Industry and Urban Employment, 1961-81
A Preliminary Exploration

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Despite the very significant changes which have taken place since independence in the structure of output from agriculture towards noh-agriculture, the structure of the workforce has been stow to respond to these other structural changes taking place in the economy. At the same time, it is well established now that the pace of urbanisation accelerated during the 1970s. Can the accelerated urbanisation during the 1970s be attributed to a quickening of industrialisation? This paper attempts to assemble the relevant data on changes in employment, urbanisation and manufacturing during the 1960s and 1970s.

I

Introduction

CONSIDERABLE work now exists documenting the significant move away from agricultural towards non-agricultural activities during the 1970s [J N Sinha, 1982; J Krishnamurthy, 1984; A Vaidyanathan, 1986; among others]. It is now generally accepted that for the fisrt time in this century, the data reveal a perceptible beginning of change in the structure of the Indian workforce. Despite the very significant changes that have taken place since independence in the structure of output from agriculture towards non-agriculture, the structure of the workforce has been slow to respond to these other structural changes taking place in the economy. At the same time, it is also well established now that the pace of urbanisation accelerated during the I970s[Mohan and Pant, 1982]. The shift away from agriculture was, however, not merely due to a shift of activities from rural to urban areas but also quite significantly due to a shift away from agriculture within rural areas [Vaidyanathan, 1986]. As will be shown later, a significant portion of this shift away from agriculture was an increase in the labour force engaged in manufacturing activity—both within rural areas as well as in urban areas. Can the accelerated urbanisation during the 1970s be attributed to a quickening of industrialisation in the country? The results reported in an earlier paper [Mohan, 1983] which examines state data in India, would seem to support a strong correlation between urbanisation and industrialisation. Yet, it is also widely accepted now that there was no acceleration in industrial growth in India during the 1970s: if anything there was deceleration since the mid-1960s. This paper represents work in progress on this issue: conclusive answers are still elusive, but the indication is that an overall slow down in industrialisation is not necessarily contradictory to accelerated urbanisation being related to industrial activity. The attempt in this paper is to assemble the relevant data on employment, urbanisation and manufacturing during the 1960s and 1970s in order to understand, the texture of changes which took place. A systematic attempt at relating these three variables—employment, urbanisation and manufacturing output will have to await another paper.

II

Record of Employment Growth in Industry

The analysis of changes in employment in India are made very difficult because of various definitional changes during the 1960s and 1970s. These changes have been the subject of many analyses [e g, Krishnamurthy, 1984; and Dholakia, 1977] and will therefore not be discussed at length in this paper. The most significant change that took place was between the 1961 and 1971 censuses. In the 1961 census, "a person was deemed a worker if he had worked for the major part of the working season or for the last fortnight preceding the date of enumeration". The 1971 census adopted the concept of main activity, "the activity in which the person engaged himself monthly" [Krishnamurthy, 1984]. The result was that many intermittent workers who would have reported themselves as workers in the 1961 census did not do so in the 1971 census. The crude worker participation rate recorded in 1971 was only about 33 per cent as compared with 43 per cent in 1981. As might be expected, this definitional change had a big impact on the enumeration of women workers as a result of which even their absolute numbers fell between the two censuses. Little analysis can therefore be done on the trend of female work activity between 1961 and 1971, The 1981 census was made roughly consistent with the definitions adopted in the 1977-78 National Sample Survey (32nd round)—a worker was one who had worked for the major part of the year, presumably more than 6 months. Others who worked less would then be classified as marginal workers. Women workers were therefore better covered in the 1981 census as compared with 1971, but, as pointed out by Krishnamurthy, the census continues to underestimate women's work participation relative to the National Sample Survey. In analysing workforce changes, therefore, one is reduced to paying greater attention to changes in the structure of male employment. The data on main male workers are roughly consistent between the 1971 and 1981 censuses but also with the National Sample Surveys. Comparability with the 1961 census is difficult for male workers as well although the problems are less severe than for females.

CHANGES IN OVERALL STRUCTURE OF EMPLOYMENT

Tables 1 (A, B, C) tabulate the changes in structure of labour force between the 3 censuses. As noted, the 1961 census data are clearly non-comparable, such that an absolute decline is posted in total labour force between 1961 and 1971. The fall is drastic for females, the categories of cultivators and household industry are the most seriously affected being prone to be most difficult definitional problems. For males also, the definitional issue is most relevant for these two categories (but also for livestock and other services; for 1961, livestock also includes mining and quarrying). The data indicate that relatively formal activities like non-household industry may not be as affected by the definitional changes, and therefore, the data could be used (cautiously) for observing changes within that category.

The most significant change between 1971 and 1981 is the large increase in employment in non-household manufacturing—recording the largest growth among all categories for both males and females. This is slightly surprising since one might have expected a bigger increase in the burgeoning tertiary sector. Growth rates in these sectors, are modest (about 2 to 3.5 per cent, see Table I B) compared to the growth rate in value added during this period. The growth in manufacturing employment (non-household industry) and construction is surprisingly high (about 5 per cent a year) despite the sluggish growth in value added. The share of manufacturing employment is still only 12.1 per cent for males, and 11.3 per cent for all workers, in 1981. Apart from the performance of manufacturing and construction, the record of other sectors is modest or poor. In particular, the annual growth in agriculture related activities was extremely low at a little over 1 per cent for

males. As a result, total male employment growth was about 1.8 per cent a year, considerably below the population growth rate of 2.2 per cent, in high growth service sector cannot be held responsible for the acceleration in urbanisation during the 1970s. Indeed, despite the definitional problems, it is only the tertiary sector in urban areas which shows a fall in employment growth rates in the 1970s with respect to the 1960s (see Table 2 B). Accordingly, the share of manufacturing in total urban employment increased from 28.4 per cent in 1971 to 30.3 per cent in 1981—thus providing some support to the idea that the urbanisation observed during the 1970s might well be related to increased industrial activity.

Since urban areas have very little agricultural employment it is instructive to compare the structure of non-agricultural employment (males only) in urban and rural areas, (Tables 3A, B, C). Surprisingly, the non-agricultural employment structures are quite similar. The share of manufacturing is about 35 per cent in both areas, the share being marginally higher in rural areas. Significantly, growth in utilities, and other tertiary sectors, was higher in the rural areas, presumably because of the increasing spread of services and the increasing commercialisation of agriculture. It is also notable that the share of manufacturing in total non-agricultural employment was only about 33 per cent in South Korea and about 41 per cent in Taiwan in 1980 [Fields, 1985]—both being countries which have industrialised much faster. The conclusion that may be drawn from these data is that there is considerable scope for expansion of tertiary sector activities in urban areas; as much attention may be paid to these activities in our concern about urban employment generation as to an acceleration of manufacturing employment. The *size* of non-agricultural employment in rural areas is also quite significant about 25 million as compared with 36 million (males) in urban areas. The rate of growth, however, was low compared with that in urban areas—largely accounted for by significantly lower growth in household manufacturing. Thus, it is

TABLE 1A: MAIN WORKERS CLASSIFIED BY INDUSTRIAL CATEGORY: ALL INDIA 1961-1981

(In thousand)

Sr No	Category	Persons			Males			Females		
		1961	1971	1981	1961	1971	1981	1961	1971	1981
1	Cultivators	99,510	78,267	92,523	66,407	68,963	77,591	33,103	9,304	14,932
2	Agri labourers	31,482	47,493	55,500	17,312	31,698	34,732	14,170	15,795	20,768
3	Livestock, etc	5,190	4,297	4,993	4,003	3,514	4,160	1,187	783	833
4	Mining and quarry		923	1,264		799	1,101	0	124	163
5	Manuf 1 HH IND	12,031	6,352	7,713	7,365	5,021	5,648	4,666	1,331	2,065
	2 other	7,957	10,716	17,432	7,168	9,851	15,834	789	865	1,598
6	Constructions	2,055	2,220	3,565	1,813	2,016	3,207	242	204	358
7	Trade and Comm	7,640	10,042	13,930	6,825	9,485	13,013	815	557	917
8	Transport, etc	3,003	4,403	6,069	2,938	4,257	5,899	65	146	170
9	Other services	19,548	15,773	19,531	15,184	13,543	16,360	4,364	2,230	3,171
	Total	188,416	180,486	222,520	129,015	149,147	177,545	59,401	31,339	44,975

TABLE 1B: TOTAL EMPLOYMENT: GROWTH RATES 1961-1981

(Per cent per year)

Sr No	Category	Persons			Males			Females		
		1961	1971	1981	1961	1971	1981	1961	1971	1981
1	Cultivators	-2.37	1.69	-0.36	0.38	1.19	0.78	-11.92	4.84	-3.90
2	Agri labourers	4.20	1.57	2.88	6.24	0.92	3.54	1.09	2.78	1.93
3	Livestock, etc	-1.87	1.51	-0.19	-1.29	1.70	0.19	-4.08	0.62	-1.76
4	Mining and quarry		3.19			3.26			2.77	
5	Manuf 1 HH IND	-6.19	1.96	-2.20	-3.76	1.18	-1.32	11.79	4.49	-3.99
	2 other	3.02	4.99	4.00	3.23	4.86	4.04	0.92	6.33	3.59
6	Constructions	0.78	4.85	2.79	1.07	4.75	2.89	-1.69	5.79	1.98
7	Trade and Comm	2.77	3.33	3.05	3.35	3.21	3.28	-3.73	5.11	0.59
8	Transport, etc	3.90	3.26	3.58	3.78	3.32	3.55	8.43	1.53	4.92
9	Other services	-2.12	2.16	0.00	-1.14	1.91	0.37	-6.49	3.58	-1.58
	Total	-0.43	2.12	0.84	1.46	1.76	1.61	-6.19	3.68	-1.38

TABLE 1C: STRUCTURE OF TOTAL EMPLOYMENT 1961-1981

(Per cent)

Sr No	Category	Persons			Males			Females		
		1961	1971	1981	1961	1971	1981	1961	1971	1981
1	Cultivators	52.81	43.36	41.58	51.47	46.24	43.70	55.73	29.69	33.20
2	Agri labourers	16.71	26.31	24.94	13.42	21.25	19.56	23.85	50.40	46.18
3	Livestock, etc	2.75	2.38	2.24	3.10	2.36	2.34	2.00	2.50	1.85
4	Mining and quarry	0.00	0.51	0.57		0.54	0.62		0.40	0.36
5	Manuf 1 HH IND	6.39	3.52	3.47	5.71	3.37	3.18	7.86	4.25	4.59
	2 other	4.22	5.94	7.83	5.56	6.60	8.92	1.33	2.76	3.55
6	Constructions	1.09	1.23	1.60	1.41	1.35	1.81	0.41	0.65	0.80
7	Trade and Comm	4.05	5.56	6.26	5.29	6.36	7.33	1.37	1.78	2.04
8	Transport, etc	1.59	2.44	2.73	2.28	2.85	3.32	0.11	0.47	0.38
9	Other services	10.37	8.74	8.78	11.77	9.08	9.21	7.35	7.12	7.05
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Census of India.

manufacturing activity that is most significantly urban in character rather than any other sector: the differential growth coring the 1970s was most notable in this sector. The character of urbanisation taking place can then scarcely be called dysfunctional.

CHANGES WITHIN MANUFACTURING EMPLOYMENT

Having seen that the growth in manufacturing employment has fed the growth in Qverall employment it is now instructive to examine the composition of this growth in terms of the different manufacturing sectors: this examination is done at the 2 digit level (sec Tables 4A, B, C). Because of the problems of definitional changes alluded to earlier, the record of male employment is examined in greater detail.

What is notable from the data (all manufacturing employment of males, Table 4A), is that there were only a handful of sectors showing annual growth rates greater than 5 per cent. These sectors were the chemical related sectors of rubber, plastics, petroleum and coal products (sector 30). basic metals, and electrical machinery—the combined weight of which was only about 7 per cent. Among others, greater than average growth is exhibited by food products, textile products, paper and printing and other chemicals. These data may be compared with the growth in value added in different manufacturing sectors (Table 5) for the whole period from 1959-60 to 1979-80. The fastest growing sectors were the chemical related sectors (31, 32 in Table 5), electrical and non-electrical machinery, paper, and footwear and apparel. In terms of value added, the share of chemicals and petroleum products and electrical machinery is over 25 per cent (see Table 6), a share which has been increasing significantly throughout the 1960s and 1970s. What is also noteworthy is that although the growth of footwear and apparel (sector 24 in Tables 5, 6) is the highest, its share in value added is negligible. In the case of employment, the share of apparel and footwear (textile products, sector 26 in Table 4) is high at 11.5 per cent, but the rate

TABLE 2A: MAIN URBAN WORKERS CLASSIFIED BY INDUSTRIAL CATEGORY: ALL INDIA

(In thousand)

Sr No	Category	Persons			Males			Females		
		1961	1971	1981	1961	1971	1981	1961	1971	1981
1	Cultivators	1,726	1,632	2,365	1,244	1,493	2,115	482	139	250
2	Agri labourers	915	1,919	2,787	494	1,336	1,897	421	583	890
3	Livestock, etc	663	538	838	552	470	738	111	68	100
4	Mining and quarrying		321	454		288	425		33	29
5	Manuf 1 HH IND	2,088	1,589	2,279	1,294	1,257	1,716	794	332	563
	2 other	5,536	7,314	11,373	5,140	6,885	10,605	396	429	768
6	Constructions	963	1,120	1,836	863	1,024	1,679	100	96	157
7	Trade and Comm	4,303	6,417	9,012	4,031	6,143	8,533	272	274	479
8	Transport, etc	2,122	3,124	4,146	2,073	3,085	4,023	49	39	123
9	Other services	8,078	7,964	10,995	6,703	6,693	8,983	1,375	1,271	2,012
	Total	26,394	31,938	46,085	22,394	28,674	40,714	4,000	3,264	5,371

TABLE 2B: URBAN EMPLOYMENT: GROWTH RATES 1961-1981

(Per cent per year)

Sr No	Category	Persons			Males			Females		
		1961	1971	1981	1961	1971	1981	1961	1971	1981
1	Cultivators	−0.56	3.78	1.59	1.84	3.54	2.69	−11.69	6.05	−3.23
2	Agri labourers	7.69	3.80	5.73	10.46	3.57	6.96	3.31	4.32	3.81
3	Livestock, etc	−2.07	4.53	1.18	−1.60	4.62	1.46	−4.78	3.93	−0.52
4	Mining and quarrying		3.53			3.97			−1.28	
5	Manuf 1 HH IND	−2.69	3.67	0.44	−0.29	3.16	1.42	−8.35	5.42	−1.70
	2 other	2.82	4.51	3.67	2.97	4.41	3.69	0.80	6.00	3.37
6	Constructions	1.52	5.07	3.28	1.73	5.07	3.38	−0.41	5.04	2.28
7	Trade and Comm	4.08	3.45	3.77	4.30	3.34	3.82	0.07	5.74	2.87
8	Transport, etc	3.94	2.87	3.41	4.06	2.69	3.37	−2.26	12.17	4.71
9	Other services	−0.14	3.28	1.55	−0.01	2.99	1.47	−0.78	4.70	1.92
	Total	1.92	3.73	2.83	2.50	3.57	3.03	−2.01	5.11	1.48

TABLE 2C: STRUCTURE OF URBAN EMPLOYMENT, 1961-1981

(Per cent)

Sr No.	Category	Persons			Males			Females		
		1961	1971	1981	1961	1971	1981	1961	1971	1981
1	Cultivators	6.54	5.11	5.13	5.56	5.21	5.19	12.05	4.26	4.65
2	Agri labourers	3.47	6.01	6.05	2.21	4.66	4.66	10.53	17.86	16.57
3	Livestock, etc	2.51	1.68	1.82	2.46	1.64	1.81	2.78	2.08	1.86
4	Mining and quarrying	0.00	1.01	0.99		1.00	1.04		1.01	0.54
5	Manuf 1 HH IND	7.91	4.98	4.95	5.78	4.38	4.21	19.85	10.17	10.48
	2 other	20.97	22.90	24.68	22.95	24.01	26.05	9.90	13.14	14.30
6	Constructions	3.65	3.51	3.98	3.85	3.57	4.12	2.50	2.94	2.92
7	Trade and Comm	16.30	20.09	19.56	18.00	21.42	20.96	6.80	8.39	8.92
8	Transport, etc	8.04	9.78	9.00	9.26	10.76	9.88	1.23	1.19	2.29
9	Other services	30.61	24.94	23.86	29.93	23.34	22.06	34.38	38.94	37.46
	Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Census of India.

of employment growth, though high, is not as spectacular. The main issue to note is that the sectors which have had the highest growth in terms of value added have been the more capital intensive ones (except for apparel). In terms of input based categories, Ishfer Ahluwalia [1985] has also shown that the fastest growing sectors have been the chemicals based sectors, followed by metal based ones with the agro based sectors bringing up the rear This is largely corroborated by the evidence from changes in the employment structure.

Are there significant differences between the changes in manufacturing employment in urban and rural areas. First, as may be expected, the structure of rural manufacturing employment is heavily weighted towards the agro based industries, and is therefore quite different from the structure of urban employment, which is well distributed among all sectors (see Tables 4B and C). (The only non-agrd based sector of any consequence in the rural areas is 'non-metallic minerals' referring mainly to brick kilns.) What is notable, however, is that the intersectoral record of growth is very similar between the rural and urban areas—highest growth being recorded in the chemical related sectors and electrical machinery which are sectors with low employment weight. The growth in each sector is generally higher in urban areas; industrial growth has clearly been more oriented towards urban areas, and this orientation has been increasing over time. The proportion of male manufacturing employment in urban areas has risen from about 49 per cent in 1961 to 53 per cent in 1971 and 57 per cent in 1981.

How does this record of growth in manufacturing employment compare with that of the fast industrialising east Asian economies? First, as might be expected, growth there was uniformly high in all sectors, but the most notable feature of their growth was a significant increase in the share of metal products. In the case of South Korea, the share of metal products (corresponding to our sectors 34, 35, 36, 37 in Table 4) increased from 12.5 per cent in 1961 to 28 per cent in 1980, and in Taiwan, it

TABLE 3A: NON-AGRICULTURAL EMPLOYMENT: ALL INDIA MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
1	Mining and quarrying	747	1.92	799	1.78	1101	1.80	0.68	3.26	1.96
2 and 3	Manufacturing	13049	33.52	14763	32.91	21481	35.18	1.24	3.82	2.52
4	Utilities	249	0.64	525	1.17	950	1.56	7.76	6.10	6.93
5	Construction	1817	4.67	2015	4.49	3207	5.25	1.04	4.76	2.88
6	Trade	6418	16.49	8311	18.53	11356	18.60	2.62	3.17	2.89
7	Transp, storage, co	2954	7.59	4257	9.49	5899	9.66	3.72	3.32	3.52
8	Finance, real estate	536	1.38	1173	2.62	1656	2.71	8.15	3.51	5.81
9	Services	13156	33.80	13017	29.02	15411	25.24	−0.11	1.70	0.79
	Total	38924	100.00	44860	100.00	61061	100.00	1.43	3.13	2.28

TABLE 3B: NON-AGRICULTURAL EMPLOYMENT IN URBAN AREAS: MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
1	Mining and quarrying	177	0.89	288	1.14	425	1.18	5.00	3.96	4.48
2 and 3	Manufacturing	6369	32.19	8048	31.83	12320	34.26	2.37	4.35	3.35
4	Utilities	174	0.88	311	1.23	535	1.49	5.96	5.58	5.77
5	Construction	864	4.37	1024	4.05	1679	4.67	1.71	5.07	3.38
6	Trade	3687	18.64	5184	20.51	7237	20.12	3.47	3.39	3.43
7	Transp, storage, co	2076	10.50	3085	12.20	4023	11.19	4.04	2.69	3.36
8	Finance, real estate	440	2.22	959	3.79	1296	3.60	8.11	3.06	5.55
9	Services	5996	30.31	6382	25.24	8448	23.49	0.62	2.84	1.73
	Total	19784	100.00	25280	100.00	35963	100.00	2.48	3.59	3.03

TABLE 3C: NON-AGRICULTURAL EMPLOYMENT IN RURAL AREAS: MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
1	Mining and quarrying	570	2.98	511	2.61	676	2.69	−1.09	2.85	0.86
2 and 3	Manufacturing	6680	34.90	6715	34.29	9161	36.50	0.05	3.15	1.59
4	Utilities	74	0.39	214	1.09	415	1.65	11.17	6.82	8.97
5	Construction	953	4.98	992	5.06	1528	6.09	0.40	4.42	2.39
6	Trade	2731	14.27	3127	15.97	4119	16.41	1.37	2.79	2.08
7	Transp, storage, co	877	4,58	1172	5.98	1876	7.48	2.94	4.82	3.87
8	Finance, real estate	96	0.50	214	1.10	361	1.44	8.35	5.33	6.83
9	Services	7159	37.40	6636	33.89	6963	27.74	−0.76	0.48	−0.14
	Total	19141	100.00	19581	100.00	25098	100.00	0.23	2.51	1.36

Source: Census of India.

TABLE 4A: MANUFACTURING EMPLOYMENT BY INDUSTRY: ALL INDIA, MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	1,286	9.86	1,292	8.75	2,031	9.46	0.05	4.63	2.31
22	Bev and tobacco	774	5.93	862	5.84	897	4.17	1.08	0.40	0.74
23	Cotton textiles	2,439	18.69	2,314	15.68	3,109	14.47	−0.52	3.00	1.22
24	Wool, silk and synth	219	1.68	228	1.54	323	1.50	0.39	3.54	1.95
25	Jute textiles	315	2.41	332	2.25	400	1.86	0.55	1.88	1.21
26	Textile products	1,175	9.00	1,560	10.57	2,474	11.52	2.88	4.72	3.80
27	Wood products	1,593	12.21	1,609	10.90	2,053	9.56	0.09	2.47	1.27
28	Paper	288	2.20	407	2.76	608	2.83	3.53	4.10	3.82
29	Leather and fur	736	5.64	530	3.59	473	2.20	−3.23	−1.13	−2.18
30	Rubber, plastics, pe	70	0.53	164	1.11	310	1.44	8.93	6.58	7.75
31	Other chemicals	262	2.01	393	2.67	605	2.82	4.16	4.39	4.27
32	Non metallic miner	1,088	8.33	1,120	7.58	1,469	6.84	0.29	2.76	1.52
33	Basic metals	1,140	8.74	353	2.39	664	3.09	−11.07	6.52	−2.67
34	Metal products		na	831	5.63	1,102	5.13		2.86	
35	Non-elec machinery	96	0.73	542	3.67	754	3.51	18.94	3.35	10.87
36	Elec machinery	122	0.94	132	0.90	428	1.99	0.78	12.48	6.47
37	Transport equipment	573	4.39	371	2.51	518	2.41	−4.27	3.41	−0.50
38	Other manufacturing	874	6.70	868	5.88	1,132	5.27	−0.07	2.69	1.30
39	Repair		na	854	5.79	2,130	9.91		9.57	
2 and 3	Total	13,049	100	14,763	100	21,481	100	1.24	3.82	2.52

TABLE 4B: MANUFACTURING EMPLOYMENT BY INDUSTRY: URBAN AREAS, MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	518	8.14	602	7.48	989	8.03	1.51	5.08	3.28
22	Bev and tobacco	305	4.79	302	3.75	344	2.79	−0.11	1.31	0.60
23	Cotton textiles	1,379	21.65	1,473	18.30	1,967	15.96	0.66	2.93	1.79
24	Wool, silk and synth	133	2.08	150	1.87	226	1.83	1.25	4.17	2.70
25	Jute textiles	211	3.32	260	3.23	317	2.57	2.11	1.99	2.05
26	Textile products	552	8.66	768	9.54	1,277	10.36	3.36	5.22	4.29
27	Wood products	447	7.02	539	6.70	748	6.07	1.88	3.32	2.60
28	Paper	247	3.88	340	4.22	492	3.99	3.24	3.77	3.50
29	Leather and fur	247	3.87	220	2.74	240	1.95	−1.12	0.86	−0.14
30	Rubber, plastics, pe	61	0.96	136	1.69	244	1.98	8.37	5.99	7.18
31	Other chemicals	190	2.98	304	3.77	466	3.79	4.82	4.39	4.60
32	Non metallic miner	304	4.77	337	4.19	448	3.64	1.06	2.88	1.96
33	Basic metals	648	10.18	271	3.36	512	4.15	−8.37	6.57	−1.18
34	Metal products	na	na	443	5.50	610	4.95		3.25	
35	Non-elec machinery	76	1.19	395	4.90	581	4.71	17.90	3.93	10.70
36	Elec machinery	108	1.69	114	1.41	364	2.96	0.55	12.36	6.29
37	Transport equipment	453	7.12	314	3.90	445	3.61	−3.61	3.55	−0.09
38	Other manufacturing	490	7.70	471	5.85	754	6.12	−0.40	4.82	2.18
39	Repair	na	na	610	7.58	1,298	10.54		7.85	
2 and 3	Total	6,369	100	8,048	100	12,320	100	2.37	4.35	3.35

TABLE 4C: MANUFACTURING EMPLOYMENT BY INDUSTRY: RURAL AREAS, MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	768	11.49	690	10.27	1,042	11.38	−1.07	4.22	1.54
22	Bev and tobacco	469	7.02	560	8.34	553	6.04	1.80	−0.13	0.83
23	Cotton textiles	1,060	15.87	841	12.53	1,142	12.47	−2.29	3.10	0.37
24	Wool, silk and synth	87	1.30	78	1.16	97	1.06	−1.08	2.21	0.55
25	Jute textiles	104	1.55	72	1.08	84	0.91	−3.52	1.45	−1.07
26	Textile products	623	9.32	792	11.80	1,197	13.07	2.43	4.22	3.32
27	Wood products	1,146	17.16	1,070	15.93	1,305	14.25	−0.69	2.01	0.65
28	Paper	41	0.61	67	1.00	116	1.27	5.19	5.63	5.41
29	Leather and fur	489	7.32	310	4.61	233	2.55	−4.47	−2.79	−3.63
30	Rubber, plastics, pe	9	0.13	28	0.41	66	0.72	12.23	9.14	10.67
31	Other chemicals	72	1.08	90	1.34	138	1.51	2.23	4.41	3.31
32	Non metallic miner	784	11.73	782	11.65	1,021	11.15	−0.02	2.70	1.33
33	Basic metals	492	7.36	82	1.23	152	1.66	−16.37	6.34	−5.70
34	Metal products			389	5.79	493	5.38		2.40	
35	Non-elec machinery	20	0.29	148	2.20	172	1.89	22.32	1.62	11.49
36	Elec machinery	15	0.22	19	0.28	64	0.70	2.33	13.20	7.63
37	Transport equipment	120	1.80	57	0.85	74	0.80	−7.19	2.60	−2.42
38	Other manufacturing	384	5.74	397	5.91	378	4.12	0.34	−0.49	−0.08
39	Repair			244	3.64	832	9.08		13.03	
2 and 3	Total Manufacturing	6,680	100.00	6,715	100.00	9,161	100.00	0.05	3.15	1.59

Source: Census of India.

NOTICE

It is hereby notified for the information of the public that **SPECIAL STEELS LIMITED** proposes to make an application to the Central Government in the Department of Company Affairs, New Delhi, under sub-section (2) of Section 22 of the Monopolies and Restrictive Trade Practices Act, 1969, for approval to the establishment of a new undertaking/unit/division. Brief particulars of the proposal are as under:

1.	Name and address of the Applicant	: SPECIAL STEELS LIMITED Mouje Magathane, Dattapara Road Borivli (East), BOMBAY 400 066.
2.	Capital structure of the applicant organisation	: As on 31st March 1989 Share Capital — Authorised Equity — Rs. 832 lakhs Preference — Rs. 118 lakhs Unclassified — Rs. 50 lakhs Share Capital — Issued, Subscribed & paid-up Equity — Rs. 759.26 lakhs Preference — Rs. 28.00 lakhs
3.	Management structure of the applicant organisation indicating the names of the Directors, including the Managing/Wholetime Directors and Manager, if any	: Board of Directors: Mr. S.A. Sabavala, Chairman Mr. Shantanu N. Desai Mr. S.R. Vakil Mr. K.C. Mehra Mr. Aditya Kashyap Mr. U.V. Kini Mr. W.K. Mangaokar, Nominee Director of IDBI Mr. V.N. Bhargava, Nominee Director of LIC Mr. Dinesh M. Vyas Mr. Deva Prakash, Managing Director Mr. Ishaat Hussain
4.	Indicate whether the proposal relates to the establishment of a new undertaking or a new unit/division.	: New Division.
5.	Location of the new undertaking/unit/division	: It is proposed to locate the new division at MIDC Industrial Area, Tarapur, Dist. Thane, Maharashtra.
6.	Capital structure of the proposed undertaking	: Not applicable
7.	In case the proposal relates to the production, storage, supply, distribution, marketing or control of any goods/articles, indicate:	
	i) Names of goods/articles	: Cold Rolled Steel Strips/Sheets
	ii) Proposed Licensed Capacity	: 100,000 tpa
	iii) Estimated annual turnover	: Rs. 171.35 Crores
8.	In case the proposal relates to the provision of any service, state the volume of activity in terms of usual measures such as value, income, turnover etc.	: Not applicable
9.	Cost of the Project	: Rs. 102 crores
10.	Scheme of finance, indicating the amounts to be raised from each source.	: To be financed partly from internal resources and balance through borrowings.

Any person interested in the matter may make a representation in quardruplicate to the Secretary, Department of Company Affairs, Government of India, Shastri Bhavan, New Delhi, within 14 days from the date of publication of this notice, intimating his views on the proposal and indicating the nature of his interest therein.

Dated this 1st day of November 1989

SPECIAL STEELS LIMITED

Sd/-

(V. SUNDARAM)
COMPANY SECRETARY

Registered office:
Mouje Magathane, Dattarapara Road,
Borivli (East), BOMBAY 400 066

increased from 20 per cent to 33 per cent over the same period. In India, this share has remained roughly constant at about 12.5 to 13 per cent. Clearly, their engineering industry has expanded very fast and has been significanty labour using. In our case, the growth rate in value added in machinery has been high but the weight of employment has barely risen. Part of their success in this sub-sector is explained by the rapid growth in consumer electronics industries in those countries—industries which have been very labour intensive.

The data examined above are for all manufacturing employment including both household and non-household industry. Are there specific features of note if the record of manufacturing employment is decomposed into household and non-household industry? I examine household industry for males first. As might be expected (see Tables 7 A, B, C), two-thirds of household industry is in rural areas but employment is decreasing in absolute terms in most sectors. Excluding 'repairs' there would probably be almost no growth in household industry overall, and it would be negative in rural areas. What growth there is may be attributed to higher growth in urban areas, but even this would be small without repairs. In manufacturing activity emphasis on the low end of the informal sector as a generator of jobs is clearly misplaced. In rural areas, however, over 40 per cent of all manufacturing employment is in household industry, compared with about 27 per cent in urban areas.

According to census data, in rural areas, only a little over 1.1 million males may be described as working in textiles and textile products in household industry of which about 630 thousand are in textiles. The data usually quoted on the number of operating handlooms and powerlooms in rural areas couldn't possibly be correct. Even if the data on women workers is included, the total number of workers, in household industry working in textiles is a little over 1.1 million people, (and including non-household industry it comes to about 2 million). Similarly, the total number of workers in textile products is about 1.5 million. This compares with planning commission estimates of about 9 million people engaged in khadi and handloom, which includes about 7.5 million in handlooms alone. It is quite likely that the census estimate of 2 million in textiles (which would cover handlooms and khadi) is low—but it is difficult to believe that the error of omission is as much as 7 million. The indication is that the emphasis on the magnitude of traditional village industries is quite misplaced: the importance of household industry in rural areas is declining across all sectors.

I now examine the record of non-household industry (see Tables 8A, B, C for males). The overall growth rate of 4.9 per cent per year for males clearly swamps that of household industry (1.2 per cent) during the 1970s. The growth rate for rural areas (5.8 per cent) is much higher than that for urban areas (4.4 per cent), but the weights are now reversed: urban areas account for two-thirds of all non-household manufacturing employment for males. The sectoral growth record in rural areas is somewhat different from that in the urban areas. Non-household textile products register a high growth rate of over 6 per cent in rural areas—compared with 3.3 per cent in urban areas—but total non-household employment in this sector is only about 0.5 million in rural areas as compared with 1.6 million in urban area. High rates of growth are recorded in textile products in both urban and rural areas—presumably some reflection of the rapid expansion in exports of garments. In both rural and urban areas, the weight of textiles and textile products remains at 25-30 per cent in total non-household manufacturing employment. It is important to note that even small increases in growth rates in

TABLE 5: COMPARISON OF GROWTH RATES: INDUSTRIAL PRODUCTION, VALUE ADDED AND VALUE OF OUTPUT, 1959-60 TO 1979-80

(Per cent per annum)

Code	Industry Group	Industrial Production[1]	Gross Value Added[2]	Gross Value of Output[2]
20	Food, except beverages	3.7	1.6	3.7
21	Beverages	11.0	8.0	10.1
22	Tobacco	3.5	2.1	2.1
23	Textiles	0.6*	3.1	4.4
24	Footwear and apparel	0.8	12.4	13.4
25	Wood and cork	4.6	3.4	4.3
26	Furniture and fixtures	—	6.6	7.5
27	Paper and paper products	5.6	8.6	8.9
28	Printing and publishing	—	3.7	4.7
29	Leather and fur products	−4.4	4.7	6.0
30	Rubber products	6.2	4.4	7.6
31	Chemicals and chemical prod	8.1	9.0	11.0
32	Petroleum products	9.4	6.2	14.2
33	Non-metallic mineral prod	5.8	4.0	5.8
34	Basic metals	4.9	4.6	6.3
35	Metal products	6.5	4.0	4.5
36	Non-electrical machinery	10.7	9.0	10.4
37	Electrical machinery	9.9	10.9	12.2
38	Transport equipment	1.1*	5.1	6.2
39	Miscellaneous	0.8*	7.2	6.8
	Manufacturing Total	4.6	5.2	6.4

Notes: * Statistically not significantly different from zero.
1 Industrial production index. 2 Annual Survey of Industries.
Source: I J Ahluwalia [1985].

TABLE 6: CHANGES IN THE SHARES OF MAJOR INDUSTRY GROUPS IN MANUFACTURING, 1960-61 TO 1979-80

(Per cent)

Code	Industry Group	1960-61	1970-71	1979-80
20	Food, except beverages	14.01	9.05	7.34
21	Beverages	0.53	0.79	1.02
22	Tobacco	3.36	2.55	1.73
23	Textiles	28.79	20.16	22.45
24	Footwear and apparel	0.19	0.40	0.78
25	Wood and cork	0.83	0.58	0.57
26	Furniture and fixtures	0.39	0.47	0.52
27	Paper and paper products	1.34	2.56	2.10
28	Printing and publishing	2.41	2.49	1.75
29	Leather and fur products	0.31	0.36	0.26
30	Rubber products	2.46	2.51	1.98
31	Chemicals and chemical prod	8.40	12.39	15.32
32	Petroleum products	1.82	1.84	1.85
33	Non-metallic mineral prod	4.02	3.85	3.04
34	Basic metals	9.55	9.60	8.86
35	Metal products	2.97	3.19	2.69
36	Non-electrical machinery	3.90	6.54	7.62
37	Electrical machinery	3.22	6.13	7.74
38	Transport equipment	8.59	8.23	8.32
39	Miscellaneous	2.96	6.29	4.02
	Manufacturing Total	100.00	100.00	100.00

Note : Shares in the adjusted net value added in manufacturing at 1970-71 prices.
Source: I J Ahluwalia [1985] (National Accounts data).

TABLE 7A: EMPLOYMENT IN HOUSEHOLD INDUSTRY: ALL INDIA, MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	528	9.01	325	6.47	341	6.03	-4.75	0.48	-2.17
22	Bev and tobacco	319	5.43	335	6.68	401	7.10	0.51	1.80	1.15
23	Cotton textiles	1,256	21.42	879	17.50	999	17.68	-3.51	1.29	-1.14
24	Wool, silk and synth	127	2.16	97	1.94	98	1.73	-2.62	0.06	-1.29
25	Jute textiles	65	1.11	19	0.38	13	0.24	-11.57	-3.39	-7.57
26	Textile products	555	9.47	681	13.56	702	12.42	2.06	0.30	1.17
27	Wood products	1,037	17.69	912	18.16	952	16.86	-1.28	0.43	-0.43
28	Paper	13	0.22	15	0.30	22	0.40	1.50	4.08	2.78
29	Leather and fur	519	8.84	301	5.99	197	3.49	-5.30	-4.14	-4.72
30	Rubber, plastics, pe	2	0.03	6	0.12	11	0.19	12.80	5.42	9.05
31	Other chemicals	25	0.42	12	0.24	21	0.37	-6.85	5.47	-0.88
32	Non-metallic miner	556	9.49	508	10.11	509	9.01	-0.91	0.02	-0.45
33	Basic metals	421	7.18	11	0.22	12	0.21	-30.52	0.91	-16 27
34	Metal products		na	335	6.66	324	5.74		-0.31	
35	Non-elec machinery	3	0.05	60	1.19	50	0.88	34.46	-1.82	14.89
36	Elec machinery	2	0.03	3	0.06	5	0.09	5.20	4.68	4.94
37	Transport equipment	47	0.81	11	0.23	11	0.20	-13.26	-0.26	-6.99
38	Other manufacturing	389	6.63	392	7.80	288	5.10	0.07	-3.02	-1.49
39	Repair		na	121	2.40	693	12.26		19.11	
2 and 3	Total Manufacturing	5,864	100.00	5,021	100.00	5,647	100.00	-1.54	1.18	-0.19

Source: Census of India.

TABLE 7B: EMPLOYMENT IN HOUSEHOLD INDUSTRY: URBAN AREAS, MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	91	7.43	73	5.84	121	7.02	-2.14	5.09	1.41
22	Bev and tobacco	78	6.35	84	6.70	106	6.16	0.80	2.29	1.54
23	Cotton textiles	386	31.51	319	25.37	367	21.42	-1.89	1.43	-0.24
24	Wool, silk and synth	57	4.67	47	3.77	51	2.96	-1.86	0.70	-0.59
25	Jute textiles	6	0.46	2	0.15	2	0 13	-10.20	1.56	-4.50
26	Textile products	121	9.89	197	15.69	213	12.41	5.00	0.77	2.86
27	Wood products	123	10.02	143	11.34	181	10.55	1.51	2.41	1.96
28	Paper	10	0.79	11	0.86	17	1.02	1.09	4.94	3.00
29	Leather and fur	84	6.85	68	5.41	54	3.13	-2.08	-2.32	-2.20
30	Rubber, plastics, pe	1	0.09	3	0.27	8	0.47	11.99	8.90	10.43
31	Other chemicals	11	0.90	7	0.55	13	0.77	-4.61	6.79	0.93
32	Non-metallic miner	64	5.26	63	5.03	86	5.02	-0.19	3.14	1.47
33	Basic metals	71	5.76	2	0.18	7	0.38	-29.26	11.46	-11.21
34	Metal products	na	na	65	5.18	71	4.15	na	0.90	
35	Non-elec machinery	1	0.09	6	0.47	10	0.61	18.68	5.75	12.03
36	Elec machinery	1	0.11	1	0.10	3	0.19	-0.19	9.90	4.73
37	Transport equipment	14	1.13	3	0.26	5	0.27	-13.26	3.45	-5.27
38	Other manufacturing	107	8.70	121	9.62	146	8.53	1.27	1.93	1.60
39	Repair	na	na	40	3.20	254	14.80	na	20.21	
2 and 3	Total Manufacturing	1,225	100.00	1,257	100.00	1,716	100.00	0.26	3.16	1.70

TABLE 7C: EMPLOYMENT IN HOUSEHOLD INDUSTRY: RURAL AREAS, MALES ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	437	9.42	251	6.68	220	5.60	-5.38	-1.32	-3.37
22	Bev and tobacco	241	5.19	251	6.67	295	7.51	0.41	1.63	1.02
23	Cotton textiles	870	18.75	560	14.87	631	16.05	-4.32	1.21	-1.59
24	Wool, silk and synth	70	1.50	50	1.32	47	1.19	-3.29	-0.59	-1.95
25	Jute textiles	59	1.28	17	0.46	11	0.29	-11.71	-4.12	-7.99
26	Textile products	434	9.36	484	12.84	489	12.43	1.08	0.11	0.59
27	Wood products	915	19.71	769	20.43	771	19.61	-1.72	0.02	-0.85
28	Paper	3	0.07	4	0.11	5	0.13	2.58	1.60	2.09
29	Leather and fur	435	9.37	233	6.18	143	3.65	-6.06	-4.73	-5.39
30	Rubber, plastics, pe	1	0.02	3	0.07	3	0.07	13.89	-0.92	6.23
31	Other chemicals	14	0.30	5	0.14	8	0.19	-9.06	3.52	-2.97
32	Non-metallic miner	492	10.60	444	11.81	422	10.74	-1.01	-0.51	-0.76
33	Basic metals	350	7.55	9	0.23	6	0.14	-30.80	-4.57	-18.74
34	Metal products			269	7.16	253	6.43		-0.63	
35	Non-elec machinery	2	0.04	54	1.43	39	1.00	38.86	-3.10	16.00
36	Elec machinery	1	0.01	2	0.05	2	0.04	12.67	-1.38	5.41
37	Transport equipment	34	0.72	8	0.21	6	0.16	-13.26	-2.23	-7.91
38	Other manufacturing	282	6.08	271	7.19	142	3.61	-0.42	-6.26	-3.38
39	Repair			80	2.13	439	11.16		18.51	
2 and 3	Total Manufacturing	4,639	100.00	3,764	100.00	3,931	100.00	-2.07	0.44	-0.82

Source: Census of India.

TABLE 8A: EMPLOYMENT IN HOUSEHOLD INDUSTRY: ALL INDIA, MALES ONLY, 1961-1981 (*In thousand*)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	758	10.55	967	9.82	1,691	10.68	2.47	5.74	4.09
22	Bev and tobacco	455	6.34	527	5.35	496	3.13	1.47	−0.60	0.43
23	Cotton textiles	1,183	16.46	1,436	14.57	2,110	13.33	1.96	3.93	2.94
24	Wool, silk and synth	92	1.29	131	1.33	225	1.42	3.53	5.59	4.55
25	Jute textiles	250	3.48	313	3.18	387	2.44	2.30	2.13	2.22
26	Textile products	619	8.62	879	8.93	1,773	11.20	3.57	7.26	5.40
27	Wood products	556	7.74	697	7.07	1,101	6.95	2.28	4.68	3.47
28	Paper	275	3.82	392	3.98	586	3.70	3.62	4.10	3.86
29	Leather and fur	217	3.03	229	2.33	276	1.75	0.54	1.88	1.21
30	Rubber, plastics, pe	68	0.94	158	1.60	299	1.89	8.80	6.63	7.71
31	Other chemicals	237	3.30	381	3.87	584	3.69	4.87	4.35	4.61
32	Non-metallic miner	531	7.39	612	6.21	961	6.07	1.43	4.61	3.01
33	Basic metals	719	10.01	342	3.47	652	4.11	−7.17	6.66	−0.49
34	Metal products		na	497	5.04	778	4.92		4.59	
35	Non-elec machinery	93	1.29	483	4.90	704	4.45	17.95	3.85	10.67
36	Elec machinery	120	1.68	239	2.43	424	2.67	7.11	5.87	6.49
37	Transport equipment	526	7.32	359	3.65	507	3.20	−3.74	3.51	−0.18
38	Other manufacturing	485	6.75	477	4.84	844	5.33	−0.18	5.88	2.81
39	Repair		na	734	7.45	1,437	9.08		6.95	
2 and 3	Total Manufacturing	7,185	100.00	9,852	100.00	15,834	100	3.21	4.86	4.03

Source: Census of India.

TABLE 8B: EMPLOYMENT IN NON-HOUSEHOLD INDUSTRY: URBAN AREAS, MALES ONLY, 1961-1981 (*In thousand*)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	427	8.31	529	7.68	869	8.19	2.16	5.08	3.61
22	Bev and tobacco	227	4.42	218	3.16	238	2.24	−0.44	0.91	0.23
23	Cotton textiles	993	19.30	1,154	16.76	1,599	15.08	1.52	3.32	2.41
24	Wool, silk and synth	75	1.46	103	1.49	175	1.65	3.15	5.48	4.31
25	Jute textiles	206	4.00	258	3.75	315	2.97	2.31	2.00	2.15
26	Textile products	431	8.37	571	8.29	1,064	10.03	2.85	6.43	4.63
27	Wood products	325	6.31	396	5.76	567	5.34	2.02	3.64	2.82
28	Paper	237	4.62	329	4.78	475	4.48	3.31	3.73	3.52
29	Leather and fur	163	3.17	152	2.21	186	1.76	−0.66	2.03	0.68
30	Rubber, plastics, pe	60	1.16	133	1.93	236	2.22	8.29	5.91	7.09
31	Other chemicals	179	3.47	297	4.31	453	4.27	5.20	4.32	4.76
32	Non-metallic miner	239	4.65	274	3.98	362	3.41	1.37	2.82	2.09
33	Basic metals	578	11.23	268	3.90	505	4.76	−7.38	6.52	−0.67
34	Metal products	na		378	5.48	538	5.08		3.61	
35	Non-elec machinery	75	1.46	389	5.65	570	5.38	17.89	3.90	10.68
36	Elec machinery	106	2.07	207	3.01	361	3.40	6.90	5.71	6.30
37	Transport equipment	439	8.54	310	4.51	440	4.15	−3.42	3.55	0.01
38	Other manufacturing	384	7.46	350	5.09	608	5.73	−0.91	5.67	2.33
39	Repair	na		570	8.27	1,044	9.85		6.25	
2 and 3	Total Manufacturing	5,144	100.00	6,885	100.00	10,605	100.00	2.96	4.41	3.68

TABLE 8C: EMPLOYMENT IN NON-HOUSEHOLD INDUSTRY: RURAL AREAS, MALES ONLY, 1961-1981 (*In thousand*)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	331	16.19	438	14.77	822	15.72	2.86	6.50	4.66
22	Bev and tobacco	228	11.16	309	10.42	258	4.93	3.10	−1.80	0.62
23	Cotton textiles	190	9.32	282	9.50	511	9.77	4.01	6.13	5.07
24	Wool, silk and synth	17	0.83	28	0.94	50	0.95	5.07	5.97	5.52
25	Jute textiles	44	2.16	55	1.86	72	1.38	2.27	2.73	2.50
26	Textile products	189	9.24	309	10.41	709	13.55	5.05	8.66	6.84
27	Wood products	232	11.34	300	10.12	534	10.21	2.64	5.93	4.27
28	Paper	37	1.82	63	2.12	111	2.12	5.40	5.86	5.63
29	Leather and fur	55	2.67	77	2.60	90	1.72	3.51	1.57	2.53
30	Rubber, plastics, pe	8	0.39	25	0.84	64	1.22	12.06	9.88	10.97
31	Other chemicals	58	2.85	84	2.85	131	2.50	3.79	4.47	4.13
32	Non-metallic miner	292	14.30	338	11.39	599	11.45	1.47	5.89	3.66
33	Basic metals	142	6.94	73	2.48	147	2.80	−6.36	7.15	0.17
34	Metal products			119	4.02	240	4.59		7.24	
35	Non-elec machinery	18	0.87	94	3.16	134	2.56	18.17	3.63	10.66
36	Elec machinery	14	0.70	32	1.09	63	1.20	8.59	6.81	7.69
37	Transport equipment	87	4.24	49	1.65	67	1.28	−5.55	3.23	−1.26
38	Other manufacturing	101	4.96	126	4.26	236	4.51	2.22	6.45	4.32
39	Repair			164	5.53	393	7.52		9.13	
2 and 3	Total Manufacturing	2,041	100.00	2,966	100.00	5,229	100.00	3.81	5.83	4.82

Source: Census of India.

these sectors would have a large impact on the absolute magnitude of employment generated. The falling share of textiles in urban areas is partly balanced by the rising share of textile products; in rural areas. the share of both is rising. These data indicate the threat posed to the health of the urban economy from the sickness in the textile industry. Closing textile mills would have a significant impact on the urban economy unless the jobs displaced are relocated in other industries, or in a rejuvenated textile industry.

We may note from the data on non-household industry in urban areas (Table 8B) that the significantly stagnating sectors are only beverages and tobacco, jute textiles, and leather and fur--a situation which is common to the rural areas. Each of these industries is agro based. The diversified nature of Indian urban based industry may also be noted from the rather even distribution of employment between sectors (excluding textiles and products). The growth record has been modest in the 1970s—but significantly bdtter than in the 1960s. One may expect the definitional changes to matter least for non-household manufacturing employment for males. Increase in non-household manufacturing employment for males was just under 4 million in urban areas and a little over 2.2 million in rural areas during the 1870s.

MANUFACTURING EMPLOYMENTIN FACTORIES (CENSUS SECTOR)

Working up the scale, 1 now examine the record for the census sector within the factory sector as defined by the annual survey

TABLE 10: EMPLOYMENT IN MANUFACTURING: HOUSEHOLD, NON-HOUSEHOLD AND FACTORY, 1981

(In thousand)

Code	Division	Household		Household		Factory	
		Male	Female	Male	Female	Number	As Per Cent of non-Household
20-21	Food products	341	113	1,691	192	1,050	56
22	Beverages and tobacco	401	613	496	310	179	22
23	Cotton textiles	999	437	2,110	287	966	40
24	Wool, silk and synth	98	50	225	33.00	178	69
25	Jute textiles	13	7	387	10.	269	68
26	Textile products*	702	177	1,773	189	64	3
27	Wood products	952	310	1,101	69	36	3
28	Paper	22	5	586	26	207	34
29	Leather and fur**	197	12	276	9	42	15
30	Rubber, plastic, petro $	11	3	299	22	117	36
31	Other chemicals	21	19	584	107	380	55
32	Non-metallic minerals	509	140	961	217	249	21
33	Basic metals	12	1	652	15	482	72
34	Metal products	324	24	778	16	107	13
35	Non-elec machinery	50	3	704	14	298	42
36	Electric machinery	5	0	424	28	263	58
37	Transport equipment	11	0	507	8	446	87
38	Other manufacturing	288	28	844	33	45	5
39	Repair	693	122	1,437	14	na	na
2 and 3	Manufacturing	5,649	2,064	15,835	1,599	5,378	31
memo item: of which							
	Urban	1,716	563	10,605	768	na	na
	Per cent	30	27	67	48	na	na

Source: Annual Survey of Industries Census of India.

Notes: * Includes footwear, other wearing apparel, made-up textile good.. for 1960-61 to 1969-70.
** Excludes footwear, and no figs for fur from 1960-61 to 1969-70.
$ No figs for plastic from 1960-61 to 1969-70.
@ Includes sectors 23, 24, 25.

TABLE 9: EMPLOYMENT IN FACTORIES: CENSUS SECTOR ONLY, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-1971	1971-1981	1961-1981
20-21	Food products	372	13.10	438	11.42	1,051	19.54	1.64	9.14	5.32
22	Bev and tobacco	111	3.92	106	2.76	179	3.33	−0.51	5.39	2.40
	Textiles@	1,076	37.86	1,131	29.46	1,413	26.27			
23	Cotton textiles	na	na	na	na	966	17.96	na	na	na
24	Wool Silk and Synth	na	na	na	na	178	3.30	na	na	na
25	Jute textiles	na	na	na	na	269	5.00	na	na	na
26	Textile products*	99	3.49	93	2.41	64	1.18	−0.70	−3.69	−2.21
27	Wood products	33	1.17	42	1.08	36	0.66	2.25	−1.49	0.36
28	Paper	117	4.13	183	4.77	208	3.86	4.55	1.26	2.90
29	Leather and fur**	11	0.38	16	0.42	42	0.78	4.12	9.91	6.97
30	Rubber, plastic, petro$	38	1.32	67	1.74	117	2.17	5.93	5.72	5.82
31	Other chemicals	123	4.33	232	6.04	380	7.06	6.55	5.05	5.80
32	Non-metallic minerals	149	5.26	194	5.05	249	4.63	2.65	2.52	2.58
33	Basic metals	187	6.59	350	9.11	482	8.97	6.44	3.26	4.84
34	Metal products	61	2.16	91	2.37	107	1.99	na	1.65	na
35	Non-electric machinery	100	3.52	202	5.26	298	5.53	7.27	3.95	5.60
36	Electric machinery	77	2.71	185	4.82	263	4.89	9.15	3.58	6.33
37	Transport equipment	251	8.82	446	11.62	446	8.29	5.93	0.00	2.92
38	Other manufacturing	35	1.25	63	1.65	46	0.85	5.98	−3.27	1.25
39	Repair	na	na	na	na	na	na	na	na	na
2 and 3	Manufacturing	2,843	100.00	3,839	100.00	5,379	100.00	3.05	3.43	3.24

Notes: * Includes footwear, other wearing apparel, made-up textile goods for 1960-61 to 1969-70.
** Excludes footwear, and no figs for fur from 1960-61 to 1969-70.
$ No figs for plastic from 1960-61 to 1969-70.
@ Includes sectors 23, 24, 25.

TABLE 11: GROWTH OF URBAN POPULATION IN INDIA, 1901-1981

Census Year	Number of Towns[a]	Urban Population (Million)	Per Cent of Total Population, Urban	Annual Intercensal Growth Rate of Urban Population (Per Cent)	Annual Growth Rate of Rural Population (Per Cent)	URGD[b] (Col 5-Col 6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1901	1834	25.6	11.0	—	—	—
1911	1776	25.6	10.4	0	0.61	-0.61
1921	1920	27.7	11.3	0.79	-0.18	0.97
1931	2049	33.0	12.2	1.77	0.94	0.83
1941	2210	43.6	14.1	2.82	1.11	1.71
1951	2044	61.6	17.6	3.52	0.82	2.70
1961	2330	77.6	18.3	2.34	1.88	0.46
1971	2531	107.0	20.2	3.26	1.97	1.29
1981	3245	156.0	23.7	3.86	1.75	2.11

Notes : Table excludes Assam, Jammu and Kashmir.
a : Constituent towns of urban agglomerations are not counted as separate units
b : Urban-rural growth differential.
Source: Mohan and Pant [1982].

TABLE 12: ANNUAL GROWTH RATE OF THE URBAN POPULATION IN INDIA BY SIZE OF TOWNS, 1971-1981

Size Class in 1971	1971		1981	Population Growth Rates 1971-81 (Per Cent Per Year)
	Number of Towns	Urban Population (Million)	Urban Population (Million)	
Metropolitan and Class I*	145	60.1	85.8	3.62
Class II (50,000-99,999)	178	12.0	16.9	3.44
Class III (20,000-49,999)	560	17.2	23.7	3.28
Class IV (10,000-19,999)	818	11.7	16.1	3.29
Class V (5,000-9,999)	596	4.3	6.3	3.83
Total	2297	105.3	148.8	3.52

Notes: *. Metropolitan designates cities of 1 million and larger. Class I designates cities of 100,000 to 999,999.
Various towns were excluded from class III, IV and V because they could not be traced in 1981 census. These missing towns are either declassified or amalgamated into larger units; see the source for details.
Source: Mohan and Pant [1982].

TABLE 13: GROWTH OF THE URBAN AND RURAL POPULATION IN INDIA BY STATE, 1951-1981
(Per cent per year)

States	Urban Population			Rural Population		
	1951-61	1961-71	1971-81	1951-61	1961-71	1971-81
Andhra Pradesh	1.5	2.9	4.0	1.5	1.7	1.6
Bihar	4.1	3.7	4.4	1.6	1.8	1.9
Gujarat	1.8	3.5	3.5	2.6	2.3	2.0
Haryana	3.1	3.1	4.8	2.9	2.8	2.0
Karnataka	1.7	3.1	4.2	2.1	1.9	1.7
Madhya Pradesh	4.0	3.9	4.6	1.9	2.3	1.8
Maharashtra	2.0	3.5	3.4	2.2	2.0	1.6
Orissa	6.5	5.2	5.3	1.6	2.0	1.4
Punjab	2.6	2.3	3.7	1.8	1.9	1.6
Rajasthan	1.1	3.3	4.6	2.6	2.3	2.4
Tamil Nadu	2.1	3.3	2.5	0.8	1.5	1.2
Uttar Pradesh	0.9	2.7	4.9	1.7	1.7	1.8
West Bengal	3.1	2.5	2.8	2.8	1.4	1.9
India*	2.33	3.26	3.85	1.89	2.00	1.75

Note: * Including all states except Assam and Jammu and Kashmir.
Table includes all states with a total population greater than 10 million in 1971, except Kerala and Assam.
Source: Mohan and Pant [1982].

of industries It would be better to examine the factory sector as a whole but, prior to 1971-72, it is difficult (though not impossible) to amalgamate the sample and census Sectors [See Ahluwalia, 1985 for details on this issue]. Hence the consistent series of the census sector has been chosen. Unlike all the other data examined which indicate that there was a quickening of the pace of growth in manufacturing employment during the 1970s, these data imply that growth was similar during the two periods at about 4 per cent per annum (see Table 9).

The highest annual growth (9 per cent) is exhibited by the food products sector, which is surprising in view of the fact that growth in value added (in registered manufacturing, which include all of the factory sector) is negative (-0.82 per cent per year) in this sector over the same period (see Appendix Table 6). A re-examination of earlier tables reveals that employment growth in this sector is much higher in the non-household sector relative to the household sector and is evenly divided between rural and urban areas. Somewhat surprisingly, employment growth has been more concentrated in large enterprises in this sector—yet producing little growth in value added. This would seem to be an anomaly in need of resolution—in a sector which employs about 2.3 million people in all, of whom as many as a million are in large enterprises. Similarly, high employment growth is recorded in the beverages and tobacco industry despite low growth in value added.

Among the other sectors, as might be expected, the only others showing high growth are the chemical related sectors of rubber, plastic, petroleum and coal products and other chemicals (sectors 30 and 31). The rest of the record presents a picture of stagnation. In particular, the engineering industries record a significant downturn in the 1970s relative to the previous decade. Thus, the high growth rates observed earlier in employment in electrical machinery must be concentrated much more in small and medium industry.

Overall, employment in large industry is still concentrated in the traditional industries which are largely the agro based ones. Whereas there was significant growth in the engineering industries in the 1960s, this was modest during the 1970s. The only part of the industry sharing sustained employment growth, though still comprising less than 10 per cent of factory employment in 1981, were the chemical related industries.

Table 10 brings together some of the data (for 1981) in order to get a composite picture of manufacturing employment. The weight of the factory sector is high in food products, textile sectors, chemicals, basic metals, electrical machinery and transport equipment. As discussed earlier, of these, only chemicals and electrical machinery were dynamic growth sectors during both the 1960s and 1970s, but comprising only about 12 per cent of census sector factory employment.

SOUTH INDIA VISCOSE LIMITED

Regd. & Corporate Office : 1077 A, Trichy Road, Singanallur, Coimbatore - 641 005

Speech delivered by Shri PALLONJI SHAPOORJI MISTRY, Chairman, South India Viscose Ltd., at the 31st Annual General Meeting of the Company, held on 19th October 1989.

Ladies and Gentlemen,

It gives me great pleasure to welcome you to the 31st Annual General Meeting of your Company. The Directors' Report and the Accounts of your Company are already with you and, with your permission, I shall take them as read.

ECONOMIC SCENARIO The economy has shown a strong recovery in agricultural production together with the sustained momentum of industrial growth in the wake of good monsoon last year. According to the economic survey of the Government of India, the GNP grew by 9% in 1988-89 and the industrial production by 9.3%. The Stock Markets have shown consistent buoyancy during second half year truly reflecting the economic growth.

The prospects are bright for raising bumper food and cash crops in 1989-90 following widespread rainfall in almost all regions in recent weeks. If the northeast monsoon also turns out to be normal, it should be possible to reach a foodgrain production of 180 million tonnes. However, the major challenges of economic management have come from a difficult balance of payments situation.

PERFORMANCE Your Company has established an impressive track record with a continuous marked degree of improvement in its operations over the past four years. 1988-89 was another year of record performance, with production, sales and profits registering an excellent increase over previous year. The outlook for the current year is encouraging. The market for your Company's products is good and with all-round thrust being provided by the Management, you can look forward to another year of good performance.

EXPANSION/MODERNISATION I am pleased to mention that your Company is now in the process of implementing a programme to modernise/expand the existing three plants at a cost of nearly Rs. 30 Crores.

RAW MATERIALS Like other chemical industries, raw materials account for a high production cost. While your Company makes continuous efforts to improve the operating efficiency of the factory and achieve higher productivity, frequent and steep increases in the raw materials cost particularly the wood supplied by the Government upsets the planning and act as a disincentive to the long term growth of the Company. In the past, Tamil Nadu Government has been raising the Royalty rates for wood by 10% - 15% at an interval of 2 to 3 years. However, during the last two years Government has imposed a steep hike in the Royalty rates and that too the increases have been effected every year. The rates were increased by 16% for 1987-88. For 1988-89 the hike was as high as 46% followed by nearly 83% over 1987-88 for 1989-90. Thus the Royalty rates have been more than doubled in the last 3 years. It is appreciated that the State Government must raise resources. But I am afraid that any abnormal hike in the Royalty rates will have the adverse effect of penalising an efficient unit. We hope that the rates once fixed will be maintained at least for a minimum period of three years to enable the Company to formulate its policies.

AGRO-FORESTRY SCHEME You are aware that your Company, with a view to ensure long term availability of raw materials (Pulpwood) in adequate quantities, has embarked upon an Agro-Forestry scheme to promote planting of Eucalyptus Trees in private farm lands both in hills and plains. The implementation of this project has made satisfactory progress during the year. Commercial nurseries have been established and the seedlings raised in nurseries are being distributed to farmers for planting. The response from the farmers is encouraging.

ENVIRONMENT AND ECOLOGY Your Company continues to give highest priority for the preservation of environment and ecology. The implementation of the Agro-Forestry Project will not only promote planting of trees outside forests but will also contribute to maintain the environment in the region and conserve the ecology. Effluent treatment plant installed in the Factory is also being operated continuously to ensure that the discharged effluents is in conformity with the prescribed standards.

ENERGY CONSERVATION Efficient use of energy is critical for our economic development. Your Company recognises the importance of energy conservation and has taken up a number of energy savings schemes for implementation.

EXPORTS As stated earlier, the country's balance of payments position is a matter of concern.The trade gap has to be contracted with more aggressive efforts to push up the exports. The Government has chalked out a strategy for boosting exports by 40% and restricting the imports in the current financial year. With continuing devaluation of the rupee and a higher level of agricultural and industrial production, it should not be difficult to achieve the export targets. But the tempo of the rise in exports can be maintained only if non-traditional items make a large contribution to the foreign exchange earnings.

In this connection, I would like to mention here that your Company's exports in 1988-89 were lower than the previous year caused by delay in the issue of Trade Notices by the Government. I hope that the Government would remove such constraints. International market situation has changed over the past couple of years to a favourable one for promoting exports. I am happy to say that your Company's products viz., Wood Pulp, Rayon Filament Yarn and Viscose Staple Fibre are now competitive and possess quality matching international standards. In view of the demand for these products in the overseas markets, your Company has been approaching the Government for permission to export also Wood Pulp and Viscose Staple Fibre. But the Government is yet to respond to our requests.

DIVERSIFICATION The implementation of Lignosulfonates Project is making satisfactory progress. In the meantime, your Company has been actively working on feasibility studies of a number of new projects. Your Company has signed a Memorandum of Understanding with the Gujarat Industrial Investment Corporation Limited for setting up a project for the manufacture of Acrylamides. They are holding a Letter of Intent. The search is on for a suitable technology tie-up.

A MOU has been also signed with M/s IAEC Boilers Pvt Ltd., for subscribing towards their Capital. You are probably aware that IAEC Boilers is an engineering Company who are reputed manufacturers of Boilers, Hot Water Generators, Heat Exchangers, Waste Heat Recovery systems etc., and their plant is located at Ranipet near Madras.

The other projects which are being considered are on Edible Oil and Seeds. The Company is also examining investment opportunities in other areas.

With the expertise your Company has gained over the years in Man-Made Fibre Industry and Agro-Forestry, we have been exploring and assessing the business opportunities to expand our activities in overseas countries. Based on preliminary survey, the prospects for setting up a joint venture project abroad are bright. With plans and projects under way your Company will forge ahead in the coming years. I look at the future of your Company with an excitement of great expectations.

ACKNOWLEDGEMENT I would like to thank the Central Government, Tamil Nadu Government, all Financial Institutions, Banks and the Shareholders for their support and co-operation.

APPRECIATION Finally, let me take this opportunity to express my sincere thanks and appreciation of the contribution made by employees at all levels for the good performance of the Company.

Note : This does not purport to be a record of the proceedings of the Annual General Meeting.

SASI/SIV/CS/89

Overall, much greater employment growth occurred in the non-household, non-large factory sector; both household industry and the factory sector showed negligible or slow growth. This non-household, non-large factory sector grew at about 5.7 per cent per year in terms of employment during the 1970s: The employment elasticity of value added in this sector must be near unity, since the overall annual growth rate in value added in manufacturing was about 5 per cent per year. About two-thirds of non-household manufacturing employment is based in urban areas: it is presumably this growth which has led to the acceleration of urbanisation during the 1970s despite relative stagnation in growth of value added. Different policies encouraging the expansion of the traditional labour using agro based and metal based sectors would have resulted in much greater growth in both value added and employment.

The next section reviews the growth of urbanisation since 1951 and demonstrates the significant acceleration during the 1970s.

III

Urbanisation in India

Table 11 presents the record of urban growth in India since 1901. This record has been discussed and analysed in considerable detail elesewhere [Mohan and Pant, 1982], therefore, only the salient features are mentioned here. India has experienced steady, though slow, urban growth since 1921, with the level of urbanisation inching up from 11.3 per cent to 23.7 per cent in 60 years. Different definitions of urban areas in terms of settlement size yield different absolute levels of urbanisation, but the broad trend remains similar. The number of settlements increased by only about 80 per cent over this period, while the urban population increased about six-fold. Thus most of the growth can be attributed to the growth of existing towns at every level—through rural-urban migration and natural increase rather than to the addition of new towns.

This pattern implies a highly stable structure of settlements: the great majority of urban settlements now classified as such have exhibited urban characteristics for a very long time. According to one study [Moonis Raza, 1982] there were 3,200 towns and 120 cities in India as early as 1586, quite close to the present numbers. Because population growth was slow until this century, most settlements remained at the same size for centuries. Most small towns historically functioned as market and service centres for the surrounding rural areas. The hierarchy of settlements in each region and sub-region appears to have remained relatively stable, with small towns appearing and disappearing over time. Despite this long settlement history, vast areas in the country have a few urban settlements of any size: levels of urbanisation as low as 5-10 per cent are found in these regions. In such areas, a large number of new towns can be expected to appear in the next two decades.

The belief is widespread that large towns and cities have been growing faster than smaller ones in India. This is not so; rather, the proportion of total urban population that lives in cities and towns above any cutoff point continues to increase because of the relatively stable structure of the Indian settlement pattern. The impression *of* faster growth of larger cities persists because tabulations are usually based not on individual cities but on size classes, without taking into account intercensal movement of towns from one size class to another. As a result, the number of cities in the highest size class increases continually and hence the total population in this class increases faster than in the smaller size classes, in which changes in population reflect both entry and exit of towns,

In Table 12 growth rates are computed by comparing the total population of towns in each class in the initial census year with the total population of the same towns in the subsequent census year, irrespective of their classification in that census. The average growth rate of different-sized cities and towns shows little variation between 1971 and 1981. This is consistent with the tabulations but M K Jain [1977] for 1951-61 and 1961-71. The idea that larger cities have grown considerably faster than smaller towns in India has had a strong influence on urbanisation policy. It is interesting that even the largest of the cities, those above a million in population, have not grown perceptibly faster than others. In this respect India's experience is not different from those of most other regions in this decade, as

TABLE 14A: EMPLOYMENT IN HOUSEHOLD INDUSTRY BY STATES, MALES ONLY, 1961-81
(In thousand)

States	1961		1971		1981		Rate of Growth		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	1,149	15.60	653	13.00	697	12.34	-5.50	0.66	-2.47
Bihar	603	8.19	373	7.43	410	7.26	4.69	0.96	-1.91
Gujarat	343	4.66	209	4.16	222	3.93	-4.83	0.60	-2.15
Haryana			82	1.64	96	1.70		1.57	
Karnataka	451	6.13	308	6.13	335	5.93	-3.76	0.86	1.48
Kerala	189	2.56	148	2.94	124	2.20	-2.42	-1.70	-2.06
Madhya Pradesh	529	7.18	420	8.36	484	8.57	-2.28	1.43	-0.44
Maharashtra	560	7.60	424	8.45	445	7.89	-2.73	0.48	-1.14
Orissa	286	3.88	189	3.76	206	3.64	-4.06	0.86	-1.63
Punjab	421	5.71	119	2.37	119	2.10	-11.88	-0.02	6.14
Rajasthan	398	5.40	246	4.89	297	5.26	-4.69	1.91	-1.45
Tamil Nadu	681	9.25	486	9.69	561	9.94	-3.31	1.44	-0.96
Uttar Pradesh	1,319	17.91	893	17.78	1,054	18.66	-3.83	1.67	1.12
West Bengal	300	4.07	290	5.78	430	7.61	-0.33	4.00	1.81
Total	7,365	98.14	5,021	96.37	5,648	97.02	3.76	1.18	-1.32

Source: Census of India.

TABLE 14B: EMPLOYMENT IN HOUSEHOLD INDUSTRY BY STATES, URBAN AREAS, MALES ONLY, 1961-81
(In thousand)

States	1961		1971		1981		Rate of Growth		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	149	11.54	101	8.00	140	8.17	3.87	3.37	0.32
Bihar	71	5.49	70	5.54	66	3.82	0.21	-0.60	-0.41
Gujarat	63	4.85	51	4.07	67	3.90	-2.01	2.71	0.32
Haryana		0.00	10	0.82	28	1.61		10.38	
Karnataka	109	8.39	100	7.99	121	7.07	0.78	1.91	0.56
Kerala	20	1.54	21	1.68	22	1.27	0.53	0.34	0.43
Madhya Pradesh	99	7.63	101	8.00	133	7.77	0.18	2.85	1.51
Maharashtra	142	10.96	128	10.16	175	10.21	-1.04	3.21	1.06
Orissa	21	1.62	19	1.54	27	1.55	-0.77	3.25	1.22
Punjab	55	4.27	19	1.55	43	2.53	9.90	8.34	-1.20
Rajasthan	54	4.20	69	5.47	91	5.32	2.37	2.88	2.62
Tamil Nadu	208	16.10	188	15.00	224	13.05	0.99	1.74	0.36
Uttar Pradesh	219	16.90	232	18.47	385	22.41	0.60	5.18	2.86
West Bengal	52	4.04	87	6.92	126	7.34	5.22	3.78	4.50
Total	1,294	97.53	1,257	95.19	1.716	96.01	0.29	3.16	1.42
Coefficient of variation		0.73		0.73		0.80			

Source: Census of India.

documented by Samuel H Preston [1979]. However, Preston also identified a general slow-down in urbanisation toward the end of the 1970s, particularly in Latin American countries, after continuing acceleration in earlier periods. As shown in Table 11 the experience of India is different, in that the acceleration is particularly marked in the 1971-81 decade; moreover, this acceleration is evident for all sizes of towns and cities and for most of the regions in India.

REGIONAL PATTERN OF URBAN GROWTH AND ECONOMIC DEVELOPMENT

Fable 13 presents the growth rates of urban and rural populations by state between 1951 and 1981. Among the slower growing urban populations are those of the early industrialised states of Maharashtra, West Bengal, and Tamil Nadu. These states, however, all have urbanisation levels of over 30 per cent, comparable to the levels in middle-income countries with a per capita income of about US $400. At the other end of the scale are some of the least urbanised states—Orissa (11.8 per cent), Bihar (12.5 per cent), and Uttar Pradesh (18.0 per cent)—but these are states with some of the highest rates of urban population growth between 1971 and 1981. Only ten countries in the world (including Bangladesh, Bhutan, and Nepal within the Indian subcontinent) have levels of urbanisation below 12 per cent, and they are at the lowest levels of per capita incomes. Thus, in terms of urbanisation levels, india's states span the range of the 50 or so countries with annual per capita incomes from US $100-1400. However, variation in levels of urbanisation between states has declined in the last decade: while all the poor states have experienced accelerated rates of urban population growth, only Haryana, among'the richer states, experienced comparable growth. In some of the poorer areas—Orissa, parts of Bihar, eastern Uttar Pradesh, and eastern Madhya Pradesh, where current urbanisation levels are low and towns are far apart—there has been a great tendency for reclassification of large villages and towns, and the potential for the emergence of new towns is greater

An examination of rural population growth rates helps explain the emerging urbanisation pattern in Indian states. The rate of growth of rural population has declined significantly in the high agricultural productivity states of Haryana and Punjab, while small increases have taken place in the low productivity states of Bihar, Rajasthan, and Uttar Pradesh. Other poor states such as Orissa and Madhya Pradesh have experienced declines. As mentioned earlier there is also evidence, now conclusive [Krishnamurthy, 1984] that for the first time since the turn of the century there was a perceptible decline in the proportion of labour force engaged in agriculture during 1971-81, For males, the share of cultivators and agricultural labourers in the total labour force declined from 67.4 per cent in 1971 to 63 J per cent in 1981. This is at least consistent with the decline in the overall rate of rural population growth, from 2.0 per cent a year from 1961-1971 to 1.75 per cent during the following decade. This may be indicative of the declining capacity of agriculture to absorb continued increases in population and labour force.

The distribution of both rural and urban population growth rates has become progressively more uniform since 1951. Between 1951 and 1961 there were as many as five states whose rural population growth rates were higher than their urban rates; between 1971 and 1981, there were none. Over the past two decades urbanisation has become pervasive in all the states of India.

IV

Regional Spread of Manufacturing Employment: The Record since 1961

The last section showed that the spread of urbanisation was pervasive during the 1970s. One distinctive feature was that the older industrialised states of Tamil Nadu, West Bengal and Maharashtra, though still have the highest levels of urbanisation, had slowed down their rate of urbanisation while the less urbanised states had accelerated. How does this square with the record of manufacturing employment growth during the 1970s? This section presents the statewise distribution of employment in manufactur-

TABLE 15A: EMPLOYMENT IN NON-HOUSEHOLD INDUSTRY BY STATES, MALES ONLY, 1961-81

(In thousand)

States	1961		1971		1981		Rate of Growth		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	388	5.40	637	6.46	1,031	6.51	5.08	4.94	5.01
Bihar	385	5.36	434	4.41	772	4.88	1.20	5.93	3.53
Gujarat	500	6.96	737	7.48	1.358	8.58	3.95	6.31	5.12
Haryana		0.00	171	1.74	356	2.25		7.60	
Karnataka	359	5.00	527	5.34	910	5.75	3.89	5.62	4.75
Kerala	393	5.47	533	5.41	622	3.93	3.10	1.55	2.32
Madhya Pradesh	303	4.21	433	4.39	789	4.99	3.64	6.20	4.91
Maharashtra	1,192	16.59	1,705	17.30	2,549	16.10	3.64	4.10	3.87
Orissa	73	1.02	142	1.45	280	1.77	6.91	7.01	6.96
Punjab	339	4.72	311	3.16	506	3.20	−0.85	4.99	2.03
Rajasthan	151	2.10	245	2.48	551	3.48	4.93	8.45	6.68
Tamil Nadu	751	10.45	1,166	11.84	1,720	10.86	4.50	3.96	4.23
Uttar Pradesh	771	10.73	961	9.76	1,662	10.49	2.23	5.63	3.91
West Bengal	1,244	17.31	1,361	18.82	1,900	12.00	0.91	3.39	2.14
Total	7,185	95.32	9,852	95.04	15,834	94.77	3.21	4.86	4.03

Source: Census of India.

TABLE 15B: EMPLOYMENT IN NON-HOUSEHOLD INDUSTRY BY STATES, URBAN AREAS, MALES ONLY, 1961-1981

(In thousand)

States	1961		1971		1981		Rate of Growth		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	229	4.45	371	5.38	610	5.75	4.93	5.10	5.02
Bihar	214	4.16	245	3.56	405	3.82	1.38	5.15	3.25
Gujarat	413	8.02	581	8.44	976	9.20	3.48	5.33	4.40
Haryana		0.00	100	1.46	211	1.99		7.71	
Karnataka	273	5.30	381	5.53	645	6.08	3.39	5.41	4.40
Kerala	112	2.18	147	2.13	209	1.97	2.75	3.61	3.18
Madhya Pradesh	264	5.14	340	4.93	581	5.47	2.54	5.51	4.01
Maharashtra	1,038	20.19	1,446	21.00	1,997	18.83	3.37	3.28	3.32
Orissa	54	1.05	74	1.07	142	1.34	3.15	6.80	4.96
Punjab	225	4.38	217	3.15	334	3.15	−0.35	4.40	1.99
Rajasthan	111	2.16	172	2.49	350	3.30	4.43	7.38	5.90
Tamil Nadu	519	10.08	774	11.25	1,145	10.80	4.09	3.99	4.04
Uttar Pradesh	506	9.85	624	9.07	999	9.42	2.11	4.81	3.45
West Bengal	953	18.53	1,048	15.22	1,353	12.76	0.95	2.59	1.77
Total	5,144	95.48	6,885	94.68	10,605	93.89	2.96	4.41	3.68
Coefficient of variation		0.86		0.82		0.72			

Source: Census of India.

ing according to the different data sources. Because of data limitations, the focus once again is on male employment.

Looking at the spread of household industry first (Tables 14 A, B) it is clear that, among males overall, it is only in West Bengal that there was growth of any consequence: The growth in urban areas is much higher, with Punjab and Haryana showing the largest rates of growth, followed by Uttar Pradesh. These are the green revolution states (western part of UP) and it is quite likely that this observed rate of growth in household industry is related to the overall growth in incomes related to the green revolution. However, the data at hand are not detailed enough to confirm this conjecture. There is not much shift in the structure of household industry employment except for a significant increase in weight of West Bengal through both the 1960s and 1970s.

Looking at the growth in non-household manufacturing employment in different states (Tables 15 A, B) is of greater interest since the growth rates are much higher. It is remarkable that the highest rates of growth in urban non-manufacturing employment are in Haryana, Orissa, and Rajasthan; these are also the states exhibiting the highest rates of urban papulation growth. Similarly, there is direct correspondence at the other end: the states of Maharashtra, Tamil Nadu and West Bengal, Kerala show the slowest growth in both urban population and non- household manufacturing. Indeed, all the states increase their shares at the expense of these older industrialised states. These data confirm the dispersal of industry as documented carefully by Uday Sekhar [1983], Among the traditionally industrialised states it is only Gujarat that is exhibiting fast growth in both manufacturing employment and urban population. The fall in share is the highest for West Bengal—it also has a very low rate of urban growth, a clear indication of the decay of Calcutta. Note that this is in contrast to its record in household industry.

The data on factory employment (Tables 16 A, B) present a similar picture showing the greater spread of manufacturing employment away from the older industrialised states. The decline of West Bengal emerges in even sharper focus in these data. The share of West Bengal, Maharashtra and Tamil Nadu falls from just over 50 per cent in 1961, to 47 per cent in 1971 and just over 40 per cent in 1981. The gains of the other states are relatively well distributed: most of the dispersal appears to have taken place during the 1970s. The data from the Annual Survey of Industries (Fable 16 A) are largely consistent with those from the Labour Bureau (Fable 16 B).

It is now interesting to look at the distribution of 'unorganised' employment (Tables 17 A, B); this may be defined as the residual resulting from the subtraction of factory sector employment from non-household manufacturing employment. Although, the highest growth states are still Haryana, Rajasthan and Orissa, the fall in share of the old industrialised states is less obvious. The share of Maharashtra, Tamil Nadu and West Bengal barely falls from about 40 per cent in 1961. to 39 per cent in 1971 and 38 per cent in 1981. There is only a clear fall in the share of West Bengal. Thus, the dispersal of industrial employment is mostly in the factory sector: the distribution of unorganised manufacturing employment has remained relatively stable.

It is therefore interesting to examine the statewise growth in manufacturing value added (Table 18), Most states gain at the expense of West Bengal which suffers a drastic fall in share of manufacturing value added from 18 per cent in 1961 to 13 per cent in 1971 to just under 10 per cent in 1981. Both Maharashtra and Gujarat increase their share during these two decades. The highest growth is recorded by the green revolution states—Haryana and Punjab. The one anomaly relative to the record of employment growth is Rajasthan: growth in value added during the 1970s is only 2.4 per cent a year, less than half of the national average of 5 per cent a year, despite the extremely high rates of growth in manufacturing employment. Except for the fall of West Bengal, and the rise of Haryana and Punjab, there is little redistribution of manufacturing activity in terms of value added. One must conclude that much of the dispersal of manufacturing employment must be of low productivity.

To summarise, the evidence indicates a close link between the spread of manufacturing employment and the spread of urbanisation. It is organised sector factory

TABLE 16A: FACTORY EMPLOYMENT IN THE CENSUS SECTOR, 1961-81

(In thousand)

States	1961		1971		1981		Rates of Growth (Per Cent Per Year)		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	142	4.66	255	5.99	448	7.19	6.03	5.80	5.91
Bihar	176	5.77	232	5.45	347	5.57	2.80	4.11	3.45
Gujarat	308	10.10	363	8.53	548	8.80	1.66	4.20	2.92
Haryana	0	0.00	89	2.09	139	2.23		4.56	
Karnataka	116	3.80	195	4.58	321	5.15	5.33	5.11	5.22
Kerala	140	4.59	161	3.78	222	3.56	1.41	3.26	2.33
Madhya Pradesh	102	3.34	173	4.06	267	4.29	5.43	4.44	4.93
Maharashtra	650	21.31	830	19.50	1072	17.21	2.47	2.59	2.53
Orissa	25	0.82	78	1.83	117	1.88	12.05	4.14	8.02
Punjab	76	2.49	84	1.97	168	2.70	1.01	7.18	4.05
Rajasthan	44	1.44	87	2.04	150	2.41	7.05	5.60	6.32
Tamil Nadu	227	7.44	441	10.36	599	9.61	6.87	3.11	4.97
Uttar Pradesh	252	8.26	317	7.45	678	10.88	2.32	7.90	5.07
West Bengal	679	22.26	749	17.59	854	13.71	0.99	1.32	1.15
India	3050	100.00	4257	100.00	6230	100.00	3.39	3.88	3.64
Coefficient of variation		0.97		0.80		0.67			

Source: Annual Survey of Industries 1961, 1970, 1980-81.

TABLE 16B: FACTORY EMPLOYMENT* BY STATES, 1961-81

(In thousand)

States	1961		1971		1981		Rates of Growth (Per Cent Per Year)		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	228	5.82	266	5.23	562	7.76	1.55	7.77	4.61
Bihar	192	4.90	285	5.61	375	5.18	4.03	2.78	3.40
Gujarat	361	9.21	445	8.75	668	9.23	2.11	4.15	3.12
Haryana		0.00	94	1.85	183	2.53		6.89	
Karnataka	178	4.54	280	5.51	492	6.80	4.63	5.80	5.21
Kerala	172	4.39	208	4.09	306	4.23	1.92	3.94	2.92
Madhya Pradesh	169	4.31	222	4.37	409	5.65	2.77	6.30	4.52
Maharashtra	827	21.11	1050	20.66	1254	17.32	2.42	1.79	2.10
Orissa	38	0.97	71	1.40	93	1.28	6.45	2.74	4.58
Punjab	132	3.37	119	2.34	210	2.90	-1.03	5.84	2.35
Rajasthan	57	1.45	88	1.73	157	2.17	4.44	5.96	5.20
Tamil Nadu	330	8.42	460	9.05	717	9.90	3.38	4.54	3.96
Uttar Pradesh	338	8.63	420	8.26	534	7.38	2.20	2.43	2.31
West Bengal	739	18.86	839	16.51	925	12.78	1.28	0.98	1.13
India	3918	100.00	5083	100.00	7240	100.00	2.64	3.60	3.12
Coefficient of variation		0.88		0.80		0.63			

Note: * Estimated average number of workers employed daily.
Source: Labour Bureau, Government of India.

employment that has dispersed the most, unorganised sector employment exhibiting little change in its statewise distribution. But this dispersal seems to have been infructuous in terms of value added, where the older industrialised states have maintained their shares except for West Bengal, The most dynamic states have been Haryana and Punjab which may be attributed to both the demand effects of the green revolution and the proximity to Delhi. Indeed, their growth is manifested in the high population growth of Delhi through the 1960s and 1970s. The differential record of urban growth seems to be more directly related to manufacturing employment growth rather than value added. These conclusions need to be tested more systematically, but that will form the subject of another paper.

V

Can Manufacturing Employment and Urbanisation Be Accelerated?

The record then is a mixed one There appears to have been some step up in the growth of manufacturing employment during the 1970s as compared with the 1960s, although the evidence is far from conclusive because of definitional changes between censuses. Where there is no definitional problem, that is in the factory census sector, there is no evidence of accelerated employment growth in the 1970s—employment grew slowly in both the decades. The main indicator of acceleration is from the data on male employment in non-household manufacturing, a category which should not be too affected by the definitional changes between 1961 and 1971. A feature of this acceleration was that it was more evident in the hitherto less industrialised states. Moreover there appears to be a strong association, though not tested statistically, between the acceleration in this segment of manufacturing employment and in the growth of urbanisation in these states. The traditional industrialised states of Maharashtra, West Bengal and Tamil Nadu exhibited slow growth in both manufacturing employment and in urbanisation. Indeed, the data strongly indicate the 'de-industrialisation' of West Bengal. The gains in employment shares in manufacturing in other states were largely at the expense of this one state. Despite relatively slow growth, the weight of manufacturing value added and employment remained high in these states. Thus, although, an acceleration in manufacturing employment seems to have occurred in other states, overall growth in manufacturing remained slow. Thus, although the step up in urbanisation during the 1970s was closely associated with industrialisation, the differential experience of states explains how this could happen despite the overall industrial stagnation which has been so widely remarked upon.

Was this record of employment generation in manufacturing adequate? It was shown that the growth of employment in agriculture was abysmally low, and surprisingly, that in the tertiary sector it was lower than in manufacturing. On those counts, the performance of manufacturing employment was quite good. But such an assessment should be made in relation to the relative rates of capital formation. Investment in manufacturing ranged from being 20 per cent to 100 per cent higher than in agriculture throughout the 1960s and 1970s, even though value added in manufacturing is less than 60 per cent that in agriculture through most of the period. Could employment generation have been higher with similar levels of capital formation? With the same composition of investment within manufacturing? Given the overall levels of capital formation in manufacturing, experience in other countries suggests that it should have brought a higher rate of employment generation. What were the reasons for this relatively slow growth? To what extent was the policy environment responsible for these results? In this concluding section we attempt, to bring together some of the main concerns about stagnation in manufacturing—both in value added and in employment. The aim is to give some pointers to possible future policy directions in view of the rapid employment generation that is necessary in urban areas over the next couple of decades.

There is widespread agreement that Indian industrialisation has been very capital intensive during the 1960s and 1970s. In the factory sector, the number of employees per lakh of fixed capital (constant 1970-71 prices) fell from about 16-17 in 1960 to about 4 in 1978-79 [Lucas, 1983]. It is also found that with the same composition of capital formation, if the original K/L ratios were

TABLE 17A: WORKERS IN THE UNORGANISED SECTOR (AS COMPUTED FROM CENSUS AND ASI DATA), 1961-81

(In thousand)

States	1961		1971		1981		Rate of Growth		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	334	6.78	500	7.74	767	6.85	4.13	4.37	4.25
Bihar	250	5.08	223	3.45	479	4.28	-1.15	7.96	3.31
Gujarat	228	4.63	413	6.40	873	7.79	6.12	7.76	6.94
Haryana	0	0.00	89	1.37	230	2.05		9.97	
Karnataka	306	6.21	405	6.27	778	6.94	2.84	6.75	4.78
Kerala	389	7.91	551	8.53	606	5.41	3.53	0.96	2.24
Madhya Pradesh	235	4.77	292	4.52	601	5.37	2.21	7.49	4.81
Maharashtra	654	13.29	1002	15.51	1705	15.22	4.35	5.46	4.90
Orissa	61	1.24	79	1.23	196	1.75	2.63	9.49	6.00
Punjab	278	5.65	234	3.62	353	3.15	-1.71	4.21	1.21
Rajasthan	128	2.60	171	2.64	440	3.92	2.91	9.93	6.36
Tamil Nadu	621	12.62	861	13.34	1399	12.49	3.32	4.97	4.14
Uttar Pradesh	549	11.15	673	10.42	1044	9.32	2.06	4.49	3.27
West Bengal	640	13.00	657	10.17	1172	10.47	0.26	5.97	3.07
India	4924	100.00	6460	100.00	11202	100.00	2.75	5.66	4.20

Sources: Annual Survey of Industries 1961, 1970, 1981 Census of India.

TABLE 17B: WORKERS IN THE UNORGANISED SECTOR (AS COMPUTED FROM CENSUS AND DGET DATA)

(In thousand)

States	1961		1971		1981		Rate of Growth		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	248	6.11	489	8.68	653	6.41	7.04	2.94	4.97
Bihar	234	5.77	170	3.01	451	4.43	-3.16	10.27	3.34
Gujarat	175	4.32	331	5.88	753	7.38	6.58	8.55	7.56
Haryana	0	0.00	84	1.49	186	1.82		8.29	
Karnataka	244	6.01	320	5.68	607	5.95	2.75	6.61	4.66
Kerala	357	8.81	504	8.95	522	5.12	3.49	0.35	1.91
Madhya Pradesh	168	4.14	243	4.32	459	4.51	3.77	6.57	5.16
Maharashtra	477	11.77	782	13.88	1523	14.94	5.06	6.89	5.97
Orissa	48	1.19	86	1.53	220	2.16	6.00	9.82	7.90
Punjab	222	5.48	199	3.53	311	3.06	-1.09	4.58	1.71
Rajasthan	115	2.84	170	3.01	433	4.24	3.96	9.81	6.85
Tamil Nadu	518	12.78	842	14.95	1281	12.57	4.98	4.28	4.63
Uttar Pradesh	463	11.41	570	10.11	1188	11.65	2.10	7.62	4.82
West Bengal	580	14.30	567	10.06	1101	10.81	-0.23	6.87	3.26
India	4056	100.00	5634	100.00	10192	100.00	3.34	6.11	4.71

Sources: Census of India and Labour Bureau, Government of India.

maintained in each sector, the fall in employees per lakh of fixed capital would have been to only about 13. In other words, there has been capital deepening in each sector. In addition, however, there has been a shift toward the more capital intensive ones. It seems, however, that we have overdone these shifts and that we might have attempted this shift too fast.

The evidence for such a view is scattered in many descriptions of Indian industry. Two perceptive accounts arc in Desai [1984] and Arun Ghosh [1984]. Desai claims that the slow rate of Indian industrialisation may be attributed in part to 'technological incapacity'. The poor quality and lack of training of our labour leads to highly inefficient use of equipment, bach new plant is subject to construction delays and cost overruns. In a detailed analysis of the performance of large borrowers of the main industrial banks (IDBI, ICTCI, IFCI), Mehta and Sekhar [1987] find that average construction delay was 9 months in the private sector and 2 years in the public sector; and cost overruns were about 20 per cent in the private sector. Desai finds major inadequacies in the use and maintenance of equipment. Despite a major thrust toward indigenisation [about 85 per cent of capital goods are now supplied indigenously according to Jayati Ghosh, 1986], we have a high degree of dependence on import of technology—adaptation, design and development of technology has been singularly lacking. This has also led to often poor quality of machinery installed which exacerbates the maintenance problem. Similarly, Arun Ghosh points out that we have seen steeply rising variable costs with high capital costs: this can only arise from wrong technological choices or the lack of absorption of technology. We thus have the unusual result of cost rising with modern technology, while other countries usually install modern equipment with a view to reducing costs.

Thus part of the observed stagnation in manufacturing value added and employment can be laid to technological incapacity. The relative low skill base of labour results in the kind of problems alluded to above: perversely, the incentive is to use even more capital intensive techniques to minimise the use of labour. A private industrialist is happier to invest in a more automated machine rather than in imparting training to his workers since the latter would be a long-term affair, the low skill base of the labour force is really an indictment of the education policy followed since independence which has not given adequate attention to basic education.

The most capital intensive sectors (petrochemicals, fertiliser, iron and steel) are largely in the public sector. Not only may our leap into these sectors have been premature, but wrong technological choices may have been made because of the kind of decision-making procedures followed in government. Ghosh argues that decision-making in the public sector suffered from inadequate technical inputs.

These conjectures arc borne out by the various sector-wise estimates available on growth in total factor productivity [see Table 19, taken from Ahluwalia, 1985]. Positive TFP growth is observed only in the traditional sectors of textiles, footwear and apparel, furniture and paper while the most highly negative changes are observed in rubber products, petrochemicals, wood and cork and metal products. Broadly, the chemical based sectors perform the worst, followed by agro based and metal based sectors. It is notable that the wage share (see Table 20) is highest in the sectors with positive TFP change (textiles, apparel* paper and printing and transport). The wage share in these sectors is about 60 per cent, while it is about 50 per cent in the engineering industries. As might be expected, it is less than 30 per cent in the chemical based industries. Yet, in our quest toward rapid modernisation in a labour abundant country we seem to have invested most highly in the capital intensive industries and least in the labour using industries. The picture observed from the various cuts into the employment data

TABLE 18: MANUFACTURING VALUE ADDED BY STATES, 1961-1981

(Rs lakhs in 1970-71 prices)

States	1961		1971		1981		Rate of Growth		
	No	Per Cent	No	Per Cent	No	Per Cent	61-71	71-81	61-81
Andhra Pradesh	13328	5.01	22135	5.21	36559	5.31	5.20	5.15	5.17
Bihar	12178	4.58	22177	5.22	34414	5.00	6.18	4.49	5.33
Gujarat	26425	9.93	34939	8.23	58072	8.43	2.83	5.21	4.02
Haryana	3820	1.44	8587	2.02	18425	2.68	8.44	7.93	8.19
Karnataka	15591	5.86	28588	6.73	53395	7.75	6.25	6.45	6.35
Kerala	7861	2.95	15632	3.68	25227	3.66	7.12	4.90	6.00
Madhya Pradesh	8840	3.32	17880	4.21	26990	3.92	7.30	4.20	5.74
Maharashtra	60456	22.71	102777	24.21	175504	25.48	5.45	5.50	5.47
Orissa	2829	1.06	8331	1.96	13103	1.90	11.41	4.63	7.97
Punjab	6411	2.41	11494	2.71	26176	3.80	6.01	8.58	7.29
Rajasthan	11005	4.13	12666	2.98	16007	2.32	1.42	2.37	1.89
Tamil Nadu	26267	9.87	45871	10.80	75834	11.01	5.73	5.16	5.44
Uttar Pradesh	23143	8.70	37925	8.93	62058	9.01	5.06	5.05	5.06
West Bengal	48007	18.04	55587	13.09	66899	9.71	1.48	1.87	1.67
Total*	266160	100.00	424589	100.00	688663	100.00	4.78	4.96	4.87

Note: * Only including states above.

Source: Central Statistical Organisation National Accounts Statistics.

TABLE 19: TOTAL PRODUCTIVITY GROWTH ESTIMATES TWO DIGIT INDUSTRY GROUPS (1959-60 TO 1979-80)

(Per cent per annum)

Code	Industry Group	Solow	Translog
20	Food, except beverages	−2.7	−3.6
21	Beverages	−1.4	−3.1
22	Tobacco	−1.4	−3.6
23	Textiles	1.1	1.0
24	Footwear and apparel	3.0	0.7
25	Wood and cork	−2.7	−3.0
26	Furniture and fixtures	2.2	2.1
27	Paper and paper products	0.5	0.1
28	Printing and publishing	0.8	0.5
29	Leather and fur products	−1.9	−2.4
30	Rubber products	−6.7	−5.5
31	Chemicals and chemical products	−1.3	−1.3
32	Petroleum products	−5.4	−5.6
33	Non-metallic mineral products	−1.1	−1.2
34	Basic metals	−1.0	−0.9
35	Metal products	−2.5	−2.2
36	Non-electrical machinery	−1.6	−1.1
37	Electrical machinery	0.5	−0.2
38	Transport equipment	0.0	0.1
39	Miscellaneous	−6.5	−4.9
	Manufacturing total	−0.6	−0.4

Note: Columns (1) and (2) are based on a capital stock series constructed by using an initial capital stock at replacement cost at 1970-71 prices for 1960-61 and perpetual inventory accumulation method, deflating, the investment figures by the WPI of machinery and equipment.

Source: I J Ahluwalia [1985].

is quite consistent with the other available evidence.

Why has this happened? Apart from the policy induced rush toward modernisation, interesting evidence is provided on the trends in manufacturing sector wages by Sen [1985), Nagraj [1985] and Fallon [1986]. Thr growth in earnings is highest in the chemical related sectors; the variance in wages is much fe$s than the variance in productivity between, sectors; actual wages are almost always higher than minimum wages. Even unskilled wages are observed to be much higher than minimum wages. Thus minimum wage legislation cannot be said to have much impact on organised manufacturing sector activity. Fallon also finds that the other labour benefits (employee state insurance, provident fund* gratuity, etc) seldom add up to much more than 20 per cent of gross salary: these are on the low side compared to other countries. Thus increasing labour costs can scarcely be laid to governmental action. Restrictions on laying off and retrenchment are, however, much more important and could lead to capital intensive technological choices. Similarly, the observation on the low variance in wages (see Table 21) relative to productivity is probably more important. If there is a sector like chemicals which leads in wage setting its ratchet effect on other labour using industries could lead to inappropriately high wages in these sectors resulting in overall capital deepening and lower employment growth in these industries and economy wide.

A premature rush toward inappropriate industries could therefore have economy wide effects—particularly in a country with relatively strong unions in the organised sector. It is therefore not surprising that the organised sector behaved in the way it did during the 1960s and 1970s—leading to industrial stagnation in both value added and employment growth.

What were the counter balancing factors which led to greater growth in employment in the non-household, non-factory sector during the 1970s? There was a succession of important policy measures towards the end of the 1960s. The MRTP Act was introduced; investment in 'backward areas' was given high incentives; small and medium industry was promoted through both fiscal concessions as well as product reservations. The observation of dispersal in manufacturing employment toward the less industrialised states is consistent with the intended effects of these measures. But the data on value added in manufacturing by states shows little increase in spatial diversification. Thus, the small gains observed in employment in the non-factory sector might have been bought at a very high cost. The Mehta and Sekhar [1987] analysis also shows that MRTP firms, being larger and more experienced, generally perform better; and that new firms have generally lower performance indicators. Although it is essential in a developing country to encourage and spawn new entrepreneurs, our restrictions on exit

TABLE 20: BASIC DATA FOR SOURCES OF GROWTH ANALYSIS: TWO DIGIT INDUSTRY GROUPS (1959-60 TO 1979-80)

Code	Industry Group	Wage Share (Per Cent)	Compound Growth Rate (Per Cent Per Year)		
			Gross Value Added	Capital	Labour
20	Food, except beverages	0.37	1.9	7.1	4.2
21	Beverages	0.28	8.2	12.8	7.4
22	Tobacco	0.35	2.2	8.1	3.8
23	Textiles	0.60	3.1	6.0	0.9
24	Footwear and apparel	0.60	12.8	15.4	9.2
25	Wood and cork	0.47	3.4	9.6	2.1
26	Furniture and fixtures	0.57	6.5	10.0	0.4
27	Paper and paper products	0.37	8.1	8.3	4.7
28	Printing and publishing	0.62	3.7	7.9	1.0
29	Leather and fur products	0.47	5.4	12.3	2.4
30	Rubber products	0.39	4.8	12.9	4.4
31	Chemicals and chemical prod	0.29	9.3	12.5	6.3
32	Petroleum products	0.20	6.7	11.6	8.5
33	Non-metallic mineral products	0.44	4.0	7.4	2.9
34	Basic metals	0.45	4.7	6.8	4.4
35	Metal products	0.46	4.1	10.3	2.9
36	Non-electrical machinery	0.49	9.0	14.8	4.5
37	Electrical machinery	0.47	10.9	13.8	6.6
38	Transport equipment	0.62	5.3	9.5	2.1
39	Miscellaneous	0.52	7.0	17.5	3.3
	Manufacturing Total	0.47	5.3	8.6	3.0

Note: Estimated using semi-log trend regressions on time.
Source: I J Ahluwalia [1985].

TABLE 21: ANNUAL EARNINGS IN THE FACTORY, 1961-1981

Code	Division	Current Prices (Rs)			Constant Prices (Rs: 1970 Prices)		
		1961	1971	1981	1961	1971	1981
20-21	Food, except beverages	na	na	na	na	na	na
22	Beverages and tobacco	na	na	na	na	na	na
	Textiles[a]	1,500			2,742		
23	Cotton textiles	na	2,799	7,519	na	2,711	3,137
24	Wool, silk and synth	na	2,899	7,263	na	2,807	3,030
25	Jute textiles	na	2,776	7,452	na	2,688	3,109
26	Textile products[b]	1,540	2,485	5,595	2,725	2,407	2,334
27	Wood products	2,090	1,849	4,017	3,698	1,791	1,676
28	Paper	2,782	2,873	7,689	4,922	2,782	3,208
29	Leather and fur[c]	1,216	2,852	6,539	2,151	2,762	2,728
30	Rubber, plast, petro[d]	4,322	2,554	6,497	7,647	2,473	2,711
31	Other chemicals	1,639	2,899	7,582	2,900	2,807	3,163
32	Non-metallic minerals	1,067	1,880	5,351	1,888	1,821	2,233
33	Basic metals	1,879	3,165	7,711	3,324	3,065	3,217
34	Metal products	1,455	2,575	6,989	2,574	2,494	2,916
35	Non-elec machinery	1,484	2,795	7,941	2,626	2,707	3,313
36	Elec machinery	1,670	3,076	7,760	2,955	2,979	3,238
37	Transport equipment	1,712	3,496	9,192	3,029	3,386	3,835
38	Other manufacturing	1,462	3,006	6,758	2,587	2,911	2,820
39	Repair	na	na	na	na	na	na
	All industries[e]	1,540	2,821	7,395	2,725	2,732	3,085
	Coefficient of variation				0.43	0.16	0.18

Notes: a Includes sectors 23, 24 and 25.
b Includes footwear, other wearing apparel, made-up textile goods for 1960-61 to 1969-70.
c Excludes footwear and no figs for fur from 1960-61 to 1969-70.
d No figs for plastic from 1960-61 to 1969-70.
e Includes non-manufacturing.
Source: Annual Survey of Industries.

APPENDIX TABLE 1A: EMPLOYMENT IN HOUSEHOLD INDUSTRY, ALL INDIA FEMALES ONLY, 1961-1981 *(In thousand)*

Code	Division	1961		1971		1981		Rates of Growth		
		No	Per Cent	No	Per Cent	No	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	578	14.21	90	6.75	113	5.48	-16.98	2.32	-7.83
22	Bev and tobacco	274	6.74	296	22.26	613	29.72	0.78	7.55	4.11
23	Cotton textiles	1,580	38.85	326	24.48	437	21.16	-14.60	2.97	-6.23
24	Wool, silk and synth	131	3.22	39	2.91	50	2.43	-11.47	2.61	-4.69
25	Jute textiles	90	2.21	8	0.57	7	0.36	-21.91	-0.30	-11.77
26	Textile products	370	9.10	157	11.76	177	8.60	-8.24	1.26	-3.61
27	Wood products	553	13.60	213	16.03	310	15.02	-9.09	3.81	-2.85
28	Paper	4	0.11	3	0.19	5	0.26	-5.14	7.49	0.98
29	Leather and fur	68	1.66	15	1.16	12	0.58	-13.71	-2.48	-8.27
30	Rubber, plastic, pe	0	0.01	1	0.04	3	0.13	6.47	17.93	12.05
31	Other chemicals	22	0.55	8	0.58	19	0.90	-10.13	9.23	-0.92
32	Non-metallic minerals	293	7.20	110	8.29	140	6.78	-9.31	2.41	-3.63
33	Basic metals	49	1.20	1	0.07	1	0.03	-32.39	-5.25	-19.96
34	Metal, products	na	na	16	1.23	24	1.14	na	3.76	na
35	Non-elec machinery	0	0.00	2	0.14	3	0.14	26.25	4.95	15.11
36	Elec machinery	0	0.01	0	0.01	0	0.01	-3.38	1.93	-0.76
37	Transport equipment	1	0. 03	0	0.02	0	0.01	-13.80	-1.24	-7.73
38	Other manufactureing	53	1.30	44	3.33	28	1.34	-1.79	-4.57	-3.19
39	Repair	na	na	2	0.18	122	5.91	na	48.30	na
2 and										
	Total manufacturing	4,067	100.00	1,331	100.00	2,064	100.00	-10.57	4.49	-3.33

APPENDIX TABLE 1B: EMPLOYMENT IN HOUSEHOLD INDUSTRY, URBAN AREAS, FEMALES ONLY, 1961-1981 *(In thousand)*

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	55	7.18	11	3.20	35	6.15	-15.12	12.54	-2.27
22	Beverages and tobacco	88	11.55	79	23.76	167	29.71	-1.10	7.30	3.26
23	Cotton textiles	370	48.58	130	39.10	151	26.82	-9.96	1.52	-4.39
24	Wool, silk and synth	29	3.74	9	2.75	23	4.02	-10.78	9.51	-1.15
25	Jute textiles	7	0.95	1	0.30	1	0.14	-18.12	-1.98	-10.41
26	Textile products	64	8.37	34	10.31	53	9.43	-6.04	4.48	-0.92
27	Wood products	71	9.31	34	10.16	46	8.17	-7.18	3.15	-2.15
28	Paper	3	0.35	2	0.51	4	0.70	-4.39	8.84	2.01
29	Leather and fur	12	1.56	3	0.90	3	0.56	12.90	0.48	-6.45
30	Rubber, plastic, pe	0	0.02	0	0.08	2	0.31	7.63	20.75	14.00
31	Other chemicals	13	1.65	5	1.62	13	2.29	-8.15	9.11	0.11
32	Non-metallic minerals	33	4.31	13	4.04	22	3.83	-8.58	4.87	-2.08
33	Basic metals	6	0.73	0	0.03	0	0.04	-33.55	9.17	-14.83
34	Metal products	na	na	2	0.69	4	0.73	na	5.95	na
35	Non-electric machinery	0	0.00	0	0.03	1	0.10	8.54	20.85	14.53
36	Electric machinery	0	0.01	0	0.02	0	0.02	-0.70	9.15	4.11
37	Transport equipment	0	0.04	0	0.03	0	0.02	-12.64	2.49	-5.37
38	Other manufacturing	12	1.63	8	2.32	12	2.18	-4.65	4.73	-0.07
39	Repair	na	na	1	0.16	27	4.78	na	48.02	na
2 and										
3	Total manufacturing	762	100.00	332	100.00	563	100.00	-7.98	5.42	-1.51

APPENDIX TABLE 1C: EMPLOYMENT IN HOUSEHOLD INDUSTRY, RURAL AREAS, FEMALES ONLY, 1961-1981 *(In thousand)*

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	523	15.83	79	7.93	78	5.22	-17.20	-0.10	-9.05
22	Beverages and tobacco	186	5.63	217	21.76	446	29.72	1.57	7.45	4.47
23	Cotton textiles	1,209	36.60	196	19.63	286	19.04	-16.63	3.84	-6.96
24	Wool, silk and synth	102	3.10	30	2.96	27	1.83	-11.67	-0.75	-6.37
25	Jute textiles	83	2.50	7	0.66	7	0.44	-22.34	-0.07	-11.91
26	Textile products	306	9.27	122	12.25	124	8.29	-8.77	0.17	-4.40
27	Wood products	482	14.59	180	17.98	264	17.59	-9.40	3.93	-2.97
28	Paper	2	0.05	1	0.09	1	0.09	-6.42	4.35	-1.18
29	Leather and fur	56	1.69	12	1.25	9	0.59	-13.90	-3.33	-8.77
30	Rubber, plastic, pe	0	0.00	0	0.03	1	0.06	5.39	14.16	9.69
31	Other chemicals	10	0.29	2	0.23	6	0.38	-13.47	9.52	-2.66
32	Non-metallic minerals	260	7.87	97	9.70	118	7.89	-9.40	2.03	-3.86
33	Basic metals	43	1.31	1	0.09	0	0.02	-32.25	-9.01	-21.49
34	Metal products	na	na	14	1.40	20	1.30	na	3.36	na
35	Non-electric machinery	0	0.00	2	0.17	2	0.16	28.62	3.27	15.25
36	Electric machinery	0	0.01	0	0.01	0	0.01	-4.31	-3.40	-3.86
37	Transport equipment	1	0.03	0	0.02	0	0.01	-14.22	-3.21	-8.88
38	Other manufacturing	41	1.23	37	3.66	16	1.03	-1.04	-8.23	-4.71
39	Repair	na	na	2	0.18	95	6.34	na	48.38	na
2 and										
3	Total manufacturing	3,305	100.00	999	100.00	1,501	100.00	-11.27	4.16	-3.87

Source: Census of India.

APPENDIX TABLE 2A: EMPLOYMENT IN NON-HOUSEHOLD INDUSTRY, ALL INDIA, FEMALES ONLY, 1961-1981 *(In thousand)*

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	195	24.70	158	18.21	192	11.99	-2.13	1.98	-0.09
22	Beverages and tobacco	111	14.05	157	18.13	310	19.40	3.51	7.05	5.26
23	Cotton textiles	140	17.67	127	14.67	287	17.96	-0.95	8.50	3.67
24	Wool, silk and synth	11	1.40	12	1.40	33	2.06	0.89	10.52	5.60
25	Jute textiles	13	1.59	8	0.87	10	0.62	-4.95	2.80	-1.15
26	Textile products	70	8.87	115	13.25	189	11.84	5.04	5.14	5.09
27	Wood products	29	3.66	29	3.40	69	4.30	0.17	8.88	4.43
28	Paper	7	0.90	12	1.36	26	1.64	5.17	8.29	6.72
29	Leather and fur	6	0.73	5	0.53	9	0.54	-2.34	6.45	1.96
30	Rubber, plastic, pe	2	0.29	7	0.83	22	1.38	12.07	11.83	11.95
31	Other chemicals	38	4.83	52	5.99	107	6.69	3.10	7.51	5.29
32	Non-metallic minerals	123	15.57	119	13.80	217	13.57	-0.30	6.15	2.87
33	Basic metals	14	1.77	8	0.88	15	0.96	-5.95	7.26	0.44
34	Metal products	na	na	7	0.87	16	0.99	na	7.78	na
35	Non-electric machinery	1	0.14	7	0.84	14	0.88	21.14	6.82	13.76
36	Electric machinery	4	0.45	16	1.80	28	1.76	16.04	6.04	10.93
37	Transport equipment	3	0.39	5	0.53	8	0.51	3.95	6.02	4.98
38	Other manufacturing	24	3.00	19	2.21	33	2.07	-2.14	5.67	1.69
39	Repair	na	na	4	0.43	14	0.85	na	13.78	na
2 and 3	Total manufacturing	791	100.00	865	100.00	1,598	100.00	0.90	6.33	3.58

APPENDIX TABLE 2B: EMPLOYMENT IN NON-HOUSEHOLD INDUSTRY, URBAN AREAS, FEMALES ONLY, 1961-1981 *(In thousand)*

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	55	13.88	49	11.45	72	9.42	-1.11	3.95	1.39
22	Beverages and tobacco	73	18.50	82	19.11	121	15.81	1.13	4.00	2.56
23	Cotton textiles	103	26.13	91	21.28	170	22.07	-1.24	6.38	2.50
24	Wool, silk and synth	8	1.97	8	1.97	22	2.91	0.80	10.22	5.40
25	Jute textiles	10	2.54	6	1.42	7	0.96	-4.86	1.86	-1.56
26	Textile products	29	7.36	39	8.99	93	12.13	2.85	9.22	5.99
27	Wood products	8	2.09	10	2.22	19	2.48	1.42	7.18	4.26
28	Paper	5	1.32	9	2.11	21	2.75	5.66	8.88	7.26
29	Leather and fur	3	0.80	3	0.65	6	0.80	-1.25	8.16	3.34
30	Rubber, plastic, pe	1	0.37	6	1.46	15	2.00	15.50	9.40	12.41
31	Other chemicals	24	5.94	33	7.80	66	8.62	3.60	7.07	5.32
32	Non-metallic minerals	47	11.92	42	9.67	58	7.49	-1.27	3.32	1.00
33	Basic metals	10	2.42	5	1.21	11	1.43	-5.90	7.73	0.68
34	Metal products	na	na	5	1,22	10	1.25	na	6.30	na
35	Non-electric machinery	1	0.25	6	1.44	13	1.63	20.11	7.31	13.53
36	Electric machinery	3	0.83	15	3.41	26	3.44	16.10	6.10	10.99
37	Transport equipment	2	0.60	4	0.99	8	0.98	5.98	5.93	5.95
38	Other manufacturing	12	3.08	13	3.03	21	2.72	0.66	4.83	2.72
39	Repair	na	na	2	0.58	8	1.10	na	12.99	na
2 and 3	Total manufacturing	396	100.00	429	100.00	768	100.00	0.81	5.99	3.37

APPENDIX TABLE 2C: EMPLOYMENT IN NON HOUSEHOLD INDUSTRY, RURAL AREAS, FEMALES ONLY, 1961-1981 *(In thousand)*

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	140	35.57	108	24.87	119	14.37	-2.55	0.96	-0.81
22	Beverages and tobacco	38	9.59	75	17.17	189	22.72	7.06	9.68	8.36
23	Cotton textiles	36	9.17	36	8.16	117	14.15	-0.17	12.68	6.06
24	Wool, silk and synth	3	0.83	4	0.84	11	1.28	1.10	11.21	6.03
25	Jute textiles	2	0.63	1	0.33	3	0.31	-5.33	6.12	0.23
26	Textile products	41	10.38	76	17.44	96	11.56	6.38	2.36	4.35
27	Wood products	21	5.22	20	4.56	50	5.99	-0.37	9.61	4.50
28	Paper	2	0.48	3	0.63	5	0.60	3.72	6.14	4.92
29	Leather and fur	3	0.67	2	0.41	2	0.29	-3.81	3.14	-0.40
30	Rubber, plastic, pe	1	0.21	1	0.21	7	0.80	1.33	21.64	11.02
31	Other chemicals	15	3.72	18	4.21	41	4.90	2.26	8.29	5.23
32	Non-metallic minerals	76	19.23	78	17.86	159	19.19	0.26	7.42	3.78
33	Basic metals	4	1.13	2	0.55	4	0.52	-6.04	6.17	-0.12
34	Metal products	na	na	2	0.52	6	0.75	na	10.63	na
35	Non-electric machinery	0	0.02	1	0.25	2	0.19	29.86	3.62	16.00
36	Electric machinery	0	0.06	1	0.23	2	0.20	15.20	5.12	10.05
37	Transport equipment	1	0.18	0	0.07	1	0.07	-8.41	7.32	-0.86
38	Other manufacturing	12	2.92	6	1.39	12	1.48	-6.21	7.31	0.32
39	Repair	na	na	1	0.29	5	0.62	na	15.22	na
2 and 3	Total manufacturing	395	100.00	436	100.00	830	.00.00	1.00	6.65	3.79

Source: Census of India.

may have exhibited industrial growth. The average size of firms has clearly fallen [Nagaraj, 1984] but this may not have been due to an increase in sub-contracting [J Ghosh, 1986], which would otherwise have been an efficient way to increase employment through small and medium industries.

The evidence then indicates that we may have advanced too fast toward the technologically sophisticated and capital intensive industries to the detriment of industries which are not only labour using but which would also be more competitive internationally. Were there any other constraints?

A relevant issue is whether there was adequate demand for these goods—essentially agro and metal based wage goods? The slow growth in agriculture in most regions (barring only Haryana, Punjab, western UP and parts of Rajasthan and Gujarat) implies not only sluggish demand for wage goods but also sluggish supply for the agro based sectors. The metal based sectors have probably suffered from the high steel prices and from the decline of the eastern region, essentially West Bengal, where the engineering industry had its base. Thus, the agro and metal based sectors may have suffered from both supply and demand side constraints. The comparison with the fast growing cast Asian countries suggests that at our stage of development, it is the engineering sectors and textile related industries which give the best potential for expansion. From the supply side, the data on wage share and productivity. From the supply side, the data on wage share and productivity change support this contention for India as well.

How would demand have increased? Part of the answer would have to lie in greater attention to exports of these goods. The multiplier effect of greater value added and employment generation resulting would itself ease the domestic demand problem. But, in a country of India's size, this would not be as significant as it has been in the successful exporters. Some gains would also be

APPENDIX TABLE 4: VALUE OF OUTPUT IN FACTORIES IN CENSUS SECTOR, 1961-1981

(Current price Rs core)

Code	Division	1961		1971		1981	
		Rs	Per Cent	Rs	Per Cent	Rs	Per Cent
20-21	Food products	715	21.78	1,775	16.80	5,239	11.45
22	Beverages and tobacco	94	2.86	305	2.89	756	1.65
	Textiles[a]	932	28.37	2,079	19.67	7,209	15.75
23	Cotton textiles	na	na	na	na	4,736	10.35
24	Wool, silk and synth	na	na	na	na	1,657	3.62
25	Jute textiles	na	na	na	na	815	1.78
26	Textile products[b]	15	0.45	160	1.51	493	1.08
27	Wood products	23	0.69	68	0.65	115	0.25
28	Paper	121	3.69	371	3.51	1,306	2.85
29	Leather and fur[c]	16	0.48	55	0.52	361	0.79
30	Rubber, plastic, petro[d]	119	3.62	577	5.46	5.596	12.22
31	Other chemicals	279	8.50	1,334	12.63	6,972	15.23
32	Non-metallic minerals	121	3.67	358	3.39	1,445	3.16
33	Basic metals	311	9.46	1,223	11.58	6,045	13.21
34	Metal products	80	2.45	243	2.30	865	1.89
35	Non-electric machinery	95	2.88	540	5.11	2,890	6.31
36	Electric machinery	108	3.29	602	5.70	3,024	6.61
37	Transport equipment	225	6.86	747	7.07	3,120	6.82
38	Other manufacturing	32	0.97	127	1.20	336	0.73
39	Repair	na	na	na	na	na	na
2 and 3	Total manufacturing	3,285	100,00	10,567	100.00	45,773	100.00

Notes: a Includes sectors 23, 24 and 25.
b Includes footwear, other wearing apparel, made-up textile goods for 1960-61 to 1969-70.
c Excludes footwear, and no figs for fur from 1960-61 to 1969-70.
d No figs for plastic from 1960-61 to 1969-70.

Source: Annual Survey of Industries.

APPENDIX TABLE 3: NUMBER OF FACTORIES IN CENSUS SECTOR, 1961-1981

(In thousand)

Code	Division	1961		1971		1981		Rates of Growth		
		Number	Per Cent	Number	Per Cent	Number	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	2073	22.89	2453	19.30	4423	23.83	1.70	6.07	3.86
22	Beverages and tobacco	458	5.06	405	3.19	917	4.94	-1.22	8.52	3.53
	Textiles[a]	1047	11.56	1413	11.12	3,153	16.99			
23	Cotton textiles	na	na	na	na	2260	12.18	na	na	na
24	Wool, silk and synth	na	na	na	na	757	4.08	na	na	na
25	Jute textiles	na	na	na	na	136	0.73	na	na	na
26	Textile products[b]	1187	13.11	1158	9.11	615	3.31	-0.25	-6.13	-3.23
27	Wood products	257	2.84	345	2.71	245	1.32	2.99	-3.36	-0.24
28	Paper	424	4.68	677	5.33	750	4.04	4.79	1.03	2.89
29	Leather and fur[c]	60	0.66	114	0.90	223	1.20	6.63	6.94	6.78
30	Rubber, plastic, petro[d]	99	1.09	220	1.73	516	2.78	8.31	8.90	8.61
31	Other chemicals	448	4.95	860	6.77	1400	7.54	6.74	4.99	5.86
32	Non-metallic minerals	727	8.03	1070	8.42	1469	7.91	3.94	3.22	3.58
33	Basic metals	445	4.91	926	7.29	1386	7.47	7.60	4.12	5.84
34	Metal products	345	3.81	602	4.74	660	3.56	na	0.92	na
35	Non-electric machinery	424	4.68	944	7.43	1097	5.91	8.33	1.51	4.87
36	Electric machinery	261	2.88	541	4.26	746	4.02	7.56	3.27	5.39
37	Transport equipment	568	6.27	552	4.34	704	3.79	-0.29	2.46	1.08
38	Other manufacturing	234	2.58	431	3.39	257	1.38	6.30	-5.04	0.47
39	Repair	na	na	na	na	na	na	na	na	na
2 and 3	Total manufacturing	9,057	100.00	12,711	100.00	18,561	100.00	3.45	3.86	3.65

Notes: a Includes sectors 23, 24 and 25.
b Includes footwear, other wearing apparel, made-up textile goods for 1960-61.
c Excludes footwear, and no figs for fur from 1960-61 to 1969-70.
d No figs for plastic from 1960-61 to 1969-70.

Source: Annual Survey of Industries.

APPENDIX TABLE 5: VALUE ADDED IN FACTORIES IN CENSUS SECTOR, 1961-1981

(Current price Rs core)

Code	Division	1961		1971		1981	
		Rs	Per Cent	Rs	Per Cent	Rs	Per Cent
20-21	Food products	106	12.04	204	8.23	549	6.13
22	Beverages and tobacco	22	2.53	87	3.50	152	1.69
	Textiles[a]	288	32.69	544	21.92	1,911	21.35
23	Cotton textiles	na	na	na	na	1,277	14.27
24	Wool, silk and synth	na	na	na	na	336	3.76
25	Jute textiles	na	na	na	na	298	3.33
26	Textile products[b]	9	1.07	19	0.78	77	0.86
27	Wood products	7	0.79	19	0.77	31	0.35
28	Paper	43	4.83	128	5.16	354	3.95
29	Leather and fur[c]	3	0.29	9	0.36	51	0.57
30	Rubber, plastic, petro[d]	39	4.45	123	4.96	445	4.97
31	Other chemicals	82	9.25	345	13.89	1,289	14.40
32	Non-metallic minerals	39	4.39	99	3.99	344	3.84
33	Basic metals	72	8.18	277	11.14	1,112	12.42
34	Metal products	23	2.57	66	2.64	242	2.71
35	Non-electric machinery	34	3.90	151	6.06	7.29	8.14
36	Electric machinery	34	3.90	163	6.57	755	8.43
37	Transport equipment	70	7.92	211	8.48	808	9.03
38	Other manufacturing	11	1.20	39	1.56	103	1.15
39	Repair	na	na	na	na	na	na
2 and 3	Total manufacturing	882	100.00	2,483	100.00	8,953	100.00

Notes: a Includes sectors 23, 24 and 25.
b Includes footwear, other wearing apparel, made-up textile goods for 1960-61 to 1969-70.
c Excludes footwear, and no figs for fur from 1960-61 to 1969-70.
d No figs for plastic from 1960-61 to 1969-70.
Source: Annual Survey of Industries.

made by fiscal actions reducing the tax burden (Ahmad, 1987] and prices of these goods—textiles, garments, and light engineering goods, including simple consumer electronics. But the most important answer, and the most difficult one is greater spread of agricultural prosperity. Paradoxically, accelerating manufacturing employment—and urbanisation—will depend on higher growth in agriculture.

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APPENDIX TABLE 6: VALUE ADDED IN REGISTERED MANUFACTURING, ALL INDIA, 1961-1981

(Rs lakh)

Code	Division	1961		1971		1981		Rates of Growth		
		Rs	Per Cent	Rs	Per Cent	Rs	Per Cent	1961-71	1971-81	1961-81
20-21	Food products	17,023	9.52	26,815	9.05	24,691	5.53	4.65	-0.82	1.88
22	Beverages and tobacco	5,873	3.28	9,911	3.34	10,989	2.46	5.37	1.04	3.18
	Textiles	55,832	31.21	59,730	20.16	105,034	23.52			
23	Cotton textiles	na	na	40,139	13.55	67,125	15.03	na	5.28	na
24	Wool, silk and synth	na	na	9,378	3.16	18,006	4.03	na	6.74	na
25	Jute textiles	na	na	8,780	2.96	15,935	3.57	na	6.14	na
26	Textile products[a]	1,761	0.98	1,433	0.48	3,968	0.89	-2.04	10.72	4.15
27	Wood products	1,697	0.95	3,094	1.04	2,453	0.55	6.19	-2.29	1.86
28	Paper	8,007	4.48	14,959	5.05	17,165	3.84	6.45	1.39	3.89
29	Leather and fur[b]	3,782	2.11	2,260	0.76	1,804	0.40	-5.02	-2.23	-3.63
30	Rubber, plastic, petro[c]	5,221	2.92	12,890	4.35	16,137	3.61	9.46	2.27	5.80
31	Other chemicals	15,868	8.87	36,707	12.39	60,494	13.55	8.75	5.12	6.92
32	Non metallic miner	5,882	3.29	11,399	3.85	14,688	3.29	6.84	2.57	4.68
33	Basic metals	14,575	8.15	28,451	9.60	45,382	10.16	6.92	4.78	5.84
34	Metal, products	7,573	4.23	9,454	3.19	12,882	2.88	na	3.14	na
35	Non electric machinery	5,331	2.98	19,386	6.54	36,383	8.15	13.78	6.50	10.08
36	Electric machinery	5,048	2.82	18,213	6.15	40,482	9.07	13.69	8.31	10.97
37	Transport equipment	20,094	11.23	24,396	8 23	32,737	7.33	1.96	2.98	2.47
38	Other manufacturing	7,062	3.95	18,652	6.29	17,683	3.96	10.20	-0.53	4.70
39	Repair	na	na	na	na	7,534	1.69	na	na	na
2 and 3	NVA including bank char	178,868	100.00	296,317	100.00	446,548	100.00	5.18	4.19	4.68
	Less bank charges	3,496		8,917		14,554				
	Net value added	167,480		287,400		431,894				
	Add depreciation	19,061		53,154		67,505				
	Gross value added	186,875		340,554		499,399				

Notes: a Includes footwear, other wearing apparel, made-up textile goods for 1960-61 to 1969-70.
b Excludes footwear, and no figs for fur from 1960-61 to 1969-70.
c No figs for plastic from 1960-61 to 1969-70.
Source: National Accounts Statistics, CSO, various issues.

APPENDIX TABLE 7: TOTAL EMPLOYMENT IN HOUSEHOLD INDUSTRY BY STATES, 1961-81

(In thousand)

States	1961		1971		1981		Rates of Growth (Per Cent/Year)		
	No	Per Cent	No	Per Cent	No	Per Cent	1961-71	1971-81	1961-81
Andhra Pradesh	1815	15.09	873	13.74	1064	13.80	-7.06	2.00	-2.63
Bihar	1058	8.79	433	6.81	490	6.35	-8.55	1.26	-3.77
Gujarat	556	4.62	237	3.72	267	3.47	-8.18	1.23	-3.59
Haryana	0	0.00	87	1.36	103	1.33		1.73	
Karnataka	709	5.89	439	6.90	560	7.26	-4.69	2.47	-1.17
Kerala	489	4.06	266	4.19	251	3.25	-5.90	0.59	-3.28
Madhya Pradesh	841	6.99	557	8.77	706	9.15	-4.04	2.40	-0.87
Maharashtra	832	6.92	563	8.87	620	8.04	-3.83	0.97	-1.46
Orissa	531	4.41	249	3.91	285	3.70	-7.31	1.38	-3.06
Punjab	541	4.50	124	1.95	127	1.65	-13.69	0.25	-6.98
Rajasthan	598	4.97	276	4.35	340	4.41	-7.44	2.10	-2.78
Tamil Nadu	1207	10.03	670	10.55	898	11.65	-5.72	2.98	-1.47
Uttar Pradesh	1802	14.98	1002	15.77	1200	15.56	-5.70	1.82	-2.01
West Bengal	487	4.05	334	5.25	543	7.04	-3.72	4.99	0.54
India	12031	100.00	6352	100.00	7713	100.00	-6.19	1.96	-2.20

Source: Census of India.

APPENDIX TABLE 8: TOTAL EMPLOYMENT IN NON HOUSEHOLD INDUSTRY BY STATES, 1961-81

(In thousand)

States	1961		1971		1981		Rates of Growth (Per Cent/Year)		
	No	Per Cent	No	Per Cent	No	Per Cent	1961-71	1971-81	1961-81
Andhra Pradesh	476	5.97	755	7.05	1215	6.97	4.73	4.87	4.80
Bihar	426	5.34	455	4.24	826	4.74	0.66	6.15	3.37
Gujarat	536	6.72	776	7.24	1421	8.15	3.77	6.23	4.99
Haryana	0	0.00	178	1.66	369	2.11		7.57	
Karnataka	422	5.29	600	5.60	1099	6.30	3.58	6.24	4.90
Kerala	529	6.64	712	6.64	828	4.75	3.01	1.52	2.26
Madhya Pradesh	337	4.22	465	4.34	868	4.98	3.28	6.44	4.85
Maharashtra	1304	16.36	1832	17.09	2777	15.93	3.45	4.25	3.85
Orissa	86	1.08	157	1.47	313	1.80	6.20	7.13	6.67
Punjab	354	4.44	318	2.97	521	2.99	-1.07	5.07	1.95
Rajasthan	172	2.16	258	2.40	590	3.38	4.12	8.63	6.35
Tamil Nadu	848	10.64	1302	12.15	1998	11.46	4.38	4.37	4.38
Uttar Pradesh	801	10.04	990	9.24	1722	9.88	2.14	5.69	3.90
West Bengal	1319	16.54	1406	13.12	2026	11.62	0.64	3.72	2.17
India	7974	100.00	10717	100.00	17432	100.00	3.00	4.99	3.99

Source: Census of India.

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