

The Employment Problem in India and the Phenomenon of the Missing Middle

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Economic growth in India, which has accelerated in recent years, has been characterized by some disturbing characteristics—which seem to set the pattern out of line with international experience of sustained economic development. These include three critical ones; First, the growth process seems to have been led by the tertiary sector—both in terms of value added and employment, rather than manufacturing; Second: while the expectation in labor-abundant economy might be that the tertiary sector had disproportionately absorbed labor displaced from agriculture at low levels of earnings, the data seems to suggest that this has not been so. Earnings level in the tertiary sector has been significantly above those in manufacturing, suggesting that growth in the tertiary sector has been productivity-led rather than employment led. Third: the manufacturing sector in India has been characterized by the persistence in “dualism”. There has been a strong bi-modal distribution in employment—even when we confine our attention to the non-household sub-sector in manufacturing—with strong concentration of employment at the small and large size-groups of establishments, with a conspicuous ‘missing middle’. A related point is that the productivity (and wage) gap between the two extreme size groups is much larger in India than in even other Asian economies.

It is our contention that these three phenomena are inter-related. It is the ‘dualism’ in the manufacturing sector which has slowed down the expected dynamic role of this sector in the growth of the economy. The bias towards the tertiary sector in the growth a pattern and the productivity gap in its favor can also be traced to the persistence of dualism in manufacturing. Section I of the paper documents the empirical evidence of the bias towards the tertiary sector in Indian development in the context of international experience. In section II we set out the evidence on dualism in the manufacturing sector—again stressing the extreme position of India compared top other Asian economies. Section III develops the argument as to why this type of ‘dualism’ is a problem and a drag on the growth experience. Section IV explores some hypotheses about the origins and persistence of dualism in Indian manufacturing.

I

Trends in the Industrial Structure of Employment

Historically speaking, structural change in employment in India has been very slow. But it seems to have accelerated a bit in the post-reform decade. Table 1 gives the industrial distribution of employment from the quinquennial National Sample Surveys (NSS) for the two decades ending in the 61st round (2004-05). We present the data for employment by Usual Principal Status (UPS).¹ In Table 1 it seems that the share of employment of agriculture in the post-reform decade of 1993/4 to 2004/5 had declined by 6.5 percentage points — nearly doubles the decline in the previous decade. Barely 1.1 percent of this decline was absorbed by manufacturing. The tertiary sector, along with construction accounted of the bulk of the relative change in the industrial structure

Table 1: Distribution of Employment across sectors over the years (UPS)

Sector	Share of UPS employed across sectors				
	1983-84	1987-88	1993-94	1999-00	2004-05
Agriculture	64.9	62.5	61.1	58.5	54.6
Mining & quarrying	0.7	0.8	0.8	0.6	0.7
Manufacturing	11.3	11.5	11.0	11.0	12.1
Electricity, gas and water supply	0.4	0.4	0.5	0.3	0.3
Construction	2.7	4.2	3.7	4.9	6.4
Trade, hotels and restaurants	6.9	7.6	8.0	9.3	11.2
Transport, storage and communication	3.0	3.0	3.3	4.1	4.5
Financial, insurance, real estate and business services	0.7	0.7	1.1	1.3	1.8
Community, social and personal services	9.4	9.3	10.5	10.0	8.5
Tertiary sector (ALL)	20.0	20.6	23.0	24.7	25.9

Two points about the increase in tertiary employment needs to be stressed. First, in many developing countries the public sector has taken the lead in creating employment in government and related services. This is, however, not so in the post-reform India. It can be seen that after contributing as much as a third to the increase in the relative share of employment in non-agriculture in the pre-reform decade, the public and community services had quite a significant decline in the share of employment in the decade following the reform of the nineties. Second,

much attention has been paid to the development of the IT sector and outsourcing in recent years. The direct contribution to employment in these sub-sectors, however, has been quite small. It can be seen for Table 1 that the sub-sector ‘transport, storage and communication’—which include these IT related activities—accounted for contributed no more than a sixth of total employment in the tertiary sector, although its incremental share was quite high. ‘Trade, hotel and restaurants’ continued to play the dominant role in employment in this sector, and its relative growth in the post-reform decade seems to have been higher than the average for the sector as a whole.

Employment Growth in the Tertiary sector in India in a Comparative Context

The growth of the tertiary sector in India seems to be somewhat out of line with international experience of recent decades. Table 2 brings together the data for sectoral changes in the *shares* of employment for several Asian countries over the last three decades of the 20th century.

Table 2: Changes in Sectoral Share of Employment in selected Asian Countries, 1970-2000

Country	1971-80			1980-91			1990-2000		
	Agri	Manu	Tertiary	Agri	Manu	Tertiary	Agri	Manu	Tertiary
Rep. of Korea	-14.4	8.3	6.0	-17.3	5.0	12.9	-7.6	-6.7	14.5
Taiwan, China ¹	-15.6	11.1	3.7	-6.6	1.7	8.9	-5.0	-4.1	9.2
Thailand	-1.4	0.3	1.7	-10.5	3.2	7.3	-15.3	4.3	10.2
Malaysia	-14.8	6.1	9.9	-10.4	4.6	6.6	-7.9	2.9	3.0
Phillipines ¹	-1.4	-0.7	2.1	-6.2	-0.6	6.7	-7.8	0.3	7.6
Indonesia				-2.7	1.3	1.1	-10.9	2.8	7.1
India ²	-5.5	1.8	3.0	-4.6	0.0	3.4	-3.6	0.3	2.4

Note: Figures for first two periods are obtained Mazumdar & Basu, Table 3.2 pp.38. For the last period calculated from ILO Year book data.

Note: 1- for all period calculated from ADB key indicators, 2001.

Note: 2- for all period calculated from NSS adjusted by population from decadal census. The periods refer to 73-83, 83-93 & 93-2000

The newly industrializing countries of Asia—Korea and Taiwan—had their share of employment in manufacturing increasing much faster than that of the tertiary sector during their initial period of growth in the seventies. In the next decade tertiary sector employment grew faster, but the magnitude of the increase relative to manufacturing was not nearly as high as was observed in India during this decade. Only in the nineties, after Taiwan and Korea had developed

into mature industrialized economies, did their tertiary sector become the dominant provider of employment outside agriculture. By contrast India's share of employment growth in the tertiary sector in the seventies was already 60 per cent *higher than in manufacturing*. Since then, the decades of eighties and the nineties have seen a virtual stagnation in the share of employment in manufacturing, with the tertiary sector absorbing virtually the entire loss of employment share by the agriculture. The figures also show that other developing countries of Asia—Thailand, Malaysia and Indonesia – do have their larger shares of employment created in the tertiary sector, but the contrast with India is that none of them have a stagnant share in manufacturing in any decade. On the contrary, something between a third and one half of the often large decline in the share of employment in agriculture was taken up by manufacturing. The only country in the sample with an experience close to that of India is the Philippines.

Relative Labor Productivity and Earnings in the Tertiary Sector

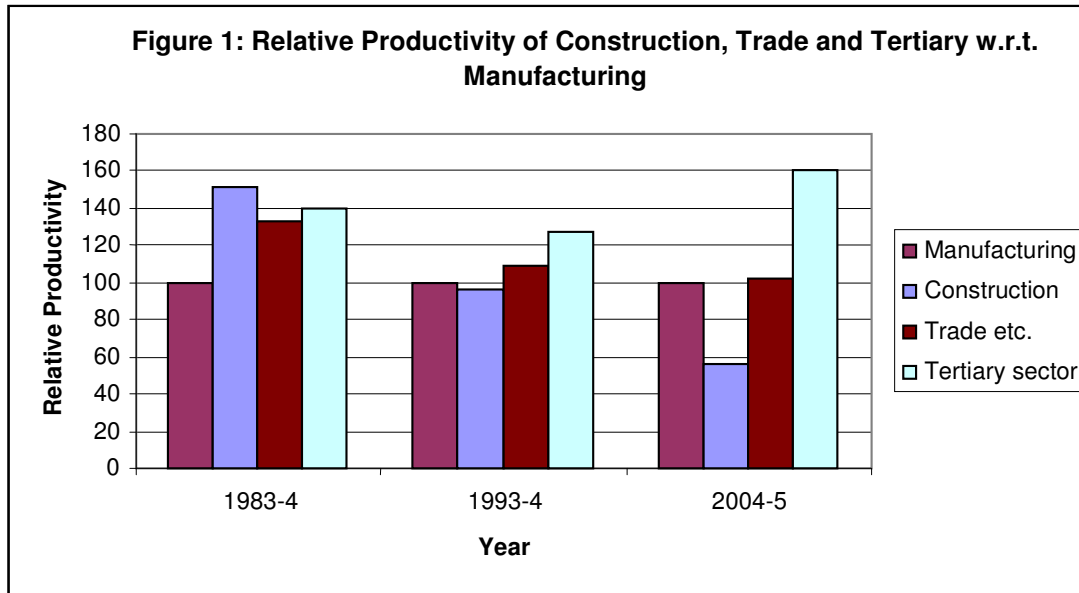
The importance of labor absorption in the tertiary sector in recent Indian development begs the question: At what level of earnings is this labor being absorbed in the sector? Is labor being “pushed” into it as the ‘employer of last resort’ or is it being pulled into it at higher relative earnings.

Figure 1 gives the relative productivity of different sectors (relative to agriculture set equal to 100) for the different rounds of the NSS over the two decades before and after the reform date 1993/4. Labor productivity for different sectors are sectoral labor productivity obtained by dividing sectoral GDP by number of principal workers in each sector. Relative labor productivity is the ratio of sectoral labor productivities.

It is seen that the mean productivity of labor has been higher throughout in the tertiary sector relative to manufacturing, and might have increased somewhat over the post-reform decade. Even manufacturing does not perform better than the least productive sub-sector of tertiary activities (trade etc.) which are supposed to be relatively free entry sector, allowing labor displaced from agriculture to push down earnings. The tertiary sector contrasts dramatically the experience of the construction sector.

Construction is another of the sectors which has registered a large increase in employment in the post-reform decade. If we include construction in the secondary sector, along

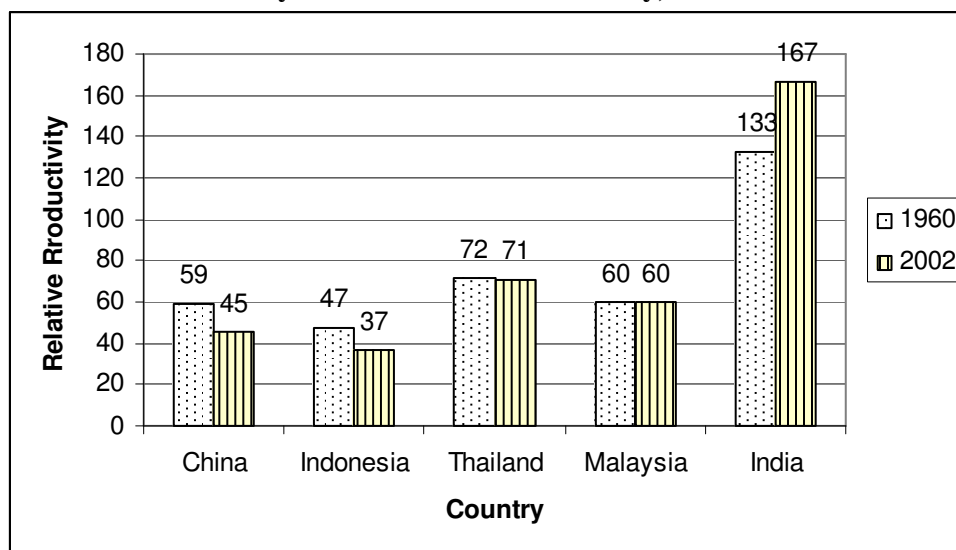
with manufacturing, as is usual in international practice, the relative productivity of the tertiary sector would be even higher and increasing over time.



Relative Productivity of the Broad Sectors in International Perspective

Papola (2005) compared the experience of changing shares of GDP and employment over the period 1960-2002 in five Asian countries—China, Indonesia, Thailand, Malaysia and India (reproduced in Mazumdar and Sarkar 2008, Chapter 3). The significant point to emerge was that the share of workforce in *industry* increased along with its share of GDP in all countries including India, but it produced a much larger share of GDP in all Asian developing countries other than India. It implied that the relative sectoral productivity of labor in Indian manufacturing has been strikingly low by international comparison. In 2002 the *tertiary sector* in India contributed more than half the GDP in India but its contribution to employment was only 22 per cent.

Figure 2: Relative Productivity in Services vis-à-vis Industry, Various Asian countries 1960-2000



Source: Papola 2005. The original source of the data is the World Development Report, various years

The picture presented in Figure 2 of relative productivity in services vis-à-vis industry in the comparator Asian countries brings out the striking point that it is only in India—among all the countries represented—that the relative productivity in services has *increased* over the 40 year period. A second important point to note is that the productivity in services exceeds that in industry only in India in both years and that by a substantial percentage.

It shows that service sector growth in India has been productivity led and not employment led contradicting views of some economists that employment grew in services because this sector has been a repository of low income labor “pushed out” of agriculture. The heart of the employment problem in India would thus seem to be not an excess absorption of labor in the tertiary sector, but the low productivity of the manufacturing sector, and its persistence over time. It is this low performance of manufacturing which has prevented it from being the dynamic sector--playing a central role in productivity growth as well as the reallocation of labor as in other countries in the history of successful economic development. It will now be argued that this disappointing role of the manufacturing sector can be traced, at least to a significant part, to the persistence of dualism in the sector. It is this which perpetuates the *tremendous difference in relative labor productivity between the small (informal) and large (formal) size groups. The very low level of labor productivity in the manufacturing sector can be traced to this dualism.*

II

Dualism in Indian Manufacturing

Indian Manufacturing is characterized by the prevalence of a large “unorganized sector” existing side by side with the formal or organized sector. The Indian statistical authorities distinguish four types of establishments. There are three sub-categories within the unorganized sector; (i) Own-account manufacturing enterprises (OAME) which are household enterprises making use only of family labor; (ii) Non-directory manufacturing establishments (NDME) who employ at least one wage (hired) worker) and have between 2-5 workers in total; and (iii) Directory manufacturing establishments (DME) employing between 6-9 workers in total of which at least one would be a hired worker. These three sub-categories co-exist with the formal or organized sector which are statistically defined (by the Factory Act) to be employing ten or more workers. Table 3 provides a statistical profile of the manufacturing sector in India distinguished by the above four categories of establishments. The dominance of the household sector as well as its low productivity is apparent from this table.

Table 3: Employment and Value Added in Manufacturing by Type of Establishment (2000-1)

	OAME	NDME	DME	Organized
Distribution of Employment (% of all manufacturing)	55.9	12.4	14.4	17.3
Mean all workers in category	1.7	3.2	10.0	63.9
Mean Hired workers in category	0	1.8	7.8	60.9
Distribution of Value Added (% of all manufacturing)	10.3	6.8	8.9	84.3
Mean VA/Worker in category	Rs. 6,929	Rs. 18,479	Rs. 20,800	Rs. 163,775
Productivity (Organized =100)	4.2	11.3	12.7	100

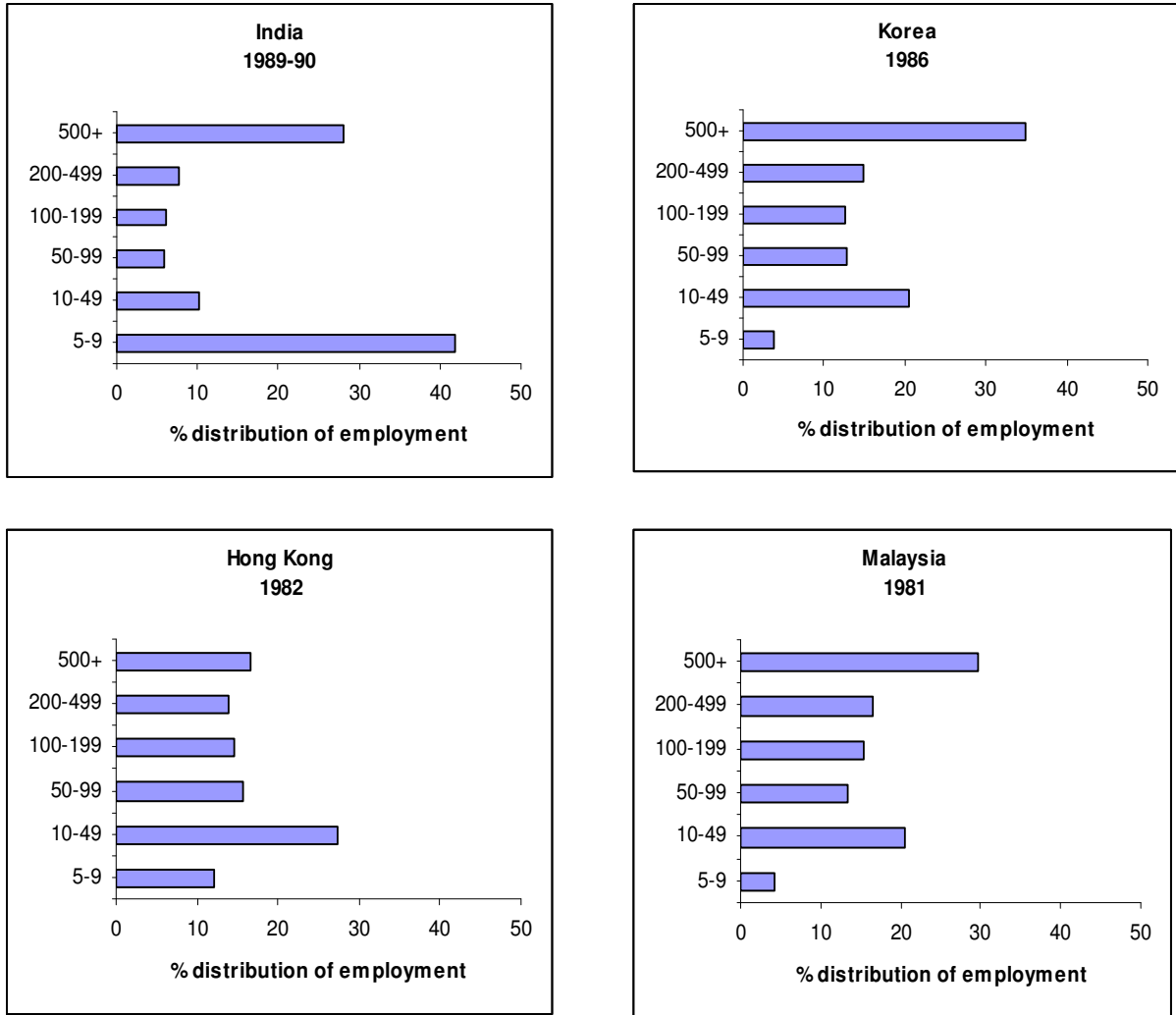
Sources: Unit level data of 56th round of NSSO and ASI unit level data of 2000-1.

While the importance of the household sector in Indian manufacturing is clearly a factor in the observed low productivity of manufacturing as whole, a second problem of major

importance is the peculiarity of the Indian structure in the sector of manufacturing which largely makes use of hired labor as the dominant type of employment in the enterprise. This includes both the DME and the organized sector as defined under the Factory Act (and covered by the *Annual Survey of Industry*).

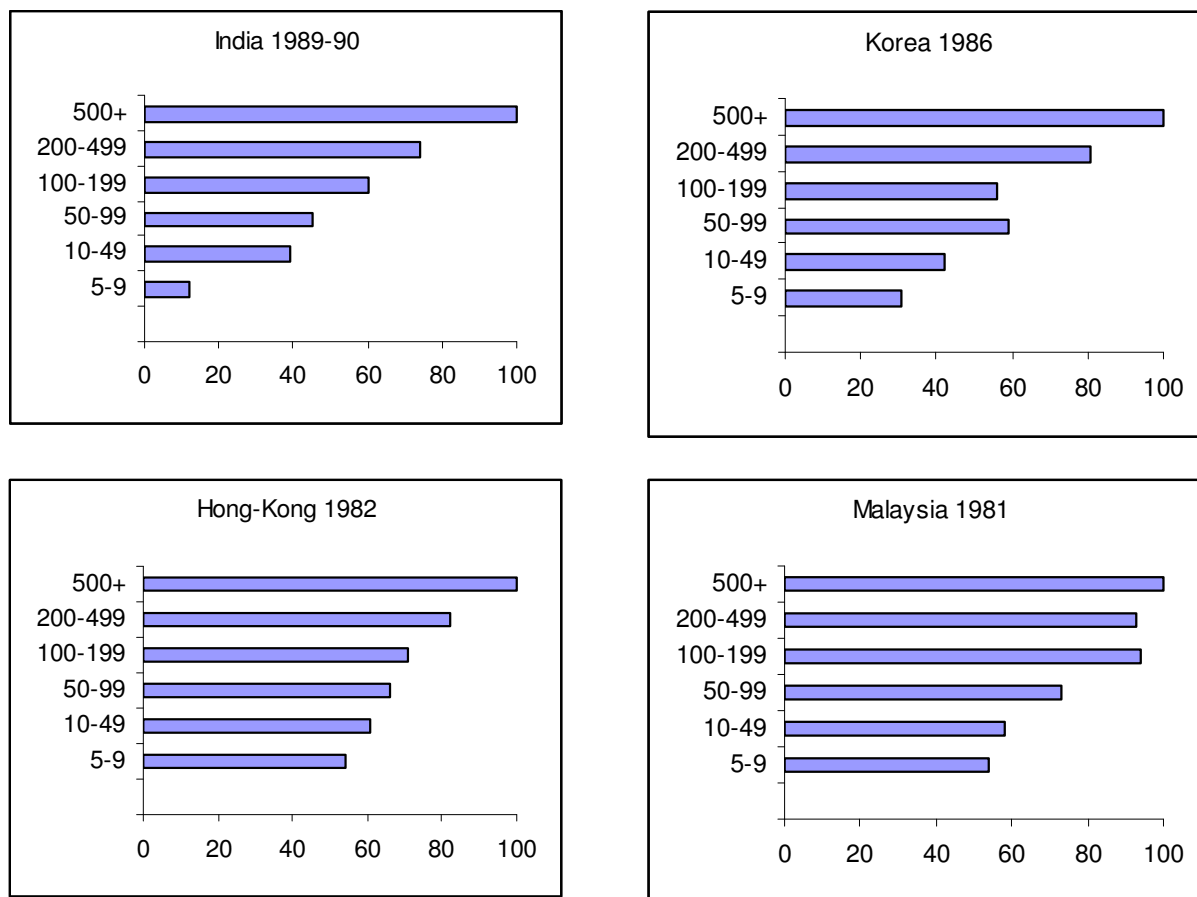
The DME establishments of 6-9 workers include the small enterprises in modern manufacturing. In international statistical practice they are generally included in surveys or Censuses covering the Factory Manufacturing sector (the cut-off point being generally 5 workers). To put the Indian size distribution in modern manufacturing in perspective we can include these enterprises along with the ones in the formal sector covered by the *Annual Survey of Industries*. When we do this a striking result emerges in the international comparison. Among the Asian countries India has ‘dualistic’ structure with a bi-polar distribution. There are two strong modes in the distribution of employment in modern manufacturing: in the 500 and more category and the 5-9 category with the proportion of employment in the intermediate middle size groups being conspicuously small. This phenomenon—sometimes characterized as that of the “missing middle”—is contrasted with other Asian countries—e.g., Korea, Hong Kong, Taiwan, Malaysia and Thailand. A few of these other Asian countries like Taiwan, Hong Kong, Japan and post-1990 Korea have strong presence of small enterprises in the 5-9 class but the proportion of employment in this group is never as much as in the large enterprises, and of course the intermediate size groups are well represented. A further striking difference between India and the other Asian countries with a strong small-scale sector in manufacturing is that the productivity gap between the small and the large units in modern manufacturing is much larger in India. The gap in labor productivity between the large and the small size groups in India is of the order of 8:1, as against 3:1 in Japan, Korea and Taiwan (and even smaller in Hong Kong).² The two aspects of “dualism”—the bi-polar distribution of employment within the formal manufacturing sector, and the productivity gap between the smallest and the largest—are portrayed in Figures 3 and 4 for India and a few comparator Asian countries. They bring out strongly the peculiarity of the Indian case relative to the other countries in the mid-eighties.

Figure 3: The Missing Middle: Employment by Size-groups in Manufacturing Firms – India compared to Other Countries



Source: from Mazumdar (2003)

Figure 4: Productivity Differential by Size Groups – India compared to Other Countries (productivity of 500+ equals 100)



Source: from Mazumdar (2003)

The Post-reform Experience in India

The package of reforms in the last decade could be expected to have made a serious impact on the structure of manufacturing. First, the traditional policy of reservation of along list of products for the small-scale was dismantled. Second: liberalization of import controls, particularly on a range of consumer goods, should have reduced the strength of the protective umbrella for production in the small establishments. Third: the relaxation of the licensing system for large-scale industrial units could be expected to have had significant effect on the large scale sector in moving away to more labor-intensive production and given encouragement

to middle-sized firms. What is the evidence on the effect of these developments on the size structure of manufacturing?

The first point to note that in spite of the increase in the growth rate of the formal or organized sector labor absorption in this sub-sector has been quite low. Employment elasticity in organized manufacturing has experience a cyclical pattern along with the cycles of boom and relative stagnation in manufacturing output.³ But over-all the employment elasticity in the pre-reform period 1973-90 and 1990-2005 has been 0.27 and 0.16 respectively, even as the output (value added) growth has increased from 6.6 per cent to 7.0 per cent over these two broad periods. It seems that the organized manufacturing sector has been reluctant to increase labor use per unit of output even as state policy has moved in the direction of a lessening of controls.

The increase in employment in all manufacturing which we do observe has been almost entirely due to the increase in employment in the unorganized sub-sector (Table 4).

Table 4: Changes in Employment in Different Segment of Indian Manufacturing

Size Group of Manufacturing	Number of Workers (1994-95)	Number of Workers (2000-1)	Increase in employment
OAME ¹	20,512,449	25,061,244	4,548,795
NDME (1-5)	4,124,179	5,561,633	1,437,454
DME (6-9)	5,478,046	6,457,911	979,865
Organized (10+)	7,716,029	7,779,961	63,932

1. Does not employ any hired labor.

Taken the DME and the ASI sub-sectors together, the problem of “dualism” identified above has been largely unchanged (Table 5). As far as the distribution of employment is concerned the only change over the period covered seems to have been a significant reaction in the number employed in very large firms (1000 & above). The distribution is, however still bi-polar with strong modes at the employment size groups at the two extremes (6-9 and 500+).

Table 5: Percentage distribution of employment in different size classes

Type & Size	1984-85	1994-95	2000-01
6-9	40.27	44.91	41.52
10-49	9.47	10.34	10.42
50-199	11.83	13.31	15.34
200-499	8.27	8.56	9.49
500-999	7.65	7.02	8.87
1000 & above	22.52	15.85	14.35
All	100.00	100.00	100.00

Source: NSS, Different Rounds

The productivity differentials by size-groups seem to have changed even less. If anything the extreme ‘dualism’ noticed in India compared to other Asian countries seems to have worsened since 1984-5, though much of the deterioration occurred in the first half of the eighties (Table 6).

Table 6: Indices of Labor productivity by size groups (500+ = 1.00)

Type & Size	1984-85	1994-95	2000-01
6-9	0.19	0.12	0.10
10-49	0.42	0.35	0.37
50-199	0.53	0.47	0.49
200-499	0.86	0.77	0.84
500-999	1.06	0.98	1.02
1000 & above	0.98	1.01	0.99

Source: NSS, Different Rounds

III

Why is dualism a problem for manufacturing growth?

Why should we regard the phenomenon of ‘dualism’ in manufacturing as drag on the growth and performance of the manufacturing sector? Of the many points relevant here the more important are the following:

1. The impact on allocative efficiency and wage inequality;
2. The dynamic impact on the growth of skilled labor and entrepreneurship;
3. The stagnation in the growth of markets for manufactured goods.

Allocative Efficiency and Inequality

The large gap in productivity between the firms in the two extreme size groups, as described in the data on manufacturing presented above, suggests the existence of a large gap in the marginal products of labor and capital between the two classes of firms. We know from independent evidence that large firms have access to capital supplied by the formal financial institutions, while small firms mostly have to depend on local informal sources of finance and the interest rate differential between these sources can be huge (Little, Mazumdar and Page, Chapter 15. It is also well known that wage levels follow differences in labor productivity and large firms have a wage per worker which, even after we have controlled for measurable human capital attributes, are much higher in the large firms. Again the detailed study in a specific labor market (Bombay City) reported in Little, Mazumdar and Page (chapter 14) revealed that, after allowing for the effect of education, training, occupation and knowledge of English, wage per man of *manual* workers in the largest size class of factories employing 1000+ workers was almost twice the level in 'small' enterprises with less than 10 workers. Two conclusions are suggested by this evidence of size-related factor price differentials: First, the larger the differential the larger is the loss in welfare in terms of static allocative efficiency theory. Second: since employment in the 'dualistic' pattern is concentrated in the smallest and the largest size groups, inequality in the distribution of wage per man is very unequal.

Impact on Dynamic Efficiency

In a more dynamic sense the missing middle implies a weak process of graduation of small firms and the development of entrepreneurship. It is arguable that the dispersion of entrepreneurship as well as industrial technology over a wide spectrum of spatially and economically distributed regions is dependant on the mushrooming of medium scale enterprises, into which the small units are able to graduate.

Similarly dualism slows down the growth of the labor force with industrial skills. This is particularly true in developing economies in which many of the skill requirements of modern industry (including discipline in the workplace) are acquired by on-the-job-training rather than education in schools. The slow growth of the skilled work force in its turn has an impact on the choice of technology. It has been established that capital intensive techniques have been adopted

in economies or sectors more in response to a shortage of skilled rather than unskilled labor. Thus a potential shortage of skilled labor of the type needed by modern manufacturing could dampen the value of employment elasticity and slow the rate of growth of employment in the industrial sector. An important result in our research project on Indian manufacturing in the preceding chapter was the evidence that although employment elasticity varied with the economic cycles it did not exceed 0.33 in the best period of the post-reform upswing. As analyzed in the research there are several important reasons for the low employment elasticity, but a perceived shortage of labor of the requisite skill and efficiency is one of them.

Dampening the Growth of Markets

While the last two points emphasize problems created on the supply side ‘dualism’ might also affect the growth of manufacturing through its impact on the demand side—on the expansion of markets for industrial goods. The medium sized establishments have been lauded in the literature for having the desired amount of flexibility and enterprise to seek out new export markets in new industries. But their importance in the expansion of domestic markets also needs to be emphasized. Dualism strengthens and perpetuates product market segmentation. The market for industrial products is split into low quality products catering to the need of low-income consumers, and supplied by small-scale local producers on the one hand, and the higher quality segments which the large establishments supply to a limited number of high-income consumers. The lack of integration of markets could be a bottleneck in the development of mass markets for manufactured consumer goods.

III

Causes of the emergence and persistence of dualism

What are the major factors causing the emergence of dualism in its two aspects—the phenomenon of the “missing middle” and the unusual productivity gap between the small and the large units? What are the reasons for its persistence over time, even when the reform process reducing some of the strength of the proximate causes of dualism has been eroded?

1. *Labor Legislation* has been traditionally at the top of the list of the proximate causes of the phenomenon. The “factory Act” applies to all workers in the ‘registered’ sector which covers

units employing 10 or more workers using power. Additionally, Job Security legislation (discussed below in section IV) kicks in for units with employment size of 100 or more workers. Both types of legislation would impose costs on units increasing beyond the threshold sizes.

2. *Education Policies* as have been implemented in India over the years have been biased towards the promotion of tertiary education and has neglected basic primary and low secondary education. It has been maintained in the literature (e.g., in the work Adrian Wood among others) that modern manufacturing requires a minimum of basic education for a workforce able to perform up to minimum standards in modern manufacturing. Small and medium sized units –adopting comparatively labor intensive technology—benefits from an ample supply of such labor. They are contrasted with tiny units which could use nearly unskilled labor with less than primary education for low grade production, but would find it difficult to grow beyond a certain scale with such labor. The relatively plentiful supply of skilled labor with higher education biases production to less labor- intensive industry and modes of production. Large units have a comparative advantage in using such labor which smaller units cannot afford.
3. *The protection of small-scale units* has been an important aspect of Indian industrial policy since independence. It has taken the form of reservation of large number of items for production in exclusively small units and the provision of incentives—fiscal, financial and legislative—as long as the units stayed below a certain size. The threshold size was first defined in terms of the traditional employment size of 5 workers. It was in later years changed to a definition based on capital size and it was also increased somewhat over the years. Nevertheless, the policies have always provided an incentive for entrepreneurs to expand horizontally with more small units, rather vertically with larger middle-sized units.
4. *Hysteresis*. The policy of reservation for the small-scale was largely ended in the post-1991 reform process. But we have seen that the impact on the size structure of establishments in manufacturing has been minimal. This limited impact might be due to widely recognized processes in which a socio-economic system established over a long period of time tends to persist even after the original causes have disappeared. This persistence is not just due to inertia. Economic agents and institutions acquire characteristics which sustain the system. For example, entrepreneurs develop with ambitions to think in terms of horizontal rather than vertical growth. Marketing channels, financial institutions and infrastructure are geared more to supporting small units with limited market rather than dynamic units growing into larger sizes and different markets.

V

Conclusion

An important objective of further policy-oriented research is to see what are the relative importance of the factors outlined in the last section. This can be done only with the help of enterprise level surveys in key industries and districts. Perhaps much can also be learnt by contrasting the experience of different states of India which have had different trajectories of manufacturing development. These avenues of further research are proposed in an IDRC funded research project which is pursued by the authors in the Institute for Human Development (IHD) in Delhi.

REFERENCES

- Little, Ian, Dipak Mazumdar, and John Page (1987). *Small Manufacturing Enterprises*. Oxford, New York.
- Mazumdar, Dipak (2003) "Small and Medium Enterprise Development in Equitable Growth and Poverty Alleviation" in Christopher M. Edmonds (ed) *Reducing Poverty in Asia; Emerging Issues in Growth, Targeting and Measurement*, Asian Development Bank, Edward Elgar, Cheltenham, UK.
- Mazumdar, Dipak and Sandip Sarkar (2008) *Globalization, Labor Markets and Inequality in India*. Routledge, London.
- Papola, T.S. (2005), "Emerging Structure of Indian Economy – Implications of Growing Inter-Sectoral Imbalances", Presidential address of 88th Annual Conference of Indian Economic Association, Dec. 27-29, 2005, Vishakhapatnam.
- Vasudeva-Dutta, P. (2004). "Trade Liberalisation and the Industry Wage Structure in India." *Department of Economics Discussion Paper*, University of Sussex.

¹ The NSS records employment by the activity in which the individual spent most of its time in the reference period (last 365 days)—called UPS- as well as by the activity in which he or she spent only a part of the time –called SS secondary status. The total and the industrial distribution of the latter are subject to short-term fluctuations.

² See Mazumdar (2003) for the detailed statistical evidence and a discussion of the comparative Asian scenario.

³ See Mazumdar and Sarkar (2008) for details. Also see the contribution in Kanbur and Sverner(ed) for an updated and more theoretical discussion.