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**Employment and Income in India:
Case of a City Economy**

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Abstract

This paper analyses the pattern of growth observed in the city economy of Ahmedabad, a metropolitan city in the industrially developed state of Gujarat. The growth of this city is placed in the context of the overall performance of growth of output, employment and poverty in the Indian economy and that of Gujarat state. The study showed that in 1997-98, the city generated employment of 1.5 million workers and income of Rs. 60,130 million. About 77 percent of this employment and 47 percent of the incomes were generated in the informal economy. The informal workers were engaged mainly in trade, hotels and restaurants, transport and manufacturing sector.

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Employment and Income in India: Case of a City Economy

Jeemol Unni and Uma Rani

There is a general air of optimism in the country regarding the prospects of the Indian economy. There is an emerging consensus that the economic growth since 1980-81 has reduced poverty; the growth rate improved as a result of the economic reforms initiated since 1991 and 'second generation reforms' will further improve the growth rate and reduce poverty (Nagaraj, 2000).

In this paper our effort is to analyse the pattern of growth observed in the city economy of Ahmedabad, a metropolitan city in the industrially developed state of Gujarat. The growth of this city is placed in the context of the overall performance of growth of output, employment and poverty in the Indian economy and that of Gujarat state. The paper is divided into three sections. In the first section, we analyze the performance of the Indian economy and Gujarat state in comparison to the country. The performance of the economy by industrial sectors is discussed in the second section. In the third section, the growth of Ahmedabad city is studied in the context of the state and country.

1. PERFORMANCE OF THE INDIAN ECONOMY AND GUJARAT STATE

The economic reforms were initiated in India in June 1991. A process of slow liberalisation, however, began in the early eighties itself. We present the estimated growth of gross domestic product (GDP) in the country as a whole and state domestic product (SDP) of the 14 major states for the period since 1980-81 in Table 1. The entire period is split into two, the pre and post reform periods. The rate of growth of GDP appeared to have accelerated since the reforms, with the growth rate increasing from 5.5 to 6.6 percent per annum in the two periods. This acceleration in growth was found to be exceptionally high in the state of Gujarat from 5.1 to 9.6 percent per annum. Gujarat state followed by Maharashtra appeared to have 'miracle growth' rates in the post reform period (Ahluwalia, 2000). In fact, the ratio between states with the lowest (Bihar) and highest (Gujarat) growth rates is as much as 1:7.

Obviously, there are large inter-state disparities in the growth. Annual rates of growth of per capita SDP are also presented for the two periods (Table 2). Punjab was the richest state in per capita SDP, followed by Haryana in 1990-91. However, "it was not true that the richest states got richer or the poorer got poorer. The growth rates of per capita SDP of these two states in the 1990s were not only lower than in the 1980s, but in both cases actually fell below the national average" (Ahluwalia, 2000). Maharashtra and Gujarat accelerated very

significantly in the 1990s and grew at rates much higher than the national average. Gujarat, in fact, had the highest growth of per capita GDP of 7.6 percent per annum in the 1990s.

Gujarat is an industrially developed state. The Government of Gujarat has always had a clear emphasis in its policies towards the industrial sector, particularly the secondary sector. The main policy instruments of the state are the same as that of the central government, that is, deregulation and liberalisation of the various markets, incentives and concessions to potential industrialists in India and abroad, and promotional and developmental work. However, the emphasis has been more on incentives and concessions. Indicating the importance of development of infrastructure in the state, the state government set up the Gujarat Infrastructure Board in 1995 with the objective of attracting private sector investment in infrastructure such as roads, power plants, ports jetties etc (Hirway, 2000). This approach has played rich dividends in terms of attracting industrial investments to the state particularly in the large and medium industries. According to one study, Gujarat has attracted the highest industrial investment in the large and medium sectors, more than Rs.17000 billion during 1991-97 (Hirway, 2000).

To what extent do the fruits of this growth reach the population in general? How does this rather impressive performance of the Indian economy and Gujarat state translate into growth of employment and reduction in poverty? At the all-India level employment grew at the rate of 1.6 percent per annum prior to 1990, and at a slightly higher 1.8 percent during 1990-91 to 1997 (Table 3). That is, the growth in employment was nowhere near that of the growth in GDP, and the increase in the reforms period was marginal. However, when the period after 1990 is split into two periods in the year 1994-95, we find that the growth of employment was rather high in the first part of the reforms and less than half percent after 1994-95. One has to be cautious in using this data however, since it is based on 'thin' sample data (Bhalla, 2000).

The percentage of population below poverty has been reducing since the mid-eighties no matter what data source and definition of the poverty line is used. The Planning Commission estimated that the population below the poverty line declined from 45 percent in 1983 to only 36 percent in 1993-94 (Bhalla, 2000). The percentage of population below the poverty line was much lower in Gujarat in 1983 itself and continued to decline. In 1993-94, Gujarat had the third lowest proportion below the poverty line, 24 percent, compared to the other states (Ahluwalia, 2000).

Apparently the Indian economy has been doing very well in the period of the economic reforms. However, it has been pointed out that three facts about this growth provide ground for anxiety. First, although there have been marginally better income growth rates during the 1990s, the benefits seemed to have gone entirely to the urban sector. Secondly, the improved income growth did not provide commensurate growth of employment. In fact, in the second half of the nineties, all the employment growth was concentrated in the urban areas (Table 3). Thirdly, there is a serious deterioration in the income generating capacity of the fresh employment created (Bhalla, 2000).

In spite of the fact that the percentage of population below the poverty line has declined, the most shocking indicator is that in rural areas the per capita consumption expenditure during the 1990s has actually gone down in the country as a whole. In urban areas, at least it has remained almost constant (Bhalla, 2000). This is clear indication of deterioration in the quality of employment generated in the 1990s especially in rural areas and to some extent in urban areas as well in India. One key indicator of absolute measure of employment quality is the gross SDP per worker. We shall discuss this for the industrial sector in the country and Gujarat in the next section.

Gujarat also experienced considerable decline in the incidence of poverty. In terms of absolute numbers, however, the decline in poverty was about 23 percent in the last two decades (1973-74 to 1993-94), from 13 million to 10 million, while the number of urban poor has actually increased. Urban poverty is emerging as a relatively serious problem in the state (Hirway, 2000). Another area of concern in Gujarat is that the phenomenal economic growth of the last decades has not been translated into human development. Though number one industrially, the state is much lower down in rank if one takes indicators of education, health and environment (Hirway, 2000).

2. RELATIVE PERFORMANCE OF INDUSTRIAL SECTORS IN THE GUJARAT ECONOMY

2.1. Sectoral Shares and Growth in GDP – India and Gujarat

The decline in the share of agriculture in Gross Domestic Product (GDP) and increase in the share of secondary and tertiary sectors in India has been widely noted (Bhaduri, 1996; Bhalla, 1993). The share of primary sector in the GDP, taken as a proxy for incomes, declined from 42 percent in 1977-78 to 31 percent in 1993-94 (Table 4). While the share of the secondary sector rose from 24 to 27 percent, that of the tertiary sector rose from 34 to 41 percent during the same period. It

appears that the fall in relative share of agriculture has been mainly due to a rise in relative share of tertiary rather than that of manufacturing sector.

The rate of growth of GDP over the entire period 1977-94 was 4.6 percent per annum. The agricultural sector grew the slowest at 2.8 percent, while the fastest growth was recorded in the tertiary sector, 5.8 percent. The rate of growth of GDP was higher in the tertiary sector compared to the secondary and primary sectors in all the three periods under study. The maximum growth in the tertiary sector was noted in the period 1983-84 to 1987-88. This was also the period that recorded the highest growth in the secondary sector. The agricultural year 1987-88 was affected by a severe drought, which affected output and employment in the agricultural sector. The services sector has, therefore, become the major sector in terms of contribution to GDP, even before the economy could become highly industrialized, which is in contrast to the pattern observed in the developed economies.

The sectoral growth rate of SDP over the period 1983-94 was the highest in the secondary sector in Gujarat (Table 5), unlike the average for India (1977-94) where it was the highest in the tertiary sector. In fact the growth rate in SDP in the secondary sector was highest in Gujarat compared to India in most sub-periods, though the growth rate in the tertiary sector was close to it. To an extent, Gujarat presents the general development pattern of developed economies where the economy becomes highly industrialised before the service sector expands. The industrial policies of the state encouraged the development of the secondary, particularly manufacturing sector. This explains the higher proportion and greater increase in the share of SDP of the secondary sector in Gujarat compared to the average for India.

2.2. Sectoral Shares and Growth of Employment

The fall in the share of employment in the primary sector and increase in the secondary and tertiary sectors in the country as a whole has been noted and welcomed by many scholars (Bhalla, 1996; Unni, 2000a; Vaidyanathan, 1986). The share of employment in the primary sector in India was, however, large in 1977-78, nearly 72 percent (Table 4). The decline in share to 64 percent in 1993-94 was relatively small compared to the decline in share of GDP. The share of both the secondary and tertiary sectors grew during the period. The large increase in employment in the secondary sector in 1987-88 was due to a large increase in the construction sector. This constituted mainly persons engaged in the scarcity relief programmes set up by the government in the drought year 1987-88. There was a small decline in the share of the secondary sector in 1993-94. The share of the tertiary sector rose steadily from 16 to 21 percent during the successive periods.

The overall rate of growth of employment during the period 1977 to 1994 was 2.1 percent per annum (Table 4). While the rate of growth of employment in agriculture was only about 1.5 percent, the tertiary sector recorded the highest growth rate of 3.7 percent. With the exception of 1987-88, due to the drought situation discussed earlier, the tertiary sector had the highest growth rate of employment in every period. However, the growth in employment in the tertiary sector has been slower than that of income.

The share of employment in agriculture in Gujarat was lower than the average for the country in 1977-78 itself. It fell to 59 percent in 1993-94. The increase in the share of employment in the secondary sector was not commensurate with that of the increase in income. There was a modest increase in the employment from 15.1 percent in 1983-84 to 19.2 percent in 1993-94 (Table 5). The large increase in the share of employment in the secondary sector in 1987-88 was due to the increase in employment in the construction sector as was observed for India as a whole. The decline in the share of employment in the primary sector over the period was smaller compared to its decline in the share of GDP, similar to that of all-India. While, the increase in the share of employment in the tertiary sector was marginal during the period 1983-84 to 1993-94, its absolute share was higher than that of the secondary sector in 1993-94.

The reason for this limited scope of employment generation in the secondary sector in Gujarat compared to growth of GDP could be due to the highly capital intensive nature of investments in the state since the mid-eighties (Lalitha, 1999). This apart, Gujarat observed a decline in the textile industry and the emergence of the chemical based industry, which has limited employment generation capacity. Despite this the secondary sector growth in employment during the period 1983-84 to 1993-94 was 2.1 percent per annum, while employment in the Gujarat economy as a whole grew at 1.1 percent per annum (Table 5). The growth rate in employment in the service sector has been modest at 1.6 percent per annum, marginally increasing during the successive periods. This shows that in this industrially developed state, the role of service sector is not only growing but is competing with the secondary sector. The share of tertiary sector in employment during 1983 and 1993-94 was higher than the secondary sector.

2.3. Growth in Manufacturing

The manufacturing sector has been regarded as the engine of growth. Changes in the manufacturing sector have an overall impact on employment in all sectors of the economy. Gujarat is one of the industrially developed states of India. There have been two significant changes in the manufacturing sector scenario of Gujarat in the eighties, which are expected to have an impact on the growth of the

unorganised manufacturing sector. One is the declining trend in the manufacture of cotton textiles, which had both forward and backward linkages. The second is the fast growth of the capital intensive chemical and related industries which have less scope for ancillarisation and sub-contracting (Lalitha, 2000). Both these aspects are expected to have adverse impact on the growth of the unorganised manufacturing sector. Mitra (1998) identified Gujarat as one of the states with a smaller unorganised manufacturing sector. This he attributes to the lack of strong inter-linkages and the absence of possibilities of complementarity between the organised and unorganised sectors.

One of the unintended consequences of structural reform with deregulation of labour market is a shift in labour from organised to unorganised activity (Bhattacharya and Mitra, 1994). The economic policy reforms since 1990-91 has speeded up liberalisation at the national level, and it has had considerable impact on the Gujarat economy. The manufacturing sector in Gujarat showed the real impact of liberalisation in the nineties, with a positive and significant growth in real income, 11.5 percent (Dholakia, 1999). He observed that within the manufacturing sector, it was the registered manufacturing, which showed significantly high growth acceleration with liberalisation than the unregistered manufacturing.

The overall trends in growth of gross value added, employment and capital in the organised and unorganised manufacturing sector in India and Gujarat are presented in Table 6. In India, the average rate of growth in employment during 1978-95 was 1.3 percent in the organised sector, whereas it was 3.8 per cent in the unorganised sector. The growth in capital was also higher in the unorganised sector during this period. However, the growth in value added was more or less similar in the two sectors, at 6.6 and 6.4 percent. A similar pattern of organised and unorganised sector growth in capital and labour was observed in Gujarat during 1978-95. The magnitude of growth of value added was higher in Gujarat. The employment generated in unorganised sector was relatively higher than in the organized sector, particularly in Gujarat.

The period of study is divided into three sub-periods, 1978-85; 1985-90 and 1990-95. The first two sub-periods relate to the phase of partial liberalisation, while the last sub-period is the period after the introduction of economic reforms¹. The partial liberalisation period (1978-90) is split into two sub-periods, viz., 1978-85 and 1985-90. A comparison of employment growth in the sub-periods in India indicates a

¹ These cut-off years were chosen based on availability of data in the unorganised manufacturing sector. However, 1989-90 can be considered as the last year of the pre-reform partial liberalisation phase.

much higher growth in organised sector in the reforms period, 1990-95 (2.2 percent), whereas the unorganised sector showed a decline (-1.3 percent).

Goldar (2000) observed a similar acceleration in employment growth in organised manufacturing during the reform period, which he attributes to the liberalisation of industrial and trade policies. According to him, these have resulted in the increase in employment not in large establishments, but in small and medium-size factories (50-99, 100-199 and 200-499), which have made a significant contribution to employment growth in this period. He observed that the entire increase in employment in organised manufacturing in the 1990's was accounted by the private sector factories and was not specific to any industry group but across-the-board in all industries. Nagaraj (2000) noted that such growth of employment in small-sized factories should also be reflected in the unorganised manufacturing sector. This argument of growth in small-sized organised sector spilling over to the unorganised sector need not be true in the context of reforms. The scale of production in the unorganised sector may not equip it to handle the pressures of competition under liberal industrial and trade policies.

A trend of increasing growth rate in value added over the sub-periods, with maximum growth, 8.2 percent, after 1990 was observed for the organised sector in India. However, growth in value added slowed down in the unorganised sector over the three time-periods, with growth of only 0.4 percent after 1990². Capital growth, however, was higher in both organised and unorganised sectors after 1990. Thus while growth in capital improved growth in value added in the organised sector after 1990, it did not help in the unorganised sector.

In Gujarat, similar pattern of a rise in growth of employment and value added after 1990 in the organised sector and slowing down of growth (though not as much as for the country as a whole) in the unorganised sector was observed. In 1978-85 the low growth rate in the organised sector may be a reflection of the collapse of the textile industry during the mid-eighties. The deceleration in the employment growth in the unorganised manufacturing sector in Gujarat could be due to the declining trend in the manufacture of cotton textiles, which had both forward and backward linkages. This apart, there has been a massive growth of the capital-intensive

² The high growth rate for the unorganised sector in 1978-85 in all indicators for all-India is partly due to a methodological problem. While the 1978-79 follow up survey was based on the 1977 Economic Census, 1984-85 was based on the 1980 Economic Census. The difference being that the 1977 Economic Census defined establishments as enterprises with at least one hired worker and did not cover the own account enterprises utilising family labour. The 1980 census however covered both establishments and own account enterprises (Saluja, 1988). This could result in a larger accounting of unorganised enterprises in 1984-85.

chemical and related industries, which have less scope for ancillarisation and sub-contracting (Lalitha, 1999).

Sarkar and Mamgain (2000) observed a remarkable increase in the share of basic chemicals and chemical products in output in the organised sector in Gujarat – from 14.8 percent in 1984-85 to 28.2 percent in 1990-91 and 39.5 percent in 1997-98. The other major industries with increase in terms of output were basic metals, machinery and equipment, transport equipment and food products. There has been considerable structural changes in both employment and output in Gujarat since mid-1980 more so during the reform period. Both output and employment expanded during the reform period, but the expansion in output was relatively more than the expansion in employment. This was because during the reform period the capital-intensive industries such as chemical and chemical products grew and labour intensive industries like cotton textiles declined. Restructuring of the state public enterprises also contributed to a decline in employment.

Growth in employment and value added in the unorganised sector both in the partial liberalisation and reforms period, was much higher in Gujarat compared to all India. In the organised sector, growth in value added, though not employment was much higher in Gujarat compared to all-India, in both partial liberalisation and reforms period, and also for the overall period. In Gujarat, there was a huge increase in investments in the organised manufacturing sector in the reform period, as a result of the liberalisation process, while in the unorganised sector the capital growth took place in the pre-reform period.

Both organised and unorganised sectors in Gujarat seem to be doing better than the all-India average in terms of growth in value added. However, Gujarat generated employment at a lower rate than all-India in both the partial liberalisation and reforms period in the organised sector. Employment growth was higher in the unorganised sector in Gujarat compared to the average for India. Further, in both Gujarat and all-India, the organised sector surged forward in the reform period in both employment and value added. The unorganised sector in Gujarat had its peak growth in employment and value added immediately before 1991.

2.4. Structure of the Service Sector

The dis-aggregation of national income showed that the growth in the service sector has been relatively faster than the other sectors over the last two decades. The service sector consists of trade, hotels and restaurant, transport, storage and communications, finance, insurance and banking and community, social and personal services. The distribution of GDP within the service sector for India is presented in Table 7. The largest proportion of GDP was contributed by trade and

hotel industry (mainly trade), followed by the financial sector in the 1990s. However, the proportion of GDP declined during 1977-94 in trade and hotels, and remained the same in transport, storage and communication. The service sector improved its share in the financial sector, while the share of community, social and personal services declined. The rate of growth of GDP over the entire period 1977-94 was 5.8 percent, with the highest growth in banking and insurance, 10.4 percent (Table 7). There was a high growth of GDP in the various industry groups within the service sector in the nineties, 1983-1994. All the broad industry groups showed an increasing growth in GDP over the sub-periods, except for transport and community, social and personal services, which declined after 1987-88.

The dominance of the financial sector in terms of contribution to SDP in the service sector is even more apparent in Gujarat (Table 8). The share of SDP in the financial sector grew from about 29 percent in early eighties to 38 percent in 1993-94. The relative share of trade and hotels; transport and community, social and personal services fell over the period. The rate of growth of SDP was above 6 percent in all the periods till 1993-94 (Table 8). It was higher in the financial sector in all periods. Growth of SDP in the service sector rose in the nineties in all industry groups except transport and community, social and personal services.

The share of employment within the service sector in India is presented in Table 9. The share of employment was the highest in community and social services followed by trade and hotels throughout the period. There was not much change in the shares over time. However, a comparison with the shares of GDP is revealing. Trade and hotels and transport, storage and communication had similar shares in GDP and employment. The financial sector, however, had only 4.6 percent of employment contributing 28 percent of the GDP in the service sector in 1993-94. Community, social and personal services had 46 percent of the employment contributing only 27 percent of GDP. Hence the financial sector was the most efficient and probably also the most formalized of the industries in the service sector. It was also the dynamic and growing industry in the 1990s. The growth rate of employment was also the highest in the financial sector in the late eighties and nineties (Table 9).

As in the country as a whole, in Gujarat also the share of employment within the service was the highest in community services, followed by trade, hotels and restaurants (Table 9). The share of employment was lowest in financial services, which generated the most income. These relative shares and growth in GDP and employment are reflected in the labour productivities within the service sector (Table 9). At the all-India level, the labour productivity, or income per worker, in the financial sector was much higher than the other industry groups since the early eighties. The formal nature of the industry and products of this sector partly explains

this. All the industry groups within the services sector showed increasing productivity over the period of study.

The growth rate in employment in the service sector showed a decline in trade, hotels and restaurants, transport and storage over the periods. Employment, however, grew at 6 percent in the financial services and at nearly 5 percent in community and other services during 1987-94 (Table 9). This large growth in employment did not dampen the growth in productivity in the financial sector, because income grew at a much higher rate. As for the country as a whole, the labour productivity was extremely high in the financial sector (Table 9). Of the other service sectors, transport and storage had relatively higher labour productivity and the quality of employment was relatively better in these sectors.

2.5. Formal and Informal Segments

Income and employment could grow at differential rates in the formal versus the informal sectors. Productivity in the two segments could also vary. Obviously, growth of employment in the formal sector and in certain selected industry groups in the informal sector can be expected to lead to increased overall productivity in the economy. Data on growth of incomes and employment by industry groups in the formal and informal segments are not directly available. We computed such data on the share and growth of employment in the eighties and nineties from the Economic Census of Gujarat. We assumed that all own account workers and workers in enterprises with less than ten workers formed the informal sector in each industry group.

Overall 68 percent of the workers in the tertiary sector and 43 percent of workers in the secondary sector were in the informal sector in 1998. The proportion of workers in the informal segment fall in the secondary sector, while in the tertiary sector it rose over the period 1980-98. The share of employment in the informal sector was the highest in the construction sector and within services was the highest in trade, hotels, transport, storage and community services (Table 10). Communications and financial services were the most formalized industry groups in the service sector. However, the shares of informal employment in the communication sector grew in the nineties.

During the entire period 1980-98, employment grew faster in the tertiary sector according to the Economic Census. This is contrary to the evidence presented by the NSS data (discussed earlier), which showed a higher growth of employment in the secondary sector during 1983-94 in Gujarat (unlike India). If we rule out problems related to data in the Economic Census, this could imply that while employment grew at close to 2 percent in both secondary and tertiary sectors in the

eighties (according to both sources), employment grew more rapidly in the tertiary sector in the nineties.

In the tertiary sector over the entire period, employment grew the fastest in trade, followed by transport. In the nineties (1990-98), employment grew the fastest in transport followed by trade. Both these sectors had a high proportion of employment in the informal segment. Growth of employment in the nineties was also greater in the informal segment in these industry groups. The high productivity financial sector in fact indicated a reduction in total employment mainly in the formal segment. Rationalization of employment in this sector, curb on further recruitment in the public sector, and automation of many of the activities may explain the reduction in employment. In the nineties, the growth of employment in the informal segment in the communications and financial sector was also quite striking. This growth of informal employment in the service sector may be due to outsourcing, teleworking, STD kiosks, share brokering, etc. Though part of the informal sector, productivity in such activities may be quite high.

An overall informalisation of the labour force in the nineties is also evident. This growth of the informal segment of the economy, particularly in the tertiary sector could harbor a fair share of the underemployed displaced workers. However, the growth of employment in the informal sector using new technologies constitutes a new phenomenon of growth of relatively more productive segments within the informal sector. Therefore, while the growth of the tertiary sector in the nineties could be acting as a refuge for displaced workers and new entrants to the labour force, the positive feature of this growth is a component of highly productive activities even within the informal segment. Such growth also plays a positive role in reducing poverty and income disparities.

3. CASE OF A CITY ECONOMY IN GUJARAT

The past few decades have witnessed urbanisation at a rapid pace in the developing countries. In the last decade India's urban population has grown twice as fast as its rural population. Thirty percent of Indians now live in cities. This is projected to rise to about 370 million persons by 2006. More than half the urban population lives in 23 metropolitan areas or cities, with more than one million in the four megacities.

Given the current trends of low employment growth in the organised industrial sector and the expenditure, investment and management capabilities of the civic authorities, the prospect of absorbing the growing urban population into productive occupations and providing them with the required social and other amenities, seems very difficult. In the present era of liberalisation, it seems that urban

development strategy based on the organised sector is not viable on account of its limited capacity to create employment and to generate income. The organised sector employment is expected to decrease, while the unorganised sector employment would increase, because of the massive capital deepening and modernisation efforts in the organised sector during the eighties, restricting the entry into the sector. Therefore, a strategy of development emphasizing the growth of smaller, unorganised and informal organisations would generate more employment and also be equitable. However, this may lead to over-crowding of workers into the informal sector, or joining the army of casual labourers or self-employed where low productivity and decrease in real wages is observed (Ghose, 1994).

The positive aspect of the industrial development and the liberalisation process is the simultaneous growth of the unorganised (informal) sector, which provides employment opportunities and contributes to the national income³. While a segment of the unorganised sector is nurtured by the opportunities provided by the mainstream industrial units in the organised sector, others thrive on producing less expensive substitutes to the products produced by the organised manufacturing sector.

Information on trends in employment and income generation in a city is useful in the process of urban planning. It also highlights the importance of the city in a broader spatial framework such as the state or the national economy. This study makes an attempt to analyse broad trends in employment over the last three decades and estimate the generation of city incomes in various sectors at a point in time. In addition, the study also tries to dis-aggregate the employment and income generated into that accruing from the formal and informal sectors of the economy.

3.1. Ahmedabad City

Ahmedabad is a metropolitan city located in the highly industrialised and urbanised state of Gujarat. The city economy has grown spatially from 108.24 sq. km. in 1971 to 190.85 sq. km. in 1991. There are five other large cities in Gujarat, apart from Ahmedabad, which play an important role in the state's economy. In the 1990s' the population growth of Ahmedabad slowed drastically compared to the other cities (Table 11). In Ahmedabad the population has grown from 0.9 million in 1951 to 3.31 million in 1991, at a decadal growth rate of 35.6 percent in 1951-61 to 40.8 percent in 1971-81 to 30 percent in 1981-91, indicating an absolute decline. While the population in the municipal area outside the fort walls grew rapidly during the sixties, seventies saw the growth shifting to the peripheries, which continues even

³ In this paper the terms organized and informal are used interchangeably

today (Table 12). The large-scale construction of residential housing in the city's outskirts is a visible sign of increasing urban spread since the late 1980s.

A slow process of restructuring is taking place in the city economy. Some of the factors influencing this process are the overall economic restructuring in the Indian economy due to economic reforms and the collapse of the textile industry in Gujarat. It is not easy to find clear evidence of the processes of economic restructuring. But examining the spatial developments of a city can shed light on the underlying dynamics of the local economy and its growth. One factor in Ahmedabad is the ethnic divide between the minority community, Muslims, and the majority of Hindus, the Hindus by no means being a homogeneous group influencing the spatial restructuring.

To some extent, the economic restructuring can be traced back to the duality in the spatial pattern of the city. The city is clearly divided into two geographically distinct parts, East and West Ahmedabad, by the river Sabarmati. The eastern part consists of the old walled city and its northern, eastern and southern extensions. The traditional textile industries, which now lie abandoned, and most of the relatively more recent industrial estates are located in this area. In contrast, the western part is new, clean spacious with modern architecture, providing an attractive location for service industries. Another development in the last decade is the growth of the city in all four directions radially by at least four kilometers.

As one foreign researcher⁴ put it, the eastern part of the city especially the walled city seems to be thriving on the 'old economy' whereas the western part of the city seems to be thriving on the 'new economy'. The 'old economy' is the traditional manufacturing and trade activities while the 'new economy' is economic services oriented, such as finance, banking, insurance, commercial services, IT industries, technology' parks etc. The 'new economy' could also include the new industries within manufacturing such as powerlooms, chemicals, pharmaceuticals, garments, and diamond. However, here the spatial dichotomy argument fails with a lot of these manufacturing industries being located in the eastern part of the city.

⁴ Interview with Mr. M.C.Rutherglen, research scholar, University of Amsterdam.

In the eastern part of the city one finds very traditional kind of trades such as hawking, bazaars, jewellery shops, workshops and home based manufacturing activities. In western Ahmedabad one finds big shops and offices which house credit card companies, international brand products such as Lewis jeans, Benetton etc., electronic items, computer institutes, cyber cafes etc. All the major educational institutions are housed in the western part of the city. The style of marketing is also different with large supermarkets and show rooms in the west, while the traditional method of being attended by the shopkeeper over the counter continues in the east. This dichotomy based on the industrial base of the economy can be extended to include all types of products and activities. In the east are located all the spare part shops, such as for TV, and the *kabadi market* (old scrap part shops). If one has to buy a single spare part one has to go to the old city. There is of course a major change, since about ten years ago one needed to go the old city for almost all electronic goods, furniture, even linen and tapestry material, and not just for spare parts.

A further classification of the city into three parts, the western side of the Sabarmati, the eastern part divided into the old city and the far eastern parts, was given by a prominent grain merchant⁵ in the city. These three areas can be classified in terms of income differences as well. The high and upper income groups reside on the western side, the middle and low-income groups reside in the old city and the low to very low income groups reside in the far eastern parts of Ahmedabad. The west can be called the head or brain of Ahmedabad where most of the educated people live and control the business all over the city. The old city houses people mainly involved in trade and commerce. It is like the heart of the city. Most of the main markets are located in the old city, such as the grain, vegetable, fruit and cloth markets. The far eastern parts of the city mainly house the labour class.

A relatively recent phenomenon has been the migration of many Hindu families living in the old city to the western parts of the city. The relatively better off among the Muslims have also moved, but to specific Muslim dominated areas in the west. According to some of the shop owners in the old city area, this area has now become very communally sensitive. About 20 years ago the population residing in the area was predominantly Hindu. In the last decade the ratio of Muslim to Hindu population has changed drastically, with nearly 90 percent of the residents now belonging to the Muslim community.

The economic structure of the city witnessed considerable change, with the diversification of industrial activity into a number of chemicals, petrochemicals and other engineering industries in the eastern and western peripheries. However, the

⁵ Interview with Chaitanya Indravadan, Grain merchant, Ahmedabad.

dominant and dynamic textile industry began to stagnate during the eighties with more or less no growth in employment. The closure of textile mills and retrenchment of labour in Ahmedabad began in 1982. By the end of the eighties 20 mills had closed down and 36000 workers were retrenched. Another phase of closure of mills occurred in the nineties and by 1996 another 15 mills had closed down with a retrenchment of a further 31000 workers (Patel, 1997). A closer look at the economic structure of the city identifies the major trends (Table 13).

3.2. Formal and Informal Sector Employment in Ahmedabad

It will be interesting to see how this growth of employment is distributed between the formal and informal sector of the economy. Employment is computed for the non-agricultural sectors of the city, as the agricultural sector constitutes an insignificant proportion of employment in the urban economy. Growth rate of employment between 1980-90 was 2.5 percent, comparable with the growth rate of about 2.7 percent from the Population Census (Table 13 and 14). The informal sector grew by about 2.8 percent and the formal sector by about 2.3 percent during 1980-90⁶. The growth in employment slowed down in the nineties. However the informal sector grew faster (1.1 percent) than the formal sector (0.6 percent). In fact in both time periods growth rate of employment in the informal sector was greater than in the formal sector.

A sizable proportion of the workforce was engaged in the manufacturing sector in the formal and informal sectors in the city in all the time points during 1980 to 1998 (Table 15). The share of the manufacturing sector however declined continuously during the period from 43 to 28 percent of total non-agricultural employment. The closing down of the textile mills in the late seventies and early eighties contributed substantially to this process. Community and other services and trade, hotels and restaurants were the other sectors with high shares in employment in 1998.

The share of the informal sector in total employment increased marginally during the entire period (Table 15) from 49 percent in 1980 to about 51 percent in 1998. The Economic Census of 1980 and 1990 showed a decline in the share of the informal sector manufacturing industry, but its share increased considerably in 1998. The informal sector share also grew substantially in the transport sector during 1980 to 1998.

3.3. Employment in Organised Manufacturing Sector in Ahmedabad

⁶ To distinguish the informal sector in the Economic Census data we have assumed that all own account enterprises and establishments with less than 10 workers belong to this sector.

While the organised⁷ manufacturing sector in the state of Gujarat was growing consistently during 1978 to 1995, the organised sector in Ahmedabad city was expected to have suffered a major set back due to the closure of large composite textile mills. However, the time series data on registered factories (at two-digit industrial classification) in Ahmedabad between 1977 and 1995 suggests that, the number of factories has consistently increased. The number of workers also increased between 1977 and 1987 and more or less stagnated thereafter (Table 16)⁸. The closure of large production mills was partly compensated by the emergence of a much larger number of smaller units. Decentralisation and specialisation of the production process partly fuelled by support from various government agencies as well as financial institutions can explain this. This reflects the industrial dynamism of the city.

The stagnation in the organised manufacturing employment has been largely due to the decline in the textile industry in which large proportions of workers were employed in the seventies. Although, some large textile mills closed down in the 1980s, the absolute number of textile industrial units have in fact increased. Absolute number and proportion of workers in the registered textile units however, declined sharply during 1977 to 1987 and slowly thereafter in 1995.

The industries, which had gained importance during this period, were manufacturing of rubber, plastic, petroleum and coal production; machinery, machine tools and parts; and basic metals and alloys. These groups of industries constituted nearly half of the registered industrial units in the city (46 percent) and 31 percent of the employment in 1995.

3.4. Income Generation in Ahmedabad in the 1990s

So far we have analysed the trends in employment in the organised and unorganised sectors in Ahmedabad and Gujarat. In the rest of the paper we shall analyse the value added generated by these sectors and the relative importance of the informal sector in the city economy. As mentioned earlier it is difficult to obtain data at the level of the city. However, we made considerable effort to obtain this information from various sources. Most of the data are from unpublished sources

⁷ Units with more than 10 workers and registered under the Indian Factory Act, 1948.

⁸ Unfortunately we cannot compare the situation with unorganised manufacturing sector in Ahmedabad since we have data for the city for only one time point from the official source (Table 6).

and raw data obtained from the official sources as well as data collected through our informal sector survey in the city⁹.

For estimating the income for Ahmedabad city we have used both the value added approach and the income approach. The value added approach is used for estimating income in the manufacturing segment of both the organised and the unorganised sector, and the informal segment of all the industrial sectors. The gross value added is measured by deducting from the gross output, the value of purchased inputs. Net value added is arrived at by deducting from the gross value added, the depreciation of fixed assets. The income approach is used to estimate incomes in the non-manufacturing segment of the organised sectors of the city. In this method all forms of actual and imputed incomes are aggregated, such as income from wage employment and self-employment, profits and rents.

Manufacturing Sector: Information on income and employment in the manufacturing sector of Ahmedabad city was obtained from three sources. For estimating value added for census and sample units we have relied on unpublished data provided by Annual Survey of Industries (ASI) for Ahmedabad city for 1995-96. While for the unorganised (informal) sector units we depended on two sources, NSS Unorganised Sector Survey, 1994-95 and the SEWA-GIDR informal sector survey of Ahmedabad city in 1997-98. These two sources captured two different segments of the informal sector in manufacturing industry. The Unorganised Sector survey captured mainly the large and more visible units with fixed and or mobile premises. The informal sector survey in Ahmedabad captured mainly home-based workers in the manufacturing sector who were engaged in processing food, making bidis, garments, kites, etc. Such manufacturing activities often are not captured by official surveys of the unorganised sector. Most of these units in the manufacturing segment are very small and operate from home due to which they are likely to be missed out in the Unorganised Sector survey of the NSS.

The income and employment estimates for the census (with more than 100 workers) and sample sector (with 10-100 workers) in the organised manufacturing sector for Ahmedabad city by the two-digit industrial classification are presented in Table 17. The large scale industrial units employed 53,610 workers and the small scale units employed 120 thousand workers, resulting in a total employment of 1.73 thousand workers in the organised manufacturing sector in 1995-96. It generated an income of about Rupees 11983 million in the city economy.

The value added from the census sector was negative, which was largely due to negative value added in the textiles, paper and paper products, basic metal and alloys industries and manufacture of machinery and machine parts. In Ahmedabad

⁹ Details in Rani and Unni (2000).

city about 10 cotton textile mills were closed in 1996 (Mahadevia, 2002). This could partly explain the negative value added in the census sector in the textile industry in this year. The major sectors that contributed to the city income in the sample sector were food, cotton textiles, rubber and plastic products, metal and alloys industries and machinery, machine tools and electrical machinery.

The census sector showed a negative productivity per employee at Rs.67219 (Table 17). Labour productivity in the sample sector was about Rs.129 thousand, and the total labour productivity in the organised sector was about Rs.68958. Apparently, the larger organised sector units were not doing well in the nineties. It was the small scale organised sector units, which provided the dynamism to the industrial scene of Ahmedabad. Earlier, one observed the emergence of new industries such as in basic metals, manufacture of rubber, plastic, machinery and machine tools. These industry groups in the sample sector also had high labour productivity.

The unorganised sector according to the official data employed 101 thousand workers and generated an income of about Rs.4401 million (Table 18). The largest proportion of workers was employed in machinery and equipment, other manufacturing, metal products and repair services. In terms of generation of income also it were these industry groups which accounted for a large share. Other textiles, which engaged about 2020 workers, generated an income of about Rs.552 million. It is interesting that cotton textiles, which had a negative value added in the large scale organised sector, seemed to be performing well in the small scale organised units (sample sector) and in the unorganised sector.

The GIDR-SEWA Survey succeeded in capturing the lowest segment of the manufacturing sector consisting of a whole range of households units, which are probably left out by the official unorganised sector survey. The informal sector survey showed that about 257 thousand persons were engaged in various manufacturing activities and they generated an income of about Rs.4235 million (Table 19). We found that manufacture of paper products in this case the kite makers, followed by textile products or garment making, formed a major chunk of the workers. About 27.3 percent workers in the informal sector were engaged in manufacturing of paper products and they generated an income of about 7.1 percent. The garment industry employed 14.5 percent and generated an income of about 3.6 percent. Other sectors like, food which basically included making pickles, papads and other food items, engaged about 5.3 percent and generated an income of about 3.9 percent. In the case of bidi making about 4.2 percent were engaged and they generated an income of about 1.4 percent.

The manufacturing industry as a whole, organised, unorganised and informal, engaged 532 thousand workers and generated an income of about Rs.21886 million in 1997-98 (Table 20). The share of the organised sector employment was 32.6 percent generating 56.9 percent of the manufacturing sector income. The unorganised sector engaged 19 percent of the workers and contributed 23.8 percent of the income. The bottom tier of the informal sector absorbed 48.4 percent of the workers and generated 19.4 percent of the income in this sector.

The NSS unorganised sector survey further classified the enterprises into the Own Account Enterprises (OAME), the Non-Directory and Directory Enterprises (NDME and DME). The latter two were enterprises that engaged at least one hired worker on a fairly regular basis. According to this data the OAME engaged about 6 percent of all manufacturing sector workers and generated an income of about 4 percent of total manufacturing sector income, while the NDME and DME together engaged about 13.2 percent workers and generated 20 percent of the income.

The value added per worker for the informal manufacturing sector was Rs.16424, which was very low, compared to the organised and unorganised components of the manufacturing sector (Table 19). The value added per worker was particularly low in tobacco, textile and paper products. The reason for low labour productivity in tobacco, textile and paper products could be that a large proportion of workers were engaged as home based workers, who undertake this activity on a contract basis.

One would like to caution against a possible double counting in the OAMEs of the NSS unorganised sector survey and the GIDR-SEWA informal sector survey. However, we do not exclude the estimates of either the unorganised sector survey or the informal sector survey, as we observed that the labour productivity of the OAMEs' in the unorganised sector survey was much higher than that of units in the informal sector survey. This could mean that the OAMEs captured in the official survey operate on a relatively higher scale, from those captured in our informal sector survey. Besides OAME constituted only 4 percent of employment whereas the informal sector constituted 48 percent.

3.5. A Comparative Estimate of Income and Employment in Ahmedabad City

The task of estimating income and employment of the city is quite difficult, it being an integral part of the much larger economic system. City, or any spatial unit of the district or the state, is small and open. Owing to this, information on many aspects is not available or is difficult to obtain at the level of the city. Conceptually, the city income consists of the total value of flow of final goods and services that either 'originate' in the city or are 'available' to the city community. Since the city is an open economy, the concepts of 'origin' and 'availability' can differ and, in fact do

differ. The former highlights the production potential of the city whereas, the latter indicates the extent to which the potential is internalised and shared by the city's inhabitants (Kashyap *et al*, 1984).

In this section we bring together the employment and income estimates of the various sectors obtained from different sources and calculate the final income and employment for Ahmedabad city. We would however, like to caution that while we have made an attempt to be as precise as possible in the collection and estimation of data, certain errors are inevitable. Considering these limitations, the income and employment estimates in the present exercise may be treated as rough estimates¹⁰. The income and employment generated by the city economy are summarized in Table 20.

An estimate of income and employment of Ahmedabad was made for 1976-77 (Kashyap *et al*, 1984). The working population in Ahmedabad increased from 606 thousands in 1976-77 to nearly 1.5 million in 1997-98. The total income generated in the economy has also increased from Rs.5784 million in 1976-77 to Rs.60130 million in 1997-98. The value added per person increased from Rs.9533 in 1976-77 to Rs.39979 in 1997-98. The employment and income during the two decades has grown exponentially at a rate of 4.3 and 11 percent per annum. In 1976-77 the informal sector contributed about 41 percent to income and 36 percent to employment in the city. While the proportion of informal sector employment increased sharply to about 77 that of income rose to about 47 percent in 1997-98.

¹⁰ The estimates of income and employment derived above are subject to many limitations. In order to have a comparative picture we have attempted to estimate alternative employment from the official data sources using the methodology described below. We estimated the population of Ahmedabad city in 1997, by extrapolating the population in 1991 obtained from the Population Census using an annual exponential growth rate of 1.89 obtained from the District Census Handbook for Gujarat. Then we estimated the number of workers for male and female separately, using the work participation rate obtained from the NSS Employment and Unemployment Survey of 1993-94 for urban Gujarat. This work force was distributed into the one-digit industry groups using the industrial distribution for Ahmedabad city for 1991, obtained from the District Census Handbook. Finally, we have split each industry group into the formal and informal sector components with the help of the Economic Census 1990 estimates for Urban Ahmedabad. The Economic Census data is obtained separately for own account enterprises and establishment with hired workers. We have assumed that all own account enterprises and workers in establishments with less than 10 workers are in the informal sector. All other establishments and workers in them are in the formal sector. The proportions of formal and informal sector workers so obtained are applied to the workers obtained earlier in each industry group. Employment estimates so computed from the official sources was 128 thousands, which is quite close to our estimate of nearly 1.5 million workers in Ahmedabad city.

Earlier we had analysed the sectoral changes in employment over this period. There was a decline in the proportion of persons employed in the manufacturing sector from 46 percent in 1976-77 to 35 percent in 1997-98. The manufacturing sector contributed a proportionate 36 percent of income to the city. Construction, transport, trade and hotels and restaurants and services sectors contributed 3.6, 11.7, 18.9 and 11.6 percent of the total income to the city economy. The share of income coming from the informal sector was the highest in construction (100 percent) followed by transport, trade, hotels and restaurants, and services. Overall, the share of the informal sector in the generation of both employment and incomes was high and increasing over the past two decades.

The productivity per person in the city was found to be Rs.39799. It was higher in the formal sector (Rs.91344) than the informal sector (Rs.24392). In almost all the activities in the formal service sector the productivity is higher than the informal sector. Income in the informal service sector was lower than the formal service sector, and since the average income per person engaged in the informal sector is likely to be less than the formal service sector, there seems to be growing inequalities within this sector. This is probably because in the formal service sector, income tends to grow faster than employment, while in the case of informal sector it is the reverse. However, it is to be noted that when the income grows faster than employment in service activities, like public administration and other services, it does not imply corresponding growth of real volume of services. It merely implies that the existing employed persons are generating higher income from the same real volume of services.

4. CONCLUSION

The state of Gujarat has had industrial growth rates well above that of other states in the 1990's. The policy thrust of the Government of Gujarat has always been in favour of industry and in the post-reforms period the organised manufacturing sector surged forward. The unorganised manufacturing sector also did relatively well compared to the country as a whole. In the nineties, the service sector in Gujarat has been catching up. There has been increasing informalisation of the labour force in Gujarat, particularly, in the service sector.

The city of Ahmedabad has seen a decline in the growth of employment in the 1990s. Employment grew faster in the informal compared to the formal. This paper brings out the fact that there exists a large pool of workers, the "informal sector workers" or "invisible workers", who obtain work on contract not only from the organised and unorganised manufacturing sector but also from the trading sector. In 1997-98, the city generated employment of 1.5 million workers and income of

Rs.60130 million. About 77 percent of workers were employed in the informal sector and generated an income of about 47 percent in the city economy. These activities seem to be generated in trade, hotels and restaurants, transport and in the manufacturing sector.

We observed that the productivity of the informal sector was lower compared to the formal sector. However, we argue that the informal sector can accumulate capital and grow fast enough to absorb the growing labour force thrust upon it, provided that the policy environment is favorable, market imperfections are eliminated and market for this sector's output is expanded through greater linkages with the rest of the economy.

Table 1: Annual Rates of Growth of Gross State Domestic Product (SDP)

STATES	1980-81 to 1990-91 (percent per annum)	1991-92 to 1997-98 (percent per annum)
Bihar	4.66	2.69
Rajasthan	6.60	6.54
Uttar Pradesh	4.95	3.58
Orissa	4.29	3.25
Madhya Pradesh	4.56	6.17
Andhra Pradesh	5.65	5.03
Tamil Nadu	5.38	6.22
Kerala	3.57	5.81
Karnataka	5.29	5.29
West Bengal	4.71	6.91
Gujarat	5.08	9.57
Haryana	6.43	5.02
Maharashtra	6.02	8.01
Punjab	5.32	4.71
Combined SDP of 14 states	5.24	5.94
GDP (National Accounts)	5.55	6.89

Note: States are ranked in ascending order of per capita SDP in 1980-81. The growth rates have been estimated by fitting log-linear trends to the state SDP data in constant 1980-81 prices obtained from the CSO and the GDP data from the national accounts.

Source: Ahluwalia, 2000.

Table 2: Annual Rates of Growth Per Capita Gross State Domestic Product

STATES	1980-81 to 1990-91 (percent per annum)	1991-92 to 1997-98 (percent per annum)
Bihar	2.45	1.12
Rajasthan	3.96	3.96
Uttar Pradesh	2.60	1.24
Orissa	2.38	1.64
Madhya Pradesh	2.08	3.87
Andhra Pradesh	3.34	3.45
Tamil Nadu	3.87	4.95
Kerala	2.19	4.52
Karnataka	3.28	3.45
West Bengal	2.39	5.04
Gujarat	3.08	7.57
Haryana	3.86	2.66
Maharashtra	3.58	6.13
Punjab	3.33	2.80
Combined SDP of 14 states	3.03	4.02

Note: SDP and population data obtained from the CSO.

Source: Ahluwalia, 2000.

Table 3: Employment Growth in the Eighties and Nineties

Period	Rural	Urban	Total	Organised only
1983 to 1990-91	1.28	2.92	1.61	1.25
1990-91 to 1997	1.44	3.00	1.79	1.07
1983 to 1987-88	1.23	2.75	1.46	1.25
1987-88 to 1990-91	1.36	3.16	1.75	1.25
1990-91 to 1994-95	2.47	3.25	2.63	0.96
1994-95 to 1997	-0.17	2.61	0.45	1.26

Notes:

1. Data relating to the first 6 months of 1998 suggests negative employment growth in both rural and urban areas.
2. 1983 and 1987-88 are NSS "full sample" years. All other years are "thin sample" years. Figures relating to "thin sample" years should be interpreted as indicating qualitative changes only. So far there has been only one "full sample" survey of employment during the 1990s, in 1993-94. A "full sample" survey is currently in progress for the year 1999-2000.

Source: Computed from N.S.S. Usual Principal and Subsidiary Status Workers data given in Table 2 (page 8) of S.P. Gupta (1999) "Trickle Down Theory Revisited: the Role of Employment and Poverty", V.B. Singh Memorial Lecture at the 41st Annual Conference of the Indian Society of Labour Economics, Mumbai Nov. 18-20. Cited in Bhalla, 2000.

Table 4: Sectoral Shares and Growth in Income and Employment and Labour Productivity (All India)

	Shares				Growth Rate			
	Income							
	1977-78	1983-84	1987-88	1993-94	1977-78 to 1983-84	1983-84 to 1987-88	1987-88 to 1993-94	1977-78 to 1993-94
Primary	42.0	38.8	32.9	31.4	2.6	0.1	4.8	2.8
Secondary	24.0	25.3	27.6	27.4	4.8	6.4	5.5	5.4
Tertiary	34.0	35.9	39.5	41.2	4.8	6.6	6.3	5.8
All	100	100	100	100	3.9	4.2	5.6	4.6
	Employment							
Primary	71.5	71.5	65.6	64.5	1.4	0.4	2.2	1.4
Secondary	12.2	10.4	15.2	14.3	-1.3	12.1	1.5	3.1
Tertiary	16.3	18.1	19.2	21.1	3.2	3.9	4.1	3.7
All	100	100	100	100	1.4	2.5	2.5	2.1
	Labour Productivity							
Primary	2490	2667	2635	3085	1.1	-0.3	2.6	1.3
Secondary	8329	12002	9545	12141	6.1	-5.7	4.0	2.3
Tertiary	8851	9722	10825	12379	1.6	2.7	2.2	2.1
All	4241	4915	5256	6345	2.5	1.7	3.1	2.5

Source: CSO, National Accounts Statistics, 1989, 1998.
NSSO, **Sarvekshana**, 1981, 1988, 1990a, 1990b, 1996.

Table 5: Sectoral Shares and Growth in Income and Employment and Labour Productivity (Gujarat)

	Shares			Growth Rate		
Income						
	1983-84	1987-88	1993-94	1983-84 to 1987-88	1987-88 to 1993-94	1983-84 to 1993-94
Primary	36.8	18.3	21.6	-18.6	10.5	-1.1
Secondary	31.7	39.9	39.9	4.6	7.7	6.5
Tertiary	31.5	41.8	38.5	6.0	6.3	6.2
All	100	100	100	-1.1	7.7	4.2
Employment						
Primary	65.7	56.1	59.3	-0.8	1.5	0.6
Secondary	15.1	23.9	19.2	5.9	-0.4	2.1
Tertiary	19.2	20.0	21.5	1.5	1.6	1.6
All	100	100	100	0.9	1.1	1.1
Labour Productivity						
Primary	3568	1816	2761	-16.9	6.9	-2.6
Secondary	13426	9294	15699	-9.2	8.7	1.6
Tertiary	10444	11629	13581	2.7	2.6	2.6
All	6373	5570	7573	-3.4	5.1	1.7

Source: GOG (1998) and NSSO, Sarvekshana (1981, 1988, 1990a, 1990b, 1996)

Table 6: Growth of Value Added, Employment and Capital in Organised and Unorganised Manufacturing Sector, India and Gujarat

	India					Gujarat				
	1978-85	1985-90	1990-95	1978-90	1978-95	1978-85	1985-90	1990-95	1978-90	1978-95
Organised Sector										
Value Added	4.6	7.5	8.2	5.9	6.6	4.3	8.3	13.3	6.1	8.4
Employment	0.9	0.7	2.2	0.8	1.3	0.1	0.3	1.3	0.2	0.6
Capital	9.7	5.7	13.4	7.9	9.6	8.4	2.5	16.0	5.7	8.9
Unorganised Sector										
Value Added	15.5	1.5	0.4	9.1	6.4	6.4	12.3	9.0	9.1	9.0
Employment	11.8	-0.8	-1.3	6.1	3.8	-1.2	19.1	1.5	8.0	6.0
Capital	34.1	-12.0	4.2	13.1	10.4	10.2	23.0	1.7	16.0	11.5

Source: NSSO (1983a, NSSO (1983b), NSSO (1989), NSSO (1994a), NSSO (1994b), NSSO (1998a), NSSO (1998b), NSSO (1998c), CSO (1979a), CSO (1979b), CSO (1979c), CSO (1985a), CSO (1985b), CSO (1985c), CSO (1990a), CSO (1990b), CSO (1990c), CSO (1995a) CSO (1995b).

**Table 7: Structure of the Service Sector: Shares and Growth of GDP
(All India)**

	Shares				Growth Rates			
	1977-78	1983-84	1987-88	1993-94	1977-78 to 83-84	1983-84 to 87-88	1987-88 to 93-94	1977-78 to 93-94
I. Trade, Hotels And Restaurants	34.2	33.6	31.9	31.5	4.5	5.3	6.1	5.3
1. Trade	32.2	31.6	30.1	29.5	4.5	5.4	5.9	5.3
2. Hotels and Restaurants	2.0	2.0	1.9	2.0	4.7	4.7	7.5	5.7
II. Transport, Storage And Communications	12.2	12.9	13.7	13.3	5.7	8.0	5.8	6.3
1. Railways	2.8	2.4	2.3	1.8	2.3	5.9	1.7	2.9
2. Transport (Others)	7.5	8.4	9.3	9.4	6.7	9.1	6.4	7.2
3. Storage	2.7	0.3	0.2	0.2	4.6	4.6	1.9	3.6
4. Communication	1.7	1.9	1.8	1.9	6.6	5.9	7.5	6.8
III. Finance, Insurance, Real Estate And Business Services	25.2	24.8	24.8	28.1	4.5	6.5	8.4	6.5
1. Banking and Insurance	7.9	8.9	10.6	16.4	6.8	11.0	13.6	10.4
2. Others	17.4	16.0	14.2	11.8	3.4	3.6	3.2	3.4
IV. Community, Social And Personal Services	28.4	28.6	30.0	27.0	4.95	7.4	4.8	5.5
1. Public Administration and Defence	12.2	13.1	14.4	12.7	6.0	8.9	4.2	6.1
2. Other Services	16.2	15.5	15.2	14.4	4.1	6.0	5.4	5.1
SERVICE SECTOR	34.0	35.9	39.5	41.2	4.8	6.6	6.3	5.8

Source: Same as Table 4.

**Table 8: Structure of the Service Sector: Shares and Growth of SDP
(Gujarat)**

	Shares			Growth Rates		
	1983-84	1987-88	1993-94	1983-84 to 1987- 88	1987-88 to 1993- 94	1983-84 to 1993- 94
I. Trade, Hotels And Restaurants	29.8	25.1	24.9	1.8	6.2	4.4
II. Transport, Storage And Communications	18.9	21.4	17.7	9.1	3.2	5.5
1. Railways	2.4	2.3	1.8	4.8	2.0	3.1
2. Transport (Others)	14.6	16.9	13.7	9.9	2.8	5.6
3. Storage	0.1	0.1	0.1	10.4	-3.9	1.8
4. Communication	1.9	2.1	2.2	7.6	7.4	7.5
III. Finance, Insurance, Real Estate And Business Services	29.1	30.9	38.1	7.5	9.8	8.9
1. Banking and Insurance	10.6	14.5	24.7	13.9	15.2	14.7
2. Others	18.5	16.4	13.3	2.9	2.9	2.9
IV. Community, Social And Personal Services	22.2	22.5	19.2	6.4	3.7	4.8
1. Public Administration and Defence	7.9	9.1	5.9	9.1	-0.8	3.2
2. Other Services	14.2	13.5	13.3	4.7	6.1	5.6
SERVICE SECTOR	31.5	41.8	38.5	6.0	6.3	6.2

Source: Same as Table 5.

Table 9: Service Sector Shares and Growth in Employment and Labour Productivity (All India and Gujarat)

	All India				Gujarat		
Employment Shares							
	1977-78	1983-84	1987-88	1993-94	1983-84	1987-88	1993-94
Trade, Hotels and Restaurants	37.4	35.7	37.6	35.9	31.3	35.8	33.3
Transport and Storage	12.9	14.1	13.9	13.6	14.4	16.0	15.4
Finance, Insurance, Real Estate and Business Ser.	3.9	4.0	4.3	4.6	3.7	3.4	3.9
Community, Social and Personal Service	45.8	46.2	44.3	45.8	50.3	44.8	47.3
SERVICE SECTOR	16.3	18.1	19.2	21.1	19.2	20.0	21.5
Employment Growth							
Trade, Hotels and Restaurants	2.4	5.2	3.4	3.5	2.9	1.1	1.8
Transport and Storage	4.8	3.5	3.7	4.1	2.5	1.4	1.8
Finance, Insurance, Real Estate and Business Ser.	3.8	5.6	5.2	4.8	1.2	6.0	4.1
Community, Social and Personal Service	3.3	2.9	4.6	3.7	0.3	4.6	2.9
SERVICE SECTOR	3.22	3.91	4.1	3.7	1.4	1.6	1.6
Labour Productivity							
Trade, Hotels and Restaurants	8090	9159	9218	10853	9936	8176	10167
Transport and Storage	8408	8896	10683	12075	13721	15594	15643
Finance, Insurance, Real Estate and Business Ser.	9538	59970	62381	75524	82185	105762	132627
Community, Social and Personal Service	-	6029	7227	7309	7690	8316	8750
SERVICE SECTOR	8851	9722	10825	12379	10444	11629	13581

Source: Same as Table 4 and 5.

Table 10: Organised and Unorganised Sector Employment Growth Rates (Gujarat)

	Percentage of Informal Sector			1980-90			1990-98			1980-98		
	1980	1990	1998	F	INF	Total	F	INF	Total	F	INF	Total
Secondary	46.3	39.1	42.6	3.1	0.2	1.8	-1.2	0.6	-0.5	1.2	0.3	0.8
Manufacturing	46.1	38.7	41.6	3.2	0.2	1.9	-1.5	0.0	-0.9	1.1	0.1	0.7
Electricity, Gas and Water	25.4	18.9	10.6	-0.5	-4.3	-1.4	2.5	-5.9	1.3	0.8	-5.0	-0.2
Construction	71.5	77.4	72.7	-2.5	0.6	-0.2	13.5	10.4	11.2	4.6	4.9	4.8
Tertiary	58.2	60.9	68.4	1.8	2.9	2.5	-1.3	2.8	1.3	0.4	2.9	1.9
Wholesale and Retail Trade	89.3	82.2	87.3	8.5	2.6	3.5	-1.7	3.3	2.5	3.9	2.9	3.0
Hotels and Restaurants	79.0	74.7	80.4	3.5	1.1	1.7	-3.9	0.1	-0.8	0.2	0.7	0.6
Transport	38.5	67.2	68.3	-8.7	3.1	-2.4	5.6	6.2	5.9	-2.4	4.5	1.3
Storage and Warehousing	75.9	74.3	71.5	4.9	4.0	4.2	-6.9	-8.7	-8.2	-0.4	-1.6	-1.3
Communications	35.2	33.0	49.1	0.7	-0.2	0.4	-1.7	6.7	1.7	-0.3	2.8	0.9
Financial Services	41.3	38.0	42.7	-1.2	-2.6	-1.8	-1.3	1.1	-0.4	-1.3	-0.9	-1.2
Community Services	39.3	46.6	53.3	1.9	4.5	3.1	-1.5	2.3	0.4	0.4	3.6	1.9
All	53.3	52.1	58.7	2.4	1.9	2.2	-1.2	2.1	0.6	0.8	2.1	1.5

Source: Government of Gujarat (1985, 1992 and 2000).

Table 11: Population and Annual Growth Rate of Six Large Cities, Gujarat

	City	Population		Population Growth Rate (per annum)		
		1991	2001*	1971-81	1981-91	1991-01
1	Ahmedabad (MC)	2,876,710	3,504,860	3.04	3.40	1.99
2	Surat (MC)	1,498,817	2,433,785	6.48	4.96	4.97
3	Vadodara (MC)	1,031,346	1,306,035	4.62	3.45	2.39
4	Rajkot (MC)	559,407	966,642	4.00	2.31	5.62
5	Bhavnagar (MC)	402,338	510,958	3.14	2.74	2.42
6	Jamnagar (MC)	341,637	445,397	3.35	2.10	2.69
7	Gujarat Urban	142.48 lakhs app.	179 lakhs	3.47	2.90	2.31

Note: MC=Municipal Corporation
* Provisional (Director of Census Operations 2001)

Source: Population Census

Table 12: Unitwise Population Share (%) and Increase

Region	Description	Annual Growth Rate Per Annum			% Share in Population Increase		
		1961-71	1971-81	1981-91	1961-71	1971-81	1981-91
	AUA (1991)	3.68	3.48	2.66	100.00	100.00	100.00
	Old AMC (till 1986)	3.36	2.52	0.88	82.42	61.38	24.54
W	Walled city	0.45	-0.14	-1.73	3.86	-0.88	-9.92
	AMC* outside walled city	4.95	3.49	1.5	78.56	62.26	34.46
E ₁	(a) Eastern Ahmedabad	4.42	3.02	1.00	54.75	40.13	15.75
W ₁	(b) Western Ahmedabad	6.88	4.87	2.90	23.81	22.13	18.71
	Periphery (AUA-AMC)	6.66	9.18	8.11	17.58	38.62	75.46
E ₂	(a) Eastern	6.43	7.63	7.31	14.14	24.62	46.84
W ₂	(b) Western	7.85	14.62	9.92	3.43	14.00	28.62

Note: AUA = Ahmedabad Urban Agglomeration
AMC = Ahmedabad Municipal Corporation
* AMC limit considered here is upto 1986

Source: Population Census for Various Years

Table 13: Employment Trends in Ahmedabad City (Growth Rates)

	61-71	71-81	81-91	61-91
Agriculture	1.55	-5.87	4.12	2.04
Manufacturing	2.29	3.21	0.39	1.97
Construction	4.69	2.56	7.00	4.75
Trade and Commerce	5.1	3.00	4.87	4.30
Transport, Storage and Communications	5.29	4.24	3.09	4.21
Other Services	2.10	2.26	3.79	3.31
Total	3.00	2.80	2.70	2.80

Source: 1. Census of India, Gujarat, 1961, 1971 and 1981.
2. Bureau of Economics and Statistics, Gujarat, 1991

Table 14: Employment Growth in the Formal and Informal Sector in Ahmedabad, 1976-1998

	Formal	Informal	Total
1980-1990	2.26	2.78	2.52
1990-1998	0.59	1.07	0.83

Note: Exponential growth rates were computed for non-agricultural workers only.
Sources: Economic Census, Gujarat, 1980, 1990 and 1998

Table 15: Industrial Distribution and Share of Employment in the Informal Sector in Non-Agriculture, Ahmedabad

	Industrial Distribution			Share of Informal Sector		
	1980	1990	1998	1980	1990	1998
Manufacturing	43.4	36.8	28.0	39.5	34.9	42.9
Electricity, Gas, Water	0.9	0.1	0.6	11.3	34.1	11.6
Construction	0.5	0.6	1.1	77.8	71.8	76.7
Trade, Hotels and Restaurants	20.1	27.8	26.9	94.7	84.7	93.6
Transport	4.4	2.7	4.7	68.2	75.1	80.4
Storage	0.8	1.6	0.4	68.8	69.1	75.9
Communication, Banking and Insurance	6.6	7.8	5.9	26.4	26.5	33.2
Community and Other Services	23.2	22.5	32.4	29.9	36.2	21.7
All	100.0	100.0	100.0	49.1	50.3	51.3

Sources: Economic Census, Gujarat, 1980, 1990 and 1998

Table 16: Enterprises and Employment in Organised Manufacturing Sector in Ahmedabad City

(in percentages)

Code	Industry Description	1977		1987		1995	
		Units	Workers	Units	Workers	Units	Workers
20	Mnf. of Food, Oil and Starch	2.7	1.7	5.7	3.4	5.0	6.1
22	Mnf of Beverage, Tobacco and Tobacco Products	0.5	0.1	0.5	1.9	0.4	0.4
23	Mnf. of Cotton textiles	22.6	84.1	15.9	46.4	13.3	34.8
24	Mnf. of Other textiles	0.9	1.1	2.6	6.8	1.6	2.9
25	Mnf. of Jute, Hemp and Mesta Textiles					0.03	0.1
26	Mnf. of Textile Products	4.2	0.9	3.2	1.0	2.5	1.8
27	Mnf. of Wood and Wood Products	2.4	0.7	2.7	0.4	6.2	1.8
28	Mnf. of Paper and Paper Products	7.4	1.4	5.8	2.7	4.4	2.5
29	Mnf. of Other Products	0.8	0.1	0.3	0.1	0.5	1.4
30	Mnf. of Rubber, Plastic and Coal Products	3.3	0.4	9.8	6.8	16.4	9.5
31	Mnf. of Chemical and Chemical Products	7.2	0.7	3.6	1.3	5.3	4.5
32	Mnf. of Non-Metallic Mineral Products	2.1	0.4	7.4	5.0	3.6	2.2
33	Basic Metal and Alloys	8.3	1.3	11.6	8.0	10.8	8.9
35	Mnf. Of Metal Products and Parts except machinery, transport equipment	10.4	1.1	6.6	2.4	8.5	4.4
37	Mnf. of Machinery, Machine tools and Electrical Machinery	21.9	4.8	19.6	10.8	16.9	12.8
38	Mnf. of Transport equip. and parts	0.8	0.1	1.8	1.8	1.2	1.4
39	Other Manufacturing Industries	2.1	0.3	0.8	0.4	1.3	0.7
40	Repair of capital goods					0.4	0.3
97	Repair Services	2.3	0.8	1.8	1.3	1.6	4.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0
	Actuals	1648	162802	2879	187892	5126	173785

Source: 1. Kashyap *et al* (1984)
 2. Pathak (1998)
 3. Chief Inspector of Factories, Ahmedabad.

Table 17: Employment and Income in Organised Manufacturing Sector in Ahmedabad City, 1995-96

		Net Value Added (in Rs. Millions)			Total Workers			Net Value Added per Worker		
		Cen-sus	Sample	Total	Cen-sus	Sample	Total	Cen-sus	Sample	Total
20	Mnf. Of Food, Oil and Starch	12	1310	1323	1644	9364	11008	7771	139944	120204
22	Mnf of Beverage, Tobacco and Tobacco Products	0	-19	-19	0	696	696	0	-28663	-28663
23	Mnf. Of Cotton textiles	-4315	2243	-2071	30609	32296	62905	-140984	69465	-32938
24	Mnf. Of Other textiles	-85	332	246	876	4336	5212	-97650	76643	47349
25	Mnf. of Jute, Hemp and Mesta textiles	0	21	21	0	232	232	0	91830	91830
26	Mnf. of Textile Products	2	289	291	486	2711	3197	5253	106727	91301
27	Mnf. of Wood and Wood Products	0	129	129	0	3179	3179	0	40708	40708
28	Mnf. of Paper and Paper Products	-930	278	-652	1548	2932	4480	-601127	94815	-145658
29	Mnf. of leather Products	0	9	9	0	250	250	0	37810	37810
30	Mnf. of Rubber, Plastic and Coal Products	27	2995	3022	297	16830	17127	90848	177978	176467
31	Mnf. Of Chemical and Chemical Products	208	570	778	2309	5815	8124	90099	98053	95793
32	Mnf. of Non-Metallic Mineral Products	3	61	64	1176	2874	4050	2741	21299	15910
33	Basic Metal and Alloys Industries	-585	4033	3448	2628	13535	16163	-222682	298020	213357
34	Mnf. of Metal Products and parts except machinery and transport equipment	25	358	3835	1331	6786	8117	18981	52790	47246
35	Mnf. of Machinery, Machine tools and Electrical Machinery	-324	2064	1739	7264	15914	23178	-44693	129701	75046

Table 17 (Contd...)

		Net Value Added (in Rs. Millions)			Total Workers			Net Value Added per Worker		
		Cen-sus	Sample	Total	Cen-sus	Sample	Total	Cen-sus	Sample	Total
38	Other Manufacturing Industries	12	201	213	150	1124	1274	80433	179004	167398
39	Repair of capital goods	83	11	95	1381	197	1578	60453	60102	60409
97	Repair Services	0	-32	-32	-	486	486	0	-67749	-67749
	Total	-3603	15587	11983	53610	120175	173785	-67219	129706	68958

Source: Annual Survey of Industries, NSSO, 1995-96 Unpublished data obtained from NSSO, Calcutta.

**Table 18: Income Generation from Unorganised Manufacturing Sector
in Ahmedabad City, 1994**

Codes	Industry Group	Total Worker	Gross Value Added
20	Food Products	4.1	2.3
22	Tobacco Products	1.1	0.3
23	Cotton Textiles	5.6	5.4
24	Other Textiles	2.0	12.5
26	Textile Products	5.0	1.2
27	Wood	5.5	4.1
28	Paper	3.4	2.2
29	Leather Products	0.6	0.5
30	Rubber, Plastic, Petrol	5.2	4.1
31	Chemical Products	5.6	6.4
32	Non-Metallic Products	1.2	0.3
33	Basic Metal and Alloys	3.6	11.5
34	Metal Products	12.2	12.8
35	Machinery and Equipment	17.4	19.9
37	Transport Equipment and Parts	0.5	2.5
38	Other Manufacturing	13.1	7.9
39	Repair of Capital Goods	2.1	0.9
97	Repair Services	11.7	4.9
	Total	100	100
	Estimates	101220	4401

Source: Unorganised Sector Survey, NSSO, Unpublished data obtained from the Bureau of Economics and Statistics, Gandhinagar.

Table 19: Income and Employment from Manufacturing Sector, 1997-98

Sectors	Persons Employed	Net Value Added	Value Added per Worker (in Rs.)
1. Organised Sector	32.6	56.9	71658
Census	10.1	-16.4	-69968
Sample	22.6	71.2	134416
2. Unorganised Sector	19.0	23.7	51353
OAME	5.7	3.8	27219
NDME	6.0	5.6	38101
DME	7.2	14.4	81531
3. Informal Sector	48.4	19.4	16424
Food	2.6	0.8	11901
Tobacco	2.0	0.3	5404
Cotton Textiles	1.0	0.3	12690
Textile Products	7.0	0.7	4082
Paper	13.2	1.4	4269
Other Mnf.	22.6	15.9	29053
Total (1+2+3)	100	100	41073
Estimates	532861	21886	-

Note: Net value added and value added per worker for the organised and unorganised sectors were inflated to obtain the values for 1997-98 using the All India Wholesale Price Index (WPI) for manufactured products.

Source: 1. Unpublished data from the Annual Survey of Industries, 1995-96 obtained from National Sample Survey Organisation, Calcutta.

2. Unorganised Sector Survey, NSSO, Unpublished data obtained from the Bureau of Economics and Statistics, Gandhinagar.

3. GIDR-SEWA Survey, 1997-98.

Table 20: Formal and Informal Sector Employment, Income and Productivity in Ahmedabad City, 1997-98

	Employment		Income		Labour Productivity		
	Total	Informal ¹	Total	Informal ¹	Formal	Informal	Total
Agriculture	2.3	59.4	0.6	84.8	4096	15651	10958
Manufacturing	35.4	67.4	36.4	43.1	71658	26270	41073
Electricity	0.8	-	2.3	-	110728	-	110728
Construction	9.3	100	3.6	100	-	15424	15424
Transport	12.7	91.5	11.7	80.5	84501	32272	36693
Storage	0.1	-	0.2	-	100563	-	100563
Trade, Hotels and Restaurants	19.0	90.5	18.9	63.1	155485	27733	39809
Communications, Banking and Insurance	3.9	-	12.5	-	126489	-	126489
Services	16.4	81.5	11.6	48.9	64454	16989	24056
Rentals	-	-	2.2	-	-	-	-
Total	100	76.7	100	46.8	91344	24392	39979
Estimates	1504033	-	60130	-	-	-	-

Note: 1. Share of the informal sector in each industry group

Source: Uma Rani and Unni, 2000.

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