 | 10 | 6 | 0 | 17 | 5 | 8 | 10 | 6 |
| | TABLE 3.1.29. (per cent of total) | | | | TABLE 3.1.30. (per cent of total) | | | | | | |
| **Sources of technology** | | | | | | | | | | | |
| Developed their own | 26 | 19 | 32 | 18 | 31 | | 36 | 35 | 36 | 3 | 14 |
| Imitated | 19 | 24 | 26 | 15 | 31 | | 10 | 10 | 18 | 24 | 14 |
| Large firms | 16 | 9 | 0 | 9 | 8 | | 8 | 6 | 9 | 26 | 14 |
| Plant suppliers | 11 | 5 | 5 | 6 | 0 | | 3 | 0 | 0 | 33 | 0 |
| Technology imports | 3 | 20 | 0 | 5 | 0 | | 9 | 6 | 8 | 0 | 12 |
| External sources | 40 | 44 | 8 | 38 | 11 | 30 | 21 | 33 | 69 | 48 | |
| No external source | 60 | 56 | 92 | 62 | 89 | 70 | 79 | 67 | 31 | 52 | |
| | TABLE 3.1.31. (per cent of total) | | | | TABLE 3.1.32. (per cent of total) | | | | | | |
| **Technological change** | | | | | | | | | | | |
| Product(s) dropped | 23 | 21 | 44 | 25 | 26 | 0 | 13 | 24 | 25 | 48 | 31 |
| Modified | 16 | 28 | 20 | 18 | 11 | 0 | 13 | 16 | 17 | 30 | 38 |
| Made own equipment | 48 | 62 | 56 | 51 | 5 | 0 | 65 | 73 | 42 | 58 | 56 |

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TABLE 3.1. (CONTD.)

| | Employment | | | | Industry | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | 10-39 (2) | 40-69 (3) | 70-99 (4) | Total (5) | 311 (6) | 322 (7) | 381 (8) | 382 (9) | 383 (10) | 384 (11) | 770 (12) |
| | TABLE 3.1.33. (per cent of total) | | | | TABLE 3.1.34. (per cent of total) | | | | | | |
| **Need for technology** | | | | | | | | | | | |
| Perceived | 52 | 52 | 52 | 52 | 42 | 0 | 59 | 62 | 58 | 50 | 69 |
| Major problem | 19 | 17 | 24 | 19 | 37 | 0 | 13 | 14 | 8 | 40 | 6 |
| Lack of sources | | | | | | | | | | | |
| Sought to import it | 7 | 17 | 12 | 9 | 11 | 0 | 4 | 19 | 8 | 3 | 25 |
| | TABLE 3.1.35. (per cent of total) | | | | TABLE 3.1.36. (per cent of total) | | | | | | |
| **Marketing problems** | | | | | | | | | | | |
| Lack of market | 7 | 7 | 4 | 7 | 0 | 8 | 17 | 6 | 0 | 3 | 0 |
| Too much competition | 5 | 0 | 0 | 3 | 5 | 0 | 0 | 3 | 0 | 8 | 6 |
| Inadequate demand | 2 | 14 | 4 | 4 | 0 | 0 | 7 | 3 | 8 | 8 | 0 |
| | TABLE 3.1.37. (per cent of total) | | | | TABLE 3.1.38. (per cent of total) | | | | | | |
| **Buyers** | | | | | | | | | | | |
| Large firms | 64 | 62 | 68 | 65 | 11 | 6 | 67 | 78 | 83 | 98 | 50 |
| Small firms | 36 | 48 | 32 | 38 | 0 | 63 | 47 | 49 | 50 | 23 | 31 |
| Government | 38 | 52 | 52 | 42 | 21 | 6 | 57 | 68 | 75 | 13 | 50 |
| Wholesalers | 20 | 27 | 36 | 24 | 84 | 0 | 22 | 11 | 33 | 8 | 44 |
| Retailers | 19 | 17 | 20 | 19 | 63 | 13 | 15 | 14 | 25 | 8 | 19 |
| Exports | 4 | 14 | 32 | 9 | 16 | 6 | 15 | 11 | 17 | 0 | 0 |
| Final buyers | 7 | 14 | 12 | 9 | 5 | 19 | 9 | 8 | 25 | 0 | 13 |
| | TABLE 3.1.39. (per cent of total) | | | | TABLE 3.1.40. (per cent of total) | | | | | | |
| **Market reach** | | | | | | | | | | | |
| Local | | | | | | | | | | | |
| - direct sales | 57 | 58 | 36 | 54 | 21 | 19 | 74 | 68 | 75 | 38 | 69 |
| - wholesalers | 8 | 21 | 36 | 14 | 68 | 6 | 13 | 3 | 17 | 0 | 19 |
| - retailers | 11 | 14 | 16 | 12 | 42 | 13 | 13 | 5 | 25 | 0 | 6 |
| - commission agents | 11 | 14 | 8 | 11 | 21 | 6 | 13 | 5 | 17 | 0 | 31 |
| - buyback | 3 | 14 | 16 | 6 | 0 | 50 | 4 | 3 | 8 | 0 | 0 |
| | TABLE 3.1.41. (per cent of total) | | | | TABLE 3.1.42. (per cent of total) | | | | | | |
| **Regional** | | | | | | | | | | | |
| - direct sales | 39 | 48 | 24 | 39 | 0 | 0 | 61 | 54 | 67 | 15 | 63 |
| - wholesalers | 6 | 21 | 12 | 9 | 26 | 0 | 11 | 5 | 8 | 0 | 25 |
| - retailers | 3 | 7 | 8 | 4 | 5 | 6 | 7 | 3 | 17 | 0 | 0 |
| - commission agents | 11 | 14 | 8 | 11 | 26 | 6 | 9 | 8 | 17 | 3 | 31 |
| - buyback | 0 | 7 | 8 | 2 | 0 | 0 | 4 | 3 | 8 | 0 | 0 |
| | TABLE 3.1.43. (per cent of total) | | | | TABLE 3.1.44. (per cent of total) | | | | | | |
| **Market reach (contd)** | | | | | | | | | | | |
| **National** | | | | | | | | | | | |
| - direct sales | 42 | 38 | 44 | 42 | 0 | 0 | 54 | 54 | 92 | 35 | 50 |
| - wholesalers | 4 | 17 | 16 | 8 | 16 | 6 | 11 | 3 | 8 | 0 | 25 |
| - retailers | 3 | 0 | 8 | 3 | 0 | 6 | 4 | 0 | 17 | 0 | 6 |
| - commission agents | 11 | 10 | 12 | 11 | 16 | 0 | 8 | 11 | 8 | 13 | 19 |
| - buyback | 0 | 3 | 4 | 1 | 0 | 0 | 4 | 3 | 8 | 0 | 0 |
| | TABLE 3.1.45. (per cent of total) | | | | TABLE 3.1.46. (per cent of total) | | | | | | |
| **International** | | | | | | | | | | | |
| - direct sales | 2 | 10 | 12 | 5 | 0 | 0 | 11 | 5 | 8 | 3 | 0 |
| - agents | 2 | 10 | 20 | 5 | 16 | 13 | 2 | 0 | 17 | 3 | 6 |
| - buyback | 0 | 3 | 4 | 1 | 0 | 0 | 2 | 0 | 8 | 0 | 0 |
| | TABLE 3.1.47. (per cent of total) | | | | TABLE 3.1.48. (per cent of total) | | | | | | |
| **Export ratio** | | | | | | | | | | | |
| 0 or unknown | 92 | 86 | 80 | 89 | 89 | 88 | 85 | 95 | 75 | 93 | 88 |
| 1-20% | 4 | 3 | 0 | 3 | 0 | 0 | 4 | 3 | 8 | 0 | 13 |
| over 20% | 5 | 14 | 20 | 8 | 11 | 13 | 11 | 3 | 17 | 8 | 0 |

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TABLE 3.1. (CONTD.)

| (1) | Employment 10-39 (2) | 40-69 (3) | 70-99 (4) | Total (5) | Industry 311 (6) | 322 (7) | 381 (8) | 382 (9) | 383 (10) | 384 (11) | 770 (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | TABLE 3.1.49. (per cent of total) | | | | TABLE 3.1.50. (per cent of total) | | | | | | |
| **Advertising frequency** | | | | | | | | | | | |
| 1-2 times a year | 17 | 7 | 8 | 15 | 0 | 0 | 20 | 22 | 25 | 8 | 25 |
| 3-10 times | 11 | 21 | 12 | 13 | 0 | 0 | 20 | 24 | 17 | 10 | 0 |
| over 10 times | 6 | 31 | 16 | 11 | 11 | 13 | 9 | 5 | 25 | 0 | 50 |
| | TABLE 3.1.51. (per cent of total) | | | | TABLE 3.1.52. (per cent of total) | | | | | | |
| **Aftersales service** | | | | | | | | | | | |
| Given | 42 | 55 | 40 | 44 | 0 | 0 | 61 | 68 | 58 | 23 | 75 |
| To over 2% customers | 23 | 24 | 16 | 22 | 0 | 0 | 26 | 35 | 33 | 18 | 31 |
| | TABLE 3.1.53. (per cent of total) | | | | TABLE 3.1.54. (per cent of total) | | | | | | |
| **Credit problems** | | | | | | | | | | | |
| Perceived | 51 | 58 | 40 | 51 | 37 | 53 | 46 | 57 | 58 | 54 | 56 |
| Unavailability | 25 | 21 | 35 | 26 | 0 | 35 | 10 | 27 | 20 | 34 | 50 |
| | TABLE 3.1.55. (per cent of total) | | | | TABLE 3.1.56. (per cent of total) | | | | | | |
| **Credit/sales ratio** | | | | | | | | | | | |
| 0 | 8 | 7 | 16 | 9 | 16 | 25 | 7 | 8 | 0 | 5 | 6 |
| Less than a month | 33 | 28 | 24 | 31 | 74 | 63 | 26 | 22 | 33 | 13 | 31 |
| >1-2 months | 34 | 48 | 32 | 36 | 11 | 0 | 53 | 38 | 33 | 38 | 50 |
| >2-3 months | 15 | 14 | 16 | 15 | 0 | 13 | 11 | 27 | 8 | 20 | 13 |
| >3 months | 10 | 4 | 4 | 8 | 0 | 0 | 2 | 3 | 25 | 25 | 0 |
| | TABLE 3.1.57. (per cent of total) | | | | TABLE 3.1.58. (per cent of total) | | | | | | |
| **Sources of credit** | | | | | | | | | | | |
| Banks | 73 | 83 | 80 | 76 | 79 | 24 | 80 | 76 | 75 | 92 | 81 |
| SFCs/SIDCs | 27 | 38 | 28 | 28 | 16 | 0 | 46 | 30 | 33 | 26 | 25 |
| Other | 15 | 31 | 20 | 18 | 21 | 6 | 17 | 27 | 25 | 13 | 19 |
| | TABLE 3.1.59. (per cent of total) | | | | TABLE 3.1.60. (per cent of total) | | | | | | |
| **Borrowings/sales** | | | | | | | | | | | |
| 0 or unknown | 10 | 7 | 4 | 9 | 11 | 13 | 11 | 11 | 8 | 5 | 0 |
| 1-30% | 30 | 41 | 40 | 33 | 42 | 44 | 43 | 24 | 17 | 33 | 19 |
| 31-60% | 19 | 28 | 28 | 22 | 11 | 38 | 20 | 19 | 25 | 23 | 25 |
| over 60% | 41 | 24 | 28 | 37 | 37 | 6 | 26 | 46 | 50 | 40 | 56 |
| | TABLE 3.1.61. (per cent of total) | | | | TABLE 3.1.62. (per cent of total) | | | | | | |
| **Inventories/sales** | | | | | | | | | | | |
| 0 or unknown | 21 | 24 | 24 | 22 | 63 | 63 | 26 | 8 | 33 | 0 | 0 |
| 1-20% | 32 | 41 | 40 | 34 | 26 | 38 | 34 | 38 | 17 | 38 | 44 |
| 21-30% | 23 | 10 | 16 | 20 | 0 | 0 | 20 | 27 | 8 | 40 | 12 |
| over 30% | 24 | 24 | 20 | 23 | 11 | 0 | 22 | 27 | 42 | 23 | 44 |
| | TABLE 3.1.63. (per cent of total) | | | | TABLE 3.1.64. (per cent of total) | | | | | | |
| **Bank loans/borrowings** | | | | | | | | | | | |
| 0 or unknown | 19 | 14 | 12 | 17 | 11 | 81 | 15 | 11 | 0 | 8 | 19 |
| 1-25% | 21 | 28 | 28 | 23 | 21 | 13 | 22 | 19 | 42 | 33 | 13 |
| 26-50% | 20 | 38 | 20 | 23 | 16 | 0 | 22 | 32 | 25 | 28 | 19 |
| 51-75% | 16 | 10 | 16 | 15 | 11 | 0 | 20 | 22 | 8 | 5 | 38 |
| over 75% | 31 | 21 | 32 | 22 | 42 | 6 | 22 | 16 | 25 | 28 | 13 |
| | TABLE 3.1.65. (per cent of total) | | | | TABLE 3.1.66. (per cent of total) | | | | | | |
| **Duration** | | | | | | | | | | | |
| Bank loans | | | | | | | | | | | |
| 1 year or less | 4 | 5 | 0 | 4 | 0 | 0 | 3 | 0 | 20 | 11 | 0 |
| >1-5 years | 33 | 36 | 40 | 28 | 45 | 25 | 27 | 23 | 20 | 42 | 9 |
| >5 years | 63 | 59 | 60 | 68 | 55 | 75 | 70 | 77 | 60 | 47 | 91 |
| SFC/SIDC loans | | | | | | | | | | | |
| 1 year or less | 3 | 8 | 0 | 4 | 0 | | 11 | 0 | 0 | 0 | 0 |
| >1-5 years | 10 | 0 | 29 | 10 | 50 | | 11 | 0 | 0 | 0 | 0 |
| >5 years | 87 | 92 | 71 | 86 | 50 | | 82 | 100 | 100 | 100 | 100 |

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TABLE 3.1. (CONCLD.)

| | Employment | | | | Industry | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | 10-39 (2) | 40-69 (3) | 70-99 (4) | Total (5) | 311 (6) | 322 (7) | 381 (8) | 382 (9) | 383 (10) | 384 (11) | 770 (12) |
| | TABLE 3.1.67. (per cent of total) | | | | TABLE 3.1.68. (per cent of total) | | | | | | |
| **Collateral** | | | | | | | | | | | |
| Bank loans | | | | | | | | | | | |
| - property | 33 | 14 | 14 | 26 | 0 | | 45 | 39 | 43 | 3 | 36 |
| - machinery | 29 | 10 | 43 | 27 | 100 | | 14 | 20 | 33 | 54 | 0 |
| - inventories | 6 | 0 | 14 | 6 | 0 | | 0 | 0 | 0 | 23 | 0 |
| SFC/SIDC loans | | | | | | | | | | | |
| - property | 58 | 80 | 43 | 60 | 0 | | 86 | 80 | 67 | 0 | 100 |
| - machinery | 29 | 10 | 43 | 27 | 100 | | 14 | 20 | 33 | 54 | 0 |
| - inventories | 6 | 0 | 14 | 6 | 0 | | 0 | 0 | 0 | 23 | 0 |
| | TABLE 3.1.69. (per cent of total) | | | | TABLE 3.1.70. (per cent of total) | | | | | | |
| **Loan size (Rs thousand)** | | | | | | | | | | | |
| Bank loans | | | | | | | | | | | |
| up to 300 | 35 | 10 | 12 | 28 | 26 | 18 | 30 | 24 | 8 | 49 | 6 |
| >300-900 | 25 | 31 | 8 | 24 | 26 | 18 | 30 | 24 | 8 | 49 | 25 |
| >900 | 14 | 41 | 60 | 24 | 32 | 0 | 26 | 22 | 17 | 23 | 50 |
| SFC/SIDC loans | | | | | | | | | | | |
| up to 300 | 14 | 7 | 8 | 12 | 11 | 0 | 17 | 14 | 0 | 18 | 6 |
| >300-900 | 9 | 7 | 0 | 8 | 5 | 0 | 4 | 14 | 25 | 8 | 0 |
| >900 | 3 | 24 | 20 | 9 | 0 | 0 | 24 | 3 | 8 | 0 | 19 |
| | TABLE 3.1.71. (per cent of total) | | | | TABLE 3.1.72. (per cent of total) | | | | | | |
| **Labour problems** | | | | | | | | | | | |
| Affected profits | 11 | 10 | 12 | 11 | 5 | 6 | 20 | 8 | 17 | 5 | 13 |
| Affected growth | 8 | 10 | 4 | 8 | 0 | 13 | 9 | 5 | 0 | 18 | 0 |
| | TABLE 3.1.73. (per cent of total) | | | | TABLE 3.1.74. (per cent of total) | | | | | | |
| **Technicians** | | | | | | | | | | | |
| Unavailability | 17 | 14 | 4 | 15 | 0 | 0 | 15 | 30 | 17 | 8 | 31 |
| Low productivity | 15 | 17 | 4 | 14 | 0 | 0 | 18 | 30 | 0 | 8 | 25 |
| Absenteeism | 17 | 3 | 0 | 12 | 0 | 0 | 28 | 22 | 8 | 0 | 7 |
| High turnover | 8 | 3 | 8 | 8 | 0 | 0 | 11 | 16 | 8 | 3 | 6 |
| Strikes | 2 | 0 | 4 | 2 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| | TABLE 3.1.75. (per cent of total) | | | | TABLE 3.1.76. (per cent of total) | | | | | | |
| **Salaried workers** | | | | | | | | | | | |
| Absenteeism | 11 | 10 | 4 | 10 | 0 | 0 | 20 | 16 | 8 | 5 | 6 |
| Low productivity | 4 | 14 | 4 | 5 | 0 | 0 | 7 | 11 | 0 | 0 | 19 |
| High turnover | 3 | 3 | 8 | 4 | 0 | 0 | 4 | 0 | 0 | 10 | 7 |
| Unavailability | 2 | 7 | 4 | 3 | 0 | 0 | 2 | 5 | 0 | 5 | 6 |
| Strikes | 1 | 3 | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| | TABLE 3.1.77. (per cent of total) | | | | TABLE 3.1.78. (per cent of total) | | | | | | |
| **Skilled workers** | | | | | | | | | | | |
| Absenteeism | 28 | 17 | 20 | 25 | 5 | 19 | 30 | 35 | 17 | 33 | 6 |
| Unavailability | 21 | 21 | 8 | 19 | 0 | 19 | 22 | 38 | 17 | 5 | 31 |
| Low productivity | 14 | 28 | 4 | 15 | 0 | 13 | 20 | 27 | 0 | 0 | 38 |
| High turnover | 14 | 7 | 16 | 13 | 0 | 31 | 9 | 14 | 0 | 20 | 19 |
| Strikes | 2 | 7 | 8 | 4 | 5 | 0 | 11 | 3 | 0 | 0 | 0 |
| | TABLE 3.1.79. (per cent of total) | | | | TABLE 3.1.80. (per cent of total) | | | | | | |
| **Unskilled workers** | | | | | | | | | | | |
| Absenteeism | 29 | 21 | 20 | 26 | 32 | 7 | 28 | 30 | 17 | 40 | 0 |
| Low productivity | 12 | 7 | 16 | 12 | 53 | 0 | 7 | 11 | 17 | 0 | 19 |
| High turnover | 6 | 3 | 0 | 5 | 5 | 0 | 4 | 0 | 0 | 15 | 0 |
| Strikes | 4 | 3 | 12 | 5 | 5 | 0 | 15 | 3 | 0 | 0 | 0 |
| Unavailability | 3 | 10 | 0 | 4 | 0 | 6 | 4 | 5 | 0 | 3 | 6 |

Notes: The industry codes are: 311 food processing; 322 wearing apparel; 381 metal products; 382 non-electrical machinery; 383 electrical machinery; 384 vehicles and ancillaries; 770 electronics.
Sources: ICRIER survey of small firms.

*A. Distribution Amongst Industries*

Of the 186 firms, all the 19 in food processing were in Goa and all the 16 in apparel manufacture in Bangalore (Table 3.1). Our initial plan was to cover at least 30 firms in each industry; but it turned out not to be possible in these two industries. In Goa and Bangalore we covered almost all the firms in the specified size range that were prepared to cooperate with us; the further firms we could have interviewed were very small firms with a different character. Nor could the survey of these two industries be extended to other cities for lack of time. All the remaining firms were in metal-working industries - 46 in metal products, 37 in machinery, 12 in electricals, 40 in vehicle ancillaries and 16 in electronics.

There were inter-industry differences in the size distribution of firms (Table 3.1.2). In food products (code 311) the firms were concentrated in the small and the large size classes. Food products in our case included a substantial number of fish processing firms. Fish processing is an export industry in which a dual structure has developed. Exporting involves considerable official formalities in dealing with the banks, the customs authorities, and the office of the Chief Controller of Imports and Exports. The managerial time which has to be invested in going through the procedures cannot be easily spared by small firms. Size is also an advantage in export marketing, which can be quite costly. This does not mean that large firms have an overwhelming advantage, or that small firms cannot export directly; on the contrary, there has been a trend towards direct marketing in recent years as the government has made import replenishment to exporters more attractive. In the early stages when the markets abroad still have to be developed, large firms play a more active part - especially the export houses belonging to large business groups. Once exports are developed, however, the small firms that are the primary producers try to establish direct contact with importers abroad. Often the importers travel to India looking for cheaper and better supplies. So gradually the large firms tend to get squeezed out of exports unless they have their own production - as in fishing - or they perform essential and specific functions, such as bulking, quality control and timely delivery.* These functions are important in apparel (322), which also has a dual structure like fish processing; but this is not apparent in our figures because most of the big garment makers employ more than 99 workers.**

In machinery (382), electricals (383), auto ancillaries (384) and electronics (770), small firms with under 40 workers are relatively more numerous. In engineering, the comparative advantage of small firms is greater than in other industries. The two major factors favouring large firms are economies of scale and of marketing; both are relatively less important in engineering. Partly as a result of the policy of import substitution, the equipment available to small and to large engineering firms is not very different. More automatic machinery which would permit the exploitation of economies of scale is not available; even where it can be imported, the high tariff on it (85 per cent at present) makes it uneconomical. Where a second-hand market in machinery has developed, small firms can often equip themselves very cheaply with machinery scrapped by large firms. Thus economies of scale do not play a decisive role. In engineering where the buyers of products are other engineering firms, marketing is also easier and less costly than in consumer goods. And there is considerable product differentiation, which reduces the total output of a single product. The main advantage of small firms is lower wages; it proves decisive because the productivity differential between large and small firms is not large as long as they

* Although it is impossible to assess the quantitative significance of this factor, one reason for the operations of large firms in fish exports is that the actual fishing is done by fishermen who need to be paid in cash. The purchase of fish thus acts as a useful outlet for cash profits made elsewhere on which taxes have been evaded.

** Whilst the large firms in Bangalore are chiefly manufacturers of garments which buy from smaller firms to cope with sudden large orders, the large firms in Delhi manufacture very little, and put out most of their orders. The difference is attributed to the greater severity of labour problems around Delhi, which gives a comparative advantage to small firms.

use similar equipment.

In electronics, the predominance of small firms is due to a liberal import policy for components. From 1985 onwards, components could be imported under the Open General Licence for some time; they were also imported by the government through its Electronics Trade and Technology Development Corporation and sold to small firms. Hence it was possible to assemble electronic products with a low degree of fabrication. This made it easy for small firms to enter the industry.

However, the relationship between age and size must not be lost sight of; across all industries, newer firms tend to be smaller, older firms larger (Table 3.1.3). The later the period of establishment, the lower is the proportion of firms employing 70-99 workers, and the higher proportion of firms employing 10-39 workers. But this does not apply to all industries (Table 3.1.4). Electronics is a relatively new industry, and tends to have smaller firms. But not food processing or apparel, where too the average firm is young. One reason is that Indian electronic products - especially computers - are maintenance-intensive; for success, firms need to have a strong force of maintenance engineers. The difficulty of attracting and retaining a large number of engineers kept small firms from growing. This is probably changing now, however; as the phased manufacturing programmes promised by the firms to the government progress, the imports allowed to the firms are being cut; this gives an advantage to large firms which can achieve a higher degree of in-house manufacture.

To give an idea of size we have also presented figures of sales in Tables 3.1.5 and 3.1.6. Rs 300,000 is a very low figure for sales; a firm employing 10 workers and with sales of Rs 300,000 would have sales per worker of Rs 30,000 a year, or Rs 2,500 a month - a figure that would permit very low wages and profits. There were 15 such firms in our sample, 14 of them in the smallest size class. But 4 firms in that class had sales over Rs 8.1 million, or over Rs 16,000 per worker per month, which even with a low value added ratio would permit high levels of wages and profits on Indian standards. Overall, there is a good correspondence between employment and sales across the size classes. Food processing and apparel are industries with low sales per worker; they have a high proportion of large firms in terms of employment, but not of sales. In electronics, firms are small in terms of employment, but large in terms of sales.

*B. Legal Status*

The firms are classified in Table 3.1.7-8 in terms of the five types of ownership recognised under Indian law. The simplest is an individual proprietor. An Indian variant of it is the joint family or, to give its proper legal name, the Hindu Undivided Family. The joint family is a partnership entirely consisting of family members; it is governed by traditional law in respect of the division of profits, inheritance and dissolution, and special income tax rates are laid down for it. A private limited company is a partnership in which the liability of the partners is limited to what they have invested in the company. However, this limit seldom applies in the case of borrowings from the banks, for they insist on having personal guarantees from the directors of the company for a bank loan. Finally, a public limited company is a firm in which equity shares have been sold to the public by subscription, and are quoted on the stock exchange. The Indian Companies Act places many obligations on the management of a public limited company regarding disclosure and responsibility to the shareholders. On the assumption that these legal obligations make public limited companies more responsible and hence safer as borrowers, Indian banks often insist that once a firm grows beyond a certain point it should go public. (They also do so out of concern about the debt-equity ratio: since the banks lend at a fixed interest, all lending by them goes to raise the debt-equity ratio, and to make the borrowing firm more vulnerable.) For the same reason proprietors of many firms are reluctant to go public, and some make a token public issue and arrange share allocations so as to ensure that their control of management is not endangered.

Hence it is not surprising that there are few public limited companies in our sample. It may seem strange that they are not to be found amongst the largest firms in terms of employment. This is

due to the fact we have earlier noted that firms that are small in terms of employment are not necessarily small in terms of sales or value added. There are enormous differences across firms in productivity per worker; small firms specializing in high-value products like electronic goods can be many times larger in terms of sales than firms in food products or garments with a larger number of workers. In electronics, rapid growth has also forced some firms to go into the equity capital market (Table 3.1.8). In apparel, on the other hand, incorporation is virtually unknown despite fast growth; the profits are so high that there is less recourse to borrowings (Table 3.1.60) as well as to banks (Table 3.1.64).

The commonest type of firm in all three size classes is the partnership. Smaller firms are more likely to be proprietary firms; family firms shade on the one hand into proprietary firms (in which family members could well be working) and on the other into partnerships (which could have members of the same family as partners). Larger firms are more likely to be private limited companies.

*C. Diversification and Multiple Location*

In general we took a conservative view on product differentiation: products were considered the same unless they served different markets. Still, 47 per cent of the firms turned out to be multi-product firms (Table 3.1.9-10). Larger firms tended by and large to have more products.

Diversification arises in two types of circumstances. First, when firms are restricted to small local markets, growth may entail diversification for them (Table 3.1.40). For instance, the firms producing food products rely more on local markets because their products are perishable or entail high transport costs. Electronics firms also market locally because of the need to provide maintenance and repairs. In both these industries there is relatively greater diversification. Second, the buyer may ask for a variety of products, or marketing costs may be reduced if the buyer is offered variety. The extreme instance of this is some equipment makers, who are essentially job workers prepared to take on whatever engineering work they get. But garment makers and vehicle ancillary manufacturers also produce varieties according to the buyers' requirements; this is why there is not a single single-product firm amongst them.

14 per cent of the firms also produced in a number of locations; 6 per cent had more than 3 establishments (Table 3.1.11-12). The tendency to have a number of locations is all the more remarkable in view of the fact that the small firms in general are short of managerial staff, and that it is common for the same person to double up and do a number of unrelated managerial tasks. The tendency was more pronounced amongst the larger firms; a quarter of the firms employing 70-99 workers had more than one establishment, and these latter had an average of 4.4 establishments per firm. Though less pronounced amongst smaller firms, the tendency was present even in the smallest size class, in which 13 per cent of the firms had multiple units.

Multiple establishments were most common amongst firms producing vehicle ancillaries. 98 per cent of them were selling to large firms (Table 3.1.38). They were essentially suppliers of parts to vehicle manufacturers, and some of them had set up units near the works of a number of major buyers to be able to service them more efficiently.

As with product diversification, a number of firms had set up multiple units to minimize risk: the units produced different products, often radically different. Some firms also attributed the decision to a desire to avoid labour problems: in their view, the likelihood of labour trouble increased as employment in an establishment grew. As we showed in Section II, wages are considerably lower in smaller than in larger firms. This gives them a competitive advantage, but they suffer greater labour turnover as workers migrate to firms with higher wages, and they face greater pressure from workers for higher wages.

Finally, a factor which was not often mentioned but nevertheless undoubtedly counted: namely, official concessions and privileges are available to firms below a certain asset size, and they risk losing the privileges if they grow beyond the stipulated size. This consideration was especially important to the larger firms which were bumping against the ceiling; hence the tendency for the larger firms to have more units.

*D. Productivity and Growth*

Value added per worker was distinctly higher in firms with 40 or more workers than in smaller firms (Table 3.1.17). But they did not grow any

faster (Table 3.1.13). Unavailability of figures is high in respect of growth rates; but it appears that firms in food products, apparel and electronics grew rapidly, whereas those in vehicle ancillaries grew more slowly than average (Table 3.1.14). Growth shows no relationship with productivity; value added per worker in electronics was high, and in food products, apparel and vehicle ancillaries it was low (Table 3.1.18). Nor is it related to capital intensity, which was high in electronics and food products, and low in apparel and vehicle ancillaries (Table 3.1.20).

What does emerge is a relationship between productivity and capital intensity. Metal products, machinery and electronics show high value added per worker as well as high capital intensity; apparel and vehicle ancillaries are low in respect of both variables. It also shows a relationship with skill levels; the proportion of skilled workers is high in metal products, machinery and electronics, and low in apparel and vehicle ancillaries (Table 3.1.16).

Thus our survey yields results that conform to those of the all-India surveys we summarized in Section I, namely that larger firms have higher capital intensity and labour productivity, but that their higher labour and capital costs more than compensate for the difference in labour productivity, and their growth rate is no higher than that of small firms. What our figures show is that the industries that are capital-intensive also have higher labour productivity; but the firms in them have not grown faster or more slowly than firms in other industries.

*E. Management*

We asked the firms about their management personnel - how many of them had university degrees and diplomas, and what functions they performed. Where a person performed a number of functions, his time was assumed to be divided equally amongst them. Thus fractions indicated shared functions. Insofar as all firms had at least one proprietor, and he had to look after at least administration and one other function, every firm had at least a fractional manager in two or more functions.

39 per cent of the firms did not employ any educated managers at all (Table 3.1.21). This proportion was 47 per cent amongst the smallest firms employing 10-39 workers; it fell to 16 per cent amongst firms employing 70-99 workers. However, amongst firms that employed educated managers, three-quarters let at least one of the managers specialize in one of the managerial functions. The proportion was two-thirds amongst the smallest firms, and three-quarters amongst firms employing 40-69 workers; almost all of the largest firms that employed educated managers gave them specialized functions.

Beyond this point, a difficulty arises in analysing the results because the Goa survey did not distinguish between fractional and full managers. But one result is confirmed by every industry: if an educated manager is given a specialized function, it is most likely to be production and purchases (Table 3.1.24). Marketing and finance come next, but they are less important. Administration gets the lowest priority, but this is probably because the interviewed firms subsumed administration under production management.

In their replies to other questions the firms clearly placed finance and markets as their two major constraints in that order. In fact, only five of them listed management as a major problem. The discrepancy between their replies and the priorities shown by their allocation of educated managers calls for an explanation. It is likely that while production management is the central function that the firms regard as crucial to their success or failure, they consider production to be within their control, and not an external constraint like demand or credit.

49 per cent employed at least one family member in managerial functions; three-quarters of them performed a number of functions (Table 3.1.25-28). Only 19 per cent of the firms were proprietary or family firms; so it is clear that a large proportion of the other types of firms - partnerships or companies - also used family members in managerial positions.

Family control is common even in the largest Indian firms. What it means is that a family would employ its own members in managerial functions by preference, and would turn to outsiders when it begins to run short of family members. For small firms, family management keeps the costs of management down: insofar as the family lives together, its running costs are low, and insofar as the sons of the family are trained for nothing beyond family business, their opportunity costs are low. However, even otherwise untrained

family members eventually become capable of - or begin to feel capable of - managing the family business. When this happens, one way to avoid competition in management is to start new businesses. This is a further reason for the proliferation of establishments under the same management in vehicle ancillaries (Table 3.1.12).

The preference for family control makes the chances of advancement unequal between family members and outsiders; hence family-controlled firms find it more difficult than others to attract able or educated managers. An educated person would prefer to join a large company with a rule-based bureaucracy, or to start his own business. This is a major handicap in the growth of small firms, especially in areas requiring sophisticated technology.

Family members as managers and educated managers are not alternatives; family members can be educated too, as in the food products industry. But there is a certain negative correlation between the two. Smaller firms have more family members in management, and fewer educated managers. Apparel and vehicle ancillaries are two industries characterized by a high proportion of family members and a low proportion of graduates in management; electronics show the reverse tendency.

If our argument that family members have lower opportunity costs is correct, we should find more of them in the management of firms with low value added per worker. Food products, apparel and vehicle ancillaries are indeed industries with a high proportion of low-productivity firms as well as of firms with family members as managers. High productivity and more educated managers do not necessarily go together; for instance, both food products and electricals have a high proportion of educated managers and a high proportion of low-productivity firms. Thus it cannot be asserted that educated managers raise productivity. And whilst family members in management seem to depress it, this may have more to do with their supply price than with their quality of management.

### *F. Technology*

Questions on technology were answered by only about two-thirds of the firms, and would in fact have been out of place in relation to fishing or tailoring establishments, for instance. Two-thirds of the responding firms admitted no external source of technology: a third said they had developed their own technology, and almost as many said they had imitated others (Table 3.1.29-30). The distinction between the two is thin; even where identifiable mechanisms of innovation (such as R&D) are employed, innovation starts from the base of what is known, and what is known includes the imitable. The important point is that in 62 per cent of the cases, no transfer mechanism was involved.

Amongst those that acknowledged having received technology from outside, 45 per cent said they had got it from large firms, 25 per cent had imported it, and the rest said they had got it from plant suppliers. All these are sources of technology well known in industrial countries, but this is the first evidence to our knowledge on their operation in India. Large firms and equipment manufacturers were significant sources of technology to small firms.

External sources were more important in vehicle ancillaries and in electronics. Vehicle ancillary firms had obtained technology from the large firms to which they sold components, as well as from equipment suppliers; electronics firms from large firms and from technology suppliers abroad. Not surprisingly, the food product industry showed the least dependence on outside technology.

10 firms had imported technology; 4 of them employed fewer than 40 workers, and all employed fewer than 69 workers (Table 3.1.29). This goes against the general impression that technology is imported by large firms and that small firms have no access to it. Previous studies suggest that it is the Indian firms that look for technology, that the number of potential importers exceeds that of suppliers, and that only a small proportion of those who seek imported technology manage to get it [e.g., Alam, 1988]. This impression is only mildly supported by our present results: against 10 firms that imported technology, 18 had sought to import it. Nor is the proportion of disappointed firms higher amongst smaller firms.

We asked a number of questions on the need for technology, and the differences in the replies are revealing. 52 per cent of the firms felt the need for more technology; thus, many more acknowledged the worth of technology than, for

instance, those who thought they needed managerial expertise (Table 3.1.33-34). 19 per cent felt that lack of technology posed a problem; the rest could see the uses of more or better technology, but did not feel they were handicapped by lack of it. Thus the need for technology is widely acknowledged, but few firms consider it as a front-rank problem. The two industries in which firms were most conscious of the need for technology were food processing and vehicle ancillaries. The first industry exports fish, and firms in it see the need for technology as a weapon of competition in international trade. The second sells components to the vehicle industry which is modernizing, and sees the need to keep up with its customers' requirements. In both, the pressure for better technology emanates from the market.

It was not possible in this survey to probe into the content of technological change; in engineering it is difficult to observe changes in process technology unless they are embodied in new equipment. But there is evidence of changes in products, which suggest a certain type of technological change. 25 per cent of the firms said that they had dropped at least one product, and 18 per cent said they had substantially altered at least one. Both types of action were more common amongst the large firms, and in the vehicle ancillary industry, where product modifications are dictated by customers' requirements.

*G. Markets*

Markets and marketing were the second most common concern of the firms interviewed by us, next only to finance; 14 per cent of them mentioned market-related problems (Table 3.1.35-36). The concern was expressed in different ways - too much competition, too little demand, lack of a market - but it amounted to difficulty in selling. Few firms thought that the problem was within their control; only one firm felt that it lacked marketing expertise. Most felt that demand was an exogenous variable, that there was not enough of it, and that their own efforts could achieve little. However, it should be stressed that only a small minority felt that markets were a problem. That minority was significant only in metal products and in vehicle ancillaries.

It may be expected that larger firms would suffer more severely from demand problems, but actually, just the reverse was true. 14 per cent of the firms employing 10-39 workers complained of demand problems; the proportion was 21 per cent for firms with 40-69 workers, and 8 per cent for firms with 70-99 workers. A possible explanation for this finding is that the smaller and the larger firms sold to different markets: if they were selling the same products to the same markets, it would be impossible for the larger firms to suffer fewer marketing problems.

In what way were their markets different? We have got only a partial answer because the survey was not designed to go into product markets in detail. The rank order of importance of different marketing channels was the same for firms of different sizes: large firms were the most important buyers; next came the government, small firms, wholesalers, retailers and exports in that order (Table 3.1.37). Other firms figured equally frequently as buyers from smaller and larger firms; but all other buyers, including the government, figured more frequently as buyers from larger firms. This implies that the variety of marketing outlets open to larger firms was greater. The complaints of smaller firms about markets are related to the fact that many buyers, especially intermediaries and the government, prefer to deal with larger firms. This preference cannot be related to price, in which smaller firms usually have an advantage; it must be related to quality or delivery or both. The preference of the government, wholesalers and buyers abroad for larger firms is particularly marked. It is this buyers' prejudice which the small firms see as a marketing bottleneck; actually, it may be a reflection of their record in respect of quality and delivery dates.

A number of small firms complained to us that the preferences supposed to be given to them in government purchases were not really effective, and that government departments and enterprises preferred to buy from large firms. At the same time, however, government departments are often forced to buy from small firms, or from large firms with poor reputation, because the departments' record in the settlement of bills is poor.

Other firms and the government are important as marketing outlets for firms in the metalworking industries - metal products, machinery and electricals (Table 3.1.38). The markets of electronics firms show the same pattern. As is to be expected, vehicle manufacturers are the major buyers of vehicle ancillaries. Even of firms producing

products of final consumption, such as food products and apparel, only a few sell directly to consumers. Producers of food products use intermediaries heavily, whereas apparel manufacturers sell to other firms who make up the goods and export them or sell them in the domestic market.

When it comes to market reach, our findings are affected by non-response, but broadly confirm the conclusions on marketing channels. The smaller firms sell more locally and regionally, the larger firms more nationally; exporters are generally to be found amongst the larger firms (Table 3.1.39-46). But one striking difference is the smaller firms' reliance on commission agents. These are salesmen, often travellers, who sell the goods of a number of manufacturers on commission: they are small-scale intermediaries, in contrast to wholesalers, who are large-scale intermediaries and who buy more commonly from the larger firms. Wholesalers have stable, long-term relationships with manufacturers on the one hand and retail distributors on the other. Hence they generally either pay on delivery or on well defined terms of credit; and once they have bought the goods, they take responsibility for selling them. Selling to well established wholesalers is as good as a buyback arrangement. Commission agents, on the other hand, operate in the interstices of the distribution system, visiting retailers and other buyers and trying to sell on the basis of price or credit. Selling through them carries greater risks. But small firms, especially ones that cannot ensure regular deliveries, cannot use wholesalers and retailers, and are therefore forced to use commission agents.

Firms in all industries tend to sell more directly in local markets and to use intermediaries more often to sell in more distant markets. This is most marked in the case of food products and apparel, whose producers do no direct selling outside their local area. Half of the apparel manufacturers work on a putting out basis for other firms. Firms in the metalworking industries and in electronics exploit wider markets than those in food products and in apparel, and also sell directly to distant customers. Of them, manufacturers of machinery and vehicle ancillaries are least dependent on intermediaries. Some of the larger firms export in all industries, but exporters are few in electronics, a new industry with a booming domestic market, and in machinery.

The questions on advertising and after-sales services do not apply to all the firms; for instance, fishing firms do not advertise, and neither they nor the apparel manufacturers have to service their customers. Advertising is related less to the size of firm and more to industry; firms that produce branded goods advertise more. Thus advertising is more common in metal goods, machinery, electricals and electronics. Electronics firms in particular, which operate in a highly competitive national market, are frequent advertisers.

After-sales service is an ambiguous variable. The availability of after-sales service is a selling point; but a good product will require less after-sales service. This too is a variable that is related to industry rather than size (Table 3.1.51-52). After-sales service is most common in electronics, where products are subject to frequent breakdown; prompt after-sales service is a selling point in this industry. It is also common in metal goods, machinery and electricals; less so in vehicle ancillaries which, once they are embodied in vehicles, cease to be their manufacturers' responsibility.

*H. Credit*

Credit ranks as the most pressing concern of the small firms. 51 per cent mentioned it as a problem; and 26 per cent mentioned its availability as a specific problem (Table 3.1.51-52). It pinched the larger firms somewhat less; a lower proportion of them felt it was major problem, but more of them complained of its unavailability. Fewer producers of food products were concerned about credit; but it seemed to be a common problem for all other industries. Small firms both receive and give heavy credit. Almost a quarter of them give credit for over 2 months; and over a half give credit for more than a month (Table 3.1.55-56). Long credit is unknown in food products. In apparel also it is unknown; the exporters can discount letters of credit with banks as soon as the goods are shipped, and so have to give very little credit. Both these industries also have low levels of inventory (Table 3.1.62) - food products because the products of many firms are perishable, and apparel because the firms manufacture on order. But in all other industries, long credit is common; in vehicle ancillaries especially, the customer firms require very long

credit.

This entails considerable borrowing by the firms: their borrowings exceed 60 per cent of sales for 37 per cent of the firms, and 30 per cent of sales for 59 per cent of the firms (Table 3.1.59-60). Firms with 10-39 workers have higher borrowings-sales ratios than larger firms. The debt burden is particularly high in industries producing equipment - machinery, electricals, vehicle ancillaries and electronic equipment.

Banks are the most common source of funds, lending to over three-quarters of the firms. SFCs and SIDCs lent to over a quarter of the firms; 18 per cent had other sources of credit. Larger firms seem to have a slightly broader access to credit. Apparel manufacturers did not borrow at all from SFCs. SFCs lend against property and machinery, in which apparel manufacturers invest little. Besides, they get quick credit against export orders, and their high profits make them less dependent on credit. Few manufacturers of food products borrow from SFCs either; we think this reflects the slow level of activity of the SFC in Goa rather than an industry characteristic. Apart from food products and apparel, all other industries show similar patterns of dependence on banks, SFCs and other lenders.

Banks and SFCs have distinct spheres of operation and lending practices. SFCs give long-term loans against fixed assets. 86 per cent of the firms had got loans for more than five years from them; except for food products and metal products, SFC loans to all firms in other industries were long-term loans over five years (Table 3.1.65-66). SFC loans were mortgage loans with property, or less often, machinery as collateral; except for vehicle ancillaries, firms in no industry had got SFC loans against inventories (Table 3.1.67-68). Thus SFC lending is designed to finance long-term fixed investment.

Bank loans are generally automatically renewed and hence in effect become long-term loans; but they are conceived as short-term loans, and are of shorter duration than SFC loans. And whilst they are often given against fixed assets, the commonest collateral for them is inventories. SFCs are intended to take care of small firms' long-term needs, whereas banks look after their short-term requirements of working capital.

However, a substantial minority of firms felt that credit supply was inadequate. Only 13 per cent complained about the cost of credit, and most of them were in the smallest size class. For them too, the high perceived cost of credit may be only a reflection of low profitability, which would make all costs appear high.

The complaints about the availability of credit may seem surprising in view of the fact that 76 per cent of the firms borrowed from the banks, 28 per cent from official institutions (mainly the State Finance Corporations) and 18 per cent from other institutions (Table 3.1.57-58). This question was probed in detail in some of the interviews, and some respondents felt strongly enough to write to us after the interviews. Most of the responses related to banks, so we shall first refer to them.

Most of the bank credit is given in the form of overdrafts, whose limits are periodically reviewed. Generally speaking, the limits are renewed unless the borrower asks for a change or the bank decides to make one. At the same time, the limits cannot fully conform to the borrower's needs for a number of reasons. First, the overall credit policy. On macroeconomic grounds, the Reserve Bank may ask the banks to increase or decrease credit, and the bank's central management translates these directives into changes in the overall advances their branches are authorized to give. Second, there are directives from the Reserve Bank or from the managements to the branches to increase or decrease credit to a particular sector, such as trade, small-scale industry, backward castes, etc. Finally, the branch manager may exercise his judgement about the risk involved in financing a particular borrower and decide to lend him more or to reduce or call back the loan. The combination of all these factors leads to fluctuations in credit to individual borrowers which seem to them arbitrary and unpredictable.

The respondents stressed the drastic effects of sudden cuts in credit line. Production in engineering industries is often for others; a cut in credit can result in failure to deliver, and may actually increase credit requirements by leading to accumulation of raw materials and work in progress. If the loss of orders is serious, it may lead to retrenchment; and if it leads to a loss of customers' confidence, it can lead to industrial sickness and bankruptcy. One respondent even claimed that banks were the major cause of sickness in small firms.

When a firm is going to fail, the creditor who

withdraws his credit first is likely to recover the most; it is thus the duty of a bank manager to withdraw loans early from a firm at risk, even though that may hasten its demise. Whether most of the forced cuts in credit lines were based on the bank managers' business judgement, or on the other factors we enumerated above, could not be ascertained in this survey of borrowers. But evidently there are certain features of the Indian credit structure which accentuate the effects on firms of banks' lending decisions.

First, Indian government policies regulate not just the quality of credit, but its allocation to various classes in detail; and from time to time there are sudden political decisions to favour one class of borrowers or other, which can only be done at the expense of existing borrowers. Second, the government strictly regulates the public borrowings of all institutions other than banks. The taking of deposits by companies, the issue of shares and debentures, the opening of new banks or credit institutions, all require government permission; and new banks are simply not allowed to emerge or grow. So except for a modicum of competition they encounter from chit funds and leasing companies, the banks are privileged recipients of private savings; they have thus also become the dominant source of loans to business. Third, this monopoly of the banks *vis-a-vis* firms is reinforced by the rule the banks seek to enforce that every firm must borrow from only one bank. The rule is not very rigorously enforced; the number of bank accounts of small firms is so large that many of them must be holding multiple accounts (cf Table 6.1). The rule is also often circumvented by multiplying the number of firms under the same management - another reason for the proliferation of firms. But the banks' preference for being the only supplier of credit to a small firm does make the firms more vulnerable to banks' lending policies. The intention behind the preference is to prevent credit transfers between bank accounts designed to conceal the financial weakness of the firm. But the rule also has the unintended, and often drastic effect, that when the credit line of a firm is cut, it cannot have recourse to another bank.

We cannot judge the overall seriousness of the complaints of our respondents. However, we got the feeling that the banks' capricious policies affected a very small proportion of firms, but that those firms were drastically affected. And if, as some of our respondents alleged, the banks' policies lead to sickness, it is a serious problem indeed, and calls for a deeper analysis.

The complaints about the State Finance Corporations were more localized; most of them concerned corruption in one particular SFC. Surveys such as ours are never a good indicator of malpractices, for malpractices are reported only when they are inconvenient to the respondents, which may well be in only a fraction of the cases where corruption is involved. But we think that the SFCs face greater danger in this regard for two reasons. First, they specialize in relatively large loans given at inception for fixed assets. The quality of a borrower with no production experience and hence no track record is particularly difficult to judge. Second, it is not uncommon for promoters of business firms, especially those that borrow from portfolio investors, to ask the suppliers of equipment and property to over-invoice and to pass on the difference to the promoters. It may well be that corrupt officials in effect take a cut from this unethical commission appropriated by the promoters - and in some cases to ask for one even where the promoters are not cheating the firm. And finally, the SFCs are in even more of a monopoly position than the banks. There is only one SFC in each state. And large loans at inception are a form of business in which other financial institutions would not like to compete.

Initial capital for new businesses is a problem in India, as it tends to be everywhere, and we are not sure that SFCs are a good solution to it. Greater competition, and greater diversity in the forms of lending would help; in particular, the availability of venture capital. Perhaps the expansion of the merchant banking activities of banks would be a good interim solution. But greater diversification of financial intermediaries is the real need, and it is impossible without deregulation of the financial sector.

### *I. Labour*

Labour-related problems concerned fewer firms than either market- or credit-related problems. A third of the firms said that labour problems affected either their profits or their growth (Table 3.1.71-72). We tried to distinguish between the two effects, and to find out whether labour problems raised costs or placed an absolute

limit to growth - just as we tried to distinguish between the unavailability and the cost of credit. The answers were mixed, and the firms did not always make the same distinction. A firm may feel that the market wage was too high, or that workers were not available at a wage it could afford: either interpretation could be placed on the same facts.

To get closer to what labour problems meant, we distinguished between five types of problems - unavailability, high labour turnover, low productivity, strikes and absenteeism - and four types of workers - technicians, salaried or white-collar workers, skilled and unskilled workers. Most complaints were about unavailability, low productivity and absenteeism; few about turnover or strikes.

The most frequent complaints were about skilled workers (Table 3.1.77-78). The smaller firms complained about their unavailability, the larger firms about their low productivity and high turnover, and both complained about their absenteeism; strikes were the least of problems. Manufacturers of food products and vehicle ancillaries had relatively fewer complaints; both have a relatively lower proportion of skilled workers (Table 3.1.15-16). Firms in electricals also had few complaints. But for firms in the remaining industries, skilled workers posed the most serious labour-related problems.

Skill formation is a weak point of Indian industry. There are fairly extensive facilities for the training of technicians. But skilled workers continue to acquire skills on the job, and are not keen to train competitors. As a result there is a shortage of skilled workers, and the competition for them raises labour turnover. The high level of absenteeism is an indicator of moonlighting.

Next to skilled workers, the most frequent complaints were about technicians (Table 3.1.73-74). Here too, concern was most frequently expressed about unavailability and low productivity. But there were fewer complaints of high turnover or absenteeism; technicians were apparently less subject to the kind of instability - frequent change of jobs and moonlighting - that skilled workers were. For both technicians and skilled workers, the larger firms complained less often of unavailability and low productivity; by paying higher wages, the larger firms acquired technicians and skilled workers more easily, and probably also acquired more experienced and productive ones. But they were just as prone to high turnover and absenteeism amongst skilled workers as the smaller ones. Complaints about technicians were common only in industries which employed them in significant numbers - metal products, machinery and electronics.

There were some complaints of absenteeism and low productivity amongst unskilled workers, but very few of high turnover or unavailability; the firms bear out the general impression of a surplus of unskilled labour (Table 3.1.79-80). Complaints of strikes were the commonest about unskilled workers amongst all types; but only 5 per cent of the firms, almost all from the metal products industry, made the complaint.

The least complaints were made about salaried workers (Table 3.1.75-76). They were available, their turnover was low, there was hardly much complaint about their low productivity, and they hardly ever struck work. Some firms, especially the smaller ones in metal products and machinery, complained about absenteeism amongst salaried workers; but the proportion of dissatisfied firms even on this count was only 10 per cent.

### *J. Conclusions*

Production and marketing engage much of managerial effort in the small and medium firms surveyed by us, and absorb the bulk of scarce managerial time. Problems with credit are in part a byproduct of the major concerns with markets and supplies; the problems are not so much with the cost of credit, or even its absolute availability, but with its inflexibility, and especially with the fact that bank credit is not available when it is required, and is occasionally even withdrawn when it is most necessary. The credit problems are exacerbated by the lack of alternative sources, and by certain institutional practices like discouraging firms from borrowing from a number of banks.

By comparison, the supply of technology is seen to be a less pressing problem, though this may be because external pressure to improve technology is low. Labour problems are also seen not to be critical; they are confined mostly to skilled and trained labour, and reflect its scarcity.

## IV PERFORMANCE, OUTLOOK AND CONSTRAINTS

Which firms succeed, and which fail? What factors condition their success or failure? These are the questions that we wish to address in this section. There is, however, a difficulty at the outset, namely how to define success. Our preference was for an objective definition. For large corporate enterprises in India, the profit margin (i.e. the ratio of profits to sales) turns out to be the best predictor of long-run success. Most of the firms studied by us are, however, unincorporated; there is no distinction within them between profits as a surplus and as the personal income of their proprietors. Apart from this, it would have been impossible to obtain from them any consistent, mutually comparable estimates of profit. Hence we opted for growth - the average annual rate of growth over the past five years - as an indicator of success.

However, we encountered a significant minority of firms in whose case the growth rate would have been misleading as an indicator of success. There were firms which were less than five years old, and could not furnish a comparable figure. Calculating the growth rate for them for a smaller number of years did not help, for one inevitably gets extraordinarily high rates of growth in the early years of a firm starting from a small base. Then there were firms that declared that their sales had fallen. In the case of some of them there was reason to believe that their recall of sales five years before was faulty, or that their information was inaccurate. In any case, we did not feel we could confidently define a class of firms whose sales had declined. So we lumped them together with new firms and firms for which the growth rate could not be calculated, and created a residual class. The rest of the firms were divided into three classes: the superfast growers (SF) whose sales rose at over 20 per cent per annum, the fast growers (F) with growth rates in the 11-20 per cent range, and the slow growers (S) with growth rates between 0 and 10 per cent.

However, amongst the firms that had done badly we found a number that felt that they had not failed: that their poor growth was due to passing conditions and that they would do well in the future. Conversely there were firms that had grown fast but which felt that they would not continue to do so because of constraints. So we felt that another, more subjective criterion of success was necessary. To create it we asked the firms two questions: Did they want to expand? And could they expand? Those that did not want to expand we shall call pessimists (P). Amongst those that did want to expand, there were two classes. Those that also felt they could expand, we shall call optimists (O). Those that wanted to expand but felt they could not, we shall call constrained optimists (CO). Tabulations of various variables against the two concepts of success - the growth rate and the outlook - are given in Table 4.1 at the end of this section. (Incidentally, the figures in Table 4.1 refer only to firms employing 10-99 workers.)

It will be seen that there is a relationship between the concepts, but not a very close one. Pessimists are more heavily represented amongst the firms with low growth rates, but there is little difference in the distributions of optimists and constrained optimists (Table 4.1.7-10); in other words, the difference between optimists and constrained optimists arises less from their growth experience, and more from their environment. This fact can be illustrated by a comparison of industries (Table 4.1.1-2) The growth of the food industry - i.e., the fishing industry in Goa - was very rapid; this is reflected in the growth distribution of firms. But the firms are overwhelmingly pessimistic about the future owing to dangers of over-fishing and emerging competition from shrimp farming in Taiwan. In metal products, machinery and electricals, the firms tend to be optimistic despite the fact that their growth rates are not very high. Auto ancillaries are the only industry in which optimism coincides with high past growth.

The same contradictions are to be seen in the distributions for different cities (Table 4.1.3-4) Firms in Hyderabad and Calcutta tend to be optimistic above average despite the fact that their growth rates are nothing to boast about; firms in Poona and Goa, on the other hand, have a very good growth record that is not reflected in their outlook.

TABLE 4.1. GROWTH PERFORMANCE AND OUTLOOK

| (1) | SF (2) | F (3) | S (4) | R (5) | T (6) | O (7) | CO (8) | P (9) |
|---|---|---|---|---|---|---|---|---|
| **Number of firms** | 35 | 57 | 45 | 49 | 186 | 112 | 46 | 28 |
| **Per cent of firms** | 19 | 31 | 24 | 26 | 100 | 60 | 24 | 16 |
| | TABLE 4.1.1. (per cent of total) | | | | | TABLE 4.1.2. (per cent of total) | | |
| **Industry** | | | | | | | | |
| Food | 20 | 11 | 7 | 6 | 10 | 4 | 15 | 25 |
| Garments | 6 | 9 | 2 | 16 | 9 | 5 | 15 | 11 |
| Metal products | 22 | 23 | 22 | 31 | 25 | 30 | 20 | 14 |
| Machinery | 17 | 23 | 22 | 17 | 20 | 26 | 9 | 17 |
| Electricals | 9 | 4 | 7 | 8 | 7 | 9 | 3 | 4 |
| Electronics | 9 | 25 | 38 | 10 | 22 | 13 | 38 | 25 |
| Auto ancillaries | 17 | 5 | 2 | 12 | 9 | 13 | 0 | 4 |
| | TABLE 4.1.3. (per cent of total) | | | | | TABLE 4.1.4. (per cent of total) | | |
| **City** | | | | | | | | |
| Hyderabad | 31 | 22 | 31 | 41 | 31 | 41 | 16 | 18 |
| Madras | 6 | 25 | 29 | 8 | 18 | 12 | 34 | 21 |
| Poona | 17 | 18 | 9 | 6 | 13 | 13 | 9 | 14 |
| Bangalore | 9 | 9 | 9 | 17 | 11 | 7 | 20 | 11 |
| Calcutta | 3 | 11 | 11 | 14 | 10 | 14 | 7 | 4 |
| Goa | 20 | 11 | 7 | 6 | 10 | 4 | 16 | 25 |
| Ahmedabad | 4 | 4 | 4 | 8 | 7 | 9 | 8 | 7 |
| | TABLE 4.1.5. (per cent of total) | | | | | TABLE 4.1.6. (per cent of total) | | |
| **Expected growth rate** | | | | | | | | |
| Over 25% per annum | 63 | 44 | 33 | 47 | 46 | 55 | 35 | 25 |
| 1-25% | 37 | 56 | 67 | 33 | 49 | 40 | 59 | 68 |
| 0 or less or indeterminate | 0 | 0 | 0 | 20 | 5 | 5 | 6 | 7 |
| | TABLE 4.1.7. (per cent of total) | | | | | TABLE 4.1.8. (per cent of total) | | |
| **Growth rate over past 5 years** | | | | | | | | |
| Over 20% per annum | 100 | 0 | 0 | 0 | 19 | 20 | 24 | 7 |
| 11-20% | 0 | 100 | 0 | 0 | 31 | 32 | 28 | 29 |
| 1-10% | 0 | 0 | 100 | 0 | 24 | 24 | 22 | 29 |
| 0 or less or indeterminate | 0 | 0 | 0 | 100 | 26 | 24 | 26 | 35 |
| | TABLE 4.1.9. (per cent of total) | | | | | TABLE 4.1.10. (per cent of total) | | |
| **Outlook** | | | | | | | | |
| Optimists | 63 | 63 | 60 | 55 | 60 | 100 | 0 | 0 |
| Constrained optimists | 31 | 28 | 22 | 24 | 25 | 0 | 100 | 0 |
| Pessimists | 6 | 9 | 12 | 21 | 15 | 0 | 0 | 100 |
| | TABLE 4.1.11. (per cent of total) | | | | | TABLE 4.1.12. (per cent of total) | | |
| **Year of establishment** | | | | | | | | |
| Before 1970 | 17 | 21 | 38 | 20 | 24 | 24 | 20 | 32 |
| 1970-79 | 31 | 53 | 47 | 22 | 39 | 38 | 46 | 32 |
| 1980 and after | 52 | 26 | 15 | 58 | 37 | 38 | 24 | 36 |
| | TABLE 4.1.13. (per cent of total) | | | | | TABLE 4.1.14. (per cent of total) | | |
| **Organization of the firm** | | | | | | | | |
| Proprietary | 11 | 16 | 11 | 16 | 14 | 5 | 26 | 29 |
| Family | 9 | 0 | 4 | 8 | 5 | 7 | 0 | 3 |
| Partnership | 23 | 46 | 44 | 41 | 40 | 36 | 48 | 43 |
| Private limited company | 49 | 35 | 38 | 18 | 35 | 43 | 22 | 25 |
| Public limited company | 8 | 3 | 3 | 13 | 6 | 9 | 4 | 0 |
| | TABLE 4.1.15. (per cent of total) | | | | | TABLE 4.1.16. (per cent of total) | | |
| **Number of educated managers** | | | | | | | | |
| None | 20 | 19 | 30 | 31 | 23 | 14 | 37 | 41 |
| 1-2 | 34 | 40 | 38 | 39 | 38 | 39 | 33 | 37 |
| 3 and more | 46 | 31 | 42 | 30 | 39 | 47 | 30 | 23 |

*(contd.)*

TABLE 4.1. (CONTD.)

| (1) | SF (2) | F (3) | S (4) | R (5) | T (6) | O (7) | CO (8) | P (9) |
|---|---|---|---|---|---|---|---|---|
| | TABLE 4.1.17. (per cent of total) | | | | | TABLE 4.1.18. (per cent of total) | | |
| **Proportion of salaried employees** | | | | | | | | |
| None | 49 | 60 | 47 | 33 | 47 | 32 | 76 | 63 |
| 1-10% | 11 | 11 | 18 | 14 | 13 | 13 | 9 | 23 |
| 11-20% | 14 | 14 | 18 | 28 | 19 | 24 | 13 | 5 |
| Over 20% | 26 | 15 | 17 | 25 | 21 | 31 | 2 | 9 |
| | TABLE 4.1.19. (per cent of total) | | | | | TABLE 4.1.20. (per cent of total) | | |
| **Value added per worker** | | | | | | | | |
| Up to Rs 50,000 a year | 37 | 44 | 33 | 41 | 39 | 31 | 48 | 61 |
| Rs 51,000-100,000 | 17 | 30 | 31 | 14 | 24 | 26 | 24 | 24 |
| Rs 101,000-200,000 | 17 | 14 | 24 | 10 | 16 | 19 | 9 | 18 |
| Over Rs 200,000 | 23 | 11 | 7 | 4 | 10 | 14 | 4 | 3 |
| Unknown | 6 | 2 | 4 | 31 | 11 | 11 | 15 | 3 |
| | TABLE 4.1.21. (per cent of total) | | | | | TABLE 4.1.22. (per cent of total) | | |
| **Sales** | | | | | | | | |
| Rs 1-900,000 | 29 | 35 | 16 | 29 | 27 | 21 | 33 | 43 |
| Rs 900,000-2.7 million | 14 | 19 | 27 | 33 | 24 | 24 | 26 | 9 |
| Rs 2.7-8.1 million | 31 | 30 | 40 | 16 | 29 | 31 | 17 | 40 |
| Over Rs 8.1 million | 26 | 16 | 18 | 4 | 15 | 19 | 15 | 0 |
| Not known | 0 | 0 | 0 | 18 | 5 | 4 | 9 | 0 |
| | TABLE 4.1.23. (per cent of total) | | | | | TABLE 4.1.24. (per cent of total) | | |
| **Multiple units for same product** | | | | | | | | |
| No | 100 | 89 | 84 | 96 | 92 | 95 | 87 | 91 |
| Yes | 0 | 11 | 16 | 4 | 8 | 5 | 13 | 9 |
| | TABLE 4.1.25. (per cent of total) | | | | | TABLE 4.1.26. (per cent of total) | | |
| **Frequency of advertising** | | | | | | | | |
| None | 31 | 36 | 64 | 55 | 53 | 44 | 67 | 64 |
| 1-2 times a year | 17 | 14 | 11 | 16 | 15 | 19 | 9 | 4 |
| 3-10 times a year | 11 | 14 | 13 | 12 | 13 | 18 | 4 | 7 |
| Over 10 times a year | 23 | 9 | 7 | 10 | 11 | 16 | 4 | 4 |
| | TABLE 4.1.27. (per cent of total) | | | | | TABLE 4.1.28. (per cent of total) | | |
| **Is technology a problem?** | | | | | | | | |
| No | 81 | 77 | 78 | 80 | 80 | 83 | 70 | 89 |
| Yes | 19 | 23 | 22 | 20 | 20 | 17 | 30 | 11 |
| | TABLE 4.1.29. (per cent of total) | | | | | TABLE 4.1.30. (per cent of total) | | |
| **Need for more or better technology** | | | | | | | | |
| None | 34 | 51 | 53 | 51 | 48 | 42 | 52 | 68 |
| Yes | 66 | 49 | 47 | 49 | 52 | 58 | 48 | 34 |
| | TABLE 4.1.31. (per cent of total) | | | | | TABLE 4.1.32. (per cent of total) | | |
| **Sought imported technology** | | | | | | | | |
| No | 80 | 91 | 98 | 92 | 91 | 88 | 93 | 97 |
| Yes | 20 | 9 | 2 | 8 | 9 | 12 | 7 | 13 |
| | TABLE 4.1.33. (per cent of total) | | | | | TABLE 4.1.34. (per cent of total) | | |
| **Buyers - overall** | | | | | | | | |
| Large firms | 66 | 65 | 76 | 61 | 65 | 68 | 63 | 54 |
| Government | 54 | 32 | 44 | 45 | 42 | 50 | 26 | 39 |
| Small firms | 37 | 42 | 29 | 41 | 38 | 41 | 43 | 18 |
| Wholesalers | 23 | 21 | 24 | 27 | 24 | 24 | 20 | 28 |
| Retailers | 20 | 19 | 13 | 22 | 19 | 17 | 22 | 22 |
| Final consumers | 17 | 7 | 7 | 6 | 9 | 11 | 7 | 4 |
| Exports | 11 | 13 | 9 | 4 | 9 | 11 | 9 | 3 |

*(contd.)*

TABLE 4.1. (CONTINUED)

| (1) | SF (2) | F (3) | S (4) | R (5) | T (6) | O (7) | CO (8) | P (9) |
|---|---|---|---|---|---|---|---|---|
| | TABLE 4.1.35. (per cent of total) | | | | | TABLE 4.1.36. (per cent of total) | | |
| **Buyers - local** | | | | | | | | |
| Direct sales | 51 | 54 | 58 | 53 | 54 | 63 | 43 | 36 |
| Wholesalers | 14 | 12 | 18 | 12 | 14 | 13 | 15 | 14 |
| Retailers | 14 | 14 | 7 | 12 | 12 | 15 | 7 | 7 |
| Commission agents | 9 | 11 | 7 | 16 | 11 | 11 | 9 | 14 |
| Buyback | 3 | 7 | 2 | 12 | 6 | 4 | 13 | 7 |
| | TABLE 4.1.37. (per cent of total) | | | | | TABLE 4.1.38. (per cent of total) | | |
| **Buyers - regional** | | | | | | | | |
| Direct sales | 37 | 32 | 44 | 43 | 39 | 51 | 22 | 18 |
| Commission agents | 17 | 9 | 9 | 12 | 11 | 12 | 9 | 14 |
| Wholesalers | 11 | 4 | 11 | 12 | 9 | 12 | 9 | 0 |
| Retailers | 6 | 5 | 4 | 2 | 5 | 7 | 0 | 0 |
| Buyback | 0 | 2 | 2 | 4 | 2 | 2 | 4 | 0 |
| | TABLE 4.1.39. (per cent of total) | | | | | TABLE 4.1.40. (per cent of total) | | |
| **Buyers - national** | | | | | | | | |
| Direct sales | 40 | 40 | 58 | 31 | 42 | 53 | 30 | 18 |
| Commission agents | 11 | 14 | 11 | 6 | 11 | 11 | 11 | 11 |
| Wholesalers | 11 | 6 | 7 | 10 | 8 | 9 | 9 | 3 |
| Retailers | 6 | 5 | 0 | 2 | 3 | 4 | 2 | 0 |
| Buyback | 0 | 2 | 2 | 4 | 2 | 2 | 4 | 0 |
| | TABLE 4.1.41. (per cent of total) | | | | | TABLE 4.1.42. (per cent of total) | | |
| **Buyers - abroad** | | | | | | | | |
| Direct sales | 3 | 11 | 4 | 0 | 5 | 7 | 2 | 0 |
| Agents | 14 | 2 | 4 | 4 | 6 | 4 | 9 | 3 |
| | TABLE 4.1.43. (per cent of total) | | | | | TABLE 4.1.44. (per cent of total) | | |
| **Suppliers** | | | | | | | | |
| Large firms | 51 | 37 | 44 | 53 | 46 | 51 | 37 | 39 |
| Small firms | 54 | 37 | 47 | 39 | 43 | 37 | 33 | 43 |
| Wholesalers | 34 | 49 | 38 | 41 | 39 | 46 | 30 | 20 |
| Retailers | 23 | 30 | 33 | 22 | 29 | 31 | 24 | 20 |
| Imports | 23 | 21 | 7 | 10 | 15 | 21 | 7 | 3 |
| | TABLE 4.1.45. (per cent of total) | | | | | TABLE 4.1.46. (per cent of total) | | |
| **Number of months' credit given** | | | | | | | | |
| 0 | 11 | 16 | 9 | 16 | 13 | 13 | 7 | 28 |
| Up to 1 month | 23 | 14 | 18 | 8 | 15 | 18 | 7 | 18 |
| 1-2 months | 11 | 16 | 20 | 20 | 17 | 16 | 17 | 21 |
| 2-3 months | 26 | 17 | 29 | 16 | 22 | 23 | 26 | 7 |
| Over 3 months | 23 | 30 | 22 | 20 | 24 | 25 | 27 | 18 |
| | TABLE 4.1.47. (per cent of total) | | | | | TABLE 4.1.48. (per cent of total) | | |
| **Ratio of borrowings to sales** | | | | | | | | |
| 0-0.3 | 34 | 44 | 33 | 22 | 34 | 30 | 39 | 39 |
| 0.3-0.6 | 17 | 19 | 33 | 16 | 22 | 22 | 22 | 18 |
| 0.6-1.0 | 23 | 16 | 20 | 12 | 17 | 19 | 20 | 7 |
| Over 1.0 | 20 | 16 | 9 | 32 | 19 | 21 | 9 | 29 |
| | TABLE 4.1.49. (per cent of total) | | | | | TABLE 4.1.50. (per cent of total) | | |
| **Ratio of inventories to sales** | | | | | | | | |
| 0-0.1 | 20 | 21 | 24 | 18 | 21 | 14 | 28 | 36 |
| 0.1-0.2 | 34 | 23 | 24 | 10 | 22 | 24 | 17 | 21 |
| 0.2-0.3 | 11 | 32 | 22 | 12 | 20 | 29 | 17 | 11 |
| | TABLE 4.1.51. (per cent of total) | | | | | TABLE 4.1.52. (per cent of total) | | |
| **Financial constraint** | | | | | | | | |
| Facing shortage of finance | 66 | 44 | 49 | 51 | 51 | 49 | 67 | 32 |

*(contd.)*

TABLE 4.1. (CONCLD.)

| (1) | SF (2) | F (3) | S (4) | R (5) | T (6) | O (7) | CO (8) | P (9) |
|---|---|---|---|---|---|---|---|---|
| | TABLE 4.1.53. (per cent of total) | | | | | TABLE 4.1.54. (per cent of total) | | |
| **Labour problems - technicians** | | | | | | | | |
| Unavailability | 17 | 18 | 7 | 18 | 15 | 20 | 7 | 11 |
| Low productivity | 9 | 11 | 20 | 16 | 14 | 20 | 7 | 5 |
| Absenteeism | 11 | 18 | 2 | 16 | 12 | 15 | 9 | 7 |
| High turnover | 9 | 4 | 7 | 12 | 8 | 7 | 9 | 7 |
| Slowness | 0 | 7 | 2 | 4 | 5 | 6 | 0 | 7 |
| Strikes | 0 | 2 | 2 | 2 | 2 | 3 | 0 | 0 |
| | TABLE 4.1.55. (per cent of total) | | | | | TABLE 4.1.56. (per cent of total) | | |
| **Labour problems - other salaried** | | | | | | | | |
| Absenteeism | 6 | 9 | 16 | 12 | 10 | 12 | 4 | 14 |
| Low productivity | 6 | 0 | 13 | 4 | 5 | 8 | 2 | 0 |
| High turnover | 6 | 2 | 9 | 0 | 4 | 4 | 2 | 7 |
| Unavailability | 6 | 4 | 0 | 4 | 3 | 3 | 4 | 5 |
| Slowness | 0 | 5 | 2 | 4 | 3 | 3 | 7 | 4 |
| Strikes | 0 | 0 | 2 | 2 | 1 | 2 | 0 | 0 |
| | TABLE 4.1.57. (per cent of total) | | | | | TABLE 4.1.58. (per cent of total) | | |
| **Labour problems - skilled workers** | | | | | | | | |
| Absenteeism | 11 | 30 | 27 | 29 | 25 | 23 | 30 | 20 |
| Unavailability | 17 | 25 | 11 | 22 | 19 | 21 | 15 | 18 |
| Low productivity | 9 | 14 | 11 | 22 | 14 | 19 | 9 | 7 |
| High turnover | 9 | 11 | 16 | 18 | 13 | 14 | 13 | 18 |
| Slowness | 3 | 9 | 2 | 10 | 6 | 8 | 2 | 7 |
| Strikes | 0 | 2 | 7 | 6 | 4 | 5 | 0 | 3 |
| | TABLE 4.1.59. (per cent of total) | | | | | TABLE 4.1.60. (per cent of total) | | |
| **Labour problems - unskilled workers** | | | | | | | | |
| Absenteeism | 23 | 32 | 22 | 27 | 26 | 25 | 28 | 23 |
| Low productivity | 18 | 14 | 9 | 10 | 12 | 13 | 11 | 14 |
| Slowness | 6 | 18 | 9 | 12 | 12 | 14 | 4 | 14 |
| Strikes | 6 | 2 | 7 | 6 | 5 | 7 | 2 | 0 |
| High turnover | 6 | 0 | 11 | 4 | 5 | 4 | 7 | 4 |
| Unavailability | 6 | 4 | 2 | 4 | 4 | 5 | 0 | 3 |
| | TABLE 4.1.61. (per cent of total) | | | | | TABLE 4.1.62. (per cent of total) | | |
| **Effect of labour problems** | | | | | | | | |
| Lower profits | 9 | 7 | 9 | 18 | 11 | 13 | 4 | 14 |
| Slower growth | 0 | 7 | 11 | 12 | 8 | 8 | 11 | 0 |
| | TABLE 4.1.63. (per cent of total) | | | | | TABLE 4.1.64. (per cent of total) | | |
| **Incentives significant now** | | | | | | | | |
| Bank loans | 31 | 32 | 33 | 26 | 31 | 30 | 33 | 29 |
| Excise concessions | 23 | 37 | 36 | 18 | 31 | 30 | 33 | 29 |
| Government purchases | 9 | 12 | 20 | 8 | 12 | 13 | 11 | 14 |
| SFC loans | 6 | 11 | 18 | 6 | 10 | 9 | 15 | 7 |
| Material inputs | 6 | 14 | 2 | 12 | 9 | 10 | 4 | 14 |
| Technical support | 0 | 5 | 7 | 6 | 5 | 8 | 0 | 0 |
| Marketing assistance | 0 | 2 | 2 | 8 | 3 | 3 | 2 | 7 |
| Reservation | 0 | 4 | 0 | 2 | 2 | 3 | 0 | 0 |
| | TABLE 4.1.65. (per cent of total) | | | | | TABLE 4.1.66. (per cent of total) | | |
| **Incentives initially significant** | | | | | | | | |
| Bank loans | 20 | 19 | 27 | 24 | 23 | 26 | 22 | 11 |
| Excise concessions | 24 | 19 | 24 | 12 | 19 | 18 | 20 | 20 |
| SFC loans | 23 | 9 | 22 | 6 | 14 | 12 | 22 | 11 |
| Government purchases | 6 | 12 | 11 | 4 | 9 | 10 | 7 | 7 |
| Material inputs | 3 | 9 | 2 | 10 | 6 | 8 | 2 | 7 |
| Technical support | 0 | 4 | 2 | 4 | 3 | 4 | 0 | 0 |
| Marketing assistance | 0 | 2 | 0 | 6 | 3 | 3 | 2 | 7 |
| Reservation | 0 | 2 | 0 | 2 | 2 | 2 | 2 | 0 |

Note: The column headings stand for the following:
SF - Firms that experienced superfast growth - exceeding 20 per cent per annum - in the past five years.
F - Firms that experienced fast growth - 11-20 per cent per annum.
S - Firms that experienced slow growth - 1-10 per cent per annum.
R - Remaining firms, being firms that experienced negative growth, firms less than 5 years old, and firms for which the necessary data are not available.
T - All firms.
O - Optimists - firms that can and want to grow.
CO - Constrained optimists - firms which want to grow but cannot.
P - Pessimists - firms that neither can nor want to grow.
Source: ICRIER survey of small firms.

However, the contradiction between performance and outlook may not be entirely due to differences in the circumstances of the firms, but also due to a conditioning of their expectations by their experience: the firms that grew faster tend to set higher standards of performance for themselves. This can be seen in the tabulations against the growth expected by the firms in the next five years (Table 4.1.5-6). There is a fairly high degree of association between the past and the expected growth rates. The expected growth rate also correlates well with optimism, but there are nevertheless many optimists with modest expected growth rates, and many pessimists and constrained optimists expecting growth over 25 per cent a year.

There is also a relationship between success in both the senses and the age of firms (Table 4.1.11-12): older firms tend to grow more slowly, and conversely, fast-growing firms are better represented amongst the newer firms. Similarly, more of the newer firms tend to be optimistic. As we pointed out at the beginning of this section, new firms tend to show high growth rates simply because they start from a low base. But this reasoning cannot apply beyond a certain age: there is no reason, for instance, why firms founded before 1970 should grow less fast, or be more pessimistic, than those founded in 1970-79. That they do may be due to the Marshallian decline of the spirit of enterprise as the founder who struggled to set up a firm is succeeded by an heir who is not trained in the school of hardship. It may also be that firms grow as they age, and that they suffer from the disadvantages of size noted in Section I, notably high wages and capital-intensity. But our data do not show size to be negatively related to indicators of success (Table 4.1.21-22). Larger firms tend to be more optimistic; and they are certainly well represented amongst the fastest-growing firms. Thus we would tend to attribute the slowing down of older firms to fossilization of management rather than to diseconomies of scale.

### *A Success and Quality of Management*

More generally, the type of management is seen to be closely related to the success indicators. Fewer of the superfast growers and the optimists are to be found amongst proprietary firms and partnerships, and more of them amongst private and public limited companies and family firms (Table 4.1.13-14). The disadvantage of proprietary and partnership forms of organization is also brought out by the fact that they are heavily represented amongst constrained optimists and pessimists. Herein lies a major weakness of Indian firms, small and large. Most of them are started by individuals, and there is a strong tradition that sons should follow fathers as proprietors. Children find preferential employment in their fathers' firms. The result is that the chances of achieving responsibility and authority depend considerably on an employee's relationship with the proprietor, and it is difficult for a small firm to attract managers of ability since they cannot be certain of equal treatment with family members.

The difficulty of recruiting good but unrelated managers means that a numerous family has a better supply of managers. This is seen in Table 4.1.13-14: family firms are well represented amongst the successful firms. A proprietor with many sons is well endowed with potential managerial manpower; the size of an individual proprietor's firm may, on the other hand, be constrained by his lack of family members to help him. He could take partners in lieu of sons. But partners also have sons who can cause conflicts of interest amongst them; so partnerships do not work much better than proprietorships. The only solution, if a small firm is to avoid a managerial constraint to its growth, is to set up professional management in which family members are given no undue preference. This is one of the factors behind the better performance of private and public limited companies. It is not the only factor. Amongst other things, it is easier for companies to attract outside capital; banks also prefer borrowing firms to be incorporated once they grow beyond a certain size. Nor is the management of companies always very different from that of partnerships; in particular, private limited companies are often proprietorships or partnerships under a different guise. But incorporation is a step towards the professionalization of management.

Another important indicator of the quality of management is the number of qualified managers;

firms with three or more educated managers are distinctly better represented amongst the superfast growers and the optimists, and those with no educated managers amongst the slow growers, the constrained optimists and the pessimists (Table 4.1.15-16). Let us recall our conclusion from Section III that the job an educated manager is most likely to get is in production and purchase. This implies that a firm is more likely to employ educated technologists if it has more than one manager - that technological depth goes with the number of managers.

Salaried workers are employed for many jobs besides management - notably for control functions like accounting, and also for supervision of other workers. But their proportion also shows some relationship with success: firms with more than 20 per cent salaried employees in their work force are better represented amongst the superfast growers and the optimists, and those with less than 10 per cent salaried workers amongst the fast and the slow growers, and amongst the constrained optimists and the pessimists (Table 4.1.17-18). However, this relationship is less marked than that with the number of educated managers, and that is not surprising, for salaried workers cost three to four times as much as manual workers (although the difference in their starting wage is generally much less - it widens with age); inefficient use of salaried workers is easy and can be financially crippling.

Productivity of workers is related to success; firms with value added per worker exceeding Rs 200,000 a year are better represented amongst the superfast growers and the optimists, and firms with value added per worker under Rs 50,000 amongst the fast growers, the constrained optimists and the pessimists (Table 4.1.17-18). There is a difference here between the slow growers and the rest; the slow growers do not have low worker productivity. Nor do they have a low ratio of salaried employees. Many of them are competently managed firms which are not growing either because they are in the wrong industries or because their owners are satisfied with the size reached.

We did not find any significant relationship between success and product differentiation or multiple units; but the ownership of multiple units producing the same product shows a negative association with success (Table 4.1.23-24). There are no such units amongst the superfast growers, and few amongst the optimists, but more than average amongst the other classes of firms. If we recall that one of the reasons for producing the same product in a number of units is the need to keep the size of an establishment small enough to qualify as an SSI firm, it is evident that incentives to SSI firms do serve to fragment production and militate against economies of scale.

*B. The Secret of Success*

Although we find many differences between successful firms defined on the two different criteria, there are two behavioural characteristics which coincide in them: a concern with technology, and an active approach to marketing.

Concern does not mean helplessness. A smaller proportion than average of the superfast growers as well as the optimists felt that technology was a "problem" - i.e. neither felt they could not cope with it (Table 4.1.27-28). But a considerably higher proportion of them felt the need for more or better technology; in other words, were conscious of the opportunities offered by technology (Table 4.1.29-30). And a significantly higher proportion of them had looked abroad for technology suppliers (Table 4.1.31-32). There is thus not just an interest in technology, but also action which demonstrates the interest.

Another clear difference between the successful firms and others is in the frequency of advertising: a higher proportion of them advertise, and they advertise more frequently (Table 4.1.25-26). The proportion of advertisers in general is surprisingly high for small firms; amongst the successful ones it is remarkable. If we recall that 80 per cent of the firms in our sample produce intermediate goods (Table 4.1.1-2), and that their major customers are other firms and the government (Table 4.1.33-34), with which they usually have a longstanding relationship, the frequency of advertising is seen to require an explanation.

The explanation is that the successful firms try to establish a brand image through advertising. A brand image creates a demand for the products of a particular firm; it reduces the effort required for marketing, improves the firm's bargaining power

*vis-a-vis* marketing intermediaries, and can help reduce the intermediaries' mark-ups. But to be useful, advertising must be backed up by the ability to ensure supplies on demand, and to maintain consistent quality: shortages will make advertising infructuous, and poor quality will lead to bad publicity whose damaging effect would be proportional to the sales. Thus behind the advertising of the successful firms lie the ability to raise production as required by the market and the confidence that consistent quality can be maintained. Both require a certain mastery of technology and a flexibility in production.

Thus we find in the more successful firms a higher level of technological competence, which is reflected not so much in making superior or different products, but in making products of reliable quality and in being able to raise their production at short notice. This competence belies the general image of small firms, that they are poor in quality and in delivery; it is the firms that manage to overcome this image that succeed.

*C. Channels of Distribution and Supply*

Each of the marketing outlets has its own advantages and disadvantages. Large firms can be a source of a number of services besides providing a market. Most of them would insist on quality standards. Some of them give technological assistance to their small suppliers. Some also provide raw materials, and share in keeping stocks. But large firms can drive a hard bargain on price, especially with small firms that are excessively dependent on a single large firm. If they act as intermediaries, they would normally put their own brand name on the small firms' products. They are generally prompt in settling bills; but this can vary according to the financial condition of the large firm.

Small firms are by and large not so demanding of quality in their purchases. They are more price-sensitive than large firms. They are generally financially less strong and hence not so prompt in payment. They seldom act as a source of technology.

The government, like small firms, is price-sensitive; its tender procedures tend to favour low-cost producers. It is even less demanding of quality. Its settlement practices are amongst the worst; it takes months to settle bills, and firms have to put in a lot of managerial time and often money into securing payments. It is also not a source of technology.

Wholesalers are extremely price-sensitive; they are not necessarily sensitive to quality, but they tend to deal in standardized, unbranded goods. They require less credit than other buyers, and are usually prepared to hold stocks. Retailers, on the other hand, are prepared to sell branded goods, but generally require credit until after the goods are sold. Best prices are to be obtained in direct sales, lower prices in sales to retailers, and even lower prices in sales to wholesalers. Commission agents are essentially travelling salesmen, or intermediaries without a place of trading; their mark-ups are lower, but so is their effectiveness, than that of wholesalers and retailers.

Large firms are the most important outlet for the producing of SSI firms: almost two-thirds of the firms sell to large firms (Table 4.1.33-34). The government and other small firms are next in importance; each is used by about two-fifths of the firms. About a quarter use wholesalers, and a fifth sell through retailers. Final consumers are not very important amongst the buyers; firms that produce final products - e.g. food products and garments - are a minority in our sample, and most of them use intermediaries. Only 9 per cent export - half of them directly, and the rest through agents. These channels are non-exclusive; most firms use a number of them. The mix of distribution channels varies greatly across the firms.

There are marked differences in the distribution channels used by optimists, constrained optimists and pessimists (Table 4.1.33-42). Optimists sell more through direct channels than constrained optimists or pessimists. They are firms that have established their reputation and developed long-standing relationships with buyers - large and small firms, the government, and final buyers. A smaller proportion of constrained optimists and pessimists use direct channels, whether because of small size or poor quality; they depend more on intermediaries. Optimists also use a greater variety of channels (this can be verified by adding up the figures for the use of different channels - 222 per cent for optimists, 190 per cent for constrained optimists and 168 per cent for pessimists).

No such clear pattern is to be found amongst firms classified by growth rate. Superfast growers do not use direct channels more than firms that have grown more slowly; if anything, they use wholesalers and retailers somewhat more at the regional and national levels. It would appear that intermediaries offer well established channels of distribution through which new firms can build up sales rapidly, though at low price levels; better prices can be realized through direct sales, but for that the firm has to establish a name and develop its own outlets. However, a high proportion of both optimists and superfast growers export and sell to final consumers.

Sources of supply to SSI firms follow a similar pattern as outlets, but large firms are more important as buyers than as suppliers to SSI firms (Table 4.1.33-34, 43-44). As on the demand side, the sources of supply of optimists show greater variety. Superfast growers seem to depend somewhat more on direct purchases from other firms, large and small, than firms with lower growth rates. No such clear pattern emerges between optimists and pessimists. But optimists are more diversified in their sources of supply as in their outlets.

*D. Financial Management*

There is a clear difference between superfast growers and optimists in respect of finance: a much higher proportion of superfast growers is short of it than of optimists (Table 4.1.51-52). In fact, superfast growers are much more short of finance than firms that have grown more slowly, whereas optimists are financially much more comfortable than constrained optimists; the pessimists are the least constrained by finance.

These variations in financial stringency are reflected in the firms' credit, borrowing, and inventory policies. Slow growers give longer credit than either superfast or fast growers (Table 4.1.45-46). Faster growth generates greater financial requirements, and the strength of faster growers in terms of product quality, delivery and cost makes them preferred suppliers, so they do not have to give as long credit as the slower growers: credit is a marketing device that can substitute for competitiveness in process and product. Pessimists, who do not want to grow, give the shortest credit, whereas constrained optimists give the longest.

Similarly, the fastest growers, being the most short of cash, typically have higher ratios of borrowings to sales than firms with lower growth rates (Table 4.1.47-48). They also have lower ratios of inventories to sales (Table 4.1.49-50). Optimists tend to keep larger stocks than constrained optimists or pessimists. But they do not borrow less. Amongst pessimists there seem to be two extreme classes - financially comfortable firms with low ratios of borrowings to sales, and firms in difficulty with high ratios.

Thus we find three sets of variables interacting - product quality and price, promptness and regularity of delivery, and the extension of credit. Those who specialize in the first are to be found amongst the fastest growers, optimists seem to specialize in the second, and the more slowly growing firms in the third. Each of these strategies - fast growth, large inventories to ensure prompt supply, and giving credit - create financial requirements. So apart from the general financial stringency of the fastest growers, no systematic differences in financial status can be observed in the rest of the classes.

*E. Labour Problems*

Superfast growers tend to have less labour trouble than average; and they suffer less from a certain set of labour problems (Table 4.1.53-60). They complain less about strikes: in fact, they have no complaints of strikes at all except in the case of unskilled workers, and even then only six per cent of the firms complain of strikes. They also complain less of the slowness of workers (go-slow is a form of industrial action workers adopt if they wish to bring pressure on the management without incurring the risk and the loss of income involved in a strike), or of absenteeism. Apparently, the pressure of work in superfast growers generally leads the workers to work hard as well. The commonest complaint of these firms is that of labour shortage, especially of technicians and skilled workers. They also complain more about absenteeism and low productivity, though less frequently than other firms.

Absenteeism and low productivity are more typical complaints of slow growers. These are

often older firms that have inherited old equipment or traditions of low-pressure work which they find difficult to overcome.

Pessimists tend to have less labour trouble than others; in particular, they suffer less from strikes. Only three per cent complain of strikes, and then only of skilled workers. They also complain less of low productivity, although this may be more a reflection of low expectations: for firms that do not want to grow, getting more work done by the work force is not important. Their common complaints are of absenteeism amongst salaried and blue-collar workers, and unavailability and high turnover amongst skilled workers. Cautious optimists' complaints are similar to those of pessimists. Paradoxically, optimists tend to have more labour problems than either cautious optimists or pessimists. They are typically problems of firms that have reached a plateau and are not providing workers with expanding opportunities - for instance, absenteeism, turnover and low productivity.

*F. Incentives*

The incentives considered significant by firms with different degrees of success are revealing (Table 4.1.63-66) The only incentives that are significant to a sizable number of firms are bank loans, excise duty concessions, government purchases and SFC loans. Of these, bank loans are significant at the outset of the firms, and increase in importance as the firm grows older. Except for pessimists, who presumably meet a larger proportion of their financial needs with their own resources, all types of firms find bank loans useful.

This is true of excise concessions also, except that a larger proportion of fastest growers found them useful at the outset, and a smaller proportion of them find the concessions useful now. Firms with sales below a certain limit are exempt from excise - a privilege they lose when they grow beyond the limit. State governments also give sales tax concessions to new firms.

Government purchases are distinctly less important for the faster growing firms, both initially and currently. As we noted in part B, the government's payment practices are generally unsatisfactory, and it is not very strict about quality. Hence it is the less preferred amongst market outlets, and attracts firms that find it difficult to sell to more demanding markets. So it is no wonder that superfast and fast growers depend less on the government as a buyer than slow growers. The implication is that government purchases are not an influence in favour of dynamism amongst small firms (or large ones, for that matter).

SFC loans reveal an interesting pattern. They were taken at the outset by 14 per cent of the firms, and the proportion does not vary systematically across firms of different types. Fast growers borrowed from the SFCs as commonly as did slow growers, and optimists as commonly as pessimists. But amongst the current borrowers, the faster the growth, the lower the proportion of borrowers from the SFCs. In other words, 17 out of the 23 per cent of the superfast growers that borrowed initially from the SFCs have paid off the loans; but almost all the fast growers who borrowed initially continue to be in debt to the SFCs, and so do 18 out of the 22 per cent of slow growers. On the other hand, optimists, constrained optimists as well as pessimists have reduced their dependence on SFC loans - constrained optimists most of all. Superfast growers and constrained optimists are the two classes that suffer most from financial stringency. Just why they also repay SFC loans most frequently is a question we have not been able to pursue in detail. But we did get the impression that like the government as a buyer, the SFCs are one of the least preferred sources of loans. Bureaucratic working, too much paperwork, interference and corruption are some of the reasons given to us. Whilst we cannot judge the reliability of these complaints, we think it is highly likely that the quality of service of the SFCs is capable of improvement.

Amongst the less important forms of government assistance are material inputs, technical support, marketing assistance and reservation. Material inputs are purchased from the government by 9 per cent of the firms. The proportion reflects the fact that the government is the monopoly or dominant supplier of metals.

Technical support, marketing assistance and reservations benefit a very small proportion of the firms, and none of them are superfast growers.

### G. Conclusions

We have argued that there are two types of successful firms - firms that are successful in growing, and firms that have earned a reputation and therefore have it easy. The key to the success of both is the same: technological superiority reflected in low costs, high and consistent quality, and flexibility of production. But the two types of firms are in different stages of their growth, and face different environments and problems. The firms that have arrived enjoy a relatively comfortable financial position; supply of credit is not one of their major problems, whereas it is of firms that are growing fast. Following from this, the firms that have succeeded would have worked out their market niches, and would be providing the credit required by their buyers. Credit being a major problem of growing firms, they choose marketing outlets that require least credit; amongst these are wholesalers. The cost of selling through wholesalers is lower price realization. Since wholesalers prefer to deal in unbranded goods, it is also difficult to build up a firm-specific reputation by selling through them. Hence even while they are growing, successful firms try to move from sales though intermediaries to direct sales, and to build up a loyal clientele through advertising.

Thus established successful firms are ones which have solved their major problems; the problems they still face would be internal organizational problems. Successful growing firms, however, face both shortage of finance and marketing constraints, which are interrelated to some extent. More credit would help them. But it may not be more bank or SFC credit they need. For the fast growing firms also bear greater risk, and the leverage incident on fixed-interest loans from official institutions may actually increase their risk. Nor is marketing assistance the answer. It is amply clear that they take the least advantage of the government's measures to secure a market for small firms - government purchases, marketing assistance, or reservation. What is required is an improvement in distribution channels - more and financially better endowed wholesalers, more shops for more specialized goods, trade fairs and magazines. It is to be observed that in credit, tax concessions, land allocation - in almost all aspects of government policy, industry receives preference over trade. A reversal of this broad-front discrimination may actually help small industry more than the measures taken by the government to aid it directly.

## V PROMOTIONAL POLICIES

Rural industrialization was one of the major ideological premises of Gandhi. The free import of British textiles in the nineteenth century had led to the decline of the rural textile industry. By the time Gandhi came to lead the movement for independence (he returned to India from South Africa in 1918), a modern textile industry had grown up in India itself and had largely replaced textile imports from Britain. Nevertheless, Gandhi regarded modern industry as destructive of village crafts and of rural employment. One of his goals for an independent India was the promotion of small enterprises in villages, if necessary by means of restrictions on the growth of modern industry.

Although India became independent in 1947, it was some years before this ideological premise was translated into policy. The first step was taken in 1951, when the Government of India passed the Industries (Development Regulation) Act. Under this Act, all factories employing 50 or more workers and using power or 100 or more workers without using power were required to seek registration with the government if they were already existing, and to obtain an industrial licence from the government if they were new. A licence had to be obtained by both if they wanted to expand or diversify. By implication, small firms required no licence, and could expand or diversify as long as they kept below the limits.

### A. Six Types of Small-scale Industries

More active encouragement of small-scale industry was begun in 1954, when to promote it, the government set up six statutory boards concerned with the following groups of industries:

(i) Khadi and Village Industries: In 1954 the Government of India set up a Khadi and Village Industries Board, which was later converted into

an autonomous commission. The Khadi and Village Industries Commission (KVIC) works through KVI boards set up by the state governments, channels subsidies through them, and provides shops for their products. It promotes the following industries:

TABLE 5.1. VALUE ADDED PER WORKER IN ENTERPRISES RUN BY THE KHADI AND VILLAGE INDUSTRIES COMMISSION, 1971-72, 1975-76 AND 1980-81

(Rs per year)

| | 1971-72 | 1975-76 | 1980-81 |
|---|---|---|---|
| Khadi | 1,644 | 1,816 | 1,652 |
| Foodgrain processing | 2,473 | 1,990 | 1,993 |
| Oil milling | 1,490 | 1,717 | 3,582 |
| Leather | 1,589 | 1,691 | 2,713 |
| Matches | 1,400 | 3,800 | 4,394 |
| Unrefined sugar | 723 | 1,894 | 1,910 |
| Palm products[1] | 152 | 238 | 349 |
| Soap | 2,100 | 2,400 | 4,325 |
| Paper | 1,767 | 3,000 | 4,640 |
| Bee-keeping[1] | 80 | 174 | 355 |
| Pottery | 1,235 | 1,540 | 726 |
| Fibres | 544 | 624 | 1,011 |
| Carpentry and metalwork | 1,500 | 1,645 | 1,729 |
| Lime manufacturing | 375 | 1,925 | 3,044 |
| Biogas | - | 736 | 11,980[2] |

Notes: 1. Part-time occupation. 2. This unusually high figure is based on the value of biogas plants of KVIC design constructed. KVIC only designs the plants, and does not construct them.
Source: Mukhopadhyay, 1985, Pp. 176-77.

(a) Food processing: processing of foodgrains, extraction of vegetable oil by means of animal-driven mills, making of sugar by boiling sugarcane juice in open pans, manufacture of unrefined sugar from palm juice, fruit processing and preservation.

(b) Forest-based products: collection of medical plants and fruits, gums and resins from trees; shellac; making of matches and products of bamboo and cane.

(c) Rural industries: pottery, bee-keeping, making paper by hand. Hides and leather, carpentry and metalwork, manure and biogas, making of utensils from aluminium, and khadi.

In many of these industries (for instance in bee-keeping, or collection of gums and resins or lac), only manual techniques are possible. In others KVIC promotes only manual technologies. The result is low labour productivity (Table 5.1). For comparison, value added per worker in the smallest factories covered by the Annual Survey of Industries, employing 1-49 workers, was Rs 7,070. The productivities in the above table are comparable to those in establishments employing 1-5 workers in the Reserve Bank of India Survey of 1977; even in establishments with 6-10 workers, value added per worker was Rs 4,600 [Little, Majumdar and Page 1987, Pp. 118-120]. Two of the industries are shown as employing part-time workers; but even the other industries have very low productivity.

The emphasis on manual techniques limits the possibility of raising labour productivity. So the only way value added per worker can be raised is by raising prices. This is, however, impossible in most industries since manual techniques face the competition of mechanized ones. The government has reserved a number of the above industries (for instance, rice and lentil milling, oil milling, matches, gum, a number of leather goods, etc) for small-scale industry; but it has not banned mechanized techniques in any. Hence value added in the enterprises (mostly cooperatives) aided by the KVIC remains low. This has two consequences:

(i) The scale of KVIC operations depends on the subsidy given to it by the government.

(ii) Even after the subsidy, the income of the KVIC from the sale of its products is so low that the wages it can pay are meagre. Hence in many areas it finds it difficult to get workers; in other areas, workers work for the KVIC only when more paying alternative, work is not available.

2. *Handloom:* Handspun cloth is woven on

handlooms because it is not strong or even enough for machine weaving. But in addition, there are a large number of handloom weavers who use machine-made yarn. Their promotion and protection are the function of a Development Commissioner for Handlooms, who works through directors of handloom development in the state governments. A number of state governments have also set up their own handloom development corporations. Like the KVIC, the Handloom Commissioner provides subsidies, in this case to weavers' cooperatives, through the state handloom directorates and corporations, and runs shops in major cities; some of the states run their own shops across the country. In addition, protection is given to handweavers (both members of cooperatives and others) by the reservation of certain products (chiefly dhoties and saris). A certain proportion of the yarn produced by spinning mills has also to be wound into hanks (instead of cones) for use by weavers. However, it is believed that the reservation of products is extensively evaded. Powerlooms (i.e. mechanized looms installed in small sheds, not those in large textile mills) rewind yarn sold in hanks on cones, and produce cloth loose-woven like handloom cloth and disguised as such. As with the KVIC industries, the subsidy provided by the government is not adequate to enable weavers to compete with powerlooms or to earn a comparable wage. So many weavers work part-time, and do other work, for instance, agricultural labour, when it is more paying.

TABLE 5.2. SMALL-SCALE INDUSTRIES: OUTPUT AND GOVERNMENT OUTLAY, 1979-80

| | Output | Govt outlay | (2) / (1) |
|---|---|---|---|
| | Rs million | | per cent |
| | (1) | (2) | (3) |
| Khadi | 980 | | |
| Other village industries | 3,140 | 933 | 22.6 |
| Handlooms | 17,400 | 496 | 2.9 |
| Sericulture | 1,310 | 166 | 12.7 |
| Handcrafts | 20,500 | 232 | 1.1 |
| Coir | 860 | 23 | 2.7 |
| Modern small-scale industries | 216,350 | 1,048 | 0.5 |
| Powerlooms | 32,500 | 7 | 0.0 |
| Other | 42,060 | 0 | 0.0 |
| Total | 335,100 | 2,895 | 0.9 |

Source: As for Table 1.2.

3. *Handicrafts:* Handicrafts are looked after by an All-India Handicrafts Board, which has a similar structure to that of the KVIC but on a smaller scale. It has five regional offices, four design, technical and development centres and 24 marketing extension centres. It also provides marketing outlets, and has an export subsidiary called the Handlooms and Handicrafts Export Corporation.

4. *Silk:* A Central Silk Board set up in 1949 continues to promote the silk industry. Silk is still prized by Indian women, whose demand also supports considerable craftsmanship. But it faces strong competition from cheaper synthetic substitutes - rayon, nylon and acrylon. Hence like khadi and village industries, sericulture is a depressed industry.

5. *Coir:* Coir is coconut husk, used to make ropes, carpets, nets, etc. There is a large out-turn of coir in coastal districts as a by-product of coconuts: much of it is converted into products for local markets. The Coir Board concentrates on promoting exports of coir products, and also runs a few shops in major cities. One of its most popular products is rubber-impregnated coir mattresses; but keen competition from private firms has emerged in this market.

6. *'Modern' small-scale industries:* Initially the board for these industries was to look after the industries not taken care of by the five institutional set-ups described above. But the importance given to them increased during the Second Five-Year Plan (1956-60), which envisaged the promotion of labour-intensive small-scale

industry as a capital-saving device in the context of the large investments then being made in capital-intensive heavy industry. Small-scale industry was placed under a Development Commissioner for Small-scale Industry (DCSSI) in 1957, and an elaborate organization for its promotion emerged under his aegis. It consists of two parts. Extension services are provided through the Small Industries Development Organization (SIDO), which works directly under the DCSSI. Other services, including finance and the supply of certain inputs like steel and aluminium, are provided through the State governments.

In Table 5.2 we give the value of output of the aided industries together with central government expenditure on them in 1979-80. Khadi, village industries and sericulture, which face keen competition from mechanized industries, are seen to get heavy subsidies. The expenditure on other industries is a fraction of their output; most of it is probably incurred on the staff employed in the aid agencies. Coir and handicrafts get very little other aid. Aid to the remaining small-scale industries takes other forms than direct subsidies, which will be described in the ensuing parts.

*B. Tax Concessions*

The major tax concession to small firms is in respect of central excise duty, which is levied on the ex-factory price. Between 1978 and 1986, a small firm was entirely exempted from excise duty if its total sales were under Rs 1.5 million and sales under a single excise class not more than Rs 500,000; on the next Rs 1.5 million it paid a flat-rate duty of 4 per cent. There was a change in the rules in 1986.

i. A firm that does not claim credit for excise duty paid by its suppliers will pay no excise duty on the first Rs 3 million of sales in any single class specified in the Schedule.

ii. A rebate of 10 per cent of the ex-factory value of the goods is available on the next Rs 2 million to a firm which has claimed complete excise exemption on the first Rs 3 million of its sales.

iii. On the next Rs. 2.5 million of value of exfactory output, a rebate of 5 per cent will be given.

iv. If, after the rebate of 5 or 10 per cent on ex-factory value of output, the rate of excise duty falls below 5 per cent, the firm will have to pay 5 per cent.

Apart from the concession on central excise, small firms are given similar concessions from the sales taxes of some states, but their magnitude is much smaller [Tulsi, 1980]. There are no specific coucessions for small firms in direct taxes, but partnerships pay income tax at the rate of 44.8 per cent, the same as the peak rate for individuals, this is lower than the rate of 56 per cent on public companies and 61.6 per cent in closely held companies. This discrimination indirectly helps small firms.

The value of the central excise concession is, on the other hand, enormous, for some rates of excise duty are extremely high. Most industrial inputs and capital goods bear a duty of 10 per cent; shoes, 20 per cent; cars, 40 per cent; plastics, 35 per cent; and cosmetics, 70 per cent. The incidence of many rates is difficult to calculate since there has been a tendency in recent years to replace *ad valorem* by specific rates. The incidence on value added is much higher; according to our calculations, the average incidence of indirect taxes on industrial value added in 1985-86 was 68.5 per cent although the reductions in 1993 will bring it down.

The implications of these rates for inter-firm competition are serious. A small firm may sell at the same price as a large firm, but its realization per unit will be higher by the amount of the excise duty: in other words, if the excise is 25 per cent, the small firm can charge 25 per cent more than the large firm without the customer having to pay more for its product. If the value added by the large firm was 25 per cent of its sales, and the costs of outside inputs were the same for both firms, the value added of the small firm would be twice as high as that of the large firm. In other words, the small firm could pay twice as much as the large firm to all its factories. In fact, they do not; wages in small firms are considerably lower. As we noted in Section II, firms with 500 or more workers are distinctly less profitable than smaller firms, and the difference in profitability is not entirely explained by the difference in wages.

Differences in taxes paid no doubt go some way towards explaining the lower profitability of larger firms.

### C. Market Reservation

In 1956 the government started to deny licences in certain industries to large firms, and in effect left it to small firms to meet all increases in demand. By the late 1960s there were lists of industries which were reserved for small firms; the number of such industries was 126 on 31 March 1968. There were large accretions to the list in 1970-71 (84 industries), 1973-74 (117 industries), and 1977-78 (470 industries); on 31st March 1978, 807 industries were reserved for small firms. The number then crept slowly up to 873 in 1984 [Development Commissioner for Small-scale Industries 1986, p. 52].

Although the number of reserved industries is impressive, their significance in terms of output or market share is most obscure. Some of the industries are very large - for instance, electric motors up to 10 hp 'except special types'. Some are insignificant; for instance, dividers, French corners, or dumbbells and chest expanders. The list is an outcome of political pressures for reservations meeting the resistance of large firms and of bureaucrats afraid of obstructing the realization of economies of scale. Unfortunately, it is impossible to make any recent estimate of the quantitative significance of reservation; the best we have been able to manage is for 1972 (Table 5.3).

TABLE 5.3. OUTPUT OF RESERVED ITEMS IN THE OUTPUT OF SMALL FIRMS IN SELECTED INDUSTRIES, 1972

| | Reserved items (1) | Total (2) | (1)/(2) per cent (3) |
|---|---|---|---|
| | Rs million | | |
| Mechanical engineering | 2,992 | 6,801 | 44.0 |
| Electricals and electronics | 569 | 1,517 | 37.5 |
| Automobile ancillaries | 116 | 1,348 | 8.6 |
| Chemicals | 1,037 | 3,467 | 29.9 |
| Glass and ceramics | 361 | 1,255 | 28.8 |
| Leather products | 107 | 886 | 12.1 |
| Plastic and rubber products | 490 | 1,512 | 34.2 |
| Wood products | 95 | 1,026 | 9.3 |
| Other industries | 403 | 8,215 | 4.9 |
| | 6,170 | 26,027 | 23.7 |

Source: Development Commissioner for Small-scale Industry, 1976, Pp. 22-33.

At least then, the production of reserved items was not the major activity of small firms; in all industries they produced a larger output of unreserved items. The impact of reservation then was probably significant but not decisive. It is impossible to be equally categorical about recent years. If Table 1.1 is any guide, the reservation of additional items has not led to a rise in the share of small firms in the output of major industrial sectors. We have given reasons for doubting the national accounts statistics which form the basis of Table 1.1, and have suggested that the share of small firms probably rose. If it did, reservation may have contributed to the rise; but a more direct cause of it was the higher profitability of small firms. Hence the evidence is not very strong that reservation is of great assistance to small-scale firms in general, as distinct from particular firms.

Apart from reserving certain industries for small firms, the government has also laid down that government departments must buy certain items from small firms. These requirements apply to ministries, departmental and other central government enterprises, the armed forces, railways and electricity boards. In 1986, 409 items were to be bought from small firms only; in addition, 75 per cent of the purchases of 13 items and 50 per cent of the purchases of 28 items were to be made from small firms.

Of the various organs of the central government to whom these purchase restrictions apply, we have figures for the Directorate General of Supplies and Disposal, which makes purchases for the central government proper (i.e. excluding

government enterprises); they are summarized in Table 5.4. As with the number of reserved industries, the number of items for exclusive purchase also turns out to be meaningless: for instance, the large rise in the number between 1979-80 and 1980-81 is hardly reflected in the share of small firms in total purchases. Essentially, the share rose from 9.5 per cent in 1975-76 to 13.6 per cent in 1977-78, but has changed little since, and remains quite small. If we compare Tables 5.3 and 5.4, the share of DGS & D in the total sales of the output of small firms was about 2.7 per cent in 1972. We cannot be equally certain about later figures; but it is clear that the role of central government purchases in providing a market for small firms remains minor. Government enterprises (not included in Table 5.4) do play a significant role locally; some of them have been buying from and nurturing small ancillary firms. But the limited studies of such firms suggest that the ancillaries find the exclusive dependence on large government firms to be risky, and have diversified their clientele or formed pressure groups to get leverage on their big buyers.

TABLE 5.4. PURCHASES BY THE DIRECTORATE GENERAL OF SUPPLIES AND DISPOSAL FROM SMALL FIRMS, 1972-73 TO 1982-83

| | No of items[1] | Total | From small firms | (2) / (3) |
|---|---|---|---|---|
| | | Rs million | | per cent |
| | (1) | (2) | (3) | (4) |
| 1972-73 | 192 | 8,150 | 728 | 8.9 |
| 1973-74 | | 7,641 | 557 | 7.3 |
| 1974-75 | 222 | 8,610 | 860 | 10.0 |
| 1975-76 | | 9,917 | 941 | 9.5 |
| 1976-77 | 241 | 9,751 | 1,065 | 10.9 |
| 1977-78 | | 8,511 | 1,154 | 13.6 |
| 1978-79 | | 8,870 | 1,140 | 12.9 |
| 1979-80 | 257 | 11,284 | 1,356 | 12.0 |
| 1980-81 | 379 | 14,326 | 1,974 | 13.8 |
| 1981-82 | 384 | 17,686 | 2,215 | 12.5 |
| 1982-83 | 404 | 18,021 | 2,180 | 12.1 |

Notes: 1. For exclusive purchase.
Source: Development Commissioner for Small-scale Industry, 1986, Pp. 134,136].

*D. Extension Services*

Official extension services have three arms: the services provided by institutions directly under the Development Commissioner (Small-scale Industries), also known as Small Industries Development Organization (SIDO), which is an office of the central ministry of industry; district industry centres (DICs) jointly under the central and the state governments; and industrial estates set up by the state governments.

Starting in the 1950s, SIDO has built up 26 Small Industry Service Institutes, 32 branch institutes, 39 extension centres, 20 field testing centres, 4 production centres, 3 production and process development centres, and 2 footwear training centres. It also runs 7 specialized training and research institutes. The major services provided by this battery of organizations are shown in Table 5.5. The total number of jobs done or services provided came to 20 per cent of the number of SSI firms in 1984-85 as estimated by SIDO. The actual proportion of firms helped would be less for two reasons; some of the assistance was to people who wanted to start new industries, and not to existing firms; and some firms may have been assisted more than once in a year. Nevertheless, SIDO did manage to be in touch with a respectable proportion of SSI firms. Apart from consultancy services, SIDO institutes provide laboratory, testing and tool room facilities and organize training. Thus the *quantum* of services provided by the SIDO organization is significant. We have not, however, been able to relate it to the resources being spent on it, or to

judge the quality of its services. We visited the Small Industries Service Institute in Delhi. We first found it impossible to find anybody who could help. Then we tried to contact the Director, and found he was away and it was not known when he would return. In the library, we found that most books had been locked up by staff members because they were afraid other staff members would borrow them and not return them. Our experience was not necessarily typical, but possibly indicative.

Although it is extensive, the SIDO organization covers only a fraction of the country. To extend the reach of official extension services, the government began in the late 1970s to set up District Industry Centres (DICs) in various districts; by 1986 there were 418 DICs covering 427 out of the country's 432 districts. Except for establishment expenditure (to which the centre contributes no more than Rs 400,000), the expenditure on the DICs is shared equally by the central and the state governments. However, the DICs come under the administrative control of the state governments.

TABLE 5.5. CONSULTANCY SERVICES OFFERED BY SMALL INDUSTRY SERVICE INSTITUTES, 1984-85 AND 1985-86

| | In SISIs | | On site | | By mail | | Total | |
|---|---|---|---|---|---|---|---|---|
| | 1984-85 | 1985-86 | 1984-85 | 1985-86 | 1984-85 | 1985-86 | 1984-85 | 1985-86 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Technical | 17,655 | 18,956 | 46,780 | 48,707 | 18,235 | 19,221 | 82,670 | 86,884 |
| Managerial | 1,277 | 1,462 | 2,595 | 4,956 | 946 | 1,504 | 4,818 | 7,922 |
| Economic-statistical | 9,171 | 7,832 | 33,150 | 30,691 | 7,859 | 8,125 | 50,180 | 46,648 |
| Start-up assistance | 3,109 | 4,428 | 28,863 | 19,571 | 7,413 | 11,325 | 39,385 | 45,324 |
| Other | 12,105 | 9,507 | 27,235 | 29,108 | 29,938 | 24,144 | 69,278 | 62,759 |
| Total | 43,317 | 42,185 | 1,38,623 | 1,43,033 | 64,391 | 64,319 | 246,331 | 249,537 |

Source: DCSSI, 1987, p. 5.

The main activities of the DICs are to prepare technological profiles, offer consultancy services, and register undertakings in their districts. They give special attention to very small units, entrepreneurs from the scheduled castes and tribes, and women entrepreneurs. The statistics for the DICs are so impressive as to be suspect. In 1984-85 they registered 290,000 newly set-up undertakings; if we compare this figure with the SIDO figure of 1.2 million SSI units, it would mean an enormous upsurge in small-scale industry. So we suspect that the DICs exaggerate their achievements.

Finally, we should mention a facility which is more comprehensive than the above extension programmes, namely industrial estates. The state governments start these industrial estates, build small factories, provide basic facilities such as water and electricity, and lease out the factories to small firms. The information on industrial estates is rather dated and incomplete; what is available is summarized in Table 5.6.

If we compare the figures in Tables 5.6 and 6.1, it is clear that the importance of industrial estates in terms of units housed and employment generated is limited. Although figures are not available for comparable years, it is unlikely that industrial estates accounted for more than 3 per cent of the units and 6 per cent of employment in small firms. What we noted in respect of the SFCs applies also to the industrial estates: the government has created superior facilities which, however, are available only to a small fraction of the firms. Apart from the facilities in industrial estates, the ground rents are also very low. This introduces an additional obstacle to the efficient utilization of space: the low rent makes sheds in industrial estates valuable property, just like old residential buildings whose rents are controlled since World War II, and many sick firms hold on to the sheds even when they can no longer produce. (Incidentally, industrial estates may also introduce an unintended bias in surveys of small firms. It is much easier to survey firms in industrial estates since they are concentrated in a small area, so most surveys of small firms confine themselves to industrial estates. In our own survey, our colleagues visited the industrial estates

in Madras and Hyderabad, but not elsewhere). The industrial estates also introduce a rigidity in the size of firms, for the firms cannot grow beyond the shed they have rented, nor demolish and rebuild the sheds. Finally, industrial estates bring together firms that have no organic relationship with one another, and prevent the rational location of firms. In fact, many of them obtain their inputs from or sell their products to large firms, in whose vicinity they would be better off being located. Upgrading the public utilities in some areas selected for industrial development, together with strictly enforced zoning regulations, would help small industry at a lower cost.

TABLE 5.6. PERFORMANCE OF INDUSTRIAL ESTATES IN THE 1970S

| (1) | As on 31 March 1970 (2) | 1975 (3) | 1979 (4) |
|---|---|---|---|
| Number of industrial estates sponsored | 519 | 656 | 796 |
| Of which, functioning | 327 | 469 | 633 |
| urban | 147 | 231 | 296 |
| semi-rural | 107 | 135 | 169 |
| rural | 73 | 103 | 168 |
| Industrial estates under construction | 101 | 83 | 91 |
| Not functioning | 91 | 104 | 72 |
| Number of factories constructed | 9,698 | 13,580 | 19,056 |
| allotted | 8,442 | 12,277 | 17,746 |
| occupied | 7,585 | 11,375 | 17,746 |
| Number of working establishments | 5,442 | 12,376 | 18,421 |
| Employment | 103,675 | 185,429 | 286,201 |
| Gross output (Rs million) | 1,479 | 5,002 | 8,029 |

Source: DCSSI 1986, p. 129.

### *E. Preferential Access to Inputs*

There are four metallic inputs in whose allocation small firms get a quota: pig iron, steel, tin plate and aluminium (Table 5.7). The allocation system dates back to the shortages of World War II, although quotas for small-scale industry were introduced in the late 1950s. Pig iron is used by foundries including those manufacturing manhole covers; steel is mainly used by manufacturers of storage tanks, barrels, and small-diameter pipes; tin plate is used in buckets and containers, and aluminium to make electric wires and cables, all products which are either fully or partially reserved for small-scale industry. The prices of all of them are administered, and controlled in such a a way that the market cannot be cleared. Hence they are subject to formal or informal central allocation. Allocation does not, however, ensure supply. The availability is not known accurately in advance; so the allocating authorities make an optimistic estimate of the likely supply. When the actual supply falls short, the allocations are also cut. So the allocation of a quota does not ensure supply; it only establishes a likelihood that the receiver of the quota will get some supply at an administered price that is lower than the market price. Nevertheless, for pig iron, tin plate and aluminium, the quota-based supplies constitute a high proportion of their users' requirements, and hence are an important source of an implicit subsidy.

There were two special mechanisms for preferential access of small firms to imports. First, some of the imports required an import licence; applications for import licences had to be supported by a sponsoring authority. The DCSSI acted as a sponsoring authority for SSI firms. The value of the licences given to SSI firms in the early 1980s was Rs 2-2.5 billion a year - roughly 5-6 per cent of their gross output. The other source of imported inputs was government corporations, namely the State Trading Corporation, the Minerals and Metals Trading Corporation and the Electronics Technology and Trade Development Corporation. Of these, the last one actively imported electronic components and sold them to small firms, especially to producers of electronic consumer goods, such as radios and

television sets, which were reserved for small-scale industry. The value of such indirect imports going to small-scale industry is not known. However, with the virtual abolition of import licensing in 1992, three privileges have ceased.

TABLE 5.7. METAL ALLOCATIONS TO SSI FIRMS, 1982-83 AND 1983-84

| | Allocated | | Supplied | | Apparent Consumption | | SSI share of Consumption per cent | |
|---|---|---|---|---|---|---|---|---|
| | Thousand tonnes | | | | | | | |
| (1) | 1982-83 (2) | 1983-84 (3) | 1982-83 (4) | 1983-84 (5) | 1982-83 (6) | 1983-84 (7) | 1982-83 (8) | 1983-84 (9) |
| Pig iron | 584 | 517 | 417 | 418 | 1,671 | 1,538 | 25.0 | 27.1 |
| Steel | 664 | 566 | 172 | 109 | 9,353 | 9,081 | 1.8 | 1.2 |
| Tin plate | | | 21 | | 106 | 126 | 19.8 | |
| Aluminium | 85 | | 29 | 43 | 209 | 220 | 13.9 | 19.5 |

Sources: DCSSI, 1986, Pp. 185-188. Central Statistical Organization, 1985, Pp. 125-127. Steel Authority of India, 1986, Pp. 16-17.

### *F. Conclusions*

Of all the privileges that SSI firms enjoy, excise duty concessions are probably the most important; the rates of duty are high, and concessions on them give small firms an important competitive edge. The significance of reservations and rules on preference in government purchases is difficult to judge. The proportion of SSI output that consists of reserved products was significant but not substantial in the early 1970s. It may have gone up since; but it may still not constitute essential protection. Their lower wages give small firms an edge; and the markets for many reserved products are too small to attract large firms. So there is probably a good deal of redundancy in reservation. Preferential access to bank credit has been extremely effective, but small firms still do not have adequate sources of long-term and risk capital. Industrial estates entail considerable benefits in the form of assured infrastructure at a low cost to a very small number of firms. Access to inputs has become unimportant except for a few industries as shortages of basic inputs have eased.

## VI FINANCIAL ASSISTANCE TO SMALL FIRMS

Although financial assistance to small firms forms a part of the government's promotional policies, it deserves separate treatment because its consequences are serious and complex. Financial assistance will form one of the major subjects of our recommendations in the last section, and we wish here to explain the background of the recommendations to follow.

### *A. Forms and Sources*

The government channels financial assistance to small firms in two ways. First, it lays down the minimum total credit that the commercial banks under its ownership must give to small-scale industry and other priority borrowers. Second, it has its own institutions primarily designed to fund small firms. Banks mainly give short-term loans for working capital; specialized institutions, on the other hand, cater to the firms' requirements of long-term capital for fixed investment.

The banks are the prime source of finance for small firms; in 1983-84 they accounted for 94.6 per cent of the credit given by official institutions to small-scale industry (Table 6.1). What is even more striking, the number of SSI borrowers from the banks exceeded the number of registered and unregistered small firms estimated by the Small Industries Development Organization. The number of borrowers from the bank exceeds the number of firms financed by them insofar as some of them have more than one account; hence the SIDO estimates are not necessarily too low. But the banks clearly have the most extensive network for financing small firms. The bulk of their loans is for working capital; but they also operate a bill discounting arrangement for machinery purchases by small firms.

The only other major set of organizations financing small firms are the State Finance Corporations. These belong to state governments, and they give long-term loans for fixed capital to small as well as large firms; but most of their funds go to SSI firms. In 1983-84,95.7 per cent of the value of loans sanctioned by them were given to SSI firms [Vepa, 1988, p. 56]; and they accounted for 74.7 per cent of the long-term loans given by official institutions to small firms. But for long-term loans there are private sources. The banking system was nationalized in 1971, so there are no major private sources of short-term capital. But in the last five years, many private companies have come up which specialize in equipment leasing. No overall figures are available for them; and they lend to both small and large firms. But a number of them have been highly successful. So it would not be a surprise if a substantial proportion of outside funds for fixed investment in small firms comes from them.

TABLE 6.1. FINANCIAL ASSISTANCE TO SSI FIRMS, 1980-81 TO 1983-84

| (1) | 1981-82 (2) | 1982-83 (3) | 1983-84 (4) | 1984-85 (5) |
|---|---|---|---|---|
| Cumulative number of SSI units: | | | | |
| registered (thousand) | 523 | 607 | 687 | 757 |
| unregistered (thousand) | 439 | 452 | 71 | 485 |
| total (thousand) | 962 | 1,059 | 1,158 | 1,242 |
| Output of registered and unregistered SSI units (Rs billion) | 326 | 350 | 416 | 505 |
| Employment (thousand) | 7,500 | 7,900 | 8,420 | 9,000 |
| Bank loans (Rs billion at year-end) | 39 | 45 | 55 | 66 |
| Number of SSI borrowers (thousand) | 936 | 1,050 | 1,208 | 1,449 |
| Bills for SSI machinery purchases rediscounted by banks (Rs million) | 443 | 630 | 909 | 669 |
| Banks' SSI bad debts (Rs million) | 3,590 | 5,690 | 7,280 | 8,800 |
| Number of bad debtors (thousand) | 25 | 59 | 78 | 91 |
| Bad debt ratio (%) | 9 | 13 | 13 | 13 |
| Loans from State Finance Corporations (Rs million) | 2,107 | 2,911 | 3,082 | 3,686 |
| Loans from State Industrial Development Corporations (Rs million)[1] | 42 | 106 | 203 | |
| Hire purchase finance for equipment from National Small Industries Corporation (Rs million) | | | 133 | 109 |
| Loans refinanced by Industrial Development Bank of India (Rs million) | 2,283 | 3,011 | 3,386 | 3,878 |

Notes: 1. Whilst all other figures of loans in this table refer to disbursements, those for SIDCs refer to sanctions, which exceed disbursements.
Sources: DCSSI, 1986, 1987.

Apart from the State Finance Corporations, some funds for small firms also come from State Industrial Development Corporations. These corporations are intended to promote industrial development throughout their states, and do not confine themselves to helping small firms; in fact, most of them concentrate on attracting large-scale industry to their states. But they fund some small firms as well. They do not confine themselves to loans, but also participate in equity capital.

Loans given by all the official institutions can in theory be refinanced by Industrial Development Bank of India. In practice, it refinances loans from SFCs and SIDCs, to such an extent that the state governments have to put little money of their own into their lending institutions. It rediscounts bills on purchases of machinery by small firms discounted by the banks, but does not refinance the banks' short-term loans.

Banks' credit comes to about 12 per cent of the gross output of small firms; if the firms held inventories equal to the value of three months'

production, half of the inventories would be financed by bank credit. This is a very respectable level of credit, even if some firms may not find it adequate. In fact, it is not unreasonable to pose the question whether the banks are not lending too much to small firms. As shown in Table 5.5, 13 per cent of banks' loans to small firms are difficult to recover. Whether this high ratio of bad debts is due to overlending or to poor judgment, it is impossible to say. We could get no figures on the bad debts of the SFCs and the SIDCs, but their bad debt ratio is probably much worse. (According to information from an SFC official, the *recovery* ratio was 40 per cent in his state, and its was the fourth best performance in the country; in other words, there were about 20 worse states.)

*B. Industrial Sickness*

The whole issue of 'sickness in industry' - i.e. firms which not only cannot pay back loans and which have closed down or are limping - is a much discussed one in India; but the causes of sickness are still not clear. We have been told by respondents that perfectly profitable firms have been driven into sickness by the untimely recall of loans by banks.

To come to definite conclusions on this question it would be necessary to do detailed case studies of sick firms, for which there is no scope in the present study; our primary information refers only to operating firms. But a number of tentative conclusions can be advanced. For one thing, it seems unlikely that the banks took undue risk with small and new firms and consequently came to grief; the bulk of the bad debts is to larger and older firms. As Table 5.5 shows, the average loan to sick small firms is more than twice as large as the average loan to all small firms. It may well be that a high proportion of sick firms are small or new; what is more or less certain, however, is that a high proportion of the amount of the loans is to older and larger ones. This is a point worth stressing in view of the general impression that bad debts arise from the acceptance of high-risk borrowers by banks under pressure from politicians. Such high-risk loans are well known and publicized - especially loans to farmers, artisans and the poor. For banks that try to recover the loans, the managerial time spent in the effort can also be a considerable drain. But in terms of amounts, these loans do not loom large in the balance sheets of banks.

Second, old firms declining under competition are an important component of bad debtors. In their case, a banker would consider it his duty to sense their impending sickness as early as possible and to recover the loan before that becomes impossible. When a firm gets into trouble, the creditor who recovers his money earliest gets most. Hence all creditors try to withdraw their loans from a failing firm, and hasten its failure. From the firm's viewpoint, it may seem that the creditors were responsible for its failure. But *ex post facto* it is virtually impossible to fix the responsibility. Generally all creditors, including bankers, act on certain portents of failure, such as mounting inventories, a firm's growing difficulties in recovering trade debts, and in paying suppliers - briefly, progressive loss of liquidity.

Finally, even where such illiquidity does not have fundamental causes in the uncompetitiveness of a firm, banks are not the institution to help in the situation. For a potentially sick firm, even if it is capable of recovery, generally needs outside inputs that go beyond credit - managerial, technological or marketing inputs. A takeover is often the best solution to such comprehensive difficulties. But here there is a factor which makes sick firms a poor candidate for takeovers in India. Very often a firm takes on workers or raises wages in times of prosperity which it can no longer afford in more competitive times. Cutting down wages or employment is always a painful affair; it is all the more difficult in India where the laws against retrenchment are severe. So where retrenchment or wage cuts are required, a sick firm finds no takers; this is perhaps the most important cause of the high incidence of industrial sickness.

There is a more basic structural factor, however. It was noted above that 95 per cent of all official credit comes from the banks, and that almost all of it is for working capital. It follows that only 5 per cent is available for fixed capital. In modern industry, however, fixed capital is typically much larger than working capital - generally 2-3 times as large. The implication is that it is much easier for a small firm in India to obtain funds for holding

inventories than for investing in fixed assets.

Apart from the lower availability of long-term loans, the number of firms to which they are available is even smaller, for the average SFC loan is larger than a bank loan. The average SFC loan refinanced by Industrial Development Bank of India was Rs 280,000; the average bank loan was Rs 75,000. Thus if SFC loans were less than 5 per cent of the total credit given to small firms, the proportion of small firms that got SFC loans among those that got credit from an official source was less than 2 per cent.

*C. Imbalances*

The financial system is unbalanced in three respects. First, there is the relative shortage of long-term capital, compared to short-term capital. The result is that new entrepreneurs are thrown upon their own resources at the start. They either save money themselves, or borrow from relatives. The phenomenon of technological entrepreneurs has attracted notice in India. The point about these engineers and chemists is not, however, that they are technologists, but that having worked in a large company, many had saved something that they could put into a small business. But they are not the typical small entrepreneur; the new entrepreneur is normally the son of an industrialist or trader, who has got his initial capital from his father. This is the basis of the widely observed dominance of Indian industry by people from certain states and castes.

The governments of the states lacking a local entrepreneurial class have tried to nurture one; indeed, that has been one of the hidden objectives of setting up state government institutions to promote small industry. Their attempts have succeeded in a few states such as Andhra Pradesh; but by and large their achievement is modest. Their resources are limited, so with the best will in the world their impact would be small. But even those resources have not yielded the results that may be expected from them. It is difficult in any case to choose potential entrepreneurs from amongst people with no industrial background or experience. The difficulty is compounded in the case of SFCs by the keen competition for their funds, and by political influences in their allocation. It is not surprising that by and large, SFCs have a low profile and a poor reputation.

The shortage of long-term capital also affects the banks: their borrowers often use bank credit for long-term investment. This is made easy by the fact that whilst bank loans are essentially short-term, they are automatically renewed save in exceptional circumstances. Thus very often banks find, too late, that their loans are no longer backed by collateral in the form of inventories or debtors, but are invested in illiquid assets. They then recall the loans, and cause a financial crisis.

Second, there is a shortage of venture capital *vis-a-vis* fixed-interest capital. All the official loans in Table 5.6 are fixed-interest loans, including those of the SFCs and the National Small Industries Corporation. In recent years, the government has become aware of the lack of risk capital, and a number of schemes have been started to overcome it. The SFCs give risk capital at a nominal interest rate of 1 per cent to new units or for restoration of sick units. Little information is available on the working of this scheme, but it is too restrictive to have much impact. Only 20 per cent of the cost of a project is funded up to a maximum limit of Rs 200,000. Thus the scheme is of use only to an entrepreneur who can finance most of his investment. A similar scheme is operated by the State Bank of India, which gives interest-free loans of Rs 5,000 - 50,000 up to 25 per cent of the cost of the project. Finally, Industrial Development Bank of India gives interest-free loans up to Rs 1.5 million to projects that cost not more than Rs 20 million. Till the end of December 1981, IDBI had disbursed Rs 35 million, SBI Rs 15 million, and the SFCs Rs 35 million - modest amounts compared to the figures given in Table 5.6.

Finally, the entire credit system lacks flexibility. It is owned by the government, and except for the recent emergence of leasing companies, there is no organized competition from the private sector. Within the public sector, the roles of the various types of institutions are defined: basically, the banks provided working capital, whilst the other institutions provide fixed capital. The roles are redefined or extended from time to time, but this is done by means of centrally approved

'schemes' with predetermined conditions; no managerial discretion is allowed in their design. And all interest rates are administered. The result is that all the credit institutions are quantity-takers who face either excess demand or excess supply, and have no means of responding to either since they cannot alter interest rates. The SFCs face excess demand; they try to deal with it by financing only a fraction of the capital requirements of the firms they finance. Where this does not cut down demand enough, they resort to arbitrary allocations, leading to suspicions of favouritism or corruption. Whether these suspicions are well-founded or not, they especially the more viable ones with a greater choice of sources, cut down the demand by putting off borrowers.

The banks have also generally faced excess demand. But since 1985, large companies have been allowed by the government to have much freer access to the capital market. Here too the interest rates are administered; the companies are not allowed to pay more than 14 per cent. But this rate is lower than the rate at which they can get finance from banks, and higher than the highest rate that banks are allowed to pay depositors. The result is that large companies have been borrowing more from the public and less from banks. The banks are flush with funds. But they would not want to minimise lending to small firms, for the interest rates banks are allowed to charge them are low. So banks have been actively seeking new avenues for lucrative lending, and competing to give consumer loans.

### *D. Conclusions*

Whilst a machinery has in theory been built up to look after every kind of capital need of small firms, it is quite lopsided. Working capital requirements are met fairly well where banks are present, but long-term capital requirements are poorly met. Most of the loans are available on fixed interest; little equity capital is available, and none on a profit-sharing basis. Interest rates of the official institutions are low, but the capital available from them is limited. Some funds are available from private leasing companies, as well as from private moneylenders at high rates of interest. But if we look at the way the capital market looks after the needs of small firms, we find large gaps, and little flexibility.

The official institutions are designed to give small firms cheaper credit than they would get from an unregulated market. However, low interest rates inevitably lead to excess demand. The problem is less serious with banks because total bank credit is large, and the share of small firms in it is small enough for the banks to be able to bear the cross-subsidy. But for the SFCs and the NSIC there is no other source of profit that can subsidize loans to small firms; so their loans are limited by what IDBI can give them to a very low proportion of small firms' long-term capital requirements. And what is available for long-term needs is tilted too much towards fixed-interest loans and too little towards venture capital.

The supply of venture capital would be greater, and new entrepreneurs would be helped to a greater extent, if (a) its suppliers could have greater control on the small firms and (b) they could tie the small firms into risk-minimizing strategies, such as marketing or input-supplying arrangements. Such ties are, however, discouraged by the government's efforts to build up an SSI sector that is independent of large firms.

## VII SMALL FIRMS IN THE INDUSTRIAL ECONOMY

In the preceding four sections we presented the facts about small firms emerging from official data as well as our survey. In this section we wish to go beyond the microeconomic facts and draw a broader picture of the role played by small firms, as well as the effect of macroeconomic policies on them.

### *A. Competition Between Small and Large Firms*

Behind comparisons of productivity or efficiency of small and large firms, which we reviewed in Section II, there is an implicit model of competition between small and large firms; and the idea that the two are alternatives exercises a strong hold on Indian public opinion. This picture of competition is incomplete, but it is incontestable that there are industries in which small and large firms compete. Insofar as they do, it is worth asking whether either has been more successful

in competition - whether the market shares have been changing in favour of small or large firms. In Table 7.1 we present information for as many industries as could be collected.

There was only one industry in Table 7.1 - bicycles - in which the number of firms fell between 1963-64 and 1978-79, and only two industries - commercial vehicles and metallurgical machinery - in which market concentration increased significantly. In bicycles and commercial vehicles the reason was intense competition, which led to the decline of weaker firms; in metallurgical machinery, the demand came from a handful of government firms, and went chiefly to equally few government firms; the tendency towards concentration thus arose from both the buyers' and the sellers' side.

In all other industries the number of firms increased and the degree of concentration either changed little or declined. The evidence of the emergence of small firms as competitors is extensive, though it does not apply equally to all industries.

TABLE 7.1. NUMBER OF FIRMS AND HERFINDAHL INDEX IN SELECTED INDUSTRIES, 1963-64 AND 1978-79[1]

| | Number of firms | | Herfindahl index | |
|---|---|---|---|---|
| (1) | 1963-64 (2) | 1978-79 (3) | 1963-64 (4) | 1978-79 (5) |
| Motor cycles | 3 | 3 | 0.34 | 0.36 |
| Scooters | 3 | 8 | 0.50 | 0.30 |
| Cars | 3 | 4 | 0.71 | 0.72 |
| Cement machinery | 4 | 7 | 0.59 | 0.40 |
| Commercial vehicles | 5 | 6 | 0.31 | 0.57 |
| Tractors | 4 | 13 | 0.42 | 0.28 |
| Boilers | 9 | 15 | 0.30 | 0.31 |
| Mining machinery | 2 | 7 | 0.84 | 0.69 |
| Metallurgical machinery | 3 | 7 | 0.36 | 0.70 |
| Compressors | 7 | 10 | 0.28 | 0.14 |
| Bicycles | 17 | 13 | 0.18 | 0.13 |
| Refrigerators | 6 | (15) | 0.44 | 0.14 |
| Sugar machinery | 9 | 23 | 0.83 | 0.07 |
| Switchgear | 15 | 17 | 0.28 | 0.14 |
| Chemical machinery | 36 | 53 | 0.10 | 0.07 |
| Earthmoving equipment | 3 | (57) | 0.46 | 0.07 |
| Diesel engines | 26 | (135) | 0.23 | 0.06 |
| Motors | 6 | (175) | 0.27 | 0.06 |
| Transformers | 17 | (186) | 0.26 | 0.07 |
| Cranes and hoists | 17 | (92) | 0.25 | 0.22 |
| Machine tools | 47 | (174) | 0.24 | 0.15 |
| Electric pumps | 46 | (446) | 0.13 | 0.06 |

Notes: 1. For some industries the number of firms was not known, but their total sales were. It was assumed in such cases that the sales of all firms whose sales were not known were the same as those of the smallest firm whose sales were known. The notional figures thus arrived at are given in brackets.
Source: Desai, 1988b.

How far is this consistent with our finding in Section I that the share of unregistered firms in industrial output changed little between 1970-71 and 1982-83? As unregistered firms are not required to submit any statistical returns, there is no first-hand evidence on them on which national accounts can be based. Employment in them is assumed to grow at trend rates which are little different from those of registered firms; and assumptions about productivity are even cruder. Hence in our view, there is reason to doubt the evidence from national accounts. Despite what the national accounts indicate, the market share of small firms may have increased in a wide range of industries. Further, even if the share of unregistered firms' output remained unchanged, this is perfectly consistent with a rise in the share of SSI firms. For SSI firms are defined by a limit on fixed investment, and may well employ more than 50 persons with power or more than 100 persons without power. This would be especially true of dynamic SSI firms which would be crossing the limit and getting registered under the Factories Act; the effect of their growth would be a change in the distribution of output amongst registered factories, and not a change in its distribution between registered and unregistered factories.

If, then, it is accepted that small firms increased their market shares, the question arises: why did they? Here we have at least three alternative explanations:

(i) Small firms pay lower wages, and earn a higher return on investment;

(ii) They use factors of production more efficiently; and

(iii) They get subsidies, explicit and implicit, in the forms described in the preceding two sections.

The evidence we reviewed in Section II bears out that small firms pay considerably lower wages than larger firms in the same industry. On the use of factors of production, small firms have lower capital-output ratios if we take all industries together, and capital-output ratios explain their higher profitability better than low wages do. But the evidence about factor use is considerably more equivocal at the individual industry level; at that level there is no consistent evidence of more efficient factor utilization by small industries. Thus we tend to conclude that small firms are more profitable because they pay lower wages, and not because their factor proportions are more appropriate or because they are more efficient.

We have given illustrative figures in the previous section to show how great the effect of excise duty concessions can be. But if wages in small firms are lower (and productivity is not proportionately lower), profitability would be higher irrespective of official subsidies and discrimination; such measures can raise the profits and accelerate the growth of small firms, but are neither necessary nor sufficient to explain it.

As to why small firms pay lower wages, Majumdar's explanation in terms of lower level of experience and skill of their workers is often applicable; but if wage differences only compensated for skill differences, they would have no effect on wage cost per unit of output, and would not lead to differences in profitability [Majumdar, 1988, Pp. 223-237]. In our view, an essential part of the explanation lies in the lower investment and hence in the lower costs to their owners of closing down small firms. This greater willingness of entrepreneurs to close down, reflected in the high sickness rate, entails greater risk of unemployment for workers, increases the elasticity of demand for labour, and keeps down wages in small firms.

This explanation assumes imperfection in the markets for labour and finance. Clearly, workers would accept lower wages in one firm than in another only if the demand for labour at the higher wage is less than supply. Excess supply of labour is essential for the emergence of wage differentials within homogeneous skill groups. And large firms can pay higher wages, earn lower profits and still survive only if funds are available to them at a lower cost. This is especially true of government firms which continue to be financed from the state budget irrespective of their profitability. But large private firms also have a low-cost source of finance in shareholders' funds; shareholders' earnings are much more modest than those of promoters who invest in small firms. And the legal form as well as the family management of small firms prevents them from attracting the low-cost funds of portfolio investors.

These market imperfections make it impossible

to make definite assertions about the optimum size of firm in Indian Industries. If large firms obtained labour at the same wages as small ones, larger firms would be more competitive, and would appear to become more optimum - or less inoptimum. Similarly, if bank capital were available to small firms on the same terms as to large ones, smaller firms would become more competitive. If both labour and capital markets were more perfect, small firms would be more capital-intensive and large firms more labour-intensive. The least-cost size of plant would probably go up in labour-intensive industries and go down in capital-intensive industries.

More relevant than the static concept of optimum size is the dynamics of competition between small and large firms. Large firms pay higher wages than small ones in all economies. To overcome the disadvantage in labour costs, large firms in industrial economies innovate and adopt progressively labour-saving technologies; and to meet the competitive pressures arising from scaling up, small firms seek new market niches where the value of output per worker is high at low scales. These dynamic competitive pressures have been weak in India. Import substitution in machinery and the cumbersome procedures for technology imports slowed down the influx of new technologies. So did the restrictions on new entry in the form of industrial licensing, especially in industries where the typical firm was large. These barriers to the entry of new technologies probably had a greater effect on large firms, and are a part of the explanation of their low capital productivity and profitability. But they also contributed to the extremely low-levels of labour productivity in small firms, which can be related to the absence of low-level mechanization, such as the use of simple power-driven tools. The insulation of Indian industry from outside technology has led to poor utilization of labour in small firms, and of capital in large firms.

### *B. Markets for small firms*

In some industries, large firms are important buyers of small firms' output. In our sample of firms, two-thirds of the small firms were selling to large firms; the proportion was considerably higher in engineering industries. Further, the smaller the firm, the fewer its outlets, and the more important to it was the demand from large firms likely to be. This relationship has also been in the minds of policymakers in India, and though not entirely convinced of its merits, they have tried to encourage it. If a firm is an 'ancillary' enterprise - i.e., if it sells over 50 per cent of its output to a single large firm - it can have fixed investment up to Rs 4.5 million and still be counted as SSI. The idea is that a firm that acts as a supplier should be able to grow with its customer - but not grow too much, for otherwise it would no longer remain a small firm. The Bureau of Public Enterprises also presses government firms to buy more from ancillary firms. Both the measures have been largely ineffective. In the absence of a monitoring mechanism which would deregister small firms that exceed the statutory levels of fixed investment, a higher limit for ancillary firms is meaningless. And government firms continue to buy little from ancillary firms.

The reason lies in the risks of an exclusive relationship. The greater the dependence of one firm on the purchases of another, *irrespective of their relative size*, the greater the risk borne by the seller arising from both the fortunes and the behaviour of the buyer. Hence firms in general, small and large, try to achieve a certain minimum diversification of the market. A large firm would like to have a small firm supplying exclusively to it, for then it would have greater control on quality, delivery, price, etc; but a small entrepreneur in that case would prefer to be bought out and become an employee. He may not have the choice; Banerjee [1988] describes a case where a small fan manufacturer supplies to a large one when the latter is short of capacity, and thereby bears the risk without commensurate earnings But in our observation, risk minimisation does occur; small firms may sell a high proportion of their output to large ones, but they still try to avoid selling a high proportion to a single large one. And we have encountered many complaints from large firms about the unreliability of small firms that are not dependent enough on them.

Although we did not do a matching survey of large firms and therefore could not generate direct

evidence, we got the impression that successful small firms sell to successful large ones and *vice versa*. We encountered firms that sold to large firms like TELCO which were good at payment; they were also more exacting about quality, and small firms learnt more technology from them. Such small firms would also have tried their hand at exporting. At the other end were small firms that specialized in jobwork. They scrounged for work wherever available; they were so short of working capital that they took the materials from the customer firms; and their standards of quality, delivery and honesty were so low that they did not retain customers for long. They also tended to attract as buyers large firms which were in difficulty, and which could not pay in time.

The same correlation of standards applied as well to government firms and their ancillaries; but here, forced ancillarization introduced new distortions. A successful government firm like National Thermal Power Corporation or Maruti Udyog (manufacturer of cars) might like to be tough with suppliers and to develop a few high-grade sources; forced ancillarization would make them develop more sources than they want and to spend a great deal of effort supervising second-rate suppliers. Conversely, second-rate government firms like Indian Telephone Industries (ITI) would cause financial and other difficulties to their ancillary firms; those of ITI even formed a trade union to protect their interests. Ancillarization would occur in any case given the large difference in wage levels between small and large firms; no large firm would try to make something which it could get more cheaply from a small one. But special incentives to force smallness on ancillary firms or to encourage forced marriages between small and large firms introduce inefficiency.

Rather than force an ancillary relationship between large and small firms, it would be more effective if the government tried to ease the marketing problems of small firms in three ways. One is to keep the economy buoyant. There are economies of scale in marketing, marketing is expensive for small firms, and they find it easier to emerge and grow if the market is expanding than if it is tight. Second, large firms find it cheaper to sell, and should be encouraged to market the products of small firms. The policy of forcing an arm's length relationship between small and large firms is not in the interest of small firms. For instance, excise concessions are available to a small firm only if it is independent and if its products do not bear another firm's brand name. Actually, it would find it much easier to sell, as a small firm, if it was dependent on a large firm for marketing. Finally, the discrimination in favour of industrial and against trading companies is counterproductive. The Companies Act of 1956 compels trading companies to distribute all their profits; and there are a number of tax concessions that are available only to companies whose income comes mainly from industry. The government has recognized the usefulness of trading companies in exports and given them special privileges. Trading companies can help small industry market its production in the domestic market just as they can help exports.

### *C. Foreign Trade*

In 1990, when the present survey was conducted, India operated a dual system of protection. There were tariffs on imports; the average tariff was over 45 per cent, and individual tariffs went up to 300 per cent. In addition, for all but about 20 per cent of the imports, the importer also had to get an import licence. The import licence had to be obtained from the offices of the Chief Controller of Imports and Exports (CCI&E). The number of entry points into the country by sea and air was limited, and so was the number of offices of the CCI&E. Further, CCI&E required the recommendation ('sponsorship') of another government body before it issued an import licence. In the case of small firms it was the DCSSI, who had offices in most state capitals. Thus a small firm would find it next to impossible to import on its own unless it was situated in a limited number of cities; and even in those cities it would have had to put much effort into dealing with government offices if it wished to import.

The government operated a scheme for over two decades under which an exporter could get a rebate of excise and customs duties paid by him on the inputs that went into the exports. This rebate could be claimed after exports had been

made. In 1985 the government introduced other schemes which enabled the exporter to get imports duty-free provided they were intended to go into his exports. There is a cumbersome drill to ensure that the imported inputs really went into the exports; small firms find the paperwork and the liaison with government institutions daunting. For leather and cashewnuts the government has an arrangement by which it imports the raw materials and distributes them to small firms, relieving them of the formalities.

Amongst the firms we interviewed there was generally little conception of what would happen if these stringent trade restrictions were liberalized; the firms that did have a view were against liberalizing the imports of the goods they made and for liberalizing imports of their inputs. But those that had some experience of foreign trade were very resentful of the procedures involved, and in favour of simplification.

The complexity of the procedures arose from two factors. First, there are the tax rebates - drawback on some duties and cash compensatory support to compensate for the rest. They vary from product to product; so physical examination of exports by the customs is necessary. It could be avoided if the rebates were harmonized - which would require the harmonization of the underlying taxes.

Second, the government tried to ensure that no unplanned imports should enter the domestic market; hence physical examination of exports and related imports was necessary to ensure that imported inputs were embodied in exports. If this cumbersome procedure was to be avoided, it was necessary to tolerate a certain unplanned leakage of imports into the domestic economy - and in effect, to remove protection at least from a number of inputs of importance to exporters. This has now been done; import licensing has been largely dismantled, as mentioned earlier. However, tariffs still remain high, and hence much inspection and procedure continue to attend the duty-free import of inputs for exports. The customs also continue to live in the old world in which import substitution was holy and duty-free imports a sin. Hence the reforms still have some way to go.

### *D. Technology*

Concern has often been expressed in India about the supply of technology to small firms. Technology suppliers abroad prefer large buyers who can command a larger market for the technology and pay a higher price. It is known that foreign firms receive numerous letters from Indian firms, mostly small, asking for technology, which they ignore. One reason why firms abroad sell technology to firms in India is that a high level of protection makes it impossible to export their products to India. The same sort of protection operates within India for products which are reserved for small firms; but since large firms are, by and large, barred from these industries and have no chance to acquire production experience, they are hardly in a position to supply technology to small firms. Thus, it is felt, there is a shortage of technology supply to small firms.

Some light is thrown on this problem by our survey. Technology imports are not closed to small firms altogether; 5 per cent of our firms did import technology. Plant suppliers are another source, especially important in vehicle ancillaries. Large firms do supply technology to small firms; where they buy inputs from small firms, they also help in producing the inputs to the required technical standards. But above all, our survey highlights the importance of informal sources: the firms, whether they say they imitated the technology or they claim to have invented it themselves, obtained it directly or indirectly from other firms. This has two implications. First, technology imports may or may not be easier for large firms. But as long as technology is imitable, it will trickle into the economy by informal channels. Second, migration of personnel is a powerful conduit of technology.

Thus technology imports did not necessarily discriminate against small firms. But the flow of imported technology to small firms could be improved by the technology import liberalisation of 1991. For one thing, it is possible that the government's insistence that technology (other

than designs and blueprints) should be imported on deferred payment militated against small firms. For a technology supplier may be willing to sell technology on credit to a large firm with a certain reputation, but would hardly be prepared to give credit to an unknown small firm. Removal of restrictions on the size and schedule of technology payments is likely to help small firms.

Second, the actual user principle, when applied to technology imports, worked against small firms. For a technology importer would hardly want to resell technology and create competitors. But now that such imports are allowed, some firms may wish to trade in technology - to import it and license it out to a number of small firms.

Thus the removal of restrictions on technology imports may help small firms more than large firms. But probably it would be far more helpful if the government were to allow closer relationships - financial, marketing and technological - to develop between small and large firms.

### *E. Infrastructure*

It is obvious that small firms are less capable of coping with deficiencies in infrastructure or making up for them than large firms. Large firms can settle in backward areas and supply themselves with water, electricity or workers' housing, the cost of which would, however, be prohibitive for small firms. Hence small firms require public provision of infrastructure much more.

This need is met by industrial estates set up for small firms by the government. But as we have noted in the last section, the estates set up by the government have been costly, have benefited a very small proportion of small firms, and have been underutilized because sick or closed firms are not removed from the industrial estates. They have also placed great distances between small firms and their customers, while there is no advantage in herding together small firms as such. Meanwhile, almost all over India small industry has proliferated in nonconforming areas such as residential areas and slums. There are residential suburbs in Delhi where almost every house is an impromptu garment factory. Such a mixing of residences and factories is not always a bad idea, especially if it reduces the commuting distance of workers.

Thus instead of setting up dedicated industrial estates for small firms, the government should loosen zoning laws and allow blending of residential and especially commercial areas for industry. And it should try and improve the infrastructure of entire towns rather than of areas selected for small firms. The aim should be to turn entire towns into industrial estates. Simply improving the quality of electricity supply to selected towns would make a considerable difference to the efficiency of small as well as large industry.

We would also recall here the small firms we referred to in Section II, which are located in rural areas and which depend on materials available in rural areas, such as food, products of agriculture and forestry, and building materials. They are not helped at all by special facilities created for small firms, such as industrial estates. They have natural advantages, and do not need protection. They would be far more effectively helped by an increased supply of their inputs than by any policies specifically directed at the small firms themselves.

### *F. Conclusions*

In this section we have looked beyond the policies that directly benefit small firms and analysed the economy-wide forces that affect the growth and character of small firms. Although their effect may not be so palpable, it may in the long run be more powerful. Macroeconomic and structural policies that recognise and seek to exploit these forces may well provide a superior substitute for more direct microeconomic policies to promote small firms.

## VIII POLICY CONCLUSIONS

Any assessment of the government's policies towards small firms should begin with its definition of small firms. Vepa [1989] cites the variety of definitions being used in the small industry promotion programmes of some Asian countries:

China- Definition based on output: for instance, less than 10,000 tonnes of iron and steel a year, less than 400,000 watches a year, less than 25,000 spindles in textiles, less than 25 MW of power, etc.

India- *Small* - less than $200,000 of machinery.
*Very small* - less than $12,000 of machinery and located in towns with a population below 50,000.
*Service* - less than $12,000 of machinery and located in towns with a population below 500,000.

Indonesia- Investment below $100,000 and investment per worker below $100.

Korea- *Manufacturing* - less than $600,000 in investment and employing less than 300 workers.
*Trade* - turnover under $250,000 in retail business or under $600,000 in wholesale business and employing less than 20 persons.

Thus the criterion of fixed investment is only one of the possibilities. Other countries have also used sales, physical capacity, and investment per worker as criteria. How should a choice be made amongst these alternative criteria? This must clearly depend on the purpose of defining a small firm, and hence on the purpose of assisting it.

Initially, promotion of small firms in India was based on the notion that they were less capital-intensive and would therefore save capital in generating production and employment. As we showed in Section I, small firms are not systematically more capital-intensive than large firms; but they are also not unequivocally less capital-intensive. The evidence suggests that firms employing less than 50 workers do often tend to be more capital-intensive than larger firms; and the trend in official registrations of small firms has in recent years been in this size range. The best documented feature of small firms is that they pay lower wages and pay out a smaller proportion of their value added in wages. Hence whether they actually do so or not, they can be more capital-intensive than large firms and still earn the same rate of return on capital. Thus the very assumption behind the small firm promotion policies, that they save capital, is unfounded.

Another well established feature of small firms, confirmed by the ASI year after year, is that on the average they earn a higher return on capital than large firms. If this is so, the rationale of assisting small firms as such is unclear.

It may be pointed out that despite their greater profitability, there is no strong evidence that small firms have increased their share in industrial output. This is at least partly due to the definitions of small firms and to the methods of estimation used. Aprt from this, in official units the fact that small firms' higher profitability is not accompanied by their faster growth may be due to one or both of two factors. One is that the owners of small firms may reinvest a smaller proportion of their profits - or conversely, that their proprietors may spend a larger proportion of their profits on consumption. This is highly likely. For one thing, his routine consumption expenditure is likely to form a larger proportion of a small entrepreneur's income simply because it is small. But apart from that, the propensity of the small entrepreneur to spend on the indicators of wealth and status, such as a house and a car, is likely to be greater than that of an industrialist who has been richer and for a longer time. If it is true that small entrepreneurs consume a higher proportion of their profits, it would be a reason for discouraging their growth, not promoting it. Second, growth will lead a certain number of small firms to graduate into large firms every year; this natural exodus would reduce the share of small firms in industrial output. However, since there is no machinery to deregister small firms as their fixed investment comes to exceed the permissible limit, this exodus is probably not an important influence on official statistics.

It thus follows that the original rationale of promoting small firms no longer applies, and that the replacement of large by small firms that results from such promotion may actually reduce the industrial savings rate. However, there are still two grounds for discriminating in favour of the small firm.

First, although there is no justification for aiding the small firm, there is one for aiding the new firm, because new firms are the cradle of enterprise. Second, there is a case for exempting small firms from taxation because the cost of taxing them would exceed the revenue. The two reasons coincide to a certain extent; Indian tax administration can become oppressive in the hands of the wrong officials, for the powers given to them are extensive. Small firms are easy prey to oppression, and there is a point in giving them a tax exemption to make new entry easy.

*A. Fiscal Incentives*

If the stress is to shift from aiding small firms to aiding new firms, then degressivity should be introduced into incentives. The simplest way of doing it is to give it for only the first few years of a firm's existence. This type of incentive is well known in India; for instance, most state governments give a tax holiday to new large firms being started in their states. This is the type of incentive that should be given to new small firms as well.

Even after the initial years a firm should continue to be tax-exempt if it is still limited to a size that is not worth taxing. However, both the present definition of small size and the method of establishing it need to be abandoned. There is no point in defining size in terms of fixed investment. Since the bulk of industrial taxation is on output, size is best defined in terms of it. Very simply, it can be laid down that no firm need pay excise duty if its tax liability is less than a figure defined on the basis of administrative convenience - say, Rs 100,000. This will make the threshold size a complicated function of the rates and structure of excise duties; but this complexity is no disadvantage.

Any exemption of this kind creates an incentive for firms to retain the exemption by not reporting output exceeding the exemption limit. To detect such evasion is one of the primary functions of the tax administration; but to make its task easier, two changes can be made. First, the rates of commodity taxation should be lowered: this can be done without loss of revenue if much of the current output of 'small' firms is brought into the ambit of taxation. Second, the exemption of Rs 100,000 should be available to firms even after they graduate into an excisable size - in other words, it should be made available to all firms, large and small, new and old. All firms whose tax liability exceeds the exemption limit should pay their excise dues minus the exemption. The effect on the tax paid by large firms will be marginal; but the temptation to avoid entering the excise net would be greatly reduced.

Greater sophistication could be introduced by introducing progressive slabs as in income taxation. But this would be more feasible if the present excise duties were replaced by a general value - added tax - in other words, the present taxation on physical production is replaced by a tax on annual sales. Firms would strongly welcome such a change, for it would mean an end to the present system in which excise officials turn every factory into a fortress and control all ingress and egress of products. It would make indirect taxation more like direct taxation; in fact, a value-added tax could well replace the present direct taxes on business, whose yield is small. The replacement of excise duties, sales taxes, stamp duties, and taxes on business income by a generalized value-added tax is our second, more radical suggestion. It is likely to be resisted by the tax administration because the present watchdog system is less easy to evade. We think that as total industrial output grows, the present system will become increasingly cumbersome and oppressive, and will have to be abandoned sooner or later. But until it is, it would be advisable to introduce the excise exemption of the kind we have described above.

Once it is introduced, it can be used to define a small firm as one which does not have to pay excise duty; the present system of registering small firms serves no purpose apart from creating work for the bureaucracy, and can be abandoned. If any incentives are retained for small firms, the excise exemption will serve to identify small firms.

*B. Investment Assistance*

Of the present incentives, only the interest concession on loans from official institutions seems to us worth retaining. Here, however, there

are no grounds for a concession on the basis of administrative convenience; in fact, small loans are more costly to service than large ones. Hence interest concessions should be given only to new firms. On long-term loans it could take the form of an interest holiday or interest rebate for the first few - say, five - years. On short-term loans it could take the form of a lower interest rate on a certain part - say, the first Rs 250,000 - of a loan. But far more important than an interest subsidy is the restructuring of concessional credit.

Our survey has amply shown that the short-term capital requirements of small firms are much better met than long-term needs. By now, the banking system has broadened its reach considerably: it reaches into small and obscure towns, and at least in the cities we covered, it finances a very high proportion of small firms. We found few firms complaining of shortage of working capital or of inadequate credit from the banks, and some of those that complained were firms of which lenders would be wary. We had complaints about sudden withdrawal of bank support leading to serious financial problems. This may in particular cases be due to poor judgment on the part of the banks. But it is also a symptom of overdependence on banks, and of a firm on a single bank. We think it is unfortunate that banks loom so large in the short-term capital market, and we do not agree with the banking system's prejudice against accounts being held by firms in more than one bank. But we have not in any case encountered evidence of general inadequacy of short-term finance.

In long-term capital, however, there are a number of signs of short supply. There is greater dependence on own resources in long-term than in short-term capital. The number and the reach of institutions supplying long-term finance is also much less than that of banks supplying short-term capital.

Whereas the number of banks is large (and despite being government-owned, they do compete), the only official sources of long-term capital are the State Finance Corporations (SFCs), specializing in loans, and the State Industrial Development Corporations (SIDCs), which give some equity capital. The geographical reach of these institutions is much more limited than that of the banks; in most states the state financial institutions are confined to the capital and one or two major cities. The proportion of small firms financed by them is also very small; in fact, an overwhelming majority of the firms interviewed by us had no contact with them at all. Hence we think that funds are likely to reach a wider and more representative part of small firms if IDBI participates in refinancing bank loans. Banks do discount bills based on machinery purchases of small firms, and these are refinanced on a modest scale by IDBI. This business could be expanded.

It can be argued that funding state government financial institutions is a way of ensuring that the funds go to deserving states. We do not agree. It is perfectly possible for a state government to give refinance to banks for loans to small firms in its own state. It is also possible for IDBI to choose the loans it wishes to refinance on the basis of any criteria it may lay down. In our view, the choice of financial institutions through which IDBI channels funds to financial institutions should be more even-handed, and should be based on some objective criteria.

We would like to stress this point because we have received limited but credible evidence that the management of state financial institutions is highly variable, and in many states, distinctly poor. The recovery ratio is disturbingly low in a large number of states. The choice of small firms to fund is not based on any obvious and fair criteria; in some cases it is based on demonstrably unsound criteria. The tendency to use financial institutions as conduits for political handouts affects all such institutions; loan festivals sponsored by ministers have been a notorious bane of the banks. But the proportion of loans granted as political favours is much greater in the case of state government institutions; and even loans which may not have been unsound in conception are rendered so by the government's writing off of loans to politically powerful classes.

Finally, if state government institutions are to be used, it is not clear why these should be the SFCs and not the SIDCs. For in our view, too high a proportion of the public funds available to small firms consists of fixed-interest loans and too little is in the form of equity. There is a stronger case

for assisting new rather than small firms. Following the lending policies of the SFCs, the firms it finances get loans of two-thirds to three-quarters of their fixed capital requirements; so they start with a gearing ratio of 2:1 or 3:1. This makes them extremely vulnerable; it requires very little by way of misfortune in the initial years for them not to be able to service their loans. It is important to start off firms with a reasonable ratio of equity to loan capital; here, it is equity whose supply is inadequate.

Admittedly, investing in equity transfers part of the risk to the financing institution; and there is a risk not only of the failure of the firm to make profits, but also of the financial institution being cheated of its fair share of profits by the promoter. This is why the SIDCs, which in theory can give risk capital to small firms, in practice have given little. Government institutions are basically risk-averters; and in the case of small firms they often have good reasons to avert risk.

But despite the difficulties of supplying it, risk capital is the more important need of small firms. The best course would be to build up institutions that would make a professional assessment of the risk and select firms to fund which minimize this risk. Here again, we think that the banks are more likely to be able to do this, for they have access to information about firms and their promoters which can be used for risk assessment. The banks may fund small firms through their merchant banking divisions, which currently specialize in floating equity issues for large firms; or they may set up subsidiaries to provide risk capital.

### *C. Clearing the Decks*

The remaining incentives should be abandoned. In particular, market segmentation arrangements, in the form of reservation, price preference and preferential purchase, appear to us to have no desirable effect, and some strongly undesirable ones. Preferential purchase has probably never been significant. There is considerable resistance within the buying government departments against paying more to small firms for products that can be obtained more cheaply from larger firms, as also a prejudice against the products of small firms on account of poor quality. So although some small firms have acquired a market niche in the exclusive purchases of the government, the total impact of price premia and exclusive purchases has been small. Reservation has been more influential, but its major effect has been to fossilize the technology and to proliferate firms in reserved industries. We are not sure that it has prevented the growth of firms; apparently, the firms whom growth would have forced to leave reserved industries expand into other industries. This is particularly easy in engineering and chemicals, which account for the largest number of reserved products. This forced diversification, in our view, accounts for the fact that a very small proportion of the firms we interviewed thought that reservation was significant for them: although many produced reserved items, few obtained a significant part of their profits from them. It follows that dereservation would not affect them very adversely even if it led to a sudden influx of much more efficient firms - which is unlikely. Small firms have a significant competitive advantage in the form of the low wages they pay; it is unlikely that large firms can profitably make a quick and massive entry into reserved industries. It is more likely that dereservation will enable the more efficient amongst the small firms already in the industry to grow.

In brief, it is our view that the system built up by the government to assist small firms helps the wrong firms, benefits them at the expense of the consumer, and creates a bureaucracy with no essential function. It would be greatly simplified, and be made more effective, if it were replaced by an arrangement consisting of only two elements designed primarily to help new firms - an indirect tax exemption, and capital for new firms.

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# AN ANALYSIS OF INTER-STATE AND INTER-COMMODITY GROUP RURAL-URBAN CONSUMER PRICE INDICES IN INDIA; 1983 TO 1988-89*

S.D. Tendulkar & L.R. Jain

*The basic objective of this paper is to make available to the research community a time series of representative rural and urban consumer price indices by commodity groups, at the state and all-India level from 1970-71 to 1988-89. The inter-temporal movement in the level of price indices and their average annual compound growth rate between 1983 and 1988-89 have been analysed along two dimensions: average across states and inter-state relative disparity as measured by the coefficient of variation. Major rural-urban and commodity group-specific empirical regularities emerging from our analysis are presented.*

## *1. Introduction*

With a view to meeting the persistent demand from the research community, our recent study made available, for the first time, rural and urban consumer price indices by detailed commodity groups for twenty states as well as all-India [Jain and Minhas, 1991]. These new consumer price indices pertained to five National Sample Survey (NSS) years, 1970-71, 1972-73, 1973-74, 1977-78 and 1983 with two alternative base years 1960-61 (rural)/ 1960 (urban) and 1970-71. In the construction of these indices, extensive monthly retail price data, collected for the compilation of official consumer price indices (CPI) for different occupational groups such as agricultural labourers (CPIAL), industrial workers (CPIIW) and non-manual employees (CPINM), were combined with the NSS-based consumer expenditure pattern.

In a recent study [Minhas *et al*, 1991], which was an extension of the two earlier studies [Minhas *et al*, 1988, 1990], rural and urban cost of living indices were reported for three broad aggregates - all-food, all non-food and general (food plus non-food). These indices were calculated at the all-India level, as well as for twenty states and covering the latest four agricultural (July-June) years during the 1980s, viz., 1984-85, 1985-86, 1986-87 and 1987-88. Ever since the publication of this study, we have been receiving requests for reporting the state-specific consumer price indices for individual commodity groups by disaggregating the broad all-food and all non-food groups, for the same years during 1980s. In order to meet this growing demand, this paper extends our earlier study to the latest five years of 1980s [Jain and Minhas, 1991]. It reports statewise as well as all-India consumer price indices for the entire rural population for thirteen commodity groups and the entire urban population for seventeen commodity groups. The indices are presented for five consecutive agricultural years from 1984-85 to 1988-89 and with two alternative base years 1960-61 (rural)/1960 (urban) and 1970-71.[1]

The rest of the paper is organised as follows. A brief description of data and their limitations are given in Section 2. In Section 3 we describe the steps followed in the construction of state-specific as well as all-India, rural and urban price indices for different commodity groups. The indices thus constructed, are presented in Section 4. Section 4.1 presents the empirical regularities emerging from the analysis of the inter-state and rural-urban variations in the level of commodity group-specific consumer price indices. Similar analysis of the compound annual growth rates of the commodity group-specific consumer price indices between 1983 and 1988-89 appears in Section 4.2. Section 5 contains the concluding remarks along with a brief recapitulation of major findings.

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*This paper is an extension of the earlier studies jointly carried out in close collaboration with Professor B.S. Minhas. In fact, the information base underlying this paper was developed under his guidance and supervision. Due to personal circumstances he could not go through the contents of this paper in order to be the joint author, and hence he cannot be held responsible for the shortcomings that persist. But we gratefully acknowledge his full share in the credit. We are thankful to Shri S.D. Verma for his deep involvement in the collection and processing of price data in the initial stages.

## 2. *Data and their Limitations*

For the purpose of compiling the various state-specific and commodity group-wise price indices, we have preferred to take the agricultural (July-June) rather than the calender or financial (April-March) year as the reference period. This choice is governed by the consideration that it coincides with the NSS survey period relating to the 42nd (1986-87), 43rd (1987-88) and 44th (1988-89) rounds so that ready price adjustment factors become available to analyse the latest available consumer expenditure data.

There are two essential ingredients in the construction of a consumer price index, viz., (a) the retail prices of the various items of consumption forming the underlying commodity group in the base and the current year or the relevant price relatives for the current years and (b) the budget pattern or the weighting diagram in the base year. The data sources and their limitations, in the context of these two ingredients, are the same as those discussed in our recent paper for both the rural and the urban population and in respect of all the years of this study except 1988-89 relating to the urban population [see Minhas, *et al* 1991 for details]. However, we provide in separate sub-sections, the bare necessary details concerning the two ingredients (a) and (b) in the context of constructing statewise rural, statewise urban, and all-India rural or urban indices.

### 2.1. *State-wise Rural Indices*

Statewise monthly retail price relatives, with 1960-61 (July-June) = 100, for 62 items of consumption and for 15 major states, compiled for the CPIAL series, were made available to us by the Labour Bureau. As we know, some further reorganization of states was undertaken after the data for CPIAL series began to be collected. In view of this, we have been constrained to assume that the price relative data of the combined Punjab applies to the present day rural population of Punjab, Haryana, Himachal Pradesh and Delhi. Similarly, price relatives for Assam are taken to apply to Manipur and Tripura as well.

For our study, we have taken all the 37 food items and 10 miscellaneous goods and services items and two item groups, viz., fuel and light, and clothing, bedding and footwear. These 49 items/item groups have been aggregated into 13 groups: nine relate to food and four to non-food. The description of these 13 commodity groups, along with the individual items constituting them, is given in Appendix-table A.1R.

There has been a serious lacunae concerning the retail price relatives relating to firewood, whose weightage in the fuel and light group in the base year 1960-61 is quite high varying from 72 to 87 per cent across the various states. The Labour Bureau have been using 100 as the fixed value of the price relative (with 1960-61 = 100) for most of sample villages for this high weightage item (firewood) at every point of time. However, the all-India average rural retail price series published monthly from 1970 onwards by the Central Statistical Organization (CSO) in their *Monthly Abstract of Statistics* indicates a fairly steep and continuous rise in the average all-India rural retail price of firewood. The procedure used in CPIAL would thus impart a downward bias in the retail price index of fuel and light, with the bias progressively rising over time. For correcting this bias, an indirect procedure was used in our earlier studies [Jain and Tendulkar, 1989 and Minhas, *et al*, 1990, 1991]. The same procedure has been followed here for correcting the downward bias and obtaining the adjusted estimates of the price indices for fuel and light group for various years with 1970-71 as the base year.

For constructing state-specific and commodity group-specific rural or urban consumer price indices, the relevant weighting diagram in the base year 1960-61 has been worked out from the detailed consumer expenditure data available in the tabulated form in the NSS Report No. 184, relating to the 17th NSS round, which covered the period from September 1961 to July 1962 (1961-62). Here, we have been constrained to assume that the state-specific and commodity group-specific weighting diagrams for the years 1960-61 and 1961-62 are the same.

Notice that for 1960-61, Haryana, Himachal Pradesh, Punjab and Delhi are assumed to have the same weighting diagram as the combined Punjab, and for Manipur and Tripura as that of Assam. However, for the base year of 1970-71,

all states have their own separate weighting diagrams (across 13 commodity groups[2]) which are taken from the NSS Report No. 231 containing relevant NSS consumer expenditure data relating to the 25th round.

### 2.2. *State-wise Urban Indices*

For the construction of consumer price indices for the urban population of individual states, we have used the commodity group-wise monthly retail price relatives data, compiled by the CSO at the level of selected urban centre, both for the old base and the revised base for the CPIIW and the CPINM series. These price data have been/are being collected and compiled for (a) the CPIIW series for 50 urban centres upto September 1988 with the old base year of 1960 and for 70 centres thereafter under the revised base year 1982, and (b) the CPINM series for 45 urban centres upto October 1987 with the old base year of 1960 and for 59 centres thereafter with the revised base (April 1984 - March 1985 = 100). Among the centres selected for the old and the revised series, 43 and 44 centres are common for the CPIIW and the CPINM series, respectively.

Centre-wise monthly indices were made available to us for 22 commodity groups for the CPINM series and for 17 commodity groups for the CPIIW series. The list of these commodity groups for the two series is given in Appendix-table A.1U. For our study, 22 commodity groups of the CPINM series have been aggregated (using appropriate weights of the CPINM series) into 17 commodity groups so as to have one-to-one correspondence between the two sets of commodity groups. The CPINM commodity groups, with serial numbers, (3 and 4), (9, 10 and 11), (17 and 18), and (21 and 22) have been grouped together so as to correspond to the CPIIW commodity groups with serial numbers, 3, 8, 14 and 17, respectively. Notice that the items and their specifications covered under a commodity group, as expected, are not exactly the same for the two series. They are bound to be somewhat different as the two series relate to two different occupational groups.

Our price data requirement for all the years, except 1988-89 with respect to the CPIIW and 1987-88 and 1988-89 with respect to the CPINM series, has been met by taking the centre-wise and commodity group-wise monthly price relatives data collected and compiled under the old base year 1960. With reference to CPINM, (a) for the year 1987-88, the monthly price data are available for the first four months (July to October 1987) with the old base (1960=100) and for the next eight months (November 1987 to June 1988) with the revised base (1984-85 = 100), and (b) for the year 1988-89, the monthly price data are available with the revised base. To have the same base year (1960=100) for the centre-wise monthly price relatives (across twelve months of year 1987-88 and 1988-89) relating to the CPINM series, for each centre we convert monthly price relatives (with 1984-85=100) for the last eight months of 1987-88 and the twelve months of 1988-89 to the corresponding price relatives with 1960=100. This is done by using the centre-specific and commodity group-specific price relative for 1984-85 with 1960=100 as the multiplying factor. This conversion is done for each of the 45 centres of the old base CPINM series. It may be noted here that except for one, all the 45 centres of the old base are included among the 59 centres of the revised base. As 'Kozhikode' centre of the old base is replaced by new centre 'Calicut' in the revised base, we have been constrained to assume that for the twenty months period from November 1987 to June 1989, the monthly price relatives (with 1984-85 = 100) are the same for Kozhikode and Calicut, both belonging to the state of Kerala.

With reference to CPIIW for the year 1988-89, the monthly price data are available for the first three months (July to September 1988) with the old base (1960=100) and for the next nine months (October 1988 to June 1989) with the revised base (1982=100). To have the same base year (1960=100) for the centre-wise monthly price relatives (across twelve months of the year 1988-89) relating to the CPIIW series, the same procedure of base year conversion as followed above in the case of CPINM series has been used for the last nine months of the year 1988-89. This conversion is done for each of the 50 centres of the old base CPIIW series.

It may be noted that among the 70 centres of the new CPIIW series, there are 43 centres which are

the same as in the old series. There is thus a problem of getting the price relatives for the remaining 7 centres of the old series which have been omitted in the new series for the last nine months of 1988-89. To sort out this problem, we located the centre in the new series in the same State that was geographically adjacent to the omitted centre from the old series. We then assumed that the monthly price relatives of the adjacent centre for the last nine months of 1988-89 applied to the omitted centre[3]. This splicing procedure is not claimed to be entirely satisfactory. But we could not think of a more sensible alternative. The remaining 20 centres in the new series which did not exist in the old series could not be included in the construction of the urban consumer price index.

For state-wise location of the centres in the two series, readers are referred to the Appendix-table A.2 of Minhas *et al*, [1988]. Notice that two (among the 20 states for which urban indices are constructed) are union territories, viz., Chandigarh and Delhi. It may further be noted that the four states/ union territories - Himachal Pradesh, Haryana, Meghalaya and Chandigarh - have only one centre each; whereas most of the other states have 5-8 centres. In view of this limitation, the price indices constructed for these four states/union territories cannot be as representative as those for the other states/union territories.

For the state-specific weighting diagram (*i.e.* consumer expenditures on the 17 commodity groups) in the base year of 1970-71, we have used the NSS consumer expenditure data relating to the 25th round. The source of these data is the same as that in case of the rural sector quoted in previous Section 2.1. Notice that for Meghalaya state, the NSS consumer expenditure pattern was not available for 1970-71. As such for this state, the weighting diagram for 1970-71 is taken to be the same as that for Assam.

### *2.3. All India Rural and Urban Indices*

All states or all-India commodity group-specific rural (urban) consumer price index with the base year 1960-61 (1960) or 1970-71 can be obtained by weighted aggregation across states of the commodity group-specific rural (urban) indices for various states with the same base year. This in turn, requires commodity group-specific aggregate consumption expenditures of rural (urban) population across states in the base year to represent the relevant weighting diagram. These commodity group-specific rural (urban) weighting diagrams across states can be worked out from the rural (urban) state-wise (a) population and (b) per person consumer expenditure for the base year. For the two alternative base years of 1960-61 (1960) and 1970-71, the data sources for population are 1961 and 1971 Population Census, whereas the data sources for state-specific per person consumption expenditure are NSS Reports No. 184 and 231, respectively.

## *3. Procedure Followed in the Construction of Commodity Group-wise Consumer Price Indices*

For combining the relevant data discussed in Section 2, the following procedures have been adopted in working out all-India and state-specific rural and urban consumer price indices for various commodity groups with the base year 1960-61 (1960) or 1970-71.

### *3.1. State-specific Rural Indices*

(a) For each state, monthly price indices for each of the 49 consumer items/groups (with the base year 1960-61) are simple averages across the months belonging to the current year of the index.

(b) The 49 consumer items/groups have been aggregated into 13 commodity groups for each state. For each of the 13 commodity groups, price index is worked out as the weighted average of the price indices for consumer items belonging to the specific commodity group, weights being the shares of the individual items in the consumer expenditure on the same commodity group in the base year 1960-61.

(c) State-specific price indices for each of the 13 commodity groups (with 1960-61 as the base year), as obtained above, are converted to the new comparison base year, July 1970 to June 1971 (1970-71), by dividing them with the corresponding price indices for 1970-71. In view of

the lacunae in the price data of the firewood item, as noted in Section 2.1, we use the appropriately adjusted state-specific price indices for the commodity group fuel and light.

*3.2. State-specific Urban Indices*

(a) For each urban centre of the CPIIW or the CPINM series, monthly price indices with 1960 as the base year, for each of the seventeen groups as listed in Appendix-table A.1U under the CPIIW series, are simple averages across the months belonging to the current year of the index.

(b) State-specific price indices for each commodity group are then worked out by taking simple average of the price indices of the centres (in both the series) belonging to the particular state. These state-specific price indices for each commodity group have the calendar year 1960 as the base.

(c) The price indices, obtained in step (b), are converted to the new comparison base year, July 1970 to June 1971, by dividing them with the corresponding price indices for 1970-71.

*3.3. All-India Rural (Urban) Indices*

All-India rural (urban) indices for each commodity group, with 1960-61 (1960) or 1970-71 as the base year, are worked out as follows:

(a) First, the aggregate consumption expenditure of the rural (urban) population of a state on a commodity group is obtained by multiplying the state-specific rural (urban) average per capita expenditure on the commodity group with the total rural (urban) population of the state. These commodity group-specific weighting diagrams across states for the respective years 1961-62 and 1970-71 can be easily worked out from Appendix-tables A.2 and A.3 of Minhas *et al*, [1990] for the rural population and from Appendix-tables A.3 and A.4 of Minhas *et al*, [1988] for the urban population.

(b) Second, the all-India rural (urban) index for each commodity group is obtained by taking the weighted average of the state-specific rural (urban) price indices for the commodity group (as obtained in step (b) or (c) of Section 3.1 (3.2)) across states, weights being the aggregate consumer expenditure on the commodity group in different states (as calculated in 3.3 (a) above).

*4. A Comparative Analysis of Consumer Price Indices*

The commodity group-wise consumer price indices thus constructed for 20 states/union territories and all-India (20 states together) for the five consecutive agricultural years from 1984-85 to 1988-89, with the base year of 1970-71, are presented in six Appendix-tables A.2.1R to A.2.6R for 13 commodity groups for the rural population and in seven Appendix-tables A.2.1U to A.2.7U for 17 commodity groups for the urban population. The 20 states considered here together account for 99.3 and 99.5 per cent of the rural and urban population of the Indian union, respectively in 1960-61, or 1970-71. Therefore, for all practical purposes, the terms all-states (20 states together) and all-India can be used interchangeably.

The states/union territories representing serial numbers 1 to 20 in the tables are identical for the rural and the urban population with two exceptions. For the rural population, Manipur and Tripura appear at serial numbers 12 and 20, respectively. These places have been taken by Meghalaya and Chandigarh for the urban population. These exceptions arise because of the non-availability of comparable data on weighting diagram or price relatives for both the rural and the urban segments.

Also notice that among the thirteen commodity groups (for the rural population) and the seventeen commodity groups (for the urban population), as listed in serial order in Appendix-tables A.1R and A.1U respectively, the first seven food and the first three non-food commodity groups are broadly similar in composition. As such, the index relating to each of these ten commodity groups is taken to be comparable across the rural and the urban population of a state. However, for

the remaining commodity groups it is not possible to claim similar comparability.

Results on the indices for three broad aggregates - all food, all non-food and general (food plus non-food) - are reported in Appendix-tables A.2.6R and A.2.7U for the rural and the urban population, respectively. These results except those for 1988-89 have been carried over from our earlier study for the sake of completeness [Minhas *et al* 1991].

From user's point of view, similar indices for 1970-71 with 1960-61 (1960) as the base year for the rural (urban) population were reported in Appendix-tables A.3R and A.3U respectively, in the earlier study [Jain and Minhas, 1991]. Applying these indices to the corresponding ones for the five years from 1984-85 to 1988-89 with 1970-71 = 100 (given in Appendix-tables A.2.1R to A.2.6R and A.2.1U to A.2.7U), one can easily derive similar indices for the same five consecutive years of the 1980s with 1960-61 (1960) as the base year.

In the earlier study commodity group-wise consumer price indices for the rural and the urban population pertaining to earlier years 1972-73, 1973-74, 1977-78 and 1983 with 1970-71 = 100, were presented [Jain and Minhas, 1991]. Along with them, the indices reported in Appendix-tables of the present study offer to the research community an almost continuous series of rural and urban commodity group-wise consumer price indices at the state and all-India level from the base year 1970-71 to the latest year 1988-89.

The consumer price indices have been worked out over four dimensions, namely, for 20 states, separately for the rural and the urban population, for five time points and for several commodity groups. This presents a bulky set of results on group indices. To keep the paper of manageable size, it will not be proper to go for a detailed analysis of the massive results. Nevertheless, we undertake some comparative analysis with a view to highlighting the inter-state and rural *versus* urban disparities in the level (at various points of time) and the movement (over time) of the commodity group-specific consumer price index.

### *4.1. Inter-state and Rural-Urban Variations in Commodity Group-specific Consumer Price Indices*

Summary Tables 1.R and 1.U report for each commodity group the minimum, the maximum and the weighted coefficient of variation (C.V. in percentage terms) of state-specific indices across states for the five years of 1980s and separately for the rural and urban population respectively. The state-specific aggregate expenditure on a given commodity group in the base year constitutes the weight in the coefficient of variation.

We have already pointed out that in the rural areas, commodity group-specific index for the states of Himachal Pradesh, Haryana and Delhi are taken to be the same as the index for Punjab and indices for the state of Manipur and Tripura the same as the index for Assam. Therefore, the minimum and the maximum index values for each commodity group in Table 1.R is worked out by excluding the states of Himachal Pradesh, Haryana, Delhi, Manipur and Tripura. We start with the examination of the rural-urban differences in the *levels* of commodity group-specific price indices for the five year period from 1984-85 to 1988-89 with 1970-71 = 100. The Appendix-tables form the basis of discussion. Next, we discuss the inter-state relative variability (based on Tables 1.R and 1.U) in the commodity group-specific price indices across (a) rural-urban population and (b) across commodity groups. This is followed by the broad patterns indicated by the minimum and maximum values (Tables 1.R and 1.U) across states in the levels of commodity group-specific price indices.

In this section, we examine the rural urban differences in the *levels* of commodity group-specific price indices with 1970-71 = 100. It is important to emphasize that with the base year expenditure shares of individual items within the commodity group as weights, the commodity group-specific index level represents the cost of the base year bundle of individual items in a given year relative to that in the base year. Notice that the composition of the base year commodity bundle even for the same commodity group differs for the rural and the urban population. The rural and urban index level for the same

commodity group would represent the changing costs of the *different* bundles in a given year relative to the base year. Consequently, the comparison of the rural-urban index levels cannot be used to draw inferences about the rural-urban price differentials. Even when the base year commodity-bundle within a commodity group is *identical* for the rural and the urban population, a comparison of the rural-urban index levels *cannot* reflect the rural-urban *absolute* price differentials. At best, when the commodity-bundle in the base year is identical for both the rural and urban population, the rural-urban index level differences in the current year will reflect the *widening* or the *narrowing* of the base year rural-urban price differentials. This is a rare case. Consequently, either the rural-urban absolute price differential or movements over time in these differentials *cannot* be inferred on the basis of the consumer price indices constructed in this study.

We classify the ten comparable commodity groups (across the rural and the urban segment of population) into three categories.

(A) The level of the rural index is lower than that for the urban index for most of the states and for the majority of the years included in this exercise.

(B) The level of the rural index is higher than that for the urban index for most of the states and the majority of the years.

(C) Neither pattern (A) nor pattern (B) occurs.

Category (A) includes the following six groups:
(i) cereals and cereal products;
(ii) pulses and pulse products
(iii) spices and salt
(iv) intoxicants, etc.
(v) fruits and vegetables
(vi) edible oils and fats

It is of interest to note that for the period from 1970-71 to 1983 this category (A) included only two of the above six commodity groups, namely, spices and salt and edible oils and fats [see Jain and Minhas, 1991]. Another two groups, pulses and pulse products and fruits and vegetables, were in category (B) and the remaining two in category (C). This implies that relative to 1970-71, in the 1980s the rate of growth of prices especially for food items was lower for the rural population than their urban counterparts in most of the states.

Category (B) contained three commodity groups:
(i) milk and milk products
(ii) meat, fish and eggs
(iii) fuel and light

Out of these three groups, only milk and milk products was in the same category (B) in the 1970s. The remaining two groups were in category (C) in the 1970s. Thus, for milk and milk products, the *rate* of price rise with reference to 1970-71 was consistently lower for the urban than for the rural population in the 1970s as well as in the 1980s for most of the states.

Apart from the nine groups in category (A) and (B), the only other comparable commodity group, namely clothing, bedding and footwear turned out to be the sole member of category (C).

Given that the commodity groups belonging to category (A) together enjoy high weightage in the consumption basket, it should be obvious that compared to 1970-71, the cost of living of the rural population did not increase as fast as that of the urban population in the 1980s in most of the states. The reverse situation was obtained in the 1970s.

We now discuss the inter-state relative variation in the level of group-specific indices (1970-71 = 100), as measured by the weighted coefficient of variation (C.V. in percentage terms) across states with the state-specific aggregate consumer expenditure on the commodity-group in 1970-71 as weights. The inter-state weighted coefficient of variation can be taken to indicate broadly the degree of integration in the markets across states for the underlying commodity group. The lower the magnitude of C.V. the greater is the degree of integration. This would be affected by the demand and supply factors operating through the open markets as well as the government interventions in the movement and the distribution of certain essential commodities at subsidised prices as also other price regulations.

We first comment on the rural-urban differences in the ten comparable commodity groups. The rural inter-state relative disparity in the index level was lower than the urban in all the years of the 1980s for the following four groups: cereals and cereal products, edible oils and fats, fuel and light and clothing, bedding and footwear. The rural markets were more integrated than their

urban counterparts for these four groups. Since the first two food groups in this list are also the ones whose rural price index level was lower than the urban, the rural population would have experienced a lower rate of increase in the of cost of living in the 1980s across most of the states in respect of the these groups. The higher rural than urban relative disparity across states is obtained for six groups: pulses and pulse products, fruits and vegetables, spices and salt (except in 1984-85), milk and milk products, meat fish and eggs, and intoxicants, etc. Thus, for milk and milk products, in particular, not only was the urban rate of price increase lower than the rural (as noted earlier) but also the degree of urban market integration was greater than that for the rural population in the 1980s. It may be noted that for this commodity group, the urban market integration was *lower* for the earlier period (except 1977-78) of the 1970s [see Jain and Minhas, 1991]. This may reflect the effectiveness of the operation milk flood programme for the mid-eighties.

The commodity group-specific degree of market integration (across states) can also be examined *across* thirteen commodity groups (rural) and seventeen commodity groups (urban), separately. For a given commodity group, we indicate the range (within brackets) of C.V. in percentage terms over the five year period along with the name of the group. The degree of *rural* market integration is observed to be *highest* across commodity groups in respect of clothing, bedding and footwear (4.1 to 5.9) and fuel and light (4.5 to 6.5), whereas the *lowest* degree of market integration is observed for fruits and vegetables (12.8 to 35.2) and other food (22.3 to 27.0). For the *urban* population, pulses and pulse products (3.4 to 4.5) and meat, fish and eggs (5.2 to 6.3) are at the upper end and housing (28.2 to 32.5), education and recreation (18.2 to 20.0), medical care (12.4 to 18.0) and cereals and cereal products (13.9 to 15.1) appear at the lower end in terms of the degree of market integration. We may note that the cost of housing and medical care are difficult to compare across states given the heterogeneity in the nature of these groups. The data on urban rented housing also suffers from numerous reporting and other problems. It is, however, significant that the basic necessity like cereals and cereal products has one of the highest inter-state relative disparity in the 1980s for the urban population.

Apart from the degree of inter-state market integration on which we have commented so far, it would be interesting to examine whether the same state for the same commodity group is consistently experiencing the lowest or the highest rate of price increase in most of the selected years of the 1980s. This can be assessed by observing the state with the minimum and the maximum level of the price index for each commodity group. This information is provided in Tables 1.R and 1.U for the rural and the urban population respectively. In the subsequent discussion, we also mention in brackets the state-specific percentage share of the commodity group in total consumer expenditure of the underlying state in 1983. These shares have been taken from the Appendix-tables A.3R and A.3U of Minhas *et al.* [1991].

We first note the unique case of **Jammu and Kashmir** where *both* the rural and the urban population experienced the *lowest* value of the price index for fuel and light with 8.3 per cent (rural) and 9.3 per cent (urban) share of the total expenditure in 1983 and the *highest* value for cereals and cereal products with the total expenditure shares of 32.3 per cent (rural) and 22.0 per cent (urban). The food-deficit status of Jammu and Kashmir may explain the highest rate of price rise for cereals and cereal products whereas the local supplies of fuel and light items may be responsible for the lowest rate of increase for this commodity group across states.

We now note the similar regularity observed *only* for the rural or the urban population.

Taking the rural population only, **Jammu and Kashmir** also experienced a minimum value of the price index for commodity groups sugar and gur (1.9) and intoxicants etc. (2.0). In addition, **Kerala** registered the lowest value of the price index for milk and milk products (4.0) and the highest value for fruits and vegetables (8.2) and intoxicants etc. (3.0). We find that **Maharashtra** comes at the lowest end for the price index of clothing, bedding and footwear (11.2) and the highest end for fuel and light (8.2). It is not easy

to surmise the explanatory factors underlying these regularities. Apart from Maharashtra which is the major producer of the commodities going into the manufacturing of clothing, bedding and footwear, one has to invoke differences in tastes generating or restricting demand for items entering into the commodity groups mentioned above in the case of Kerala and Jammu and Kashmir.

The picture is more mixed for the urban population where the small states and union territories appear at the lowest end with respect to certain consumer services. In addition, Haryana experienced the lowest price index for fruits and vegetables (7.5) and the highest for transport and communication (3.4) and personal care and effects (2.5).

### *4.2. Inter-state and Rural-Urban Variations in the Compound Annual Growth Rates of Commodity Group-specific Price Indices between 1983 and 1988-89*

For most of the commodity groups and in most of the states, the price index with 1970-71=100 more than doubled between 1970-71 and 1983. There was no decline between 1983 and 1988-89 in the price index for almost all the commodity groups at the all-India level. We have, therefore, decided to examine the annual compound point-to-point growth rate between 1983 and 1988-89 for each commodity group across states, separately for the rural and the urban population. These growth rates are reported in Table 2.R and 2.U for all the commodity groups and for the rural and the urban population. These growth rates have been worked out from the commodity group and state-specific price indices for the years 1988-89 and 1983, both with 1970-71=100. The indices for 1983 with 1970-71=100 are reported in the Appendix-tables A.3R and A.3U for the rural and the urban population. These indices have been carried over from the earlier study for the sake of completeness [Jain and Minhas, 1991]. We use the unweighted coefficient of variation of commodity group-specific growth rates across states as a measure of the inter-state relative disparity in the rates of growth of prices. It may be easily checked from Tables 2.R and 2.U (lines 21 and 22) that the simple unweighted average of the rates of growth across states is not very different from the rate of growth of the weighted average of price index across states. Consequently, the bias term in the coefficient of variation would be negligible.

For major commodity groups of all food and all non-food as well as for all commodity groups together, the annual compound growth rates between 1983 and 1988-89 are presented for all the states along with the average growth rate and relative disparity across states in the last three columns of Tables 2.R and 2.U. For these broad groups, the rates of growth of prices did not exceed double-digit for any state in the case of rural population and with only two exceptions (Chandigarh for all food and Tamil Nadu for all non-food) for the urban population. Growth rate for all food was in general lower than that for all non-food for the rural population whereas the two growth rates were about the same for the urban population. Inter-state relative disparity was, however, higher for all food than for all non-food for both the rural and the urban population. Across rural-urban segment, the rural relative disparity was higher for all food and lower for all non-food than for the urban population.

We now turn to the discussion of more detailed commodity groups. We examine patterns of inter-commodity group variations along two dimensions, namely, the commodity group-specific average (across states) rate of growth of prices and the inter-state relative disparity of rates of growth around that average, measured in terms of coefficient of variation. The rate of growth of prices is taken to be important because of its effects on the levels of living of the households. The inter-state relative disparity around the average would broadly reflect the degree of inter-state integration in the markets for the items entering into the given commodity group. A "low" ("high") relative disparity would indicate a "high" ("low") degree of market integration. Thus, a given growth rate of prices when associated with a "low" relative disparity would be indicative of a "high" degree of inter-connections among the markets. On the other hand, combined with a "high" relative disparity it would reflect segmentation of the markets in various states. In

order to impart some "objectivity" in the terms "high" and "low", we take as cut-off points the values of the growth rate (G) and the coefficient of variation (D) nearest to their median values across commodity groups. The median values turned out to be 8.6 per cent (rural) and 8.5 per cent (urban) for G and 18.2 per cent (rural) and 17.3 per cent (urban) for D. Since the median values of G and D did not differ appreciably for the rural and the urban population, we have taken the uniform cut-off points of 8.5 per cent for G and 18 per cent for D. Based on both G and D, we can, thus, form four categories:

I: $[G_L,D_H]$-low growth rate with high relative disparity
II: $[G_H,D_H]$-high growth rate with high relative disparity
III:$[G_L,D_L]$-low growth rate with low relative disparity
IV: $[G_H,D_L]$-high growth rate with low relative disparity

Table 3 presents the outcome of this exercise. We first discuss the regularities which hold for *both* the rural and the urban population. The category I, having a low average growth rate of prices combined with possible segmentation of markets both in the case of the rural and the urban population, includes two commodity groups involving necessities, namely, cereals and cereal products and clothing, bedding and footwear which have a combined expenditure share of 41 per cent (rural) and 27 per cent (urban) at the all-India level in 1983. It is surprising that despite procurement and public distribution on government account, the rates of growth of prices of cereals and cereal products exhibit wide variability across states for both the rural and the urban population. Even though there is no major government intervention in the markets of the commodities going into the manufacturing of clothing, bedding and footwear, the high inter-state relative disparity in the case of clothing, bedding and footwear is similarly surprising in view of the presence of certain flexibilities on the supply side. These flexibilities are contributed by (a) the diversity of materials (cotton, non-cotton fibres, leather, rubber, plastics) going into the production of the items constituting this commodity group; (b) the geographically dispersed nature of production units especially in the unorganised sector; (c) the co-existence of the organised and the unorganised production units; (d) the long-established nature of the industry producing these items; and (e) prevalence of a fair amount of inter-state trade with transport facilities. We also have a "difficult-to-explain" case of spices and salt in category II with both the high average growth rate of prices and the high relative disparity. Compositional differences, especially in spices, across states as well as across the rural and the urban population within the same state, may be the possible reason. Edible oils and fats belong to the category III representing highly integrated market combined with the supply increasing fast enough to meet the demand so as to bring about a low overall average growth rate of prices. The final category IV, with higher than median growth rate but lower than median inter-state relative disparity, contains three commodity groups, viz., milk and milk products, meat, fish and eggs, and intoxicants, etc., accounting for the combined expenditure shares of 14 per cent (rural) and 15 per cent (urban). For compositionally comparable items within these commodity groups, the markets appear to be inter-connected and the demand seemed to be rising much faster than the supply so that average growth rate of prices turned out to be on the high side. Alternatively or in addition, the compositional differences across states may also bring about this result depending on differences in tastes and locally available alternative sources of supply.

Finally, we note certain commodity groups which show rural-urban contrasts in terms of inter-state relative disparity. Two commodity groups, namely, fuel and light and fruits and vegetables (each accounting for 6 to 7 per cent expenditure share) experienced lower than the median rate of growth of prices at the all-India level. However, inter-state relative disparity in the case of fuel and light turned out to be much higher than the median one for the urban and slightly lower than the median value for the rural population. The situation for fruits and vegetables was the other way round in terms of relative

disparity. While plausible explanation can be traced for some of these relative disparities, there remains a puzzle in other cases. For fuel and light, the compositional differences across states and the locally available sources of supplies may possibly explain the somewhat low relative disparity for the rural population. For the urban population, the compositional differences of fuel and light are likely to be less sharp and its commercial supply sources to be widespread. In the face of these facts, the occurance of higher than the median relative disparity for fuel and light remains a puzzle. In the case of fruits and vegetables, which are mostly perishable, the supply sources are likely to be mostly rural and agro-climate-specific whereas demand is concentrated among the urban population. Movements of fruits and vegetables, both from the adjoining rural areas as also from other states, would tend to narrow the inter-state differences in the rates of growth of price index for the urban population. However, higher than the median relative disparity for the rural population originates along the geographical lines, with the Southern states reporting much higher and the Northern states much lower than median growth rates. Supply-demand imbalances in the Southern states combined with supply-curve shifts in the Northern states may have to be invoked to explain this phenomenon. Pulses and pulse products registered double-digit (around 12 per cent) per annum compound growth rate in prices. The inter-state relative disparity was 13 per cent (lower than the median level) for the urban population whereas it was 18 per cent (around the median value) for the rural population. The urban markets appear to be more integrated than the rural markets for pulses and pulse products.

### *5. Concluding Remarks*

This paper presented for the first time representative consumer price indices for the entire rural and the urban population separately for each of the twenty states/union territories as well as for all-India. These indices have been constructed for the individual commodity groups as well as for three major aggregates - all-food, all non-food and general (all commodities together) - for five recent consecutive agricultural years from 1984-85 to 1988-89, with two alternative base years of 1960-61/1960 and 1970-71.

It may be noted that our results on the indices relating to rural Delhi, rural Tripura, and urban areas of Haryana, Himachal Pradesh, Meghalaya and Chandigarh are based on very few price quotations or a very small sample size for constructing a weighting diagram or both. There is also a serious weakness in data base on housing costs which seem to reflect only contractual rent wherever actually paid and not the rent inclusive of overt and covert lump-sum payments nor the imputed rent for self-occupied houses.

The results of this paper, taken along with the earlier study make available to the research community rural and urban consumer price indices by commodity groups, with 1970-71 as the base, spanning over 19 years from 1970-71 to 1988-89, giving index values for ten different time points-the first five and the last three of which correspond to the survey periods of the last eight rounds of NSS consumer expenditure survey, viz., 1970-71, 1972-73, 1973-74, 1977-78, 1983, 1986-87, 1987-88 and 1988-89 [Jain and Minhas, 1991].

Finally, we may note major regularities and contrasts which suggest themselves on the basis of the commodity group-specific and state-wise consumer price indices over the last two decades.

First, in comparison with 1970-71, the general cost of living of the rural population did not rise as fast as that of the urban population in the 1980s. The reverse situation was obtained in the 1970s. This conclusion is based on the fact that for six commodity groups mostly containing food items and accounting for half of the all-India rural consumer expenditure in 1983, the level of the rural price index turned out to be lower than the urban for most of the states and most of the years of the 1980s.

Secondly, the rural inter-state relative disparity in the level of the price index was lower than the urban for all the years of the 1980s for four commodity groups of cereals and cereal products, edible oils and fats, fuel and light and clothing, bedding and footwear which together account for 52.3 per cent of the rural consumer expenditure in 1983. The first two commodity groups of food

items accounting for 35.6 per cent of the rural consumer expenditure also exhibited a lower *level* of the rural price index than their urban counterparts. Consequently, the rural population would have experienced a lower rate of increase (in comparison with 1970-71) in the cost of living in the 1980s across most of the states in respect of these two groups.

The foregoing two conclusions are based on the relative position of the rural population vis-a-vis their urban counterparts for comparable commodity groups with reference to 1970-71. The next two major conclusions focus on a rural-urban similarity and a rural-urban contrast which emerge from a comparison (across all the available commodity groups) of the average compound growth rate of prices between 1983 and 1988-89 across states.

Thirdly, among the commodity groups, the two commodity groups of cereals and cereal products and clothing, bedding and footwear stand out from the rest in the case of *both* the rural and the urban population. Across commodity groups when the inter-state average rate of growth in the price index and the inter-state relative disparity in these growth rates are compared, these two major groups accounting for 41 per cent (rural) and 27 per cent (urban) of the consumer expenditure exhibit a lower than median growth rate but a higher than median relative disparity. Higher than median inter-state relative disparity in the case of cereals and cereal products is surprising in view of the major government interventions in the markets of major foodgrains in the form of procurement and public distribution system.

Finally, we note a rural-urban contrast relating to the two commodity groups of fuel and light and fruits and vegetables, each accounting for about 6 to 7 per cent of the consumer expenditure for both the segments of the population. For both these commodity groups, the inter-state average rate of growth was lower than the median across commodity groups. However, the inter-state relative disparity in the case of fuel and light turned out to be much higher than the median value across commodity groups for the urban and only slightly lower than the median for the rural population. The situation for fruits and vegetables in terms of inter-state relative disparity turned out to be the other way round. We do not claim to know the factors underlying these rural-urban contrasts.

## NOTES

1. This paper reports the indices for 1988-89 for the first time. In order to provide comparison with the earlier papers, we also indicate the CPI for the aggregated food and the non-food groups for 1988-89.

2. For rural population, the commodity group other food is not comparable across states. This group with No. 9 in Appendix-table A.1R is represented by items tea leaf and coffee. For several states, the CPIAL series do not report price relatives for these items. However, in the base year, consumer expenditures on these items are reported by the NSS. In view of these facts, for such states we have been constrained to take the price index for other food group as equivalent to that for all food group as given by the CPIAL series. Notice that this procedure ensures that in the CPIAL series, the aggregation of the price indices of the nine food groups is the same as the price index of all food group.

3. We give below the omitted centre of the old series along with the replacement centre in the new series in the bracket according to the state.

| | |
|---|---|
| Assam | : Digboi (Guwahati) |
| Kamataka | : Ammethi (Belgaum) |
| | : Chikmagalur (Hubli-Dharwar) |
| | : Kolar Gold Field (Mercara) |
| Kerala | : Alleppey (Quilon) |
| Madhya Pradesh | : Gwalior (Jabalpur) |
| Orissa | : Sambalpur (Rourkela) |

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TABLE 1.R. MINIMUM (MIN) AND MAXIMUM (MAX) VALUES, AND COEFFICIENT OF VARIATION (C.V. %) FOR COMMODITY GROUP-SPECIFIC CONSUMER PRICE INDEX ACROSS STATES IN FIVE CONSECUTIVE YEARS FROM 1984-85 TO 1988-89 WITH 1970-71=100: RURAL POPULATION

| Sl. No. | Name of the commodity group | 1984-85 | | | 1985-86 | | | 1986-87 | | | 1987-88 | | | 1988-89 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1. | Cereals and cereal products | 219.0 (WB) | 370.9 (J&K) | 7.4 | 237.9 (WB) | 380.6 (J&K) | 9.7 | 243.4 (KRN) | 404.4 (J&K) | 7.9 | 254.8 (KRN) | 459.0 (J&K) | 10.1 | 278.2 (GJT) | 491.9 (J&K) | 8.3 |
| 2. | Pulses and pulse products | 366.9 (BHR) | 495.3 (RJN) | 6.5 | 360.2 (AP) 361.4 (TN) | 521.6 (RJN) | 9.1 | 390.9 (ORS) | 513.4 (TN) | 6.6 | 431.8 (J&K) | 634.6 (KRL) 631.2 (TN) | 8.0 | 570.7 (BHR) | 735.0 (RJN) | 5.7 |
| 3. | Fruits and vegetables | 213.3 (BHR) 215.5 (UP) | 412.9 (KRL) | 35.2 | 257.8 (WB) | 387.8 (MHR) 378.7 (KRL) | 12.8 | 301.4 (ASM) | 591.5 (KRL) | 20.2 | 329.7 (ASM) | 681.1 (KRL) | 23.4 | 324.8 (BHR) 328.0 (ASM) | 640.0 (KRL) | 21.3 |
| 4. | Spices and salt | 267.6 (KRN) | 365.2 (BHR) | 8.7 | 279.9 (AP) | 333.4 (RJN) 330.6 (BHR) | 6.3 | 187.7 (KRN) | 292.2 (TN) | 14.4 | 251.3 (MHR) | 331.8 (RJN) | 9.0 | 383.6 (ASM) | 537.6 (KRL) | 10.4 |
| 5. | Edible oils and fats | 278.5 (J&K) | 436.3 (KRL) 371.2 (GJT) | 10.0 | 252.7 (J&K) | 380.4 (GJT) | 11.6 | 344.2 (ASM) | 469.5 (GJT) | 10.5 | 434.6 (PNB) | 580.5 (GJT) | 7.1 | 377.1 (BHR) | 472.0 (GJT) | 5.8 |
| 6. | Milk and milk products | 259.1 (KRL) | 356.5 (BHR) | 8.2 | 281.0 (KRL) | 401.9 (BHR) | 12.4 | 288.7 (KRL) | 432.1 (BHR) | 9.5 | 316.9 (KRL) | 480.0 (BHR) | 11.0 | 335.8 (KRL) | 506.5 (BHR) | 10.0 |
| 7. | Meat and fish | 344.0 (ORS) | 482.2 (UP) | 9.4 | 383.5 (ORS) | 559.7 (UP) | 9.9 | 413.7 (ORS) | 684.2 (KRL) | 13.6 | 461.2 (ORS) | 743.4 (KRL) | 13.7 | 503.5 (ORS) | 775.2 (KRL) | 11.4 |
| 8. | Sugar and gur | 231.2 (J&K) | 394.7 (ORS) | 10.9 | 271.3 (J&K) | 437.5 (RJN) | 10.8 | 275.0 (J&K) | 425.7 (RJN) | 8.5 | 284.4 (J&K) | 456.3 (TN) 434.7 (RJN) | 8.8 | 298.8 (J&K) | 478.7 (RJN) | 9.6 |
| 9. | Other food | 255.2 (BH) | 488.8 (ASM) | 27.0 | 269.8 (BHR) | 470.0 (ASM) | 25.5 | 284.3 (AP) 287.3 (BHR) | 454.8 (ASM) | 24.5 | 309.3 (PNB) | 473.6 (ASM) | 23.3 | 321.8 (PNB) | 492.1 (ASM) | 22.3 |
| 10. | Intoxicants etc. | 184.6 (J&K) | 367.5 (KRL) | 11.1 | 202.2 (J&K) | 390.2 (KRL) | 13.0 | 225.6 (J&K) | 420.9 (KRL) | 11.6 | 236.1 (J&K) | 448.4 (KRN) 447.6 (KRL) | 13.1 | 255.7 (J&K) | 503.7 (KRN) 492.3 (KRL) | 13.2 |
| 11. | Fuel and light | 373.9 (J&K) | 499.2 (BHR) 464.7 (MHR) | 6.5 | 403.8 (J&K) | 513.6 (BHR) 501.8 (MHR) | 5.8 | 451.5 (J&K) | 547.2 (MHR) | 4.8 | 468.0 (J&K) | 577.8 (MHR) | 4.5 | 473.2 (J&K) | 603.8 (MHR) | 5.2 |
| 12. | Clothing, bedding and footwar | 309.0 (MHR) | 344.8 (RJN) | 4.1 | 322.0 (MHR) | 371.7 (RJN) | 4.5 | 332.0 (MHR) | 394.8 (RJN) | 5.1 | 350.6 (J&K) 354.2 (MHR) | 415.9 (ASM) 413.3 (RJN) | 5.3 | 367.1 (J&K) 380.7 (MHR) | 450.1 (ASM) 443.9 (RJN) | 5.9 |
| 13. | Other non-food | 316.9 (WB) | 509.3 (ORS) | 10.7 | 343.4 (WB) | 525.0 (ORS) | 9.4 | 368.1 (WB) | 543.4 (ORS) | 9.6 | 436.6 (ASM) 439.6 (WB) | 651.4 (ORS) 651.3 (RJN) | 11.8 | 472.7 (WB) | 803.9 (RJN) 646.4 (ORS) | 13.5 |

otes: (1) Name of the state in abbreviation given within brackets relates to the figure appearing above it (2) See Table 2.R for the explanation of the abbreviations used for the names of the states.
) Results referring to Punjab are also applicable to Haryana, Himachal Pradesh and Delhi, and those referring to Assam to Manipur and Tripura too.
ources: Appendix-tables A.2.1R to A.2.6R.

TABLE 1.U. MINIMUM (MIN) AND MAXIMUM (MAX) VALUES, AND COEFFICIENT OF VARIATION (C.V. %) FOR COMMODITY GROUP-SPECIFIC CONSUMER PRICE INDEX ACROSS STATES IN FIVE CONSECUTIVE YEARS FROM 1984-85 TO 1988-89 WITH 1970-71=100: URBAN POPULATION

| Sl. No. | Name of the commodity group | 1984-85 | | | 1985-86 | | | 1986-87 | | | 1987-88 | | | 1988-89 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1. | Cereals and cereal products | 205.0 (WB) | 411.0 (J&K) | 13.9 | 219.3 (WB) | 436.4 (J&K) | 15.0 | 233.2 (WB) | 478.8 (J&K) | 14.8 | 246.2 (WB) (ASM) | 509.0 (J&K) | 14.4 | 268.6 (WB) | 531.9 (J&K) | 15.1 |
| 2. | Pulses and pulse products | 379.7 (J&K) | 453.8 (RJN) | 3.8 | 373.9 (AP) | 458.3 (PNB) 451.1 (RJN) | 4.5 | 396.4 (HP) | 459.8 (KRN) | 3.4 | 470.8 (HP) | 605.2 (KRN) | 4.1 | 559.3 (ASM) | 712.1 (CDG) 693.1 (RJN) | 4.0 |
| 3. | Fruits and vegetables | 230.1 (HRY) | 400.2 (KRL) | 13.2 | 290.4 (WB) 291.4 (HRY) | 401.8 (J&K) | 6.7 | 331.7 (HRY) | 474.8 (J&K) | 6.8 | 310.1 (HRY) | 527.8 (J&K) | 13.3 | 365.5 (ORS) 379.9 (HRY) | 595.2 (MGL) 549.8 (J&K) | 7.2 |
| 4. | Condiments and spices | 286.2 (ORS) | 393.5 (TN) | 10.0 | 310.1 (MP) | 369.1 (RJN) | 5.2 | 318.2 (CDG) 325.9 (J&K) | 455.0 (RJN) | 8.1 | 376.6 (J&K) | 528.2 (GJT) 527.4 (RJN) | 6.4 | 429.3 (ORS) | 576.3 (KRN) | 8.0 |
| 5. | Edible oils and fats | 157.7 (CDG) 274.5 (J&K) | 482.4 (KRL) | 11.7 | 165.9 (CDG) 258.4 (J&K) | 471.6 (KRL) | 11.2 | 204.3 (CDG) 337.9 (ASM) | 873.2 (KRL) | 17.4 | 234.8 (CDG) 408.5 (DLI) | 875.1 (KRL) | 13.2 | 236.8 (CDG) 372.0 (UP) | 576.1 (KRL) | 8.7 |
| 6. | Milk and milk products | 271.0 (ORS) (KRL) (KRN) | 352.5 (MGL) 338.3 (MP) | 5.7 | 263.2 (HP) | 391.5 (MGL) 352.8 (TN) | 6.2 | 289.7 (HP) | 398.4 (MGL) 374.3 (TN) | 6.3 | 321.7 (HP) | 437.3 (GJT) | 7.2 | 332.4 (ORS) | 488.7 (GJT) | 7.9 |
| 7. | Meat and fish | 291.8 (HP) | 456.5 (KRL) | 5.2 | 308.4 (HP) | 543.5 (MGL) 502.9 (KRL) | 5.4 | 335.9 (HP) | 609.1 (MGL) 604.7 (KRL) | 6.3 | 361.4 (HP) | 622.3 (KRL) | 6.1 | 403.8 (HP) | 671.8 (KRL) | 5.9 |
| 8. | Other food | 280.2 (J&K) (ORS) | 409.3 (MHR) | 11.0 | 288.9 (ORS) | 443.6 (MHR) | 10.3 | 299.9 (ORS) | 473.3 (MHR) | 11.0 | 330.4 (HRY) (ORS) | 499.9 (MHR) | 11.5 | 345.8 (ORS) | 528.7 (MHR) | 10.5 |
| 9. | Intoxicants etc. | 239.0 (J&K) | 460.2 (MGL) 441.4 (CDG) | 8.9 | 324.7 (J&K) | 586.7 (MGL) 547.3 (CDG) | 9.4 | 349.2 (ASM) | 656.8 (CDG) 619.1 (MGL) | 8.8 | 357.7 (ASM) | 665.7 (MGL) 658.7 (CDG) | 8.2 | 389.6 (J&K) | 702.4 (MGL) | 6.6 |

*(contd.)*

TABLE 1.U. *(concld.)*

| Sl. No. | Name of the commodity group | 1984-85 | | | 1985-86 | | | 1986-87 | | | 1987-88 | | | 1988-89 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. | Min | Max | C.V. |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 10. | Fuel and light | 282.2 (ASM) | 968.2 (MGL) 582.8 (ORS) | 11.7 | 292.1 (J&K) | 808.4 (MGL) 633.3 (MHR) | 12.2 | 295.5 (J&K) | 654.7 (ORS) 636.0 (MGL) | 12.9 | 336.1 (J&K) | 961.2 (MGL) 711.3 (ORS) | 13.0 | 350.9 (J&K) | 1178.9 (MGL) 710.6 (ORS) | 13.5 |
| 11. | Clothing, bedding and footwar | 241.2 (CDG) 276.9 (HP) | 401.0 (MGL) 366.7 (WB) | 6.1 | 247.2 (CDG) 295.4 (HP) | 432.4 (MGL) 392.6 (WB) | 6.6 | 264.8 (CDG) 313.7 (HP) | 494.4 (MGL) 415.8 (WB) | 7.2 | 297.7 (CDG) 350.3 (HP) | 523.0 (MGL) 547.4 (WB) | 7.4 | 338.4 (CDG) | 552.4 (MGL) 473.0 (WB) | 7.8 |
| 12. | Housing | 160.1 (HP) | 520.7 (ASM) | 29.7 | 162.0 (HP) | 657.1 (ASM) | 32.3 | 162.0 (HP) | 659.1 (ASM) | 32.5 | 171.6 (HP) | 660.7 (ASM) | 32.4 | 231.1 (HP) | 590.4 (AP) | 28.2 |
| 13. | Medical care | 178.2 (TN) | 472.5 (CDG) | 13.5 | 182.4 (TN) | 468.1 (CDG) | 15.2 | 186.7 (TN) | 476.8 (CDG) | 16.2 | 199.8 (TN) | 557.2 (CDG) | 18.0 | 238.2 (TN) | 654.1 (CDG) | 12.4 |
| 14. | Education and recreation | 136.1 (MGL) | 307.4 (KRL) | 18.2 | 155.4 (MGL) | 339.1 (KRL) | 17.9 | 159.3 (MGL) | 372.6 (KRL) | 18.5 | 161.9 (MGL) | 402.3 (KRL) | 20.0 | 165.8 (MGL) | 431.5 (KRL) | 18.5 |
| 15. | Transport and communication | 228.3 (ORS) 233.3 (HP) | 335.6 (HRY) | 6.0 | 243.5 (HP) 249.1 (ORS) | 376.8 (HRY) | 6.5 | 254.4 (HP) 262.0 (ORS) | 409.1 (HRY) | 7.8 | 294.5 (HP) | 444.6 (HRY) | 7.1 | 301.1 (MGL) 309.0 (HP) | 460.5 (HRY) | 7.1 |
| 16. | Personal care and effects | 275.7 (MGL) | 485.7 (HRY) | 8.7 | 319.5 (MGL) | 499.8 (HRY) | 6.6 | 351.0 (HP) | 512.3 (HRY) | 5.7 | 370.5 (MGL) | 547.5 (HRY) | 6.5 | 367.4 (MGL) | 609.8 (HRY) | 6.1 |
| 17. | Other non-food | 305.0 (CDG) | 450.0 (DLI) | 8.6 | 329.3 (HP) | 548.2 (MGL) 505.7 (DLI) | 9.5 | 355.4 (HP) | 649.9 (MGL) 552.1 (DLI) | 9.9 | 411.1 (ORS) | 596.4 (DLI) | 9.4 | 409.3 (ORS) | 652.7 (DLI) | 9.9 |

Notes: (1) Name of the state in abbreviation given within brackets relates to the figure appearing above it (2) See Appendix-table A.2.6U for the explanation of the abbreviations used for the names of the states.
Sources: Appendix-tables A.2.1U to A.2.7U.

TABLE 2.R. ANNUAL RATES OF INCREASE [IN COMMODITY GROUP-SPECIFIC RURAL CONSUMER PRICE INDICES] OVER PERIOD FROM 1983 TO 1988-89

(Per cent)

| Sl. No. | Name of the state | Cereals & Prds. | Pulses & Prds. | Fruits & Veg. | Spices & Salt | Ed. Oils & Fats | Milk & Prds. | Meat & Fish | Sugar & Gur | Other Food | Intoxi-cants etc. | Fuel & Light | Clothing etc. | Other Non-food | Total Food | Total Non-food | All Items |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| 1. | AP | 4.3 | 10.0 | 5.8 | 23.4 | 5.5 | 7.7 | 10.6 | 7.8 | 6.7 | 8.7 | 7.6 | 7.1 | 11.7 | 7.2 | 9.1 | 7.8 |
| 2. | ASM | 5.3 | 11.4 | 6.0 | 10.6 | 7.5 | 10.2 | 11.4 | 7.2 | 8.2 | 7.8 | 6.4 | 8.4 | 9.7 | 7.2 | 7.9 | 7.4 |
| 3. | BHR | 3.5 | 11.6 | 4.3 | 15.0 | 5.3 | 9.5 | 9.3 | 8.3 | 5.4 | 10.5 | 4.1 | 7.6 | 11.8 | 5.3 | 8.3 | 6.1 |
| 4. | GJT | 3.1 | 11.0 | 5.3 | 16.5 | 6.0 | 10.4 | 10.3 | 7.4 | 6.1 | 10.1 | 6.5 | 7.1 | 9.0 | 6.9 | 8.0 | 7.2 |
| 5. | HRY | 7.8 | 15.1 | 3.6 | 15.1 | 8.4 | 8.4 | 11.0 | 9.2 | 4.7 | 6.9 | 7.1 | 4.8 | 11.0 | 8.4 | 7.9 | 8.3 |
| 6. | HP | 7.8 | 15.1 | 3.6 | 15.1 | 8.4 | 8.4 | 11.0 | 9.2 | 4.7 | 6.9 | 7.1 | 4.8 | 11.0 | 8.7 | 7.6 | 8.3 |
| 7. | J&K | 6.0 | 13.4 | 5.0 | 12.7 | 6.5 | 8.6 | 9.6 | 6.8 | 6.3 | 7.4 | 8.9 | 4.9 | 9.1 | 7.1 | 7.9 | 7.3 |
| 8. | KRN | 3.6 | 10.2 | 7.9 | 24.3 | 6.7 | 6.2 | 9.7 | 7.4 | 7.9 | 11.3 | 8.1 | 5.5 | 11.7 | 6.8 | 9.1 | 7.6 |
| 9. | KRL | 5.9 | 11.4 | 8.3 | 13.4 | 7.7 | 6.5 | 15.9 | 7.3 | 6.3 | 9.7 | 7.5 | 5.1 | 9.7 | 8.1 | 8.6 | 8.3 |
| 10. | MP | 5.8 | 11.7 | 4.4 | 17.8 | 5.6 | 10.5 | 11.1 | 7.8 | 8.0 | 8.4 | 7.2 | 6.7 | 12.2 | 7.5 | 8.8 | 7.9 |
| 11. | MHR | 4.7 | 11.2 | 3.6 | 19.6 | 5.6 | 6.5 | 9.8 | 8.0 | 6.0 | 9.5 | 8.0 | 5.7 | 10.3 | 6.9 | 8.2 | 7.3 |
| 12. | MNP | 5.3 | 11.4 | 6.0 | 10.6 | 7.5 | 10.2 | 11.4 | 7.2 | 8.2 | 7.8 | 6.4 | 8.4 | 9.7 | 7.0 | 7.9 | 7.3 |
| 13. | ORS | 1.3 | 13.8 | 6.4 | 17.4 | 6.4 | 6.8 | 9.1 | 8.7 | 3.7 | 10.2 | 6.9 | 6.8 | 15.2 | 3.6 | 9.7 | 5.2 |
| 14. | PNB | 7.8 | 15.1 | 3.6 | 15.1 | 8.4 | 8.4 | 11.0 | 9.2 | 4.7 | 6.9 | 7.1 | 4.8 | 11.0 | 8.5 | 7.9 | 8.3 |
| 15. | RJN | 6.1 | 17.8 | 1.9 | 15.8 | 5.6 | 10.0 | 11.9 | 9.3 | 5.1 | 10.4 | 7.4 | 7.0 | 13.1 | 8.2 | 9.6 | 8.7 |
| 16. | TN | 1.0 | 8.5 | 7.8 | 21.6 | 5.5 | 8.2 | 10.8 | 7.4 | 6.5 | 10.4 | 7.9 | 6.3 | 9.6 | 4.8 | 8.5 | 5.8 |
| 17. | UP | 6.4 | 10.0 | 1.7 | 14.9 | 5.1 | 8.5 | 10.2 | 10.3 | 8.7 | 8.4 | 7.9 | 6.8 | 11.1 | 7.0 | 8.9 | 7.4 |
| 18. | WB | 2.5 | 12.3 | 7.4 | 13.3 | 5.9 | 8.3 | 7.7 | 8.8 | 9.1 | 10.3 | 4.3 | 5.7 | 11.0 | 6.4 | 7.9 | 6.9 |
| 19. | DLI | 7.8 | 15.1 | 3.6 | 15.1 | 8.4 | 8.4 | 11.0 | 9.2 | 4.7 | 6.9 | 7.6 | 4.8 | 11.0 | 8.3 | 8.0 | 8.2 |
| 20. | TRP | 5.3 | 11.4 | 6.0 | 10.6 | 7.5 | 10.2 | 11.4 | 7.2 | 8.2 | 7.8 | 8.2 | 8.4 | 9.7 | 7.4 | 8.8 | 7.8 |
| 21. | All India | 4.6 | 11.5 | 5.2 | 17.6 | 6.2 | 9.1 | 10.9 | 8.0 | 6.6 | 9.1 | 7.3 | 6.8 | 10.9 | 6.8 | 8.6 | 7.4 |
| 22. | Mean (ARI) | 5.1 | 12.4 | 5.1 | 15.9 | 6.7 | 8.6 | 10.7 | 8.2 | 6.5 | 8.8 | 7.1 | 6.3 | 10.9 | 7.1 | 8.4 | 7.5 |
| 23. | C.V. (%) | 40.0 | 18.2 | 36.5 | 24.0 | 17.3 | 15.8 | 14.5 | 11.8 | 24.1 | 16.4 | 16.3 | 19.7 | 13.3 | 17.7 | 7.1 | 11.8 |

Note: 1. As in Table 2.U.
2. Mean (ARI) refers to simple average (across states) of the state-specific annual rates of increase.

TABLE 2.U. STATE-WISE ANNUAL RATES OF INCREASE IN COMMODITY GROUP-SPECIFIC URBAN CONSUMER PRICE INDICES OVER PERIOD FROM 1983 TO 1988-89

(Per cent)

| Sl. No. | Name of the state | Cereals & Prds. | Pulses & Prds. | Fruits & Veg. | Spices etc. | Oils & Fats | Milk & Prds. | Meat, Fish & Eggs | Other Food | Intoxi-cants etc. | Fuel & Light | Cloth-ing etc. | Hous-ing | Medi-cal Care | Edn. & Recn. | Tpt. & Comn. | Perso-nal care | Other Non-food | Total Food | Total Non-food | All Items |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) |
| 1. | AP | 8.1 | 10.8 | 6.5 | 14.5 | 7.0 | 8.6 | 9.4 | 8.9 | 12.0 | 6.9 | 5.8 | 13.2 | 7.2 | 5.1 | 8.7 | 8.1 | 8.8 | 8.8 | 8.5 | 8.7 |
| 2. | ASM | 4.3 | 9.4 | 8.9 | 9.1 | 7.1 | 9.8 | 9.3 | 8.5 | 12.7 | 6.1 | 5.5 | 16.1 | 4.8 | 15.7 | 5.5 | 10.1 | 9.9 | 7.3 | 8.9 | 7.9 |
| 3. | BHR | 4.4 | 11.3 | 8.3 | 11.2 | 7.5 | 9.0 | 9.5 | 8.3 | 11.1 | 9.0 | 7.6 | 11.7 | 7.7 | 5.9 | 7.0 | 8.8 | 9.4 | 7.1 | 8.8 | 7.7 |
| 4. | GJT | 5.5 | 11.8 | 6.7 | 11.1 | 6.4 | 11.2 | 10.8 | 5.8 | 11.1 | 8.2 | 5.6 | 6.0 | 8.5 | 2.9 | 8.7 | 8.3 | 9.0 | 7.8 | 7.8 | 7.8 |
| 5. | HRY | 5.0 | 13.7 | 6.7 | 7.6 | 8.9 | 8.4 | 10.8 | 6.8 | 12.4 | 4.8 | 4.0 | 11.7 | 6.3 | 6.6 | 8.0 | 7.9 | 9.0 | 7.5 | 7.0 | 7.3 |
| 6. | HP | 5.8 | 14.5 | 8.1 | 10.4 | 8.4 | 8.5 | 6.8 | 9.4 | 10.7 | 5.4 | 8.3 | 7.0 | 5.7 | 9.4 | 7.9 | 7.9 | 10.1 | 8.3 | 8.0 | 8.2 |
| 7. | J&K | 7.2 | 14.3 | 10.1 | 10.6 | 6.9 | 9.0 | 10.1 | 9.2 | 10.9 | 6.2 | 6.4 | 7.3 | 10.3 | 2.4 | 8.8 | 9.7 | 10.7 | 8.6 | 7.7 | 8.4 |
| 8. | KRN | 6.5 | 13.7 | 7.1 | 17.4 | 9.5 | 7.9 | 9.0 | 9.7 | 9.1 | 7.4 | 5.3 | 20.1 | 6.5 | 4.9 | 8.4 | 8.4 | 10.0 | 8.9 | 8.9 | 8.9 |
| 9. | KRL | 3.6 | 11.7 | 6.5 | 13.4 | 11.6 | 6.6 | 12.5 | 7.5 | 10.0 | 6.5 | 4.8 | 10.2 | 6.7 | 9.1 | 6.9 | 8.9 | 7.5 | 7.2 | 7.3 | 7.2 |
| 10. | MP | 7.0 | 11.8 | 7.9 | 13.7 | 6.4 | 8.9 | 9.9 | 8.3 | 11.0 | 9.3 | 6.1 | 12.6 | 8.1 | 3.2 | 6.8 | 8.5 | 9.5 | 8.4 | 8.8 | 8.5 |
| 11. | MHR | 6.1 | 11.4 | 8.1 | 15.8 | 7.1 | 7.3 | 10.2 | 8.3 | 10.5 | 8.1 | 5.6 | 9.1 | 6.7 | 3.3 | 7.4 | 9.1 | 9.9 | 8.1 | 8.0 | 8.1 |
| 12. | MGL | 5.1 | 12.7 | 11.8 | 13.4 | 6.6 | 8.4 | 11.5 | 8.2 | 11.0 | 5.7 | 7.7 | 14.5 | 7.9 | 5.0 | 6.5 | 8.0 | 7.6 | 8.4 | 7.9 | 8.2 |
| 13. | ORS | 3.0 | 10.5 | 6.5 | 10.2 | 6.9 | 5.4 | 8.2 | 6.3 | 9.6 | 9.6 | 4.8 | 12.5 | 5.5 | 4.9 | 8.4 | 6.5 | 8.3 | 5.5 | 8.0 | 6.4 |
| 14. | PNB | 6.7 | 14.0 | 7.3 | 8.0 | 8.9 | 8.3 | 9.8 | 7.4 | 10.2 | 8.0 | 4.6 | 7.1 | 7.4 | 3.4 | 7.5 | 8.0 | 8.0 | 8.0 | 7.2 | 7.7 |
| 15. | RJN | 7.3 | 14.8 | 8.1 | 11.9 | 7.1 | 10.3 | 12.1 | 9.3 | 9.6 | 6.1 | 6.1 | 9.3 | 7.6 | 4.7 | 9.5 | 7.9 | 10.1 | 9.2 | 8.0 | 8.7 |
| 16. | TN | 4.4 | 11.2 | 6.8 | 15.2 | 8.0 | 8.5 | 10.2 | 9.2 | 10.8 | 14.3 | 7.3 | 11.6 | 5.7 | 7.2 | 5.6 | 10.7 | 10.3 | 7.4 | 10.4 | 8.3 |
| 17. | UP | 6.6 | 11.3 | 8.7 | 11.5 | 6.8 | 8.3 | 9.4 | 7.7 | 11.2 | 7.6 | 6.1 | 8.1 | 6.3 | 3.9 | 8.5 | 8.7 | 8.9 | 8.1 | 7.6 | 7.8 |
| 18. | WB | 3.7 | 12.6 | 10.0 | 9.7 | 7.2 | 9.7 | 9.6 | 9.2 | 10.4 | 8.3 | 6.1 | 16.0 | 7.2 | 7.4 | 7.5 | 8.9 | 9.4 | 7.9 | 9.1 | 8.4 |
| 19. | DLI | 6.8 | 13.8 | 9.4 | 14.5 | 9.0 | 10.7 | 11.4 | 9.9 | 10.8 | 4.5 | 6.4 | 10.5 | 4.0 | 3.7 | 10.2 | 8.5 | 11.8 | 9.9 | 8.4 | 9.2 |
| 20. | CDG | 6.5 | 15.7 | 8.6 | 16.2 | 9.8 | 10.4 | 9.8 | 16.0 | 7.1 | 3.7 | 6.7 | 7.5 | 7.2 | 12.1 | 10.0 | 7.0 | 10.3 | 10.9 | 8.2 | 9.8 |
| 21. | All India | 5.7 | 11.9 | 7.9 | 13.6 | 7.4 | 8.9 | 9.9 | 8.5 | 10.7 | 8.4 | 6.0 | 11.8 | 6.9 | 5.1 | 7.8 | 8.9 | 9.5 | 8.0 | 8.5 | 8.2 |
| Mean (ARI) | | 5.7 | 12.5 | 8.1 | 12.3 | 7.9 | 8.8 | 10.0 | 8.7 | 10.6 | 7.3 | 6.0 | 11.1 | 6.9 | 6.0 | 7.9 | 8.5 | 9.4 | 8.2 | 8.2 | 8.2 |
| C.V. (%) | | 24.6 | 13.0 | 17.3 | 22.1 | 17.1 | 15.4 | 12.7 | 23.0 | 11.1 | 30.9 | 17.9 | 32.2 | 19.7 | 54.3 | 15.9 | 11.0 | 11.1 | 13.3 | 9.4 | 9.0 |

Notes: (1) For explanation of the abbreviations used for the names of states, see Appendix-table A.2.6.U.

(2) Mean (ARI) refers to simple average (across states) of the state-specific annual rates of increase.

TABLE 3. CLASSIFICATION OF COMMODITY GROUPS INTO CATEGORIES ACCORDING TO RATE OF GROWTH (G) OF PRICE INDEX AND INTER-STATE RELATIVE DISPARITY (D) IN RATES OF GROWTH (1983 TO 1988-89)

| Category No. (1) | Category description (2) | Panel (3) | Category-specific commodity groups: Rural population (4) | Category-specific commodity groups: Urban population (5) |
|---|---|---|---|---|
| I | G < 8.5<br>D > 18 | 1 | Cereals and cereal products (31.6);<br>Clothing, bedding and footwear (9.7); | Cereals and cereal products (18.9);<br>Clothing, bedding and footwear (8.4); |
| | | 2 | Fruits & vegetables (6.1);<br>Other food (3.4); | Fuel and light (6.7);<br>Medical care (3.5); |
| II | G < 8.5 | 1 | Spices and salt (2.5); | Spices and salt (2.0); |
| | D > 18 | 2 | Pulses and pulse products (3.5); | Other food (8.9);<br>Housing (3.7); |
| III | G < 8.5 | 1 | Edible oils and fats (4.0); | Edible oils and fats (4.7); |
| | D > 18 | 2 | Sugar and gur (3.1);<br>Fuel and light (7.0); | Fruits and vegetables (6.9);<br>Transport and communication (3.1); |
| IV | G < 8.5<br>D > 18 | 1 | Milk and milk prods. (8.0);<br>Meat, fish and eggs (3.0);<br>Intoxicants etc. (3.0); | Milk and milk prods. (9.0);<br>Meat, fish and eggs (3.4);<br>Intoxicants etc. (2.3); |
| | | 2 | Other non-food (15.2); | Pulses and pulse prods. (3.1);<br>Personal care and effects (3.2);<br>Other non-food (7.6); |

Notes: (1) G and D refer to unweighted average and relative disparity across states of the state-specific point-to point annual compound growth rates of price index between 1983 and 1988-89 for a given commodity group.
(2) The cut-off points 8.5 and 18 of G and D are those nearest to the median values across commodity groups. The median values of both G and D turned out to be equal for the rural and urban population.
(3) Panel 1 within each category indicates the broadly comparable commodity groups appearing in the same category for both rural and urban population.
(4) Figures in brackets refer to the percentage shares in total consumer expenditure for the commodity group, observed in 1983 at the all-India level.
Sources: 1. Table 2.R and 2.U, lines 22 and 23 for G and D respectively.
2. Minhas et al (1991), Appendix-tables A.3R and A.3U for commodity group-specific expenditure shares.

TABLE A.1R. CLASSIFICATION OF INDIVIDUAL CONSUMPTION ITEMS FORMING CONSUMER BASKET OF THE CPIAL SERIES INTO THIRTEEN ITEM GROUPS

| Sl. No. | Name of the item group | Individual items belonging to the item group |
|---|---|---|
| (1) | (2) | (3) |
| 1 | Cereals and cereal products | Rice, wheat, wheat atta, jowar, bajra, maize, ragi, gram, barley and tapioca |
| 2 | Pulses and pulse products | Arhar dal, gram dal, masur dal, moong dal, urd dal and khesari dal |
| 3 | Fruits and vegetables | Potato, onion, brinjal and coconuts |
| 4 | Spices and salt | Dry chillies, turmeric, tamarind and salt |
| 5 | Edible oils and fats | Mustard oil, coconut oil, groundnut oil, gingelly oil and vanaspati |
| 6 | Milk and milk products | Milk and ghee |
| 7 | Meat and fish | Meat and fresh fish |
| 8 | Sugar and gur | Sugar and gur |
| 9 | Other food | Tea leaf and coffee |
| 10 | Intoxicants etc. | Supari, tobacco, bidi, pan leaf and country liquor |
| 11 | Fuel and light | Firewood, kerosene oil, Matchbox and dungcake |
| 12 | Clothing, bedding and footwear | Dhoti, saree, bath towel/gamcha, lungi, shirting, ghagra and salwar cloth, blouse cloth, long cloth, orni, chaddar (bed sheet), Leather shoes and leather chappel |
| 13 | Other non-food | Anacin, washing soap, toilet soap, Tailoring charges and barbar charges |

TABLE A.1U. LIST OF GROUPS OF CONSUMER ITEMS FOR WHICH MONTHLY CONSUMERR PRICE INDICES (WITH 1960=100) ARE AVAILABLE FOR EACH CENTRE OF THE CPIIW AND THE CPINM SERIES

| Sl. No. | CPIIW Series: Name of the item group | Sl. No. | CPINM Series: Name of the item group |
|---|---|---|---|
| 1 | Cereals and cereal products | 1 | Cereals and cereal products |
| 2 | Pulses and pulse products | 2 | Pulses and pulse products |
| 3 | Fruits and vegetables | 3 | Vegetables |
| 4 | Condiments and spices | 4 | Fruits |
| 5 | Oils and fats | 5 | Condiments and spices |
| 6 | Milk and milk products | 6 | Oils and fats |
| 7 | Meat, fish and eggs | 7 | Milk and milk products |
| 8 | Other food | 8 | Meat, fish and eggs |
| 9 | Pan, supari, tobacco and intoxicants | 9 | Sugar (including gur) |
| 10 | Fuel and light | 10 | Non-alcoholic beverages |
| 11 | Clothing, bedding and footwear | 11 | Prepared meals and refreshments |
| 12 | Housing | 12 | Pan, supari, tobacco etc. |
| 13 | Medical care | 13 | Fuel and light |
| 14 | Education, recreation and amusement | 14 | Clothing, bedding and footwear |
| 15 | Transport and communication | 15 | Housing |
| 16 | Personal care and effects | 16 | Medical care |
| 17 | Other non-food | 17 | Education |
| | | 18 | Recreation |
| | | 19 | Transport and communication |
| | | 20 | Personal care and effects |
| | | 21 | Household requisities |
| | | 22 | Other non-food |

TABLE V.1.8: STATE WISE RURAL CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Cereals and cereal products | | | | | Pulses and pulse products | | | | | Fruits and vegetables | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 243.8 | 248.9 | 257.0 | 267.8 | 312.1 | 381.8 | 360.2 | 461.6 | 591.0 | 588.3 | 301.5 | 334.9 | 452.7 | 524.3 | 460.9 |
| 2 | Assam | 254.3 | 253.3 | 271.5 | 294.4 | 333.6 | 408.4 | 415.3 | 440.5 | 557.4 | 623.7 | 234.7 | 262.5 | 301.4 | 329.7 | 328.0 |
| 3 | Bihar | 227.0 | 233.9 | 253.3 | 297.8 | 320.9 | 366.9 | 368.4 | 396.7 | 496.3 | 570.7 | 213.3 | 277.7 | 341.0 | 342.1 | 324.8 |
| 4 | Gujarat | 225.7 | 272.0 | 261.8 | 280.3 | 278.2 | 395.0 | 384.9 | 406.8 | 546.4 | 589.9 | 239.7 | 296.4 | 362.6 | 447.9 | 393.5 |
| 5 | Haryana | 255.4 | 276.2 | 271.2 | 312.5 | 364.5 | 446.5 | 482.8 | 425.3 | 497.4 | 679.6 | 249.3 | 283.3 | 367.4 | 450.8 | 390.3 |
| 6 | Himachal Pradesh | 255.4 | 276.2 | 271.2 | 312.5 | 364.5 | 446.5 | 482.8 | 425.3 | 497.4 | 679.6 | 249.3 | 283.3 | 367.4 | 450.8 | 390.3 |
| 7 | Jammu & Kashmir | 370.9 | 380.6 | 404.4 | 459.0 | 491.9 | 380.2 | 419.9 | 383.5 | 431.8 | 576.4 | 240.7 | 293.8 | 384.6 | 403.6 | 373.9 |
| 8 | Karnataka | 253.9 | 258.4 | 243.4 | 254.8 | 309.9 | 422.7 | 410.3 | 466.4 | 623.2 | 648.7 | 355.6 | 305.8 | 392.5 | 501.5 | 470.1 |
| 9 | Kerala | 219.4 | 241.7 | 254.7 | 256.2 | 307.0 | 399.8 | 389.9 | 479.2 | 634.6 | 662.4 | 412.9 | 378.7 | 591.5 | 681.1 | 640.0 |
| 10 | Madhya Pradesh | 252.6 | 283.5 | 271.9 | 297.2 | 352.3 | 405.1 | 416.8 | 435.5 | 548.5 | 620.0 | 256.6 | 327.5 | 398.8 | 473.2 | 404.1 |
| 11 | Maharashtra | 239.3 | 245.4 | 257.0 | 261.7 | 300.4 | 388.1 | 376.9 | 444.5 | 590.9 | 613.3 | 281.0 | 387.8 | 515.6 | 546.5 | 497.2 |
| 12 | Manipur | 254.3 | 253.3 | 271.5 | 294.4 | 333.4 | 408.4 | 415.3 | 440.5 | 557.4 | 623.7 | 234.7 | 262.5 | 301.4 | 329.7 | 328.0 |
| 13 | Orissa | 260.1 | 263.2 | 267.5 | 320.8 | 333.3 | 429.5 | 415.7 | 390.9 | 489.8 | 619.9 | 288.2 | 308.1 | 388.2 | 395.9 | 394.8 |
| 14 | Punjab | 255.4 | 276.2 | 271.2 | 312.5 | 364.5 | 446.5 | 482.8 | 425.3 | 497.4 | 679.6 | 249.3 | 283.3 | 367.4 | 450.8 | 390.3 |
| 15 | Rajasthan | 257.7 | 335.4 | 314.0 | 367.9 | 365.4 | 495.3 | 521.6 | 410.2 | 501.1 | 735.0 | 270.4 | 319.6 | 380.1 | 553.9 | 399.4 |
| 16 | Tamil Nadu | 269.9 | 294.7 | 307.2 | 323.1 | 354.5 | 377.1 | 361.4 | 513.4 | 631.2 | 587.8 | 398.4 | 337.3 | 440.3 | 555.0 | 465.9 |
| 17 | Uttar Pradesh | 236.5 | 262.8 | 264.0 | 319.0 | 360.7 | 406.8 | 403.8 | 463.2 | 608.5 | 652.1 | 215.5 | 313.9 | 408.5 | 379.6 | 341.1 |
| 18 | West Bengal | 219.0 | 237.9 | 252.1 | 270.4 | 285.5 | 410.5 | 481.3 | 427.9 | 489.9 | 618.0 | 234.5 | 257.8 | 315.4 | 330.2 | 334.2 |
| 19 | Delhi | 255.4 | 276.2 | 271.2 | 312.5 | 364.5 | 446.5 | 482.8 | 425.3 | 497.4 | 679.6 | 249.3 | 283.3 | 367.4 | 450.8 | 390.3 |
| 20 | Tripura | 254.3 | 253.3 | 271.5 | 294.4 | 333.6 | 408.4 | 415.3 | 440.5 | 557.4 | 623.7 | 234.7 | 262.5 | 301.4 | 329.7 | 328.0 |
| 21 | All India | 247.1 | 262.0 | 268.6 | 297.5 | 333.2 | 402.2 | 403.6 | 437.2 | 555.6 | 618.6 | 286.4 | 309.9 | 396.6 | 444.8 | 405.6 |
| 22 | C.V. (%) | 7.4 | 9.7 | 7.9 | 10.1 | 8.3 | 6.5 | 9.1 | 6.6 | 8.0 | 5.7 | 35.2 | 12.8 | 20.2 | 23.4 | 21.3 |

TABLE A.2.2R. STATE-WISE RURAL CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Spices and salt | | | | | Edible oils and fats | | | | | Milk and milk products | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 313.3 | 279.9 | 275.2 | 273.1 | 505.6 | 326.4 | 318.8 | 396.2 | 493.7 | 418.2 | 334.5 | 383.3 | 396.2 | 413.1 | 442.5 |
| 2 | Assam | 296.6 | 310.9 | 284.6 | 312.4 | 383.6 | 299.5 | 264.7 | 344.2 | 465.9 | 399.4 | 351.1 | 399.1 | 363.6 | 449.2 | 488.6 |
| 3 | Bihar | 365.2 | 330.6 | 239.4 | 309.6 | 444.9 | 287.5 | 262.0 | 366.8 | 478.0 | 377.1 | 356.5 | 401.9 | 432.1 | 480.0 | 506.5 |
| 4 | Gujarat | 302.1 | 324.6 | 238.9 | 295.7 | 451.8 | 371.2 | 380.4 | 469.5 | 580.5 | 472.0 | 333.3 | 329.6 | 355.9 | 443.1 | 469.5 |
| 5 | Haryana | 333.6 | 330.2 | 241.5 | 296.3 | 451.7 | 287.1 | 289.9 | 367.4 | 434.6 | 407.4 | 290.6 | 291.2 | 314.5 | 355.7 | 388.8 |
| 6 | Himachal Pradesh | 333.6 | 330.2 | 241.5 | 296.3 | 451.7 | 287.1 | 289.9 | 367.4 | 434.6 | 407.4 | 290.6 | 291.2 | 314.5 | 355.7 | 388.8 |
| 7 | Jammu & Kashmir | 285.7 | 320.4 | 288.5 | 320.6 | 430.5 | 278.5 | 252.7 | 346.8 | 459.7 | 380.8 | 285.6 | 309.6 | 324.7 | 354.7 | 395.4 |
| 8 | Karnataka | 267.6 | 291.0 | 187.7 | 261.3 | 537.6 | 368.4 | 300.9 | 426.1 | 482.2 | 439.9 | 339.6 | 354.4 | 372.9 | 391.0 | 436.2 |
| 9 | Kerala | 360.2 | 322.4 | 244.8 | 343.5 | 403.6 | 436.3 | 255.2 | 389.6 | 467.0 | 441.2 | 259.1 | 281.0 | 288.7 | 316.9 | 335.8 |
| 10 | Madhya Pradesh | 286.2 | 285.5 | 200.7 | 262.2 | 423.4 | 326.0 | 315.8 | 413.6 | 489.6 | 404.7 | 351.3 | 364.3 | 402.0 | 453.8 | 482.8 |
| 11 | Maharashtra | 287.9 | 286.6 | 199.2 | 251.3 | 441.2 | 338.4 | 332.6 | 462.1 | 506.5 | 438.3 | 307.8 | 317.6 | 332.0 | 359.0 | 403.5 |
| 12 | Manipur | 296.6 | 310.9 | 284.6 | 312.4 | 383.6 | 299.5 | 264.7 | 344.2 | 465.9 | 399.4 | 351.1 | 399.1 | 363.6 | 449.2 | 488.6 |
| 13 | Orissa | 311.4 | 290.9 | 220.7 | 300.1 | 444.4 | 291.4 | 276.8 | 364.5 | 467.1 | 395.5 | 286.2 | 327.8 | 336.3 | 351.5 | 372.1 |
| 14 | Punjab | 333.6 | 330.2 | 241.5 | 296.3 | 451.7 | 287.1 | 289.9 | 367.4 | 434.6 | 407.4 | 290.6 | 291.2 | 314.5 | 355.7 | 388.8 |
| 15 | Rajasthan | 306.8 | 333.4 | 241.6 | 331.8 | 468.2 | 305.9 | 294.4 | 403.1 | 501.6 | 401.1 | 323.5 | 317.1 | 356.5 | 444.8 | 465.0 |
| 16 | Tamil Nadu | 334.0 | 298.1 | 292.2 | 292.3 | 512.7 | 330.1 | 312.2 | 407.8 | 484.4 | 408.8 | 287.4 | 312.4 | 331.2 | 356.3 | 391.2 |
| 17 | Uttar Pradesh | 347.3 | 327.7 | 240.7 | 309.5 | 450.0 | 308.1 | 283.5 | 411.5 | 533.9 | 415.0 | 350.4 | 353.3 | 381.0 | 413.5 | 452.1 |
| 18 | West Bengal | 329.8 | 303.4 | 250.0 | 297.5 | 395.7 | 283.1 | 262.8 | 364.7 | 465.9 | 382.2 | 316.4 | 374.1 | 399.4 | 422.4 | 417.9 |
| 19 | Delhi | 333.6 | 330.2 | 241.5 | 296.3 | 451.7 | 287.1 | 289.9 | 367.4 | 434.6 | 407.4 | 290.6 | 291.2 | 314.5 | 355.7 | 388.8 |
| 20 | Tripura | 296.6 | 310.9 | 284.6 | 312.4 | 383.6 | 299.5 | 264.7 | 344.2 | 465.9 | 399.4 | 351.1 | 399.1 | 363.6 | 449.2 | 488.6 |
| 21 | All India | 311.6 | 304.0 | 245.8 | 290.4 | 456.5 | 319.3 | 296.3 | 395.1 | 490.8 | 413.0 | 326.1 | 345.2 | 356.9 | 414.3 | 447.0 |
| 22 | C.V. (%) | 8.7 | 6.3 | 14.4 | 9.0 | 10.4 | 10.0 | 11.6 | 10.5 | 7.1 | 5.8 | 8.2 | 12.4 | 9.5 | 11.0 | 10.0 |

TABLE A.2.3R. STATE-WISE RURAL CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Meat and fish | | | | | Sugar and gur | | | | | Other food | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 390.1 | 458.2 | 494.4 | 532.8 | 616.3 | 313.4 | 337.6 | 348.1 | 364.0 | 395.7 | 274.1 | 278.8 | 284.3 | 320.0 | 377.2 |
| 2 | Assam | 371.3 | 431.2 | 469.7 | 490.1 | 558.9 | 271.6 | 330.8 | 323.9 | 330.9 | 357.9 | 488.8 | 470.0 | 454.8 | 473.6 | 492.1 |
| 3 | Bihar | 408.0 | 487.6 | 543.5 | 567.6 | 610.3 | 341.3 | 383.6 | 363.2 | 372.3 | 396.0 | 255.2 | 268.8 | 287.3 | 336.1 | 364.8 |
| 4 | Gujarat | 399.2 | 437.1 | 456.7 | 511.7 | 607.0 | 298.6 | 340.7 | 347.3 | 360.2 | 397.7 | 424.0 | 385.9 | 385.6 | 400.3 | 409.5 |
| 5 | Haryana | 378.2 | 429.1 | 483.8 | 533.2 | 618.0 | 326.7 | 401.4 | 375.7 | 370.0 | 434.5 | 328.0 | 296.7 | 301.4 | 309.3 | 321.8 |
| 6 | Himachal Pradesh | 378.2 | 429.1 | 483.8 | 533.2 | 618.0 | 326.7 | 401.4 | 375.7 | 370.0 | 434.5 | 328.0 | 296.7 | 301.4 | 309.3 | 321.8 |
| 7 | Jammu & Kashmir | 350.8 | 395.2 | 432.4 | 475.1 | 548.0 | 231.2 | 271.3 | 275.0 | 284.4 | 298.8 | 357.9 | 344.9 | 341.2 | 353.4 | 358.0 |
| 8 | Karnataka | 391.4 | 452.0 | 510.0 | 560.7 | 603.6 | 324.6 | 336.9 | 363.3 | 377.2 | 407.3 | 310.7 | 314.8 | 326.9 | 347.6 | 361.6 |
| 9 | Kerala | 411.2 | 497.5 | 684.2 | 743.4 | 775.2 | 272.6 | 299.6 | 313.7 | 339.7 | 360.4 | 330.7 | 317.8 | 320.2 | 333.7 | 361.2 |
| 10 | Madhya Pradesh | 447.9 | 520.7 | 567.0 | 622.7 | 716.7 | 292.3 | 332.2 | 330.2 | 332.8 | 360.5 | 290.7 | 318.3 | 311.9 | 350.8 | 410.2 |
| 11 | Maharashtra | 418.1 | 474.5 | 520.5 | 567.6 | 633.0 | 309.3 | 337.7 | 360.5 | 364.2 | 396.9 | 382.1 | 381.3 | 385.2 | 394.4 | 402.0 |
| 12 | Manipur | 371.3 | 431.2 | 469.7 | 490.1 | 558.9 | 271.6 | 330.8 | 323.9 | 330.9 | 357.9 | 488.8 | 470.0 | 454.8 | 473.6 | 492.1 |
| 13 | Orissa | 344.0 | 383.5 | 413.7 | 461.2 | 503.5 | 394.7 | 413.8 | 398.4 | 367.3 | 444.3 | 281.3 | 288.3 | 297.5 | 349.0 | 368.7 |
| 14 | Punjab | 378.2 | 429.1 | 483.8 | 533.2 | 618.0 | 326.7 | 401.4 | 375.7 | 370.0 | 434.5 | 328.0 | 296.7 | 301.4 | 309.3 | 321.8 |
| 15 | Rajasthan | 397.7 | 460.1 | 526.4 | 570.1 | 678.1 | 357.7 | 437.5 | 425.7 | 434.7 | 478.7 | 340.6 | 310.7 | 330.2 | 338.6 | 348.9 |
| 16 | Tamil Nadu | 395.0 | 472.8 | 505.9 | 567.5 | 596.9 | 346.9 | 355.9 | 403.7 | 456.3 | 427.1 | 379.4 | 372.7 | 388.0 | 404.1 | 410.9 |
| 17 | Uttar Pradesh | 482.2 | 559.7 | 625.6 | 666.3 | 714.0 | 378.4 | 435.1 | 378.6 | 394.3 | 454.8 | 297.0 | 326.6 | 324.2 | 391.9 | 451.3 |
| 18 | West Bengal | 400.7 | 464.3 | 484.4 | 487.5 | 528.0 | 308.8 | 361.2 | 358.1 | 361.8 | 402.1 | 391.2 | 395.3 | 404.9 | 404.9 | 409.1 |
| 19 | Delhi | 378.2 | 429.1 | 483.8 | 533.2 | 618.0 | 326.7 | 401.4 | 375.7 | 370.0 | 434.5 | 328.0 | 296.7 | 301.4 | 309.3 | 321.8 |
| 20 | Tripura | 371.3 | 431.2 | 469.7 | 490.1 | 558.9 | 271.6 | 330.8 | 323.9 | 330.9 | 357.9 | 488.5 | 470.0 | 454.8 | 473.6 | 492.1 |
| 21 | All India | 402.8 | 468.7 | 524.3 | 563.4 | 625.0 | 307.8 | 356.9 | 353.1 | 360.7 | 396.1 | 331.4 | 325.6 | 329.1 | 350.8 | 372.4 |
| 22 | C.V. (%) | 9.4 | 9.9 | 13.6 | 13.7 | 11.4 | 10.9 | 10.8 | 8.5 | 8.8 | 9.6 | 27.0 | 25.5 | 24.5 | 23.3 | 22.3 |

TABLE A.2.4R. STATE-WISE RURAL CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Intoxicants etc. | | | | | Fuel and light | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 1 | Andhra Pradesh | 246.3 | 250.8 | 286.4 | 322.2 | 351.5 | 445.9 | 472.1 | 507.8 | 546.2 | 575.2 |
| 2 | Assam | 295.5 | 345.9 | 356.5 | 362.0 | 397.1 | 408.5 | 436.1 | 477.6 | 496.0 | 506.9 |
| 3 | Bihar | 287.4 | 307.5 | 354.6 | 395.4 | 450.5 | 499.2 | 513.6 | 537.6 | 542.0 | 542.0 |
| 4 | Gujarat | 289.9 | 315.6 | 334.3 | 341.8 | 397.5 | 418.2 | 452.7 | 503.8 | 519.1 | 533.9 |
| 5 | Haryana | 232.0 | 245.6 | 269.5 | 280.7 | 301.2 | 430.6 | 466.0 | 523.7 | 549.8 | 557.1 |
| 6 | Himachal Pradesh | 232.0 | 245.6 | 269.5 | 280.7 | 301.2 | 430.6 | 466.0 | 523.7 | 549.8 | 557.1 |
| 7 | Jammu & Kashmir | 184.6 | 202.2 | 225.6 | 236.1 | 255.7 | 373.9 | 403.8 | 451.5 | 468.0 | 473.2 |
| 8 | Kamataka | 329.7 | 348.2 | 393.7 | 448.4 | 503.7 | 457.4 | 499.6 | 541.7 | 560.4 | 593.6 |
| 9 | Kerala | 367.5 | 390.2 | 420.9 | 447.6 | 492.3 | 422.5 | 444.4 | 496.2 | 514.0 | 533.6 |
| 10 | Madhya Pradesh | 286.7 | 313.1 | 324.4 | 322.7 | 375.8 | 419.1 | 447.1 | 507.2 | 529.6 | 538.1 |
| 11 | Maharashtra | 287.9 | 323.4 | 344.7 | 345.8 | 395.1 | 464.7 | 501.8 | 547.2 | 577.8 | 603.8 |
| 12 | Manipur | 295.5 | 345.9 | 356.5 | 362.0 | 397.1 | 408.5 | 436.1 | 477.6 | 496.0 | 506.9 |
| 13 | Orissa | 302.7 | 361.9 | 344.3 | 387.3 | 439.4 | 441.9 | 465.8 | 522.6 | 539.6 | 555.6 |
| 14 | Punjab | 231.4 | 245.6 | 269.5 | 280.7 | 301.2 | 430.6 | 446.0 | 523.7 | 549.8 | 557.6 |
| 15 | Rajasthan | 280.9 | 298.6 | 310.5 | 335.4 | 422.5 | 431.4 | 460.8 | 517.0 | 545.7 | 563.4 |
| 16 | Tamil Nadu | 295.2 | 306.3 | 363.4 | 425.6 | 446.9 | 393.8 | 425.8 | 466.5 | 511.2 | 522.3 |
| 17 | Uttar Pradesh | 269.4 | 302.6 | 316.1 | 335.7 | 369.7 | 408.5 | 436.1 | 477.6 | 496.0 | 506.9 |
| 18 | West Bengal | 276.1 | 309.1 | 337.4 | 382.0 | 410.3 | 385.7 | 410.4 | 462.8 | 484.0 | 495.0 |
| 19 | Delhi | 232.0 | 245.6 | 269.5 | 280.7 | 301.2 | 448.6 | 478.9 | 533.0 | 547.2 | 571.8 |
| 20 | Tripura | 295.5 | 345.9 | 356.5 | 362.0 | 397.1 | 430.6 | 466.0 | 523.7 | 549.8 | 557.1 |
| 21 | All India | 284.7 | 311.7 | 335.7 | 358.4 | 400.4 | 436.0 | 465.6 | 513.7 | 537.7 | 551.5 |
| 22 | C.V. (%) | 11.1 | 13.0 | 11.6 | 13.1 | 13.2 | 6.5 | 5.8 | 4.8 | 4.5 | 5.2 |

TABLE A.2.5R. STATE-WISE RURAL CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Clothing, bedding and footwear | | | | | Other non-food | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 1 | Andhra Pradesh | 305.0 | 325.6 | 343.1 | 361.9 | 391.1 | 373.1 | 400.5 | 446.8 | 499.9 | 543.2 |
| 2 | Assam | 333.7 | 362.7 | 382.5 | 415.9 | 450.1 | 351.9 | 384.6 | 401.8 | 436.6 | 480.2 |
| 3 | Bihar | 310.3 | 335.2 | 352.4 | 384.2 | 422.9 | 377.9 | 405.3 | 443.5 | 503.7 | 568.7 |
| 4 | Gujarat | 315.8 | 339.3 | 361.2 | 382.7 | 402.6 | 376.9 | 412.6 | 443.8 | 493.0 | 519.8 |
| 5 | Haryana | 328.6 | 338.9 | 351.4 | 383.7 | 390.9 | 378.4 | 405.7 | 447.6 | 513.0 | 534.1 |
| 6 | Himachal Pradesh | 328.6 | 338.9 | 351.4 | 383.7 | 390.9 | 378.4 | 405.7 | 447.6 | 513.0 | 534.1 |
| 7 | Jammu & Kashmir | 311.3 | 333.4 | 340.3 | 350.6 | 367.1 | 451.3 | 487.3 | 503.2 | 548.2 | 625.8 |
| 8 | Karnataka | 337.7 | 353.6 | 366.3 | 389.3 | 413.9 | 401.3 | 431.5 | 486.3 | 536.7 | 601.0 |
| 9 | Kerala | 337.0 | 346.3 | 359.9 | 370.4 | 416.4 | 379.0 | 399.3 | 451.8 | 508.9 | 546.3 |
| 10 | Madhya Pradesh | 322.6 | 350.9 | 371.6 | 386.7 | 417.9 | 356.9 | 394.4 | 452.4 | 499.6 | 541.8 |
| 11 | Maharashtra | 303.0 | 322.0 | 332.0 | 354.2 | 380.7 | 328.4 | 365.2 | 391.1 | 437.5 | 481.1 |
| 12 | Manipur | 333.7 | 362.7 | 382.5 | 415.9 | 450.1 | 351.9 | 384.6 | 401.8 | 436.6 | 480.2 |
| 13 | Orissa | 328.3 | 361.8 | 374.2 | 387.2 | 419.3 | 509.3 | 525.0 | 543.4 | 651.4 | 646.4 |
| 14 | Punjab | 328.6 | 338.9 | 351.4 | 383.7 | 390.9 | 378.4 | 405.7 | 447.6 | 513.0 | 534.1 |
| 15 | Rajasthan | 344.8 | 371.7 | 394.8 | 413.3 | 443.9 | 486.3 | 514.1 | 542.4 | 651.3 | 802.9 |
| 16 | Tamil Nadu | 341.7 | 360.5 | 374.9 | 398.0 | 421.1 | 359.6 | 385.8 | 427.6 | 473.1 | 505.1 |
| 17 | Uttar Pradesh | 327.2 | 354.7 | 364.9 | 385.6 | 411.7 | 432.8 | 467.5 | 520.7 | 592.3 | 646.3 |
| 18 | West Bengal | 310.9 | 326.1 | 339.1 | 355.4 | 377.6 | 316.9 | 343.4 | 368.1 | 439.6 | 472.7 |
| 19 | Delhi | 328.6 | 338.9 | 351.4 | 383.7 | 390.9 | 378.4 | 405.7 | 447.6 | 513.0 | 534.1 |
| 20 | Tripura | 333.7 | 362.7 | 382.4 | 415.9 | 450.1 | 351.9 | 384.6 | 401.8 | 436.6 | 480.2 |
| 21 | All India | 324.8 | 347.9 | 364.3 | 389.0 | 417.5 | 377.2 | 407.5 | 443.5 | 497.6 | 544.4 |
| 22 | C.V. (%) | 4.1 | 4.5 | 5.1 | 5.3 | 5.9 | 10.7 | 9.4 | 9.6 | 11.8 | 13.5 |

TABLE A.2.6R. STATE-WISE RURAL CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS (BASED ON 1970-71 WEIGHTING DIAGRAM) (1970-71 = 100)

| Sl. No. | Name of the state | Total food | | | | | Total non-food | | | | | General (all items together) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 273.5 | 281.8 | 303.7 | 327.9 | 375.9 | 342.4 | 362.8 | 397.0 | 434.4 | 468.1 | 292.7 | 304.4 | 329.8 | 357.7 | 401.6 |
| 2 | Assam | 286.1 | 297.0 | 315.8 | 350.3 | 386.0 | 351.1 | 385.9 | 409.3 | 431.5 | 461.2 | 300.3 | 316.4 | 336.3 | 368.1 | 402.5 |
| 3 | Bihar | 255.5 | 263.0 | 291.9 | 339.6 | 361.9 | 376.4 | 399.2 | 423.6 | 464.7 | 505.2 | 281.9 | 296.6 | 321.8 | 366.9 | 393.1 |
| 4 | Gujarat | 289.2 | 314.8 | 325.1 | 378.5 | 383.1 | 362.8 | 394.1 | 427.0 | 455.2 | 480.9 | 306.2 | 333.1 | 348.6 | 394.7 | 405.6 |
| 5 | Haryana | 286.2 | 302.5 | 307.6 | 348.4 | 395.1 | 361.8 | 384.4 | 419.3 | 460.7 | 474.3 | 306.0 | 324.0 | 336.9 | 377.9 | 415.8 |
| 6 | Himachal Pradesh | 288.6 | 306.8 | 311.6 | 354.8 | 403.8 | 357.5 | 379.3 | 412.9 | 451.7 | 464.7 | 311.6 | 331.0 | 345.4 | 387.1 | 424.1 |
| 7 | Jammu & Kashmir | 336.7 | 352.6 | 377.8 | 425.3 | 456.7 | 365.5 | 394.0 | 416.5 | 440.0 | 473.6 | 344.9 | 364.5 | 388.9 | 429.5 | 461.6 |
| 8 | Karnataka | 292.5 | 294.6 | 297.0 | 330.6 | 383.5 | 384.9 | 411.9 | 450.3 | 486.2 | 530.7 | 318.3 | 327.3 | 339.8 | 374.0 | 426.7 |
| 9 | Kerala | 313.6 | 296.8 | 343.2 | 373.3 | 404.0 | 378.3 | 397.5 | 440.6 | 479.2 | 515.8 | 332.9 | 326.8 | 372.2 | 404.8 | 437.3 |
| 10 | Madhya Pradesh | 283.6 | 311.4 | 315.5 | 355.5 | 399.1 | 348.6 | 379.5 | 419.0 | 443.8 | 476.7 | 301.6 | 330.3 | 344.2 | 379.9 | 420.6 |
| 11 | Maharashtra | 287.4 | 302.1 | 327.8 | 353.4 | 389.2 | 347.0 | 377.8 | 402.4 | 433.2 | 467.8 | 306.0 | 325.7 | 351.1 | 378.3 | 413.7 |
| 12 | Manipur | 279.9 | 289.4 | 310.4 | 340.5 | 377.4 | 355.2 | 388.7 | 412.9 | 437.0 | 466.6 | 301.1 | 317.3 | 339.2 | 367.6 | 402.5 |
| 13 | Orissa | 278.3 | 283.9 | 295.2 | 345.7 | 365.4 | 408.2 | 437.8 | 460.5 | 505.5 | 525.6 | 307.7 | 318.8 | 332.6 | 381.9 | 401.7 |
| 14 | Punjab | 293.6 | 309.6 | 317.0 | 356.7 | 400.9 | 356.0 | 374.2 | 410.6 | 452.6 | 466.6 | 313.6 | 330.3 | 347.1 | 387.5 | 422.0 |
| 15 | Rajasthan | 298.5 | 340.1 | 341.8 | 411.7 | 423.4 | 394.3 | 420.9 | 450.7 | 497.3 | 566.0 | 326.5 | 363.7 | 373.6 | 436.7 | 465.0 |
| 16 | Tamil Nadu | 306.9 | 317.8 | 347.1 | 378.1 | 406.8 | 357.4 | 381.8 | 419.4 | 462.1 | 484.6 | 319.5 | 333.7 | 365.1 | 399.1 | 426.2 |
| 17 | Uttar Pradesh | 273.6 | 303.9 | 322.5 | 374.8 | 405.6 | 372.5 | 403.2 | 435.7 | 471.6 | 503.7 | 293.5 | 323.8 | 345.3 | 394.3 | 425.3 |
| 18 | West Bengal | 276.3 | 307.7 | 326.0 | 349.0 | 362.1 | 326.2 | 349.3 | 376.1 | 419.5 | 444.7 | 292.1 | 320.9 | 341.8 | 371.3 | 388.3 |
| 19 | Delhi | 281.3 | 303.4 | 311.6 | 357.3 | 405.0 | 351.0 | 372.0 | 405.7 | 440.6 | 459.0 | 297.6 | 318.4 | 333.6 | 376.7 | 417.6 |
| 20 | Tripura | 289.3 | 301.9 | 314.1 | 357.1 | 391.0 | 356.9 | 390.6 | 416.4 | 446.2 | 478.3 | 308.5 | 327.2 | 343.2 | 382.5 | 415.9 |
| 21 | All India | 284.9 | 300.1 | 316.5 | 357.6 | 390.5 | 363.1 | 390.6 | 422.1 | 456.5 | 488.8 | 305.7 | 324.1 | 344.5 | 383.9 | 416.9 |
| 22 | C.V. (%) | 5.3 | 5.8 | 5.4 | 5.7 | 4.4 | 4.5 | 4.3 | 4.0 | 4.4 | 5.4 | 4.4 | 4.6 | 4.2 | 4.6 | 4.0 |

TABLE A.2.1U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Cereals and cereals products | | | | | Pulses and pulse products | | | | | Fruits and vegetables | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 250.0 | 267.3 | 278.2 | 299.3 | 367.4 | 384.5 | 373.9 | 421.1 | 555.7 | 598.0 | 327.8 | 328.2 | 369.1 | 422.4 | 419.4 |
| 2 | Assam | 231.3 | 224.9 | 237.4 | 246.8 | 285.3 | 388.5 | 378.7 | 427.5 | 533.7 | 559.3 | 301.6 | 331.5 | 342.3 | 360.9 | 419.5 |
| 3 | Bihar | 240.3 | 249.0 | 267.4 | 299.2 | 330.2 | 392.0 | 398.0 | 438.0 | 561.9 | 630.1 | 298.5 | 347.1 | 391.2 | 389.0 | 418.5 |
| 4 | Gujarat | 251.6 | 301.2 | 306.8 | 339.2 | 358.4 | 406.3 | 406.0 | 417.7 | 551.2 | 620.8 | 302.0 | 367.5 | 412.3 | 466.1 | 443.6 |
| 5 | Haryana | 238.5 | 252.6 | 259.7 | 283.7 | 310.4 | 409.7 | 420.6 | 402.9 | 499.6 | 655.3 | 230.1 | 291.4 | 331.7 | 310.1 | 379.9 |
| 6 | Himachal Pradesh | 269.9 | 293.5 | 310.6 | 320.2 | 351.2 | 405.4 | 422.7 | 396.4 | 470.8 | 617.0 | 319.9 | 336.8 | 376.5 | 382.4 | 454.7 |
| 7 | Jammu & Kashmir | 411.0 | 436.4 | 478.8 | 509.0 | 531.9 | 379.7 | 423.2 | 411.1 | 524.6 | 652.6 | 330.7 | 401.8 | 474.8 | 527.8 | 549.8 |
| 8 | Karnataka | 238.6 | 260.2 | 269.2 | 290.6 | 352.0 | 407.5 | 405.8 | 459.8 | 605.2 | 637.6 | 367.7 | 335.5 | 396.9 | 475.5 | 455.8 |
| 9 | Kerala | 241.2 | 262.2 | 269.5 | 273.0 | 322.3 | 406.7 | 417.4 | 429.3 | 517.1 | 619.5 | 400.2 | 319.4 | 411.2 | 453.5 | 465.2 |
| 10 | Madhya Pradesh | 244.0 | 281.8 | 292.2 | 315.7 | 356.3 | 406.0 | 407.0 | 439.0 | 573.6 | 639.7 | 285.8 | 348.8 | 397.5 | 421.5 | 426.5 |
| 11 | Maharashtra | 308.2 | 334.3 | 344.8 | 356.8 | 413.9 | 409.8 | 417.6 | 451.5 | 585.6 | 645.8 | 302.1 | 341.8 | 393.5 | 423.8 | 437.9 |
| 12 | Meghalaya | 242.7 | 242.3 | 249.1 | 263.8 | 297.4 | 409.2 | 415.4 | 419.3 | 491.7 | 592.4 | 369.5 | 360.5 | 413.5 | 499.6 | 595.2 |
| 13 | Orissa | 244.7 | 260.4 | 269.8 | 302.2 | 326.0 | 424.1 | 413.9 | 449.2 | 598.4 | 648.4 | 270.8 | 306.7 | 348.3 | 333.9 | 365.5 |
| 14 | Punjab | 240.9 | 245.1 | 255.3 | 283.1 | 336.1 | 436.3 | 458.3 | 426.6 | 503.1 | 680.9 | 307.3 | 351.0 | 362.6 | 411.7 | 442.7 |
| 15 | Rajasthan | 274.0 | 312.5 | 298.6 | 341.9 | 382.6 | 453.8 | 451.1 | 426.0 | 545.5 | 693.1 | 310.8 | 355.1 | 398.4 | 462.2 | 485.1 |
| 16 | Tamil Nadu | 317.9 | 351.4 | 368.9 | 395.5 | 460.6 | 387.6 | 387.0 | 418.6 | 536.5 | 602.7 | 376.9 | 353.4 | 427.5 | 510.4 | 479.5 |
| 17 | Uttar Pradesh | 252.6 | 274.8 | 282.7 | 319.9 | 352.3 | 403.2 | 407.8 | 445.7 | 567.1 | 658.7 | 272.3 | 333.4 | 375.1 | 377.3 | 430.0 |
| 18 | West Bengal | 205.0 | 219.3 | 233.2 | 246.2 | 268.6 | 428.0 | 433.5 | 451.3 | 560.6 | 660.1 | 263.0 | 290.4 | 345.1 | 329.2 | 389.7 |
| 19 | Delhi | 243.9 | 268.2 | 281.0 | 302.0 | 319.2 | 425.7 | 440.8 | 445.2 | 549.1 | 682.8 | 278.5 | 335.2 | 376.8 | 411.8 | 459.9 |
| 20 | Chandigarh | 234.4 | 242.7 | 255.6 | 286.8 | 319.7 | 422.6 | 447.5 | 418.6 | 517.9 | 712.1 | 365.5 | 386.9 | 431.3 | 520.6 | 564.5 |
| 21 | All India | 259.8 | 283.9 | 294.7 | 319.0 | 363.0 | 406.0 | 408.9 | 437.3 | 561.9 | 638.8 | 307.5 | 335.5 | 386.4 | 418.0 | 436.5 |
| 22 | C.V. (%) | 13.9 | 15.0 | 14.8 | 14.4 | 15.1 | 3.8 | 4.5 | 3.4 | 4.1 | 4.0 | 13.2 | 6.7 | 6.8 | 13.3 | 7.2 |

TABLE A.2.2U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Condiments and spices | | | | | Edible oils and fats | | | | | Milk and milk products | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 373.8 | 331.9 | 349.5 | 445.3 | 503.5 | 328.5 | 328.8 | 427.7 | 488.6 | 438.4 | 293.5 | 310.7 | 338.1 | 378.2 | 384.1 |
| 2 | Assam | 344.8 | 327.7 | 352.2 | 416.5 | 444.2 | 285.5 | 263.4 | 337.9 | 446.0 | 386.3 | 296.2 | 314.9 | 347.1 | 376.5 | 417.4 |
| 3 | Bihar | 317.6 | 343.6 | 382.5 | 454.7 | 477.7 | 297.9 | 285.1 | 380.5 | 482.4 | 419.3 | 307.6 | 321.4 | 343.9 | 382.2 | 414.5 |
| 4 | Gujarat | 311.1 | 350.9 | 441.4 | 528.2 | 501.8 | 346.1 | 361.8 | 443.0 | 508.2 | 443.8 | 321.6 | 325.1 | 369.7 | 437.3 | 488.7 |
| 5 | Haryana | 320.1 | 339.0 | 370.3 | 447.1 | 447.8 | 288.1 | 277.9 | 360.7 | 463.6 | 424.3 | 298.6 | 302.9 | 349.3 | 374.4 | 419.2 |
| 6 | Himachal Pradesh | 309.9 | 343.4 | 374.3 | 457.2 | 465.7 | 300.0 | 316.8 | 388.2 | 452.1 | 435.0 | 279.4 | 263.2 | 289.7 | 321.7 | 358.7 |
| 7 | Jammu & Kashmir | 311.5 | 328.2 | 325.9 | 376.6 | 452.4 | 274.5 | 258.4 | 347.3 | 446.2 | 386.5 | 293.3 | 300.3 | 330.2 | 372.1 | 410.5 |
| 8 | Karnataka | 351.8 | 357.1 | 392.1 | 487.2 | 576.3 | 369.8 | 326.5 | 446.6 | 511.4 | 477.2 | 272.3 | 291.3 | 311.5 | 352.1 | 377.4 |
| 9 | Kerala | 381.4 | 359.8 | 380.5 | 488.0 | 546.7 | 482.4 | 471.6 | 873.2 | 875.1 | 56.1 | 271.6 | 284.6 | 299.8 | 324.9 | 342.7 |
| 10 | Madhya Pradesh | 289.5 | 310.1 | 362.8 | 440.9 | 466.1 | 289.0 | 288.3 | 367.1 | 429.2 | 382.2 | 338.3 | 330.5 | 368.7 | 422.8 | 446.0 |
| 11 | Maharashtra | 342.9 | 344.3 | 359.3 | 447.7 | 524.9 | 325.7 | 319.5 | 413.1 | 467.6 | 436.6 | 305.9 | 309.2 | 328.4 | 359.3 | 401.6 |
| 12 | Meghalaya | 366.6 | 360.9 | 375.2 | 457.6 | 504.5 | 275.5 | 261.3 | 334.5 | 423.2 | 373.3 | 352.5 | 391.5 | 398.4 | 406.4 | 464.8 |
| 13 | Orissa | 286.2 | 321.5 | 396.0 | 456.7 | 429.3 | 314.0 | 286.8 | 373.7 | 452.9 | 439.3 | 270.9 | 284.7 | 310.6 | 326.4 | 332.4 |
| 14 | Punjab | 342.6 | 368.8 | 424.2 | 485.2 | 461.7 | 277.9 | 289.9 | 363.4 | 416.3 | 391.9 | 282.5 | 282.1 | 305.0 | 349.7 | 374.3 |
| 15 | Rajasthan | 315.2 | 369.1 | 455.0 | 527.4 | 522.3 | 306.5 | 352.1 | 392.4 | 464.3 | 419.4 | 283.7 | 278.1 | 317.1 | 384.3 | 429.9 |
| 16 | Tamil Nadu | 393.5 | 365.2 | 417.2 | 506.0 | 556.7 | 370.0 | 357.2 | 496.7 | 540.2 | 467.5 | 319.5 | 352.8 | 374.3 | 402.5 | 435.9 |
| 17 | Uttar Pradesh | 294.5 | 317.0 | 385.4 | 456.6 | 450.7 | 277.5 | 281.9 | 373.5 | 447.6 | 372.0 | 314.6 | 314.6 | 336.1 | 371.3 | 406.7 |
| 18 | West Bengal | 340.7 | 333.9 | 365.4 | 463.7 | 473.3 | 318.9 | 314.7 | 400.7 | 506.5 | 416.8 | 293.2 | 320.3 | 339.7 | 371.4 | 409.7 |
| 19 | Delhi | 330.7 | 333.9 | 348.2 | 473.9 | 534.3 | 288.7 | 310.7 | 364.7 | 408.5 | 412.4 | 307.4 | 316.7 | 343.0 | 394.8 | 438.7 |
| 20 | Chandigarh | 336.8 | 337.4 | 318.2 | 442.2 | 510.5 | 157.7 | 165.9 | 204.3 | 234.8 | 236.8 | 301.3 | 305.2 | 338.1 | 377.1 | 425.6 |
| 21 | All India | 343.8 | 343.7 | 385.9 | 472.8 | 511.1 | 320.8 | 320.3 | 415.9 | 483.1 | 425.8 | 304.5 | 312.6 | 339.6 | 381.3 | 416.7 |
| 22 | C.V. (%) | 10.0 | 5.2 | 8.1 | 6.4 | 8.0 | 11.7 | 11.2 | 17.4 | 13.2 | 8.7 | 5.7 | 6.2 | 6.3 | 7.2 | 7.9 |

TABLE A.2.3U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Meat, fish and eggs | | | | | Other food | | | | | Intoxicants etc. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 423.1 | 480.1 | 514.6 | 556.2 | 594.3 | 302.0 | 332.0 | 381.9 | 440.1 | 460.1 | 303.1 | 357.6 | 402.4 | 460.5 | 497.6 |
| 2 | Assam | 367.6 | 392.4 | 430.3 | 426.1 | 517.2 | 369.6 | 390.0 | 375.0 | 384.5 | 443.9 | 295.6 | 338.2 | 349.2 | 357.7 | 452.1 |
| 3 | Bihar | 388.2 | 467.0 | 496.7 | 524.1 | 551.5 | 307.7 | 335.6 | 358.9 | 380.4 | 398.8 | 344.1 | 400.5 | 498.0 | 543.1 | 546.1 |
| 4 | Gujarat | 395.7 | 436.7 | 497.2 | 535.5 | 613.9 | 355.1 | 376.8 | 381.4 | 394.6 | 418.3 | 399.8 | 459.1 | 488.8 | 541.2 | 578.7 |
| 5 | Haryana | 338.2 | 371.4 | 425.1 | 469.1 | 531.7 | 300.0 | 314.4 | 326.3 | 330.4 | 376.7 | 318.2 | 412.9 | 485.1 | 580.8 | 534.7 |
| 6 | Himachal Pradesh | 291.8 | 308.4 | 335.9 | 361.4 | 403.8 | 315.0 | 345.7 | 349.5 | 391.8 | 446.3 | 325.7 | 490.8 | 555.4 | 534.3 | 515.8 |
| 7 | Jammu & Kashmir | 354.7 | 417.4 | 432.1 | 463.4 | 538.9 | 340.3 | 370.9 | 385.6 | 422.2 | 446.4 | 239.0 | 324.7 | 387.9 | 377.0 | 389.6 |
| 8 | Karnataka | 384.3 | 421.5 | 471.7 | 515.9 | 554.6 | 356.7 | 386.9 | 423.3 | 466.1 | 501.2 | 330.3 | 388.1 | 430.7 | 465.9 | 479.5 |
| 9 | Kerala | 456.5 | 502.9 | 604.7 | 622.3 | 671.8 | 371.5 | 392.8 | 427.0 | 456.5 | 471.6 | 308.5 | 338.1 | 375.8 | 426.3 | 467.3 |
| 10 | Madhya Pradesh | 407.4 | 461.3 | 492.5 | 536.1 | 602.1 | 313.5 | 358.4 | 375.6 | 401.7 | 414.2 | 367.2 | 440.4 | 465.5 | 491.9 | 546.4 |
| 11 | Maharashtra | 404.5 | 459.4 | 507.5 | 541.8 | 606.8 | 409.3 | 443.6 | 473.3 | 499.9 | 528.7 | 328.1 | 390.5 | 429.2 | 456.1 | 511.4 |
| 12 | Meghalaya | 436.0 | 543.5 | 609.1 | 590.6 | 602.8 | 304.6 | 367.4 | 364.3 | 361.8 | 400.2 | 460.2 | 586.7 | 619.1 | 665.7 | 702.4 |
| 13 | Orissa | 420.8 | 468.7 | 489.9 | 528.0 | 548.9 | 281.7 | 288.9 | 299.9 | 331.0 | 345.8 | 388.2 | 439.1 | 479.1 | 513.7 | 541.4 |
| 14 | Punjab | 351.7 | 385.6 | 425.9 | 466.3 | 528.7 | 316.6 | 352.8 | 356.3 | 383.5 | 426.5 | 331.4 | 365.0 | 401.5 | 470.5 | 499.7 |
| 15 | Rajasthan | 376.7 | 438.1 | 486.0 | 546.4 | 653.4 | 339.8 | 373.2 | 401.7 | 439.6 | 483.6 | 400.8 | 450.5 | 472.8 | 517.7 | 574.5 |
| 16 | Tamil Nadu | 387.5 | 444.5 | 480.7 | 524.4 | 560.9 | 368.6 | 401.4 | 430.8 | 481.3 | 518.5 | 314.4 | 347.0 | 379.8 | 433.6 | 473.3 |
| 17 | Uttar Pradesh | 383.2 | 440.0 | 495.5 | 531.8 | 572.7 | 320.5 | 351.0 | 354.6 | 374.8 | 408.3 | 348.0 | 418.2 | 451.5 | 484.5 | 512.0 |
| 18 | West Bengal | 406.2 | 467.1 | 492.7 | 505.8 | 557.5 | 322.4 | 360.9 | 379.1 | 397.1 | 453.8 | 342.4 | 406.7 | 443.4 | 474.7 | 510.9 |
| 19 | Delhi | 373.1 | 442.2 | 483.1 | 525.0 | 625.6 | 280.2 | 312.8 | 335.0 | 367.4 | 417.8 | 338.6 | 432.0 | 473.8 | 510.9 | 549.2 |
| 20 | Chandigarh | 292.8 | 328.5 | 352.7 | 393.4 | 448.5 | 309.6 | 347.0 | 368.4 | 400.8 | 468.9 | 441.4 | 547.3 | 656.8 | 658.7 | 571.6 |
| 21 | All India | 398.5 | 453.8 | 495.0 | 526.9 | 579.0 | 346.0 | 377.7 | 401.0 | 431.5 | 465.0 | 338.5 | 397.1 | 436.1 | 476.0 | 513.1 |
| 22 | C.V. (%) | 5.2 | 5.4 | 6.3 | 6.1 | 5.9 | 11.0 | 10.3 | 11.0 | 11.5 | 10.5 | 8.9 | 9.4 | 8.8 | 8.2 | 6.6 |

TABLE A.2.4U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Fuel and light | | | | | Clothing, bedding and footwear | | | | | Housing | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 442.0 | 458.1 | 475.5 | 506.5 | 535.7 | 312.8 | 330.6 | 342.5 | 377.4 | 388.4 | 425.1 | 468.4 | 510.6 | 573.7 | 590.4 |
| 2 | Assam | 282.2 | 309.8 | 332.4 | 347.4 | 370.9 | 341.9 | 365.2 | 402.5 | 451.2 | 413.5 | 520.7 | 657.1 | 659.1 | 660.7 | 331.5 |
| 3 | Bihar | 449.9 | 500.1 | 533.7 | 561.8 | 605.7 | 345.5 | 371.0 | 394.8 | 422.9 | 463.2 | 330.5 | 288.4 | 294.0 | 425.1 | 330.5 |
| 4 | Gujarat | 399.1 | 423.5 | 463.7 | 487.2 | 530.8 | 339.8 | 364.3 | 378.0 | 406.5 | 423.1 | 189.7 | 205.5 | 220.0 | 237.9 | 237.8 |
| 5 | Haryana | 460.6 | 519.3 | 516.3 | 533.9 | 512.3 | 338.1 | 369.3 | 392.7 | 410.6 | 414.1 | 294.4 | 353.5 | 384.5 | 734.7 | 464.0 |
| 6 | Himachal Pradesh | 388.1 | 435.3 | 451.9 | 449.2 | 436.2 | 276.9 | 295.4 | 313.7 | 350.3 | 391.8 | 160.1 | 162.0 | 162.0 | 171.6 | 231.1 |
| 7 | Jammu & Kashmir | 288.7 | 292.1 | 295.5 | 336.1 | 350.9 | 299.4 | 321.9 | 341.7 | 373.7 | 398.2 | 273.4 | 302.3 | 315.6 | 335.3 | 349.6 |
| 8 | Karnataka | 461.9 | 503.1 | 515.7 | 553.9 | 580.7 | 313.0 | 336.5 | 356.3 | 381.1 | 379.7 | 421.5 | 460.6 | 483.3 | 507.8 | 524.0 |
| 9 | Kerala | 520.1 | 553.9 | 583.5 | 597.5 | 631.2 | 338.8 | 351.3 | 362.1 | 384.2 | 396.2 | 276.3 | 306.8 | 330.0 | 358.1 | 347.1 |
| 10 | Madhya Pradesh | 464.3 | 502.8 | 549.8 | 595.8 | 688.5 | 330.2 | 348.7 | 362.4 | 394.7 | 422.8 | 253.7 | 275.1 | 295.9 | 319.9 | 373.0 |
| 11 | Maharashtra | 459.5 | 486.2 | 513.4 | 582.0 | 617.9 | 304.1 | 319.3 | 331.2 | 355.6 | 386.9 | 207.8 | 219.3 | 230.4 | 257.0 | 292.0 |
| 12 | Meghalaya | 968.2 | 808.4 | 635.6 | 961.2 | 1,178.9 | 401.0 | 432.4 | 494.4 | 523.6 | 552.4 | 244.3 | 317.2 | 351.8 | 394.6 | 492.4 |
| 13 | Orissa | 582.8 | 633.3 | 654.7 | 711.3 | 710.6 | 345.2 | 355.5 | 358.7 | 382.0 | 403.5 | 303.7 | 343.3 | 361.5 | 366.8 | 385.2 |
| 14 | Punjab | 355.6 | 387.2 | 415.3 | 459.8 | 461.4 | 295.6 | 308.6 | 332.8 | 354.9 | 351.1 | 212.3 | 220.6 | 229.4 | 282.0 | 266.0 |
| 15 | Rajasthan | 381.1 | 416.5 | 428.0 | 437.3 | 465.0 | 335.6 | 354.2 | 370.4 | 407.7 | 445.9 | 245.7 | 271.8 | 294.6 | 360.2 | 361.3 |
| 16 | Tamil Nadu | 464.0 | 486.3 | 498.7 | 517.7 | 528.3 | 321.4 | 338.6 | 354.2 | 381.5 | 389.9 | 390.0 | 441.6 | 486.9 | 539.0 | 522.4 |
| 17 | Uttar Pradesh | 481.4 | 528.7 | 575.8 | 603.8 | 626.1 | 332.8 | 346.1 | 356.5 | 393.4 | 422.3 | 210.4 | 231.5 | 256.3 | 256.8 | 292.1 |
| 18 | West Bengal | 497.5 | 578.4 | 636.1 | 652.9 | 607.2 | 366.7 | 392.6 | 415.8 | 457.4 | 473.0 | 319.7 | 344.3 | 358.1 | 389.0 | 347.5 |
| 19 | Delhi | 371.0 | 411.1 | 439.9 | 449.6 | 425.3 | 300.5 | 316.7 | 334.3 | 374.6 | 393.7 | 225.7 | 236.5 | 266.5 | 361.6 | 341.3 |
| 20 | Chandigarh | 316.2 | 325.2 | 342.1 | 355.3 | 358.5 | 241.2 | 247.2 | 264.8 | 297.7 | 338.4 | 249.4 | 265.2 | 281.8 | 301.6 | 348.4 |
| 21 | All India | 450.3 | 486.8 | 515.9 | 458.6 | 570.9 | 326.5 | 345.2 | 361.4 | 392.5 | 411.5 | 294.0 | 320.3 | 343.3 | 385.7 | 381.1 |
| 22 | C.V. (%) | 11.7 | 12.2 | 12.9 | 13.0 | 13.5 | 6.1 | 6.6 | 7.2 | 7.4 | 7.8 | 29.7 | 32.3 | 32.5 | 32.4 | 28.2 |

TABLE A.2.5U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Medical care | | | | | Education and recreation | | | | | Transport and communication | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 192.3 | 196.7 | 201.8 | 216.1 | 275.9 | 238.3 | 244.1 | 252.4 | 256.7 | 267.7 | 274.4 | 323.4 | 337.6 | 369.5 | 391.9 |
| 2 | Assam | 304.6 | 305.5 | 308.6 | 308.9 | 351.3 | 152.5 | 154.3 | 184.9 | 225.7 | 280.0 | 304.2 | 305.4 | 273.3 | 296.4 | 331.4 |
| 3 | Bihar | 239.8 | 273.2 | 288.1 | 312.4 | 347.4 | 154.7 | 165.8 | 173.5 | 185.5 | 202.6 | 274.3 | 302.3 | 313.4 | 326.3 | 352.1 |
| 4 | Gujarat | 249.4 | 278.2 | 335.9 | 373.3 | 351.2 | 225.8 | 240.8 | 256.5 | 259.3 | 254.8 | 290.4 | 301.2 | 320.4 | 351.1 | 401.3 |
| 5 | Haryana | 188.3 | 188.3 | 214.0 | 220.4 | 259.9 | 231.2 | 247.6 | 292.0 | 321.5 | 300.8 | 335.6 | 376.8 | 409.1 | 444.6 | 460.5 |
| 6 | Himachal Pradesh | 207.8 | 216.1 | 199.8 | 246.9 | 301.5 | 192.2 | 203.6 | 210.8 | 232.2 | 288.9 | 233.3 | 243.5 | 254.4 | 294.5 | 309.0 |
| 7 | Jammu & Kashmir | 280.9 | 286.2 | 293.5 | 346.9 | 432.7 | 235.8 | 253.6 | 275.9 | 283.5 | 264.5 | 268.8 | 294.3 | 311.0 | 382.6 | 390.8 |
| 8 | Karnataka | 227.4 | 236.4 | 245.2 | 271.7 | 308.2 | 270.0 | 279.3 | 300.3 | 353.4 | 333.2 | 312.9 | 350.6 | 338.4 | 362.8 | 421.1 |
| 9 | Kerala | 243.4 | 246.5 | 261.2 | 277.5 | 329.6 | 307.4 | 339.1 | 372.6 | 402.3 | 431.5 | 293.4 | 340.1 | 348.6 | 359.7 | 392.4 |
| 10 | Madhya Pradesh | 224.3 | 245.1 | 282.8 | 305.9 | 293.2 | 230.6 | 232.1 | 241.6 | 251.1 | 261.5 | 308.1 | 341.0 | 353.8 | 373.5 | 397.1 |
| 11 | Maharashtra | 232.0 | 266.5 | 281.6 | 320.2 | 311.9 | 233.1 | 242.6 | 248.1 | 248.6 | 253.9 | 295.5 | 315.0 | 329.1 | 360.1 | 396.8 |
| 12 | Meghalaya | 244.0 | 262.3 | 290.1 | 296.0 | 336.3 | 136.1 | 155.4 | 159.3 | 161.9 | 165.8 | 246.7 | 309.0 | 313.9 | 301.7 | 301.1 |
| 13 | Orissa | 258.5 | 269.1 | 282.6 | 292.4 | 337.2 | 300.0 | 323.2 | 344.2 | 355.5 | 350.2 | 228.3 | 249.1 | 262.0 | 299.3 | 331.3 |
| 14 | Punjab | 205.7 | 207.5 | 214.5 | 221.9 | 261.1 | 200.4 | 218.2 | 223.9 | 231.2 | 222.5 | 297.1 | 341.8 | 393.8 | 393.0 | 416.5 |
| 15 | Rajasthan | 305.5 | 322.4 | 284.8 | 314.6 | 366.9 | 177.6 | 191.5 | 207.6 | 221.1 | 218.3 | 295.8 | 317.5 | 358.5 | 371.8 | 420.1 |
| 16 | Tamil Nadu | 178.2 | 182.4 | 186.7 | 199.8 | 238.2 | 266.9 | 290.2 | 307.0 | 320.3 | 326.4 | 294.9 | 324.3 | 334.9 | 376.0 | 419.2 |
| 17 | Uttar Pradesh | 231.3 | 240.1 | 256.2 | 272.8 | 310.8 | 217.2 | 226.1 | 237.9 | 246.2 | 255.3 | 324.6 | 344.8 | 370.9 | 403.8 | 454.4 |
| 18 | West Bengal | 202.3 | 210.5 | 221.9 | 238.8 | 288.0 | 153.6 | 171.7 | 181.8 | 189.6 | 209.1 | 270.2 | 288.4 | 302.9 | 324.9 | 372.9 |
| 19 | Delhi | 204.6 | 215.9 | 217.9 | 227.0 | 262.9 | 203.1 | 219.4 | 231.9 | 250.5 | 255.4 | 283.4 | 314.8 | 375.1 | 400.5 | 457.8 |
| 20 | Chandigarh | 472.5 | 468.1 | 476.8 | 557.2 | 654.1 | 214.9 | 222.2 | 225.0 | 315.9 | 382.0 | 266.8 | 296.8 | 318.4 | 372.3 | 406.5 |
| 21 | All India | 225.8 | 240.9 | 254.9 | 277.4 | 305.6 | 221.1 | 234.4 | 247.2 | 259.1 | 265.9 | 293.2 | 320.5 | 339.0 | 366.0 | 406.1 |
| 22 | C.V. (%) | 13.5 | 15.2 | 16.2 | 18.0 | 12.4 | 18.2 | 17.9 | 18.5 | 20.0 | 18.5 | 6.0 | 6.5 | 7.8 | 7.1 | 7.1 |

TABLE A.2.6U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS

(1970-71 = 100)

| Sl. No. | Name of the state | Personal care and effects | | | | | Other non-food | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 1 | Andhra Pradesh | 361.5 | 341.6 | 382.1 | 430.8 | 431.4 | 342.9 | 367.3 | 394.1 | 437.2 | 456.2 |
| 2 | Assam | 431.3 | 387.5 | 421.2 | 483.0 | 487.0 | 368.9 | 401.2 | 406.9 | 439.0 | 503.4 |
| 3 | Bihar | 350.4 | 376.7 | 401.2 | 445.1 | 493.1 | 414.6 | 467.1 | 491.9 | 539.2 | 558.3 |
| 4 | Gujarat | 359.8 | 375.9 | 405.5 | 478.6 | 461.6 | 396.7 | 424.9 | 444.7 | 493.7 | 524.0 |
| 5 | Haryana | 485.7 | 499.8 | 512.3 | 547.5 | 609.8 | 351.8 | 366.4 | 385.8 | 482.2 | 512.9 |
| 6 | Himachal Pradesh | 311.7 | 332.6 | 351.2 | 389.0 | 408.0 | 319.2 | 329.3 | 355.4 | 436.0 | 503.5 |
| 7 | Jammu & Kashmir | 339.9 | 363.3 | 403.1 | 478.0 | 461.3 | 370.2 | 427.5 | 484.0 | 535.1 | 536.3 |
| 8 | Karnataka | 374.2 | 350.8 | 389.3 | 443.1 | 441.9 | 431.0 | 464.9 | 505.2 | 552.5 | 584.6 |
| 9 | Kerala | 353.4 | 348.8 | 373.3 | 421.3 | 447.9 | 378.6 | 420.1 | 446.3 | 471.1 | 474.7 |
| 10 | Madhya Pradesh | 327.9 | 335.8 | 369.2 | 420.7 | 427.9 | 391.1 | 436.7 | 471.7 | 505.6 | 531.5 |
| 11 | Maharashtra | 341.0 | 379.9 | 399.7 | 443.8 | 477.9 | 386.1 | 420.1 | 464.3 | 518.1 | 540.5 |
| 12 | Meghalaya | 275.7 | 319.5 | 382.3 | 370.5 | 367.4 | 393.4 | 548.2 | 649.9 | 553.6 | 507.1 |
| 13 | Orissa | 371.9 | 337.5 | 374.7 | 421.9 | 398.1 | 328.9 | 354.8 | 367.7 | 411.1 | 409.3 |
| 14 | Punjab | 351.2 | 367.3 | 403.3 | 457.0 | 470.6 | 318.7 | 331.6 | 369.0 | 437.8 | 438.9 |
| 15 | Rajasthan | 316.8 | 351.7 | 366.6 | 412.4 | 426.5 | 422.7 | 469.2 | 505.5 | 571.0 | 598.5 |
| 16 | Tamil Nadu | 393.2 | 381.1 | 415.4 | 485.9 | 484.2 | 356.1 | 412.8 | 441.5 | 474.0 | 486.5 |
| 17 | Uttar Pradesh | 331.4 | 353.8 | 387.8 | 426.9 | 448.7 | 388.9 | 426.0 | 468.1 | 510.3 | 529.7 |
| 18 | West Bengal | 412.7 | 399.5 | 434.6 | 498.3 | 468.9 | 342.4 | 373.3 | 397.4 | 428.9 | 470.0 |
| 19 | Delhi | 343.6 | 365.2 | 387.8 | 458.3 | 478.4 | 450.0 | 505.7 | 552.1 | 596.4 | 652.7 |
| 20 | Chandigarh | 309.2 | 326.9 | 350.8 | 380.9 | 376.8 | 305.0 | 339.1 | 369.8 | 434.2 | 493.4 |
| 21 | All India | 363.0 | 368.5 | 399.2 | 453.5 | 462.1 | 379.7 | 417.5 | 450.8 | 495.4 | 520.0 |
| 22 | C.V. (%) | 8.7 | 6.6 | 5.7 | 6.5 | 6.1 | 8.6 | 9.5 | 9.9 | 9.4 | 9.9 |

TABLE A.2.7U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS COMMODITY-GROUPS OF CONSUMPTION FOR DIFFERENT YEARS (BASED ON 1970-71 WEIGHTING DIAGRAM)
(1970-71 = 100)

| Sl. No. | Name of the state | Total food | | | | | Total non-food | | | | | General (all items together) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 | 84-85 | 85-86 | 86-87 | 87-88 | 88-89 |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) |
| 1 | Andhra Pradesh | 298.2 | 312.3 | 341.8 | 386.8 | 425.0 | 334.6 | 356.7 | 380.5 | 418.5 | 440.8 | 311.4 | 328.4 | 355.9 | 398.3 | 430.8 |
| 2 | Assam | 294.3 | 299.5 | 318.7 | 341.1 | 383.8 | 333.0 | 367.0 | 385.8 | 411.9 | 391.2 | 307.4 | 322.4 | 341.5 | 365.1 | 386.3 |
| 3 | Bihar | 284.5 | 302.3 | 331.3 | 370.7 | 396.5 | 343.9 | 373.9 | 401.0 | 441.6 | 460.4 | 303.3 | 324.9 | 353.4 | 393.2 | 416.7 |
| 4 | Gujarat | 311.9 | 342.2 | 372.7 | 423.5 | 438.8 | 324.4 | 349.2 | 376.2 | 408.5 | 426.2 | 315.9 | 344.4 | 373.8 | 418.8 | 434.8 |
| 5 | Haryana | 279.2 | 294.0 | 321.8 | 349.4 | 389.7 | 340.9 | 376.0 | 400.2 | 464.9 | 447.3 | 301.4 | 323.5 | 350.0 | 390.9 | 410.4 |
| 6 | Himachal Pradesh | 296.1 | 310.0 | 331.9 | 363.7 | 405.0 | 279.4 | 309.9 | 327.4 | 353.7 | 385.0 | 289.5 | 310.0 | 330.2 | 359.7 | 397.1 |
| 7 | Jammu & Kashmir | 348.4 | 374.4 | 411.5 | 457.4 | 486.1 | 391.2 | 316.2 | 338.9 | 375.4 | 391.7 | 329.4 | 355.1 | 387.4 | 430.1 | 454.7 |
| 8 | Karnataka | 305.9 | 319.7 | 351.1 | 398.1 | 437.6 | 368.6 | 397.8 | 419.7 | 454.7 | 470.5 | 327.4 | 346.4 | 374.6 | 417.5 | 448.7 |
| 9 | Kerala | 329.8 | 337.2 | 384.0 | 408.2 | 430.3 | 348.2 | 373.0 | 395.8 | 421.7 | 445.1 | 336.6 | 350.3 | 388.4 | 413.1 | 435.8 |
| 10 | Madhya Pradesh | 295.9 | 323.7 | 352.5 | 395.4 | 420.9 | 348.1 | 380.7 | 408.7 | 440.6 | 478.8 | 315.0 | 344.5 | 373.1 | 412.0 | 442.1 |
| 11 | Maharashtra | 343.5 | 366.3 | 397.6 | 432.5 | 470.4 | 317.8 | 343.6 | 365.5 | 402.3 | 430.1 | 333.6 | 357.5 | 385.2 | 420.9 | 454.8 |
| 12 | Meghalaya | 308.9 | 333.8 | 354.9 | 377.2 | 413.3 | 449.1 | 470.7 | 472.9 | 546.6 | 611.7 | 356.5 | 380.2 | 394.9 | 434.7 | 480.6 |
| 13 | Orissa | 282.4 | 298.3 | 321.8 | 356.5 | 375.3 | 375.4 | 401.9 | 420.1 | 453.0 | 463.6 | 310.8 | 329.9 | 351.8 | 386.0 | 402.3 |
| 14 | Punjab | 290.0 | 305.6 | 323.9 | 363.8 | 401.5 | 291.7 | 310.9 | 337.1 | 375.0 | 380.6 | 290.7 | 307.6 | 329.0 | 368.1 | 593.5 |
| 15 | Rajasthan | 303.9 | 330.9 | 351.4 | 409.0 | 447.2 | 333.9 | 364.1 | 381.8 | 419.7 | 449.0 | 314.9 | 343.0 | 362.6 | 412.9 | 447.9 |
| 16 | Tamil Nadu | 347.8 | 369.5 | 405.5 | 451.8 | 489.7 | 358.0 | 386.4 | 410.4 | 445.8 | 455.6 | 351.3 | 375.3 | 407.2 | 449.7 | 477.9 |
| 17 | Uttar Pradesh | 293.9 | 315.8 | 341.0 | 382.4 | 413.2 | 333.6 | 361.9 | 389.4 | 416.3 | 443.0 | 307.7 | 331.8 | 357.8 | 394.2 | 423.6 |
| 18 | West Bengal | 283.9 | 308.7 | 335.2 | 359.4 | 393.0 | 333.9 | 366.6 | 392.2 | 421.0 | 428.0 | 301.6 | 329.1 | 355.3 | 381.2 | 405.4 |
| 19 | Delhi | 291.7 | 319.4 | 346.5 | 388.8 | 431.7 | 311.9 | 342.6 | 373.0 | 415.5 | 432.8 | 300.3 | 329.2 | 357.7 | 400.1 | 432.2 |
| 20 | Chandigarh | 286.6 | 302.8 | 326.8 | 371.5 | 421.7 | 285.7 | 306.4 | 328.9 | 373.3 | 410.5 | 286.3 | 304.2 | 327.7 | 372.2 | 417.3 |
| 21 | All India | 309.4 | 330.7 | 360.0 | 400.2 | 433.2 | 335.6 | 363.6 | 388.0 | 422.6 | 441.8 | 318.8 | 342.4 | 370.0 | 408.2 | 436.3 |
| 22 | C.V. (%) | 7.7 | 7.5 | 7.8 | 7.8 | 7.5 | 5.6 | 5.6 | 5.2 | 4.8 | 4.9 | 5.3 | 4.9 | 5.2 | 5.2 | 5.3 |

TABLE A.3R. STATE-WISE RURAL CONSUMER PRICE INDICES FOR VARIOUS ITEM-GROUPS OF CONSUMPTION FOR 1983 (BASED ON 1970-71 WEIGHTING DIAGRAM)

(1970-71 = 100)

| Sl. No. | Name of the state | Cereals & prds. | Pulses & prds. | Fruits & veg. | Spices & salt | Ed. oils & fats | Milk & prds. | Meat & fish | Sugar & gur | Other food | Intoxi-cants etc. | Fuel & light | Cloth-ing etc. | Other non-food | Total food | Total non-food | All items |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
| 1 | Andhra Pradesh | 247.9 | 349.1 | 337.3 | 159.3 | 311.3 | 293.7 | 354.3 | 261.6 | 263.0 | 222.0 | 384.6 | 267.8 | 295.7 | 262.3 | 290.3 | 270.1 |
| 2 | Assam | 251.1 | 344.4 | 238.3 | 220.0 | 269.0 | 286.5 | 308.8 | 244.3 | 319.2 | 262.8 | 360.3 | 289.0 | 288.4 | 263.2 | 303.8 | 272.1 |
| 3 | Bihar | 265.8 | 312.6 | 257.7 | 205.9 | 284.6 | 307.2 | 373.7 | 255.3 | 273.5 | 260.7 | 434.9 | 282.8 | 307.4 | 272.0 | 325.2 | 283.6 |
| 4 | Gujarat | 235.8 | 332.6 | 296.7 | 194.7 | 343.4 | 272.4 | 354.2 | 267.9 | 295.0 | 234.2 | 376.8 | 276.3 | 323.4 | 265.5 | 315.6 | 277.1 |
| 5 | Haryana | 241.5 | 313.8 | 321.7 | 208.9 | 261.8 | 249.6 | 348.9 | 267.4 | 249.8 | 209.0 | 382.8 | 302.5 | 301.3 | 253.1 | 311.9 | 268.5 |
| 6 | Himachal Pradesh | 241.5 | 313.8 | 321.7 | 208.9 | 261.8 | 249.6 | 348.9 | 267.4 | 249.8 | 209.0 | 382.8 | 302.5 | 301.3 | 255.6 | 310.8 | 274.0 |
| 7 | Jammu & Kashmir | 357.0 | 288.4 | 286.0 | 222.8 | 269.5 | 250.7 | 331.7 | 208.4 | 255.6 | 172.6 | 296.1 | 281.5 | 387.6 | 313.5 | 312.5 | 313.2 |
| 8 | Karnataka | 255.6 | 380.2 | 310.1 | 162.2 | 307.3 | 313.9 | 363.6 | 274.9 | 237.6 | 279.0 | 386.2 | 308.7 | 326.9 | 269.1 | 327.9 | 285.5 |
| 9 | Kerala | 224.2 | 366.0 | 412.2 | 202.2 | 293.0 | 237.7 | 343.7 | 244.5 | 258.7 | 295.3 | 358.8 | 316.4 | 328.8 | 263.4 | 327.8 | 282.6 |
| 10 | Madhya Pradesh | 257.8 | 337.2 | 318.5 | 171.7 | 299.8 | 278.1 | 402.5 | 238.8 | 269.2 | 241.2 | 367.6 | 292.3 | 287.4 | 268.7 | 299.5 | 277.2 |
| 11 | Maharashtra | 233.4 | 342.5 | 408.6 | 164.7 | 324.7 | 285.8 | 379.3 | 259.6 | 291.9 | 240.1 | 394.7 | 280.8 | 280.6 | 269.9 | 302.6 | 280.1 |
| 12 | Manipur | 251.1 | 344.4 | 238.3 | 220.0 | 269.0 | 286.5 | 308.8 | 244.3 | 319.2 | 262.8 | 360.3 | 289.0 | 288.4 | 260.5 | 306.4 | 273.4 |
| 13 | Orissa | 310.8 | 304.5 | 281.3 | 184.3 | 280.9 | 259.4 | 312.3 | 281.1 | 301.4 | 257.9 | 385.8 | 292.1 | 296.8 | 301.1 | 315.9 | 304.4 |
| 14 | Punjab | 241.5 | 313.8 | 321.7 | 208.9 | 261.8 | 249.6 | 348.9 | 267.4 | 249.8 | 209.0 | 382.8 | 302.5 | 301.3 | 256.5 | 306.7 | 272.6 |
| 15 | Rajasthan | 264.0 | 298.7 | 360.8 | 208.7 | 297.9 | 275.9 | 365.4 | 294.0 | 265.5 | 245.5 | 381.4 | 305.2 | 407.6 | 274.2 | 342.1 | 294.0 |
| 16 | Tamil Nadu | 336.3 | 374.8 | 309.0 | 174.9 | 305.2 | 253.8 | 340.3 | 288.5 | 289.9 | 259.3 | 343.4 | 301.5 | 305.4 | 314.2 | 309.8 | 313.1 |
| 17 | Uttar Pradesh | 256.4 | 385.4 | 310.8 | 209.8 | 315.6 | 289.0 | 419.1 | 264.8 | 285.1 | 237.7 | 333.4 | 287.4 | 362.6 | 280.1 | 319.8 | 291.4 |
| 18 | West Bengal | 249.4 | 326.7 | 225.8 | 199.0 | 278.7 | 269.5 | 351.5 | 253.0 | 252.9 | 239.3 | 392.9 | 277.8 | 266.7 | 257.8 | 298.5 | 266.0 |
| 19 | Delhi | 241.5 | 313.8 | 321.7 | 208.9 | 261.8 | 249.6 | 348.9 | 267.4 | 249.8 | 209.0 | 382.8 | 302.5 | 301.3 | 255.7 | 312.4 | 273.7 |
| 20 | Tripura | 251.1 | 344.4 | 238.3 | 220.0 | 269.0 | 286.5 | 308.8 | 244.3 | 319.2 | 262.8 | 360.3 | 289.0 | 288.4 | 261.2 | 298.9 | 270.0 |
| 21 | All India | 262.5 | 347.6 | 308.6 | 184.6 | 302.4 | 278.4 | 356.9 | 263.8 | 271.6 | 245.6 | 374.4 | 289.3 | 318.2 | 273.8 | 313.1 | 284.1 |
| 22 | C.V. (%) | 10.66 | 8.50 | 17.53 | 11.22 | 6.86 | 6.66 | 8.79 | 5.19 | 7.29 | 8.42 | 8.07 | 4.04 | 11.17 | 5.56 | 4.26 | 4.43 |

TABLE A.3U. STATE-WISE URBAN CONSUMER PRICE INDICES FOR VARIOUS ITEM-GROUPS OF CONSUMPTION FOR 1983 (BASED ON 1970-71 WEIGHTING DIAGRAM)

(1970-71 = 100)

| Sl. No. | State name | Cereals & prds. | Pulses & prds. | Fruits & veg. | Spices etc. | Oils & fats | Milk & prds. | Meat, fish & eggs | Other food | Intoxi-cants etc. | Fuel & light | Cloth-ing etc. | Housing | Medical care | Edn. & recn. | Tpt. & comn. | Personal care | Other non-food | Total food | Total non-food | All items |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) |
| 1 | AP | 239.4 | 339.8 | 255.0 | 279.3 | 347.7 | 211.3 | 363.3 | 267.0 | 287.9 | 370.6 | 279.2 | 305.2 | 188.7 | 203.7 | 248.1 | 281.1 | 286.9 | 266.1 | 280.9 | 271.5 |
| 2 | ASM | 226.6 | 340.6 | 213.6 | 241.6 | 387.4 | 191.9 | 392.7 | 234.7 | 283.6 | 268.3 | 386.8 | 116.1 | 270.8 | 125.6 | 246.5 | 287.1 | 299.4 | 268.6 | 257.3 | 264.8 |
| 3 | BHR | 260.2 | 349.7 | 196.6 | 266.9 | 305.2 | 363.6 | 414.0 | 305.4 | 256.7 | 376.6 | 347.6 | 160.4 | 231.4 | 147.7 | 242.7 | 310.5 | 340.0 | 271.3 | 295.6 | 279.0 |
| 4 | GJT | 266.8 | 336.8 | 263.6 | 309.9 | 377.8 | 225.7 | 376.8 | 323.6 | 306.8 | 344.5 | 442.6 | 122.9 | 224.0 | 217.2 | 253.2 | 297.9 | 326.8 | 286.0 | 291.4 | 287.7 |
| 5 | HRY | 237.2 | 323.5 | 262.0 | 270.5 | 294.1 | 226.1 | 364.1 | 281.4 | 262.2 | 395.1 | 377.0 | 224.1 | 186.0 | 212.0 | 301.7 | 400.7 | 319.8 | 251.5 | 315.8 | 274.6 |
| 6 | HP | 257.6 | 292.7 | 243.1 | 413.5 | 313.3 | 144.6 | 316.5 | 295.2 | 272.4 | 326.2 | 278.9 | 144.7 | 222.5 | 176.6 | 202.9 | 268.9 | 297.1 | 243.9 | 255.5 | 248.4 |
| 7 | J&K | 363.5 | 313.3 | 266.5 | 325.3 | 362.0 | 186.3 | 311.9 | 220.5 | 275.7 | 252.3 | 250.7 | 268.4 | 252.2 | 232.0 | 245.7 | 276.8 | 307.1 | 301.5 | 255.2 | 286.1 |
| 8 | KRN | 248.8 | 314.2 | 283.2 | 272.3 | 390.2 | 187.2 | 330.1 | 297.4 | 301.0 | 391.7 | 311.8 | 175.4 | 217.6 | 256.0 | 269.6 | 282.9 | 345.3 | 270.8 | 297.6 | 279.9 |
| 9 | KRL | 265.5 | 337.1 | 280.1 | 265.9 | 456.7 | 230.8 | 305.9 | 276.3 | 316.1 | 447.0 | 337.2 | 184.9 | 231.1 | 267.5 | 272.4 | 280.1 | 318.4 | 289.1 | 306.1 | 295.3 |
| 10 | MP | 245.8 | 347.1 | 241.3 | 258.0 | 334.9 | 204.8 | 411.0 | 307.4 | 267.3 | 421.4 | 354.4 | 166.8 | 191.1 | 219.8 | 277.1 | 272.6 | 322.7 | 262.2 | 308.0 | 279.0 |
| 11 | MHR | 298.3 | 356.5 | 247.6 | 305.7 | 341.5 | 217.5 | 347.2 | 295.8 | 340.5 | 403.4 | 369.7 | 140.8 | 218.8 | 211.9 | 268.2 | 295.7 | 321.1 | 298.9 | 286.4 | 294.1 |
| 12 | MGL | 226.5 | 307.6 | 269.2 | 289.0 | 346.1 | 202.7 | 385.6 | 395.0 | 258.8 | 867.2 | 437.1 | 196.5 | 221.9 | 126.5 | 212.8 | 240.8 | 339.0 | 266.4 | 412.7 | 316.0 |
| 13 | ORS | 277.8 | 374.6 | 189.9 | 302.2 | 386.6 | 217.7 | 361.6 | 326.4 | 247.4 | 429.7 | 300.7 | 209.6 | 250.7 | 269.4 | 212.3 | 281.2 | 264.1 | 276.1 | 302.2 | 284.1 |
| 14 | PNB | 235.2 | 331.4 | 321.3 | 319.7 | 226.7 | 228.5 | 321.0 | 292.6 | 287.6 | 302.5 | 323.7 | 154.1 | 176.1 | 185.2 | 279.6 | 308.3 | 288.1 | 260.0 | 266.7 | 262.6 |
| 15 | RJN | 259.2 | 324.2 | 281.3 | 268.7 | 283.9 | 227.0 | 457.9 | 346.6 | 296.8 | 336.4 | 327.8 | 218.3 | 245.2 | 169.6 | 255.1 | 280.6 | 352.0 | 268.5 | 294.6 | 278.1 |
| 16 | TN | 363.9 | 335.4 | 280.1 | 268.2 | 404.6 | 226.4 | 347.2 | 268.7 | 318.9 | 253.6 | 248.0 | 304.4 | 175.4 | 223.1 | 310.1 | 277.2 | 283.9 | 328.3 | 265.5 | 306.6 |
| 17 | UP | 248.4 | 365.7 | 254.4 | 293.1 | 258.3 | 203.3 | 410.2 | 285.6 | 271.1 | 418.5 | 374.3 | 154.7 | 221.8 | 206.5 | 290.2 | 283.1 | 331.8 | 261.7 | 305.1 | 276.8 |
| 18 | WB | 220.2 | 344.4 | 189.2 | 292.7 | 352.4 | 224.3 | 355.0 | 297.2 | 279.6 | 391.2 | 439.5 | 119.2 | 196.3 | 141.0 | 250.6 | 293.9 | 286.6 | 257.7 | 273.7 | 263.3 |
| 19 | DLI | 199.3 | 334.1 | 281.1 | 339.0 | 259.7 | 162.7 | 467.1 | 287.2 | 249.6 | 388.4 | 263.4 | 217.7 | 268.5 | 212.7 | 273.7 | 324.4 | 422.5 | 239.6 | 301.0 | 265.5 |
| 20 | CDG | 252.2 | 319.8 | 287.5 | 318.7 | 142.9 | 213.7 | 226.5 | 425.9 | 206.3 | 251.9 | 214.3 | 248.4* | 352.3 | 200.4 | 236.5 | 243.7 | 241.6 | 229.0 | 248.2 | 236.6 |
| 21 | AI | 267.7 | 344.6 | 250.3 | 284.7 | 336.1 | 214.9 | 365.6 | 292.2 | 297.1 | 368.6 | 343.3 | 188.2 | 213.2 | 202.5 | 269.5 | 289.3 | 317.8 | 278.3 | 288.4 | 281.9 |
| 22 | C.V.(%) | 16.43 | 4.40 | 13.48 | 7.02 | 15.57 | 9.16 | 9.74 | 7.80 | 9.45 | 16.36 | 16.61 | 36.22 | 11.00 | 16.77 | 7.50 | 6.05 | 10.03 | 8.44 | 5.42 | 4.78 |

# TAXATION AND CONTROL OVER MOLASSES AND ALCOHOL: LEGAL SOURCES, CONFLICT OF INTERESTS AND POLICY ISSUES

**R. Rajagopalan**

*Increasing sugarcane production and the recent developments in the international oil markets have once again underlined the need for effectively utilising the by-product molasses of sugar production and the use of molasses based alcohol for industrial purposes.*

*On the other hand, the State Governments have vested interests in diverting as much alcohol for potable purposes because of its revenue potential and scope for political patronage. Our Constitution has singled out potable alcohol by giving the right to levy excise taxes on it exclusively to the State Governments. While the intention of our Constitution behind this is to encourage prohibition, the effects are exactly the opposite.*

*The concentration of sugarcane and sugar production in some states and the revenue potential of potable alcohol are virtually choking the growth of alcohol based chemical industries and may seriously jeopardize any scope of use of alcohol as an automobile fuel even if justified on techno-economic grounds.*

*This paper structures the above developments as an illustration of a set of hypotheses on the dynamics of any system of controls/subsidies; how they originate, become complex, gradually lose relevance and ultimately become damaging. This paper identifies very important and urgent policy issues and suggests that we need to relook at our Constitutional provisions related to prohibition.*

*An attempt has been made to put these issues in the context of the ongoing debate on Centre-State financial relations and this paper warns against decentralisation of taxation powers. More importantly, this paper highlights the irony of some state governments financing their popular welfare schemes from revenue generated out of potable alcohol consumed by the very same poor who are supposed to be the beneficiaries of these welfare schemes.*

*An incidental but nevertheless important aspect is how a raw material (molasses) 'valued' at a meagre Rs 90 crore per year, eventually fetches around Rs 3,000 crore per year from the ultimate consumers, without any significant processing in between.*

## 1.0 *Introduction*

In an earlier paper, we had reviewed the dynamics of the distribution and price controls over molasses and industrial alcohol in Gujarat [Rajagopalan and Sekhar, 1989]. We argued that the dynamics broadly supported our general hypotheses on the dynamics of such controls, which are as follows:

a) In the first instance, controls are initiated for one or more reasons which are unexceptionable either by themselves or as a means of achieving higher level goals.

b) Inevitably, vested interests emerge around such a system, either to sustain such controls beyond their useful life, or to thwart the intended impacts through compensatory controls.

c) Such influences result in the slow but sure process of such controls becoming more and more complex and more pervasive over a period of time.

d) The resulting system soon becomes a monster which knows no master, either no longer serving the original unexceptionable reasons, or those reasons themselves becoming no longer relevant.

e) Demolition of such an existing system and its substitution by a new promising one.

These hypotheses were formulated by us on the basis of the report on controls and subsidies by the Dagli Committee [GOI, 1979]. Our review of controls over molasses and alcohol in Gujarat made us realise that very significant issues of public policy and conflict of interests were involved. Our attempt to extend the scope to an All India context had to particularly account for

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This paper was submitted before the recent decontrol over molasses and alcohol and announcement of prohibition of Arrack in A.P.

the use of alcohol for manufacture of potable liquor, unlike in Gujarat which is under prohibition.

While our review indicated that the controls over molasses and alcohol in the All India context broadly supported our general hypotheses above (see Section 4), we also realised the following:

a) The taxation and regulatory systems related to these commodities are critically unique in comparison to other commodities. This uniqueness is in several dimensions - complexity, multiplicity and overlaps among different government levels; importance to government revenues; intensity of incidence, scope for evasion, etc. [GOI, 1976].
b) Much of this maze of controls, taxes and 'fees' have their origins in the peculiarity of our Constitutional provisions which single out these commodities for specific treatment (see Section 3). There are resultant conflict of interests between the Centre and States, between States, and between different public policy goals at various levels of government.
c) In spite of the obviously well intentioned but peculiar enabling provisions of our Constitution, the way a complex legal and administrative system has emerged for implementing these controls and, more significantly, its simultaneous failure to live up to the expectations of our Constitution, is like an inexorable Greek tragedy.

Though our research is still in the exploratory stages, we present our current understanding of the issues involved so as to -

a) highlight the importance and types of public policy issues involved;
b) plead for an urgent look into the issues by public policy analysts, policy makers and legal experts and thus initiate a debate on such issues of public policy.

We quickly indicate the qualitative and quantitative importance of policy issues in the next section. In Section 3 we summarize the legal basis and the conflicts arising out of the taxation and regulatory systems related to molasses and alcohol. We illustrate in Section 4 how these systems have developed over a period of time, in line with our general hypotheses on the dynamics of such control systems. Section 5 identifies fruitful and urgent areas for policy analysis and we conclude by pointing out the relevance of such research in the broader context of current debates on public policy.

## 2.0 *Magnitudes of Policy Issues*

### 2.1 *Molasses as a Resource*

Sugarcane is one of the most important commercial crops in India, whose annual production was around 200 million tonnes in 1987-88. Molasses is the inevitable byproduct of manufacture of either white sugar or khandsari (an inferior sugar) from sugarcane. As a percentage of weight of sugarcane crushed, sugar recovery is around 10 per cent and resultant molasses is around 4.5 per cent. If sugarcane is crushed to manufacture gur, we understand that no byproduct molasses results.

Table 1 gives the break-up of cane utilisation for sugar, khandsari and gur, and miscellaneous uses during the past decade. Currently roughly 50 per cent of cane goes for sugar production, another 10-12 per cent for miscellaneous uses and the remaining 40 per cent or so for khandsari and gur. The exact break-up between khandsari and gur is not available.

Molasses is still rich in reducible sugars, to the extent of 35 per cent to 50 per cent by weight. Khandsari molasses is richer in sugar, because of the inefficient recovery of sugar compared to sugar mills. This means that for every 10 kg. of sugar or khandsari produced in our country, somewhere between 1.6 to 2.25 kg. of sugar is still left in the molasses. Thus, as an inevitable by-product of sugar and khandsari production, our country has produced an estimated 4.86 million tonness of molasses containing 1.7 to 2.43 million tonness of reducible sugar in 1987-88. In contrast, 9 million tonness of white sugar was produced during 1987-88.

TABLE 1. PRODUCTION AND UTILISATION OF SUGARCANE

(Million Tonnes)

| Crop Year | Sugarcane Production | Sugarcane used for Sugar Manufacture | Col. (3) as Per cent of Col. (2) | Cane Used for Khand-sari/Gur | Col. (5) as Per cent of Col. (2) | Seed, Feed, Chewing | Col. (7) as Per cent of Col. (2) |
|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| 1978-79 | 151.7 | 59.7 | 39.4 | 74.0 | 48.8 | 17.9 | 11.8 |
| 1979-80 | 128.8 | 39.1 | 30.4 | 74.7 | 58.0 | 15.1 | 11.7 |
| 1980-81 | 154.2 | 51.6 | 33.5 | 84.5 | 54.8 | 18.2 | 11.8 |
| 1981-82 | 186.4 | 87.3 | 46.8 | 77.0 | 41.3 | 22.0 | 11.8 |
| 1982-83 | 189.5 | 82.7 | 43.6 | 84.5 | 44.6 | 22.3 | 11.8 |
| 1983-84 | 174.1 | 59.0 | 33.9 | 93.9 | 53.9 | 21.1 | 12.1 |
| 1984-85 | 170.3 | 60.1 | 35.3 | 90.1 | 52.9 | 20.1 | 11.8 |
| 1985-86 | 170.6 | 68.6 | 40.2 | 81.8 | 47.9 | 20.3 | 11.9 |
| 1986-87 | 186.1 | 85.2 | 45.8 | 78.6 | 42.2 | 22.2 | 11.9 |
| 1987-88 | 196.7 | 93.9 | 47.7 | 79.1 | 40.2 | 23.7 | 12.0 |

Source: *Cooperative Sugar*, Vol. 21, No. 9, May 1990, p. 667.

Note: It is presumed that around 12 per cent of cane is used for seed, feed, chewing, etc. The cane used for gur/khandsari is the residual. No further break-up between khandsari and gur is available.

At the current controlled price of sugar factory molasses of Rs 180 per tonne inclusive of excise duty of Rs 60 per tonne, these molasses are worth only around Rs 90 crore per annum. But being the main raw material for potable alcohol, which is very heavily taxed, with minimal further processing, molasses results in goods whose final consumption value could very well be of the order of Rs 3,000 crore per annum. At the other extreme, it could also be argued that the 'socially relevant' value of molasses may in fact be negative. This extreme range of monetary values which can be assigned to molasses may itself be a by-product of the taxation and control systems related to these sectors, as can be seen from the following:

a) In addition to being an inevitable by-product, molasses imposes an intractable but heavy cost of pollution on society, if not exploited properly.

b) Though its market value as the main input for manufacture of potable liquor is very high, this usage involves very high social costs. (See Section 2.3)

c) There exists alternative uses of molasses which bypass the pollution problems altogether:

i) Use of molasses as a constituent for cattlefeed, or for some other industrial purposes like in foundries (See Table 2)

ii) If the above uses do not fully utilise molasses, we can export molasses to other countries.

d) If molasses is used for industrial alcohol manufacture, its price has to be controlled at artificially low levels to ensure its competitiveness *vis-a-vis* the petro-based substitutes like naphtha [GOI, 1983].

e) Alcohol can be produced from a number of alternative raw materials, e.g., tapioca, cereals, sweet potatoes, sorghum, etc. [GOI, 1980]. Hence the high market value of potable alcohol need not automatically imply a high market value for molasses.

f) As was the case during World War II, alcohol has a potential of becoming an economic proposition for use in admixure with petrol as an automotive fuel. Though the debate on the advisability of such a move is on, Brazil has already moved in that direction in a big way and as much as 54 per cent of its cane is directly used for alcohol production [Levinson, 1987]. The Government of India has constituted a high level committee to explore the possibilities of mixing alcohol with petrol [*Financial Express, 1988*].

TABLE 2. TRENDS IN UTILISATION OF SUGAR FACTORY MOLASSES: 1975-76 TO 1984-85

Alcohol year: Dec-Nov
(lakh tonnes)

| Year | Production | Molasses Allotted for | | | |
|---|---|---|---|---|---|
| | | Distillation of Alcohol | per cent of Total | Other Uses | per cent of Total |
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1975-76 | 17.98 | 15.42 | 85.76 | 2.02 | 11.23 |
| 1976-77 | 22.15 | 19.39 | 87.54 | 2.10 | 9.48 |
| 1977-78 | 30.80 | 26.08 | 84.68 | 3.80 | 12.34 |
| 1978-79 | 30.22 | 25.91 | 85.74 | 3.40 | 11.25 |
| 1979-80 | 15.79 | 13.15 | 83.28 | 2.17 | 13.74 |
| 1980-81 | 21.91 | 19.20 | 87.63 | 2.05 | 9.36 |
| 1981-82 | 38.51 | 34.08 | 88.50 | 3.37 | 8.75 |
| 1982-83 | 33.75 | 27.15 | 80.44 | 5.60 | 16.59 |
| 1983-84 | 23.86 | 18.66 | 78.21 | 4.66 | 19.53 |
| 1984-85 | 25.12 | 21.14 | 84.16 | 3.23 | 12.86 |

Source: All India Distilleries Association, Delhi (1986) *Proposal for Adoption in Formulating Long Term Molasses/Alcohol Policy* (Mimeo), Annexure 2.

Note: No reliable data exists on the quantum of molasses from khandsari production or the quantity of 'inferior gur' both of which enters the illicit liquor trade. The above source estimates that such khandsari molasses might amount to as much as 10-12 lakh tonnes per year. (ibid, Annexure).

### 2.2 *Molasses and Alcohol as Sources of Revenue*

Lakdawala and Nambiar [1972] had reviewed the structure of commodity taxation in India, in comparison to some selected countries, viz., Australia, U.S.A., U.K., Canada and France. They found that in general, the three major items subjected to heavy excise duties are liquor, tobacco products and petroleum products [Lakdawala and Nambiar, 1972, p. 20]. As we will see shortly, India is no exception in this regard. Regarding taxation on liquor, they point out, '....Alcohol provides the classic example of a commodity which has a very low price elasticity and whose consumption serves no beneficial purposes and as such is eminently suitable for taxation' [Lakdawala and Nambiar, 1972, p. 44]. They emphasised that unlike the practice in other countries, in India, the power to tax potable alcohol and alcoholic preparations is exclusively with the State Governments and not with the Centre (See Section 3.2). They opined that on account of differing policies amongst states, towards prohibition, the taxation has not been 'uniformly effective' (op.cit).

Nevertheless, potable alcohol is a very important source of revenue for the State Governments. As per revised estimates for 1986-87, state excise duties (bulk of it from potable alcohol) contributed as much as Rs 2,437 crore, which is 9.6 per cent of the total tax revenues of states of Rs 25,261 crore including their share in Central taxes and 14.5 per cent of their own tax revenues of approximately Rs 16,750 crore. In comparison, cess on indigenous crude, excise on motor spirit, R.D. oil and other such petroleum fractions fetched around Rs 2,737 crore and Cigarettes, Biris and Tobacco products another Rs 1,013 crore.

To appreciate the intensity of taxation, we should note that sugar factory molasses worth Rs 90 crore ultimately brings in the bulk of this massive excise revenue (excluding revenue from toddy, malt based liquors, etc.) In addition, the State Governments levy sales tax on liquor sold within the state, central sales tax on inter-state sales and various kinds of fees on intra as well as inter-state sale of potable and industrial alcohol. We do not as yet have detailed data on sales tax and other levies collected by various state governments on molasses and alcohol. If we were to include these also, the total revenues raised from molasses based alcohol might well be around Rs 3,000 crore in 1986-87. Table 3 is a summary of the amount of state excise duties collected in the past several years, other state tax revenues, their share in central taxes, etc. Table 4 gives the break up of the total state excise revenue for several states in the past several years.

The fact that bulk of the consumers' rupee spent

on liquor goes into the government coffers can also be seen from a different set of data. As per details of the Annual Survey of Industries 1982-83 [CMIE, August 1988] the value added in Distilling and Blending of Spirits, Malt Liquors and Malt, Country Liquor and Toddy was only Rs 72.7 crore. In contrast, in 1982-83, the excise duty collections of the states were Rs 1,343 crore.

We will comment later on the chaotic state of affairs arising out of various kinds of 'fees' and 'duties' collected on molasses and alcohol. At this point, we simply point out that a committee of GOI had identified 15 different such levies on ethyl alcohol [GOI, 1976, p. 20].

TABLE 3. TRENDS IN STATES' EXCISE DUTIES, OWN TAX REVENUES, AND STATES' SHARE IN CENTRAL TAXES

(Rs Crore)

| Year | States' Excise Revenue | States' Own Tax Revenue | States' Share in Central Taxes | States' Total Tax Revenues | Col. (2) As a per cent of Col (5) |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1973-74 | 353.70 | 2,319.00 | 1,170.00 | 3,842.70 | 9.20 |
| 1974-75 | 387.30 | 2,901.00 | 1,224.00 | 4,512.30 | 8.58 |
| 1975-76 | 435.50 | 3,573.00 | 1,599.00 | 5,607.50 | 7.77 |
| 1976-77 | 504.80 | 4,061.00 | 1,690.00 | 6,255.80 | 8.07 |
| 1977-78 | 569.90 | 4,379.00 | 1,798.00 | 6,746.90 | 8.45 |
| 1978-79 | 583.00 | 5,003.00 | 1,957.00 | 7,543.00 | 7.73 |
| 1979-80 | 698.50 | 5,709.00 | 3,468.00 | 9,875.50 | 7.07 |
| 1980-81 | 824.30 | 6,665.00 | 3,791.00 | 11,280.30 | 7.31 |
| 1981-82 | 1,115.30 | 8,295.00 | 4,274.00 | 13,684.30 | 8.15 |
| 1982-83 | 1,343.30 | 9,546.00 | 4,640.00 | 15,529.30 | 8.65 |
| 1983-84 | 1,569.40 | 10,804.00 | 5,246.00 | 17,619.40 | 8.91 |
| 1984-85 | 1,839.30 | 12,343.00 | 5,777.00 | 19,959.40 | 9.22 |
| 1985-86 | 2,097.40 | 14,358.00 | 7,490.00 | 23,945.40 | 8.76 |

Source: Col. 2 from RBI Bulletins.
Cols 3 and 4 from Centre for Monitoring Indian Economy (August, 1987), *Basic Statistics Relating to Indian Economy, Vol. I, All India.*

TABLE 4. STATEWISE DISTRIBUTION OF STATES' EXCISE REVENUES

(Rs Lakh)

| State | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1985-86 (RE) | 1986-87 (BE) | Total During 1981-87 | per cent of All States' Excise Revenue |
|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Andhra Pradesh | 19,438 | 23,547 | 28,248 | 35,124 | 40,500 | 49,200 | 196,057 | 19.07 |
| Assam | 474 | 428 | 570 | 606 | 670 | 726 | 3,474 | 0.34 |
| Bihar | 2,492 | 2,856 | 3,495 | 4,250 | 5,800 | 6,000 | 24,893 | 2.42 |
| Gujarat | 396 | 491 | 526 | 455 | 545 | 574 | 2,987 | 0.29 |
| Haryana | 5,199 | 6,191 | 6,840 | 9,052 | 11,400 | 13,100 | 51,782 | 5.04 |
| Himachal Pradesh | 1,319 | 1,472 | 1,718 | 2,053 | 2,100 | 2,453 | 11,115 | 1.08 |
| Jammu & Kashmir | 1,464 | 1,457 | 1,750 | 1,900 | 2,130 | 2,400 | 11,101 | 1.08 |
| Kamataka | 11,774 | 13,169 | 15,467 | 18,062 | 21,179 | 23,640 | 103,291 | 10.05 |
| Kerala | 5,399 | 7,337 | 8,073 | 10,030 | 10,991 | 11,971 | 53,801 | 5.23 |
| Madhya Pradesh | 6,841 | 8,047 | 9,163 | 10,946 | 12,600 | 14,112 | 61,709 | 6.00 |
| Maharashtra | 11,304 | 13,980 | 15,318 | 16,901 | 20,485 | 21,985 | 99,973 | 9.73 |
| Manipur | 37 | 62 | 92 | 132 | 147 | 156 | 626 | 0.06 |
| Meghalaya | 159 | 190 | 234 | 313 | 300 | 330 | 1,526 | 0.15 |
| Nagaland | 165 | 200 | 275 | 248 | 266 | 293 | 1,447 | 0.14 |
| Orissa | 1,102 | 1,307 | 1,544 | 1,873 | 2,100 | 2,285 | 10,211 | 0.99 |
| Punjab | 11,603 | 13,657 | 14,959 | 18,214 | 18,602 | 20,050 | 97,085 | 9.45 |
| Rajasthan | 3,364 | 5,355 | 6,395 | 7,609 | 8,500 | 9,605 | 40,828 | 3.97 |
| Sikkim | 192 | 203 | 234 | 313 | 270 | 315 | 1,527 | 0.15 |
| Tamil Nadu | 11,038 | 15,213 | 21,988 | 20,053 | 23,082 | 20,049 | 111,423 | 10.84 |
| Tripura | 39 | 51 | 63 | 66 | 72 | 80 | 371 | 0.04 |
| Uttar Pradesh | 11,926 | 13,078 | 13,019 | 18,080 | 21,505 | 24,005 | 101,613 | 9.89 |
| West Bengal | 5,806 | 6,036 | 6,966 | 7,741 | 6,500 | 8,000 | 41,049 | 3.99 |
| Total | 111,531 | 134,327 | 156,937 | 184,021 | 209,744 | 231,329 | 10,27,889 | 100.00 |

Source: RBI Bulletins.

Given this high intensity of incidence, one would expect the revenue authorities to be vigorous in exploiting the full revenue potential provided by molasses and alcohol. Suprisingly, only a couple of state governments, even sought to regulate the use of khandsari molasses even-though they have the powers to do so. Even when controls were sought to be imposed, a High Court prohibited enforcement unless a 'proper price' was fixed. The court cited that the market price of khandsari molasses (in 1968) was around Rs 250-300 per tonne whereas the official price fixed was only Rs 10/- [GOI, 1976, p. 4]. In addition newspapers had reported alleged excise duty evasions by manufacturers of liquor with the active collusion of parties in power in various states. The 'seconds' liquor scandal in Karnataka [*Hindustan Times*, August 1, 1989, p. 1] and the crackdown on liquor barons in Tamil Nadu when DMK came back to power are the most recent examples.

It is no secret that most of the khandsari molasses and even some 'inferior' gur is used for illicit distillation of liquor. Thus the magnitude of molasses and potable alcohol which escapes the tax net is very important as they result directly in political patronage, black money generation and law and order problems.

### 2.3 *Incidence of Taxation on Liquor on Income Classes*

The logic of heavily taxing potable liquor, as a luxurious, socially undesirable consumption habit, with a low price elasticity of demand, sounds *a priori* justified. But the data available from Karnataka [Government of Karnataka, 1982] raises very important questions regarding the incidence of such taxes on poorer segments of the population.

The above logic depends on three critical assumptions: (i) price inelasticity of demand for liquor in the absence of illicit liquor, (ii) the real motivation of state governments behind such taxes, (iii) ability and political will to plug legal loopholes and prevent large scale tax evasions. If a flourishing illicit/illegal liquor market exists, then the empirical validity of the inelastic nature of demand for officially available liquor is questionable. Most of the state governments, while taxing liquor heavily, simultaneously encouraged setting up more sales outlets and allocated more alcohol for potable purposes. Thus one can legitimately raise the question: Is it their objective to minimise liquor consumption or is it to maximise revenue?

There is very disturbing evidence from Karnataka in this regard [Musgrave and Stern, 1988, p. 4]:

a) Out of the total excise on liquor in Karnataka of Rs 94.13 crore in 1980-81, as much as Rs 60.56 crore (64.3 per cent) was from Arrack (country liquor), Rs 15.23 crore (16.2 per cent) from Toddy (not based on molasses alcohol) and only Rs 16.82 crore (17.9 per cent) from Beer and Indian Made Foreign Liquor (IMFL). Is it obvious that the incidence is only on the rich?

b) The form of taxation has dramatically moved from specific/*ad valorem* duties to monopoly rentals like fixed shop rents, licence fee, etc. There are theoretical reasons to believe that such a move betrays a revenue maximisation objective rather than minimising consumption [Musgrave and Stern, 1988, Pp. 17-30]. Several State Governments are on record stating that in allocating alcohol, they give top most priority to country liquor and other potable purposes rather than for industrial uses [GOI, 1975, Pp. 23-24],

c) The most significant household characteristics which explain proneness to drinking country liquor/toddy as a habit are: i) Scheduled Caste/Tribe households compared to other categories; ii) Households whose income comes mainly from manual labour rather than others; iii) Rural rather than urban households; and iv) Proportionately more number of children, for a given per capita expenditure of a household. In such cases, the actual disposable income available to those members of the household who may wish to drink alcohol, may be more [Musgrave and Stern, 1988, Pp. 12-17].

d) Though based on only limited time series data, multiple regression indicates that price elasticity of demand for official arrack is very near -1 (opposed to the presumed low elasticity). The elasticity of demand for official arrack with

respect to tax/price ratio is also near -1 [Musgrave and Stern, 1988, Pp. 9-12]. This suggest there is significant diversion of demand to illicit liquor due to high incidence of tax.

In addition, it is common knowledge in the industry circles that there are compulsions on State Governments to divert alcohol for potable purposes to raise revenue for development [GOI, 1975, Pp. 23-24]. It seems that compartmentalisation of governmental thinking into revenue maximisation on one hand and development expenditure on another is working at cross purposes in this regard. For example, it is alleged that the Telugu Desam Government in Andhra Pradesh financed its popular scheme of rice for the poor at Rs 2 per kg. mainly through additional excise on country liquor.

## 3. *Taxation and Regulation of Molasses and Alcohol: Legal Sources and Implications*

As the legal provisions and case laws related to these commodities are quite complex in themselves, we discuss only the salient features here, relying mainly on a single source [Basu, 1984].

### 3.1 *Citizen/Individual Versus State*

In this sub-section 'STATE' includes both the Central and State Governments.

In the famous Keshavananda's case, the Supreme Court held that a restriction on a fundamental right is 'reasonable', if it is to effectively implement a Directive Principle of State Policy as laid down by our Constitution [Basu, 1984, p. 225]. Specifically, Article 47 of our Constitution is a Directive Principle which enjoins the state to promote prohibition of consumption of alcoholic liquor. Especially with respect to this Article, the courts have held that all manner of restrictions on fundamental rights, including total prohibition, *ad hoc* levies,etc., are 'reasonable' [Basu, 1984, Pp. 80-87].

Similarly, State monopoly in a trade or business can not be questioned on grounds of not being a reasonable restriction on fundamental rights [Basu, 1984, p. 227]. Thus the State can impose a levy to part with its privileged monopoly position and such a levy is neither a 'tax' nor a 'fee' within the meaning of law, whatever name by which it may be called [Basu, 1984, p. 933]. As a fall out, several state governments collect huge revenues by selling their monopoly rights to deal in liquor (e.g. vend fees). Potable liquor is considered to be an inherently pernicious and dangerous trade or business and it is extremely rare for a court to get into the reasonableness, rationality, etc., behind the actions of the executive.

### 3.2 *Taxation Powers: Centre Vs. States*

The constitutional provisions regarding taxation powers seem to be very clear:

a) Excise duties on Molasses, Industrial alcohol and alcohol based chemicals; and import/export duties are all leviable only by the Central Government.
b) Excise duties on potable alcohol and sales/purchase tax on sale of Molasses, Industrial alcohol and potable alcohol within a state can be levied only by the State Government concerned.
c) Sales tax and countervailing duties on interstate trade and commerce are leviable by the states but only as per Constitutional provisions, Acts of Parliament, and orders thereof in this regard. For example, the state of origin can not levy more then 4 per cent sales tax (as Central Sales Tax) on alcohol to be sold in another state.

The Central Government, as of now, collects a very small revenue of Rs 9 crore from sugar factory molasses and none from industrial alcohol. Hence by manipulating the excise duty on molasses, the centre can corner the bulk of the revenue potential of molasses as an input for potable alcohol. It has already made some enabling provisions in this regard by raising the tariff rate on molasses from Rs 30 per tonne to Rs 500 per tonne, though the effective *ad valorem* rate has not been changed [*Alcohol Statistics* V. Section B, p. 31]. By providing corresponding write-offs for alcohol-based chemicals it has prevented the cascading effect of increased excise duty on molasses on alcohol based chemicals. Thus there is a potential conflict between centre

and states. This may assume increasing importance in the light of current controversies on centre-state relations.

### 3.3 *Taxation Powers: Inter-State Conflicts*

Only a few states, mainly Uttar Pradesh and Maharashtra and occasionally Tamil Nadu, Andhra Pradesh, Karnataka and Bihar are surplus in molasses and/or alcohol. All other states, and West Bengal in particular, are net importers of alcohol from these states. Except in the case of Gujarat and West Bengal, bulk of such alcohol imported by the deficit states are used for potable purposes. Even in West Bengal, bulk of the potable liquor production is out of alcohol imported from surplus states (Tables 5 and 6).

We have already noted the massive revenue generated from potable alcohol by various state governments. Given that at present, molasses is the major raw material for alcohol production, the sharing of its revenue potential between molasses/alcohol surplus and deficit states is a contentious issue. On a rough and ready basis, the deficit states may have generated around Rs 200 crore per year during 1982-86 out of the potable alcohol imported from these surplus states (Table 7).

Hence it is eminently rational on the part of the molasses/alcohol surplus states to squeeze as much of the revenue potential of exports to other states. The ceiling of 4 per cent imposed by Parliament on the sales tax on inter-state trade prevents them from doing so directly. But using the regulatory powers given to them by our Constitution (Section 3.4), they have 'invented' a plethora of fees, charges, etc., to achieve the same purpose. They may also be using these as means of diverting molasses/alcohol for potable purposes rather than being used as industrial alcohol [GOI, 1976].

TABLE 5. STATEWISE SHARE IN MOLASSES AND ALCOHOL PRODUCTION DURING 1977-78 TO 1986-87

| State/U.T. (1) | Molasses Production in 10 yrs (Lakh Tonnes) (2) | Share of State/U.T. in Total (per cent) (3) | Alcohol Production in 10 yrs (Mill. Ltrs) (4) | Share of State/U.T. in Total (per cent) (5) |
|---|---|---|---|---|
| Andhra Pradesh | 22.21 | 7.75 | 490.51 | 9.43 |
| Assam | 0.35 | 0.12 | 6.06 | 0.12 |
| Bihar | 12.13 | 4.23 | 179.92 | 3.46 |
| Goa, Daman & Diu | 0.40 | 0.14 | 0.40 | 0.01 |
| Gujarat | 18.71 | 6.53 | 200.95 | 3.87 |
| Haryana | 7.37 | 2.57 | 109.53 | 2.11 |
| Himachal Pradesh | 0.00 | 0.00 | 2.26 | 0.04 |
| Jammu & Kashmir | 0.00 | 0.00 | 4.49 | 0.09 |
| Karnataka | 21.33 | 7.44 | 373.00 | 7.17 |
| Kerala | 0.76 | 0.27 | 48.88 | 0.94 |
| Madhya Pradesh | 2.32 | 0.81 | 125.24 | 2.41 |
| Maharashtra | 80.63 | 28.12 | 1,331.92 | 25.62 |
| Nagaland | 0.24 | 0.08 | 3.34 | 0.06 |
| Orissa | 0.95 | 0.33 | 23.65 | 0.45 |
| Pondicherry | 1.25 | 0.44 | 17.78 | 0.34 |
| Punjab | 5.85 | 2.04 | 137.02 | 2.64 |
| Rajasthan | 1.62 | 0.57 | 64.76 | 1.25 |
| Sikkim | 0.00 | 0.00 | 0.02 | 0.00 |
| Tamil Nadu | 28.17 | 9.83 | 523.76 | 10.07 |
| Uttar Pradesh | 82.10 | 28.64 | 1,515.68 | 29.15 |
| West Bengal | 0.30 | 0.10 | 39.84 | 0.77 |
| Total | 286.69 | 100.00 | 5,199.01 | 100.00 |

Source: Central Molasses Control Board.

TABLE 6. INTER-STATE MOVEMENTS IN ALCOHOL AND UTILISATION THEREOF: 1982-86
(Alcohol Year Dec-Nov., in Lakh Litres)

| State/U.T. | Production | Share (%) | Received from Other States | Share in Inter-State Recpts (%) | Lifted by Other State | Share in Inter-State Desp. (%) | Utilisation of Alcohol Received From Other States | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Industrial Others & Exp | Potable | Industrial & Others (%) | Potable (%) | Potable thro' Receipts (%) |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| A.Pradesh | 1,960.39 | 8.59 | 110.81 | 5.11 | 14.22 | 0.65 | 0.00 | 110.81 | 0.00 | 100.00 | 8.03 |
| Assam | 21.98 | 0.10 | 35.11 | 1.62 | | 0.00 | 0.00 | 35.11 | 0.00 | 100.00 | 72.72 |
| Bihar | 687.46 | 3.01 | | 0.00 | 102.82 | 4.70 | 0.00 | 0.00 | NA | NA | NA |
| Gujarat | 882.74 | 3.87 | 121.40 | 5.60 | | 0.00 | 121.40 | 0.00 | 100.00 | 0.00 | NA |
| H.Pradesh | 14.53 | 0.06 | 45.04 | 2.08 | | 0.00 | 0.00 | 45.04 | 0.00 | 100.00 | 77.39 |
| Haryana | 474.29 | 2.08 | | 0.00 | 22.59 | 1.03 | 0.00 | 0.00 | NA | NA | NA |
| J&K | 19.11 | 0.08 | 37.41 | 1.73 | | 0.00 | 0.00 | 37.41 | 0.00 | 100.00 | 69.89 |
| Karnataka | 1,617.62 | 7.09 | 22.00 | 1.01 | 77.41 | 3.54 | 0.00 | 22.00 | 0.00 | 100.00 | 1.73 |
| Kerala | 201.61 | 0.88 | 232.18 | 10.71 | | 0.00 | 0.00 | 232.18 | 0.00 | 100.00 | 56.53 |
| M.Pradesh | 546.50 | 2.39 | 42.34 | 1.95 | | 0.00 | 0.00 | 42.34 | 0.00 | 100.00 | 7.58 |
| Maharashtra | 6,024.42 | 26.40 | | 0.00 | 479.39 | 21.90 | 0.00 | 0.00 | NA | NA | NA |
| Manipur | | 0.00 | 2.53 | 0.12 | | 0.00 | 1.37 | 1.16 | 54.15 | 45.85 | 80.00 |
| Meghalaya | | 0.00 | 2.52 | 0.12 | | 0.00 | 1.01 | 1.05 | 40.08 | 41.67 | 100.00 |
| Nagaland | 17.69 | 0.08 | | 0.00 | 2.36 | 0.11 | 0.00 | 0.00 | NA | NA | NA |
| Punjab | 680.46 | 2.98 | 9.97 | 0.46 | 5.99 | 0.27 | 0.00 | 9.97 | 0.00 | 100.00 | 1.82 |
| Rajasthan | 377.97 | 1.66 | 130.37 | 6.01 | | 0.00 | 0.00 | 130.37 | 0.00 | 100.00 | 26.81 |
| Sikkim | 0.22 | 0.00 | 57.14 | 2.64 | | 0.00 | 0.00 | 57.14 | 0.00 | 100.00 | 87.84 |
| Tripura | | 0.00 | 4.43 | 0.20 | | 0.00 | 0.75 | 3.25 | 16.93 | 73.76 | 100.00 |
| Tamil Nadu | 2,517.48 | 11.03 | | 0.00 | 31.24 | 1.43 | 0.00 | 0.00 | NA | NA | NA |
| U.Pradesh | 6,457.82 | 28.30 | | 0.00 | | 65.80 | 0.00 | 0.00 | NA | NA | NA |
| W.Bengal | 140.00 | 0.61 | 994.12 | 45.86 | 1,440.49 | 0.00 | 623.81 | 370.31 | 62.75 | 37.25 | 100.00 |
| Chandigarh | | 0.00 | 17.46 | 0.81 | | 0.00 | 6.43 | 10.53 | 36.83 | 60.31 | 100.00 |
| D&N. Haveli | | 0.00 | 8.76 | 0.40 | | 0.00 | 5.81 | 2.25 | 66.32 | 25.68 | 100.00 |
| Delhi | | 0.00 | 211.02 | 9.73 | | 0.00 | 15.68 | 159.30 | 7.43 | 75.49 | 100.00 |
| G,D&Diu | | 0.00 | 83.06 | 3.83 | | 0.00 | 24.44 | 58.62 | 29.42 | 70.58 | 100.00 |
| Pondicherry | 85.08 | 0.37 | | 0.00 | | 0.00 | 0.00 | 0.00 | NA | NA | NA |
| Total | 22,819.25 | 100.00 | 2,167.67 | 100.00 | 2,189.17 | 100.00 | 800.70 | 1,328.84 | 36.94 | 61.30 | 10.49 |

Source: Compiled from ALCOHOL STATISTICS V, 1987.

TABLE 7. INTERSTATE REVENUE TRANSFERS THROUGH INTERSTATE POTABLE ALCOHOL MOVEMENT*

| State | State Excise 1982-86 Fin.Yrs (Rs Cr) | Pot. Alcohol Through Inter-State Transfers (%) | Estimated Revenue Thro Inter State Movement (Rs Cr) | Share in Inter-State Despatches (%) | Estimated Revenue Loss Through Inter-State Despatch (Rs Cr) | Net Rev Gain/Loss Through Inter State Movements (Rs Cr) |
|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| A.Pradesh | 1,274.19 | 8.03 | 102.32 | 0.65 | 5.58 | 96.73 |
| Assam | 22.74 | 72.72 | 16.54 | 0.00 | 0.00 | 16.54 |
| Bihar | 164.01 | 0.00 | 0.00 | 4.70 | 40.38 | -40.38 |
| Gujarat | 20.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Haryana | 334.83 | 0.00 | 0.00 | 1.03 | 8.85 | -8.85 |
| H.Pradesh | 73.43 | 77.39 | 56.83 | 0.00 | 0.00 | 56.83 |
| J&K | 72.37 | 69.89 | 50.58 | 0.00 | 0.00 | 50.58 |
| Karnataka | 678.77 | 1.73 | 11.74 | 3.54 | 30.42 | -18.67 |
| Kerala | 364.31 | 56.53 | 205.94 | 0.00 | 0.00 | 205.94 |
| M.Pradesh | 407.56 | 7.58 | 30.89 | 0.00 | 0.00 | 30.89 |
| Maharashtra | 666.84 | 0.00 | 0.00 | 21.90 | 188.16 | -188.16 |
| Manipur | 4.33 | 80.00 | 3.46 | 0.00 | 0.00 | 3.46 |
| Meghalaya | 10.37 | 100.00 | 10.37 | 0.00 | 0.00 | 10.37 |
| Nagaland | 9.89 | 0.00 | 0.00 | 0.11 | 0.95 | -0.95 |
| Orissa | 68.24 | 0.00 | 0.00 | 0.58 | 4.98 | -4.98 |
| Punjab | 654.32 | 1.82 | 11.91 | 0.27 | 2.32 | 9.59 |
| Rajasthan | 278.59 | 26.81 | 74.69 | 0.00 | 0.00 | 74.69 |
| Sikkim | 10.20 | 87.84 | 8.96 | 0.00 | 0.00 | 8.96 |
| Tamil Nadu | 803.36 | 0.00 | 0.00 | 1.43 | 12.29 | -12.29 |
| Tripura | 2.52 | 100.00 | 2.52 | 0.00 | 0.00 | 2.52 |
| U.Pradesh | 656.82 | 0.00 | 0.00 | 65.80 | 565.34 | -565.34 |
| W.Bengal | 272.43 | 100.00 | 272.43 | 0.00 | 0.00 | 272.43 |
| Total | 6,850.29 | | 859.18 | | 859.27 | -0.09 |

* Excludes U. Territories as no separate data is readily available. Delhi will be a major gainer as can be guessed from Table 6.

After a long drawn out dispute between Government of Uttar Pradesh and Synthetics and Chemicals Ltd., the Supreme Court has recently held that levy of such fees like vend fee on industrial alcohol, whatever name by which they are called, are bad in law and that State Governments cannot hereafter charge or collect such fees [Venkiteswaran, 1990]. Nevertheless, free inter-state movement of industrial alcohol is likely to continue to be a far cry.

Till sources of raw material other than molasses become significant alternatives, this tussle is likely to continue. Already, the Central Government has relaxed the ban on creation of further capacity for manufacture of alcoholic drinks based on non-molasses based raw material [GOI, 1987].

### 3.4 *Regulatory Powers: Centre Vs. States*

The regulation and control of industries is a subject in the concurrent list of our Constitution. The State Governments are free to enact laws but they are all subject to acts of Parliament and orders thereof. But prohibition is a subject which is exclusively reserved for the states, and the Central Government has no powers what-so-ever.

Under the Industrial Development and Regulation Act 1951 (IDR Act) Section IV, fermentation industries including distillation are under the control of Union Government as they are "highly polluting" in nature [CMIE, *The Liberalisation Process*, July 1986, p. 14].

The normal liberalisation policies like automatic growth/expansion in licensed capacities, etc., are not applicable to distilleries. After November 1975, the Government of India has not granted any new industrial licence (till September 7, 1987) for manufacture of alcoholic drinks for the domestic market [GOI, 1987]. Under this Act, the Union Government has also issued the Ethyl Alcohol (Price Control) Order, 1961 and the Central Molasses Control Order, 1961 which control the price of ethyl alcohol and the price and distribution of molasses.

The provisions related to taxation is legally precise. But the courts have given the widest possible interpretation to regulatory laws relating to prohibition. Thus, the State Governments can regulate not only potable liquor as such, but anything capable of even being misused as liquor by unscrupulous elements, including industrial alcohol, french polish and medicinal preparations containing alcohol [Basu, 1984, p. 933]. The ancillary power to levy 'fees' on industrial alcohol, etc., follows from these regulatory powers [Basu, 1984, p. 958].

In practice, the powers of the Central Government under the IDR Act, state governments' powers relating to prohibition and the ancillary powers to levy fees to enforce such prohibition are in conflict. In fact, molasses surplus states continue to permit new distilleries. As a consequence, there is no agreement between different agencies even on the number of distilleries, let alone on licensed/installed capacities [GOI, 1977, p. 30, Note of Dissent].

Since market value of potable alcohol is many times more than the controlled price of Industrial Alcohol, the price control is mostly on paper. The controlled price generally reflects parity price *vis-a-vis* naphtha which is a competitive substitute for manufacturing alcohol based chemicals [GOI, 1983]. It has no direct relationship with the cost of production. The price control order fixes a base price which can be adjusted by the state governments to take into account local conditions and various fees payable in a state. Consequently, state governments have their own ways of administering such controlled prices and taxing the difference between market realisation of potable alcohol and cost of production through various kinds of fees. The very low practical significance of such control orders is also corroborated by the infrequent but manifold revisions in control prices (Tables 8 and 9).

TABLE 8. INFREQUENT BUT SUBSTANTIAL REVISIONS IN CONTROLLED PRICE OF SUGAR FACTORY MOLASSES (GRADE 1)

Rs per tonne

| Date of Revision | Molasses Price |
|---|---|
| Mar 1961 | 6.70 |
| Feb 1972 | 10.00 |
| Nov 1975 | 60.00 |
| Sept 1987 | 120.00 |

TABLE 9. INFREQUENT BUT SUBSTANTIAL REVISIONS IN CONTROLLED PRICE OF INDUSTRIAL ALCOHOL (RECTIFIED SPIRIT 94.68 PER CENT)

Rs per Kilo litre

| Date of Revision | Industrial Alcohol (Base) Price |
|---|---|
| Till Oct 1975 | 229.47 |
| Nov 1975 | 589.10 |
| Aug 1980 | 826.90 |
| Oct 1987 | 1,898.00 |
| Jun 1989 | 2,190.00 |

### 3.5 *Tax, Fee or What?*

The huge revenues raised by the State Governments from Molasses/Alcohol come in various forms; some are 'taxes', while others are 'fees' and still some more are neither. Whether a particular impost is a 'tax' or a 'fee' or what has important legal implications. It is impossible to ignore their practical implications either.

a) As pointed out earlier, whether something is a 'tax' or 'fee' has implications for the legislative competence of the state and central governments. For example, an exporting state can levy a central sales tax of utmost 4 per cent on sale to other states. But some of them levy an 'export fee' of even 200 per cent A state government can not impose excise tax on industrial alcohol, but some levy a 'transport fee'. This was the issue at stake in the case Synthetics and Chemicals Ltd. Vs Government of Uttar Pradesh before the Supreme Court.

b) It is for the courts to decide whether something is in fact a 'tax' or a 'fee'. The name does not matter. If it is held to be a 'fee', it has to be 'reasonable' with respect to the service for the provision of which the 'fee' is being charged. There is no compulsion that a tax has to be 'reasonable'. In the case of potable liquor, an impost may be held to be neither a 'tax' nor a 'fee' but still a valid one (e.g., vend fee).

c) The incidence due to such levies is very heavy. For example the export fee levied by Bihar on inter-state sale may be two to three times (Rs 5-10 per litre) that of the officially controlled price of Rs 2 or so [*Economic Times*, Oct 16, 1988].

d) Probably because of their doubtful legal validity, the state governments have spread their total impost under multiple heads. For example, the Jalan committee [GOI, 1976, p. 20] have listed 15 different levies on industrial alcohol then in use: State Sale Tax (most of the States), surcharge on State Sale Tax, State Excise Duty (most of the States), administrative charges, special fees, gallonage fee, pass fee, permit fee, entry tax, transport fee, purchase tax, vend fee, licence fee, export fee, export pass fee, Central Sales Tax (All States).

e) More than this multiplicity and high intensity of levies, it is interesting to observe that the revenue collected under such fees, on industrial alcohol, might not *appear to be* significant [GOI, p. 23]. In practice, they are meant to prevent certain types of uses and transactions in favour of others. For example, it could be to encourage use as potable alcohol as against use as industrial alcohol, either within or outside the state concerned, because of revenue considerations. Or it could be to dispense patronage.

## 4. *Dynamics of the Taxation and Regulatory Systems Related to Molasses and Alcohol:*

### 4.1 *A Chronology*

Prior to Independence, the first major policy intervention was the protection granted to the Indian sugar industry in 1932 against imports from Java (Indonesia). There was a sudden proliferation of sugar factories in Uttar Pradesh which led to the problem of disposal of molasses [R. Rajagopalan, 1983 and Sanjaya Baru, 1990]. In fact, sugar factories had to pay for disposing their molasses. Shortages of automotive fuel during World War II led to compulsory mixing of 20 per cent alcohol in petrol. This was implemented through the Industrial Power Alcohol Act, 1938. After the World War, easy availability of petrol led to the gradual decline in the use of alcohol as automotive fuel.

The following broad goals enshrined in our Constitution, are relevant for our discussions here:

a) Article 47 of our Constitution, a Directive Principle of State Policy states '....in particular, the state shall endeavour to bring about prohibition of the consumption, except for medicinal purpose of intoxicating drinks....'
b) It provides for regulation and control of industry, trade or business in public interest.
c) It seeks to encourage the economic integration of India by ensuring freedom in inter-state commerce or trade.

Perhaps to encourage quick implementation of prohibition wherever possible, our Constitution gives the powers of regulation (Entry 8 of State list) and excise taxation (Entry 51 of State list) on intoxicating liquor, exclusively to the state governments. As an ancillary power of regulation granted by Entry 8, Entry 66 of the state list also gives the states the power to levy 'fees' on the right to vend liquor, etc.

The power to regulate industry, trade or business is in the concurrent list but powers of the states are subject to that of the Central Government. The IDR Act was enacted in 1951. Under the IDR Act, the Central Government (and subject to it, state governments) has powers to grant or not to grant licences for sugar factories, distilleries, manufacture of alcoholic drinks and alcohol based chemicals. Distilleries come under Schedule IV of the IDR Act, as they are highly polluting in nature.

Section 18 (g) of the IDR Act provides for power to regulate the price and distribution of any 'scheduled' article. The Ethyl Alcohol (Price Control) Order was issued in 1961 to control the price of industrial alcohol (not potable alcohol). Under the same Act, the Central Molasses Control Order, 1961 was also issued to regulate the price and distribution of sugar factory molasses (not khandsari molasses). This order was amended in 1968 to bring khandsari molasses under its purview. The Central Molasses Control Order, 1961, is not extended to Uttar Pradesh, Bihar, Punjab, Maharashtra and West Bengal who had enacted their own control orders prior to 1961. They differ from the Central Molasses Control Order, 1961 only in prices and storage charges payable. For several reasons, khandsari molasses is yet to be brought under control in most of the states. To co-ordinate inter-state movement of molasses and alcohol, a Central Molasses Control Board was established in 1969. To specify reasonable control prices for ethyl alcohol and molasses to be enforced through the above orders, the Government of India has periodically requested the Tariff Commission or the Bureau of Industrial Costs and Prices (BICP) to examine the cost structure. In addition, as the references indicate, there have been several Governmental Committees and working groups set up to study various aspects related to these commodities and their utilisation.

### 4.2 *The Actors/Interest Groups*

At the Central Governmental level, the Department of Chemicals controls the licensing and provides the basis for controlling the price and distribution of molasses and industrial alcohol through periodic amendments to the Central Molasses Control Order and Ethyl Alcohol (Price Control) Order. It also convenes the Central Molasses Control Board and co-ordinates the implementation of its recommendations. So far, the Central Government has levied excise duty only on sugar factory molasses, even though it can levy excise on khandsari molasses as well as industrial alcohol. The Department of Chemicals also periodically refers to the Tariff Commission or Bureau of Industrial Costs and Prices (BICP) for advice on the proper price structures for molasses and alcohol. Import/export of molasses and alcohol, if any, are also controlled by this department.

At the level of State Governments, the Department/Ministry of Prohibition and Excise and/or the Industries Commissioner is the typical authority for controlling molasses and alcohol. In practice, except perhaps in licensing, this department/ministry has overriding powers to regulate and tax molasses (except excise) and alcohol. The Central Molasses Control Board and to some extent, even the Ministry of Chemicals in the Central Government are non-entities compared to this department - ministry.

Among non-governmental groups, the sugar factories and more so the khandsari/gur producers are interested in getting the maximum returns for their molasses. In fact, illicit distillation gives the

khandsari and gur producers the competitive and political clout. Some of the sugar factories especially the cooperatives in Maharashtra, have set up their own distilleries.

Distilleries are the major users of sugar factory molasses. There is no difference in the process of manufacture of industrial and potable alcohol. In some states like Gujarat, miscellaneous uses like cattle-feed, foundry, tobacco curing, etc., may consume a significant portion of molasses. The distilleries would like to sell as much of their alcohol for potable purposes, as the price is not controlled under the Ethyl Alcohol (Price Control) Order, 1961.

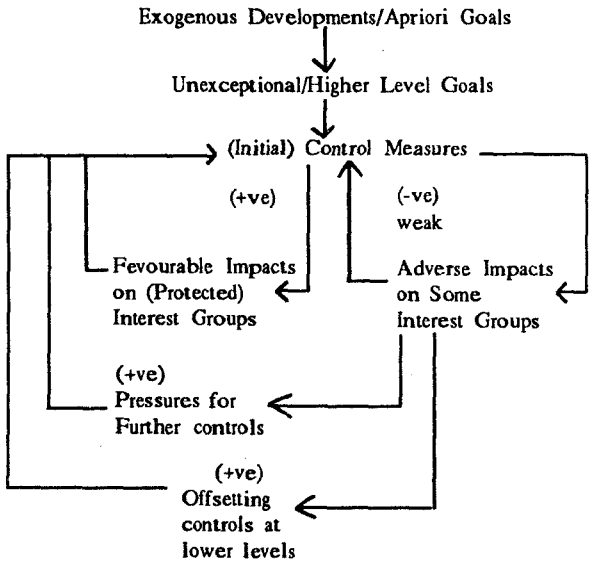
The users of alcohol are broadly of two types: manufacturers of potable liquor who can afford to pay higher prices; and the alcohol based chemical manufacturers who have to compete with chemicals manufactured from competitive substitutes like naphtha. The sugar factories have two apex organisations: the Indian Sugar Mills Association (ISMA) representing the private sector and the National Federation of Co-operative Sugar Factories (NFCSF). There is an All Indian Distilleries Association (AIDA) and an All India Alcohol Based Industries' Association (AABIDA), representing the alcohol producers and industrial alcohol users respectively.

### 4.3 *The Dynamics - A General Hypothesis*

Though the actual development of the regulatory and control systems related to a specific commodity will obviously have its own history, the basic dynamics of its development can be abstracted to the structure shown in Figure 1.

Due to either exogenous developments and/or as conscious choices, certain higher level or unexceptionable goals are accepted or claimed as important enough to justify an initial control measure. By its very nature, this control measure will favourably affect certain interest groups, while adversely impacting on others.

Figure 1: Dynamics of Controls - General Hypothesis



Those interest groups which gain from such a control measure provide positive pressures to persist with such a control or increase its intensity. This may result in the control measure becoming disproportionate to the goal or continuing even after the original goal is long since achieved or has become irrelevant or even undesirable due to subsequent developments. Those groups who are adversely affected can either oppose the initial measure itself or find their own ways of passing on the adverse impacts on to somebody else. Since the control measure is justified by the authorities in public in terms of unexceptionable goals, normally such direct opposition by affected interested groups are weak or ineffective. The very fact that the initial control measure has been implemented indicates that such adversely affected interest groups have lost out in the lobbying game. Thus, they get busy in deflecting or minimising the adverse impacts. They bring pressures to institute further controls so as to pass on the adverse impacts to a less powerful interest group. Or they may succeed in instituting further compensatory controls/subsidies at other levels of government which effectively nullifies the adverse impacts of the initial control measure.

Such a series of reinforcing and compensating controls may spread its tentacles horizontally to ultimately encompass trade-offs among several conflicting higher level goals. It may spread its roots downwards resulting in a tightly controlled structure of controls. On the other hand, through compensatory controls at lower levels, the higher level control measure may have lost its teeth.

In Figure 1, a (feedback) loop is characterised as positive in the sense of its tendency to increase the complexity/intensity of the control system in due course of time. As we see, it is to be expected that control systems in general will grow in complexity over a period of time. 'Wheels within Wheels' is the appropriate metaphor.

### 4.4 *Dynamics of Control on Molasses and Alcohol: Some Illustrative Examples*

Using the above general framework and the chronology outlined earlier, we give below our understanding of the dynamics of development of controls on molasses and alcohol in terms of several schematic diagrams.

#### 4.4.1 *Pre-Independence Era* (Fig. 2)

The protection granted to the domestic sugar industry in 1932 led to a spectacular growth in the number of sugar factories in Uttar Pradesh, set up by several North-Indian Business Groups. Ever since then, the domestic sugar industry strongly opposes any move to import sugar. The urban consumers, instead of opposing the ban on imports (justified by foreign exchange shortage, self-reliance, etc.) sought price controls on sugar. Proliferation of sugar factories led to promulgation of the minimum sugarcane price control order (1938) by the then governments of Uttar Pradesh & Bihar. The problem of disposal of accumulating sugar factory molasses, and the fuel shortage during World War II led to compulsory use of alcohol upto 20 per cent in petrol.

#### 4.4.2 *Post Independence*

Our Constitution, adopted in 1950, provides the legal framework for controls since then. As discussed earlier, promotion of prohibition, freedom for inter-state trade and commerce, and regulation of industry, trade and commerce in public interest are the three broad policy goals of relevance here.

##### 4.4.2.1 *The Emergence of Molasses/Alcohol as Revenue Sources*

Much of the inter-state and centre-state conflicts outlined earlier would not have become acute, even though inherent, but for the emergence of molasses and alcohol as important sources of revenue and patronage for the state governments. Thus we would first deal with this dynamics at the level of each state (Figure 3).

Most of the state governments, given the legacy of the freedom struggle, genuinely initiated measures for promotion of prohibition of consumption of alcoholic liquor. While some states imposed a total ban, most of them implemented a series of less severe regulatory measures like

Figure 2: Controls in Pre-Independence Era

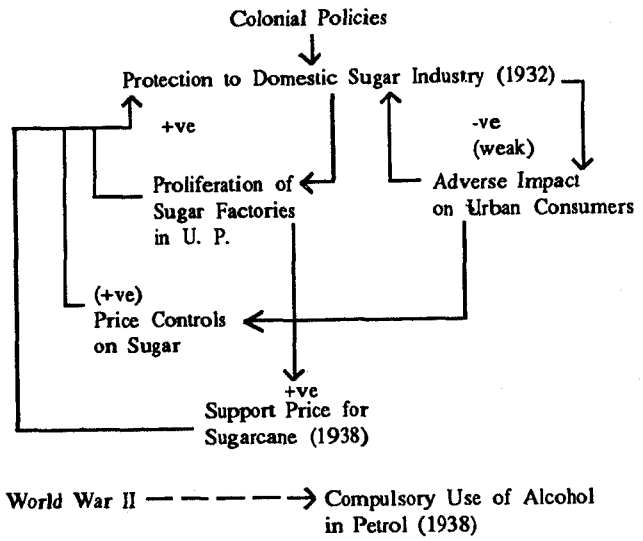
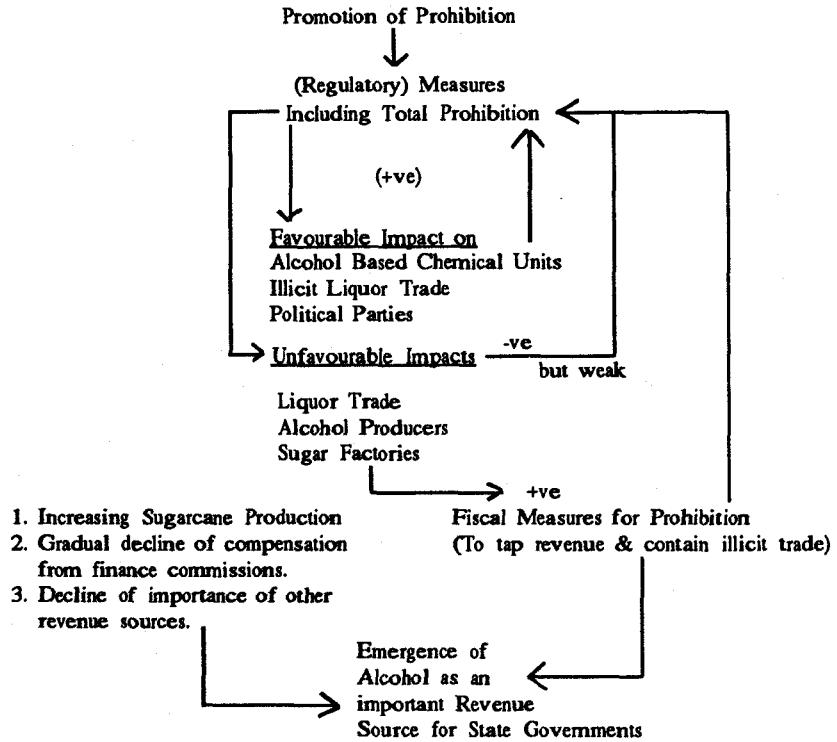



Figure 3: Emergence of Alcohol as an important Revenue Source for States



fiscal levies, restricting number of outlets, allocation of alcohol, etc. The then existing alcohol based chemical units and illicit liquor trade obviously benefited by such regulatory measures and hence supported the same.

Continued licensing of sugar factories led to increasing availability of molasses, and alcohol was the practical way of disposing off molasses. The possibility of profitable use of such alcohol for potable purposes led the interested groups (liquor trade, alcohol producers and sugar factories) to lobby for use of fiscal measures to promote prohibition, rather than regulatory measures. Successive finance commissions became less and less sympathetic to those states who demanded adequate compensation for revenue losses in enforcing prohibition. Lack of political will led to the decreasing importance of tax revenues related to land and agriculture (Table 10). These led to the emergence of molasses based alcohol as an important source of revenue for State Governments. Of late, the alleged concentration of revenue raising powers with the centre has added to this tendency of the states of viewing (potable) alcohol as a 'flexible' source of revenue.

TABLE 10. DECLINING IMPORTANCE OF TAXES ON AGRICULTURE IN STATES' OWN TAX REVENUES

| Year (1) | Tax on* Agriculture (All States) (Rs Lakh) (2) | Share in Tax Revenues (per cent) (3) |
|---|---|---|
| 1965-66 | 12,161 | 10.9 |
| 1970-71 | 13,629 | 8.9 |
| 1975-76 | 32,835 | 9.3 |
| 1980-81 | 23,448 | 3.5 |
| 1981-82 | 29,362 | 3.6 |
| 1982-83 | 27,899 | 2.9 |
| 1983-84 | 35,751 | 3.3 |
| 1984-85 | 42,263 | 3.5 |
| 1985-86 | 47,971 | 3.3 |
| 1986-87 | 46,937 | 1.9 |

* Includes land revenue, agricultural income tax, surcharge on cash crops, and cess and purchase tax on sugarcane wherever levied.
Source: Centre for Monitoring Indian Economy, *Basic Statistics Relating to Indian Economy*, Vol. 2: States, Table 14.24, Sept, 1989.

Consequent to these developments, the licensing policies of the Union Government clearly created two groups of states with conflicting interests: Molasses/Alcohol surplus states typified by Uttar Pradesh and Maharashtra and Molasses/Alcohol deficit states (West Bengal, Kerala) (Fig. 4). The surplus states found that movement of alcohol to deficit states would cut into their revenue as the Constitution lays a ceiling of 4 per cent on sales tax on inter-state sale. Thus they actively encouraged use of alcohol for potable purposes within the state or used their regulatory powers to levy a plethora of levies to corner as much of the revenue potential as possible out of exporting alcohol to other states for potable purposes.

The Nagaraja Rao Committee on alcohol [GOI, 1956] clearly anticipated such a turn of events and hence pleaded for Central Government control over alcohol which was stoutly opposed by the states. In the end, as a sop to the suggestion of this committee, the Central Government, using its powers under section 18 g of IDR Act, promulgated the Ethyl Alcohol (Price Control) Order 1961. Consequently, the Central Molasses Control Order was also passed (Fig. 5). While the Ethyl Alcohol (Price Control) Order imposed a ceiling on the price of ethyl alcohol, it left it to the state governments concerned to suitably modify it to include various levies payable in each state. It left the regulation of distribution to the state governments but specified the following priority: [GOI, 1975, p. 23].

i) Industrial uses other than paints/varnishes.
ii) Science laboratories, hospitals, dispensaries.
iii) Potable purposes.
iv) Paints and Varnishes.

Figure 4: Inter-State Conflicts

1. From Figure 3: Emergence of Alcohol as an Important Revenue Source
2. Licensing of Sugar Factories, Distilleries and Alcohol Based Chemical Units.
3. Ceiling on inter-state sale tax.

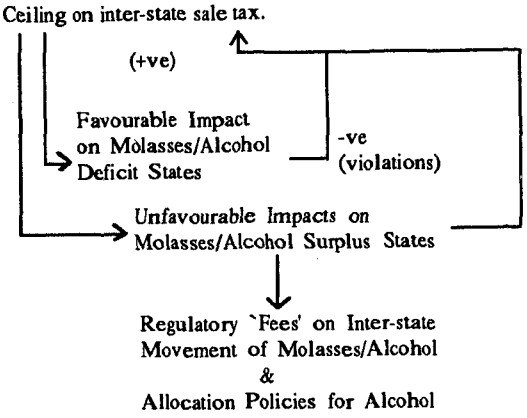
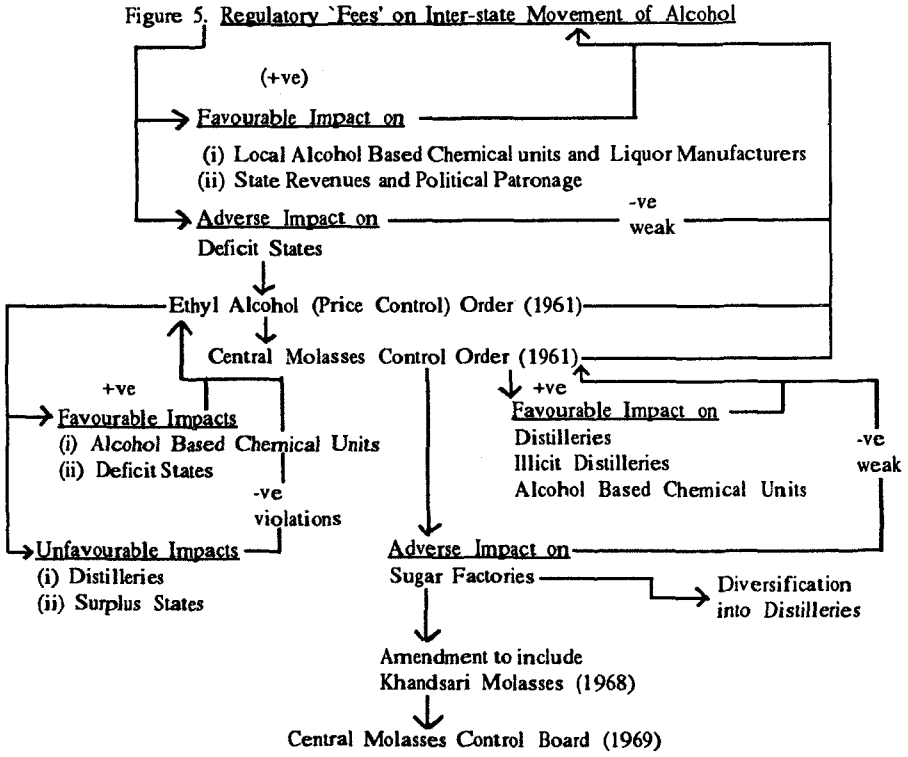



Figure 5. Regulatory `Fees' on Inter-state Movement of Alcohol



Given the revenue potential of potable alcohol, various state governments systematically allocated alcohol to potable purposes on a priority basis, starving industrial users in the deficit states and even local ones [GOI, 1975, Pp. 23-24]. This defeated the very purpose of the Ethyl Alcohol (Price Control) Order and it remains only on paper.

In contrast, the Central Molasses Control Order (and its variants in some states) adversely affected the competitiveness of sugar factories *vis-a-vis* khandsari producers whose molasses were being freely used for illicit liquor distillation. The organised distilleries lobbied for maintaining the price of sugar factory molasses at low levels supposedly because of its cascading impact on (industrial) alcohol prices. Consequently, a large number of sugar factories diversified into distilleries on their own, with state government approval. They also managed to convince the government into amending the Central Molasses Control Order to include khandsari molasses also. But till date, it has not been implemented because of some genuine legal problems but mostly for 'administrative' reasons, an euphemism for lack of political will to get at the roots of illicit liquor trade.

Such developments are still continuing; khandsari molasses continues to provide the raw material for the bludgeoning illicit liquor trade; available alcohol continues to be increasingly diverted to potable purposes. Successive committees set up by the Government continue to plead for 'uniformity' of levies on molasses and (industrial) alcohol without looking into the hard question of the revenue potential of alcohol and the vested interests around it.

Even the recent Supreme Court judgement preventing the state governments from taxing industrial alcohol under various guises is unlikely to be the end of the story. The state governments can still use their regulatory powers to starve the alcohol based chemical units of industrial alcohol and divert it for potable purposes [AABIDA Bulletin, 1990].

## 5. *Types of Policy Issues*

By now, we hope to have established that the sheer magnitude of policy issues in controlling molasses and alcohol demand urgent attention of policy analysts. The chaotic nature of the prevailing regulatory and taxation systems of these commodities has been traced in terms of the dynamics of such systems in general. The range of policy issues are such that various types of policy analyses can be done from different perspectives, view-points and concerns. We briefly sketch some of these below.

### 5.1 *Techno-Economics of Utilisation*

Without getting involved in the legal and administrative intricacies, we can analyse the techno-economics of utilisation of molasses and alcohol to suggest an appropriate utilisation pattern towards which the country should be moving.

*An illustrative list of such alternatives are:*

(a) Should sugarcane be directly converted into alcohol as in Brazil? What are the implications for land utilisation, sugar production and alcohol utilisation patterns?
(b) Should we use molasses mainly as a cattlefeed constituent and in industries like foundry and export the balance to avoid the pollution caused by distillation of alcohol? Or should we encourage alcohol distillation as the primary way of using molasses?
(c) Should industrial alcohol be used for manufacturing chemicals or as a fuel constituent for automobiles? If for chemicals, which chemicals?

Several working groups and committees have looked into or are currently analysing such options.

The techno-economics is complicated. The international prices of competing substitution products like petrol and naphtha are very volatile in the short run but likely to rise in the long run. Their costing is bewildering given the joint product economics of refineries. The efficiencies in sugarcane production and sugar/alcohol extraction technologies can improve dramatically

in the long run. The problem of assigning proper economic values to molasses and alcohol is complicated by its use as potable alcohol.

### 5.2 *Welfare Perspective*

There have been two popular arguments in favour of not enforcing prohibition:

(a) Non-enforcability of such a ban due to legal and administrative difficulties and corruption at various levels leading to proliferation of illicit liquor consumption.

(b) Possibility of raising substantial revenues for developmental programmes, especially if the tax incidence is on the rich.

But as discussed earlier, much of the tax incidence may be in fact on rural and urban poor. There are also indications of diversion of demand to illicit liquor due to high taxes. Instead of curbing consumption, state governments are in fact doing every bit to allocate more alcohol for potable purposes to increase revenue collection.

It is also possible that having been initiated into drinking through legally available but costly liquor, the poor then move over to illicit liquor to sustain the habit in much larger numbers than in the case of total prohibition (one can compare Tamil Nadu and Gujarat in this connection). Checking illicit liquor is likely to be administratively more difficult if the incentive for evasion and a cover of legal trade are simultaneously present.

### 5.3 *Centre-State Relations and Inter-State Trade and Commerce*

Alcohol is an important test case for the ongoing debate on Centre-State relations, especially on taxation matters. Economists are contrasting the role of the Planning Commission as a force towards centralisation with that of the Finance Commission as the opposing one. They are commenting on the increasing impotence of the states as a result of the centralisation of financial powers.

The lessons learnt from implementation of development and anti-poverty programmes have brought the adverse long term impacts of the gradual erosion of the vitality of local institutions into bold relief. There is a clamour for decentralisation at all levels as a panacea for all ills or perhaps as the only hope.

But the dynamics and consequences of such decentralisation in taxation and regulation of alcohol is too jarring to be brushed aside as an exception. While there might be a case for decentralisation of development expenditure, the same might not be true for revenue generation and welfare legislation required for implementing Directive Principles of State Policy.

At a conceptual level, the inter-state trade and commerce in molasses/alcohol resembles very much the international trade in other commodities. Some states like Gujarat and West Bengal might prefer imports from other countries rather than from other states. It is well known that international trade in commodities is anything but a free, undisturbed, stable market which harmonises the interests of producers and consumers.

But the kinds of distortions may not be similar. International trade is full of protective import duties and export related subsidies. It is the other way around in inter-state trade in alcohol, because of its revenue potential and lack of the equivalent of the foreign exchange premium. (Some of the South Indian States exchanged power for irrigation water). From a legal angle, the question of whether various duties on inter-state trade in alcohol is in effect a colourable attempt to stifle free flow of goods within the country is an important question [GOI, 1976, p. 20-21]. All evidences indicate that in practice it is indeed so.

## 6. *Conclusion*

We agree that mentioning the need for an integrated (inter-disciplinary, if you prefer) perspective has become a cliche. But its significance for the utility or otherwise of the partial perspectives outlined above is very real.

For example, various government reports compare the economics of producing certain chemicals from alcohol *vis-a-vis* naphtha [GOI, 1980].

Typically, such comparisons are on the basis of control price of alcohol and a pessimistic scenario for petroleum prices. Given the potable alcohol market and the inter-state conflicts, they are

terribly understating the opportunity costs of alcohol to alcohol producers. Similar is the case with studies which 'prove' that only molasses is a viable proposition for manufacturing of alcohol, to the exclusion of others [GOI, 1980].

An alcohol surplus state may argue that there is nothing wrong if their revenue exigencies are met by sacrificing the welfare objectives of some other state, especially when that government itself is a willing partner in sharing the revenue. The Constitution and the legislative framework presumes that various arms of the state, viz., the executive, legislatures and the judiciary are acting in public interest, unless proved otherwise. It may have been valid in the past; may still be valid in issues involving minor scope for patronage, corruption and nepotism. But if the magnitudes involved are very large it is no longer a matter of degree or a subject fit only for humorous remarks, but one which cuts into the very roots of society and body politic.

Our contention is that taxation and controls (or even lack of it) over molasses and alcohol is one such issue. Hence a strictly legal and welfare view of the relevant laws and systems without an appreciation of the magnitudes of the techno-economics and corruption, or vice-versa, is bound to be like the proverbial blind men and the elephant.

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# SOURCES OF DIFFERENCES IN INPUT USE: THE CASE OF FERTILISER IN INDIA

Anil Kumar Sharma

*In the present study an attempt has been made to figure out the sources of differences in fertiliser use in different states of India. The study reveals that while differences between Punjab and other states are explicable in terms of better technological adoption and better institutional and distributional facilities provided to this state, differences between Gujarat and other states which use less fertiliser, despite having good rainfall have been due to the credit and distributional facilities provided to this state. Major policy implications which emerge from this study are that in order to boost fertiliser demand in areas where the irrigation infrastructure is poorly developed, appropriate credit and distributional network policies are required. It is also suggested that irrigation infrastructure should also deserve high priority along with more and more efforts to bring area under high yielding varieties. Efforts should also be made to increase income of the farmer so as to enable him to adopt modern technology. Price related measures tend to be unrewarding. This study on India is equally important to other developing countries of the world also.*

## INTRODUCTION

In India, the green revolution has certainly increased agricultural output and has enabled it to achieve self-sufficiency in foodgrain production, but, it is also true that this increased production has been confined only to a few regions of the country. It has thus lead to worsening of the inter-state disparities. The problem calls for bringing growth with equity or social justice. Between the early sixties and early eighties, the contribution in incremental output of the north-western region was as much as 53.1 per cent, while that of the eastern region was only 7.7 per cent [Bhalla and Tyagi, 1989]. Such increase in output added to the already existing inter-regional inequality in production. This fact can be highlighted by studying the concentration of the procurement of rice and wheat in a few states. Five states Andhra Pradesh, Haryana, Punjab, Tamilnadu and Uttar Pradesh accounted for 90.54 per cent of the total procurement of rice (average of 1984-85 to 1986-87). Similarly three states Haryana, Punjab and Uttar Pradesh accounted for 98.8 per cent of the total procurement of wheat (average of 1983-84 to 1985-86). These states accounted for only 32.7 per cent and 57.1 per cent of the total area under these crops, respectively. These five states accounted for 31.84 per cent of the total cropped area and 55.44 per cent of the gross irrigated area in the country, but consumed 55.35 per cent of the total fertiliser in the country (average of 1983-84 to 1986-87).

Although production and productivity varies across regions and states due to several factors like environmental or agro-climatic suitability of crops, area under high yielding varieties (HYV's), irrigation, fertiliser use and other physical and institutional facilities provided to these regions, part of this variation is due to the lower level of fertiliser use in these regions. A study by Planning Commission in 1985 concluded that in the eastern region, the most important variable explaining inter-district variation in productivity within each category (categorised on the basis of productivity rating) turned out to be the fertiliser consumption per hectare. Also the yield gaps between the actual and potential yields are high in those states where the fertiliser use is very low. It can be inferred from this that further increases in production will come from those states which have remained outside the perview of past growth and which have most of the unexploited potential.

An attempt has been made here to find out the factors behind the variation so that appropriate policies can be formulated to exploit the untapped potential in these states in order to achieve the objectives of equity or social justice. This is also important because most of the nation's rural poor

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TABLE 1. CHANGING POSITION OF DIFFERENT STATES WITH RESPECT TO FERTILISER USE

(kg per ha.)

| Range of Fertiliser use | YEARS (Triennium ending in) | | | | |
|---|---|---|---|---|---|
| | 1969 | 1972 | 1977 | 1982 | 1987 |
| 0 - 5 | Assam, Himachal Pradesh, Madhya Pradesh, Nagaland, Orissa, Rajasthan and Tripura | Assam, Madhya Pradesh, Manipur, Orissa, Rajasthan, and Tripura | Assam, Nagaland, Rajasthan and Tripura | Assam, Nagaland and Tripura | Assam and Nagaland |
| 5 - 10 | Bihar, Gujarat, Karnataka, Maharashtra, Manipur and West Bengal | Bihar, Himachal Pradesh and Jammu and Kashmir | Himachal Pradesh, Madhya Pradesh, Manipur and Orissa | Madhya Pradesh, , Orissa and Rajasthan | |
| 10 - 20 | Andhra Pradesh,Goa, Haryana, Jammu and Kashmir, Punjab and Uttar Pradesh | Goa, Gujarat, Haryana, Karnataka, Maharashtra, Uttar Pradesh and West Bengal | Bihar, Gujarat, Haryana, Jammu and Kashmir, Maha-rashtra and West Bengal | Bihar, Himachal Pradesh and Manipur | Madhya Pradesh, Orissa, Rajasthan and Tripura |
| 20 - 30 | Kerala and Tamilnadu | Andhra Pradesh and Kerala | Andhra Pradesh, Karnataka, Kerala and Uttar Pradesh | Maha-rashtra | Himachal Pradesh and Manipur |
| 30 - 40 | - | - | Goa and Tamilnadu | Goa, Gujarat, Jammu and Kashmir, Karnataka, Kerala and West Bengal | Jammu and Kashmir and Maha-rashtra |
| 40 - 50 | - | Punjab and Tamilnadu | - | Andhra Pradesh, Haryana and Uttar Pradesh | Bihar, Goa, Gujarat Karnataka and Kerala |
| 50 - 75 | - | - | Punjab | Tamilnadu | Andhra Pradesh, Haryana, Uttar Pradesh and West Bengal |
| 75 > | - | - | - | Punjab | Punjab and Tamilnadu |

Source: Computed.

are located in these areas. Differences in consumption of fertilisers between Punjab and other states seem explicable in terms of better irrigation facilities, HYV's and better marketing facilities. But, the reason why states like Gujarat with low rainfall and irrigation have recorded remarkable growth while others similarly placed have not, has been of debate for quite some time. This point has not been studied in detail. An effort has been made here to find out the forces behind this variation. It was hypothesised that the differences exist because of technological, physical and institutional constraints rather than prices of fertilisers or prices of crops.

The remaining part of this article has been organised as follows. Section I presents the progress made by different states in increasing fertiliser use after the green revolution. Section II presents the model used and the estimation procedure employed for measuring the interstate variation and Section III examines the constraints and policy implications of the study.

## SECTION I
## GROWTH OF FERTILISER USE IN VARIOUS STATES:

Since the total cropped area varies from 71 thousand ha in Mizoram to 25,198 thousand ha in Uttar Pradesh, therefore, interstate disparity can be better compared by expressing fertiliser use in per hectare terms. Table 1 show that the pattern of consumption was markedly skewed between states over time. A perusal of Table 1 shows that in 1969 the states fell in the range of less than 5 to less than 30 kgs category but by 1987 their range varied from less than 5 to over 150 kgs. It can also be observed as to how fast Punjab has improved its position. It consumed less than Kerala and Tamilnadu in 1969; in 1987 its use had increased by more than three times that of Kerala and more than one and half times that of Tamilnadu. The Table also shows that two states, namely, Assam and Nagaland have remained in the same category and they have not improved their position. It can also be observed from the table that ten states, viz., Assam, Nagaland, Madhya Pradesh, Orissa, Rajasthan, Tripura, Himachal Pradesh, Manipur, Jammu and Kashmir and Maharashtra consumed less than 40 kgs of fertiliser. There were only 7 states which consumed more than the national average use of fertiliser in 1986-87. In four states namely Arunachal Pradesh, Assam, Mizoram and Nagaland the fertiliser use in 1986-87 remained less than the national average in 1969. The position of Madhya Pradesh, Meghalaya, Orissa, Rajasthan, Tripura and Sikkim was also not very high above this level. This points out to the slow progress made by these states in increasing the fertiliser use over the study period. In the states like Andhra Pradesh, Haryana, Kerala, Tamilnadu and West Bengal none of the districts consumed less than 25 kgs fertiliser but for Assam and Rajasthan this figure was as high as 100 per cent and 77 per cent, respectively [FAI].

## SECTION II
## MODEL AND ESTIMATION PROCEDURE:

The approach used in this analysis is the estimation of interstate production function of the Cobb-Douglas type based on a sample of all the 25 states of India. Basic data has been collected from various sources. The dependent variable is the fertiliser consumption per hectare. Since data on all the variables are not available for all the states and for longer time period, the average of three years data i.e. 1984-85 to 1986-87 has been used in the estimation of production function.

The dependent variable is:

Total fertiliser use per hectare = Total fertiliser use divided by total cropped area in the state.

The independent variables are:

High Yielding Varieties = percentage area under HYV's to total cropped area.

Irrigation = gross irrigated area expressed as percentage of total cropped area.

Retail Outlets = retail outlets per inhabited village[1].

Cropping Pattern = This variable measures area under those crops which have yields higher than the yield of national average (average of last three years). This variable was included to verify whether area under those crops in which certain states have comparative advantage influences fertiliser use[2].

Gross Income = lagged income. This variable was measured by multiplying the production of

important crops in respective states with the support prices of these crops i.e. this represented the average from 1983-84 to 1985-86.

Rainfall = average annual rainfall in millimetres.

Product Price = weighted product price. This variable was measured by multiplying the support prices with area under principal crops, the weights were their percentage shares in total cropped area.

Credit = credit advanced per hectare of gross cropped area.

*Estimates of Regression Equations:*

Results of the estimated regression equations based on interstate data are summarised in Table 2. In the table the estimates of regression elasticities and their standard errors are shown along with the coefficient of determination adjusted for degrees of freedom.

TABLE 2. ESTIMATES OF INTER STATE FERTILISER DEMAND EQUATIONS AND RELATED STATISTICS

| Variable | Equations | | | |
|---|---|---|---|---|
| | OLS1 | OLS2 | PCOLS1 | PCOLS2 |
| Constant | -1.2367 | -0.9462 | -0.6254 | -0.8921 |
| High Yielding varieties | 0.3564*** | 0.2198** | 0.1705*** | 0.1582*** |
| | (0.1198) | (0.1108) | (0.0133) | (0.0114) |
| Irrigation | 0.2833 | 0.0122 | 0.2447*** | 0.1772*** |
| | (0.2350) | (0.2220) | (0.0185) | (0.0157) |
| Cropping pattern | 0.0942* | 0.1394*** | 0.1019*** | 0.1036*** |
| | (0.0631) | (0.0511) | (0.0048) | (0.0041) |
| Retail Outlets | 0.4153*** | 0.4438*** | 0.3099*** | 0.3912*** |
| | (0.1564) | (0.1285) | (0.0303) | (0.0258) |
| Gross Income | 0.2895 | 0.5658*** | 0.4279*** | 0.4545*** |
| | (0.2484) | (0.1851) | (0.0179) | (0.0153) |
| Rainfall | 0.1635 | -0.0061 | -0.0767*** | 0.0331* |
| | (0.3467) | (0.2787) | (0.0231) | (0.0197) |
| Product price | 1.4995* | 0.5273 | 0.3643*** | 0.1293*** |
| | (1.10579) | (0.9846) | (0.0193) | (0.0164) |
| Credit | 0.0477 | 0.0643 | 0.1314*** | 0.1499*** |
| | (0.0824) | (0.0672) | (0.0155) | (0.0132) |
| $R^2$ | 0.8435 | 0.8857 | 0.7934 | 0.8567 |
| D.W. | 2.76 | 2.04 | 2.86 | 1.96 |

Note: 1. OLS1 = Ordinary least square, OLS2 = Ordinary least square after correction of autocorrelation, PCOLS1 = Principal component ordinary least square, PCOLS2 = Principal component ordinary least square after correction of autocorrelation. 2. Figures in parentheses are respective standard errors. 3. *** Significant at 1 per cent level of significance. ** Significant at 5 per cent level of significance. * Significant at 10 per cent level of significance.

When a simple ordinary regression was run, only a few of the variables like are under HYV's, cropping pattern were significant while other important variables were not significant. From the high coefficient of D.W. one may suspect that the high standard errors may be high due to the presence of autocorrelation. In second equation the autocorrelation was corrected by applying the search procedure. But then also no significant gains were achieved except for the improvement in coefficient of determination. The variables like credit were not significant.

It was found that this is due to the problem of multicollinearity. Therefore principal component regression was run to estimate the parameters.

Several methods have been proposed for the inclusion of principal components in the regression analysis [Hill *et. al.*, 1977, Pp. 309-334]. Theoretically if one runs a regression using all principal components it will yield the same transformed coefficients as the original regression. The characteristic root criterion (CRC) and t-value criterion (TVC) [Hill *et. al.*, 1977, Pp. 234-256] and [Massy, 1965, Pp. 234-256] are the two traditional methods used in selecting a set of principal components. The CRC method was applied and a threshold level of 95 per cent of the total variation to be kept was imposed. But it was found that same level of variation could be explained by only three principal components and

there was not much difference in the parameter estimates, so only three principal components were retained and regressions were run. This may be because the eigen values were greater than one only upto the third principal component and they together explained more than 80 per cent of the variation in all the factor analyses.

Principal components regression improved the results because all the variables are significant but the higher value of D.W. again indicates the problem of negative autocorrelation. Therefore, equation was reestimated by employing search procedure and the lower value of D.W. close to 2 indicates that this equation can be used for interpretation. All the regression estimates are significant at 1 per cent level of significance except for rainfall variable which is significant at 10 per cent level of significance.

The highest elasticity coefficient is that of income per hectare which indicates that 10 per cent rise in income will increase demand for fertiliser by 4.5 per cent. The next highest elasticity coefficient is of retail outlets per village. The elasticity coefficients of area under HYV's, irrigation, product price and credit are in the range of 0.13 to 0.18 (figures rounded off). The adjusted coefficient of multiple determination was 0.85 indicating that more than 85 per cent of the variation in different states in fertiliser use is explained by these variables. The positive and significant coefficient of the cropping pattern variable shows that area under those crops in which certain states have advantage also influences fertiliser demand.

TABLE 3. ACCOUNTING FOR DIFFERENCE IN FERTILISER USE BETWEEN PUNJAB AND OTHER STATES AND GUJARAT AND OTHER STATES

| | Punjab | Gujarat | States With Higher Fert. Use |
|---|---|---|---|
| Average Difference | 86.55 | 74.67 | 81.23 |
| | (100) | (100) | (100) |
| Technology | 25.25 | 5.07 | 19.52 |
| | (29.17) | (6.79) | (24.03) |
| HYV's | 11.65 | -0.12 | 8.48 |
| | (13.46) | (-0.16) | (10.44) |
| Irrigation | 13.60 | 5.19 | 11.04 |
| | (15.71) | (6.95) | (13.59) |
| Cropping Pattern | 8.95 | 9.43 | 9.09 |
| | (10.34) | (12.63) | (11.19) |
| Retail Outlets | 21.75 | 27.13 | 23.87 |
| | (25.13) | (36.33) | (29.38) |
| Income | 31.59 | 11.49 | 23.14 |
| | (36.50) | (15.39) | (28.48) |
| Rainfall | -2.60 | -7.33 | -1.42 |
| | (-3.00) | (-9.82) | (-1.75) |
| Product Price | 1.27 | 5.37 | 1.24 |
| | (1.47) | (7.19) | (1.52) |
| Credit | 14.32 | 13.78 | 13.25 |
| | (16.55) | (18.45) | (16.31) |
| Unexplained Residual | -13.98 | 9.73 | -7.46 |
| | (-16.35) | (13.04) | (-9.16) |

1. Figures in parentheses are total difference set equal to 100 and percentage contribution of each factor to difference. 2. States using less fertiliser than Gujarat were Assam, Arunachal Pradesh, Goa , Himachal Pradesh, Jammu and Kashmir , Madhya Pradesh , Maharashtra , Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Rajasthan, Tripura and Sikkim. 3. States using more fertiliser than national average were Andhra Pradesh, Haryana, Punjab, Tamilnadu, Uttar Pradesh and West Bengal.

*Accounting for Differences in Fertiliser Use:*

The results obtained from the estimation of these functions can be used to account for the differences in fertiliser use. In accounting for the differences following parameters were specified based on the results obtained in Table 2. These are : high yielding varieties = 0.16, irrigation = 0.18, cropping pattern = 0.1, retail outlets = 0.4, income = 0.45, rainfall = 0.03, product price = 0.13 and credit 0.15. The results are presented in Table 3. Three alternative comparisons are presented.

The first set involves comparison between Punjab and all other states; the second comparison is done between Gujarat and those states which have lower level of fertiliser use as compared to Gujarat state; and the third comparison is done

between those states where fertiliser use is higher than the national level and those where fertiliser use is lower than the national average.

The difference in fertiliser use[3] between Punjab and all other states was found to be about 86 per cent and between Gujarat and other states was found to be about 75 per cent, respectively. The difference between those states which use more than the national average and those which use less is about 81 per cent. The major difference between Punjab and other states is accounted for by income derived from crops and this accounts for 36 per cent of the difference. The area under HYV's and irrigation account for around 29 per cent of the total difference. Retail outlets and credit account for around 42 per cent of the difference and together these four variables i.e. HYV's, irrigation, retail outlets and credit explain more than 70 per cent of the difference.

The major difference between Gujarat and those states where fertiliser use is less than Gujarat is accounted for by retail outlets and credit and these two variables explain more than 50 per cent of the difference. The negative sign of rainfall is because in areas like Punjab and Gujarat one and five districts, respectively have mean annual rainfall of 750 to 1250 mm [FAI, 1989-90], while this number is more in other states. It can further be argued that in case of Punjab more fertiliser use is because of the contribution of all the variables but in case of Gujarat the more fertiliser use is because of the retail outlets and credit and because of these two forces this state has been able to increase its fertiliser use while others similarly placed have not been able to increase their fertiliser use. The cropping pattern also explains about 13 per cent of the difference. It may be mentioned here that in Gujarat more than 50 per cent of the area is under non foodgrain crops like groundnut, cotton and sugar cane, and this state alone accounts for 18.8, 21.2 and 3.6 per cent of the total area in the country under these crops.

The fact that retail outlets explain more difference can be made clear by studying the difference in the number of retail outlets per village. There was one retail outlet for every two inhabited villages in Gujarat state but in those states where the fertiliser use is less than this state there was one retail outlet for every 7 inhabited villages [Sharma, 1992]. This figure when compared with Punjab and other states was observed to be one for two and one for 4 respectively. Similarly around 24 per cent of the difference in fertiliser use between those states where fertiliser use is higher than the national average and those where it is less is explained by HYV's and irrigation. Around 29 per cent of the difference is explained by retail outlets and 28 per cent by the income variable. Credit explains around 16 per cent of the difference.

## SECTION III
## CONSTRAINTS AND POLICY IMPLICATIONS:

Table 4 indicates the progress made in bringing area under high yielding varieties of rice, wheat, maize, jowar and bajra in different states of the country. The data pertains to the year 1986-87. In case of rice crop, the rates of area under HYV's varied between 6.2 per cent in Sikkim to 97 per cent in Tamilnadu. In states like Arunachal Pradesh, Assam, Meghalaya, Mizoram, Nagaland, Orissa and West Bengal where rice occupies 50 per cent or more of the total cropped area, the percentage of area under HYV's of rice was less than 50 per cent while in states like Andhra Pradesh, Jammu and Kashmir, Punjab and Tamilnadu where it occupies 25 per cent or more of the total cropped area, the rates are around or more than 95 per cent. This shows the little progress made in bringing area under HYV's of rice and why the states of the eastern region have low fertiliser use. In wheat the lowest percentage of area was found in the case of Madhya Pradesh where this figure was 31 per cent. It can also be observed from this table that the situation is not very encouraging in states like Himachal Pradesh, Jammu and Kashmir and Sikkim in case of maize, Andhra Pradesh, Karnataka, and Maharashtra in case of jowar and Rajasthan in case of bajra even though these cereals occupy quite a significant area. On the whole the area under HYV's of total foodgrains varied between 6.2 per cent in Arunachal Pradesh to 90.9 per cent in Punjab. It also becomes clear with this table that in order to boost fertiliser use in these states the area has to be brought under HYV's. The rates of adoption are low because of the poor infrastructure and less suitability of these varieties in these states.

TABLE 4. STATEWISE AREA UNDER IMPORTANT CROPS AND AREA UNDER HIGH YIELDING VARIETIES IN 1986-87

(per cent)

| States | Rice | Wheat | Maize | Jowar | Bajra | Foodgrains |
|---|---|---|---|---|---|---|
| Andhra Pradesh | 28.7 | 0.1 | 2.6 | 15.2 | 3.2 | 65.9 |
| | (94.7) | (100.0) | (49.5) | (27.9) | (88.5) | (54.8) |
| Arunachal Pradesh | 56.5 | 2.1 | 17.7 | - | - | 84.8 |
| | (6.7) | (47.6) | (2.7) | - | - | (6.2) |
| Assam | 62.5 | 4.1 | 0.5 | - | - | 71.1 |
| | (45.0) | (100.8) | (38.9) | - | - | (44.9) |
| Bihar | 50.2 | 18.2 | 6.6 | - | - | 90.0 |
| | (51.2) | (100.0) | (97.4) | - | - | (58.3) |
| Goa | | - | - | | | |
| | (88.8) | - | (1.4) | - | - | (86.7) |
| Gujarat | 5.5 | 6.2 | 3.0 | 8.5 | 13.4 | 46.3 |
| | (68.5) | (80.0) | (47.1) | (16.7) | (92.4) | (50.0) |
| Haryana | 10.1 | 30.9 | 1.1 | 2.8 | 13.6 | 72.4 |
| | (76.4) | (95.9) | (37.7) | (0.0) | (63.3) | (65.2) |
| Himachal Pradesh | 9.6 | 39.1 | 31.1 | - | - | 90.4 |
| | (93.8) | (84.8) | (30.0) | - | - | (56.8) |
| Jammu And Kashmir | 26.7 | 21.9 | 27.4 | - | 1.7 | 84.8 |
| | (96.2) | (87.5) | (30.4) | - | (40.0) | (63.4) |
| Karnataka | 10.2 | 2.8 | 1.6 | 20.1 | 3.7 | 64.2 |
| | (78.9) | (32.6) | (100.0) | (27.9) | (58.6) | (29.8) |
| Kerala | 25.4 | - | - | - | - | 26.6 |
| | (62.8) | - | - | - | - | (59.2) |
| Madhya Pradesh | 22.0 | 16.0 | 3.7 | 8.5 | 0.7 | 79.3 |
| | (37.2) | (30.7) | (28.8) | (49.8) | (48.1) | (23.8) |
| Maharashtra | 7.4 | 4.9 | 0.4 | 32.1 | 8.6 | 69.2 |
| | (64.2) | (100.0) | (71.4) | (44.6) | (57.7) | (42.0) |
| Manipur | 89.8 | - | 2.7 | - | - | 92.5 |
| | (50.3) | - | (55.0) | - | - | (55.7) |
| Meghalaya | 51.4 | 1.8 | 7.9 | - | - | 63.9 |
| | (26.1) | (100.0) | (55.5) | - | - | (32.5) |
| Mizoram | 72.3 | - | 9.2 | - | - | 83.0 |
| | (6.2) | - | (21.8) | - | - | (14.7) |
| Nagaland | 63.3 | - | 9.4 | - | - | 82.2 |
| | (14.9) | - | (100.0) | - | - | (14.2) |
| Orissa | 49.0 | 0.6 | 1.9 | 0.4 | 0.1 | 75.8 |
| | (40.1) | (100.0) | (46.6) | (20.6) | (14.3) | (27.0) |
| Punjab | 23.5 | 44.1 | 4.3 | - | 0.9 | 76.3 |
| | (94.5) | (99.6) | (54.2) | - | (60.9) | (90.9) |
| Rajasthan | 1.0 | 9.9 | 5.3 | 4.8 | 25.3 | 67.5 |
| | (42.2) | (74.5) | (2.9) | (4.2) | (27.3) | (23.3) |
| Sikkim | 12.8 | 7.2 | 30.4 | - | - | 64.8 |
| | (62.5) | (98.0) | (48.7) | - | - | (48.3) |
| Tamilnadu | 35.4 | - | 0.2 | 9.7 | 4.5 | 65.3 |
| | (97.0) | - | (100.0) | (56.1) | (97.8) | (58.3) |
| Tripura | 75.1 | 0.6 | - | - | - | 77.4 |
| | (59.2) | (100.0) | - | - | - | (58.4) |
| Uttar Pradesh | 21.9 | 33.4 | 4.6 | 2.6 | 3.8 | 81.6 |
| | (69.4) | (89.4) | (13.9) | (0.0) | (22.9) | (56.3) |
| West Bengal | 68.5 | 4.4 | 0.8 | - | - | 79.3 |
| | (41.7) | (99.8) | (0.0) | - | - | (41.9) |
| India | 23.3 | 13.4 | 3.3 | 9.1 | 6.0 | 72.0 |
| | (58.9) | (83.9) | (37.3) | (35.2) | (46.9) | (44.4) |

Source : Computed by the author.

First row refers to the percentage of area to total cropped area and second row refers to the percentage of area under HYV's under that category.

The development of irrigation in different states presented in Table 5 reveals that irrigation structure in those states where fertiliser use is less is poorly developed. In states like Assam, Himachal Pradesh, Madhya Pradesh, Maharashtra, Manipur and Orissa less than 50 per cent of the potential has been exploited through major and medium irrigation schemes and the figures for Assam and Himachal Pradesh are as low as 10 and 12 per cent. The utilisation of the existing potential is also low in these states. Minor irrigation schemes have also been ignored in these states and less than 50 per cent of the irrigation potential has been exploited in all the above mentioned states except for Maharashtra where this figure is more than 60 per cent. The utilisation of the created potential is high as compared to the major and medium irrigation schemes in case of minor irrigation schemes. Also the costs of creating irrigation through these schemes are less, therefore, they deserve high priority in these states [*Economic Times*, 1986].

TABLE 5. STATEWISE IRRIGATION POTENTIAL EXPLOITED AND UTILISATION OF THE EXPLOITED POTENTIAL UPTO 1984-85
(per cent)

| States | Major and Medium Schemes | | Minor Schemes | |
|---|---|---|---|---|
| | Exploited | Utilisation | Exploited | Utilisation |
| Andhra Pradesh | 64.84 | 92.72 | 55.74 | 93.81 |
| Arunachal Pradesh | NA | | NA | |
| Assam | 10.42 | 56.40 | 23.00 | 89.26 |
| Bihar | 44.29 | 75.55 | 57.83 | 92.17 |
| Goa | NA | | NA | |
| Gujarat | 36.46 | 63.62 | 95.66 | 96.12 |
| Haryana | 64.10 | 90.74 | 89.48 | 98.12 |
| Himachal Pradesh | 12.00 | 66.66 | 41.05 | 89.74 |
| Jammu And Kashmir | 54.80 | 83.21 | 61.27 | 97.03 |
| Kamataka | 50.12 | 88.75 | 54.66 | 97.12 |
| Kerala | 53.50 | 96.26 | 35.45 | 93.58 |
| Madhya Pradesh | 30.38 | 72.19 | 47.43 | 93.87 |
| Maharashtra | 41.29 | 56.58 | 62.41 | 91.74 |
| Manipur | 29.63 | 60.00 | 37.14 | 87.18 |
| Meghalaya | NA | | NA | |
| Nagaland | NA | | NA | |
| Orissa | 43.14 | 97.10 | 46.08 | 92.45 |
| Punjab | 82.10 | 99.39 | 89.41 | 98.89 |
| Rajasthan | 65.27 | 79.38 | 82.79 | 97.48 |
| Sikkim | NA | | 63.64 | 71.43 |
| Tamilnadu | 82.93 | 98.47 | 81.25 | 99.64 |
| Tripura | NA | | 50.43 | 86.21 |
| Uttar Pradesh | 53.06 | 83.17 | 91.90 | 91.31 |
| West Bengal | 68.35 | 93.09 | 44.78 | 94.00 |
| India | 51.33 | 84.39 | 68.39 | 93.94 |

Sources: Computed from Government of India, *Indian Agriculture in Brief, 1988*, 22nd. edition and Fertiliser Association of India, *Fertiliser Statistics*, 1989-90.

The efforts made by Government and private agencies in selling fertilisers are shown in Table 6. It can be seen from this table tat efforts by private agencies have been made in those areas which are highly developed and where the fertiliser use is already high. In Andhra Pradesh, Haryana, Kamataka, Punjab and Tamilnadu, the share of selling points is more than the share of fertiliser distributed by them. At the other end in states where fertiliser use is low the share of cooperative societies in total number of selling points is less than the private ones but the quantity distributed by them is more with the exception of Gujarat which had improved its position and the quantity distributed by cooperative societies has fallen. One can also infer from the same table that

the situation has deteriorated in Rajasthan where the share of fertiliser distributed by cooperative societies has increased from 34 per cent to 66 per cent. Although data for more years are not available but seeing the importance of this strategic variable in explaining fertiliser use, the low fertiliser use in some states seems explicable by this variable only. The reasons for the high share of cooperative societies and low share of fertiliser distribution in case of Orissa are not clear. Although their number has declined, their share in fertiliser distribution has increased. But, it can only be clarified by studying the environment under which these institutions are operating which is beyond the scope of the present study. But, this may be due to the concentration of retail outlets in some selected pockets in the state.

TABLE 6. STATEWISE SHARE OF COOPERATIVE SOCIETIES IN TOTAL SALE POINTS AND THEIR SHARE IN TOTAL FERTILISER DISTRIBUTION

(per cent)

| State | Years | | | | | |
|---|---|---|---|---|---|---|
| | 1986-87 | | 1987-88 | | 1988-89 | |
| | (1) | (2) | (1) | (2) | (1) | (2) |
| Andhra Pradesh | 18 | 9.2 | 30 | 8.5 | 20 | 6.8 |
| Assam | 11 | 35.7 | 11 | 21.0 | 8 | 19.6 |
| Bihar | 9 | 24.8 | 11 | 40.7 | 11 | 29.8 |
| Goa | - | - | - | - | 31 | 17.9 |
| Gujarat | 76 | 82.3 | 76 | 65.1 | 75 | 68.9 |
| Haryana | 42 | 29.2 | 41 | 30.7 | 40 | 30.6 |
| Himachal Pradesh | 92 | 95.8 | 88 | 98.4 | 89 | 100.0 |
| Jammu And Kashmir | 100 | 100.0 | 100 | 95.4 | 100 | 100.0 |
| Kamataka | 40 | 26.3 | 38 | 27.2 | 37 | 29.4 |
| Kerala | 6 | 23.8 | 37 | 48.2 | 36 | 41.6 |
| Madhya Pradesh | 42 | 48.8 | 42 | 37.0 | 47 | 28.2 |
| Maharashtra | 32 | 49.8 | 30 | 39.3 | 28 | 46.2 |
| Manipur | 21 | 98.2 | 27 | 98.4 | 29 | 50.4 |
| Meghalaya | 1 | 100.0 | 7 | 97.0 | 7 | 100.0 |
| Orissa | 56 | 19.8 | 50 | 23.8 | 50 | 44.2 |
| Punjab | 56 | 41.4 | 56 | 34.5 | 50 | 29.1 |
| Rajasthan | 43 | 34.4 | 41 | 41.0 | 37 | 66.1 |
| Tamilnadu | 32 | 58.3 | 31 | 34.2 | 36 | 22.7 |
| Uttar Pradesh | 48 | 35.0 | 41 | 35.6 | 35 | 30.2 |
| West Bengal | 7 | 28.0 | 7 | 29.8 | 7 | 29.0 |
| India | 35 | 36.0 | 36 | 33.7 | 35 | 29.0 |

Source: Fertiliser Association of India, *Fertiliser Statistics* 1989-90.
Column (1) refers to the share of cooperative societies in total number of sale points and Column (2) refers to their share in total distribution of fertilisers.

Since credit is one of the important determinants of fertiliser use the slow progress made by some states like Assam seems explicable. Only those states which have done away with other benefits have appropriated most of the share of credit also. Not only this there are differences in cooperative and bank finance also and also the amount advanced per borrower. The amount of loan per borrower was found highly concentrated in the relatively developed states of Gujarat, Haryana, Kamataka, Kerala, Maharashtra, Punjab and Tamilnadu while the relatively backward regions of the country including Bihar, Orissa, Jammu and Kashmir, Rajasthan, Himachal Pradesh, Uttar Pradesh and West Bengal had comparatively low credit per borrower. Also, the distribution of bank credit per borrower was highly skewed in favour of the relatively prosperous states including Punjab, Haryana, Gujarat and Maharashtra in 1984-85 [Haque and Verma, 1988, Subbarao,

1985, Dadibhavi, 1988 and Desai, 1988]. Therefore there is a dire need for more egalitarian distribution of credit to the less developed regions.

Income of the farmer is also an important determinant of fertiliser use and it is not accidental that top four states in the country have taken a lead in the adoption of new technologies. These are Punjab and Haryana which have assured irrigation facilities and Gujarat and Maharashtra which are mainly dependent on rainfall. Apart from the resourcefulness of the farmers, these State Governments have adequate resources and have relatively efficient and responsive administration [Hanumantha Rao, 1989]. The Indian farmers can find alternative sources of income by moving out of agriculture, but they have to develop ancillary activities within agriculture like dairy, piggery, poultry keeping. The case of China amply demonstrates this, where farmers have been able to develop these enterprises within agriculture[4]. The need for diversification is more because of the mass poverty in the dry land areas where the crop technology has made uncertain progress [Laxminarayan, 1990].

NOTES

1. Retail outlets were measured per inhabited village basis rather than total geographical area because it was observed that wide differences exist among states by measuring it per village basis but, at the national average level there was not much difference.

2. Cropping intensity was not used to represent cropping pattern because, some of the states with cropping intensity like Himachal Pradesh happen to be states with low fertiliser use.

3. In this analysis, geometric means are taken for averages of fertiliser use and factors explaining fertiliser use for each group considered for comparison.

4. India has one seventh of the world's entire cattle population living on one fiftieth of the world's land surface area. Despite having this much of cattle population, the availability of milk is poor. Nothing substantial has been achieved in this area except for Gujarat where Operation flood has been a success story. This calls for intensive efforts in other areas also and not only this but, poultry, piggery and fishery are also promising ventures.

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## DOCUMENTATION

The purpose of this section is to make available to the readers official documents such as reports of committees, commissions, working groups, task forces, etc., appointed by various ministries, departments, and agencies of central and state governments which are not readily accessible either because they are old, or because of the usual problems of acquiring governmental publications, or because they were printed but not published, or because they were not printed and remained in mimeographed form. It will be difficult and probably not worthwhile to publish the documents entirely. We shall publish only such parts of them as we think will interest our readers. The readers are requested to send their suggestions regarding official documents or parts thereof for inclusion in this section.

In the present section we publish:

1. *Development of Small Scale Industries in India: Prospects, Problems and Policies,* Report of the International Perspective Planning Team, 1963. (Sponsored by the Ford Foundation) Ministry of Industry, Government of India, 1963. - Chapters II, III and IV.

# DEVELOPMENT OF SMALL SCALE INDUSTRIES IN INDIA
## Report of the International Perspective Planning Team, 1963
## (Sponsored by the Ford Foundation)
## Ministry of Industry, Government of India

### THE ROLE OF SMALL INDUSTRY IN INDIA'S DEVELOPMENT

The growth of small manufacturing enterprises is among the most significant features of India's recent development. Engineers, merchants, metal-workers, and former agriculturists are prominent among the founders of new firms, many of which are profitable and growing. Wide opportunities for personal initiative and advancement have been demonstrated, based on the skills of a machinist, the savings of a local trader - or both in partnership. These entrepreneurs are manufacturing a host of new products for the Indian market, including many important substitutes for producer and consumer goods formerly imported. Although the entry of so many young firms has inevitably been accompanied by difficulties and mistakes, the successes achieved in appropriate product lines suggest the dynamic potential of efficient small enterprises in the growth and modernisation of the Indian economy.

The Government of India has actively promoted such growth, assigning to small scale manufacturers an important role in the attainment of several major objectives of the Five Year Plans. As preparation for the Fourth Plan gets under way, it is timely to re-examine the realistic potential contribution of small industry to these major national development goals.

### A. Goals of Small Industry Development

The basic economic forces amid which India is striving to expand modern industry need only a brief resume to put in perspective the objectives which Indian planners have established for small industry development. These conditions include an agricultural sector which produces nearly 50 per cent of national income, with low yields and only gradual advances in farm practices despite modern research and extension efforts; the forced pace of an industrial revolution checked by acute scarcity of raw materials; and extensive but overburdened rail system, inadequate roads, particularly in rural areas; a traditional industry sector with over 11,000,000 household workers, in cities as well as villages; a still thin layer of modern industry upon this base, despite doubling of capacity and production in only 10 years, and a rapidly rising population which severely strains the country's capacity to educate and employ its citizens.

In these circumstances, the nation's planners have treated 'small-scale' and 'village' industries together, in establishing development objectives. The objectives for small scale and village industries in combination are:

- to meet a substantial part of the increased demand for consumer goods and simple producers goods;
- to create large scale employment at relatively small capital costs;
- to mobilise unused resources of capital and skill;
- to ensure a more equitable distribution of the national income, including the spread of industry over different regions of the country; and
- to counteract tendencies toward concentration of economic power, by widening opportunities for new entrants and for medium and small units.

"Small-scale industries", in official usage, denote those manufacturing establishments having a fixed capital of under Rs 5 lakh (with certain exceptions to be noted later). We shall refer to such establishments as small factories or small plants.

"Village industries'" generally refer to rural cottage producers or artisan workshops making traditional products by traditional methods. These are outside the scope of this report.

Making this clear distinction, the present and perspective role of small factories in India may be examined. We will then consider how far the combined objectives cited above for both "village" and "small scale industries" are realistic and capable of being met by small factory industry specifically.

### B. Size and Composition of Small Factory Resources and Output

Small factories, even excluding units not registered under the Factories Act, contribute a surprisingly large share of India's manufacturing output today. More significant, their share of the output of different industries shows that small plants have established a broad base of operations in important modern producer goods, particularly in metal products and machinery. An overall measure of the weight of small registered factories in the different sectors is given in Table I, based on comprehensive data now available for the first time.

In summary, Table I shows that approximately 36,400 factories registered under the Factories Act had fixed capital (owned, not leased) of less than Rs 5 lakh in 1960. These small registered factories represent over 92 per cent of all registered factories and, in 1960, employed over 1,330,000 persons, or 38 per cent of total registered factory employment. Fixed capital owned by these small plants amounted to about 17 per cent of total fixed capital in the registered factory sector. Their gross value of output exceeded Rs 1,230 crore, or about 33 per cent of total output, representing about 25 per cent of the value added or net output of the registered factory sector.

It is at once evident from Table I that small registered factories have their greatest output, employment, and investment in the basic necessities of life: food products, grain milling, ginning and pressing of fibres, and textile weaving and finishing. In the agriculturally based groups, small factories account for the major share of industry volume. In textiles, on the other hand, small factories have only a small share of total output, despite their large volume of activity. In absolute terms, small plants in the food, fibre and textile groups shown in Table I produced over Rs 617 crore in 1960, employing some 507,600 persons.

Metal working and machinery industries are the next most important sector for small registered plants, confirming the well-known evidence of their recent growth. Contributing many producer as well as consumer goods, small plants in this industrial sector had a total output of Rs 218 crore and employment of 217,600 in 1960. In fabricated metal products, small plants produced 60 per cent of the total output of all registered factories, with 66 per cent of the persons employed but only 41 per cent of fixed investment. In non-electrical machinery, small plants produced 46 per cent of gross output, employed 52 per cent of the work force, and 35 per cent of fixed capital. The share of small factories in basic iron and steel (largely iron castings), non-ferrous metal products, and electrical machinery is also significant.

A third set of industry groups, based mainly on direct conversion of primary resources and centering on construction goods, may next be noted: tanneries, wood and cork, and products of stone, clay, cement, and glass. Small plants' share in the output of these industry groups ranges from 59 to 89 per cent, representing Rs 103 crore and employment of 150,200 persons in 1960.

Finally, we note from Table I the substantial output of small plants in certain chemical groups and rubber products, as well as their employment levels in service industries such as printing, or motor vehicle repair.

This short review of the industry groups in which small registered factories are important demonstrates the size and diversity of small industry in India. Small factories are not confined to consumer goods, but already contribute significantly to India's manufacture of producer or investment goods. In 16 of the 22 industry groups shown in Table I, moreover, small registered plants produce more than 40 per cent of the industry along with medium and large factories in many key modern industry groups. More specific instances of such competitive and complementary interrelationships among small, medium, and large plants are apparent from a study of the growth and share of small plant output in individual product lines.

TABLE I. EMPLOYMENT, CAPITAL AND OUTPUT IN SMALL REGISTERED FACTORIES BY INDUSTRY GROUP, 1960

| Code | Industry Group Title | Factories with Fixed Capital Less than Rs 5 Lakh | | | | Percentage to All Registered Factories | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | No.of Factories | Persons Employed | Fixed Capital (Rs lakh) | Gross Output (Rs lakh) | No.of Factories (%) | Persons Employed (%) | Fixed Capital (%) | Gross Output (%) |
| 209 | Miscellaneous Food Preparations | 3,715 | 138,238 | 36,73 | 2,47,72 | 87.2 | 49.6 | 47.0 | 51.2 |
| 205 | Grain Mill Products | 4,255 | 92,639 | 16,84 | 1,82,77 | 95.6 | 86.1 | 84.1 | 78.8 |
| 231 | Textile Spinning, Weaving, and Finishing | 3,073 | 146,977 | 12,12 | 1,08,74 | 83.3 | 12.7 | 5.4 | 13.3 |
| 350 | *Metal Products except Machinery and Transport equipment | 2,080 | 61,929 | 10,59 | 62,40 | 97.0 | 66.2 | 41.5 | 60.0 |
| 010 | Gining and Pressing | 2,812 | 104,350 | 14,83 | 60,27 | 95.7 | 91.9 | 93.6 | 88.1 |
| 360 | *Machinery, except Electrical Machinery | 2,599 | 78,879 | 15,69 | 55,54 | 95.0 | 51.8 | 35.1 | 46.4 |
| 220 | Tobacco Products | 2,565 | 136,171 | 2,77 | 51,06 | 95.3 | 74.8 | 34.3 | 43.0 |
| 319 | *Miscellaneous Chemical Products | 1,002 | 42,502 | 7,22 | 47,63 | 89.6 | 47.1 | 19.9 | 28.6 |
| 341 | *Basic Iron and Steel Industries | 709 | 43,533 | 5,28 | 43,11 | 84.9 | 31.3 | 2.7 | 16.2 |
| 291 | *Tanneries and Leather Finishing | 413 | 16,077 | 1,55 | 39,87 | 97.4 | 77.0 | 63.7 | 88.8 |
| 280 | *Printing, Publishing, and Allied Industries | 2,466 | 68,702 | 14,24 | 37,97 | 96.3 | 60.5 | 47.4 | 50.2 |
| 399 | *Manufacturers not elsewhere classified (n.e.c.) | 1,028 | 30,459 | 6,85 | 26,89 | 96.8 | 83.5 | 76.9 | 82.5 |
| 342 | *Non-Ferrous Metal Industries | 267 | 8,206 | 2,43 | 24,68 | 91.7 | 36.6 | 13.9 | 41.2 |
| 250 | *Wood and Cork except Furniture | 1,574 | 40,220 | 4,67 | 24,26 | 97.8 | 81.9 | 68.7 | 82.2 |
| 370 | * Electrical Machinery | 485 | 25,058 | 8,95 | 23,04 | 83.2 | 28.8 | 25.1 | 21.1 |
| 339 | *Non-metallic Mineral Products (n.e.c.) | 727 | 33,309 | 3,48 | 21,40 | 95.7 | 76.2 | 52.0 | 63.2 |
| 384 | Motor Vehicle Repair | 1,174 | 38,728 | 6,61 | 20,17 | 94.7 | 72.5 | 55.3 | 73.4 |
| 300 | *Rubber Products | 257 | 15,187 | 6,96 | 18,20 | 92.1 | 38.2 | 41.5 | 23.9 |
| 239 | Textiles (n.e.c.) | 778 | 26,433 | 1,85 | 17,96 | 98.5 | 86.7 | 62.0 | 77.6 |
| 311 | *Basic Industrial Chemicals | 207 | 9,110 | 2,81 | 17,62 | 76.9 | 18.2 | 3.4 | 17.9 |
| 331 | *Structural Clay Products | 604 | 42,882 | 10,63 | 9,57 | 94.5 | 70.4 | 53.2 | 50.0 |
| 332 | *Glass and Glass Products | 211 | 25,041 | 1,50 | 8,19 | 88.6 | 67.1 | 24.8 | 49.9 |
| | *All other manufacturers* | *3,456* | *113,012* | *16,97* | *83,29* | - | - | - | - |
| | TOTAL | 36,457 | 13,37,642 | 2,11,57 | 12,32,35 | 92.1 | 37.9 | 17.5 | 32.9 |

* CSIO type industry group
Source: Central Statistical Organisation and Indian Statistical Institute, Calcutta, Annual Survey of Industries, 1960: special provisional tabulation on census sector: draft National Sample Survey No. 114 on sample sector.

Of the vital and integral role of small factories in India's present industrial structure there can be no doubt from the summary data provided in Table I. Forming such a large share of the organised manufacturing sector, the modernisation and growth of small factories is obviously critical for increased productivity and absolute growth in industry as a whole.

It is to assist the modernising of small industry that the policies and programmes of the Central Small Industries Organisation (CSIO) have been established. However, not all small factories are within the purview of the CSIO, as its programmes exclude those industries whose development is the responsibility of the Khadi and Village Industries Commission, Handloom Board, and other agencies. In practice, the CSIO also excludes giving systematic attention to most food and agricultural processing industries. In the light of our present information, the agro-industries shown in Table I represent the largest gap among the various government programmes to foster improved industrial productivity and management in small plants.

We have estimated the 1960 magnitude of the registered factory groups currently within the scope of CSIO programmes by excluding the food, fibre, and textile groups mentioned earlier and by also eliminating the tobacco, dairy, bakery, sugar, confectionery, beverage, apparel, and

vehicle repair groups. More than half the plants, employment, and output covered in Table I are thus excluded.

As of 1960, about 16,500 small registered factories were directly within the range of CSIO activities, mainly in the industry groups marked with an asterisk in Table I. These small factories employed approximately 615,000 persons, with a gross output of about Rs 530 crore. They may be considered to constitute the central object of the CSIO's technical, management and developmental services.

### C. Non-registered Small Factories

It will be realised, of course, that the CSIO has a vastly larger number of actual and potential clients in the countless small factories and workshops which fall below the 10-worker minimum registration limit of the Factories Act, or otherwise fail to register under that Act. Many of these smaller units use one or more power-driven machines. Among them, a small but vital number of artisan-entrepreneurs have the capacity to be tomorrow's modern small factory managers.

Over 53,000 small units have been listed as applicants for some type of assistance from State Directors of Industry. Adding non-duplicate names on the records of the Small Industries Service Institutes increases the number substantially, indicating that the total number of small factories seeking government assistance must be several times the number of small registered factories considered above.

The Team's Working Group on Small-Scale Industries Growth and Statistics estimated 1960-61 employment in non-registered, non-household small manufacturing units at 4,160,000, based on manufacturing employment in the 1961 census. It can safely be assumed that CSIO type industries have at least as large a share - 23 per cent - of the persons employed in such units as that derived by the Working Group for all "small enterprises" (household plus non-household non-registered units). On this basis, a minimum estimate of 1960 employment in non-registered, non-household CSIO type factories is close to 1,000,000 persons.

Employment in non-registered small factories in industries generally covered by the CSIO thus appears to be more than half again as large as that in small registered factories in the same types of industry (1,000,000 as compared to 615,000). Average employment per unit is unknown, but if it is assumed to be 4 or 5, the number of non-registered non-household small factories potentially under CSIO coverage is 200,000 to 250,000 units, at a minimum. Obviously, only the most highly promising small plants of this category can be given CSIO technical assistance, if complete dilution of efforts is to be avoided.

### D. Measurement of Small Factory Growth

Aggregate measurement of small factory growth rates will be possible only in the future, as the Annual Survey data for 1959 and 1960 are the first comprehensive bases for such comparisons. We cite certain partial indicators of growth only to give some quantitative content to the widely observed increases in small factory activity in recent years.

One indicator is a comparison of 1959 and 1960 data for the "sample" portion of the Annual Survey, covering units with 10 to 49 workers if using power or 20 to 99 without power. Manufacturing units in this portion of the survey rose from 28,417 to 31,336 in that year, an increase of 10 per cent. Their employment increased by about 6 per cent to 729,000 and their output by 7 per cent to Rs 746 crore in 1960.

Rough measures of the rapid growth in numbers of small firms are available in a recent CSIO study. In Madras, of 2,984 units registered with the Directorate of Industries in 1961, only 1,524 had existed in 1956. In 8 Uttar Pradesh cities and large towns, of 1,111 small factories enumerated in 1962, only 596 had been established before 1955. Ancillary surveys in 6 States (viz., Maharashtra, West Bengal, Bihar, Uttar Pradesh, Madras and Mysore), as of 1961, covered 772 small units, of which only 416 were stated to have

existed in 1955. These studies do not show disappearances of other small firms through failure or merger, hence no net growth rate can be determined. The magnitude of new entries revealed by such data nevertheless lends strong support to the widespread observation of a very high growth rate in small firm numbers.

Of greater significance is the rate of increase in investment in small firms. In a CSIO sample study in 12 centres, 128 small firms out of 250 studied furnished relevant data for estimating their increase in investment from 1956 to 1961. Total investment in these 128 units rose from Rs 72 lakh to Rs 102 lakh during the period, an annual average increase of 7.2 per cent, comparing not unfavourably with the 1956-1960 average rate of gross total asset formation of 8.1 per cent in private limited companies and 9.9 per cent in public limited companies studied by the Reserve Bank. In gross fixed assets, however, the small-scale sample registered an annual average rise of only 6.2 per cent, as compared to 10.9 per cent for private limited, and 11.6 per cent for public limited companies during the 1956-1960 period.

TABLE II. GROWTH IN OUTPUT OF SMALL AND LARGE FACTORIES - SELECTED INDUSTRIES

| Industry Name | Years compared | Unit | Production at start of period | | | Production at end of period | | | Small Factory Percentage | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Small | Large | Total | Small | Large | Total | Period Start (%) | Period end (%) |
| Picking stick | 58-60 | '000 | 192 | 11 | 203 | 543 | 13 | 556 | 95 | 98 |
| Industrial brushes | 58-60 | '000 | 2,158 | 134 | 2,292 | 2,530 | 46 | 2,576 | 94 | 98 |
| Electric iron | 58-60 | Doz. | 2,183 | 350 | 2,533 | 22,585 | 550 | 23,135 | 86 | 98 |
| Wire netting and mesh | 58-60 | Ton | 6,490 | 1,579 | 8,069 | 7,548 | 1,279 | 8,827 | 80 | 86 |
| Barbed wire | 59-60 | Ton | 4,903 | 2,289 | 7,192 | 10,016 | 1,947 | 11,963 | 68 | 84 |
| Upholstery spring | 58-60 | Gross | 4,600 | 9,655 | 14,255 | 25,431 | 18,090 | 43,521 | 32 | 58 |
| Oil pressure stoves | 58-60 | '000 | 309 | 134 | 443 | 494 | 221 | 715 | 70 | 69 |
| Polythene tubing | 59-60 | Ton | 1,047 | 854 | 1,901 | 2,006 | 901 | 2,907 | 55 | 69 |
| Tooth brushes | 58-60 | Gross | 46,330 | 26,688 | 73,018 | 55,635 | 26,820 | 82,455 | 63 | 67 |
| Spectacle farmes | 58-60 | Doz | 93 | 101 | 194 | 128 | 116 | 244 | 48 | 53 |
| Electric horns | 58-60 | No. | 6,300 | 3,700 | 10,000 | 13,550 | 13,450 | 27,000 | 63 | 50 |
| Machine screws | 57-59 | Ton | 278 | 660 | 938 | 736 | 890 | 1,626 | 30 | 45 |
| Shoe tacks | 58-60 | Ton | 68 | 79 | 147 | 178 | 189 | 367 | 46 | 48 |
| Automobile radiators | 58-60 | No. | 809 | 12,444 | 13,253 | 18,029 | 34,765 | 52,794 | 6 | 34 |
| Taps and dies | 58-61 | '000 | 96 | 132 | 228 | 205 | 418 | 623 | 42 | 33 |
| Air compressors | 58-60 | No. | 209 | 34 | 343 | 830 | 1,715 | 2,545 | 61 | 33 |
| Nuts, bolts, rivets | 57-60 | Ton | 19,770 | 32,136 | 51,906 | 20,744 | 42,804 | 66,013 | 38 | 31 |
| Expanded metal | 58-60 | Ton | 25 | 1,947 | 1,972 | 639 | 1,758 | 2,397 | 1 | 27 |
| Automobile batteries | 58-60 | '000 | 90 | 350 | 440 | 113 | 509 | 822 | 20 | 22 |
| Bicycles | 56-60 | '000 | 26 | 653 | 679 | 228 | 991 | 1,219 | 4 | 19 |
| Sewing machines | 56-60 | '000 | 24 | 50 | 74 | 52 | 297 | 349 | 32 | 18 |
| Loud speakers | 57-60 | '000 | 1 | 81 | 82 | 36 | 186 | 222 | 1 | 16 |
| Gang condensers | 59-61 | '000 | 2 | 68 | 70 | 14 | 94 | 108 | 3 | 13 |
| Drums and barrels | 58-60 | Rs lakh | 66 | 410 | 476 | 93 | 633 | 726 | 14 | 13 |
| Ball bearings | 58-61 | '000 | 168 | 2,126 | 2,294 | 468 | 3,200 | 3,668 | 8 | 13 |
| Electric motors | 57-59 | '000HP | 2 | 479 | 500 | 70 | 580 | 650 | 4 | 11 |
| Bicycle free wheels | 58-60 | '000 | [illegible] | 238 | 275 | 72 | 681 | 752 | 13 | 9 |
| Clocks and watches | 57-60 | '000 | | 22 | 22 | 2 | 52 | 54 | 0 | 4 |
| Automobile dynamos | 59-61 | No. | 30 | 447 | 477 | 332 | 16,869 | 17,201 | 6 | 2 |

Production increases by small manufacturers have been striking in many lines, particularly in products newly produced in India. Small factory production of 22 products for which value comparison are available rose from Rs 8.29 crore to Rs 16.76 crore in approximately 3 years ending in 1960. To permit more specific comparison, Table II shows recent gains in output in both small and large factories in 29 products for which comparable data are available, ranked by small factories' share of output in the latest year shown.

In a period of rapid advances in quantities manufactured, the product movements shown in Table II are of especial interest in illustrating the close mixture of large and small-scale activity in many products, and the shifts between large and small as market and supply conditions change. Small plants substantially increased both their

output and their share of the market for electric irons, wire netting and mesh, barbed wire, polythene tubing, machine screws, automobile radiators, expanded metal, bicycles, and loud speakers, according to the data in Table II. Large factories during comparable periods significantly increased their share of output in electric horns, taps and dies, air compressors, nuts, bolts, rivets, and sewing machines.

None of the growth data available on small industry, including the partial indicators just presented, are sufficiently comprehensive or dependable to serve as a basis for assessing aggregate growth rates. From such data, it can only be confirmed that small manufacturers have shared very closely in the total expansion of factory output in India in the last decade, which has approached an annual average rate of about 8 per cent.

The expansion, particularly in numbers of small plants, has pressed hard on scarce raw materials, leading to high idle capacity in many units, new as well as old. Therefore, while turning to the future of small factories in India, we first stress a major theme of this report: the need during the next two or three years to consolidate recent advances, sharply curtailing promotional measures for launching new firms but ensuring efficient firms the opportunity to grow by utilizing existing capacity more fully.

### E. Perspective Lines of Development

The rationale for long-term policy and programmes, to encourage growth of efficient enterprises while minimizing investment failure, must take into account the kinds of industries in which small factories have promise and the changing role of such industries in the economy. As a framework for the host of individual investment tests which entrepreneurs must make, and as a guide to adjustments in governmental policy and programmes, we must therefore examine the basic techno-economic factors that largely condition the kinds of industry in which small firms will find growth opportunities in the coming decade.

The overriding force which shapes small industry's future is of course the direction and momentum of the total economy. Basic production achievements against targets for the Five Year Plans form the main constraints on both inputs and markets for small factory products. These targets dictate intensified agricultural growth, but a faster relative growth in industry to deepen the base for future production and strengthen the future foreign trade balance, as well as meeting essential consumption increases. Large production increases important for small industry are scheduled in steel, aluminium, agricultural implements, fertilizers, insecticides, machine tools, industrial machinery, selected chemicals and electrical and transport equipment.

In national income terms, the Third Plan target for the factory sector is a production increase of over 75 per cent, and for "small enterprises" around 24 per cent. The weight of household producers is predominant in the "small enterprises" category, making the growth rates of modern-type small factories within the category. Modern small factories, especially in the registered factory sector, should expand production at rates comparable to those of medium and large factories, if the entire industrial sector's total contribution to the development effort is to be maintained.

What are the conditions, if any, under which small factories can achieve such rapid growth? Here we focus on factors which influence the product lines suitable to small plants in this economy. In later chapters we confront the problems that must be overcome if small factories' major potential contributions are to be realised.

The complexity of modern manufactures creates many pitfalls in any attempt to establish yardsticks for judging the competitive potential of small firms in specific product lines. Apart from basic industries which obviously require major plants, the range of plant sizes found in many industries is very wide. Determination of technical scale economies is often highly ambiguous, particularly in assembly industries. Development of systematic work methods with

increased use of jigs and fixtures, combined with close production controls, can quite suddenly shift the scale advantage upward. A shift in transport facilities or costs can wipe out the protected market position of a small regional plant. Short-term product opportunities in low volume which temporarily permit entry on a small scale may be overcome by large firm advantage if the size of market expands rapidly.

Efficiency in management is a final intangible factor which in many industries may either overcome or reinforce technical economies of scale. More often the latter is the case, but with high technical or innovative content, is frequently able to withstand the competition of larger firms, if given equal opportunity. A basis is thus laid for growth of the small firm as profits rise and are reinvested.

Such complexities affecting plant scale make it highly misleading to name specific products with promise for small manufacturers, without reference to the relevant raw material, location and competitive conditions at the time an investment decision is to be made. Nor is it possible to recommend with confidence those products which small factories manufacture profitably in other countries, unless individually evaluated in terms of current Indian circumstances.

Instead, we have attempted to identify those sets of techno-economic conditions that should be looked for in evaluating a particular product for initial investment on a small scale. We have analysed Indian manufacturers at the finest degree of industry detail for 1960, using the special CSO tabulations, first to identify those industries in which small plants accounted for over half the industry output, and next to determine the production, location, and market factors which appear to explain the competitive strength of such plants. These industries are listed in Annexure 'A', grouped according to their principal techno-economic characteristics.

Similar analyses have been made of small-scale manufactures in other countries, in particular Japan, Sweden, and the United States. Comparable techno-economic configurations are found to influence small plant success in these countries, for the same products in some cases, different in others. Lists of Japanese, Swedish, and U.S. small plant industries are presented in Annexure 'B'. The success of small plants in these industries in other countries does not assure small factory success in India, but such industries can be taken as candidates for detailed local investigation when raw material availability and defence or development priorities allow consideration of new investment opportunities.

Through comparative analysis of India's small industry as shown in Annexure 'A', taking account of current economic forces, we have interpreted the evidence of successful small industry in other countries to suggest the main directions in which small factories in India are likely to develop. We summarize below seven principal sets of techno-economic conditions favourable to small plants, illustrating each by specific Indian and foreign industries, thereby indicating India's perspective lines of small factory development as influenced by basic characteristics of modern manufacture:

### 1. *Division and Flexibility of Tasks*

A prime characteristic of modern industry, forming a basis for large as well as small plants, is the breakdown of manufacturing operations into countless separate tasks and sub-tasks, each more or less specialised. The division of tasks create a wide range of possible plant sizes in many industries, especially where inter-firm transactions are well established. The distribution of plant sizes is variously determined by the economies of integrating tasks having different individual output rates, by the transfer costs of intermediate or component items, by management efficiency in assembly and coordination, and by marketing or financial economies.

Metal-working industries, particularly in machining of metal, are especially influenced by the separation of tasks. Counteracting scale tendencies are found in metal-working machines. Single purpose and special purpose machine tools imply high specialisation and volume, yet special as well as general purpose machine tools possess

high versatility and substitutability of tasks. Recent studies indicate that a significant proportion of machining tasks are optimally performed on machines of or relatively low capital intensity or output rate. The wide utility of machine tools of low fixed cost and output is thus a basic source of flexibility in the machining industries.

Metal-working operations also permit a significant degree of labour-capital substitutability, with effects on plant scale. One estimate suggests that in about one third of representative machining tasks a country with low labour costs relative to capital costs may find it optimal to use machine tools of substantially lower capital intensity and output rate. This suggests less substitutability of labour for capital than has sometimes been assumed, yet still of substantial importance. The economic choice of lower volume machines in such cases means greater divisibility of equipment, leading one to expect somewhat smaller typical metal-working plants in countries of low relative wages. Japan as well as India provide evidence of this phenomenon.

Strength in the metal-working industries involve the development of machinists, tool and die makers, mechanical and production engineers who are flexible in finding alternative ways of performing a task with ingenuity and a sense of design. The importance of the skill element makes the proprietary firm or partnership a vital source of innovation and growth in such industries.

India's light engineering industries vigorously demonstrate such flexibility and skills. Lines in which small plants are prominent, listed in Annexure 'A', include iron and steel castings, cutlery, locks, machine tools, scientific instruments, and mechanised components for engines, pumps, and machinery. As yet, multi-product metal-working units with diversified equipment are the rule.

The tendency in progressive metal-working centres is to constantly increasing specialisation, as standardisation and inter-changeability of parts are achieved, market volumes increase, and management ability expands. The beginnings of such specialisation in centres like Ludhiana are evident in small plant production of machine components. Greater specialisation is critically required by many small Indian metal-working plants, to improve both cost and quality. If specialised precision equipment is obtained, two shift operation should be encouraged.

Growth by relatively gradual steps to medium scale is a frequent prospect for small producers of metal products. Efficiency and specialisation that lead to greater volume are often the bases for such expansion. The virtual continuum of plant sizes found in many metal-working lines in advanced countries suggests that this is a sector where maximum interplay among small, medium, and large plants should be encouraged. Since India's strategy of development relies heavily on steel-based industries, the outlook for efficient light engineering firms is excellent and their development priority high.

Precision gauges, tool and die making, jigs and fixtures, hand tools, files, saw blades, and stamped metal products illustrate the kinds of small plant activity which may be expected to gain in prominence. Probably of greater total prospective output value are machined components and accessories for industrial and electrical machinery, as well as for sewing machines, bicycles, and automobiles.

The potential contribution of small or medium plants in intermediate metal processing also deserves close exploration. Plants with 10 to 99 employees in Japan in 1958 produced 80 to 90 per cent of the value added in re-rolled steel products, iron and steel shearing, and the drawing of steel bars and shapes. About 40 to 45 per cent of the value added in steel wire drawing and steel pipe and tube drawing was contributed by plants of this size. The large role of such intermediate processors in Japan is interesting in the light of the recent recommendation of the Raj Committee that specialised end-use re-rollers, and facilities for shearing, drawing, and cutting steel, be encouraged in areas having high consumption of steel intermediates. It would presumably be desirable, however, for such units to be completely independent of material stockists to reduce concentration and increase competition among suppliers.

Such plants would in many instances require investment above the present small-scale limit, but medium-scale intermediate processors could be encouraged at the appropriate times and places as a contribution to the increasing flexibility and specialisation of small as well as large factories in this critical manufacturing sector.

The advantages of urban clustering among specialised metal-working firms must be noted as a major factor affecting dispersal policies to be discussed in a later chapter.

2. *Simple Assembly, Mixing, or Finishing Operations*

Assembly industries in general offer far more opportunities to small-scale manufacturers than do continuous process industries. The relative simplicity and hand component in the assembly-type production of current Indian products like footwear, clothing, tarpaulins, tents, knitwear, cordage, and safety fuses is the basis of their small factory role. Insecticides, pharmaceuticals, and many food preparations essentially call for the mixing, compounding, and packaging of chemical or other intermediates. Such simple operations do not share the scale economies of processes that involve controlled chemical transformations under high heat or pressure.

Products that can become increasingly important for small plants of this type as incomes rise include work clothing, school and other uniforms, canvas products, leather goods, food producers for urban consumers, printing ink, synthetic resins, industrial acids and salts, and plastic goods.

Radio, bicycle, or sewing machine assembly, entirely from purchased components or with cabinets and frames made internally, demonstrate opportunities for low volume coordination. In such durables, however, service and replacement part requirements may gradually favour the larger firm which can establish a marketing and service system. Some small firms will grow to this status, while others may find it advantageous to shift to sub-assemblies of contracts with major distributing chains.

3. *Industrial Services*

Proximity and ready access to industrial clients is the basis for small scale service units in the metal industries. Apart from in-house work, small plants are estimated to perform about half of the services provided for enamelling, plating, galvanising, polishing, japanning, and lacquering of metal products in India. As yet such quality services have developed only slowly outside the main industrial concentrations, although government service facilities have performed a catalytic function in stimulating establishment of private units in a growing number of places. The potential for such units appears good in cities showing strong metal industry growth.

In Japan, units with 10 to 49 employees in 1958 contributed 62 per cent of the value added in electroplating, 68 per cent in metal coating, 73 per cent in heat treatment, 65 per cent in engraving, and 30 per cent in galvanising. Some 1,590 units in the 10-49 category employed 29,787 persons in these five metal servicing fields, ten times the estimated small plant employment in India in these lines. India's scope for efficient jobbing units performing quality services in such lines is obvious, provided sound sub-contracting practices can be developed among firms of different sizes.

Foundries, motor vehicle repair shops, and machine shops repairing or making replacement parts for agricultural implements are vital service industries in large rural towns. The extent to which such services can form a nucleus for growth of a most extensive metal-working centre will depend heavily on possible linkages to other local industries of the two types now to be described.

4. *Plants Serving Local Markets*

Goods that are relatively hard to transport or require close contact between manufacturer and user, serving local markets in many different parts of the country, are often produced in towns or cities by plants of a scale adjuster to the local or subregional market area. Indian small plant products of this type include construction goods

such as bricks, tile, and concrete blocks; agricultural inputs such as ploughs, harrows, spraying equipment, hoes, spades, fertilisers fixers, and weedicides, and consumer items like buckets, steel trunks, or wooden and metal furniture.

In comparison with other countries, industries of this type appear to be less well established than might be expected in a country of India's geographic extent and agricultural orientation. A substantial increase in the number of such plants is perhaps feasible, subject to the sub-regional and local growth of transport networks, agricultural modernisation, and construction activities. A sub-region with poor arterial rail and road connections or high transport costs from the major metropolitan distribution centres would logically be expected to provide opportunity for locally-oriented plants. However, if changes in agricultural technology in the area are slow, feeder roads within the area inadequate, and construction activities sporadic, incentives for a local factory will be weak. Higher capacity plants in metropolitan hubs are likely to continue shipping in over the transport cost hurdle, supplying stagnant sub-regions with the limited or irregular volumes of product which they can absorb. Small industry's dependence on the overall vitality of the local economy is thus evident.

It will be noted that many weight-gaining or bulk-gaining items of this kind require extensive sites with cheap land costs. This influences the conditions and facilities required to encourage such plants. For example, industrial estates, particularly of costly or rigid construction patterns, are not well suited to the space required to produce reinforced concrete beams, girders, or posts, concrete tanks, troughs or fence posts, field and roof tiles, or bricks. A well-centered town with good local transport out-reach should offer scope for many of these products, but the external economies to be developed can be expected to depend on inter-firm or marketing links more than on a general common facility, unless this is designed to meet the specific gaps in the local economy.

5. *Processors of Dispersal Resources*

Primary resource processors still constitute the largest small plant category in India in terms of employment and output. This is no surprise in view of the scattered origins of weight-losing, bulk-losing, or perishable raw materials which can most advantageously be processed at or near their source, particularly where transport facilities are poor. Rice, flour, dal, and oil mills, saw mills and tanneries, tea manufacture, and coffee curing are important Indian small plant industries of this basic type.

A recent review of processing facilities in five Intensive Agricultural Development Districts indicates that improved recovery rates and by-product use are critically important in major crops like paddy and oilseeds. Existing small plants must adapt to better processing methods or face the prospect of obsolescence. In oilseeds, wider establishment of capacity using appropriate technology is needed to overcome the extremely low utilisation of cotton-seeds for oil and the inadequate recovery levels in village units.

Since efficient recovery levels for many crops require heavy pressure or heat, or chemical processes, economies of scale are apt to conflict with dispersed crop patterns and high costs of assembling raw produce. Better feeder roads will favour centralised and larger processors. Instead of more units based on existing technology, modernisation guided by techno-economic research on interacting scale and location factors is required for the improved processing of many primary agricultural and forest resources.

Resource processors, local market-oriented plants, and service industries located at transport modes can provide important linkages to each other and to the surrounding agricultural economy. Demands for mill spares and equipment repair give rise to metal-working job shops and parts fabricators. Engineers or chemists identify new economic uses of nearby resources, or common supply needs of neighbouring firms that will offer opportunity to a new manufacture. Technical and business information that will assist local managers or potential investors to

uncover new product needs should contribute significantly to the industrial growths of such well-located cities and major towns, linked with rural areas.

*6. Products with Small or Segmented Markets*

Domestic manufacture of substitutes for imports has been an overriding force in India's recent industrialisation. Import barriers have created opportunities for home production, often in small quantities and without thorough emphasis on competitive cost or quality. As sellers' markets in such goods are progressively eased, there will be a shake-down period causing the inevitable failure of many firms in face of the growth of more efficient or fortunately situated firms. Small firms which have introduced durable consumer goods in recent years may be particularly affected by such forces, as the urgent need for a higher savings ratio in the economy causes intensification of tax measures like those installed with this year's budget.

Efficient small plants fabricating special industrial machines or components that are required in limited but increasing quantities can look forward to maintenance or strengthening of their position. Chemical equipment, mixers and reactors, conveying and earthmoving equipment are some of the producer goods in which small factories have important market positions, as listed in Annexure 'A'. Because many items of industrial machinery are virtually custom-made, or fabricated in small lots, such machines and their components are natural lines of entry and growth for qualified technical entrepreneurs.

Industrial chemicals required for special uses or in low volume offer a similar opportunity for men whose business and technical knowledge commands the confidence of industrial clients. The probing and exploitation of such specialised markets should become an increasingly significant contribution of small firms, although the number of persons with sufficient experience to succeed in such lines is of course not large as yet.

*7. Craft or Precision Handwork*

Beyond the traditional skilled handwork of ivory carvers, jewellers, or artistic handicraft producers, a limited number of new hand production opportunities will occur with industrial diversification. Clinical thermometers and other glassware illustrate such fields.

*Summary of Growth Prospects*

8. The overall outlook for small industry expansion is bright, if equal access to manufacturing inputs is assured and efficiency rewarded. Output growth should come first from existing firms, increasingly through natural expansion beyond the defined small scale limit. The expansion of small units, now below Factories Act limits, offers another immediate growth avenue. Finally, after the slack in existing capacity is taken up and inefficient recent entrants shift to other activities, numerous opportunities will arise for new small factories. Prospective founders of small manufacturing firms for the immediate future should limit themselves to outstanding opportunities high in development and defence priority.

The metal-working complex of industries offers highest growth opportunity for small manufacturers, both because of the importance of metal-based production in India's development strategy and because of the natural suitability of selected metal-working operations to small plants. Metal end-products, machinery and parts, machined components for electrical and transport equipment, and metal-working service units have high growth potential. Increased specialisation and quality control should pull many firms in medium scale. If its potential can be realised, small factory output in machinery and metal product industries will not fall much below the extremely high rate of growth that these industries must achieve if Third and Fourth Plan targets are to be met.

Assembly-type industries in consumer end-products, and local or sub-regional plants producing for the surrounding market or processing nearby resources, are the other major categories in which small factories have good prospects.

Clothing, footwear, construction material are prominent product groups of these types. Small factory contribution to agricultural inputs should largely keep pace with total agricultural investment. In processing facilities, a shift to medium or large units can be expected for some crops. In the consumer end items mentioned earlier, small plant output should more or less match the rate of consumption expansion permitted by income advances in the economy. As a whole, the absolute growth anticipated for small industry is high. If their basic requirements are met, small factories can be expected to attain a rate of expansion very close to that of medium and large scale plants.

### F. Policy Implications of Small Industry Growth Prospects

We may now rephrase the question raised at the outset which national development objectives can small factories serve and with what policy orientation?

Our analysis of growth potential confirms the positive and essential development role of small industry in the Indian economy. Healthy small factory growth is crucial to India's progress in combating poverty.

Small industry's positive contribution to development should therefore be the principal criterion by which it is judged. This is to say that the economic test should be paramount: will a small firm in this product and place be efficient, competitive in cost terms, and capable of growth? Subsidies are to be avoided except in strictly pioneering areas, and then should be only temporary. Efficiency in use and conservation of materials, and in cost and quality of production, must receive every encouragement and incentive.

The strengths of small industry have implications for employment and dispersal policy. While many small factory industries are relatively labor-intensive, this is not true in all product lines. The employment-generating capacity of small plants is without question substantial, but this should not be the chief criterion by which they are judged. Rather, the ability of small manufacturers to produce goods needed in India's development at costs competitive under local circumstances should be the first test of their performance.[1]

Spatially, small factories have a less dramatic and more selective part to play in industrial dispersal than has often been asserted. Although resource-based and local market-oriented products do have regional and sub-regional potential, including location in promising major rural towns, the greater share of small factory activity in a modernising economy requires the market and inter-firm contacts of an urban centre. Clustering or localisation of plants add important external economies in the metal working industries especially. Expansion of small manufacturers outside the great population centres certainly has great promise, but should be promoted through a focus on potential industrial cities and major towns, not through an effort for atomistic or extreme dispersal.

Specifically, it is proposed that small factories be treated quite separately from "village industries' in future planning and policy formulation. This follows logically from the integral relationships between small and large factories, the urban incidence of many small plant industries, and the modern requirements for their productive growth.

Finally, the flexibility of small industry should be recognised as one of its strongest assets. It is the style of the metal-working industries, especially, to adapt progressively and in small increments to emerging technical and business opportunities. Thereby the greatest advantage is gained from the substitutability and versatility of the modern machine tool.

Such industries thrive in an environment which encourages a growing network of feeder and complementary relations among plants and firms, to benefit fully from a systematic division of tasks, substitutability, and specialisation in particular tasks. Frequent adaptations within and among growing firms are necessary to respond to changing product opportunities and market volumes, changing availabilities of materials and machines, and developing labor or management skills. For small scale manufacturers in general,

and light engineering products in particular, it would therefore be self-defeating to attempt to programme industrial development too closely.

The rationale of prospective planning for small industry thus becomes evident. Small manufacturers' forte of flexibility and close articulation with medium and large plants requires a host of individual market decisions and localised innovations. The cumulative judgements of many individual managers and technicians form the basis for creation of new productive forms and cost-saving measures in such industries. Planning should be concerned with overcoming current and emergent problems that handicap small firms, and with establishing a policy framework and organisational basis that set the stage for efficient firms to grow.

### RAW MATERIALS, IMPORTED COMPONENTS AND EQUIPMENT: THE ALLOCATION AND PRICE CONTROL SYSTEM

The problems of small industry development have significant meaning only in the context of the total economic growth of India. The primary objective is, clearly, the planned development of the economy in accordance with other social objectives. We believe that two conditions complement and reinforce this primary objective:

1. The allocation and control system should be designed to give equal opportunities to all firms capable of producing products of equal priority for development.

2. The system should operate to allow the more efficient firms to develop and grow. Only through such efforts would the economic output increase most rapidly.

By the outset of the Third Plan it was evident that the problems of small factories in India were changing. A new perspective of small industry was in order, more so considering the defense and growth needs of the entire country. Although many of the former problems persisted in wide areas of India, it was evident a number of newer ones had come to the fore. Manufacturing space, and adding to the entrepreneurial group still remain as problems, but these have receded somewhat in importance. At present utilisation of unused capacities, raw material supplies, improved technical management, quality of product, and exporting have become more pressing issues.

From a long-range national view, four broad problems now loom:

1. How the activities of large and small firms can be made to fit better into the priority needs of defence and growth.

2. The operation of the allocation and fixed price system. How can it be used to avoid discrimination against small firms? How can it be used to favour firms producing priority growth products? How can the system allow efficient firms of all sizes to grow?

3. The excessive dependence of some firms upon governmental assistance. The future strength of small or large firms depends on their independence. Entrepreneurs who demonstrate greater initiative, self-reliance, and efficiency should be able to move ahead. How can the system function to provide positive guides for these firms but still allow them the maximum of independence of the country?

4. Equitable treatment for all firms in the market place. This problem would become still more serious if the capitalisation level used to define "small industries" were raised from Rs 5 lakh to Rs 10 lakh, a change which in our judgement would be ill-advised.

From the outset of our study in 1962 it was apparent to the Team that raw materials, imported components for production and selected imported equipment were three major problems currently facing small industries. Members of the Team devoted full attention to these issues in their interviews of businessmen and officials in thirteen States during the first visit. Interviews along similar lines were continued during the visit in 1963, covering the remaining States.

During the intervening year, 1962 to 1963, a Working Group of foreign and Indian economists, set up by the Team and the CSIO, undertook extensive direct study of the raw materials and imports allocation and price control system in the Centre and eight States. Special studies were made of selected firms in various States to determine how the present allocations and price controls system affected business operations. A second group of studies was undertaken of State Government allocation records to determine how the system was being run by officials.

Despite the limitations of available data, we believe that the results corroborate our interviews of 1962 and 1963 so well, that the findings appear to be dependable. The results are certainly important in clarifying the real effects of the allocation and price control programme upon small firms. They point strongly to the discriminatory effects of the present system, and raise questions as to whether the ideological objectives of the rationing programme are being attained.

## A. Aggregate Supplies of Scarce Raw Materials

In reviewing the aggregate picture of resources, it is evident that the small-scale industry sector has not shared proportionately in the growing supplies of scarce raw materials since 1957-58. The following tabulation shows that despite upward trends in the total supplies of certain scarce raw materials, allocations to small firms have remained rather static. Production in the small industry sector, rising despite the restriction, has evidently had to depend upon larger volumes of open-market purchases.

*Availability of Steel in India*

(millions of tons)

| | 1957 | 1959 | 1960 | 1961 | 1962 |
|---|---|---|---|---|---|
| Production of Saleable Steel | 1.4 | 1.7 | 2.3 | 2.9 | 3.8 |
| Imports | 1.7 | 0.8 | 1.2 | 1.1 | 0.8 |
| TOTAL | 3.1 | 2.5 | 3.5 | 4.0 | 4.6 |

*Production & Distribution of Allocated Finished Steel*

('000 tons)

| | 1960-61 | 1961-62 | 1962-63 |
|---|---|---|---|
| B.P. Sheets- | | | |
| Domestic Production | 136 | 150 | 261 |
| SSI Quota | 61 | 61 | 60 |
| G.P. Sheets- | | | |
| Domestic Production | 22 | 26 | 30 |
| SSI Quota | 30 | 30 | * |
| G.C. Sheets- | | | |
| Domestic Production | 104 | 109 | 122 |
| SSI Quota | 6 | 6 | * |

* Relaxed category.

## B. Studies of the State Distribution Systems

The Working Group, at the request of the Team, attempted to clarify through a number of studies the actual allocation methods used by States. It is evident that the assessment methods used by individual States vary greatly. The process starts by assessment of capacities of firms eligible for allocated indigenous or imported materials. Some States do not assess capacities, but depend completely on demand levels from some prior year (usually 1958). Officials of other States make assessments, but the criteria applied and skills of the inspectors vary so widely that there is no uniformity among States. Generally assessed capacities (one shift) run below the capacity

demands from entrepreneurs. About two-thirds of the firms studied overstated capacity requirements and one-third understated. In one State studied, the total assessment of the State exceeded total manufacturers' requests by about 8 per cent.

A more significant relationship is found when comparisons are made between allotments and assessments. In one industrialised State the registry data indicated that on the average 30 per cent of capacity of small firms was being met by allocations. The range of allocated capacity however, for sixteen industrial groups[1] varied between 7 per cent to 100 per cent. Seven new units generally got 12 to 15 per cent of capacity coverage during their first year.

In a second State it was possible to determine from various sources the number of firms using non-ferrous metals that were on allocations. Of 608 small manufacturers in seven major industries where non-ferrous metals are essential, only 76 firms were being given quota allotments. The rest fended for themselves in the black market where prices were as follows:

| | Controlled Price | Black Market Price |
|---|---|---|
| Brass | Rs 120 per md. | Rs 160 per md. |
| Copper | Rs 130 per md. | Rs 205 per md. |
| Zinc | Rs 139 per m/ton | Rs 2,300 per m/ton |
| German silver | Rs 3,000 per m/ton | Rs 5,520 per m/ton |

A study of a less developed State indicated that allotments to small firms covered about 20 per cent of their requirements. The percentage ranged from a low of 11 per cent for copper products, 12 per cent for steel containers, 50 per cent for steel furniture, to a high of 76 per cent for PVC wire. Of all the units studied, 53 per cent received allotments sufficient to cover less than 40 per cent of their individual capacities; 73 per cent received allotments to cover less than 50 per cent of capacities. Firms, not in operation but getting allocations plague every area. In this State 26 per cent of all allocations went to non-operating or "bogus" firms obviously for resale in the black market.

The most interesting aspect of this study is that the firms who find it necessary to buy in the open market generally sell their final products at prices below those of larger firms that receive larger allocations. For some products, quality differences explain part of the differential. However, the price difference also leads one to suggest that prices charged by firms using allocated materials are probably already being pushed upward in terms of the black market cost of inputs.

To round out the study of State data an analysis was made of allocations in terms of the raw materials themselves. The relationships here are: (1) the ratio of assessment to demand of all small firms in the State; and (2) the ratio of allotments to assessments of all small firms in the State. The ratios for two States are given below, expressed as percentages for the three commodities indicated.

| | Percentage Assessment to Demand | Percentages Allotment to Assessment |
|---|---|---|
| Industrialised State (41 Industrial groups) | | |
| B.P. Sheets | 23% | 13% |
| G.P. Sheets | 15 | 10 |
| Wire | 16 | 3 |
| Less Industrialised State (11 Industrial groups) | | |
| B.P. Sheets | 44 | 42 |
| G.P. Sheets | 35 | 80 |
| Wire | 63 | 91 |

It should be noted that despatches, for which data are not often available, seldom are as large as allotments. Also, we cannot determine how much of the despatch is being diverted from one State to another.

Black market sales tend to go from the less developed areas to the more highly industrial States. Growth of small firms is so rapid in the latter that they are pressing for supplies that tend to be administratively allocated on some *pro rata* or *ad hoc* bases.

### C. Direct Effects on the Firms: Individual Firm Studies

Modern small industries in India face many problems: management inefficiencies, limited technical capabilities, restricted credit availability, unsuitable plant accommodations, and limited raw materials supplies. The government has established a number of agencies to assist small entrepreneurs to overcome these difficulties and to give small firms equal opportunities in the competitive market. Of all the present difficulties, raw material supplies available at competitive prices appears to be the greatest. The evidence presented below points out that the inequities in the distribution of raw materials and imports are so severe that they tend to override all other types of assistance offered to small firms by the government. These difficulties are apparent from studies of firms, conducted by the Working Group, in both industrially developed and underdeveloped States.

Nearly 60 per cent of the firms analysed provided evidence that critical shortages of materials and components that could only be purchased at higher black market prices made it unprofitable for them to expand their production to fuller utilisation of capacity. Another 18 per cent of the firms stated that they could not get additional supplies at any price. Nearly half of the firms who found it unprofitable to increase production because of the black market prices of raw materials were facing competition with larger firms making similar products, and the larger firms got allocated inputs at fixed prices.

A number of large firms producing similar products were checked as to the allocations they received at fixed prices through the Department of Technical Development. On the average, they were allocated 85 per cent of their one-shift requirements. In contrast, smaller competitors received allotments to cover only 33 per cent to 40 per cent of one-shift requirements. There is an extreme range of the ratios of allotments to small firms for one-shift operation. Some small firms buy all their raw materials and components in the black market. The largest group seem to cover about one-third of one-shift capacity; few get above 75 per cent.

The percentage of capacity covered by allocations appears to depend primarily on the size of the firm. It has little, if anything, to do with the priority of the product being manufactured. It is all too evident that the allocation system works to the advantage of the larger firms, at the expense of the smaller ones.

The overriding importance of differential prices for raw materials in the cost structures and consequent competitive selling positions of firms is borne out by the Working Group's studies. Material and component costs comprise, on the average, 70 per cent of total costs of the small firms in the more industrialised States, and 44 per cent of total costs of such firms in the less advanced States. Very few firms have a ratio of raw materials plus components cost, total cost, under 35 per cent; some ratios go as high as 90 per cent. Average fixed costs tend to constitute a very small portion of average total costs. In less advanced States, for 40 per cent of the firms, fixed-cost-to-total-cost-ratios were under 11 per cent; for 70 per cent of the firms they were under 21 per cent; and for all firms, they were under 26 per cent. In more industrialised States the average-fixed-cost to unit-cost ratios ran much lower, tending to be under 10 per cent as these firms utilised capacities more fully. Wages per unit, similarly, constituted a relatively small portion of average total costs.

From such studies of costs of firms we must conclude that small firms are primarily materials processing and assembling plants whose cost positions rely heavily on prices of raw materials and components. Firms not able to purchase these inputs at prices comparable to those paid by larger firms are at a serious competitive disadvantage.

Our studies indicate that 90 per cent of the modern-type small factories analysed in the industrialised State purchased some materials or components in the black market. Approximately 46 per cent of their total material and component purchases were at premium prices, forcing their costs up by an average of Rs 40,000 per firm per year. If the firms had not had to buy materials and components in the black market their profit rates on investment would have ranged from 30 to 50 per cent higher. Considering their present profit levels, it can be concluded that many of these firms are efficient, competing despite the cost handicaps, and possessing growth potential. It appears to be patently unfair for them to be placed at a serious cost disadvantage *vis-a-vis* larger firms that are given allocated inputs at fixed prices.

In the less industrialised State studied in detail, somewhat over 50 per cent of the modern type factories analysed purchased production inputs on the black market. Generally they are less active in the open market, as the premium paid averaged Rs 10,000 per firm per year.

The smaller firm's competitive disadvantage worsens as it buys larger proportions of its raw materials and imported components in the black market. Costs are further increased because of uncertain deliveries, improperly balanced allocations, and the time managers must spend purchasing in the open market.

The *relative cost* disadvantage is significant for the small firm in competition with the large. Even if costs were higher, but equal for both, the small firm would not be confronted with such a difficult situation.

Solutions for the raw materials and imported components allocation and price problems must be sought within the shortage conditions existing today. Shortages of various inputs will persist as long as Indian planners press their growth plans to the fullest. We are not concerned with just a small part of the industrial economy because it happens to be small industry. As has been pointed out in the previous chapter, these modern small factories constitute one-third of all registered-factory production. They also furnish 38 per cent of all registered-factory employment. Their role is not insignificant in either case, and whatever discriminates against them certainly requires study and correction in the national interest. Continuation of the present inequities clearly weakens their ability to mature and multiply and strengthen the economy.

### D. The Allocation System in Broad Outline

The raw materials problem, originating in the foreign exchange crisis of 1957-58, has been exacerbated for many items by the national emergency of 1963. As the problem is certain to continue for some time, a thorough understanding of the present allocation system is essential. Its actual operation and specific effects on the economy are of critical importance to businessmen in both large and small firms. Insofar as the system is shaping the future development of small industries it is significant for the Team's present work.

Indigenous production of ferrous and other scarce raw materials has risen substantially during the past six years. Despite this rise, supply could not keep pace with demand. Also, given the availabilities of foreign exchange, imports have been insufficient to satisfy growth needs. The policy has been to reduce imports as indigenous production rose, but wherever possible allow the total supply of the raw material to be augmented.

Scarce raw materials of steel are classified into "unrelaxed" and "relaxed" categories; the former group is assumed to be in more serious short supply. At present only B.P. steel sheets are in the "unrelaxed" category, being allocated directly to

users. All other ferrous metals have been relaxed, allowing firms to make requests directly on the Iron and Steel Controller. Special controls are exercised over non-ferrous metals and imports by the Controller of Non-ferrous Metals and the Chief Controller of Imports and Exports (CCI&E). Items in all these categories except imported components are under price control.

In broad outline, the present system for allocating indigenous scarce raw materials is designed along the following lines for small scale industry. Firms in each State register their single-shift production capacities with the State Director of Industry. Some firms registered their capacities as of 1958 without revision. Each firm is supposed to be evaluated by a representative of the director's office and assigned an "assessed" capacity. The directors furnish summaries of assessed requirements for steel to the Central Small Industries Organisation (CSIO) on the basis of past demands or assessed capacities. In turn, the CSIO, having been allotted a total quantity of iron and steel by the Ministry of Commerce and Industry, allots shares to the various States. On the basis of these shares the State directors allot to the firms located within their State. Despatches from the rolling mills follow, months later, directly to large purchasers, or to stockists who are supposed to honor the claims of the small purchasers. All sales are supposed to be made at fixed prices.

There are three steel allotting authorities to small industry - CSIO, the Iron and Steel Controller for "Steel Processing Industries", and State Directors of Agriculture for "agricultural industries". Although these quotas are assigned through the offices of the State Directors of Industries they are not adequately coordinated. Some firms enjoy multiple allotments by being covered by more than one quota.

In the case of copper, the State Trading Corporation (STC) acts as a bulk importer for all small industries in the country. The bulk import allowed to the STC depends on foreign exchange availabilities, and has run about 8,000 to 10,000 tons per half-year over the past three years for small industries. This contrasts with needs estimated at from 40,000 to 50,000 tons per half-year. Large firms import copper on individual "User Certificates" issued through the Department of Technical Development to the Chief Controller of Imports and Exports.

The CSIO determines the shares of total available copper to be distributed to the States on the basis of past demands but keeps no records on the use of copper of past demands but keeps no records on the use of copper at State levels. In response to rising demands and relatively constant supplies the centre has recently sought to redistribute the uses of copper within the States. Each State indicated that approximately 4,000 tons go into utensils and 6,000 tons to non-utensil uses. An order was issued to cut allotments to utensil makers by 30 per cent. The distribution for October, 1962 to March, 1963 is approximately 2,800 tons for utensils and 8,400 tons for non-utensil uses. The difficulty, however, is that the Centre has no check on the application of the order, nor does it know how much copper is sold for various uses through the open market.

Delays in supplying copper are long. The import process through State Trading Corporation may run to three months but a worse and avoidable delay is in the internal paper work. Red tape in the States and up through the system may delay receipts of copper for another three to six months.

Imports, including non-ferrous metals, are handled through a third authority for small firms which make application for imports to the State Director of Industries. He issues an "Essentiality Certificate" after evaluating the request. This is forwarded to the Chief Controller of Imports and Exports where it is again reviewed for eligibility in terms of availabilities of indigenous supplies and foreign exchange. The Chief Controller of Imports and Exports is given a quantity of foreign exchange for small industry from which he can draw. This has been Rs 9 crore in 1961-62, Rs 4.5 crore in 1962-63 and is Rs 6.0 crore in 1963-64.

It is evident that with three major allocating authorities - one each for steel, copper, and imported components - it is impossible, to keep allocations to firms balanced or coordinated in

time. The recipients are pressed to use the black market either to buy balancing inputs or sell off excess items.

It is clear that the allocation and price control system are, at best, operating with only partial success. The inadequacies are many:

1. Assessments of capacities of the firms are done haphazardly - frequently by untrained and low paid officers. There are no criteria for determining capacity, and in many cases such assessments date back to 1958.
2. States often appear to use inflated demand and assessment figures to pressure the Centre, but use another set of figures to allocate internally to firms. Past consumption becomes the basis for pruning or adding to allotments for many firms. But this method is not consistently applied, varying from State to State, industry to industry, and firm to firm. Once a technical assessment has been made it is seldom revised, although the firm may have changed products and capacity. Industry officers lack experience and technical ability to assess capacities, so they rely heavily on past consumption figures in determining assessments. To add to these problems, profits are so high on products made from scarce raw materials that there are many opportunities for improper practices. A large number of bogus firms operate solely by selling their allotments in the open market.
3. Outside pressures by vested interests are applied to favour certain firms. Existing allotment policies, when applied, have thus been haphazard and inequitable.
4. The ratio of allotments to assessments varies significantly among firms and industries in the same State, despite repeated statements by officials that allotments are generally on a *pro rata* basis.
5. Serious inconsistencies are found in allocations on the basis of whether a firm receives its raw materials from indigenous or imported sources. A bias is present favouring firms which get the same item from both sources.
6. A number of control agencies for raw materials - e.g. for steel processing, small-scale and agricultural industries - take independent decisions in allocating. In some States certain units get large allotments simply because they happen to hold quotas in one group or another. Some firms benefit by being under two quotas.
7. Under existing allocation procedures the CSIO has no real policy role. It is limited to collecting estimates of demands (or assessments) for indigenous and imported raw materials from the States. These estimates are not detailed enough to be critically evaluated. The CSIO does not establish priority criteria for types of firms or products using scarce materials. Neither does it lay down norms or criteria for making estimates of raw materials requirements of firms. It does not check on the manner in which quotas are utilised or despatched.
8. From time to time, the CSIO asks States to distribute quotas in certain ways. Special quotas may go to States, or some further expansions of industry may be banned. These requests are at times honoured or at other times disregarded by the States.
9. Allotments and despatches do not correspond. As officials point out, the allotment given to a firm is a "paper allotment" and does not necessarily reflect the despatch of steel or other material it will receive. Firms may not get the types of materials requested. A firm's allotment is assumed to be based upon its assessment in the current half year. In the case of steel, however, the indent placed on the steel producer may not be scheduled for production until 12 to 18 months later. The indent is scheduled into a rolling schedule, which may be sought by the Ministry, but then manipulated to fit the cost needs of the mills.

If the purchaser is a small user of steel he will buy through a stockist. There is ample evi-

dence that further delays, attributable to manipulation by stockists, are also suffered by smaller firms.

Overall delays through the system, in the case of steel may run 18 to 30 months, from initial application to receipt of the product. Thus, the recipient often finds it uneconomic to wait. His production depends on current supplies, so even legitimate firms find they must buy in the open market at higher than fixed prices.

10. Firms requiring a number of scarce raw materials also find that their supplies are neither allotted nor despatched in proper proportions. They must resort to open market purchases and sales to balance inputs. Some firms find it more profitable to unload complete scarce raw material supplies in the open market instead of processing them into finished goods.
11. Policies toward new units in the small industry sector are not consistent, nor are they enforced. With each State determining its own policy they may not be enforceable. Generally, despite unchanged and even tighter quotas, both the CSIO and the States have followed a policy of inducing new firms to start. Some State Directors give token allotments to new units and slowly increase them. Unless supplies increase these allotments to new firms must be at the expense of existing firms. Even with slowly growing quotas it means a continued squeeze on many firms with severely underutilised capacities.

Even States generally sympathetic to new units have recently adopted strict policies to discourage them where extremely scarce materials would be needed in production. But, even in the presence of such bans, new firms enter and flourish by resorting to open market purchasing.

12. Deliberate policies have been followed to favour less industrialised States with raw material allocations. Firms in these areas are generally heavy open market sellers. Businessmen have been setting up units in such areas to get raw material supplies which are often transferred elsewhere.
13. Small firms must resort to a large share of purchases on the open market. Since the requirements of large firms are based on their established capacity as licensed by the Department of Technical Development, they receive a substantially higher share of their material requirements through fixed price allocations. Small firms are therefore, at a serious cost disadvantage traceable directly to the two-price system.

From the studies made, we must conclude that the present system of allocations and fixed prices has given administrators some impossible tasks. As operating now, the control system does little to help the growth of small industry. Subterfuges are practised widely because it is very profitable to operate in the open market. This is due to the fact that the price system is fighting rather than cooperating with decisions of administrators. Not only does it place the smaller producer at a disadvantage in costs, the system also discriminates against newer firms by favouring the older ones with established larger quotas.

Under these conditions, administrators are not in a position to make reasonable decisions for such widespread markets. They lack the data and foresight to weigh the choice between new units or expanded supplies for established ones. Once the administrator allows a new unit to be established, he becomes enmeshed in obligations to supply it with raw materials and equipment even if supply conditions worsen. In these and other decisions the administrator has both too much power, in the sense that arbitrary action and abuses are made likely, and too little power, in the sense that he cannot influence the situation effectively in the national interest - especially in the face of the force generated by the two-price market. By restraining entry he can strengthen vested interests; by opening entry he may keep all

existing firms weak. All in all, there are too many avenues for misusing the system, and little chance to make it work well.

Finally, there is a high premium on getting raw materials by pressuring officials or operating in the open market. Too much time and energy of managers are being diverted from improving products and production methods. Too much time and energy of officials are being diverted from real development problems. The need to be near the raw material control authority and the open market centre is a strong centralising force that opposes attempts to disperse industry to outlying areas.

### E. Proposals for "Immediate" but Temporary Improvements in the Present Allocation System.

Proposals for revising the allocation and fixed price system have been divided into two parts. The more "immediate" proposals for change given in this section are no more than palliatives. They offer some ways to make the present system operate somewhat more efficiently and equitably. But they are temporary in nature, effective at most for a transition period. The "long run" proposals, given in the following section offers a more permanent solution, as it brings the price mechanism into planning.

#### *Allocations between Large and Small-Scale Producers*

At the present time, due to shortages and the use of the controlled price mechanism for scarce raw materials and imports, allocations between large and small units depend upon the judgements of administrators. The data on demands for and uses of resources in the large and small industry sectors are inadequate for judging how to distribute scarce materials between sectors or among firms.

Under the present system, scarce raw materials and imported components are allotted to the Ministry. The total supply is divided among government-owned industries, and large and small units in the private industry sector. In practice the small sector tends to be a residual claimant. Dividing allocations between sectors in this fashion emphasises size of firm as the basis for priorities. We have stressed that priority determinations on the basis of size do not meet economic growth needs effectively. Such determinations are palpably inadequate when one considers the types of products turned out in each sector, and how many identical ones come from both small and large firms.

The fundamental approach to priority determination should be altered if it is to be meaningful in terms of development needs. A preferable approach would be to select a number of product priority groups and make allocations to them, irrespective of size of firm. Then, for each product group , determine how to divide the resources among large and small firms. This latter divisions might be determined by capacities.

Detailed analysis of uses of specific scarce raw materials might offer a second check on the soundness of the distribution decisions. Each scarce raw material (e.g. Pig Iron, B. P. Sheets, H. R. Steel, Copper, etc.) should be analysed in terms of its uses for different end-products. A number of these raw materials are fairly well restricted to heavy industrial uses; others are generally absorbed by consumer products. The former should be allotted among small and large firms producing priority end-products according to their capacities. The latter should be divided *pro rata* according to a consistent definition of capacity between large and small sectors, after a share has been removed for priority end-product uses. A combination of the two methods - analysis of firms and analyses of raw material uses - would provide a more equitable form of allocation for the production of priority and non-priority goods. The allocated products would be sold to firms at fixed prices.

By using these two methods for making the allocations, new responsibilities would be placed on representatives of the small industry sector. The Development Commissioner must depend upon detailed, reliable data on firms and their capacities in each of the priority groups. He must also have reasonable evidence that the output of

priority products is being maintained in the sector. An adequate system for monitoring uses will be needed, otherwise the priority concept will become meaningless. If the Development Commissioner's office is to assign priority allocations, it must also control the firms on the priority listing, to exclude those who will not produce priority products.

The residual allotment for non-priority production would also have to be based upon fairly good capacity data. It would not, however, require monitoring of production uses:

(a) The CSIO and the Department of Technical Development should mutually establish a list of priority industries that would become the basis for distributing scarce raw materials. Special attention should be given to industries contributing heavily to defence and key plan projects.

(b) The Development Commissioner should clearly indicate to the State Directors of Industries the industry priorities that apply to small factories. He should also specify items that are banned from further production.

(c) The CSIO should assemble a current register of small firms producing the selected priority items. Registration for priority product firms should be compulsory. These firms should be required to provide basic information on capacity, products being manufactured, and types of scarce raw materials and imports used. The register should be kept current and analysed as a source document to help the Development Commissioner and representatives of the Department of Technical Development agree on reasonable distributions of available supplies of raw materials. Estimates of capacities of large and small firms producing non-priority products might be derived from sample surveys.

A special register of copper users should be collected to help the Development Commissioner establish rational allocations for utensil and non-utensil producers. He should cooperate with State Directors in organising uniform registers of non-ferrous metals users. The information system of the CSIO for copper has serious gaps, often not because of the lack of data but because the available data are not being analysed. Similarly poor information channels exist for other controlled commodities.

A campaign to develop substitutes for copper, e.g. aluminium, could be directed more efficiently if detailed information on producers were available.

(d) Uniform methods for estimating capacities must be applied to firms of all sizes if equitable allocations are to be made. Capacity estimates of firms producing priority products should be up-dated periodically. Many officers who make capacity estimates would benefit from a short course of training to give them a uniform estimating approach.

(e) Monitoring the outputs of priority product firms is essential if the system is to be effective. If the priority group is restricted, the monitoring jobs will be less difficult. Heretofore monitoring done by the States has not been successful, perhaps due in part to the number of firms that have to be covered, but also for other reasons. Considering past efforts to monitor production, we doubt if it can be left solely to the States. We suggest that the centre use a "spot" audit system to check on uses of scarce raw materials by randomly-selected priority product manufacturers. The visits of auditors should be unannounced.

(f) A single allocating authority for indigenous scarce raw materials is essential. A first step in the direction should be unification of steel processing industry and small scale industry steel quotas. Copper allotments should be balanced with steel allotments (if steel allocations continue to be made) for firms receiving both types of raw materials.

(g) Serious problems are present because of the long delays between initial requests and final despatches of scarce raw materials. Steps should be taken to shorten red tape delays in the processing of requests. Such conditions

are evident in the allocations of copper and steel, where applications may be delayed for as long as six months in the "paper mills" of various organisations.

(h) The present system of administration is too lax and should be tightened. Known "bogus" firms are getting allocations, but for various reasons nothing is being done about them. Similar laxity is found in enforcing bans on production issues by the Centre to the States. Sanctions must be imposed where such conditions persist if the allocation system is to be fair and effective.

(i) The Ministry of Commerce and Industry should undertake a review of the discriminatory effects of the present system of allocating scarce domestic raw materials, and imports of components and equipment. The study should cover the large as well as small firms in essential industries, analysing supply problems, capacity utilisation, allocations, despatches, and effects of open market practices. A group should also review the impact on firms of placing certain raw materials in the "relaxed" category without releasing price controls, to determine whether this decision increased or decreased inequities.

(j) Firms that have been operating with large unused capacities face difficulties that may persist due to the continued shortages. We, therefore, suggest that the government hire an Indian engineering consulting firm to study potential raw material substitutes and ways of converting idle equipment to new uses.

*The Price System*

Although a number of suggestions for improving the present allocation system have been outlined, we believe they should be considered as temporary palliatives. Their success would not heretofore been adequately effective. Itmay well be that the market forces of a two-price system, and the wide dispersal of producers over the entire country, open these modifications to abuse. The profitability of circumvention in a two-price market is a powerful force, perhaps too powerful for administrators who are trying to direct development. We certainly cannot point to evidence that would justify a hope for more than temporary improvement under such circumstances.

For these reasons, but more because of the immeasurable advantages that would accrue to small industries throughout the country - and in turn to the Indian programme of planned development - we suggest that steps be taken to simplify administration of the allocation system. Steel allocations and prices should be decontrolled as a first step, considering the fact that the one remaining "unrelaxed" product is B.P. sheets which, aside from a few priority uses, are primarily used for consumer durable manufactures. The "relaxed" steel group has already been more or less opened to all buyers, mostly for heavier durable uses. The prices of these steel items should be freed.

It appears unreasonable to hold a raw material primarily used for consumer durable products under control. Its allocation and price control are both disadvantageous to small firms. As a start the government might consider freeing the price of B.P. sheets (or imposing an excise tax on them as well) to allow buyers to take what they themselves can use efficiently in production. Decontrol might be synchronised with accumulation of a buffer stock of sheet to help offset any flurry of speculation that might occur. A loan to cover imports to establish part of the buffer stock needed should be considered. Subsequent steps might be taken to free the prices of other selected steel items.

Second, copper presents a specific problem in that its major priority end-product is wire. Most other uses tend to be low priority but some, such as utensils, are the mainstay of many small firms in less developed States. Special allotments should be made to wire drawing mills. Large firms should have no priority over small ones. For the present, allotments might continue, on items such as utensils, consumer electrical goods, locks, etc., with successive increases of excise taxes over

time on the raw materials. The slow upward movement of prices due to the tax will allow a period for substitution toward such other raw materials as aluminium.

Similar actions might be taken on zinc, which is used in galvanising paints, and brass.

The third step should be toward progressively higher excises on selected consumer durables.

And the fourth step should be to impose necessary taxes on imports and make other foreign exchange adjustments to meet the problems of the two-price market in imported components and capital equipment.

### F. A Proposal for Revising the Allocation and Fixed Price System: The Long Run

The Team has sought an approach to the allocation problem that will retain some features of the present allocation system but change the price system. First, the concept of priorities for selected industries, we realise, is essential for planning growth with extremely limited resources. These priorities must be defined in terms of end products, not in terms of firm size. Further, the priorities must be narrowly defined, to cover a relatively few essential end products so that they can be efficiently administered.

Secondly, allocations of imports are essential due to the difficult foreign exchange position of the country. Either the present or a modified system of restricting and selecting imports fits into the proposal.

Thirdly, a price-tax system can be used effectively to assist planning and directing of growth. At present the allocation system has helped to create a two-price system for scarce materials - the fixed price and the open market. Movement of the economy toward a single price-tax system is essential to make it more efficient.

Initial thinking along these lines has been expressed in the first report of the Raj Committee on Steel Control. The Committee points to a number of serious defects in the steel control programme in respect to large scale industries. We have found that many of these defects also affect small firms.

The Committee indicates that priorities, although specified, tend to be on an *ad hoc* basis, except for "core projects" in the Plan. Information on outstanding allocations is lacking, and checks to see if steel producers adhere to priorities are far less effective than desired.

Scheduling of steel rolls are in terms of the needs of the mills primarily, and there are long time lags between indents and final deliveries. The steel open market is widespread, involving all types of firms, indicating the degree to which fixed prices are out of line with market conditions.

Our study of the small industry sector reaches similar conclusions. The present priority system no longer fulfils the economic needs of the country. Priorities determined on the basis of "large" and "small" firms need not, and do not fit in planning programmes of the nation well. Many products essential to growth are being produced in both large and small industry sectors, but equal allocations are not being made. At the same time, many less essential products are being produced by large firms that are now favoured with allocations of scarce materials at fixed prices, while small firms are being denied allotments for similar outputs.

Priorities should be determined in terms of end-use products and should apply to all producers regardless of size. The list of priority industries might be worked out between the Department of Technical Development and the Development Commissioner. These industries should be restricted in number to avoid additional difficult administration problems. Broadly, consideration might be given to:

1. Specific defence priority products;
2. Priorities for a small number of key products and social overheads (e.g. power station construction, heavy machinery plant construction, irrigation, dams, railways, steel mill construction, construction of coal mining equipment plants);
3. Non-priority products for all other industrial production.

These priorities should be applied to steel, all other scarce raw materials, and imports.

The Team strongly urges the following revision of the allocation and fixed price system. It would be equitable to all firms and beneficial for the entire economy. It would allow efficient producers to operate and grow, regardless of size.

1. A tripartite priority system similar to the one suggested above should be adopted. These priorities - Defence, Key Products, and Non-Priority - should be in terms of end products, and should apply to all firms. Priorities should be applied on the basis of specific products, not in terms of an entire plant. For multiproduct firms the priority allocation should apply only to the particular products ordered in the first two priority levels. All other production in such plants would be non-priority.

   A priority allocation would provide the recipient firm a *scheduling priority* for getting scarce raw materials and imports during an allocation period. All of the firm's requests would be processed on a "first priority basis" through government agencies. *No price advantage* would be given to the priority firms. All firms, whether producing priority or non-priority outputs, should pay the same prices for raw materials.
2. The allocation authorities for indigenous raw materials should be unified. A single priority should be issued to a producer for all indigenous scarce raw materials. It should be coordinated with the necessary import licences that are to be issued to a firm.
3. Fixed prices of the current market should be brought into line with current open-market prices through excise taxes imposed on ferrous and non-ferrous metals, import licences, and any other items under either "relaxed" or "unrelaxed" controls. Here are some examples of tax levels that would convert the present open market profits into government tax revenues:

   - taxes on the values of import licences (to bring the costs of imports more into line with general price and foreign exchange conditions).

   - perhaps 15 per cent to 25 per cent of the fixed price of thin gauge steel sheets,

   - perhaps 30 per cent to 40 per cent of the stainless steel imported price in addition to a tax on the import license.

   The government should periodically evaluate the price differential between "reasonable-return-rate-prices" and present market prices of selected indigenous scarce raw materials. It should similarly evaluate imports in terms of the foreign exchange position. It should impose excise taxes to absorb those differentials. If inventories of specific scarce raw materials tend to rise and prices decline, the tax might be reduced accordingly. Conversely, if prices continue to rise the tax should be increased.
4. In addition to the scarce raw materials and import license taxes, the Team strongly urges further excise tax increases on consumer durables. These are needed to moderate the rise in demand for products that require scarce raw materials and imported components in their manufacture. These taxes would raise the savings level of the country and add further to government financial resources. Further, the programme of excise tax drawbacks on exports would stimulate exports of many of these products.

   The tax-price proposal is consistent with allocation controls now being applied on indigenously produced and imported goods. The proposal is essential to strengthen controls and assist planning.

The assessment of suggested taxes will probably result in some price increases. This is unavoidable. Estimates of price changes would be difficult to make. However, it is clear that many manufacturers have already increased prices for

many consumer durables to cover purchases of raw materials as if they were made at open-market prices. Many sellers are already taking what the market can bear under cost conditions created by the open-market.

Some sellers will doubtless attempt to increase prices in proportion to any raw materials cost increases. The extent of such increases will depend on the raw material price movement. We believe the open market is relatively "thin", probably influenced by speculative supplies and immediate demands. Regularising supplies and demonstrating a strong effort to wipe out speculative profits through taxes should exert strong downward pressure on prices. The equilibrium price of decontrolled raw materials will probably be somewhere between the controlled and present open-market prices. If the open-market demands constitute only a small portion of total demand the equilibrium market price will tend to be closer to the present controlled price.

As for price increases that the government corporations would have to pay to suppliers, these are primarily budgetary manipulations. The additional costs will be recaptured in the form of taxes.

We realise that prices of some producers goods will increase. A rise in the cost of capital equipment for the private sector, if coordinated with excise taxes on selected consumer durables, would be reasonable under present conditions. The existing amount of capital equipment is currently somewhat out of balance with raw material supplies. This is evidenced by the wide underutilisation of plant capacity. Various measures should be taken to raise the cost of some capital equipment to temper the demand for new plant investment until better utilisation of present equipment is achieved.

In review, the major problems in administering the present allocation come from the two price systems - fixed price and open or black market - that prevail. Both buyers and sellers find it extremely profitable to circumvent the fixed prices and allocations system. These circumventions are market solutions for erroneous administrative decisions. The difficulties with such market solutions, however, are that they create a class of speculators, divert the smooth flow of goods, and distort planning.

We urge a trend toward making more use of the price-tax mechanism in planning allocations to eliminate speculative profits and provide such revenues to the government. Administration will be more effective and honest if the administrator can rely on the price system to enforce rather than oppose priority allocations. Efficient small firms will be given equal opportunity to compete, as costs of raw materials and components will be equalised for all producers. Entrepreneurs would be able to spend more time managing their firms, and less time "politiking" for raw materials. The costs of the present system are high to all small firms, with minor exceptions. The open costs of black market purchases, and the hidden costs of delays, mismatched allocations, and diversion of management attention outweigh any slight advantages in getting a small portion of total materials requirements at fixed prices. Small manufacturers should be well apprised of the fact that they are getting a small share of any increased supplies available at allocated prices. Controls have favoured large producers.

A number of businessmen and officials have expressed concern that many small firms might be wiped out in competition with large ones if allocations and price controls were removed. The weight of evidence from our studies points to the contrary. As stressed in earlier sections of the chapter, large firms actually have unfair advantages over small firms due to the two-price system. Average raw material costs are higher for small firms because they must buy such large proportions in the open market. The managements of small firms, we find, are very cost conscious. Their wages are lower and they use their labour force carefully if raw material inputs can be properly scheduled. Given fair access to raw materials, they should be able to meet competition adequately, despite the scale advantages than often accrue to larger units.

The economic evidence from our studies denies the ideological argument that protection is being given to the small firm. We repeat for emphasis: controls have favoured the large at the expense of the small.

In terms of the entire economy, we believe that demand pressures for consumer durables should be siphoned off to some degree by the tax system. A move in this direction has been made in the last tax programme.

The Team is convinced that a better balance must be achieved between further capital expansion and raw materials supplies. Current rates of underutilisation of capacities are detrimental to small producers. Financial and administrative measures should be taken to dissuade further expansion in many manufacturing fields. A freer internal price system and the assiduous application of taxes on imports and on selected consumer durables would also help induce this balance.

Finally, proposals along the lines suggested will provide additional stimulation to exports. Manufacturers of exports would be permitted excise draw-backs, making the external market more profitable than the domestic one for many products.

## FUNCTIONS OF THE CENTRAL AND STATE SMALL INDUSTRIES DEVELOPMENT ORGANISATIONS

### Central Small Industries Organisation

The Central Small Industries Organisation (CSIO), headed by the Development Commissioner (D.C., SSD), consists of several coordinating divisions at the headquarters, 17 State and 4 branch Small Industries Service Institutes, and some 57 specialised extension and training centres. The CSIO has about 650 technical staff members and an approximately equal number of workshop employees, not including administrative and service personnel. Services rendered by the staffs of these various institutes, centres, and divisions include the following:

1. Advice to small units on improved technical processes and use of modern machinery and equipment. The principal objective and main concern of the institutes and extension centres is to give direct technical advice and instruction to small scale units. Ultimately the success or failure of the whole effort will be judged by the degree to which such technical assistance may be demonstrably helpful. Accordingly, ability and experience of the technical staff are of basic importance. They must have knowledge and skills superior to those of persons being helped. Unfortunately there has been and continues to be very great difficulty in securing and retaining adequate numbers of suitably qualified personnel, particularly those with practical industrial experience. Serious deficiencies in performance have resulted both from lack of technicians in certain fields, and from inability of many of the technicians to render the quality of advice required to make a real contribution to productivity.

   A natural tendency has been to place relatively less emphasis than is desirable on what should be the major function of the programme - direct technical advice and instruction to small units. Too much emphasis has until recently been placed on promotion of new units, without at the same time being able to give them the necessary technical assistance. Immediate and vigorous efforts are needed to improve the performance potential of the permanent staffs in order that their direct technical consulting roles may again become the primary concern of the CSIO, and to supplement them with part-time consultants from industry.
2. *Preparation of design and drawings for machines and machine parts, equipments, dies, jigs, tools and fixtures.*
   - Indian small industrialists very seldom have drawing offices of their own, and

manufacturing is carried out under conditions that would be considered primitive in more highly developed countries, or in large-scale units in India. Blue prints are hardly ever seen in small factories, the practice being to guide workers by making use of sample pieces or merely giving instructions.

Modern products have to meet certain quality standards which often, for example, comprise interchangeability of parts, thus making it possible to sell spares separately. It is necessary to standardise the design of products as to materials, dimensions, tolerances and clearances, and to plan the manufacturing process in such a way as will obtain the intended quality through the application of suitable measuring and gauging tools, and other technical means. Improvement of measuring techniques and use of jigs, tools and fixtures raises the quality level and at the same time may result in decreasing the demand for highly skilled workers, thereby alleviating one of the principal shortfalls in the Indian economy. Members of the technical staffs of the SISIs are seldom sufficiently experienced in design and drawing to train others in these fields. We urge that qualified men be hired from industry to give such evening courses.

3. *Technical assistance to small units on the use of raw materials, improved designs of machinery, etc.* - The major function of the technical staffs of the SISIs should be to provide technical assistance on the proper use of raw materials, plant layout, selection of machinery and equipment, and quality control. Recognising the limited experience of the staffs, we recommend that qualified technicians from industry be hired to assist them on a part-time basis. Units assisted should share in the cost.

4. *Demonstration of modern technical processes.* - This part of the SISI activity is credited with great importance in the working programme. Most of the institutes still have to work in rented quarters, often geographically separated from each other, as permanent buildings have not yet been erected. In certain industrial estates there are well-equipped workshops with rather modern machines intended for demonstrating modern workshop practices, but in other places they are only rudimentary, or not established at all. The existence of well-equipped workshops with competent instructors is important for institute training activities.

On the other hand, we do not advocate permanent housing for all institutes at this time, in view of the higher priorities that exist elsewhere in the economy, and also because of the changing roles of the various institutes and centres. When construction is undertaken, it is of utmost importance for efficiency of operations to locate the facilities near the concentrations of industries to be assisted and not, as often at present, at some distance therefrom. There are valid reasons for not locating institutes and centres in or near industrial estates when the latter are removed from the main concentrations of industrial units which need the most attention and help.

The need for disseminating knowledge of new methods, new machines, new materials and new techniques is very great, especially in areas lacking larger industries where contact with technicians and craftsmen initiated to modern improvements is not possible. We believe, however, that mobile workshop vans, as they are now used, do not fill this need. Demonstration and training must be of sufficient duration to induce the use of improved production methods and techniques. Use of mobile vans in intensive

campaigns, exhibitions, and rural industrialisation projects results in dilution of SISI efforts unless the activity, advice, and guidance are followed up by other efforts on a sustained basis. We suggest that existing vans be turned over to States for operation, and that their greatest value be recognised as pertaining to improving the productivity of individual craftsmen rather than small factory enterprises.

5. *Conduct of training classes in such subjects as blueprint reading, heat treatment and foundry.* - The training activity of SISIs in India should focus more on in-plant training, while retaining institute class work as appropriate. Courses should be given for foremen and supervisors in small factories to make them better fitted to instruct their workers. This result will also be achieved if more importance is given to direct technical advice, diagnosing the weaknesses of the plant as to techniques and working methods, and introducing necessary improvements and changes. More short courses should be organised on a rather elementary level, each course covering a small sector of workshop practice, for example maintenance of machines, grinding of edge-tools, the use of measuring tools, drilling, turning, threading, milling, embossing, grinding and polishing, etc. In order to carry out such courses the institutes should obtain practically experienced skilled foremen and technicians from local industries, both to cooperate in planning each course and to act as instructors and demonstrators during the practical course work. There appears to be a great need for such courses for workers as well as for supervisors and technical managers.
6. *Technical assistance in the development of ancillary units.* - The idea of developing ancillary units and creating cooperation between large and small-scale industries is excellent, but many difficulties arise in carrying it out. A postulate for such cooperation is that both parties work at the same level of standards, and that the small-scale unit is capable of taking responsibility for the quality of the product made for the large unit. This capacity naturally cannot be created overnight, as it normally comprises a fully quality-controlled production within limited tolerances, not only with respect to technical dimensions but also times of delivery. Most large industries visited showed very little enthusiasm for such projects, although some have made sincere attempts to employ small industries as sub-contractors. This problem is so important and timely that it is discussed in greater detail in a separate section of this report.
7. *Guidance to small industrialists in proper methods of business management, including marketing, financial and cost accounting, production management, industrial engineering, factory legislation, personnel* relations, etc. - It is difficult to over-stress the importance of education, guidance and advice within these inter-related fields. Managers of small industries face many special problems, as they are responsible for a number of different functions - which in larger units are performed by specialists - and at the same time have to supervise the activity in its entirety.

The industrial management and training staffs should have as their main function the support of technical assistance activities for small enterprises. Increased emphasis should be given to consultation on individual unit problems, as distinct from classroom group instruction. Such consultation will be immediately practical and effective, and will also give the consultant increased knowledge of and insight into current industry operating problems. When managerial and financial advice is concerned, mutual confidence or faith in the one who seeks and the one who gives advice is even more important than when purely technical matters are being discussed.

It is amply evident that the various management courses offered could be much more useful and appreciated if instructors were given more frequent and sustained opportunities to refresh and update their practical knowledge through in-plant consulting. Continuous steps should be taken to revise curricula to meet current and changing needs and abilities of the managers who participate.

Over the next few years CSIO staff members should be given an opportunity for refresher training in their fields of specialisation, as well as training in extensive methods and introduction to industrial management, seminars and courses on various new developments in their fields should be planned both in India and, for a selected few, also abroad,

There should be closer liaison and coordination of effort between the SIET and the IM&T staffs, particularly in the planning and implementation of a manpower development programme for the CSIO to help close the gap between the present skills available and those desired. The manpower development programme should achieve balance in technological, industrial management, economics, and extension skills. For example, the SIET Institute will be able to instruct foundry specialist how best to transmit his knowledge to industrialists; however, if the officer's knowledge of foundry practice is outmoded, the value of the Institute training will be correspondingly reduced. Both types of training must be planned together.

8. *Conduct of economic surveys in particular industries and areas, and making concrete recommendations for a development programme: undertaking distribution aid surveys for individual entrepreneurs; and acting as an information centre.* - Probably no other staff group in the CSIO has received such varied and pressing demands for its services as have personnel engaged in the various economic investigation activities. Initially these staffs were located in four institutes (Bombay, Calcutta, Madras and New Delhi) and at the centre, and were concerned with only two types of surveys - industry outlook (either regional or All-India in nature) and area (usually a district or smaller unit). These surveys were designed more for governmental policy planning than for direct stimulation of potential entrepreneurs in certain fields, although the latter function was considered to be of nearly equal importance.

At the present time economic investigation staff members are spread among all the institutes. Although their total sanction strength has not been increased (and in fact the number of staff in position has decreased), their functions have multiplied many-fold. These functions now include such diverse activities as economic information service for small industrialists: Tariff Commission inquiry reports; industry outlook reports and summary sheets; area surveys, including those for rural industrialisation projects and districts; distribution aid surveys; and special functional and other miscellaneous studies useful for planning purposes.

It is apparent that a diffusion of effort has occurred as the organisation attempted to respond to felt needs. This has made it difficult if not impossible for the Central Small Industries Organisation staff to concentrate on those activities of greatest immediate potential for the development of small industries. Under these circumstances quality was bound to suffer, with consequent further diminution of the value of several activities. It is essential that immediate action be taken to concentrate economic activities on those subjects of most immediate and direct usefulness, and

to eliminate those functions which are less relevant to current development requirements (see Chapter V for details).

9. *Publication of bulletins, pamphlets and model schemes, and other promotional literature.* - After having examined a number of such publications as bulletins, pamphlets, model schemes, etc., we have the impression that the information given is often too general and the treatment therefore too superficial. Better planning and coordination of a publications programme designed specifically to supplement and assist consulting activities are desirable. Solutions reached against a background of local working conditions contribute to a valuable fund of experience which should be made available to others through these publications.

   We recommend that an *ad hoc* publications committee, composed of suitably qualified technical and economics officers, be established to review and evaluate each of the major types of publications issued. The committee should determine which ones should be withdrawn or suspended, and which need to be updated and continued.

   All marketing information releases model schemes, and special studies should be sold at established fees designed to help determine the real interest of the public and the usefulness of the publication.

## State Government Small Industry Programme

As primary responsibility for developing small scale industries has been placed with the State Governments by the Indian Constitution, the coordination between State and Central Government programmes in behalf of small industrialists is an important aspect of the over-all development effort.

Important agencies connected with the small industries programme in the States are:

1. State Directorates of Industries
2. State Small Industries Corporations
3. State Financial Corporations
4. State Directorates of Economics/Industrial Statistics.

These agencies, of which the Directorates of Industries are the most important, are responsible for the execution of the programmes for providing credit, power, land for workshops, allocation of controlled raw materials, issue of essentiality certificates, training, demonstration and other facilities for the development of small scale industries. The Directors of Industries are generally assisted by an Additional or Joint Director in charge of small industries, as well as by technical officers in charge of specific fields of activities.

At the district level, the work is the responsibility of a District Industries Officer or the Assistant Director of Industries. He may be assisted by one or two inspectors, depending on the work load and the industrial importance of the district. The district staff not only are responsible for the small industries programme but also for such other programmes as handicrafts and village industries, and large industry matters as well. At the block level in most States there are extension officers for industries in each National Extension Service Block.

In many States powers have been delegated to district industries officers or district magistrates for distributing loans to small units and industrial cooperatives up to certain limits, such loans being available under the State Aid to Industries Act. Medium and long term loans are advanced by the State Financial Corporations or Cooperative Banks. The State Bank of India also assists small scale units by advancing working capital loans on the securities of raw materials and finished goods.

Essential controlled raw materials are allocated to industrial units upon the recommendation of district industries officers. In some States, acting on a suggestion of the Small Scale Industries Board, raw materials depots have been organised

as small industries corporations (under various titles) which also may perform other functions related to machinery procurement, financial assistance, marketing, industrial estates management, ancillary development, and the establishment and management of production units. Apart from these common functions, a few corporations are seeking to provide special facilities, such as technical advisory and counselling services to small industrialists, along the lines of the Small Industries Service Institutes of the Central Government. Some of them also conduct economic surveys.

Various agencies at the State level import industrial training in many fields. The schemes cover new entrants as well as persons already working in the different units, and educating the unemployed. They include craftsmen and instructor training, engineering, and rural area trade courses (blacksmithy, carpentry, shoe making, tailoring, etc.).

State marketing programmes include the establishment and operation of sales emporia, participation in exhibitions, liaison work to facilitate purchases of government stores from small units, acting as agents between suppliers and purchasers, etc. The Small Industries Corporations are generally the agencies most concerned with marketing programmes.

Some States over the past few years have been able to develop technical assistance programmes, while others are still totally dependent on the assistance provided by the Central Organisation. Even where beginnings have been made, the technical assistance has not been on a sufficiently extensive scale to meet the continually expanding needs of small industry. Chief among the institutions developed in various States to meet small industry needs are common facility centres, extension centres (miniature single-purpose institutes), training-cum-production centres, and purely training centres.

The States also have an important role in the provision and operation of industrial estates and worksheds. This topic is discussed in more detail in another section of this report.

Registration and collection of statistics is an important State activity. Small scale units are required to register with the State Directorates of Industries and to forward a copy of their registration forms to the Small Industries Service Institute in the State Registration numbers assigned are quoted on all applications for machinery on hire purchase, finance, raw materials, essentiality certificates, etc. In some States separate registrations are made for obtaining different materials, supplying goods and stores, receiving subsidies, enrolling in quality marking schemes, etc. The Service Institutes also register small units qualified under the Director General of Supplies and Disposals purchase programme.

All units engaged in the manufacture of certain articles are required to submit quarterly returns to the State Industries Directorates, and various types of industry statistics are supposed to be collected by the State Directorates - production, employment, installed capacity, etc. - on a quarterly basis. Tariff Commission data are also provided. Certain information on prices of commodities, industry progress, and many other items are provided according to the requirements of various governmental agencies.

From this brief functional review, and from direct observations we have made in each of the States as well as a large number of personal interviews with officials and entrepreneurs concerned, it seems clear that more needs to be done to rationalise the various State industry programmes *vis-a-vis* those of the Centre and to demarcate more clearly the various areas of principal activity which should be assigned to each. In the absence of complete or effective industries departments in some of the States it will continue to be necessary for some time for Central Government organisations to perform certain functions that properly belong to the States. However, the major interest of the States in these activities should be recognised, and all appropriate action taken to assist them to become able to assume their proper role as soon as feasible. Specific suggestions related to the more important functions and activities are:

1. There is a great difference in the quantity and quality of services provided by the several States. A few of the States provide excellent services and facilities, but in most considerable improvement is necessary to meet their development responsibilities.
2. The most important, and often the weakest, link in the chain is the District Industry Officer. Particular attention should be given in all States to upgrading these positions, both as to salaries and promotion opportunities, and as to qualifications. It is quite unrealistic to expect junior officers, with limited or no industrial experience, satisfactorily to perform many of the functions required of them. The Madras experiment in providing two officers in each district - one for handicrafts and one for small scale industry - is a step in the right direction.

   There should be inter-change of assignments between officers in the State Directorates and the districts, and intensive training programmes provided for them.
3. Separate, highly qualified industry development officers should be assigned to those districts or areas with significant industrial potential. The development officers should not be subject to, day-by-day control of their activities from state headquarters, but be encouraged to exercise initiative in cooperating with local development organisations.
4. State Directorates should assume major responsibility for the preparation of area economic surveys, relieving the Small Industries Service Institutes of this function. Uniform techniques for modified area surveys, as developed by the Central Small Industries Organisation and the SIET Institute should be taught at the institute and followed by the State economic investigation staffs.
5. States should handle registration, statistical collection, and other administrative functions related to small industries. They should be required, however, to perform these duties in a consistent manner, as prescribed by the Centre, in order to assure uniformity and comparability of data.
6. States should make full use of Small Industry Extension Training Institute facilities to train district industry and development officers, economic investigation teams, extension officers, and others as necessary to provide sufficient numbers of adequately trained staff for the positions.
7. In most States, Directors and Joint Directors of Industries belong to the All-India administrative cadre and are therefore subject to frequent transfers inconsistent with stable policies or effective programme implementation. As industrial development has to be viewed in long-term perspective, continuity of policies and programmes is most important, yet it cannot be maintained under present administrative procedures. Each State should establish a special cadre of officers under some such designation as "Industrial Development Service". Men recruited to this service should have industrial-type training and experience, and also have, or be given in service, additional training in development work and administration. Avenues of promotion should be open to them from junior posts in the districts all the way to the top of the industry directorate.
8. As no State has formulated its small industry policy in adequate detail, objectives are often not clear to those engaged in carrying out the programmes, and the programmes themselves are usually amalgams of schemes pieced together without any well-defined objectives to be achieved within specified time limits. Each State visited is placing a great deal of emphasis on area development. While this may be desirable in itself, the selection of areas, policy formulation, and determination of programmes

to be undertaken require careful and detailed planning. The Director himself is too busy to devote adequate time to such complex though vital questions. We recommend, therefore, that in each State Directorate of Industries a small Planning Division be established headed by an Industrial Adviser whose functions would be to: (a) Assist State authorities in industry policy formulation and programme evaluation; (b) Assist the Directorate of Industries in small industry planning and research at the State level; (c) Organise and arrange for training of District Industries Officers; (d) Help in laying down priorities in terms of policy objectives, and monitor progress in achieving these objectives; (e) Maintain close relationship with the Planning staff in the CSIO; (f) Give special attention to all measures designed to maintain and build small industry in the State. A few States have already moved in this direction. But looking to the problems of and possibilities for future developments in this field, we believe it imperative that all State Industries Directorates be strengthened in this manner.

With a clear and logical separation of functions between the SISIs and the State Industries Department, and with the former confining their activities to industrial extension services (technical, economic, and business management), it is expected that the problems of coordination between Centre and State agencies will be reduced significantly.

## The National Small Industries Corporation

Incorporated as a private limited company early in 1955, the National Small Industries Corporation has been instrumental during the past 8 years in assisting small industrialists to obtain both imported and domestic equipment on hire purchase basis, to develop new markets for their products, to have better working facilities through the construction of pilot industrial estates, and to benefit from prototype production and training centres which it operates.

In the beginning the Corporation had subsidiary corporations in New Delhi, Calcutta, Bombay, and Madras, each concerned with a definite geographical zone of operations. Since 1961 these have operated as branches of the Corporation.

The pilot activities of the Corporation were of more importance in the early period. The principal function of the Corporation for the past several years has been to supply machinery on hire purchase terms to small units unable to obtain modern equipment through conventional channels.

### 1. *Hire-Purchase Programme*

During the visits of the Team to various states, both state industry officers and numerous small industry entrepreneurs called attention to the uncertainties, delays, and paper work involved in using NSIC facilities. At the same time it was known that the Corporation had instituted several administrative and procedural changes to overcome these difficulties. The Working Group for the International Team, therefore, was asked to study the operation of the hire purchase scheme. The study consisted of 95 random sample cases drawn from a total of 2,069 accepted applications in the northern region comprising six States. Of these 95 cases studied, it was found that machines were delivered to 35 applicants, 39 applications were withdrawn, and 21 were yet to be finally disposed of. Thirty-five applicants had failed to pay the 'earnest money' deposit, ranging from 5 to 20 per cent of the value of the machines, properly required before machines are ordered. A considerable amount of lost effort was involved in delivering machines to less than 40 per cent of the applicants.

Industry-wise analysis of the applicants reveals heavy concentration in machine tools and parts, light mechanical engineering, and chemicals. This distribution reflects the deliberate policy of CSIO and the Corporation to encourage certain types of industries in preference to others. In industrialised Delhi and Punjab, two-thirds of the applications were from existing firms, but in less developed Jammu & Kashmir this proportion was

reversed, and all the applications from undeveloped Himachal Pradesh were from new entrepreneurs.

The time between initial application to the State Director of Industries and delivery of machines by the Corporation ranged from 7 to 42 months, with 25-30 months as the most common period required. Since 1961, there has been a significant reduction in the average disposal time, both by the States and the Corporation. For example, cases disposed of by the Corporation within 12 months increased from 17 to 80 per cent.

Until the exhaustion of funds for imports in late 1962, nearly 77 per cent of the value of machinery supplied was imported, with only 23 per cent supplied from domestic sources. It is obvious that the scheme was much more useful, given foreign exchange shortages, for the procurement of imported than domestic equipment, and that applicants for domestic equipment generally were able to find other sources of funds for their requirements.

At the end of November 1962, payments for 359 machines were in default from 145 small units, in the amount of Rs 6.25 lakh out of a total of Rs 309.35 lakh of machinery supplied in the Northern Region. Instalments were long overdue for 188 machines, and 171 came into default during the single month of November. The fact that payments were in default for about 15 per cent of the machines supplied in the region indicates that a serious situation is likely to develop in this regard if raw material shortages persist.

Some of the defaulters interviewed in the study blamed the Corporation for the situation for various reasons, but the majority of the delayed payments appear to be the result of lack of raw materials or proper planning. It is evident that improved coordination is needed among the agencies concerned, not only in assessing the economic potential and financial and management strength of the individual applicants, but also in the subsequent supply of materials, power and components. Unless special action is taken promptly to alleviate raw material problems of small industry, consideration should be given on loan applications to see whether assisted firms will have sufficient supplies to operate economically, and be able to repay hire purchase loans.

It is ironic and unfortunate that the simplified procedures, instituted in 1962, designed to shorten the period between application for and delivery of machinery, came at a time when free foreign exchange loans for this purpose were being exhausted. This has caused a virtual halt in the operation of the Corporation's activities in supplying imported machinery and raises basic questions regarding its future if further imports cannot be provided. Also, as noted elsewhere in this report, because of the present excess capacity in small units due in large part to shortage of raw materials and components, there is probably greater necessity to provide these essential materials until a better balance of capacity utilisation is attained in the small scale sector. There are, though, still the important key equipment shortages of many firms producing priority capital goods for the economy. What appears necessary at this time is a review of the overall equipment and materials situation for the small scale sector and the formulation of policies, based on these findings, which would include the delineation of the proper role for the National Small Industries Corporation during the shortage period.

A review of the problems of small business should be undertaken to see whether small firms actually require the services of the Corporation to purchase domestic machinery for them. Also, it should be considered whether there is need for NSIC financing of such purchases or whether medium-term State or Centre loans might not serve the needs adequately. Similarly, it might be considered whether the foreign import requirements of small industry need necessarily to be tied with a compulsory loan provision. Given the shortages of foreign equipment, the granting of import license privileges alone might suffice. A better case for further foreign exchange loan assistance from aiding countries and institutions

could be made if additional equipment, or supplies, for small industry could be assured to flow into priority product lines, i.e., those needed for capital and defence goods production.

As a government corporation, the National Small Industries Corporation should be a model of efficiency and integrity in all its procedures and dealings. The Team recommends, along with the above considerations, the installation of the most modern accounting and control systems consistent with the Corporation's scale of operations. More suitable office space would also be in order to improve efficiency and reduce operating costs. The present system, though significantly improved, might be reviewed to delete still unnecessary cautionary checking on prices, quality, and other purchase aspects which go beyond considerations of supplying machinery. Some of these advisory services now provided at the Centre could be better delegated to state officers on the spot.

As every State has, or is contemplating, a Small Industry Corporation to perform a range of activities similar to or even greater than those of the National Small Industries Corporation, we question whether there is any longer a need for continuing the branches of the National Small Industries Corporation. Their functions could progressively be transferred to the State corporations under agreements by which they would serve as National Small Industries Corporation agencies in their respective states. This would initially require consideration of a system of training, liaison, and reporting, especially if foreign exchange functions were to be handled in the Centre with accountability to foreign lending agencies. However, it is believed that the National Small Industries Corporation schemes could thereby benefit greater numbers of small industries much more efficiently, and repayments would be improved, without commensurate increases in the administrative burden or undesirable duplication of facilities.

The National and State hire purchase organisations should be operated with strict profit and loss accountability. We do not believe that they should lend funds at lower interest rates than the lending agencies must pay. The services provided should stand on their own merits. Several other interest charge practices might be reviewed. Instead of the present practice of adjusting interest rates in relation to the size of loans, the Corporation lending rates should be uniform regardless of amount and should be adjusted periodically to reflect changes in financial market conditions and national economic policies. Judged by these criteria, the present rates are too low, as has been noted by the Corporation in its presentation to the Small Industries Board in the Spring of 1963.

On the other hand, it should be noted that the present low rates do not fully reflect additional hire purchase advantages to the borrower. Interest rate savings are, despite changes made in the Corporation, still offset to a large degree by uncertainties, delays and other factors inherent in Corporation practices. This is even more true in the operation of State Corporations. When such corporations hold earnest money furnished by the applicants for any period of time; the real cost of the loan to the borrower rises significantly. Enquiry requires that small borrowers be paid interest on such deposits at market rates until the actual date of delivery of the machines. These implicit interest payments may be deducted from the amount of the first instalment due.

It may be deemed necessary for various reasons to retain concessional rates to cooperatives at a slightly lower rate than that charged to private entrepreneurs. However, it is believed that there should be no concession in rates made to ancillary firms, as noted in the section on Ancillaries in this report. We do not believe that these and other concessions to ancillaries are influential in the establishment and maintenance of meaningful ancillary relationships with larger firms. These relationships depend to a much larger extent upon quality and reliability of product, definite delivery schedules, and other product and price improvements. Such special concessions are open to a host of abuses: the vagaries of ancillary contractual relationships, units being ancillaries today and not tomorrow, and captive or false ancillary firms to take advantage of these privileges. For similar

reasons, capital ceiling limitations should apply equally to all individual borrowers, whether or not they are ancillaries.

The study made of operations of the Corporation indicated that much of its efforts were absorbed in dealing with less than serious applicants. We recommend that each application for hire purchase loans should be accompanied by a handling charge deposit of Rs 100 regardless of the value of the machine desired. This would be returnable only if the Corporation could not provide the machinery desired within an originally agree-upon time limit. The charge would tend to weed out tentative applicants and permit the Corporation to handle its business more expeditiously. Interest would be paid to the borrowers until the machinery was delivered. The additional 5 per cent service charge would be retained.

2. *Government Stores Purchase Scheme*

Assistance to small scale enterprises in securing government orders is a legitimate and worthy function for the National Small Industries Corporation. The key to success is, of course, the ability of small units to compete successfully on a price, quality, and reliability basis with all other units. Accordingly, certificates of competency should be granted only after careful investigation and should be subject to immediate cancellation in case of default. This practice will require continuing and even closer liaison between the Corporation and the Director General of Supplies and Disposals inspectorate.

Reservation of certain items of Director General of Supplies and Disposals purchases to the small industries is sound in principle and should be continued. The list should be reviewed at least annually for possible additions in the light of small industry capability and proved competitiveness.

The price preference of up to 15 per cent on category III purchases should be used relatively rarely, as has in fact been the case. It should be reviewed mainly as a device to help the small manufacturer meet the costs of learning how to produce the item in question to government standards. Thereafter he may well be able to furnish supplies efficiently and at low enough cost to obtain contracts on a straight competitive tender basis without price preference. Experience with small industry in India and abroad suggests that this developmental objective can often be attained.

Attempts to extend government purchase schemes to other Central and State Government agencies under equal arrangements should be continued and intensified.

Approximately 10,000 firms have been listed for participation in the Director General of Supplies and Disposals programme, and it is evident that small firms are now supplying larger amounts of goods to Director General of Supplies and Disposals than at any previous time. During the past year purchases from small firms totalled over Rs 14.5 crore, nearly 5 per cent of all Director General of Supplies and Disposals purchases.

Director General of Supplies and Disposals is also the chief purchasing agent for defence requirements, and the National Small Industries Corporation assists small firms to acquire defence contracts. New indents are checked for potential contracts for small firms, and lists are circulated through the Development Commissioner's office to State Directors of Industry every week. To-date at least sixty-three items have been reserved for production by small firms, and we understand that additional reservations are contemplated. This service has been effective, but nevertheless represents only a small step in securing a fair share of defence business for small industry. Realization of their full potential of such contracts is prevented by the raw material allocation system which guarantee scarce raw materials to large firms at fixed prices, but does not do so for small firms. Defence contracts given to large firms carry with them allocations of raw materials, whereas contracts to small firms do not. Hence the latter have a competitive cost disadvantage in bidding to the extent that they must purchase in the open market.

Small units do not have equal opportunities in the rush to place tenders with the Director General of Supplies and Disposals. Specifications are often not furnished to these firms soon enough for them to bid by the established deadlines. Such firms are often unable to meet the requirement that entrepreneurs appear in Delhi to attend "tender" meetings. They face further difficulties, because of their limited technical capabilities to produce against many specifications.

We commend the action of the National Small Industries Corporation in assisting small firms

obtain a greater share of government and defence purchases, and urge that Small Industries Service Institutes and other small industry assistance organisations lend all possible technical help to such producers in their efforts to qualify for a still larger share of this important market.

### 3. *Marketing Division*

We do not believe that the National Small Industries Corporation, or any government corporation, should assume marketing responsibility for the products of small scale manufacturers. The experience of the National Small Industries Corporation is operating various marketing schemes appears to confirm this judgement. For producer and technical products, it does not have the necessary technical sales and service personnel. Such a staff could be built only with great difficulty, and to the detriment of industry in general, which can use such scarce human resources more effectively. An inadequately manned marketing programme would be more harmful than helpful to small manufacturers. For consumer goods, not only is it most difficult for any government enterprise to compete without subsidy with private distribution and sales outlets, but such action represents unfair and unnecessary government competition.

Marketing research assistance should be given by the Small Industries Service Institutes, as at present. The National Small Industries Corporation may properly undertake such marketing assistance programmes as the successful export scheme for leather footwear, but as soon as feasible they should be turned over to associations or cooperatives that can then deal through the State Trading Corporation. The remaining wholesale depot should therefore ultimately follow the six other such depots in liquidation and conversion to private cooperative operation.

Export aid schemes, designed to foster direct business relationships in the field of export marketing between small Indian manufacturers and foreign importers, may be practical measures to overcome many of the difficulties that have prevented the great majority of small manufacturers from enjoying the considerable potential benefits of export marketing, and from making their contribution to the easing of India's foreign exchange problem. The principle of self-help is important. Schemes should be designed to assist the units take such action as may be necessary to improve their products and their export promotion and servicing procedures rather than to perform any direct marketing functions for them.

The present Export Marketing for Small Industries (EASI) pilot scheme, conducted under the aegis of the State Trading Corporation, appeals to us as the type of export marketing assistance that is justified for a Government entity. This or other similar schemes should not attempt to work with more units than they can properly handle at any one time, and should move on to new units as soon as those helped have demonstrated their capacity to "go it alone".

Domestic marketing operations should be closely watched and accurate profit and loss records kept. In preference to expansion of such programme, efforts should be made by the National Small Industries Corporation to help associations or cooperatives in finding suitable sales arrangements with experienced and successful private merchants who will feature the quality products of standardised small industry units. Government wholesale and retail stores cannot hope to operate competitively with private firms.

Similarly, raw material depots are not appropriate to the basic purposes of the National Small Industries Corporation; any necessary government raw materials distribution depots should be the responsibility of State corporations.

Past experience with the import and distribution of cycle components and hosiery knitting needles should be sufficient evidence that such activities be considered as beyond the scope of the Corporation's activities.

### 4. *Works Division*

The Works Division, now having served its principal purpose, should be liquidated. All future industrial estates, prototype training centres, or other facilities can be constructed by either private contractors or the State or Central Government agencies concerned with such activities on a large scale. The Naini Estate (Allahabad) should be transferred to State ownership and operation, in accordance with long-standing plans, as soon as possible, even if a substantial book loss is necessary to effect the transfer.

### 5. *Prototype Production and Training Centres*

Three prototype production and training centres have been set up, with foreign collaboration, to assist small scale industries principally in the fields of metal working and engineering. Machine tools and equipment items are designed, developed, and adapted for Indian conditions using indigenous materials to the extent practicable. Common facility services are offered in many fields ranging from carpentry to material testing and welding.

An important function of the centres is training apprentices, intermediate and advanced trainees, technical assistants, draftsmen, and engineering graduates for industry in a vide range of fields from carpentry to stores handling, and from data processing to designing machine tools.

Under the production transfer schemes, proved machines will be made available to small scale industrialists who will produce them. In the initial stages of transfer, staffs of the successor unit will be trained at the Centre, after which they will be given production responsibility in accordance with a phased schedule. The Centre will continue to feed the unit with components for which they may not have adequate manufacturing equipment, and technical services will be available.

The prototype development programmes should be more closely keyed to the production capabilities of small firms. Small manufacturers must have precision machines to make the types of machines now being produced at the prototype centres. The centres have been making machines that are being sold to small firms for use in production, not as models to be reproduced. This is not, therefore, a prototype activity. If the programme is to be converted to machine production and sales, we suggest it be reviewed and placed on a business cost accountability basis.

At the other end of the line, difficulty has been found in disposing of the considerable quantities of machines and goods produced in two of the centres. As the National Small Industries Corporation and its branches, as well as the State corporations, have few if any technical salesmen, offer incomplete coverage of the country, and have no service facilities, they are hardly in a position to render the required marketing assistance. On the other hand, there are in India several large private companies that appear to be eminently qualified in these respects and that would doubtless act as sales and service agents on a fee or commission basis. At the same time such agents could assist in finding production units to take the items for manufacture.

Full economic charges should be made when the centres take in common facilities work upon the request of industrialists. The centres should resist this type of activity, however, in order to induce entrepreneurs to establish such facilities for themselves. Accurate records should always be kept to show the amounts, kinds and costs of work done, and machine loadings.

These development, production and training centres could well serve as principal sources for high level technical consultation. It would appear desirable to establish specialists in certain specific, limited technologies and to have them spend required amounts of time with manufacturers in their respective specialities. As an example, centre specialists in electric switch design, manufacture, and quality control could raise the quality level of this product line throughout India.

As in other small industry service facilities, non-availability of qualified technical personnel has been a problem that has kept the centres from realising their full potential as quickly as had been hoped. There is no easy solution to this problem in a country where such persons are in premium demand by industry as well as by government. Strict adherence to the right policy of design, development, and training, with as little actual serial production as is consistent with these basic objectives, should help to induce those singularly creative individuals who are less interested in routine manufacturing to participate in the work of these important centres.

In order fully to utilise the available equipment, to obtain maximum design assistance, and to assure adequate training programmes, we believe that each centre should have fully-qualified foreign consultants, each with adequate numbers of Indian counterparts to spread the benefit of their knowledge as widely as possible. Such consultants should remain for at least the first five years of the centre's full operation. This kind of assistance is far more important, and its cost a much better investment than the provision of monumental buildings to house the facilities.

All training programmes of the centres should be subject to review by and approval of an appropriate Industrial Adviser in the Development Commissioner's office, who would have

broad coordinating functions for all small industry training programmes.

Any future prototype production and training centres should be located in large metropolitian cities where the problems of obtaining qualified technical and training staffs, and adequate numbers of trainees, will be minimised. If any of the existing centres (especially Rajkot) cannot be made to operate at a level more nearly approximating its full potential, or on an economic basis, it should be sold for private operation, closed, or transferred to a more suitable location. Under present conditions these centres probably do not justify the high training cost involved in their operation. An immediate cost-benefit review is suggested.

### 6. *Testing, Quality Marking, and Standardisation*

Quality marking schemes, involving testing and a certain standardisation, have been helpful in infusing quality consciousness among both producers and consumers. Such schemes are purely voluntary, however, and of course vary widely among States. Their impact has so far not been as effective as would be possible with more complete participation and greater uniformity of standards among the States and industries covered.

Effective quality marking by government agencies - whether Central or State - requires the establishment and operation of adequate testing and inspection methods, often involving inspection centres or depots. These schemes are expensive to administer, and it is difficult to find inspectors with the required high qualifications. The capacity of present inspection centres would permit considerably more testing activity.

It will no doubt take time before quality consciousness and the idea of quality control and quality marking are accepted both by entrepreneurs and consumers. It is, however, essential that the sense of responsibility for guaranteed quality of products become widespread among the entrepreneurs. The quality marking schemes can, if properly carried out, make a real contribution in this respect. It would be advisable to give industrialists and their associations in the respective fields intensive and continued information about the activity of the present centres, and to take steps to secure their permanent cooperation. In fields where well developed associations exist, it would be reasonable to expect them to give economic support to centres and, later on, to take financial and administrative responsibility for them. Such a step should be effective in stimulating and maintaining high quality standards among their members.

Before new centres are started, a thorough study should be made of the activity and utilisation of centres already in operation and of the cost in relation to anticipated benefits.

A severe drawback for small industries in India is the lack of adequate quality control and specification of raw material. Inferior quality of raw material makes it impossible to guarantee the quality of finished products. More attention should be paid to this sector of quality marking as previously recommended by the first International Teams. We understand, however, the difficulties in this respect imposed by present shortages of raw materials. Technical officers of institutes and extension centres should pay special attention to this problem.

Government agencies should, of course, insist on rigid quality control of all products for which they provide direct marketing assistance. In practice, such quality control should be limited to a few products in special test market programmes and export schemes.

Testing and quality control is closely connected with the problem of standardisation in general. Further steps in this field should take place only in cooperation with the Indian Standards Institution.

## REVIEW ARTICLE*

# REPLICABILITY, DEPENDENCY AND EQUITY ISSUES IN OPERATION FLOOD PROJECTS

Dilip Shah

*Introduction*

This paper is in response to the latest study on India's Operation Flood Projects i.e. *Dairy Aid and Development: India's Operation Flood*, Indo-Dutch Studies on Development Alternatives (IDPAD). There are at least three reasons why this study needs to be responded to.

1. This book is an outcome of a collaborative research done by Indian and Dutch Scholars for almost a decade. Though the exact cost of the *budget* is not known, indications were that it ran into thousands of dollars and was written by thirty different researchers. Considerable intellectual inputs have been reflected in this first major policy of academic *evaluation*. The approach of the study revolved round three major issues (a) Replicability (b) Dependency and (c) Equity.
2. More importantly, this study aimed at an "Objective discussion" as it states, "we have felt that a strictly independent research approach was essential in carving out this project to an end. If this analysis contributes towards an objective discussion on Operation Flood, the aim of the study could have been considered to have been achieved".
3. Most importantly, it may be stated that this study claimed to offer *Alternatives* to the projects and policies of Operation Flood projects. In fact, it is for this reason, that this study could succeed in getting financial support under (IDPAD).

Therefore, the objective of this paper is to examine the study within the framework of major issues of replicability, dependency and equity. We shall examine each of these issues with relevant significant evidences and counter evidences. In the light of this discussion we shall also examine the validity, adaptability and relevance of the major *Alternatives* suggested by this IDPAD study.

REPLICABILITY

The issue of replication of the Anand Pattern of Dairy Cooperatives is of paramount significance as the whole project of Operation Flood (OF) was basically aimed at 'Multiplication of Anand's.

However, in order to place the issue in right perspective it may be noted that replication of the model in terms of its basic principles, functions, structures and objectives is possible. However, its implementation may require some modifications to adjust to local needs, socio-political aspirations, bureaucratic procedures, local institutional environment and leadership which requires longer period for process of change. Moreover, the extent of replication of the Anand Pattern just cannot be possible in terms of *Balanced Growth* [Shah, 1990, Pp. 2-3]. Variations in performance and extent of adoption are inevitable not due to inadequacy of the model under operation but largely due to socio-economic variables and structural dualism of the economy at large in which this model is supposed to operate.

However, it is interesting to note that there are scholars who have attempted to deal with this question even before the IDPAD study and took an extreme stand concluding that the replication of the Anand pattern is an impossible task [George, 1986; Baviskar and Attwood, 1983; Doornbos *et al.* 1988]. Alderman had analysed this problem, reviewed these studies and had ended on this note. 'Although these studies claimed to be empirical, the absence of convincing data to justify their arguments is a major constraint' [Alderman, *et al.*, 1987]. The IDPAD study under review rejects the possibility of replication on the basis of *Regional Concentration* because according to it the Anand models are confined to *Western India*, It says .....

'Although the programme operates in all parts of the country, the number of cooperatives in 1984-85 in the western part of India was about as

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* *Dairy Aid and Development: India's Operation Flood*, Martin Doombos, Frank Van Dorsten, Manosh Mitra and Piet Terhal, Sage Publications, New Delhi, 1990, Pp. 335, Price Rs 250/-.

large as in the rest of India combined' (p 101).

Well, it is a very notable shift in argument. Earlier the Anand pattern model was regarded as a 'State specific' model. Now atleast it has been recognised that it could be applicable to Western India also. Infact, the counter-evidence is such that within Western India, the share of Gujarat in terms of dairy cooperatives is declining very rapidly. In 1974, the share of Gujarat was as high as 89 per cent which declined to 36 per cent and in 1986 it was just 18 per cent. Apart from States like Maharashtra and Rajasthan which are quick in adopting models in India, the Anand pattern has been replicated even in the southern states like Tamilnadu, Karnataka and Andhra Pradesh and also in northern states. Thus, in view of the past record of OF during the 1970s, the achievement of OF-II cannot be under-estimated [Shah, 1990, p. 5]. This should be reviewed in the context of degree of acceptance of any national development programme or scheme by the states in India. Infact, the Jha Committee had made a thorough analysis of the causes for tardy progress in replication by some states and attributed the causes responsible for such performance mainly to external forces which were beyond the control of the project authority [Jha, 1984]. Unfortunately, the IDPAD study undermines the remarks of this national commission for reasons best known to them.

## II
## DEPENDENCY

Since the Operation Flood Project is basically financed through conversion of milk aid into monetary investment, the question of 'dependent development' has attracted great attention among development experts; the question whether the Operation Flood project experiment is a 'dependent development' or 'intelligent use of Food aid' has to be examined in the light of hard facts only. The IDPAD study has devoted a whole chapter to dig out the commercial motivations of the donor-countries in the name of EEC connection but having failed in this regard, it did not fail to remark, without of course any solid evidence, that ..... it is difficult to believe that some commercial considerations did not play a role in the decision to begin allocating dairy aid to Operation Flood (p. 71). However, facts will remain facts and even if such motives did exist, the donor countries could not make such aid as India's imports have not been increasing but rapidly declining even in the form of investment goods. For instance, the commercial imports of milk and milk products had been completely stopped since 1976. However, due to unprecedented prolonged drought for three consecutive years, some imports became inevitable between end 1987-89. It may be noted that the total imports as a percentage of throughput was as high as 75 per cent in 1951-52, and 55 per cent in 1963-64. But within 5 years of Operation Flood project-I, the commercial imports of the gifted material was just 5.9 per cent of the total throughput [Dairy India, 1987, p. 93].

In fact, it is remarkable how facts have been concealed and figures over-estimated. As stated by Atkin, 'Doombos *et al* concede that imports represent the equivalent of only about one per cent of the total throughput of the Indian Dairy Industry, but they claim the proportion of the formal cooperation section to be nearly one third of its output. The latter figure is misleading as the remaining three years available data shows' [Atkins, 1988, p. 306]. In fact, it has been predicted by the IDC authorities as quoted by Atkin that proportion of donated imports will be just 3 per cent by the end of OF-III (1985-90) and is hardly the stuff of abject dependence.

The most interesting fact is that the IDPAD study itself states that 'In more recent years after 1985 the ratio of annual imports of SMP to the total annual procurement has fallen to about 10 per cent or even less as a result of rising procurement levels and more limited donations' (p. 135). Thus, declining import trend strongly goes against the well designed argument of dependent development thus, losing ground.

With reference to the dependence of dairy aid for financial stability, we understand that the investment flow is required to be continued for quite some time to complete the process of modernisation and this investment could be generated by other sources also. This is exactly what we have done in Operation Flood III. Out of the Rs 6,812 million as much as Rs 3,565.90 million have been generated through internal sources. The rest was procured from the World

Bank as loan and dairy aid from EEC. Thus 52 per cent of the total investments have been generated through independent resources. Incidentally, IDPAD has indicated the OF-III outlay as Rs 8,766 million out of which Rs 1,960 million would be generated (p. 108). This does not tally with the officially documented fact [NDDB, 1985, p. 47].

However the study itself has accepted the fact that for financial stability the project authority may not require such support as they say, 'The fact the NDDB/IDC applied to the World Bank and to the EEC for additional funding though having a large amount of financial resources at their disposal, is surprising'.

Thus, it is difficult to believe that we have become a victim of any kind of dependency on imports. On the contrary, we have become import independent through the development of the dairy industry on account of modernisation owing to Operation Flood project. We could substitute imports in the area of (a) Milk products like cheese, baby food powder, etc., (b) Dairy technology, (c) Skilled manpower, and (d) Manufacturing of dairy equipment and processing and product manufacturing plants, etc.

Without going into too many details we may note that prior to the Operation Flood project, the share of the foreign companies was 70 per cent; whereas now there are more than 130 units including 5 large public sector undertakings. Infact, within the entire project the total import as a percentage of total equipment was just 16 per cent. To put the fact in a different way, we may say that 84 per cent of the dairy equipment has been supplied by local manufacturers against tough competition from foreign manufacturers [NDDB, 1986, p. 43].

## III
## EQUITY

The question of equity is quite relevant as dairy development has been regarded as an instrument of development of the rural poor. However, it is also equally known that *Traditional Dairying* cannot do any justice to this task. This has been well stated by the National Commission on Agriculture [Shah, 1987]. The question whether Operation Flood could do this task is a moot question. However, this question of 'equity' requires to be related to Operation Flood project in the *right context.* It is correct to expect that participation of the small and marginal farmers and even landless labourers should be maximum. But to expect that the benefits should also be available to the producers in equal measure is an incorrect expectation, because this project is also working in the same economy which is sharply divided in terms of productive assets including land and animals. Such a structural change redressing the 'inequality' is beyond the scope and capacity of a small project like dairy development through Operation Flood project. The IDPAD attempted to approach this problem through an assessment of 'rural impact'. It is well known that the flood of literature on impact of the Operation Flood projects since 1970 have provided evidence and counter evidence on each of the aspects of economic and social benefit to the weaker sections. Therefore, IDPAD *study could not* but *help* but *deal with these studies.*

They discussed the positive claims observed by various research studies in the form of *hypothetical statements* and contrasted them with opposite hypothetical statements underlying more critical appraisal. Their clearly biased treatment based on their selective studies to suit their arguments is manifest in their report where they regard the opposite hypothesis as *more critical* and portray hypothesis favouring Operation Flood project as *Wishful thinking.* This implies that hypothesis favouring Operation Flood projects were regarded as 'Invalid'. This is not objective but betrays academic honesty. However, in all fairness it must be noted that the IDPAD study accepted that, 'Any lack of validation of 'A' hypothesis does not by implication prove the corresponding 'B' hypothesis to be correct'. For the latter to be validated a separate exercise of verification would per definition, be necessary. In various instances this will prove difficult due to lack of adequate empirical data and similar problems of researchability as they have hampered the testing of various 'A' hypothesis. This means that the hypothesis which are critical to Operation Flood are also invalid enough to make observation against Operation Flood project (p. 191). Thus, after ten years of so called research devoted to Operation Flood

projects surprisingly the IDPAD team could not provide any new evidence either in favour or against the hypothesis and ended up with the conclusion that 'essentially the debate has remained inconclusive' (p. 292).

While examining the evidence and counter-evidence provided by a variety of micro-level village studies, the IDPAD study had attempted to *focus* on 'methodological deficiency' of such studies and observed that the claim of the Operation Flood project's success in the area of *benefits* to weaker sections is largely based on those studies which are methodologically not sound as most of them are based on the *with and without approach.* According to this approach, though found to be very persuasive, *suffers from serious* flaws such as unequal comparison of cooperative and control villages and fails to pay proper attention to various alternative factors which might explain an observed outcome and thus, such studies run the risk of over emphasising the net economic and social efforts of dairy cooperatives. However, despite this, atleast the modest influence of the cooperative dairying is accepted. However, non-acceptance of the 'before and after approach' raises a basic question [Huria and Acharya, 1986]. Is there a more acceptable alternative methodology of evaluation? Why did the authors not suggest or try to arrive at their *own conclusions* based on their independent study with such an alternative methodology? Why did the IDPAD team completely ignore the study conducted by considerably reputed institutes like the Institute of Public Opinion, New Delhi which evaluated the Operation Flood projects with an exactly opposite method i.e. 'Before and after approach' i.e. by taking some data base of 1977-78 as bench mark data collected by NDDB and subsequently data of 2,550 households in 1983 [IIPO XXVII, p. 1.18].

This study was ignored because it provided evidence quite inconvenient to this Indo-Dutch project team. It may be noted that some of the best studies on "impact" recently conducted by the World Bank and IFPRI based on the same approach of 'with and without' approach but with sophisticated econometric treatment have also by and large appreciated the Operation Flood projects [Slade and Mergoes, 1987].

However, despite this, the general conclusion on the benefits to the weaker sections drawn by the IDPAD study is that although dairy cooperatives may have increased the income opportunities of landed milk producers, it has *certainly not reduced the general inequality inherent in the local socio-economic structures.* The evidence further suggests that whatever income gains may have been derived by marginal and small farmer producers, they have hardly made a significant dent in the major problems of poverty and malnutrition [Alderman, 1987].

The statement of the IDPAD project team has thus accepted that (a) income has increased, (b) it has gone to the rural poor i.e. small and marginal farmers, (c) income has not adequately increased to overcome poverty and malnutrition, (d) inequality has not reduced, (e) landless poor producers derived no benefits on account of Operation Flood (Implied).

Though, we have already dealt with this question at length elsewhere, we would like to raise the following points with reference to above stated observation [Shah, 1989].

1. Who are the participants of the projects? What is their socio-economic status? How can we deny the facts contained in large enumeration of studies conducted which have documented that 72 per cent of the households in the Operation Flood regions were marginal farmers and landless labourers and among landless categories 73 per cent belonged to backward classes and only 27 per cent belonged to non-backward classes! Further even the landed beneficiaries having more than 4 hectares of land were hardly 9 per cent [NDDB, 1984]. Thus on what alternative data source can one deny these facts?

2. Is it not true that the distribution of animals is more equitable than land? It has been found that 11 per cent of the households were owned by the small, marginal farmers and landless labourers who constituted about 65 per cent of members in the project area. Even Sambrani has accepted that the share of the poorest producers is 50 per cent greater in holding animals than land [Sambrani, 1981].

3. Is there any evidence to prove that backward

class producers are not allowed to participate in the project? In fact, the study of sociologists like A.S. Patel, Baviskar, and D.P. Apte have shown that 'Caste is not a barrier for participation' in cooperative dairying [Baviskar, 1986, Apte, 1983, and Patel, 1989].

4. Apart from the less skewed animal holding and involvement of poor producers; the access to technology to the poor producers could also be possible. Is it not true that the 'dairy technology at the farm level has remained' *scale neutral?*, as it has been found that the artificial insemination technology has been accepted by 80 per cent of the producers who are small, marginal and landless milk producers.

5. Is it not right to state that the question of inequality is misplaced?

A project related to a sub-sector of the total economy is expected to reduce inequality even if it is accepted that it is a consequence of the socio-economic structure of the country. However, we have evidence to show that unlike other projects, though benefits might have been made in proportion to the animal holdings, the poorest and landless also have benefitted from the project and they were not *completely bypassed.* The fact is that the inequality expanding process has less scope in the dairy sector because as Sambrani states there is a "built in safe guard" against the enlargement of dairy holding and concentration of these productive animals because the relative prices of fodder and milk and the convergence efficiency of the average cattle in India are such that it would not be economical to feed milch cattle with purchased fodder [Sambrani, 1981].

Further, what could the extent of inequality be in the project area among the producing classes of landless labourers and marginal, small and medium landholding producers? On the basis of the IIPO data relating to 17 milksheds we have calculated that the differential income ratio of the landless and large farmer is 138 per cent, between landless and medium farmer 59 per cent and landless and small producer just 38 per cent, This shows that the relevance of significance of the issue with reference to the milk producers' income generated by dairying is not the prime source of income for the producer. Dairying is still a supplementary income-generating activity. Therefore, to expect that it should also create a dent in poverty would be an unreasonable expectation particularly with reference to the landless poor producers. However, it would be wrong to underscore the supplementary income significance of dairying to them.

## IV
## ALTERNATIVE TO OPERATION FLOOD PROJECTS

IDPAD study is a part of the studies devoted to a larger study on alternatives to current development projects. However, out of the whole book consisting of 350 pages hardly *7 pages* deal with the alternatives. If Operation Flood is not worthwhile, an alternative to Operation Flood is obviously expected which should not only be relevant but implementable today. However, the IDPAD study immediately realised its limitation in this area and accepted 'a considerable change in the Indian Dairy economy due to the Operation Flood Projects' and noted that as a result, 'operations for alternative scenarios have been reduced'. However, we may summarise the following four alternatives prescribed by the study since most of them have been suggested by those unrelated to the IDPAD study team [Shah, 1981].

1. Rural production system based on buffalo and goats, etc., and extensive dairying.

2. Rural Liquid Milk consumption as a desirable alternative to urban milk marketing. Instead of large dairy plants, local level processing of milk using local skills and upgradation of household technology for manufacturing traditional dairy products, etc.

3. Urban Milk Marketing through traditional trade between adjacent villages and the urban market and provision for vegetable protein substitutes for the low-income consumers.

4. Institutional alternatives - multi-model-approach against current mono-model of Anand pattern.

These 'alternatives' are clearly not alternatives to the Operation Flood project in the real sense as they are mainly alternative measures and some of them have already been tried prior to the new strategy of dairy development in India. We have described their consequences elsewhere in detail. However, let us examine each one of these four sets of alternatives in detail.

1. The alternative of focusing on breeding, feeding on larger categories of animals including sheep and goats next to that of bovine cattle which would be appropriate for the 'resource poor' is beyond the scope of 'dairy development' and hence obviously not relevant.

2. The second alternative in the form of focussing on buffalo instead of cow is based on this information, viz., that the Operation Flood policy very largely depends upon *improvement of buffalo* and particularly the programmes related to artificial insemination are more emphasised.

3. The selective breeding of indigenous races are not feasible in view of long periods involved. However, even cross-breeding animals with exotic breeds is confined to only 25 per cent of the total animals covered under the National Milk herd programme.

4. Rural Liquid Milk consumption as an alternative to disposal of milk production is feasible. However, have our rural households adequate purchasing power to purchase milk? Moreover, earlier, milk producers were consuming some milk as no alternative existed to convert milk production into monetary income. The latest World Bank study has already demonstrated that the sale of milk contributes more to the welfare of poor households than the consumption in terms of both income and nutrition. Mergos and Slade state 'the increase in the consumption of purchased and home grown calories and protein exceeded the production in calories and protein consumption resulting from the sale of milk and dairy products hitherto consumed. Therefore, rural Milk Consumption as an alternative to milk disposal, portrays the team's ignorance about India's rural poor economy [Mergos and Slade, 1989, p. 131].

5. The alternative of promoting, processing and manufacturing products at household level is also irrelevant and uneconomic as it is well known how 'ghee' was produced to dispose of the surplus milk and found uneconomic. Moreover, the real question is that of a market for profitable disposal [Madhukar, 1968]. Once this is established through cooperatives, this question does not arise at all.

6. With reference to supply of milk to urban consumers all the alternatives suggested have been tried in one way or the other in India. They are not new. However, to what extent will the alternative like the traditional milk trade and supply of vegetable protein substitutes for milk be relevant in resolving the total problem? Do we wish to go back to those old days of supply scarcity, poor quality and high priced milk in the urban area? Moreover, this style of disintegration of marketing and production had adequately damaged dairy development and hence, it would be simply unacceptable in today's context even to think about it.

The alternative of combining donated commodity with domestically produced vegetable protein substitute for milk might be appreciated for the lowest class of consumers but even this class also have not proved having received any benefits from such combined milk. Again these alternatives presume the need for donated milk. Infact, in view of the fast declining gaps between demand and supply of milk owing to Operation Flood projects suggestions of this kind are hardly worth considering.

7. As part of the institutional alternatives a multi-model approach has been advocated on the grounds that it would attempt to stimulate a variety of patterns of dairy development, depending on the ecological and socio-economic conditions in different regions. However, there is no specific alternative indicated. India's cooperative dairy development prior to Operation Flood consisted of a story of such multi-models which failed miserably and their structural limitations became very obvious. Infact, studies now exist which have been devoted to the comparison of such traditional dairy cooperative structures working for a long time serving very limited markets covering equally limited beneficiaries in terms of producers and working within a very limited range with no replication of the 'model' whatsoever even in adjoining talukas [Ranjana, 1990, p. 333, and Shah]. As such traditional cooperatives can work only within the boundary of urban areas; covering remote village producers is just impossible owing to lack of modern marketing system, and integrated structures. In fact, the latest studies have established the superiority of the Anand Pattern of integrated dairy cooperative structure once again [Shah]. Therefore,

the idea of a multi-model approach sounds quite interesting but in the context of integrated dairy development through smallest producers of the remotest village areas, there is no real alternative to the Anand model [Ranade *et al*, 1988].

Thus, the study provides no serious alternative to the Operation Flood projects in a real sense. In fact, some of the measures suggested as alternatives, have either already been tried out or have no relevance today.

## V
## OBJECTIVITY

One of the major aims of the study was to provide objective discussion with reference to the Operation Flood projects. Instead, the study leads one to believe that the IDPAD has not abided by the *objective approach* and has failed to provide an objective discussion on the OF project. Our conclusion is based on the following observations.

1. The Operation Flood project is a development project which gathered momentum in terms of strength and status reflecting positive impacts and benefits over a period of time. Initial teething problems of projects of such magnitude are inevitable. There is a clear reflection of bias in the choice of the period. The study which appeared in 1990 was completely ignored. This study involved discussions which pertained to more successful periods of Operation Flood i.e. during 1985-90 when it actually started bearing fruit.

This means that the tremendous efforts made by the project authorities in the implementation of Operation Flood I and II have not been reflected in the assessment of this project.

2. The study is biased and lacks objectivity in the collection of relevant studies and reports. For example, some of the studies have not been covered for the review simply because they were sponsored studies. Paradoxically, the IDPAD itself had to base itself on thirty sponsored studies for its own purpose. Even some of the excellent studies conducted by the agencies like the World Bank, IFRI and National Institutes of India have been underplayed. Similar is the approach in the selection of reports. The reports of the EEC, World Bank Mission and Nationally appointed evaluation committees have not been given adequate place in the study simply because these reports have ultimately admired the Operation Flood project. Can any committee or commission work without basic data? What is wrong if an institution like the NDDB helps such committees in this regard? How can we believe a study which most conveniently and frequently quotes that 'The court of the auditor report is a better study than the JHA Committee report'.

3. The non-objective approach is also reflected in the discussion of impact studies which were favourable to Operation Flood Projects. i.e. *'A' class hypotheses* were dismissed as wishful thinking while findings of other studies which were critical to Operation Flood were given atleast the benefit of doubt.

4. The less than objective approach of the study has also been manifest by ignoring some of the obvious contradictions and misinterpretations of concepts. For example, it is argued that imports tend to depress production but at the same time increase in the production of milk is not rejected, though the role of the Operation Flood project in raising production levels is denied. The concept of 'landless' is also twisted in the sense that the 'landless' class in the rural economy also covers some non-agriculturally better off classes which have been totally ignored while emphasising on the landless and benefits of the Operation Flood projects to their classes.

5. Finally, the simplest test of any objective enquiry is to take cognisance of some 'good' aspects of the project. Possibility of everything being wrong cannot be accepted particularly when the Operation Flood project has been recognised by the world at large. This biased study has committed another simple avoidable error: for example, P.J. Atkins states that out of the 21 working papers published even *qualified support* for *Operation Flood project and most are highly critical* [Atkins, 1988, p. 305] . Thus, the IDPAD provides no balanced account of the Operation Flood projects and hence cannot be regarded as an objective study.

Thus, the IDPAD study has not served any objective except perhaps for highlighting some of the issues and problems which crop up in the implementation of such a vast project covering a vast nation with numerous regional diversities and differential capabilities.

The changing style and approach of the project authority of the Operation Flood projects provide adequate evidence that there is enough dynamism and pragmatism with them to take care of such problems and ensure best implementation of the project.

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# BOOK REVIEWS

Thomas Isaac T.M., P.A. Van Stuijvenberg, and K.N. Nair - *Modernisation and Employment* Indo-Dutch Studies On Development Alternatives - 10, Sage Publications, New Delhi, 1992, Pp. 249, Price Rs 250/-.

Inspite of the generally good performance of the Indian economy during the 1980s, the economy also suffered from some disturbing trends, particularly those on the employment front. As the Government of India itself has admitted, the elasticity of employment with respect to aggregate output has been declining in recent years. Opportunities for growth in employment both in the agricultural as well as organised industrial sector have remained limited with the result that unfortunately the growth in employment has not kept pace with the growth in the labour force.

This is one issue which has caused great concern all around and has generated debate about what strategy should be evolved to improve the situation. The book under review takes up precisely this problem for discussion. In the words of the authors, 'Given the scarcity of capital and abundance of labour, it is widely accepted that strategies for employment generation should place more emphasis on labour-intensive and land-saving techniques in agriculture, and labour-intensive industrialisation' (p. 18).

According to them, 'Major elements in this strategy include an expansion of employment in the agricultural sector by investing in activities like land development and the construction of rural infrastructures, creation of non-farm employment through rural industrialisation, development of agro-based industries and the revival and modernisation of traditional industries. The measures suggested for the development of these traditional industries include (1) an upgrading of technology, (2) assured access to raw materials and credit, (3) technical and marketing assistance in adjusting to changing market conditions, and (4) altering the practice of relying exclusively on state-aided interventions by forming worker associations or co-operatives' (p. 18).

They illustrate their point with reference to the coir industry in Kerala, which they describe in great detail and find that it shows a decline in the number of enterprises, increased capital intensity and a fall in employment. Further, the industry was characterised by low levels of capital and labour productivity, low wages and an inferior product quality. In the light of this experience, the authors suggest specific measures for improvement, which, they hope, will ease the employment situation and will serve as an example for other similar industries. These efforts raise policy issues relating to technology, employment and the organisation of production.

The modernization of traditional industries like coir attains significance in this context. These industries are characterised by very low levels of capital and labour productivity, low wages and an inferior product quality. It is increasingly felt that technological change is necessary in order to sustain and develop these industries. However, technological change may also result in the displacement of labour, unless it is accompanied by a rapid expansion of the industrial base. In most of these industries, this may only take place at a slow pace. Therefore, the management and development of technologies for the growth of traditional industries will be a challenging task. What is important is to examine the various technological alternatives available for these industries and to choose a technology mix that will minimise labour displacement, but, at the same time, result in higher capital and labour productivity, improved product qualities and better wages for the workers.

Generalising from the experience of coir industry in Kerala, the authors stress the need for combining technological upgradation of traditional small-scale industries with an employment policy so as to minimise the displacement that may arise due to technological change. Such a compromise between technology and employment objectives should result in 'appropriate technologies'. This exercise is beset with problems. According to the authors, given the vital importance of employment generation and of a growth in capital and labour productivity, it is essential to evolve a policy framework that encompasses not only the particular industry or group of industries, but also other relevant industries. Such a framework has to be based on

extensive analysis of the socio-political, economic and technological factors which shape the trends in the concerned industries.

For example, attempts to promote technological upgradation may be confronted with difficulties arising out of low levels of literacy and skill formation among the poor. Therefore, a successful adoption of new technologies requires improvement in education and human capital formation.

There are differing views on how to achieve this objective - ranging from leaving the choice of technology to the private sector to controlling it fully at the government level.

The authors point out that the development of appropriate technologies requires policies which are directed towards strengthening rural linkages. Since there are variations in the nature of raw materials used across industries, the linkages would also vary significantly. In the same way, technology and employment policy may also vary across industries and regions. The authors, therefore, feel that in order to evolve policies that promote technological upgradation in specific regions, in-depth analyses are required of the particular industry keeping in mind the issues outlined earlier.

Coir industry in Kerala is studied by the authors in this spirit. They point out that the main objective of the study is to review the socio-political, economic and technological factors that affect trends in the coir industry in Kerala, so as to bring out the main issues that need to be understood in order to contribute to the development of the sector. In order to do this, they examine items like world import demand and supply of coir and its products, trends in production and consumption of the same, trends in coconut production and technologies adopted, etc. They point out that due to limitation of space, they have not been able to deal with all these aspects exhaustively. However, in their opinion, 'such limitations do not affect' 'the principal merit of this study, which is to identify the challenges that Kerala's coir industry is facing and to provide an outline for an approach to the technological modernisation of the industry' (p. 24).

The study covers several important facets of the coir industry in Kerala including, among others, a historical analysis of the current crisis and policy stalemate in the industry; country-wise and product-wise analysis of trends in imports of coir products in the major countries; domestic demand and supply; their state-wise distribution; the present scarcity of coconut husks in Kerala; spectrum of technologies available. On the basis of these facts, the study tries to suggest some policy measures needed for the revitalisation of this important industry in Kerala.

Kerala with her favourable ecological setting, abundant supply of coconuts, and cheap labour, has provided the necessary conditions for the growth and development of the world's largest coir industry.

Over time, the industry has emerged as the second most important source of labour employment in the state. It is estimated that the industry employs 2,50,000 to 5,00,000 workers, equalling 3.5 to 7 per cent of the working population. Production in these units is predominantly carried out on the basis of traditional technologies. Apart from a low level of skills, the workers' earnings are very low, causing most of them to live under conditions of poverty and malnutrition. This has been accompanied by a decline in the world demand for coir and coir products, reduction of the availability of raw materials, and the rapid growth of competing mechanised processing in the adjoining states.

It has been pointed out that the industry is currently passing through a difficult phase. The authors advance an explanation for the importance of this industry in terms of employment as follows, 'The low labour-intensity of tree crops, such as coconuts, and the prevalence of wage labour relations in the agrarian sector of the state make it difficult to accommodate the increasing population within the agricultural sector. As a consequence, the growing workforce has been pushed into various non-agricultural occupations. Its characteristic features such as the labour-intensive handicraft technology, the petty production structure (with ample opportunities for

different forms and degrees of self-employment and self-exploitation), the customary worksharing arrangements, etc., make coir an eminently suitable sector for accommodating the surplus population that could not find gainful employment elsewhere. As a result, it is the single largest employment source after agriculture in the coastal tracts of Kerala' (p. 29).

The authors then trace the history of the industry in Kerala, particularly its traditional and archaic production technology and the domination by the merchant capital. On the whole, the wages in the industry have been low and have led to the spread of trade unionism. According to the authors, the entrepreneurial response to the same was decentralisation of production and introduction of mechanisation. This latter meant large-scale displacement of workers and the resultant discontent in the coir belt. The associated violence caused a set-back to further efforts towards modernisation, thereby affecting exports of coir products.

This model of development in Kerala has, however, recently come under severe strain due to a failure to accelerate economic growth. The slow growth of employment opportunities in the modern sector has not been conducive towards easing the unemployment problem. As a result, the agro-based small-scale and traditional industries have had to continue their vital role of absorbing the residual labour force.

Promotion of appropriate technologies also warrants an understanding of the constraints and prospects for a growth in demand for the products manufactured. At a later stage, the authors analyse the nature of both the international and domestic market for these products, including the market share of the respective competitors, and they also examine the need for improvement in the product quality, product mix and the export promotion performance.

As it is, the international scene is not too encouraging for exports of coir goods. And on top of it, there is a large scope for some other coconut producing countries to establish similar units, thereby adding to the competition. This will create further difficulties for our export effort. To complicate matters further, the trend in the world market is towards using synthetic material, although again of late there is some tendency towards going in for utilising natural raw material.

As stated by the authors, the strategy for modernisation of a traditional industry in an underdeveloped economy characterised by a high level of relative surplus population and chronic unemployment, has been the central theme of the book. The authors have identified the following factors as needed for modernisation of traditional industries: (1) upgradation of production technology; (2) assurance of access to raw material and credit; (3) technical and marketing assistance for adjusting to changing market conditions; and (4) the need for forming worker associations.

The complementary policies required for the future development of the coir industry have been identified as follows: (1) proper labour market and wage rate policies; (2) appropriate exchange rate policies, so as to ensure the continued viability of exports; (3) a congenial export policy; (4) agricultural pricing policies helping in the increasing supply of coconut husk; (5) improvement in infrastructural facilities; (6) an appropriate credit policy; and (7) a mechanism for absorbing the coir workers rendered surplus, etc.

On the whole, the book gives a fairly comprehensive account of the coir industry in Kerala and its importance in the economy of the State, especially in terms of employment generation. They have made some concrete suggestions in this behalf and are hopeful that action along the lines suggested by them would go a long way towards solving the problems of the coir industry in Kerala and also help in employment creation. It should also serve as an illustration for similar industries in other states as well.

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Ray, Rajat Kanta, (Ed.), *Entrepreneurship and Industry in India, 1800-1947*, 1992, Oxford University Press, Delhi, Pp. 260, Price 240/-.

This book contains eight selected essays by eminent economists and historians on entrepreneurship and industry in India during the period 1800-1947. The editor has chosen these essays carefully, to present a vivid picture of the current events that moulded the pattern of Indian enterprise. N.K. Sinha's 'Indian Business Enterprise: Its failure in Calcutta 1800-1848' provides an account of the reasons for the rise and fall of private enterprises located in Calcutta. In depth studies of entrepreneurship in Eastern as well as Western India have been made by Amiya Kumar Bagchi in his 'European and Indian Entrepreneurship in India 1900-1930' and in Omkar Goswami 'Sahibs, Babus, and Banias: Change in Industrial Control in Eastern India 1918-1950'. 'The Origins of Parsi Enterprise' by Ashok V. Desai and 'Three Types of Marwari Firms' by Thomas A. Timberg, give us a full - blown account of the role played by these two prominent merchant communities in the industrial evolution of the two important commercial regions during the same period. Blair B. Kling seeks to bring into focus in his essay 'The Origins of the Managing Agency System', the genesis functions and difficulties faced by the Managing Agency System, a prime factor in industrial growth particularly in Eastern India. 'The Pattern of British Enterprise in India - A Causal Analysis' by A.K. Sen is a comprehensive analysis of the unwillingness of British business to invest in the growth of two key manufacturing industries, namely cotton textile and iron and steel, which ironically ushered the Industrial Revolution in Britain. M.D. Morris writes on 'Indian Industry and Business in the Age of Lassiez Faire'.

The book starts with a sixty-nine page introduction by the editor giving a critical overview of the above essays, coupled with his personal opinion. He has discussed at length the diverse and often contradictory views of the authors on the basic question - why is it that India failed to industrialise in spite of the opportunities provided by extensive railway development in the 19th century and later during World War II?

Out of the eight essays, seven blame the narrow mercantalism of the colonial rulers for India's industrial stagnation. Only one, that of M.D. Morris, acts as a counter-weight by arguing that India was too backward to take advantage of the opportunities available. The reader would have appreciated some more material in support of the contrary view in order to form a proper judgement. Neverthless, every view has been thoroughly investigated and substantiated by tables wherever required, keeping in mind the availability of complete data.

To identify the reasons for the economic stagnation during the colonial rule, the editor has roughly identified three distinct phases of industrial growth in India: (1). 1850-1914: Development of mainly export - oriented industries like mining, tea, jute, light manufacturing. (2). 1914-1939: Development of a new range of light manufacture based on tariff protection, facing fierce foreign competition, traditional cotton textile and sugar industry using relatively simple technology. and (3). 1939-1947: Development of capital goods industry, heavy engineering and chemical industry.

In the early part of the nineteenth century there was a fair amount of Indo-British collaboration resulting in some joint ventures e.g. Carr, Tagore & Co. These alliances took place despite glaring instances of dishonesty by big British firms and their subsequent insolvency in 1830-33. Blair Kling gives details of these ventures citing outstanding entrepreneurs, Dwarkanath Tagore, Jamsetjee Jeejeebhoy, Cowasji, as responsible for this.

These collaborations ceased as soon as technological and organisational changes took place. Between 1850-1880, the development of railways, telegraph, overseas cables and the Suez Canal led to a shift of trade away from small Indian firms to larger European firms. In spite of the railway construction, the single most significant injection of British capital, the net inflow of foreign private capital into India was nil, because large portions leaked abroad as payments for the

imported track material, locomotives and technical personnel. This was aggravated by insidious recruitment policies of the Government and the enormous wage differential between an average Indian (£ 2 - £ 3/yr) and an average European (£ 300 - £ 7000/yr: Data for 1900). Moreover, the extensive network of railways along with discriminatory railway rate policy accelerated the orientation of British business towards exports of raw material to Britain and distribution of imported products in India. This 'one way free trade' retarded India's industrial development at a critical stage, when the coming of the railways, could have made a breakthrough in industrialisation as it did in the United States.

The shift of exchange banks to London and the monopoly of steamship lines seem to have edged out native enterprises through drastic rate wars. In this climate, the Indian collaborators lost out and there was a clear division of business that was to be handled by the British and that to be handled by the Indians. However, Morris contends that it was the more profitable activities in the Bazaar - the domestic money market - that turned Indian entrepreneurs away from setting up industrial ventures. But, Bagchi and the editor cite the race bar as the prime deterrent to the development of Indian enterprise.

There was further division of economic space between Indians and Britons because of active discrimination by agency houses as well. The British firms organised into trade associations, barring Indians from being members to minimise the threat of external challenge and ready access to their own organised money market at rates lower than the traditional sector buttressed the dominance of managing agencies. Deliberate limiting of technical education to Indians also acted as a hindrance to technological progress.

Thus, Indians had no other choice but to be 'relegated to the intermediate tier of the economy.' to concentrate on inland distribution of food, imported manufactures and financial activities related to this. Hence, the bazaar economy flourished rapidly. A number of pioneering small Indian firms came to be floated by speculators who were basically traders, shippers and financiers in quest of quick money. Marwari and Gujarati merchants became important and business became closely integrated through their up - country contacts.

The picture of industrial growth in Calcutta was different. The Indian collaborators here had to face unscrupulous banks. The great Union Bank crashed in 1847 due to improper banking practices and mismanagement, which wiped out the immense trust in British firms. Similarly, the 1865 cotton speculation led to the collapse of many large business houses both in Bombay and Calcutta. Thereafter the East-Indian merchants especially Bengalis took to subinfeudation for safe investment of their wealth. N.K. Sinha attributes 'terramania' as responsible for their taking to Zamindari, while Omkar Goswami cites low - capital base and resource crunch as reasons for the collapse of Bengali firms.

In contrast, the Parsis benefited from being in a favourable position for capital accumulation through tax farming and from close contacts with the British as their brokers and agents (and not by virtue of their 'protestant or immigrant ethic') and carved out a niche in trade and industry. The editor agrees in this regard with Desai and Bagchi who have hinted at a special relationship between the Parsis and the British which led to their playing a part in industry 'disproportionate to their numbers'. This sounds more like a snub than a ready acceptance of their role in building up Indian industry.

During the end of the 19th century and early part of the 20th century, the growth of cotton textile industry by Parsis, Khojas, and Bhatias, in Bombay and by Hindus, and Jains in Ahmadabad was significant. The rise of these communities is given in ample detail by Timberg, Desai and Goswami. These merchants benefited from inland contacts. The Swadeshi Movement in 1905 provided further impetus and thus created a large market for cotton goods a point noted by A.K. Sen. These communities also attained a 'toehold' in shipping and opium trade with China.

Apart from cotton textile, Indians were largely responsible for the growth of the Iron & Steel industry. The momentous birth of TISCO in 1907

and its subsequent success, (unlike foiled British) was mainly due to two factors (1) extreme care taken on the choice of location through expert technicians which subsequently made it a relatively profitable venture (2) Lord Curzon's support. Significantly the Tatas raised all the money in Bombay after having failed to raise the required capital in London. A.K. Sen argues that the setting up of the Iron & Steel industry was encouraged by the British because the industry had much less serious consequences for British production than it would have had in the absence of Belgian and German competition.

The jute industry and coal mining, pioneered and hitherto developed by the British Agency House had to encounter the 'growing menace of Indian take overs' by Marwaris after World War I. Omkar Goswami details the manner in which these take-over took place: (1) sharp oscillations in share prices' during the inter-war period prompted the unloading of shares which were purchased by Marwaris (2) blocks of jute mills shares were accepted as collateral while advancing loans to these agencies (3) direct entry.

There was a continuous advance by Indians in developing relatively simple industries like jute. coal, tea, sugar, cement and paper under a policy of discriminating protection. There is a general agreement that the inter-war period witnessed a limited (rather mixed) yet notable growth of Indian industry; but this was lop-sided due to skewed British policies. The editor recounts a second opportunity for India to industrialise was missed during the World War II. The government obstructed massive investments in social overheads and plans of Indian businessmen despite Lord Ripons support, on the grounds that new ventures would divert industrial resources from immediate war needs.

The editors opinion may then be summarised in Daniel Thorner's words "Had the British never come to India the great likelihood is not that India would by now have transformed itself into a leading economic power, but rather that there would have been an even slighter degree of industrialisation. As things did happen Indian development under the British has been strangely lop-sided. Amidst a general landscape characterized by backwardness and perhaps even retrogression there stand out a few substantial economic achievements".

Altogether an eminently readable and instructive book. The editor's painstaking collection of bibliographies is enormously useful for research purposes.

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Kurien, C.T. *The Economy, An Interpretative Introduction*, Sage Publications, New Delhi, 1992, Pp. 436, Price Rs 295/-.

The book opens with a promise but ends with little fulfilment of it. The author's instincts are right but they are effectively smothered by his ideological (Marxist) preoccupations. The result is a major disappointment.

The author holds correctly, that the economy, its structure and functioning, is the heart of the teaching of economics instead of the unrealistic neo-classical theory that is at present taught. The Part I of the book 'understanding the economy' opens with a discussion of the concept of an economy and arrives at the following working definition: 'An economy is a structure of relationships among a group of people in terms of the manner in which they exercise control over resources, use resources and labour in the production of goods and services, and define and settle the claims of members over what is produced' (p. 20) Then follows a discussion of ideal types of economies from olden to modern types like tribal, village, capitalist, etc., because while economies differ from one another a great deal in terms of their social organisation and are time and space specified, there is not much diversity as far as organising principles are concerned. There are only two such principles (1) use value and exchange value (2) accumulation of exchange value. This frankly one-sided oriented instrument of analysis based on purely abstract and analytical concepts sails along fairly well and

merrily in discussing the ideal types of economies but comes to grief in the Part II- The Indian Economy where it has to come to grips with actualities and empirical facts.

All actual economies are mixed and they do not conform to the ideal types. Positing that the Indian economy is an economy in capitalist transition and therefore a mixed economy the auther begins by searching for the basic units of the structure of the Indian economy. He opines that it can be described not as a dual economy but as a multi-structural economy (p. 226). He soon discovers that in reality the units of the structure have hazy boundaries combining functions that can be analytically distinguished. But the basic analytical concepts are not empirical concepts and it is futile to describe the Indian economy in terms of these. The following analysis then becomes as abstract as the concepts and instead of yielding any new insights it degenerates into the all familiar and insipid critique by the leftists of the economic development and policy in India since Independence. It is quite an anticlimax.

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Hussain, M. - *The Assam Movement Class, Ideology and Identity*, Manak Publications Pvt. Ltd., Delhi 1993, Pp. xvi+328, Price Rs 500/-.

The 'Assam Movement' as it is popularly known, began, with the agitations in 1979 for the removal of 'all foreigners' from the State. Since then a large number of books and articles have been written by historians, journalists, administrators, sociologists, politicians and the lay public, each giving their own point of view of the causes of the agitation and/or what was required to be done. M. Hussain's book is one more addition to this list of publications. Being a sociologist, the author examines the nature of the problem in relation to its past history, the different ethnic groups who came and occupied this region over the centuries, and the pressure groups which ultimately fomented the movement in the State.

For facility of discussion, the author has used the term 'Asamiya' to denote all those nationals of the State who accepted Asamiya as their mother tongue. This distinction was made because, at times, all inhabitants, who were domiciled in Assam were 'called 'Assamese'. Thus, 'Asamiyas' included (a) the non-caste Asamiya Hindus like *Ahoms, Koch-Rajbonshis, Morans, Motaks, Chutiyas, Deuris* and *Kocharis;* (b) caste Hindus composing *Brahmins, Gonaks, Kayasthas* and *Kalitas;* (c) Muslims comprising *Syeds, Shaikhs, Morias* and *Julahas;* and (d) other lowly placed castes. The black tribals (mainly tea-plantation labour), and the na-Asamiya Muslims who entered the State during the first half of the present century were also slowly assimilating into the Asamiya nationality. The autochthon tribals were the original inhabitants of the State and are recognised as the Scheduled Tribes under the Constitution. They include (i) the hill tribes of the Karbi Anglong and North Cachar districts inhabited mainly by the *Karbis,* and the *Dimasa-Kacharis,* respectively. These two districts have their own autonomous district councils under provisions of the Sixth Schedule of the Constitution of India. (ii) The major tribes of the plains included the *Bodos, Ravas, Tiwas, Mishings, Sonawals* and *Deoris;* they did not get the autonomy as provided to the hill tribals and tended to merge their tribal dialects into the 'Asamiya' language. The author considered all other nationals, *viz.,* Bengalis, Nepalis, Marwaris, Biharis, and Bangla Deshis, etc., as non-Asamiyas.

The fundamental ideological plank of the Assam movement was that the 'Asamiyas' as a nationality was facing a crisis of socio-economic, cultural and political identity in their own homeland, in the face of continuous immigration to Assam from outside (p. 19).

The book is divided in two parts with eight chapters. Part I, having five chapters, including the introductory chapter, traces the society in Assam in the pre-colonial period (i.e. before the advent of British administration), to the changes

that took place in colonial Assam (ch. 2), the post-independence developments in Assam (ch. 3), and the Assam movement since its inception and until the signing of the Assam Accord in 1985 (chs. 4 and 5).

Thus in chapter 2, the author mentions that Assam was a self-sufficient economy ruled by the Ahom kings from 1228 to 1826. Their kingdom comprised the undivided districts of Lakhimpur, Sibsagar, Nowgong, Darrang, Kamrup and parts of the Karbi-Anglong district. The overwhelming majority of the people at that time belonged to the non-Aryan Mongoloid groups, although Hinduism also prevailed. The class structure at the time included the ruling classes and the aristocracy at one end, and the toiling classes at the other end. Land was plentiful and the population comparatively sparse. Assam was incorporated as a British province in 1874 - its area was expanded to include Sylhet district (now in Bangla Desh) and the entire hill areas of the north-east (Meghalaya, Nagaland, Mizoram and Arunachal Pradesh) and the Cachar district. The language of the people therefore became an amalgam of Assamese, Bengali and various tribal dialects. The system of administration changed, and stress was laid on revenue collection. On the economic front, tea plantations were started in a big way and oil and coal resources were exploited, Migrant labour was brought in from Bihar and Orissa to work in the tea plantations and from Bengal for the oil and coal mines. Also, all white-collared employment was cornered by the Bengali middle class. It was at about this time only that the Assamese middle class started getting educated and rising.

Unfortunately, following Independence in 1947 (ch.3), the pace of economic development continued to remain slow, the number of educated Asamiyas rose, but there was no commensurate increase in the availability of employment. The State of Assam became truncated with the seperation of Meghalaya, Mizoram, Nagaland and Arunachal Pradesh. [This problem was discussed in a review of another book on the Assam movement in Vol. 2, No. 3, Pp. 580-582 of this journal]. The population in the Brahmaputra valley area remained not only in-tact, but continued to rise with the inflow of refugees from East-Pakistan (now Bangla Desh), particularly in the period 1951-1971. As mentioned earlier, chapters 4 and 5 trace the history of the Assam Movement from 1979 to 1985 when the Assam Accord was signed.

What is of interest in chapters 4 and 5 is the author's perception of the background of the social classes and groups which played an important part in the movement. In the initial stages nearly all 'Assamiyas' in the Brahmaputra valley were active participants in the movement. But by mid-1980, when the All Assam Students Union (AASU) declared that a national register of citizens would be prepared and citizen certificates would be issued to the people of Assam, there was a sense of unease among the autochthon/native tribals and the black tribals of the tea gardens. These groups therefore began keeping a distance from the AASU (Pp. 126-127). The Asamiya Muslims were the next to move away from the AASU in 1983 after the Nellie massacre and other killings (p. 127). Even the response of non-caste groups like the *Ahoms* and the *Koch-Rajbonshis* in Upper and Lower Assam was lukewarm to the movement (p. 128). According to the author, the core support base to the movement was from the Asamiya caste-Hindus comprising *Brahmins, Gonaks, Kayasthas* and *Kalitas* (p. 128). Their combined strength in relation to all castes was barely 8 per cent, but socially and culturally they were the dominant group in Assam. The influential majority of the Asamiya middle class, including businessmen, contractors and small capitalists belonged to these caste groups. They dominated the State administration, police, professions, educational institutions and the powerful regional press and media. They supported, strengthened and defended the movement very strongly. The Assam movement also reflected their weaknesses, bias and limitations in a multi-racial, multi-ethnic and multi-religious society (p. 128).

It was this same core group which controlled the press in Assam, and 'played a significant role in the build-up of the movement, defining its

enemy within and outside, creating a positive image for the leaders and supporters and a negative image for the opponents and non-supporters, identifying with certain groups among the Asamiyas and showing antipathy towards certain other groups within the Asamiyas, Na-Asamiyas and non-Asamiyas. Simply put they played the role of mouth-piece of the Assam movement most of the time' (p. 136).

With the signing of the Assam Accord in 1985, and elections, it was this core group which came to power. The AASU had become a regional political party called the Assam Ganatantra Party (AGP) for purposes of fighting the elections. The AGP won 64 seats in a house of 126. It also received the support of 7 independents, raising its strength to 71. It secured 35.17 per cent of the total votes polled in the election. Its base was confined to the Brahmaputra valley alone (p. 156). However, except for the high caste Asamiyas, all other sections of the Asamiya nationality were either under-represented or not represented at all in the government. An angry tribal MLA pointed out that the AGP had five cabinet ministers out of six Asamiya Brahmin MLAs, 18 out of 21 Asamiya high caste MLAs became ministers whereas only, four ministers were chosen from 18 Scheduled Tribe MLAs (p. 157). This may perhaps be one of the many reasons why the AGP was unable to consolidate its hold in Assam but lost to the Congress I party in the 1991 elections. The rift in the AGP itself with two parties (AGP and AGPR) fighting the elections in 1991 could be another reason. The Congress I won 66 seats in a house of 126 while the AGP won only 19 seats in 1991.

Part II of this book has three chapters. Chapters 6 and 7 discuss the problems of identity of other groups vis-a-vis the Asamiya nationality. Chapter 6 deals with the black tribals, autochton tribals and the Muslims, while chapter 7 discusses the problems of the non-Asamiyas, *viz.*, the Bengalis, Nepalis, Biharis, etc. Chapter 8 is the concluding chapter.

Although the black tribals, autochthon tribals, and the na-Asamiya Muslims speak mainly Assamese, they have problems of duality: their own tribal tongues and the Assamese language. The black tribals and the na-Asamiya Muslims have accepted the dominant status of the Asamiya high-caste ruling classes. This domination has not been acceptable to the autochton tribals As mentioned earlier, the hill tribals of Karbi Anglong and North Cachar districts have their autonomous councils and rights in land, etc. But the plains tribals in the Brahmaputra valley did not have any of these rights. In the absence of a well-developed or developing language of their own, they had to accept Asamiya as the medium of instruction at the school level. According to the author, to a perceptive observer the tribals are in no way creating any problems of identity for the Asamiya nationality. They have remained the most oppressed group in Assam together with the black tribals and the na-Asamiya Muslims. However, the political response to their oppression and backwardness has been qualitatively different from the response of the black tribals and na-Asamiya Muslims. The tribals have become conscious of their position and are gradually building up their struggle/movement based on ethnic identity (Pp. 175-176). The hill tribals have been demanding an antonymous state within the state of Assam. The plains tribals agitation has resulted in the signing of the Bodo Accord in March 1993 providing a semblance of recognition to this tribe and some amount of autonomy for them within the state of Assam.

As far as the 'outsiders' are concerned *i.e.*, the Bengalis, Biharis, Nepalis, Marwaris, etc., the author is of the view that they are not threatening the distinct identity of the Assamese nationality. The Assam leaders had distorted the reality to suit their class interest (Pp. 276-277). However he admits that 'the Asamiya middle class has been competing for jobs with the Bengalis' (p. 249). It is really this inherent fear of non-availability of employment to the educated middle class which had made the Assam movement leaders demand the ousting of 'foreigners' from the state. This fear still persists.

This is one of the most interesting and absorbing studies on the Assam movement, examining in depth the different class interests in the State and

the pressures that were built up throughout the period. If only the author had used less big words (e.g. bellicosous, apolitically, agrestic, simulacrum, abstergement, lugubriously, nihilistically, weltanschung, pejorative, etc)- and some of them are misspelt - the general readers' attention would have remained in the book without straying.

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Graham, Bruce, *Hindu Nationalism and Indian Politics The Origins and Development of the Bharatiya Jana Sangh*, Cambridge University Press, Pp. 283, Price Rs. 295/-.

This is the 47th book published by the Cambridge University Press in its series entitled 'South Asian Studies'. The author, Bruce Graham, is Professor of Politics at the University of Sussex. The author says that he got interested in the Jana Sangh in 1962 and that he was puzzled at the Jana Sangh's inability to attract a mass following, which led to the writing of this book.

The book is thus an analysis of the failure of the Jana Sangh. The book was finalised in 1989 and, till then, the BJS's successor party, the BJP had 'failed to reach the support attained by the (BJS) in the 1960s'. However, since 1989, the fortunes of the BJP have taken a dramatic upturn. From just two seats in the Lok Sabha of 1984, its strength grew to 88 in the 1989 elections and to 119 in the 1991 elections. A recent opinion poll suggests that if elections are held immediately, the BJP is likely to get about 175 seats in the Lok Sabha.

Graham could not have foreseen this development. He has analysed what appeared to everybody as a failure. The material and the arguments of his book are arranged in 8 well-demarcated chapters, each chapter discussing one particular area of BJS's working: The challenge of Hindu nationalism at the dawn of independence, the immediate origins of Jana Sangh, its doctrinal inheritance, its leadership and organisation, its relations with specific interest groups, its conduct of electoral politics and, finally, the conclusions to be drawn from this analysis.

Graham argues that the reason for the failure of BJS was simply that it failed to transeend the limitations of its origins. These origins consisted of a Brahmanical view of the Hindu culture, a particularly northern view of India's history and the contemporary events, a corporatist view of the Hindu or Bharatiya nation in which there were no horizontal or vertical divisions and so on. Graham argues that Mahatma Gandhi's Hinduism was truer to the quietist and devotional Hinduism of the masses and that therefore it got more following than the activist national doctrine put forward by the BJS. The BJS's northern view of history and contemporary events was reflected in its emphasis on Aryan culture, the predominance given to Hindi and to the problems of refugees, hostility towards Pakistan, etc. The southern states, not being so much agitated over these matters, were not attracted to the BJS. Moreover, the Congress party, with its non-doctrinaire approach to the various issues pursued by the BJS, found out some compromise or the other so that the BJS was not left with much political space. In fact, BJS's agitations in the face of Congress's pragmatic policies exposed BJS to public disapproval. In the matter of Hindi-Urdu controversy, the Congress government in U.P. adopted a Hindi-only policy. The central government however refused to impose Hindi on the non-Hindi people. In the matter of cow-protection, the Congress adopted a middle of the road course, urging the states to ban cow-slaughter but refusing to enact a central law. In the case of Punjab, the Congress acceded to the pressing demand for the creation of a Punjabi Subha while the BJS remained the lone party opposing it. Since BJS's ideology involved the revival of what they saw as the age-old harmonious and corporate Hindu society, they soft-pedalled the conflicts within the society. They put stress on small and diffused industries as being more in tune with the essential nature of the Hindu civilisation. Thus they could not get the support of the industrial workers in big industries who looked at industrial relations as a class struggle rather than as relations within a joint

family. With BJS's emphasis on small industry, the small industrialists, traders, etc., should have allied themselves with the BJS, but here also this class found their interests better served through direct contacts with the various institutions set by the government for the promotion of small scale industries. All in all, the BJS could not find a definite constituency for itself.

The working of the BJS was also hampered by its peculiar organisation. It was under the control of the RSS personnel most of the time after the death of Shyama Prasad Mookherjee. The RSS people ran the organisation as if it was extension of the RSS, with a high value on cohesion and discipline. Thereby the BJS made itself unattractive to groups which were accustomed to a more democratic and responsive style of operation. Thus the BJS could neither gain electoral successes on its own nor could it work out lasting alliances with other political parties. The Congress party on the contrary had two strengths - the personality of Nehru and adequate funds for electioneering. The lack of funds with the BJS made it still more ineffective.

This is, in short, Graham's account. He has supported it with a great deal of documentary evidence, facts and figures, going to the extent of constituency-wise analysis of election results.

But now we see BJP surging ahead with great speed. So, either Graham's analysis is wrong somewhere or there are some new factors behind BJP's success.

This reviewer believes that Graham's analysis is essentially correct. BJP is still limited by its ideological inheritance and its being dominated by the RSS. It is isolated as never before from other political parties. As before, it is being pushed into extreme positions by its more activist elements. Its ability and even willingness to function within the normal democractic-constitutional institutions is being doubted. One has only to recall the demonstrations staged in Delhi on 7-11-1966 on the cow-protection issue and compare them with the Ayodhya incidents of 6th December 1992. On the earlier occasion, the demonstrations were organised jointly by the Hindu Mahasabha, the BJS, the Arya Samaj and the Sanatana Dharma Sabha. A BJS M.P., Swami Rameshwarananda gave a call for direct action against the Parliament. Sadhus armed with spears and tridents led the direct action resulting in the burning of cars and damage to property. Atal Behari Vajpayee disclaimed any responsibility on the part of BJS. In Ayodhya last year, a *karseva* was organised jointly by the BJP, RSS, VHP, Bajrang Dal and the Sadhus' associations. The Babri structure was demolished and again the BJP said that it was not a party to the demolition though they welcomed it. Public reaction to that act and to the violence that followed all over India including the bomb blasts at Bombay and Calcutta has, as in the past, exposed the BJP to a lot of public disapproval, especially in the south. The BJP is today seen as being guided by the RSS, VHP, Bajrang Dal and the Sadhus rather than being in the lead itself. The BJP has itself accepted that the Rammandir programme is the programme of the VHP to which it is lending support. The VHP in its turn is giving prominence to the Sadhus. Thus the BJP has today the same weaknesses as the BJS had earlier. Its recent success can be explained only by assuming that Hindu nationalist sentiment, which at the mass-level means anti-Muslim sentiment, has taken hold of the Hindu masses and that the normal political considerations of the real interests of real socio-economic groups have become inoperative. If however we believe that these socio-economic factors cannot remain inoperative for a long time, we can except either that the present wave of Hindu nationalism will subside, again because of the Congress party taking a middle of the road position on the Rammandir issue, leaving BJP again in the wilderness, or that the BJP will change its strategy and present itself as party better able to achieve the socio-economic goals broadly agreed to by the whole nation. A recent interview by L.K. Advani shows that the BJP is already moving in this direction.

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Wavall, Ramrao, *Beyond Democracy From Democracy to Civicracy*, Bell Publications, Pune, 1993, Pp. 356, Price Rs 320/-.

Ramrao Wavall has, according to his own account, tried to be an active politician. He seems to have been dismayed by his experience of the politics as conducted in India. He has therefore propagated an alternative approach characterised by high idealism.

Basically Wavall has done what many of us do. We wish for a simpler world where individual freedom will be maximum, social harmony will be maximum and there would be no crime, no tyranny, no complicated laws to be obeyed at every step and so on. We tend to believe that life was actually simpler in the bygone, golden ages, in Lord Rama's kingdom for example. Sages in those times propounded a Dharma which, we believe, ensured perfect harmony, so much so that even kings, inspite of their being in command of the coercive arm of the state, bowed down to that Dharma. Today we sometimes dream of reviving that age. Even communism which actually produced the harshest states, dreamt of a social condition where the state had withered away. Mahatma Gandhi dreamt of a tranquil India consisting of self-sufficient villages where the various categories of people would live in perfect harmony. Ramrao Wavall has also thought out a new social order where everything would be harmony and happiness. He has presented his ideas in this book. In his view these are "needed not only in India, but also the world over" (Preface).

Before giving us his ideas of the new social order, which he calls Civicracy, Wavall tells us about how democracy developed and then went wrong. He brings before our eyes how the concept of democracy developed in Britain, in France, in U.S.A., etc., and how the imperfections in the system were sought to be corrected from time to time. So far as India is concerned Wavall has high praise for Nehru, whom he considers to be the perfect democrat, caring for individual freedom even while pushing for a socialistic economy. Wavall has a very poor opinion of Indira Gandhi and considers her responsible for the erosion of democratic norms, for the proliferation of corruption in public life and for the resultant destruction of the life of the common man.

Wavall's new social-political order is to be a complete break from the past. Every citizen will have a guaranteed sovereignty, so he will have the utmost personal freedom. While the state will not fetter him, it will ensure the fulfilment of his basic needs and ensure an equitable distribution of income. This done, there will be no crime and therefore no need of a police force. The police force will be scrapped. There will be no permanent laws. In fact, justice will be dispensed not by following procedures or technicalities or age old laws but by relying on justice itself. Simplicity incarnate! The right to privacy will give place to the right to information. Public as well as private dealings will be open for inspection by everybody. There will be no trade unions. Many such ideas have been put forward by Wavall in his model of civicracy.

While Wavall has put forward his model, any engineer who may be called upon to build it will naturally ask for more details about the statics and dynamics of that model. How do we start building, will be his first question. 'What if .....' will be a question repeated several times. Well, Wavall has put forward a charming model the soul of which is simplicity. The charm would be lost if one asks too many questions. The charm gives us some relaxation from our more taxing pursuits. The best thing is to allow the charming idea to settle down in our subconscious and hope that it will reappear in a full-grown form at some later date.

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Kohli, Atul, *Democracy and Discontent- India's Growing Crisis of Governability*, Cambridge University Press, 1991, Pp. 420, Price Rs 495/-.

Atul Kohli, Professor in the Woodrow Wilson School of Public and International Affairs at Princeton University, presents in this book an analytical study of the crisis of governability

looming large over India. The book was written substantially in 1987-88 and completed in December 1989, just when Rajiv Gandhi's Congress had been defeated at the polls and only a minority government could be formed at the Centre under V.P. Singh, a situation which caused doubts about the possibility of the good governance of the country. Kohli defines governability as the capacity of the rulers to do three things simultaneously: maintain coalitional support (i.e. a stable electoral support), initiate solutions to problems perceived to be important and resolve political conflicts without force and violence. Kohli finds that the ruling coalition in India has failed in all the three areas; that 'over time, and on balance, India's problems of governability have worsened' (p. 8); that an 'important cause' of the situation is 'the disintegration of India's major political institutions, especially the decline of its premier political entity, the Congress Party' (p. 15); that 'order and authority - and perhaps even democracy - may be disintegrating in India' (p. 6).

Kohli studied his subject at three levels: the district, the state and the centre. He studied five districts, the very ones which had been studied by another scholar 20 years ago. The study of the same districts enabled Kohli to see in what way the ground conditions had changed. He selected three states which provided comparison and contrast in two different ways. Bihar was a backward state and had violence, Gujarat was a forward state and again had violence, while in West Bengal, the violence of the early seventies was controlled when a cohesive and stable coalition led by the CPM came to power. Finally, Kohli studied the centre, i.e., how the centre tried to cope with the growing problems of governability. He chose for his study Rajiv Gandhi's lack of success in three areas: economic liberalisation, affairs of the Congress Party and Punjab problem.

It is not clear at what point during his studies Kohli came to the conclusion that India's growing problems of governability are more political than socio-economic. That conclusion has been stated right at the beginning and emphasised all through. Kohli has identified four causes of the problem: (i) the deinstitutionalizing role of the national and regional leaders, (ii) the impact of weak political parties, (iii) the undisciplined political mobilisation of various caste, ethnic, religious and other types of groups and (iv) the increasing conflicts between the haves and the have-nots (p. 387). Three of these factors concern the organisation of political activity and only one the problems that are to be solved. This neat summing up of the causes seems to ignore one factor which Kohli himself has identified, viz., the political fall-out of various changes in the social and economic fields.

As Kohli has argued, the Congress Party itself, prior to independence, was led by the then social elite. The legitimacy of that elite, inherent in the social structure, was strengthened because of that elite leading the national movement for independence. That legitimacy later suffered in two ways; the demise of the first generation of national leadership around the mid- 1960s and, concurrently, the breakdown of the old social structures through democratic and developmental processes. The groups which were so far passive became more demanding. Since the earlier political leaders had decided upon having a highly interventionist state and since the state therefore came to control a major portion of society's resources, the pressure on and the competition for the control of the state were pervasive. This objective situation, though depicted in great detail by Kohli does not get a place in the four causative factors identified by him. His emphasis is on the undisciplined mobilisation rather than on the objective situation. This appears to be an offshoot of Kohli's efforts to highlight the role played by the political parties within as well as outside the state institutions.

There is no doubt that there has been a lot of violence in Indian politics in recent years. Since the Congress Party has been by far the most important ruling party during these years, it is that party which has to take the blame for not being able to manage this situation. But that is only a formal indictment. Kohli agrees that 'on balance, a fair amount of what happened had to happen' (p. 393). He also says that 'an inordinate amount

of intellectual energy has been devoted to denouncing the deinstitutionalizing role of Indira Gandhi in Indian politics'. And yet he himself makes the same denouncement when he says that 'the party has been constantly weakened from the top' (p. 14) and suggests a motive by saying: 'strong institutions could only have imposed constraints on the personal power of one who had *usurped* power at the top (p. 190 - emphasis added).

Kohli claims that his present study has a novelty in that it is based on empirical materials. However, as regards his materials on political management he himself says as follows: 'The account of how leaders have managed India's political institutions depends more heavily on newspapers. Direct interviews did not reveal much, as senior leaders were secretive or reluctant to discuss issues concerning the Congress Party and the Punjab accord. Newspapers, by contrast, with their established contacts seem to carry so much news on these issues that one wonders if there are any political secrets in India' (p. 13). So what Kohli calls empirical materials turn out to be nothing more than newspaper reports. These reports, more often than not, reflect popular perceptions and, also quite often, back-stage efforts to influence those perceptions. In this process, guesswork can be converted into a 'fact' in three steps. The first report says: 'It is rumoured that....'. (Novelist Jeffrey Archer has in a political novel described how the reporters gathering political information 'scamper off to phone their papers with even the rumour of a rumour'). The second reports says: 'It is widely believed that ....'. And the final step says that 'It is an open secret that ....'. Kohli has actually used this last expression when he says: 'It is an open secret that Congress supported Bhindranwale in the SGPC elections in 1979' (p. 359). Reliance on 'open secrets' is a clear indication that empirical materials are missing.

Treating newspaper reports as empirical material, Kohli has at several places referred to the personalistic rule of Indira Gandhi and the appointment of persons to high office on the basis of loyalty to her rather than of ability. One example is of Madhav Singh Solanki who was 'chosen' to be the Chief Minister of Gujarat. His position has been discussed in two contexts - the situation in Kheda district and the upheavals in the whole of Gujarat in 1974 (J P's movement) on the one hand, 1981 (anti-scheduled castes riots due to reservation policy) and 1985 (anti-reservation and anti-Muslim riots) on the other. Kohli's thesis, probably an echo of the popular or journalistic perceptions, is that Solanki was ineffictive because, being a man imposed from above, he lacked legitimacy as also a supporting organisation to enable him to find a compromise between the warring groups. Kohli takes great support from the fact that in West Bengal, when the CPM realised the need for the establishment of law and order, it could bring it about. According to Kohli, it was the well branched out and cohesive organisation of the CPM that did the trick so that if Solanki had such a party behind him he could also have shown similar results. Kohli has not investigated how exactly Solanki became 'an up and coming man' before he attracted the attention of Indira Gandhi. That could have told us something of his worth and in what he was superior or inferior to his rivals. That would have provided some explanation as to why Indira Gandhi chose him as an ally. That is what one would call empirical material and that is missing from Kohli's account.

One suspects that there is also a wide gap between what Kohli - or any other academician- would treat as a proper party organisation or consider what are its abilities in resolving conflicts and what a politician may think. For a politician, an informal organisation would perhaps be sufficient, especially when, as during Indira Gandhi's pre-1980 regime, politics were moving at breakneck speed. Also, when uncompromising agitations are being launched against a politician, his party and his government - and Kohli agrees that the agitators against Solanki rejected any compromise - a politician may think it best to dig in his toes and fight out the battle over a long period. In the short run, that may spell the politician's incapacity to govern, but that may be necessary for survival, and if one survives, one

may be able to govern in the long run.

That is perhaps what has actually happened in the past few years. In 1989 Kohli had virtually written off the Congress Party. For him it had, at its apex, been reduced to Rajiv Gandhi (p. 5) and having performed the role of a midwife for the new nation-state, it had withered away (p. 13). But four years later we find that even in the absence of Rajiv Gandhi or any other charismatic leader, the Congress party is still a major force and even on the very fronts of Punjab and economic liberalisation on which Kohli saw it failing, it is acting with new vigour. It means that the organisation was all along there though not in a very ideal state. It continues to survive and to apply itself to the solution of the problems.

Kohli's recipe for attaining the capacity to govern is also not likely to be acceptable to any political party in India. Kohli thinks that 'the most efficacious states are likely to be those that selectively and systematically incorporate *some* social groups in a ruling alliance *while using coercion to deal with the excluded groups*' (p. 399, emphasis added). The recipe would be rejected on two grounds. One is that with the degree of diversity that India has and with the laws of economics being what they are, there is no combination of socio-economic groups which can at once produce a stable ruling coalition as well as ensure economic development in a liberalised regime. The state-controlled economic model has been discredited, the liberalised regime is inevitably capitalistic, while the majority of the electorate consists of backward castes and classes. Secondly, while the state will always have to have a coercive arm, this arm is becoming more and more ineffective all the world over. That is because economic development gives to the society a soft under-belly which can always be attacked by acts of terrorism and sabotage or even by what one may call a soft weapon - the computer-virus. Even microscopically small groups can rattle the state through such acts. The idea of using coercion against larger groups is simply unthinkable.

That is why all political parties in India claim to be parties for all people. If the Congress party or the Janata Dal is a party for all Indians, the Telugu Desam Party is a party for all Telugu speaking people. The BJP claims that it recognises the real interests of Muslims. Even the Akali Dal talks about the problems of Punjab rather than those of only the Sikh community. Thus even sectional parties want to have a veneer of all inclusiveness. This inevitably results in each party 'standing above the society' and consequently having less than a solid party organisation. But there is no theoretical reason why such a party, trying to be an honest broker for every group should be less successful than two or more parties negotiating on behalf of their respective clients.

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W.L.M. Adriaansen & J.G. Waardenburg (Ed)., *A Dual World Economy: Forty years of development experience*, Oxford University Press, Bombay 1992, Pp. 291, Price Rs 320/-.

This collection of papers is a joint product of the Centre for Development Planning (Erasmus University, Rotterdam) and the Association of Post-Keynessian Studies. If taken in the correct light it is a very instructive collection but I am afraid its main lesson is likely to be completely missed by the majority of academic economists because of their misconceived theoretical preoccupations, as in the past.

The papers are in four groups. The first concerns itself with the four post-world War II decades of Third World development at the global and international levels. Singer looks at the development story as a process of learning-by-doing and it shows that the development economists actually react with a clear time-lag to the lessons of the past. (It is clear from the book though that they not only react late but they do not learn properly from the past! Singer does not seem to be aware of this.)

The second group of papers deals with the experience of countries in the East (South Korea,

Taiwan, Hongkong, Singapore) which have been successful in achieving a high rate of growth in this period. One paper concludes that the employment effects associated with one unit of foreign exchange gained in exporting labour (intensive) products are clearly more extensive than corresponding employment effects associated with one unit of foreign exchange saved through (capital intensive) domestic market oriented production. Another paper concludes that in the countries named above direct foreign investment has played a significant role in the industrialisation process and this had been encouraged by deliberate government intervention. Such experience does not seem to be transferable.

The third group of papers deals with countries that experienced negative growth in the period. Whereas the World Bank maintains that this is due to wrong internal policies a paper argues that the negative influence of unfavourable external factors are possibly responsible for this.

To me the one important lesson that stands out from the book is the fatal preoccupation of economists and economic advisers with generalising unwarrantedly from past experience and setting up of universal laws of development irrespective of time and space, and then in the light of them give advice to world institutions as to how to promote growth. A typical example noted in this book among others may be enlightening in this regard.

In his essay, mentioned earlier, Singer writes: 'During this period of the 1950s and 60s the famous 'inverted U-curve' of Kuznets played a big role, which seemed to show that in earlier stages of development, income inequalities increased until a turning point was reached –presumably at middle-income levels, perhaps after the 'take-off stage' identified by Rostow – when income distribution would become more equal again, and poverty would rapidly melt away under the dual impact of a larger cake and a more equal income distribution' (Pp. 72-73). 'As the Golden Years went on however, the existence of such a turning point at a reasonably early development stage became more and more doubtful' (p. 73).

Now let us see how many fictions are involved in this statement. First, Kuznets did not define an inverted U-curve. On the contrary, he warned that 'the records are far too scanty for the earlier periods (pre-1914) to make an empirical generalization feasible' *[Modern Economic Growth, Rate, Structure and Speed*, Yale University Press, New Haven, 1966, p. 212]. Totally ignoring this, the economists imagined an inverted U-curve out of pure air, much in the same manner as their earlier progenitors had imagined U-shaped cost curve, though not supported by a shred of empirical evidence, to suit their theory of industry equilibrium! So is utterly fictional the concept of the 'Take-off'. The irony is that economists are surprised that these turn out to be fictions. Moreover, they do not discard them when they are found to be empty of empirical content but continue to use them to support one another. Hence the remark with which I started this review.

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# ANNOTATED INDEX OF BOOKS AND ARTICLES IN INDIA

EDITOR'S NOTE

These abstracts are prepared by the author of each book/article sent to us voluntarily in response to our invitation through the Economic and Political Weekly. These cover publications after 1st January 1986. Only abstracts of books/articles so received are published. The index therefore is not exhaustive and complete.

The limit of 250 words and 100 words for abstracts of books and articles respectively is strictly enforced. Only a minimum amount of copy editing is done in order to bring the abstracts within the prescribed limits. The readers should approach the author of the abstract, not this Journal, for any clarifications.

BOOKS

*1992*

Purohit, Mahesh C., Sai Kumar, Gopinath Pradhan, and O.P. Bohra - *Fiscal Policy for the National Capital Region*, Vikas Publications New Delhi, 1992.

In the context of the expanding role of the National Capital Region (NCR) Plan, this study undertaken for the NCR Planning Board aims at designing fiscal policy for the NCR. It analyses factors influencing location of industries and diversion of trade from Delhi to the other districts of the NCR. It also, aims at analysing the impact of various taxes in relation to changes in the industrial structure and diversion of trade.

The analysis of industrial structure for various districts of the NCR is based on the ASI data obtained for each district. The location quotient calculated for all the industries and for every district, examines the trends in location of different industries in Delhi in comparison to the other districts of the NCR. The analysis of tax structure affecting locating of industries and diversion of trade is also presented for each of the districts falling in different States.

The policy recommendations include harmonisation of rates of different taxes such as sales tax, property tax, octroi duty and other states taxes to have a character of unified NCR for attaining a higher growth of different constituent regions and for withnessing integrated development of the NCR. Recommendations of the study also include a levy of a *Congestion Tax* per truck on its entry in the Union Territory; provision of requisite infrastructure facilities for all the districts falling in the NCR and having an agency on the pattern of SIDCO for the upliftment of the area to divert industries of the neighbouring districts.

*1993*

Mukherjee, Amitava - *Dimensions of Monetary Expansion in India*, Himalaya Publishing House, Bombay 1993, Pp. 227, Price Rs 225/-.

The book is the extension of Dr. Mukherjee's research in the U.S.A. as a Rotary Foundation Fellow. The book is an in-depth analysis of the dimensions of money stock expansion, in India, over a period of four decades from 1950-51. It, for the first time, examines and studies the behaviour (and the causes of the behaviour) and characteristics of the proximate determinants of money stock, viz., the Currency Ratio, Reserve Ratio, Money Multiplier and the Monetary Base. The existing scenario of the money market is explored to provide a backdrop for the general framework of the discussion in the book. An attempt is made at examining the extent to which the custodians of the monetary system are capable of directing the course of money stock expansion. Use of simple mathematics and statistical techniques make the book of great interest to the specialists, but to the general reader attempting to understand the mechanics of monetary expansion in India, it would be of as much use, since it demonstrates what basically determines, and how to saddle, money stock in a developing country.

The book is unique of its kind and would be extremely useful in policy planning, particularly so after the Report of the Narasimham Committee, tabled in the Parliament in December 1991.

Mukherjee, Amitava - *Structural Adjustment Programme Putting the First Things, Entitlement Failure and Environment, Last (An Interim Analysis)*, Segment Book Distributors, New Delhi, 1093.

The literature on Structural Adjustment Programme in the Indian context has hardly touched upon the issue of Entitlement Failure in respect of Food and its impact on environment.

The Book, fills this gap and attempts to deal with the issues relating to Food Entitlement Failure and Environmental degradation caused by the different strands of the structural Adjustment Programme currently implemented in India. The book examines the theoretical basis and component of Structural Adjustment Programme as applied to India; it reviews the literature on the subject; provides a new approach to assessing entitlement failure as a modification of A.K. Sen's entitlement thesis; examines the impact of Structural Adjustment Programme on Food Production and Food Security; and also approaches the Food Security problem in the context of Structural Adjustment Programme from the perspective of land distribution and internationalisation of domestic agriculture. An Analysis of the structural Adjustment Programme's impact on Food In-security and the consequent environmental degradation is set forth. These analyses are examined against the backdrop of the experiences of other developing countries who have already implemented Structural Adjustment Programme. Conclusions and policies implications, emerging from them have been separately documented. The book is considered a major contribution to the field, both in terms of the novelty of its approach and in terms of the dimensions and issues it raises.

Mukherjee, Amitava - *Methodology and Database for Decentralised Planning, with Special Reference to District Planning in India*, Heritage Publishers, Pp. 315, Price Rs 350/-.

This book deals with 10 important methodologies and their respective database, in the context of decentralized planning. It starts with a survey of different methodologies used in this country and abroad, and then examines in different chapters nine methodologies, namely Visvesvaraya Methodology; Gadgil Methodology; Sulabha Brahme Approach; K.N. Raj Methodology; Rayalaseema Methodology; Association for Voluntary Agencies for Rural Development Methodology; Dantwala Committee Methodology; B.M. Desai's Approach; and Dharampur Methodology. Each methodology is critically examined particularly with regard to its novelty and concern for environments and local level participation.

This book is the first in a three part series on Methodology and Database for Decentralised Planning, with special reference to district planning in India. The three parts together will be an invaluable reference for planners and students of decentralised planning, as also policy planners, particularly so in the context of the 73rd constitution Amendment Act, 1993.

Purohit, Mahesh C., *Principles and Practices of Value Added Tax: Lessons for Developing Countries*, 1993, Gayatri Publications, P.B. No. 8493, Ashok Vihar, Delhi 110 052.

The book is the outcome of an intensive study of value added tax in various countries, especially in France - pioneer of VAT. The coverage includes an in-depth analysis of rates, bases, exemptions, taxation of services and differential treatment of small dealers.

With a view to presenting finer details of tax management, it selects a case study of France presenting differential analysis of large dealers as well as small dealers. The study of lump sum taxation in France called *forfait* shows great relevance for administering consumption taxes in

developing countries, like India. In the context of presumptive taxation scheme as suggested by the Tax Reforms Committee, the *forfait* scheme could be of great relevance for policy makers as well as administrators.

An interesting chapter is related to harmonisation of tax in EEC countries. It is enlightening to note that effective from January 1, 1993, the harmonised tax system for VAT could be making great strides towards unification of Europe.

The chapter on Management Information System (MIS) for VAT presents analyses of information technology adopted by different countries in the world. As the MIS is crucial to a successful tax management, the study of MIS presented in the book is of great significance for adopting a suitable tax system for a developing country such as India.

The policy part of the book is to draw lessons for structure, administration and operations of the tax in developing countries. It presents solutions for countries already having sales tax and also for countries having federal structure. There is an interesting Annexure giving different solutions for harmonisation of various commodity taxes in India. The Annexure entitled "Adopting State-VAT in India" presents plausible solutions for rationalisation of the existing commodity taxes in the federal structure.

The Journal will publish in each issue Annotated Bibliography of Books and Articles on Indian Economy, Polity and Society, published after January 1, 1986. Authors are requested to send their entries with full details of publication and annotation not exceeding 250 words for books and not exceeding 100 words for articles. Use separate sheet for each entry.

# BOOKS RECEIVED

Currently, a large number of books are being published on Indian economic, political and social problems and developments. We give below a list of books we have received with a request for a review. For want of editorial resources, it is not possible to review all of them though many deserve a critical review. Interested readers are requested to write to the editor indicating which of the following books he would like to review or write a full review article on. We shall be glad to do the needful. Readers are also welcome to review books recently published, but not appearing in the following list. As the contributors to this Journal are aware, all contributions published here are adequately remunerated.

Bhat, N.S. - *Incidence of Bad Debts in Rural Finance in a Diversified Region: A Case Study of Dakshina Kannada*, Department of Economics, Mangalore University, Mangalore, July 1992.

The main objectives of this Study were (i) to examine the extent of or incidence of bad debts in agricultural finance in Dakshina Kannada; (ii) to identify the causes or factors which caused bad debts in the district; and (iii) to suggest measures to minimise or overcome the problem of bad debts in rural finance in the district. The Study had revealed that (a) there were problems of delay in obtaining assistance from financial institutions due to fulfilment of various formalities, short working hours of banks, etc; (b) the cost of obtaining institutional finance for agriculture was relatively higher than from private lenders because of the high rate of interest, and delays; (c) there was no proper assessment by the lending institutions of end-use supervision of loans; (d) political interference through loan-waiver schemes had resulted in large defaults in the repayment of loans; (e) problems of financing by more than one agency; and (f) wilful default by borrowers of repayment of loans.

Bourguignon, Francois and Christian Morrisson - *External Trade and Income Distribution*, Development Centre Studies, Development Centre of the Organisation for Economic Cooperation and Development, Paris, 1989.

This book addresses for the first time a key question as many developing countries commit themselves to an open-economy growth strategy: who actually benefits from exports? Based on six case studies, the book suggests that exports can in fact help to even out inequalities and relieve poverty. For some economies the beneficial effect can be immediate, while in others, complementary structural measures may be required.

Bourguignon Francois and Christian Morrisson - *Adjustment and Equity in Development Countries - A New Approach*, Development Centre Studies, Development Centre of the Organisation for Economic Cooperation and Development, Paris, 1992.

This series represents a complete departure from past efforts to analyse the effects of adjustment and stabilisation policies. Rather than focusing on individual aspects of the problem, the authors examine the economic, political and social costs together, making it possible for the first time to estimate the social cost in terms of unemployment, inequality and poverty, of each macroeconomic stabilisation measure. Seven country studies covering Chile, Cote d' Ivoire, Ecuador, Ghana, Indonesia, Malaysia and Morocco demonstrate, thanks to their new approach, that adjustment policies do not automatically increase inequality and produce negative effects on the poor; impact varies widely from case to case.

The conclusion from the country case studies are drawn together in this synthesis volume which uses their evidence to make recommendations for the formulation of equitable adjustment policies.

Ganguly, S.P. - *Fundamentals of Government Budgeting in India*, Concept Publishing Company, New Delhi, 110-059, 1993.

The book brings out briefly the structure of Government budget and fundamentals of Government budgeting in India. It also indicates the procedure for preparation of Government budgets

in India, constitutional provisions relating to Government budgeting and the roles of Finance Commissions and Planning Commission in the matter. Government accounting structure has also been dealt with in this book describing briefly its linkage with Government budget. The role of Parliament / State Legislature in approving budget and allowing withdrawals from the relevant Consolidated Funds for incurring expenditure against approved budget have also been discussed in the book.

George, K.K. - *Limits to Kerala Model of Development*, Centre for Development Studies, Monograph Series, Thiruvanthapuram, Kerala, 1993.

The Kerala model of development has been receiving favourable attention, both national and international. But within the State, doubts regarding the sustainability of the model are being aired increasingly in the wake of Kerala's acute and perennial fiscal crisis. The present study is an attempt to examine the structural relationship between the Kerala model and the State's fiscal crisis. The study also discusses the implications of the fiscal crisis for the State's development process.

Gokhale, S.D, V.M. Dandekar, Ram Takawle (Editors) - *Problems and Prospects of Rural Development in Maharashtra* - Felicitation Volume in honour of Shri Balasaheb Vikhe-Patil on his 61st Birthday - Shrividya Prakashan, Pune, 1992.

The volume contains thirty-seven articles on different aspects of Maharashtra's economy, including issues relating to population growth, education, employment, migration, rural artisans and the competition from factory made consumer goods, institutional support through banks and cooperatives, etc. A large number of the articles relate to agricultural development in the State, irrigation, the new agricultural technology and regional differentiation, agro forestry, agricultural pricing, watershed management, agricultural education and extension services.

Heredia, Rudolf .C. - *Tribal Education for community development - A Study of Schooling in the Talasari Mission Area*, Concept Publishing Company, New Delhi, 110-059, 1992.

The monograph focuses on education and development in a well defined taluka of Maharashtra. But the issues and concerns that preoccupy this action research are not unique to this area, nor is the developmental process here untypical of the mainstream in the country. The study undertakes a two-fold investigation : the impact of the school on the students and how it can be adapted to their culture; and the influence of the school on the community and how it can be adjusted to its needs. The participatory method used involves a three-way comparison between mission, government and other private schools, made at three levels : the individual (students, parents, teachers ....), the school and the community.

In analysing the mismatch between formal educational institutions and tribal life, this study points to a four-fold isolation that must be overcome : the community within the society, the school within the community, the pupil within the classroom, and the teacher within the education system. Initiatives and innovations have been recommended in the Study.

Hawkins, Donald, E., Elwood L. Shafer and James M. Rovelstad (Editors) - (1) *Tourism Planning and Development Issues*, (ii) *Tourism Marketing and Management Issues*. George Washington University, Washington D.C.

These two volumes are a collection of papers presented at the International Symposium convened by George Washington University in collaboration with other organisations in 1979. The subjects of the papers in the two volumes pertain to issues of management, marketing, methodology, natural resources, economic and social issues, and the future outlook of tourism in the world.

IAAE - (i) *Sustainable Agricultural Development: The Role of International Cooperation* - Proceedings of the twenty-first International Conference of Agricultural Economists held at Tokyo, Japan, 22-29 August, 1991.

(ii) *Issues in Agricultural Development- Sustainability and Cooperation* - IAAE Occasional Paper No. 6.

International Association of Agricultural Economists, Queen Elizabeth House, University of Oxford, 1992.

ILO-ARTEP - *Social Dimensions of Structural Adjustment in India - Papers and Proceedings of a Tripartite Workshop held in New Delhi, December 10-11, 1991*, International Labour Organisation, Asian Regional Team for Employment Promotion, 1992.

The basic purpose of the workshop was to bring together policy makers, social partners as well as researchers to provide a forum for discussion on the employment and poverty implications of the structural adjustment programmes being implemented in India commencing June 1991. The focus was on employment and social safety net measures for formulation of policies and penetration of social concensus in these areas. The present book gives the summary of the proceedings of the workshop, the papers presented and the addresses delivered.

Nadkarni, M.V. - *Agricultural Policy in India - Context, Issues and Instruments* - Study 5, Department of Economic Analysis and Policy, Reserve Bank of India, Bombay, February 1993.

The Study is divided into four parts. While part I is the introduction, part II discusses the context under which the goals of agricultural policy could be set. These include (i) the decline in relative income per worker, (ii) terms of trade of agriculture, (iii) the agrarian structure, (iv) rural poverty, (v) factors behind poverty and poverty alleviation, (vi) production trends, (vii) investment in agriculture, (viii) credit flows to agriculture, (ix) prices, procurement and profit. The issues and instruments for achieving the goals of agricultural policy, given in part III are land reforms, public distribution system, food security, procurement, producer price policy, input subsidies, rural credit and investment.

Panikar, P.G.K. - *Rural Household Savings and Investment: A Study of Some Selected Villages*, Centre for Development Studies, Occasional Paper Series, Thiruvananthapuram, Kerala, 1992.

The Study is on Savings and Investment among rural households based on the results of a sample survey of four selected villages, two each from Kerala and Tamil Nadu. The main objective of the study is to gain some insight into the various factors affecting the levels of saving and the pattern of its disposition by rural households. The study analyses the factors underlying the rates of saving such as ability to save, desire to save and motivation for saving.

Sharma, Shashi Prabha - *Gandhian Holistic Economics*, Concept Publishing Company, New Delhi, 110-059, 1992.

Gandhian economics is based on a paradigm that is fundamentally different from that of modern economics. This book attempts to present a philosophical analysis of Gandhian economic thought. It explores the Gandhian world-view, its accompanying value system and concepts, and examines in detail, how they bear upon economic principles and policy with special reference to the solution of the existing problems. The book offers a penetrating analysis of the dynamics of Gandhian thought and action. The study takes a refreshing and new approach to the concept of man and society, goal of life, meaning of growth and the means to achieve the same while interpreting Gandhian economic thought. In a lucid manner it explores the economic 'ends' and 'means' put forward by Mahatma Gandhi for peace and prosperity of mankind. In a revealing analysis, the book presents the paradigm underlying modern economics is responsible for creating world economic crisis , incapable of being tackled by the traditional economic tools. The

dismal failure of both Marxism and liberalism to resolve the situation, calling into question the very foundations of economics is further shown. Gandhian holistic economics offering an alternative model of development needs a serious consideration in the present troubled times. Transformation in man and creation of economic structures based on a holistic paradigm is the challenge of the day.

Visaria Pravin, Leela Visaria and Aniruddha Jain - *Contraceptive Use and Fertility in Gujarat*, Gujarat Institute of Development Research , Ahmedabad and The Population Council, New York, December 1992.

This report presents the key results of a study of contraceptive use and fertility in Gujarat based on a survey of 13,600 households conducted during 1989 in four districts of the State, viz., Bharuch, Panchmahals, Kheda and Rajkot. The study revealed that in three of the four districts surveyed, fertility had declined by at least 50 per cent over the past quarter century. The total fertility rate during 1987-89 was estimated to have dropped to 3.0 in Bharuch and Rajkot and 3.2 in Kheda district.

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