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India

*India's Employment Challenge: Creating  
Jobs, Helping Workers*

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**ABBREVIATIONS AND ACRONYMS**

ASI	Annual Survey of Industries	JGSY	Jawahar Gram Samidhi Yojana
BIRA	Bombay Industrial Relations Act, 1946	JRY	Jawahar Rozgar Yojana
BPL	Below Poverty Line	KAM	Knowledge Assessment Methodology
CBMI	Community based micro-insurance	MFI	Micro-finance Institution
CDS	Current Daily Status	MPCE	Mean per-capita Expenditures
CII	Confederation of Indian Industries	MRTU	Maharashtra Trade Union Act
CSS	Centrally Sponsored Scheme	NDME	Non-directory Manufacturing Enterprise
CWS	Current Weekly Status	NFFWP	National Food for Work Programme
DRDA	District Revenue/ District Administration	NGO	Non-Government Organization
DGE&T	Director General of Employment & Training	NIC	National Industry Classification
DME	Directory Manufacturing Enterprise	NSS	National Sample Survey
DRER	Domestic Real Exchange Rate	NSSO	National Sample Survey Organization
EAS	Employment Assurance Scheme	OAME	Owner Operated Family Firms
EE	Employment Exchange	PRI	Panchayati Raj Institution
FDI	Foreign Direct Investment	PULP	Prevention of Unfair Labor Practices Act, 1971
FICCI	Federation of Indian Chambers of Commerce & Industry	REG	National Rural Guarantee Act
GDP	Gross Domestic Product	SC / ST	Scheduled Cast / Tribe
GSDP	Gross State Domestic Product	SEWA	Self-Employed Women's Association
GVA	Gross Value Added	SGRY	Sampoorna Grameen Rozgar Yojana
IDA	Industrial Disputes Act, 1947	SME	Small & Medium Enterprises
ILO	Indian Labor Organization	UHIS	Universal Health Insurance Scheme
IRDA	Insurance Regulatory and Development Authority	UPS	Usual Principal Status
ISIC	International Standard Industry Classification	UPSS	Usual Principal and Subsidiary Status
ITC	Industrial Training Centers	VET	Vocational Education & Training
ITES	Information Technology Enabled Services	VRS	Voluntary Retirement Scheme
ITI	Industrial Training Institutes		

Vice President:	Praful C. Patel, SARVP
Country Director:	Michael F. Carter, SACIN
Sector Director:	Ernesto May, SASPR
Sector Manager:	Ijaz Nabi, SASPR
Task Managers:	Ahmad Ahsan and Ashish Narain, SASPR

## **Report Team and Acknowledgements**

This Report was prepared by a team led by Ahmad Ahsan and Ashish Narain (SASPR), under the guidance of Ijaz Nabi, Sector Manager. Sadiq Ahmed (SASPR), Michael Carter (SACIN), and Fayez Omar (SACIA) provided overall guidance. Kapil Kapoor and Dipak Dasgupta, (SASPR) provided helpful comments at various stages.

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## SUMMARY

### INDIA'S EMPLOYMENT CHALLENGE -- CREATING JOBS, HELPING WORKERS

#### A. *Introduction*

1. *Although labor market outcomes in the 1990s were better than what is commonly perceived and job growth has picked up markedly since 2000, India's employment situation is still a cause for concern.* In the 1990s<sup>1</sup>, job growth in India decelerated but less sharply than official estimates suggest. Seen in terms of changes over two decades – 1983-1993 and 1993-2004 – and taking both principal and subsidiary workers into consideration, employment growth was largely flat at 2 percent or slightly declining – from 2.1 percent (1983-1993) to 1.9 percent (1993-2004).<sup>2</sup> But, labor productivity and average wage growth were higher in the latter period than in the 1983-1993 decade. Then, as economic growth accelerated post-2000, employment numbers too showed an increase. However, since 2000, there has been a deceleration in the growth of wages and earnings, especially for workers whose earnings fall in the middle of the wage spectrum. Additionally, as the large number of working poor (some 105 million persons or more than a quarter of all workers in 2004) indicates, many Indian workers are still trapped in jobs with low earnings.

2. *Of the 413 million prime-aged persons in the Indian labor force in 2004/2005, the overwhelming majority, about 90 percent, are employed in low productivity informal sector jobs.*<sup>3</sup> The share of formal sector and manufacturing in total employment has remained low and strikingly unchanged over the two decades since 1983. Although the open unemployment rate, at about 2.8 percent, is low, it is chronic in nature and markedly higher among the youth (6.7 percent), in urban areas (5 percent), in certain regions (for example, West Bengal), and among the better educated.<sup>4</sup> Unemployment and underemployment, taken together, have increased since the year 2000 and now apply to more than 8 percent of the labor force. These developments have evoked considerable public concern in India, leading to the enactment of the National Rural Employment Guarantee Act that guarantees 100 days of employment in public works to each rural household.

3. *The concern caused by labor market outcomes in India is, thus, not misplaced.* For most Indians, especially the poor and marginalized, labor is their principal asset. The tight relationship between wage earnings, income and household expenditures across India's different regions (Figure 1) suggests that labor markets are the main channel through which economic growth is distributed across regions and people. Pro-poor growth requires not only increasing the earnings of the current 105 million working poor but also creating productive jobs for the 90 million or so new entrants expected to join the labor force over the next decade. The key challenge is to create good jobs that increase productivity. Achieving economic growth rates of 8 to 10 percent per annum over the next

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<sup>1</sup> The 1990s refer to the period 1993-2000, that is, the period between the 50<sup>th</sup> Round National Sample Survey (NSS) and the 55<sup>th</sup> Round NSS survey. The 1980s refers to the period 1983-1993 which corresponds to two other NSS Rounds. See Box 1.2 in Chapter 1 for more details on data sources.

<sup>2</sup> The data used throughout this report refers to the Usual Principal and Subsidiary Workers (UPSS) definition of employment measures (see Box 1.1 in Chapter 1 for details), unless specifically noted otherwise.

<sup>3</sup> See Table 1.1 in Chapter 1.

<sup>4</sup> The 2.8 percent unemployment rate, sometimes referred to as the ‘open unemployment rate’, is long-term in nature because it refers to persons who have been searching for or have been available for jobs for most of the year prior to the survey. But in keeping with the international definition of ‘open unemployment rate’ – persons who while searching for a job did not even work one hour a week – the actual unemployment rate is close to 5 percent.

decade, as is being discussed currently, will require that labor productivity grow by 6 to 8 percent per annum.<sup>5</sup>

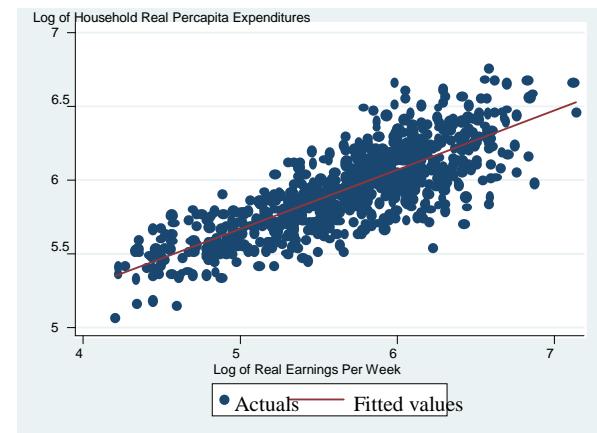
4. *This report analyzes the available evidence on India's labor market developments in the above context and with the following objectives:* (i) **to assess developments** in labor markets (Section B of the Summary); (ii) **to identify key employment challenges** (Section C), and; (iii) **to make recommendations for improving labor market outcomes** (Section D). Based on wide-ranging consultations with central and state government officials, private sector representatives, trade unionists, and academicians, this report addresses six major questions in its six chapters:

- What are the main developments in India's labor markets?
- What is happening to the volume and quality of jobs being created in the informal sector?
- Why has formal sector employment growth, especially in manufacturing, been slow? What has contributed to the persistence of 'dualism' – the large gap in productivity and earnings between the formal and informal sectors -- within the manufacturing sector and between rural and urban areas?
- How do labor market outcomes differ across regions and why? What do these differences imply?
- How do labor market regulations affect outcomes? Specifically, which policies are the most binding and what reforms are needed to remove constraints?
- In what way can the active labor market policies pursued by union and state governments be made more effective? How can the skills of the work force be increased?

5. *The report draws primarily on fresh research by a team of Indian economists and World Bank staff.* Major labor market data sets, such as the quinquennial 'thick' Rounds of the National Sample Survey (that is, NSS

surveys from 1983 to 2004/05), reports from the Annual Survey of Industries, information from the Labor Bureau of the government of India, and the Informal Sector Modules of the NSS have been used for analysis in this report. Finally, the research also draws on databases from the World Bank Investment Climate and Doing Business surveys and those produced by the Centre for the Monitoring of the Indian Economy (CMIE). The database prepared by Besley and Burgess (2004) was used to derive new labor regulatory indices that distinguish between the complexity and rigidities caused by regulations in Indian states. It is worth stressing that while the discussion on trends in the labor markets draws on the latest 'thick' Round survey of 2004/05, most of the *analysis* of these trends draws on the 'thick' Round survey of NSS ending in 2000 because the latest 'thick' Round survey was released only recently.

**Figure 1: Real Per Capita Expenditures (Vertical Axis) Plotted Against Real Weekly Earnings (Horizontal Axis) for NSS Regions, Estimated from Five Thick Round Surveys from 1983 to 2004**



Source: Authors' Estimates from NSS Data. An increase of wage earnings explains about 66 percent of the variation in household per-capita expenditures by itself.

<sup>5</sup> The Planning Commission Report on Employment (2002) estimates that 10 million jobs need to be generated annually in the economy; the estimated economic growth required to generate these is 8 percent to above 10 percent.

**6. This report elaborates on three main themes:**

- ***As noted earlier, while labor market outcomes in the 1990s were better than what is commonly perceived and job growth has accelerated in recent years, overall outcomes still present concerns for at least three reasons.*** First, a comparison of the trends in job growth over two decades, 1983-1993/94 and 1993/94 to 2004/2005, suggests that job growth has been flat over the long term. Second, the spurt in employment since 2000 has been accompanied by a marked deceleration in real wage growth and even in a decline for many workers; the number of working poor has increased in the past five years. Third, low paying, relatively unproductive, informal sector jobs continue to dominate labor markets.
- ***Looking ahead, India faces formidable employment challenges.*** The overarching challenge is to increase the earnings of workers, especially of the 105 million who live in poverty (2004/05), while meeting the demand for jobs by new entrants to the labor force. Given that 60 percent of India's population is younger than age 30, the Indian economy can enjoy a 'demographic dividend' of some 123 million persons who will enter the prime working age over the next decade, lowering the dependency ratio and raising growth prospects. However, this can happen only if the economy is capable of providing productive jobs to the 90 million or so persons in this age-group who will likely seek work over the coming decade. This will require: (i) raising productivity and job quality in the informal sector, including in agriculture; (ii) stimulating formal sector employment growth; and (iii) addressing persistent regional, gender and social disparities in labor market outcomes.
- ***Meeting these challenges will require reforms in labor market policies along two directions.*** First, regulatory reforms are required to remove barriers to the growth of formal sector jobs and labor intensive manufacturing. Current labor regulations that are intended to help workers actually end up hurting them by constraining job growth. By imposing excessive rigidity in the formal manufacturing labor market the regulations create disincentives for employers to create jobs. This study estimates that the Industrial Disputes Act (IDA) has caused about 3 million less jobs to be created in formal sector manufacturing. Second, regulatory reforms need to be complemented with effective and active labor market policies that can help workers, especially those in the informal sector, become more productive, obtain more protection against unemployment, and enhance skills.

**B. Structural Changes in the Indian Economy and Labor Market Developments since the 1990s**

7. ***Although economic growth in India accelerated significantly in the past two decades, structural changes in the economy were relatively slow, especially compared to other fast-growing Asian economies.*** The economic growth rate averaged about 6 percent per annum since the mid-1980s. Growth accelerated further in the last three years and is now more than 8 percent. There was a rapid increase in trade and, more recently, in the investment rate which increased to over 30 percent of GDP. Economic development in India, from the early 1950s to the present, has been broadly consistent with the experience of other countries in that the share of agriculture in GDP declined from more than 50 percent to less than a quarter, while the shares of industry and services increased. However, in some key respects, India's pattern of structural change has been different from most other developing countries. First, most of the increase in economic activity took place in services, which now account for more than 50 percent of GDP. While the share of industry increased to around a quarter of GDP, manufacturing's share increased minimally and today accounts for less than 15 percent of GDP, compared to much higher shares in other developing countries. While the pace of transformation accelerated after 1990, when India's largely closed and regulated economy started liberalizing to become more open and competitive, the shares of industry and manufacturing remained largely unchanged throughout the 1990s. Second, most of the increases in services and

industry took place in relatively skill-intensive and capital-intensive sectors, and less in labor-intensive industries.

8. ***The structure of employment was, until recently, surprisingly resistant to change.*** There was little shift in employment away from agriculture and the sector still provides employment to nearly half of India's workers. The share of employment in agriculture has declined, from 65 percent in the early 1980s to 55 percent at present, but much less so than the decline of agriculture's share in GDP. During the same period, the share of manufacturing employment has matched the share of manufacturing GDP and remains at less than 15 percent of all employment. Between 1999/2000 and 2004/05, however, there were faster changes in employment, especially in rural areas, away from agriculture to construction and trade, hotels and restaurants, and transport and communications in the service sectors, and to some extent to manufacturing. However, contrary to expectations, employment is still overwhelmingly dominated by small-scale, informal sector activity in all sectors, more than a decade after the liberalization of the 1990s.

9. ***While overall job growth in the 1990s slowed down, the deceleration was considerably less than official estimates.*** Fresh estimates, based on combining data from NSS surveys with 2001 census data, suggest that employment growth among prime-age workers may have declined from 2.1 percent in the 1983-1993 period to 1.6 percent in the 1993-2000 period, that is, a decline of about 0.5 percentage points.<sup>6</sup> Official estimates, on the other hand, show a halving of the employment growth rate from 2 percent to about 1 percent over the same period. An important implication of these fresh estimates is that while the growth elasticity of employment – the response of employment growth to GDP growth -- declined, it did not decline by nearly as much as what is implied by official estimates of employment trends.

10. ***On the other hand, while job growth has picked up since 2000, the job growth rate has remained unchanged over the past two decades.*** The recent acceleration in job growth for the prime-age population, to about 2.3 percent between 1999/2000 and 2004/05, reflects both supply and demand side factors. On one side, the numbers of working-age population have increased, leading to an increase in the number of workers looking for jobs and a rise in self-employment. On the other side, the job growth also reflects the acceleration in economic growth since 2003, indicated by the growing share of construction, trade, and manufacturing jobs. Several factors suggest that it is the growing supply of workers which is mainly driving this growth: (i) most of the job growth has been in subsidiary (part-time) workers and in self-employment; growth of employment for 'principal' (full-time) workers has actually slowed down; (ii) allowing for the fact that 1999/2000, a year when the agricultural sector contracted, may have led to an unusual drop in employment in the rural areas, and looking at decadal changes from 1983 to 1993/94 and 1993/94 to 2004/05, employment growth has remained flat or slowed down slightly; (iii) unemployment rates have increased; and (iv) wage growth has decelerated markedly in recent years for almost all groups of workers.

11. ***Wages and productivity grew across the board in the 1990s but both slowed down post-2000.*** Mean wages grew by 3.4 percent per annum, on average, between 1994 and 2000, tracking the growth in labor productivity. However, wage growth decelerated markedly in the past five years. At the same time, wage growth took place across all wage groups – including the most vulnerable agricultural casual worker group. There were also indications of a convergence in real wages across regions during the past two decades, including between rural and urban areas. Overall, in the space of 6 years from 1994 to 2000, the number of working poor fell by 12 million to 102 million.<sup>7</sup> Wage growth across individuals, however, was unequal. Most of the wage growth took place in the top two

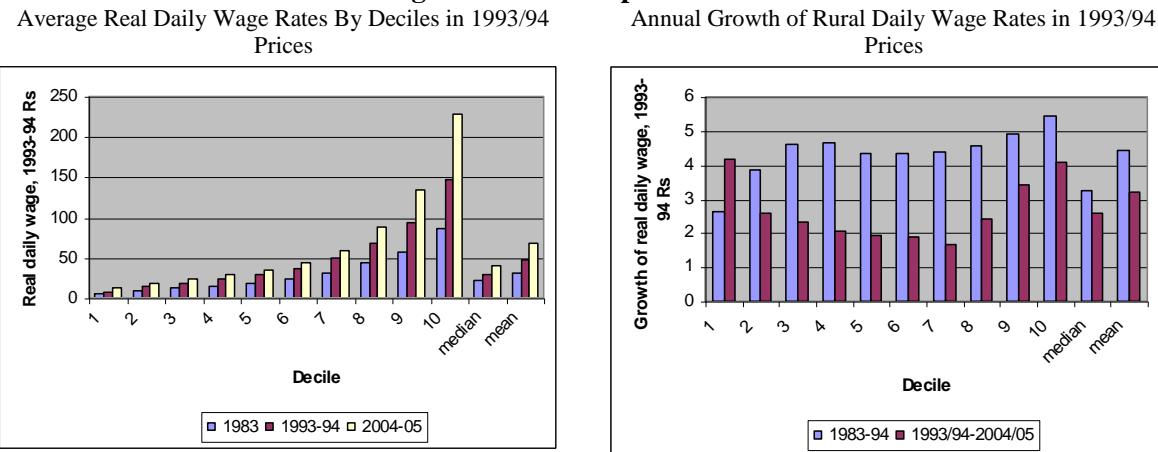
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<sup>6</sup> This re-estimate is based on applying NSS-based worker-to-population ratios to census-based age distribution of the population. Sundaram and Tendulkar (2005a) present these estimates in a background paper done for this report.

<sup>7</sup> The number of working poor is the number of workers in households below the poverty line.

deciles of wage earners and, interestingly, for workers in the bottom decile. Further, for most workers, wage growth was slower during the 1993-2004 period than in the previous decade (Figure 2), leading to a slight increase in the number of working poor. Since 2000, wage growth has decelerated for most workers and even declined for unskilled workers.

**Figure 2: Real Wage Growth by Deciles, 1983 to 2004/2005  
High Growth in Top Two Deciles**



Source: Staff estimates

12. **The evidence on deteriorating job quality needs to be interpreted with caution.** Usually, the evidence cited for worsening job quality is the increase in the share of informal sector workers, especially casual workers (the ‘casualization’ of the work force), and the poor growth of organized formal sector jobs. However, first, it is important to remember that in the 1990s, as wages and productivity rose, real earnings too rose for all categories of workers. In this sense, job quality improved for all categories. Second, not all jobs in the informal sector can be rated worse than formal sector jobs. An examination of household expenditures shows that among the top 30 percent of workers, self-employed workers fare better in terms of household per capita consumption than similar, regular-salaried workers. Thirdly, although aggregate numbers do show that there was some casualization of the work force in the 1990s,<sup>8</sup> this was driven by trends in a few industries: agriculture, mining and construction. Finally, between 1999/2000 and 2004/05, there was a converse movement where the share of casual workers decreased and was offset by a similar increase in self-employed workers. To the extent this movement was voluntary and not driven by the absence of opportunities; it would suggest that the quality of jobs within the informal sector improved in recent years. Comparison of per capita consumption suggests that self-employed workers are better off than casual workers.

13. **Two major developments in the 1990s which underline the development challenges that India now faces, need to be reconciled: (i) the slowdown in job growth in the 1990s and the rise in real wages across all wage groups, and (ii) since 2000, the marked increase in job growth accompanied by the deceleration in wage growth.** The deceleration in employment growth and wage increases in the 1990s took place because of a deceleration of growth in both labor supply and labor demand. Supply decelerated mainly because female workers in rural areas withdrew from ‘subsidiary’ jobs in favor of housework, childcare and leisure. This happened in large part because higher household incomes and spouses’ earnings made it possible for them to do so. Happily, child

<sup>8</sup> In that the share of regular workers remained stagnant or slightly declined, as did the share of self-employed workers in rural areas, while the share of casual workers increased from about 30 percent to 33.4 percent.

labor also fell significantly, though some ten million children still remained in the work force in 1999/2000.<sup>9</sup> In addition, the youth population, both men and women, withdrew from the work force in favor of schooling or leisure. Our analysis reveals, however, that part of the slowdown in the supply of labor also happened because workers became discouraged and dropped out of the labor force due to fewer employment opportunities, leading to reduced labor supply. *Demand* for labor decelerated because agricultural growth fell sharply at the end of the 1990s and organized manufacturing growth was sluggish. Agricultural employment – still accounting for 59 percent of the labor force in that period – stagnated as growth in agricultural value-added employment decelerated sharply in the second half of the 1990s. Employment in the formal sector was also stagnant because while the public sector shed labor, adverse relative price changes against manufacturing, and regulatory policies, encouraged private producers to invest in more skill-intensive techniques that increased productivity instead of raising employment. Though the formal service sector, relatively unfettered by labor regulations, grew rapidly, its contribution to job creation was limited by its small share in overall employment.

14. ***Despite the deceleration in job growth in the 1990s, real wages grew for several reasons.*** First, significant deceleration in labor supply matched deceleration in job growth, offsetting any dampening effects on wages. Second, wage growth followed productivity growth; productivity within sectors increased and workers moved from less productive jobs to more productive jobs in the non-farm sectors. In particular, the fast pace of growth in skill and capital-intensive services, as well as the manufacturing sectors, increased productivity and wage growth in jobs which were already high-earning. Third, wage growth was also faster at the high end in urban salaried jobs due to institutional factors: firms using efficiency wages to retain skilled workers and the large increase in public sector salaries awarded by the Fifth Pay Commission. Due to these factors, while average wages grew robustly, median real wage growth rate was relatively anemic at less than 2 percent per annum. These contrasting trends of deceleration in job growth and unequal wage increases highlight the employment challenges that India faces.

15. ***Developments in labor market outcomes from 2000 to 2005 were almost a mirror image of developments in the 1990s.***<sup>10</sup> Job growth in the first five years of the new century accelerated to about 2.3 percent while real wage growth decelerated appreciably and even declined for many workers. While regular worker jobs also increased significantly in this period, most of the job growth took place for self-employed workers in rural areas and their share increased markedly. Correspondingly, the share of casual workers fell. However, unemployment and underemployment rates, taken together over the entire period of 2000-2005, increased. These developments suggest that the acceleration in job growth may have mainly reflected a rise in the supply of labor which was absorbed by rural, non-agricultural, self-employed occupations. Understanding these trends and their implications require further study.

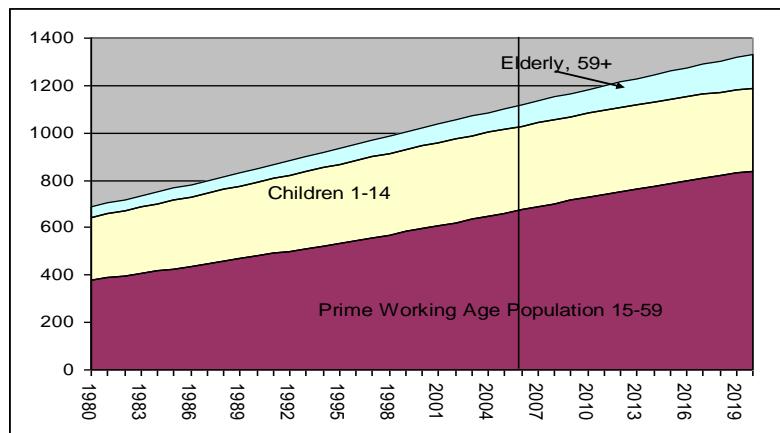
### C. Meeting India's Employment Challenges

**Figure 3: Over 12 Million Working-Age Persons and More Than 9 Million Workers Will Enter the Job Market Each Year in the Next Decade**

<sup>9</sup> It is worth stressing though that this number only reflects paid child labor or child labor used to produce goods meant to be sold; it does not include the use of child labor for unpaid domestic work which may also be hazardous for child health.

<sup>10</sup> See Box 1.2 in Chapter 1 for a discussion on data issues.

**16. India's working-age population will grow at a fast rate over the next decade. The overarching challenge for the Indian economy will be to generate an equally fast growth of good quality, productive jobs for the new entrants.** Due to demographic factors, the working-age population will increase by about 12 million persons a year over the next decade. About 8 to 9 million of these persons will look for jobs (See Figure 3).<sup>11</sup> The number of



Source: Derived from ILO Laborsta.org

entrants to the labor force will be even higher if female participation rates increase in the same direction as East Asian and Latin American rates, as India approaches middle-income country status. In the 1990s however, the economy generated only about 5½ million net jobs per annum. This suggested that unless the economy performed better in creating productive jobs at a much faster rate, wages and earnings could become depressed while unemployment rates increased. In the event, wage rate growth decelerated and for some groups even declined between 2000 and 2005, even with a significant acceleration in job growth. This highlights the continued importance of job quality as an issue since most of the labor force continues to remain in the informal sector, working in relatively low productivity jobs. While growth in formal sector skill-intensive manufacturing and the tertiary sectors has picked up, their contribution to overall job growth is limited due to their small share in India's labor market.

**17. What measures will be needed to meet this overarching challenge?** Overall, sustaining economic growth and adjusting the pattern of growth to make it more broad-based and employment-intensive will be key. Growth is ultimately the main driver of employment. However, growth in the past decade was led by skill-intensive Information Technology (IT) and Information Technology Enabled Services (ITES), financial services, telecom and retail sectors, and skill-intensive manufacturing. The employment impact of these sectors was muted due to their relatively small share in total employment and the high level of skills they require from workers. To have larger employment impact, growth has to be more broad-based. This can be achieved by stimulating growth in labor-intensive manufacturing and increasing productivity in the low-end tertiary sectors which can absorb most of the relatively unskilled labor that shifts away from agriculture. Three intermediate measures that can help make growth more broad-based are: (i) raising productivity and job quality in the informal sector; (ii) stimulating formal sector employment growth; and (iii) addressing persistent regional, gender and social disparities in labor market outcomes.

### **Raising Productivity and Job Quality in the Informal Sector**

**18. The informal sector dominates India's labor markets and will continue to do so in the medium-term.** Even if the definition of the formal sector is stretched to include all regular and salaried workers, some 335 million workers were employed in the informal sector in 2004/05.<sup>12</sup> Given the current barriers for entry into the formal labor markets, the informal sector, in the medium-

<sup>11</sup> Sundaram and Tendulkar, 2005b.

<sup>12</sup> Estimates of the formal sector labor force vary from official estimates of 7 percent, to other estimates of 11 percent (Mazumdar 2005 or Unni 2005). Some researchers (for example, Sundaram and Tendulkar, 2005b, and also in this study) include all regular or salaried workers, who make up 16 percent of the labor force, in the formal sector.

term, will remain huge. While some informal sector workers, the self-employed in particular, are engaged in high-productivity work, most others are employed in low productivity jobs in the agriculture and tertiary sectors.

19. ***Stimulating productivity growth in informal sector manufacturing and the tertiary sectors is necessary for enhancing job growth in the short-term.*** These sectors are important both in terms of the number of workers they employ, as also because they are well placed to receive workers moving out of agriculture. In the manufacturing sector, of a total of about 45 million workers, some 33.4 million are employed in unorganized sector firms (Unni 2005). In the late 1990s there was rapid growth in this sector -- spurred by policy changes which dismantled small-scale reservations and unleashed the forces of competition, and policies which enhanced investment ceilings and gave other concessions, allowing firms to grow and upgrade their technology. Unlike formal sector manufacturing, however, this growth in value-addition in the informal manufacturing sector was passed on to workers in the form of higher wages and more employment. This sector is, therefore, essential to employment-creating strategies. At the same time, it is worth stressing that average productivity in informal manufacturing still remains only one-eighth that of formal sector firms. The welfare consequences of having such low-productivity employment are large -- in terms of lower output and wages, poorer working conditions, insecurity, lost tax revenues, and constraints to financial development.<sup>13</sup>

20. ***Fostering productivity and employment growth in the agriculture sector should continue to claim priority because of the large size of the sector and its continuing potential for providing productive employment.*** Although, in the long term, development necessarily entails moving labor out of agriculture and into more productive jobs in manufacturing and the services sectors, more than half of the labor force in India currently remains in agriculture.<sup>14</sup> Thus, employment growth in this sector will continue to have a large impact on overall employment growth as well as on workers' earnings through its effect on wages. In the 1990s, employment growth in this sector slumped due to low growth, especially in the net sown area, as investments in irrigation and rural infrastructure declined. There is considerable potential for stimulating demand for labor and productivity in agriculture through diversification into horticulture (which has an employment elasticity of production twice that of cereals), livestock and other high-value products, and increasing the spread of irrigation. Irrigated farms can use 50 percent more hired labor than rain-fed farms. The further spread of labor-intensive high-yielding varieties (HYV) of rice, especially to the north-eastern regions where water is available but productivity is relatively low, offers potential in this respect. Expanding sustainable irrigation under the Bharat Nirman project of the government will help this process. Increase in agricultural activity will also likely lead to growth in off-farm employment opportunities through second-round effects, both supply side (as more people are employed in marketing and food processing) and demand side (as more prosperous firms demand more goods and services). The fact that less than 2 percent of India's fruits and vegetables are processed, compared to about 50-80 percent in some East Asian economies, indicates the enormous employment potential in this area.

21. ***Both investment and regulatory reforms are needed in the informal agriculture and non-agriculture sectors to stimulate growth and increase incentives for firms to become formalized.*** At present, regulations restrict the marketing of agricultural produce under the Agriculture Produce and Marketing Act and the Essential Commodities Act, and the gather of forest products under the Indian Forest Act (Saxena, 2003). Storage of produce and storage rent are restricted in some large states. These restrictions depress both demands, for farm produce as well as farmers' earnings. The tens of

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<sup>13</sup> Informal sector firms have less access to formal credit.

<sup>14</sup> The last major NSS survey in 2000 suggested agriculture's share was 59 percent. The most recent NSS survey (2004/05) suggests a significant drop in agriculture's share, to 53 percent.

millions of forest dwellers who depend on forestry products are hindered from harvesting non-timber forest products such as fruits, nuts, flowers, and twigs -- activities that are ecologically sustainable. International evidence suggests that governments need to take two approaches to encourage firms to become formal (World Bank, 2005i). *First*, they should recognize that expanding the formal sector takes time. In the interim, governments can provide a supportive environment for the growth of productivity and improvement in working conditions in the informal sector. But to support the growth of the formal sector, it is crucial to remove disincentives for growth -- reserving sectors for small-scale firms, regulations that raise transaction costs and costs when firms grow beyond a certain size, and other regulatory barriers discussed above. *Second*, governments can gradually improve enforcement by raising penalties for non-compliance. This approach requires cautious handling because eliminating informality can lead to high costs in the short-term by throwing firms and employees out of work.

### ***Stimulating Formal Sector Employment Growth***

22. ***Increasing formal sector employment in India is another key challenge.*** The share of formal sector employment in total employment has been virtually at a standstill, even declining slightly, more than a decade after liberalization. In the second half of the 1990s, formal manufacturing employment growth slowed down, both because overall sectoral growth was relatively slow and because employment elasticity fell sharply. Our analysis suggests three factors were responsible for the latter: (i) an adverse movement of relative prices against manufacturing producers; (ii) firms investing heavily in increasing capacity as the economy opened up in the 1990s. When the expected manufacturing growth did not materialize, particularly in the second half of the 1990s, this had a dampening effect on employment. Trade also had an impact: while export-intensive sub-sectors increased their share in employment growth, the share of import-competing sectors fell slightly during this period of adjustment; and (iii) the choice made by firms to raise wages and productivity of existing workers rather than employ more people. India stands in striking contrast to other countries in that it has seen relatively faster growth in wages rather than employment in the manufacturing sector. It is important to note that despite the growth in wages the current wage bill of formal sector manufacturing firms in India is only about 8 percent of total costs.<sup>15</sup> What explains this? India's generous depreciation rate of 25 percent for machinery and equipment for tax purposes, compared to 10 percent in OECD countries, encourages firms to be capital intensive. This allowance, combined with labor market regulations that discourage labor mobility, has damped job growth in labor-intensive sectors.<sup>16</sup>

23. ***A specific task will be to mitigate dualism (or the concentration of production and employment in very small-scale and large-scale production) in manufacturing by accelerating growth in the 'missing' mid-sized plant group in manufacturing.*** Compared to other countries, Indian manufacturing is marked by the concentration of value-addition and employment in very large-scale and very small-scale firms, leading to the problem of a 'missing middle'. Currently, the incentive structure in the Indian manufacturing sector favors small and micro industries, while the dualism in the capital markets gives specific advantages to large firms if they opt for capital-intensive techniques that result in high wage per worker and low employment per unit of output. The mid-size firms are trapped in a disadvantaged no-man's land. This is problematic because international experience shows this 'middle' group is the most dynamic in terms of employment generation and entrepreneurial development. By introducing more competition this group also promotes efficient manufacturing growth.

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<sup>15</sup> *Business Standard*, January 4, 2006.

<sup>16</sup> The revenue loss from accelerated depreciation allowance is estimated to be close to 0.8 percent of GDP.

24. ***The dualistic pattern of job growth in the tertiary sectors also needs to be addressed.*** At one end, the main source of growth in the formal sector has been the rapidly expanding ITES and financial sectors. But these sectors' influence on the overall labor markets is marginal given that they employ only 6 million workers out of a labor force of more than 400 million. More important, in terms of employment generation, are sectors such as trade, hotels and restaurants, construction, and community services. Evidence suggests, however, that the bulk of jobs created in these sectors are of low productivity and, also, informal. Thus, as in manufacturing, workers are clustered at two ends of the wage spectrum, mostly at the low end.

#### ***Addressing Regional, Gender and Social Disparities***

25. ***The differences in earnings across individuals, regions, gender, and caste groups indicate some specific challenges that need to be overcome to improve labor market outcomes.*** Increasing wage disparity, a conspicuous development in the 1990s and in this past decade, appears to arise from two sources. First, as mentioned earlier, the dualism in labor markets segments workers – placing most workers in relatively low-paying, low-productivity jobs in small- or micro-size firms and a few in better-paying high-productivity jobs in very large-sized firms. This leads to differences in wages between the two groups, above what can be explained by observed skill differences. Second, as India's economy becomes more integrated with the world economy, the premium on skills is increasing the divide between educated and uneducated workers. The number of persons returning to school to complete secondary education is particularly high. At the same time, less than 10 percent of workers in India have completed secondary or post-secondary education. Real wage growth among persons of managerial and executive rank – at about 10 percent per annum -- was highest in the South Asian region for three consecutive years, indicating the scarcity of these skills. Wage growth among the less-skilled, middle 40 percent group of workers on the other hand was a more modest 3 percent per annum in the 1990s.

26. ***The large differences in labor market outcomes across India's 32 states and 78 regions need to be addressed by focusing on lagging regions and facilitating migration.<sup>17</sup>*** The differences can be dramatic. For instance, employment rates for males can vary from 65 percent to 83 percent, and for females from 10 percent in Delhi or Tripura to 50 percent in Andhra Pradesh.<sup>18</sup> Real weekly earnings from rural work in one region were less than one-tenth the weekly earnings in another in 1999/2000. These differences are also persistent: employment outcomes were consistently poor in the northeast, the northern states of Bihar and Uttar Pradesh, the coastal regions of Orissa and Kerala, and the former French and Portuguese colonies of Pondicherry and Goa respectively. One important exception to these persistent differences is real wages which show a tendency to converge across regions and between rural and urban areas.<sup>19</sup> This may help explain why migration and urbanization rates across Indian states are low. This also suggests important barriers to improving labor market outcomes – for instance, low labor mobility, both across regions and from rural to urban areas, which has led to unusually low urbanization in India. In this respect, the contrast with China is dramatic: whereas the urban population in China grew by about 180 million between 1989 and 2003, in India it grew by a much smaller number of 80 million.<sup>20</sup>

27. ***Two proximate factors stand out as the main drivers of regional differences in labor market outcomes: first, economic activity levels as measured by the Gross State Domestic Product (GSDP) and, second, female participation rates.*** Firstly, over the long run, regions with higher

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<sup>17</sup> This refers to the 78 regions in the NSS which correspond loosely to agro-ecological areas.

<sup>18</sup> Employment rate refers to the share of the population in the 15-59 age group that is employed. Participation Rate refers to the share of the 15-59 working-age population that is working or unemployed, that is, looking for jobs.

<sup>19</sup> While wages may converge, earnings – which depend on both wages and employment opportunities – may not, due to differences in employment opportunities.

<sup>20</sup> World Development Indicators.

GSDP and higher economic growth rates show higher employment rates and earnings, and lower unemployment rates. This challenges the widespread perception of ‘jobless’ growth. Interestingly, GSDP levels and economic growth appear to have a more significant effect on female employment than on male employment. A one percent increase in GSDP leads to a 0.7 percent increase in female employment levels, a 1 percent increase in urban employment and a 0.4 percent increase in rural employment levels.<sup>21</sup> Economic activity also affects the quality of jobs, as measured by earnings in rural areas. It is worth stressing though that the link between GSDP and employment opportunities is more long-term than short-term. Over short periods, increasing labor productivity – which has driven most of India’s economic growth – can dampen employment growth in both urban and rural areas. In the medium-term, however, regional analysis suggests, increasing productivity does not dampen employment growth. The *second* proximate factor driving regional differences, the difference in female participation rates, has a complex relationship with income. On the one hand, increases in household expenditures (which proxy increases in household incomes) or spouses’ earnings, lower female participation rates. On the other hand, regions that provide greater economic opportunities for earnings by females have markedly higher female participation rates.

**28. *A key task, in the above context, will be to draw more women into the ‘paid’ labor force.*** The labor force participation rates for females are unusually low in India. While they declined further in the 1990s, and then recovered after 2000, overall participant rates remained stuck at low levels. While female participation rates in East Asia and Latin America are around 60 percent, in India they are only around 30 percent. Contrary to international experience, the rising rate of education among females and lower fertility rates were accompanied by declining female participation in the work force in India (about 3 percent between 1993/94 and 1999/2000). Two factors help explain India’s low and falling female participation rates. First, there is a positive income effect: with increased household incomes or earnings by spouses, females working in subsidiary jobs in rural areas quit the labor force in favor of household work, leisure or childcare.<sup>22</sup> The second factor is the absence of employment opportunities which has hurt rural female participation.<sup>23</sup> Also, the high gender gap in wages, about 28 percent, cannot be explained by age, experience or education -- it discourages female participation. Thus, increasing good economic opportunities will be important for increasing female participation, especially in rural areas.

**29. *Addressing the exclusion of scheduled castes (SC) and scheduled tribes (ST) from good quality jobs is an important challenge.*** Government policies to reserve jobs and use affirmative action have been effective in providing SC/ST groups some advantage in getting rationed salaried public sector jobs. But SC and ST workers still have a much higher probability of being employed in relatively poor quality jobs (often as agricultural laborers) and significantly lower probability of entering self-employed occupations (Das, 2005). Improving outcomes for this group will require that special attention be paid to improving the skills and educational attainments of SC and ST workers on the one hand, and promoting policies to enhance micro-credit, self-help groups and small businesses among these groups on the other.

#### **D. How can Policy and Institutional Reforms Help Meet the Employment Challenge?**

##### **Regulatory Reforms to Sustain Growth and Create Jobs**

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<sup>21</sup> These estimates try to take into account the two-way relationship between employment and economic activity -- that is, the two determine each another.

<sup>22</sup> The effect of household expenditures (which proxies household incomes) and spouses’ earnings on female participation were separately estimated and found to be significant.

<sup>23</sup> ‘Expected earnings’ is defined as weekly earnings times the probability of finding a job.

30. *India enjoyed a robust rate of economic growth in the 1990s but its pattern of growth was atypical of the experience of most developing countries.* Since the mid-1990s, growth was led by the services sector, with the share of manufacturing value-added and other jobs remaining largely stagnant. Even within manufacturing, job growth took place mostly in the informal sector. While there has been an upsurge in formal manufacturing growth and exports since 2004, it is marked by the use of relatively skill-intensive labor; unskilled labor is used less intensively. This raises the issue: can India leapfrog the labor-intensive manufacturing stage and follow the growth path of an upper middle-income, or even rich, industrialized, developed economy which is based on skill-intensive services and manufacturing? It is unclear whether India's human capital and infrastructure are adequately developed to sustain such a pattern of growth. Already, virtually all sectors of the economy are experiencing shortage of talent. According to a McKinsey survey, the biggest concerns of 81 percent of Indian managers are the availability of talent and high wages.<sup>24</sup> A second issue is that such a growth pattern will only have a muted impact on poverty because the country will be unable to provide good jobs to the 90 percent of workers who have not completed secondary education. This could exacerbate inequality among the 'two Indias' and among India's regions by concentrating growth in relatively better developed areas that already have a more skilled labor force and better infrastructure.

31. *Adjusting India's pattern of growth to make it more employment intensive, without lowering productivity, would require addressing some overall policy reform issues.* First, reforms are needed to improve the investment climate in the country and do away with factors that currently dampen investment, productivity, growth, and job creation. The following positive measures would help considerably: better provision of law and order, protection of property rights, corruption control, improvements in policy and tax administration, investment in infrastructure in a sustained manner, and increased access to finance.<sup>25</sup> The cost of most infrastructure services is estimated to be 50-100 percent higher in India than in China and is a particularly binding constraint. Second, in agriculture, pricing and subsidy policies that bias incentives against labor-intensive crops and cropping practices (for example, horticulture and irrigated farm-based cereals) will need to be addressed. Third, manufacturing and tertiary sector regulations, such as the small- and medium-enterprises (SME) reservation policies, constrain factor mobility (of capital, land and labor) by raising barriers against entry, exit and trade, and dampen investment and competition. However, analysis suggests that even after accounting for the dampening effect of all these elements, reforming specific labor market regulations and policies which currently have an anti-labor bias, and making active labor market policies more effective, will generate growth and job creation.

32. *As in all countries, labor market regulations are necessary to address important market failures and to protect workers. However, India's labor regulations are unusually complex.* There are currently 47 central laws and 157 state regulations that directly affect labor markets. These are often inconsistent and, at times, overlapping. It is impossible for both firms and workers to be aware of their rights and obligations when rules and regulations are spread over numerous national and state level Acts. There are also other issues. One of the major pieces of legislation, the Industrial Disputes Act (IDA), creates incentives for adjudication rather than reconciliation, and has caused an overloading of the disputes resolution system. To illustrate, in 2001, about 533,000 labor disputes were pending; over 28,000 had been pending for more than 10 years. Other clauses in the IDA make retrenchment and layoffs (necessary at times because of changing market conditions) costly, and hinder the closure of firms with more than 100 workers. This makes firms more reluctant to hire in the first place. It also prevents firms from redeploying resources from less efficient activities and firms to more efficient activities and firms. Finally, there is ambiguity and uncertainty surrounding

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<sup>24</sup> The Job Boom, *India Today*, Feb 27, 2006.

<sup>25</sup> These were key constraints identified by firms in the last investment climate survey conducted in India by the World Bank.

the Contract Labor Regulation and Abolition Act. Contract labor has become increasingly important in recent years because it provides firms some flexibility to hire and fire.

**33. *The cost of these labor regulations is significant in terms of formal sector jobs lost.*** Research for this study, which tried to measure both *de jure* and *de facto* applications of the IDA, showed that manufacturing value-added, employment and the number of factories were all adversely affected in states with more restrictive labor laws. Our conservative estimates, based on studying both *de jure* and *de facto* differences in labor regulations across states, suggest that India failed to create about 2.8 million formal manufacturing jobs because of just two clauses in the IDA per se. Stated differently, the cost of these two clauses alone is about 45 percent of all current formal manufacturing jobs. Although the cost (in terms of number of jobs lost) can be distributed almost equally between the ‘Disputes’ clause and the ‘Retrenchment barriers’ clause of the IDA, the two clauses affect different sectors in different ways. While dispute-related regulations cost more jobs in capital-intensive industries, retrenchment-related regulations affect labor-intensive industries adversely. The retrenchment clause is also related to job losses in more states.

**34. *Two overall goals can help make the reform of labor market regulations in India more effective:*** One, simplifying regulations, with special emphasis on improving industrial relations, smoothening dispute resolutions and removing ambiguity and uncertainty. Two, reducing the rigidities in labor markets. Specifically, four main types of reforms are called for: (i) consolidating and simplifying labor laws from the current 47 central laws to about 4 – these should cover the main themes of dispute resolution, conditions of work and welfare, wages and benefits, and social security; (ii) modernizing the IDA to reduce the bias towards adjudication in disputes and increasing the flexibility for employers to hire and fire in a way that also protects workers’ rights; (iii) resolving ambiguities concerning the Contract Labor (Regulation and Abolition) Act to introduce greater flexibility; and (iv) improving the labor law enforcement and inspection system. The study provides detailed recommendations towards this end. There will also be benefits from simplifying India’s complex maze of minimum wage laws wherein states have to administer 40 or so types of minimum wages. However, minimum wages, even in their present form, can be beneficial: while a large share of workers still gets wages lower than the minimum wages, the minimum wage laws can create a ‘lighthouse effect’ by clustering workers’ wages around the states’ minimum wages. As the affected workers are generally poor, and since minimum wages do not appear to affect unemployment rates, the minimum wages may actually be increasing the earnings and welfare of poor households.

### ***Active Labor Market Policies to Help Workers***

**35. *Regulatory reforms will be more effective if they are complemented with programs that help workers obtain more marketable skills and some protection against unemployment.*** At present, the vast majority of workers who are in the informal sector receive neither. Major government interventions, in the form of employment generation through public works programs and social insurance, are limited in coverage and mostly ineffective. These programs are burdened by problems of poor accountability, uneven implementation and high costs. However, some promising initiatives for the protection and security of the poor and vulnerable in the labor market are under way. These include: expanding special employment programs for poor and less-skilled workers; widening social security and insurance programs to include informal sector workers; seeking private sector participation in employment exchanges to make them more effective in matching employers and workers, and; strengthening programs that increase workers’ skills and competencies.

**36. *The first initiative, the National Rural Employment Guarantee Act (NREG), will potentially provide more protection to workers.*** The Act guarantees every rural household up to 100 days employment per year at the agricultural minimum wage set by each state, financed mostly by the central government. Coverage is initially to be confined to 200 backward districts, with

nationwide coverage of all rural areas within five years. Analysis of the NREG to date suggests a mixed picture of costs and benefits. First, there is significant potential for a lean season Employment Guarantee Scheme (EGS). Simulations of a nationwide 100-day employment guarantee program suggest that the lean season rural poverty rate can be reduced from 37 percent to around 23 percent, or around 30 percent on a year round basis (Murgai and Ravallion, 2005). The fiscal cost would be around 1.7 percent of GDP annually, if implemented nationally. The gains would be progressive, with the poorest (richest) quintiles accounting for 29 (10) percent of participants, and gains from EGS coming to 51 (7) percent of pre-EGS consumption levels. The bulk of expected participants would be casual laborers.

37. ***The design and implementation of the REG Act need to be further refined to ensure that it is effective and equitable.*** An area of concern is the use of state agricultural minimum wage rates as the scheme wage rates, as the former are above market rates. This typically results in rationing (fewer jobs made available), lowering the employment generation impact, which the experience from the Maharashtra EGS confirms also applies to ‘guarantees’. The direct transfer impact of the REG is significantly less than an untargeted transfer due to the opportunity costs of participation. An untargeted transfer, using the wage portion of the REG only, would reduce poverty to around 15 percent – as against 23 percent from REG. While the comparison is imperfect – as it measures only the transfer impact of REG and not other economic impacts – non-transfer gains from EGS would need to be substantial to be larger than those from untargeted transfers. This point highlights the importance of achieving significant economic returns to EGS assets and the poor to capture a reasonable share of the gains.

38. ***A shortcoming of previous public works programs in India (and internationally) has been the absence of evaluation of the economic impact of assets.*** While the NREG scheme benefits from a stronger monitoring and evaluation (M&E) system than previous works schemes, in order to expand the system of concurrent evaluation to include robust impact evaluation it will be critical to collect good baseline data prior to the commencement of the scheme. Another significant improvement in REG over previous works schemes is the strengthened role of local governments or *panchayats* in design, implementation and monitoring. However, it will be important to develop accountability mechanisms which avoid the bundling of functions to specific agencies (in particular the District Rural Development Agency), which has contributed to implementation problems in previous schemes. It also remains to be seen if the incentive and accountability structures ensure that *gram panchayats* (governing councils in villages) are at the heart of REG. A key component of such a program will be social insurance. Currently, the spending on this is low and the implementation concentrated. Another issue is that the Act offers limited guidance on funds-flow mechanisms. If *panchayats* are to be empowered it is important for them to have direct control over a portion of scheme funds. The initial findings about the experience of the NREG in the first two years highlighting its highly uneven implementation across different states, has only served to emphasize the importance of strengthening the monitoring and accountability systems discussed here.

39. ***The second initiative is to move from employment program type safety nets towards a more comprehensive system of social protection.*** Past attempts at the national level to increase coverage in the unorganized sector, where most of the work force is concentrated, failed to achieve any significant penetration. While expanding social security in the unorganized sector is important, experimenting with different schemes is not without cost either. Future efforts should thus be based on a critical evaluation of existing initiatives, some of which show promise. Two types of insurance that stand out as somewhat more easy to expand are life insurance, for which demand in the commercial market already appears high among unorganized sector workers, and disability insurance, which acts in one sense as the most extreme form of curative health insurance. Past experience suggests a cautious and gradual approach to the expansion of social insurance coverage. Although such a strategy may not be consistent with the political desire for broad-based schemes

which have high announcement value, the financial costs of a poorly-designed and rapidly expanded program can be high, as can the cost of raising expectations and failing to meet them.

40. ***The third initiative, enhancing the performance of India's largely ineffective government-run employment exchanges (EEs), has started in some states.*** As of end-2004, there were 947 regular employment exchanges in India, concentrated in urban areas -- with some 5.3 million registered job seekers, 300,000 listed vacancies, and only about 160,000 workers placed through the exchanges.<sup>26</sup> Apart from their placement function, exchanges are tasked with providing job counseling, training, labor market information collection and dissemination, aptitude testing of job seekers, and promotion of self-employment through special cells. The limited assessments that are available suggest that in the large majority of exchanges these functions are performed poorly, often by staff who do not have skills and knowledge of local labor markets to allow for effective service. This performance was reflected in the sharp decline in both registered vacancies and placements between 1991 and 2001. The placement rate at the all-India level, never more than 5 percent, declined to almost 3 percent in the 1990s. While the overall picture is not encouraging, other states can draw from emerging good practices in two Indian states: Gujarat and Tamil Nadu. Both have expanded the role of IT in increasing outreach to jobseekers and employers. In particular, they are able to offer detailed information on jobseekers which employers can sort according to their needs.

41. ***There is a fundamental need to reorient the National Employment Service (NES) if it is to regain relevance in the current labor market.*** As some government committees have noted,<sup>27</sup> there is a need to focus on functions that address the most important market failures. These include: (i) the labor market information function which has been generally neglected. Timely information on trends in local labor markets can provide value to both employers and jobseekers; (ii) developing a service orientation by engaging more intensively with employers and groups such as trade unions and worker associations, to assess their needs which cannot be met by private sector providers (these methods are already pursued by private employment agencies through interaction with the human resource (HR) divisions of firms); (iii) considering whether some functions of the exchanges should be discontinued altogether. For example, some exchanges operate small credit schemes for jobseekers who want to pursue self-employment -- the results to date have been poor (for example, in West Bengal), and; (iv) developing effective rural outreach strategies for the NES at the national and state levels. This may not involve a physical network of more exchanges but perhaps a combination of IT-based information services and collaboration with arms of state governments that already have rural networks in place. Some state employment services, such as the ones in Gujarat and Tamil Nadu, already provide good models for increasing effectiveness by expanding the role of IT in outreach, offering detailed information on jobseekers, arranging job fairs where jobseekers and employers engage directly, and strengthening job counseling functions which in most exchanges are desultory. A particularly interesting initiative in Gujarat is the Rojgar Sahay Kendra which links a group of non-government organizations (NGOs) that have knowledge of local job markets with the EE jobseeker database, and intermediates between employers and jobseekers.

42. ***The fourth initiative is enhancing the skills and education of workers by reorienting the vocational education and training (VET) system which, currently, is not serving the economy's needs.*** This is especially important in a country like India where a large part of the work force is stuck in agriculture, without the skills to transit to more productive employment in other sectors. It is also important, given that 8 million children drop out from secondary schools (between grades 6

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<sup>26</sup> Consolidated information on private placement agencies is not available but the Directorate General of Employment and Training (DGE&T) estimates that at least 800 existed as of the early 2000s (for example, there are estimated to be more than 100 in Gurgaon, Haryana, alone). India is not a signatory to the ILO Convention '96 on private employment agencies. Like the EEs, these are primarily concentrated in urban areas and in the formal sector, often with specific sectoral focus.

<sup>27</sup> The 1978 Matthew Committee and, subsequently, the Working Group on Employment of the Planning Commission, 2001.

through 12) every year. At present, the 6,800 VET schools, almost all in the public sector, enroll less than 3 percent of students at the upper secondary level. Also, while these schools offer a total of over 100 courses in various areas -- agriculture, business and commerce, humanities, engineering and technology, home science, and health and para-medical skills -- only 40 percent of the available seats are utilized. Programs operated by the Industrial Training Institutes (ITIs) and Industrial Training Centers (ITCs) to provide certificate level crafts training also meet with only limited success. A study by the Operational Research Group in 1998 reported that only 28 percent of graduates of vocational education were gainfully employed. A 2003 ILO study found that none of the states covered by the study had more than 50 percent of the ITI/ITC graduates find wage employment, or become self-employed, or even work in family businesses.<sup>28</sup> At the same time, employers in these states reported experiencing problems finding employees with the right skills, implying that the graduates did not meet employers' needs (World Bank, 2006). A survey by the Federation of Indian Chambers of Commerce and Industry (FICCI) in late 2001 also reported that 87 percent of industry respondents felt that VET institutions should have greater exposure to industrial practices.

43. ***Most significant, however, is the fact that current VET programs do not meet the training needs of the large work force in the informal sector, arguably the group which should be its main target.*** Because of its entry requirements and geographical mapping, the formal training system of VETs is not designed to offer skills to people with little or no education, and particularly not to those in the rural non-farm sectors.<sup>29</sup> There are no other providers who fill this gap either. Most workers continue to learn trades on the job, through informal apprenticeships at their place of work, from other low-skilled crafts people. International experience suggests that employers look for young workers who possess the basic skills taught in primary and general secondary education, and not workers trained in narrow vocational skills. This highlights the importance of enhancing secondary education, an area where India is still lagging.

44. ***Two principles should guide reforms intended to improve the employability of VET graduates and the secondary-age cohort in general.*** First, international experience suggests that there are few successful models of vocational education at the secondary school level. It is, therefore, more advisable to focus attention on strengthening the secondary education program rather than expanding the vocational education program. Second, as far as technical education is concerned, VET management, curricula and instruction will need to be restructured by introducing public-private partnerships. Reforms would also require a clear demarcation between the functions of central and state governments, and the development of effective coordination mechanisms between them. Significant involvement by employers in the decision-making processes of VETS is also critical to ensure that the system is responsive to market demands. Another way to increase incentives would be to give the institutions greater autonomy in terms of deciding on training programs, hiring and firing of teachers, and generating revenues by selling goods and services. Finding the right role for the public sector in training is critical. State-sponsored training may be used to address equity issues or market failures (for example, providing training for informal sector workers or addressing the externalities or spillover affects created due to training by firms) but may be less needed when private capacity exists.

45. ***The main emphasis on improving workers' skills will have to be in the form of expanding secondary education.*** Worldwide, in response to globalization and the emergence of the knowledge economy, the importance of secondary education is being recognized for preparing young people for

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<sup>28</sup> However, there were significant inter-state differences: in Andhra Pradesh, unemployment ranged from 33 percent for ITI graduates to more than 70 percent for ITC graduates, while in Maharashtra it was around 23 percent and 27 percent respectively.

<sup>29</sup> While one of the mandates of the ITIs is to train workers for the informal sector, evidence shows this is rarely the case (Dar, 2005).

lifelong learning. A variety of research suggests that in India also, returns to education jump at the secondary and post-secondary levels. Yet, while government policies have helped raise the enrolment rate for elementary schooling to 94 percent, no such increase has taken place at the secondary level. While secondary school enrolment currently stands at 54 percent, less than 10 percent of the working-age population aged 25 and above has completed secondary and post-secondary education. This number is low, relative to what international experience suggests should be at India's income level. A variety of supply and demand side interventions are needed to expand access to secondary education.<sup>30</sup> Improving the skills of future workers requires expanding access to secondary education and also improving its quality. More directly relevant for employment are curricula reforms to imbue students with more problem-solving and entrepreneurial skills of the kind that employers seek. At the same time, it must be kept in mind that education also raises workers' expectations; efforts to raise the educational level of the labor force must be matched with efforts to increase the availability of the kind of jobs these workers will demand.

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<sup>30</sup> See, for instance, Wu (2005) and World Bank (2006).

## **CHAPTER 1: OVERVIEW AND LABOR MARKET TRENDS**

*Indian policy-makers have stated as their goal, the provision of “gainful and high quality employment to at least the additions to the labor force.” In a country where the working age population is expected to grow by about 12 million persons, or close to 2 percent, annually, till the year 2016, this constitutes a major challenge. Further, the deceleration in job growth in the 1990s, at a time when the economy grew at 6 percent per annum, raised concerns about India witnessing “jobless growth”. This chapter argues that although labor market developments in the 1990s were not as poor as is generally perceived and employment growth picked up subsequently, India still faces formidable employment challenges. Labor supply continues to exceed labor demand and unemployment has grown by most measures. While a significant part of the labor force continues to shift out of low productivity jobs in the agricultural sector to better paying jobs, mainly in the tertiary sector, the bulk of it is still employed in casual jobs. Encouragingly, labor productivity and wages have risen and the number of working poor has declined. But, at the same time, the inequality in earnings is more marked because wage growth has been more rapid among high wage earners. The challenge facing India now is to provide employment to a growing, more educated and young labor force, improve job quality in the informal sector, expand the formal sector, and address regional disparities in labor market outcomes.*

### **A. Introduction**

1. *Indian policy makers have stated as their goal, the provision of gainful and high quality employment to at least the additions to the labor force.* This is already a major task in a country where the working age population will increase by more than 12 million persons each year over the next decade. Approximately 8 million people will enter the labor force annually. This number will be even higher if India’s low female employment participation rate increases.<sup>31</sup> In the 1990s<sup>32</sup>, against similar employment needs, the economy produced only about 5.3 million jobs on average each year. This number, based on the NSS 55th Round Employment-Unemployment Survey (July 1999 to June 2000), reflected the substantial slowdown in work force growth during the 1990s (relative to the 1980s) and caused much concern. Estimates by India’s Planning Commission show that employment growth halved from 2 percent per annum in the 1983-1993/94 period to about 0.98 percent per annum in the 1993/94-1999/00 period. This happened despite robust economic growth, implying a declining employment elasticity of growth (Figure 1.1). More recent data for 2004/05 suggests that while the overall employment growth rate in recent years has been almost double of what it was in the 1990s, it is still only just managing to keep pace with labor supply (Table 1.1). Tellingly, the unemployment rate increased from 7.2 percent in 1999/00 to 8.3 percent in 2004/05.<sup>33</sup>

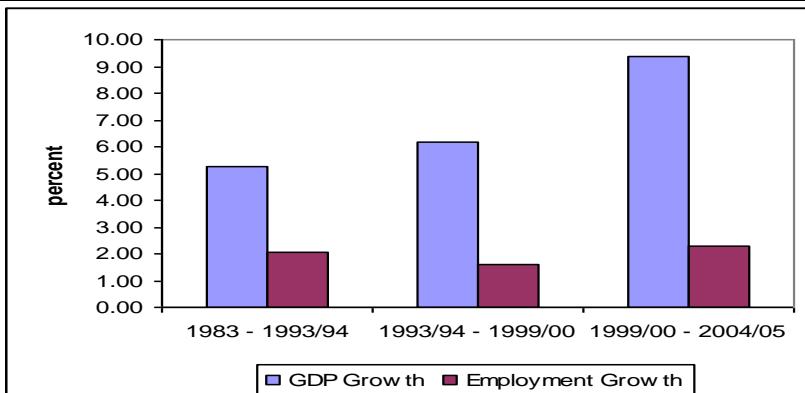
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<sup>31</sup> Participation rate is the share of the population in the 15-59 age group that is working, searching for work, or is willing to work.

<sup>32</sup> The 1990s refer to the period from 1993 to 2000, based on the timing of the main National Sample Surveys (NSS) on which most labor market analyses are based.

<sup>33</sup> This is measured by the Current Daily Status (CDS) definition as per official practice. If the international definition of Current Weekly Status (CWS) is considered, then rural unemployment rates for both males and females increased from 3 to 4.5 percent over the same period (See Box 1.1 for explanation of CDS and CWS). In urban areas on the other hand, unemployment rates were 5.7 percent for males and 9 percent for females in 2005/06 (Economic Survey, Government of India, 2005/06)

**Figure 1.1: GDP Growth and Employment (UPSS) in India**



Source: Estimates from NSS surveys adjusted by population census.

Note: See Box 1.1 for explanation of UPSS and other labor market terms used in this report

2. ***India faces an employment opportunity as well as an employment challenge.*** The opportunity comes from the fact that the working age population is largely young and will continue to grow at the rate of 2 percent per annum over the next decade, even as the dependency ratio (the ratio of dependents to workers in a household) drops significantly.<sup>34</sup> The challenge will be to train and educate these workers and provide them with productive jobs. This will require a significant acceleration in job creation, compared to the 1990s, over the next decade. In turn, this will require not just robust economic growth but a change in the pattern of growth which will need to become more labor intensive. At the same time, growth in productivity cannot be sacrificed either. Achieving annual economic growth rates of between 8 to 10 percent to bridge the employment gap, as is being currently discussed, will require that labor productivity also grow by 6 to 8 percent per annum.<sup>35</sup>

3. ***However, simply creating more jobs will not be enough; concerns about the quality of jobs have to be addressed.*** In the 1990s, relatively few jobs were created in the better paying, more productive ‘organized sector’,<sup>36</sup> which is the sector of choice for Indian workers, especially for the educated. Employment in this sector grew by only 0.5 percent annually from 1994 to 2000. Most jobs were created in the unorganized sector where employment grew by 1.1 percent annually but where productivity is several times lower than in the organized sector. Data on labor market trends between 2000 and 2004/05 shows that this pattern has continued; the share of regular salaried jobs in overall jobs has remained virtually unchanged. Another issue is that within the unorganized sector, the share of casual wage employment is above 30 percent. Casual workers are at the bottom of the employment scale -- they get lower wages, have uncertain employment prospects with few benefits or pension arrangements, and are beyond the reach of most laws designed to protect labor.

4. ***The pace of transformation of India’s economy has picked up in recent years.*** Economic development in India, from the 1950s to the present, is broadly consistent with the experience of other countries in that the share of agriculture in GDP declined from around 60 percent in 1950/51 to less than 25 percent now. However, in some other respects, India’s pattern of structural change varied from that of most other developing countries. First, most of the increase in economic activity took place in services, which now account for more than 50 percent of GDP. While the share of industry increased from 13 percent to around a quarter of GDP, manufacturing’s share increased minimally and now accounts for less than 15 percent of GDP, much lower than in other developing

<sup>34</sup> Planning Commission of India, 2001a, 2001b, and 2002; estimates based on Indian Labor Organization (ILO) database.

<sup>35</sup> Planning Commission of India report, 2001b, estimates that 10 million jobs need to be generated annually in the economy. The growth required to generate these will need to be 8 percent to above 10 percent per annum.

<sup>36</sup> ‘Organized sector’ usually refers to the government or establishments employing more than 10 persons.

countries. Second, most of the increase in services and industrial value added took place in relatively skill-intensive and capital-intensive sectors, and less in labor-intensive industries. The pace of transformation accelerated since the 1990s when India's largely closed and regulated economy started liberalizing to become more open and competitive. While it took 40 years for the share of agriculture to decline 25 percentage points to 35 percent in 1990/91, it fell a further 11 percentage points between 1990/91 and 2003/04. Similarly, the share of services in GDP increased by 12 percentage points between 1950/51 and 1990/91, and a further 11 percent in just the next thirteen years. Surprisingly, the share of industry and manufacturing remained largely unchanged through the 1990s.<sup>37</sup>

**5. India's employment pattern changed less rapidly, leading to large differences in labor productivity across sectors, as shown below.** Along with the changing structure of the economy, there was a shift of workers employed in agriculture to more productive jobs, primarily in the services sector. However, this shift in labor, in relation to the decline in GDP share, was slower in India than in other Asian countries. Also, while in most Asian countries the share of services in GDP and employment grew at a more or less similar rate, in India the share of services in employment grew at a much slower rate than the share of services in GDP. For example, in China, Thailand, Indonesia, Philippines, Korea, and Malaysia, the share of the services sector in employment increased at a faster rate than its share in GDP. But in India, the share of services in GDP went up by 22 percent between 1960 and 2002, while its share in employment increased by only 7 percent during the same period (Papola, 2005a). Consequently, most of the growth came from increases in labor productivity rather than increases in employment. Growth, in both value added and wages, was especially rapid in state-of-the-art Information Technology (IT) and information technology enabled services (ITES), the financial sector, and in capital- and skill-intensive manufacturing sectors such as chemicals.

**6. This chapter examines important labor market trends and developments in India since the early 1980s.** It discusses trends in labor supply and employment, wage and productivity growth, and employment and underemployment (Table 1.1). It shows that labor market outcomes in the 1990s were not as poor as is commonly perceived. Although employment growth declined in the 1990s, the slowdown was more moderate than what was indicated by official estimates. In large part, the slowdown was the result of a decline in 'subsidiary' employment, especially among women.<sup>38</sup> The decline in female labor force participation may have been partly voluntary and partly due to rising incomes of spouses and/or other household members. At the same time, large numbers of the work force shifted out of low productivity jobs and entered higher productivity sectors. There was robust growth in labor productivity and also, even though unequally, in wages and earnings. This enabled many more workers to move out of poverty.

**Table 1.1: Population and Labor Force (in millions, UPSS)**

	1983	1993-94	1999-2000	2004/05*
Total population	719.6	894.2	1005.3	1093
Population, age group 15-59	387	517.5	580.2	623.0
Male	196.4	264.9	295.9	322.8
Female	190.5	252.5	284.4	300.2
Labor Force (UPSS)*, 15-59	270.6	335.8	370	412.9
Male	181.8	228.8	257.1	280.4
Female	88.8	107	112.9	132.5
Work Force (UPSS)*, 15-59	265	328.5	360.9	402.1

<sup>37</sup> World Bank macroeconomic data set.

<sup>38</sup> See Box 1.1 for definitions of key labor market terms used in India and in this report.

Male	177.4	223.4	250.1	273.5
Female	87.7	105	110.7	128.6
Unemployment Rate Percent (CDS)*	8.4	6.0	7.3	8.3
Unemployment Rate Percent (CWS)*				
- Rural Male	3.7	3	3.9	3.8
- Rural Female	4.3	3	3.7	4.2
- Urban Male	6.7	5.2	5.6	5.2
- Urban Female	7.5	8.4	7.3	9

Source: Sundaram and Tendulkar, 2005a and Bank staff estimates for 2004/05

\*See Box 1.1 for definitions of UPSS, CWS and CDS. Calculations from NSS, 6/6/2007

The definition of 'workers' corresponds to UPSS unless otherwise specified.

### Box 1.1: Definition of Key Labor Market Terms Used in India and in This Report

**Labor Force:** This includes all people who spent the year preceding the employment survey either engaged in work or seeking/being available for employment. Given that the large majority of Indian workers are engaged in casual or self-employed jobs, the NSS uses various definitions to classify the labor force, workers and the unemployed. These include:

**Principal Status Workers:** A worker's principal status is determined by the activity the worker spent most of his time doing in the reference period (the last 365 days). Usual Principal Status (UPS) workers are those who spent most of their time employed in their principal activity or looking for jobs.

**Subsidiary Status Workers:** Any activity other than the principal status constitutes a worker's subsidiary status. Subsidiary status laborers/workers are those who did not have a principal activity in the preceding 365 days but spent at least some of their time employed in a subsidiary activity.

**Employed Workers in Principal and Subsidiary Status (UPSS):** Workers are classified as being employed in the principal status (UPS) if they spent a majority of their time in the preceding year engaged in gainful economic activity. Sometimes, subsidiary workers are included in this category to determine total employment on principal and subsidiary status, that is, Usual Principal-Cum-Subsidiary Status (UPSS). This category includes salaried workers, workers in household enterprises (including unpaid workers), and casual workers. Since household enterprises often employ family members who are unable to find gainful employment elsewhere, employment figures can hide substantial amounts of underemployment. Unless mentioned otherwise, most of the analyses in this report are based on the UPSS definition of laborers and workers.

**Workers in Current Weekly Activity Status (CWS):** The current weekly activity status of a person is the activity status obtained for a person during the reference period of 7 days preceding the date of survey. A person is considered working (or employed) if he/she, while pursuing any economic activity, has worked for at least 1 hour on at least 1 day during the 7 days preceding the date of survey.

**Workers in Current Daily Activity Status (CDS):** The current daily activity status for a person is determined on the basis of his/her activity status on each day of the reference week preceding the survey. A person is considered to be employed if he/she has been employed for 4 hours on any 1 day of the week preceding the survey.

**Unemployed Workers:** The unemployed category includes people who sought work but did not find it during: the major part of the previous year (UPS), or major or minor part of the year (UPSS), or in the week preceding the survey (CWS). Unemployment can also be defined in man-days, that is, the number of days (measured in half days) a person was not employed in the week preceding the survey.

**Regular Workers, Casual Workers and Self-employed Workers:** These are defined based on the responses by surveyed workers to the relevant NSS questions.

**Prime-Age Workers:** Workers in the 15-59 age group.

**Labor Force:** Prime-age employed and unemployed workers. This group is the unit of analysis for this report unless mentioned otherwise.

**Employment Rate:** The ratio of workers to the population in the same age group. For the most part, employment rate refers to the employment rate of the prime-age group as defined by UPSS.

**Unemployment Rate:** The ratio of prime-age unemployed workers to the labor force (that is, prime-age employed and unemployed workers).

*Source:* NSS manuals; Bank staff.

7. ***Despite increases in wages and productivity, India faces significant employment challenges ahead.*** The most important challenge is to accelerate job growth. Employment has barely kept pace with increases in the labor force and unemployment is growing. There is some evidence, presented later, that the absence of employment opportunities led to potential workers opting out of the labor force. Thus, starting with a backlog of some 30 million unemployed or discouraged workers, added to a rapidly growing labor force which has rising expectations as well as skill levels, the demand for good jobs has grown and continues to accelerate.

#### ***B. Trends in Labor Supply***

8. ***In 2004, the prime-age labor force (15 to 59 years) stood at about 413 million.<sup>39</sup>*** About 75 percent of the labor force lived in rural areas. Female workers constituted about 32 percent of the total labor force. The main sources of labor market data and the issues concerning this data are presented in Box 1.2

9. ***While India's male employment participation rates are roughly comparable to those in other countries, female employment participation rates are low and display wide regional variations.*** This may reflect, in part, a preferred division of labor within the family, with women responsible for activities inside the household and men responsible for outside work.<sup>40</sup> For females, participation in economic activity is often a subsidiary or occasional activity, while for males it is usually the principal activity (Figure 1.2). Not only is the labor force participation of Indian women low, it has been virtually stagnant since the 1980s.

10. ***Labor force growth decelerated in the 1990s but less so than official estimates suggest.*** The Planning Commission (2001b) estimated (based on the UPSS definition) that labor force growth declined sharply from 2.05 percent per annum between 1983 and 1993/94, to 1.03 percent per annum between 1993/94 and 1999/00. However, other research suggests that this appearance of a sharp slowdown may be the result of survey-based age distribution in the national sample; more reliable distribution emerges from the Population Census. Correcting for the difference moderates the slowdown -- from about 1.8 percent per annum to 1.4 percent (Sundaram and Tendulkar, 2005a). A substantial amount of the slowdown in labor force growth can be attributed to the withdrawal by subsidiary workers from the labor force (Figure 1.2). Supporting evidence for this comes from Mazumdar and Sarkar (2004) who point out that the decline in employment participation rates in the 1990s was smaller for principal status workers and larger for subsidiary status workers – defined as underemployed workers or workers who were not employed for most of the past year. The subsequent period, till 2004/05, witnessed a reversal of this trend with the labor force growing by about 2.2 percent per annum between 1999/00 and 2004/05. Much of this growth was driven again by the growth in subsidiary workers. Thus, much of the volatility in labor force supply appears to be driven by this category.

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<sup>39</sup> Based on UPSS definition (see Box 1.1)

<sup>40</sup> Since household activities are not classified as economic activity, this depresses female employment participation rates.

### **Box 1.2: Labor Market Data in India**

**The most comprehensive data source for national labor market data is the ‘Household Employment-Unemployment Situation Survey’ carried out by the National Sample Survey Organization (NSSO).** The NSSO first carried out this survey on an all-India basis in 1983. However, it did not repeat the exercise again till 1987/88. From then onwards, surveys have been carried out in one of two forms: a ‘Thick’ Round every 5 years and a ‘Thin’ Annual Round. The Thick Rounds are full-fledged surveys containing information on demographic particulars, activity status and time disposition of all household members, along with other employment-related information. The Thin Rounds are canvassed as part of the ‘demographic and other statistics’ block in the Consumer Expenditure Survey schedule and contain information only on demographic attributes and employment status. Until the most recent Round, wage information was not collected.

**An additional issue is that the annual Rounds are often not comparable to each other or to the quinquennial Round due to differences in the sampling frame.** This is a result of the main focus of the annual survey not being the employment characteristics of households. Consequently, the level of non-sampling errors in the Thin Rounds is expected to be high. The Annual Rounds also canvass much smaller numbers of households. As a result, while sampling errors are not very large at the national level, at the individual state levels they are significantly larger. Consequently, reliable and comprehensive labor market information is available only once every 5 years.

**Information on employment is also available from the Population Census which is carried out once every decade on an all-India basis.** The Census divides people into two main categories: workers and non-workers. Workers are further classified as main and marginal workers. A ‘non-worker’ is someone who has not worked at all in the year preceding the survey. A ‘main worker’ is someone who has worked for the major part of the reference period (that is, at least 183 days in the preceding year). A ‘marginal worker’ is one who worked for some time but for less than 6 months in the preceding year. Main and marginal workers together add up to form the work force. In theory, there should be close coincidence between the work force estimates as calculated from the Census and by the NSS surveys. In practice, however, the differences are often significant. The advantage of using the Census calculations is that the estimates are likely to be more reliable and are available at a much more disaggregated level than through the NSSO. The disadvantage is the infrequency of the exercise and the difficulty in comparing (especially in measuring unemployment) with the more frequent NSSO data.

This report draws on some recent work that combines Census-based population weights with NSSO-collected participation and employment rates, to revise estimates of job and labor force growth trends. However, all other analyses are based on standard NSSO Thick Round data or ASI data (see below).

**The Annual Survey of Industries (ASI) is an indispensable source of employment information on the organized manufacturing sector.** The ASI is the principal source of industrial statistics in India. This survey is conducted annually under the statutory provisions of the Collection of Statistics Act, 1953. It covers all factories employing 10 or more workers that use electricity, and those employing 20 or more workers that do not use electricity. Note, however, that this survey does not cover the informal sector, and therefore, excludes the major part of the work force. Also, the primary unit of enumeration in the survey is an enterprise. Because of this reason, and because of the relatively limited universe for which information is collected, this data is again not directly comparable with NSSO figures.

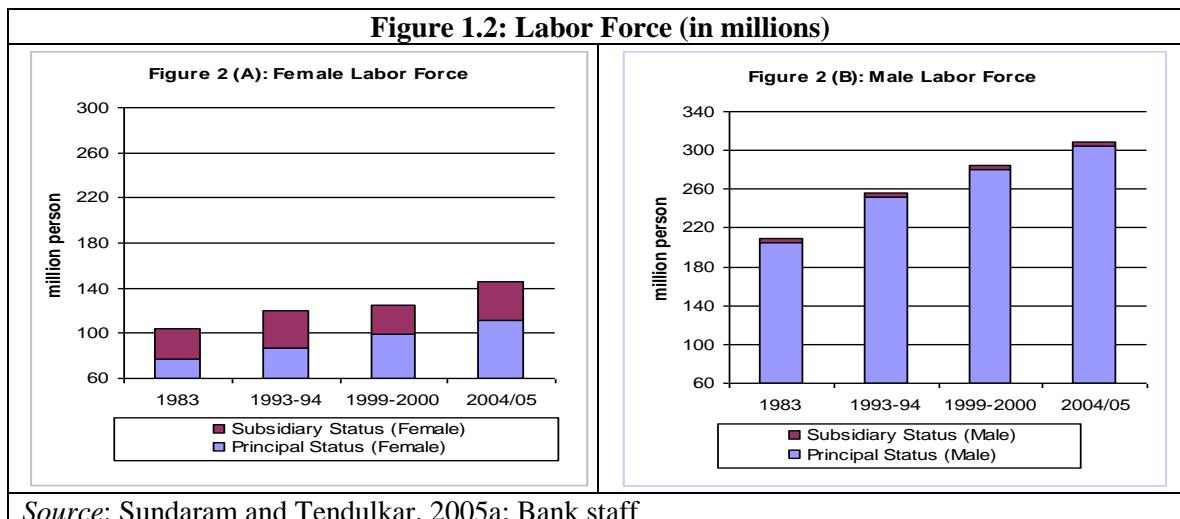
**The Directorate General of Employment and Training (DGE&T)** provides sector-wise data on sub-categories within the ‘organized’ sector. This data is widely considered to be an underestimate (by up to 20 percent) of formal private sector employment, including by the DGE&T itself, although the DGE&T considers the general trend of its data to be accurate. This report refers to DGE&T data but does not use it for analyses.

**In brief, Indian labor data may need improvement along the following lines:** (i) producing more reliable and frequent labor statistics at a geographically disaggregated level; (ii) increasing the frequency of collection of labor data to annual and, for a few key data, to a quarterly basis; (iii) improving collection of data on formal sector employment; (iv) collecting longitudinal data to support research; (v) improving comparability across datasets; and (v) standardizing definitions of variables.

*Source:* Ghose (2004); Sundaram and Tendulkar (2005 a); Bank staff

11. ***The observed slowdown in employment participation in the 1990s was largely confined to rural areas in general, and rural females engaged in subsidiary employment in particular.*** It is estimated that between 1983 and 1993, subsidiary workers accounted for less than 10 percent of the total decline in employment participation. But, this number increased to 30 percent for males and 85 percent for females between 1993 and 2000. However, if only those workers are included in the labor force for whom engaging (or trying to engage) in economic activity was a principal activity, the numbers show an entirely opposite trend: a slight acceleration of growth from 1.8 percent to 1.9 percent for the same periods.

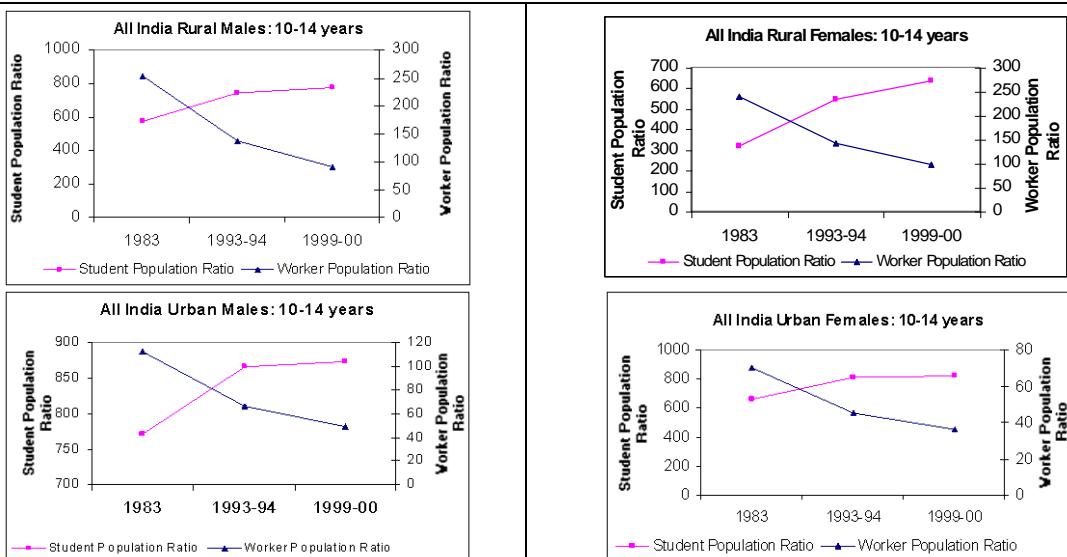
12. ***There has been a steady and welcome decline in the number of children (less than 14 years of age) in the labor force.*** The number halved from a little over 22 million in 1983 to under 11 million in 1999/00, and declined further to about 9 million in 2004/05. This decline in absolute numbers is all the more remarkable since it happened despite the rapid growth in child population. Rural India accounted for 93 percent of the decline. This reduction in labor force participation rates for both rural males and rural females in the 10-14 age group is the welcome obverse side of a significant and beneficial rise in school participation rates by children in the same age group: by 34 points for rural males and by a sizeable 89 points (per 1000) for rural females (Figure 1.2). It is worth stressing though that this data only records paid child labor, or child labor for producing goods meant to be sold, and not the use of child labor for unpaid domestic work which can also be hazardous to children's health.



13. ***A major development in the 1990s was the withdrawal by workers, particularly females in rural areas, from the labor force. What caused this?*** Two explanations are usually advanced. The first is that there was a shift in activity status towards education, especially in the case of youth. The 1980s and 1990s saw a rapid increase in the student to worker population ratio in the 15-29 age group in both rural and urban areas (Figure 1.3). This may partly account for the lower employment participation. Interestingly, earlier studies among older age groups have noted that educated men are more likely to participate in the labor force. But for women, there is a significant decline in employment participation with higher levels of education. Also, rural women tend to face more of an 'education penalty' (that is, they are less likely to participate in the labor force if educated) than urban women (Das and Desai, 2003). The second explanation is that rising income levels have an adverse impact on participation, especially for women (Das and Desai, 2003; Ahsan and Pages, 2005a). The poor often have no alternative but to work to support their families. But rising income levels can potentially lead to a preference for either more leisure or home activity, particularly for women, which can lower employment participation rates. The experience of the United States

during the post-World War II period also shows that labor force participation of married women rose when an increase in women's own wages trumped the negative effect of husbands' wages on labor force participation (Mincer, 1962, cited in Blau, 1998). Analysis suggests that both these factors were important in India, though the impact of education was more significant in the 1980s than in the 1990s (Figure 1.4).<sup>41</sup>

**Figure 1.3: All India Worker Population Ratios and Student Population Ratios: Age Group 10-14 Years**



Source: Sundaram and Tendulkar, 2005b

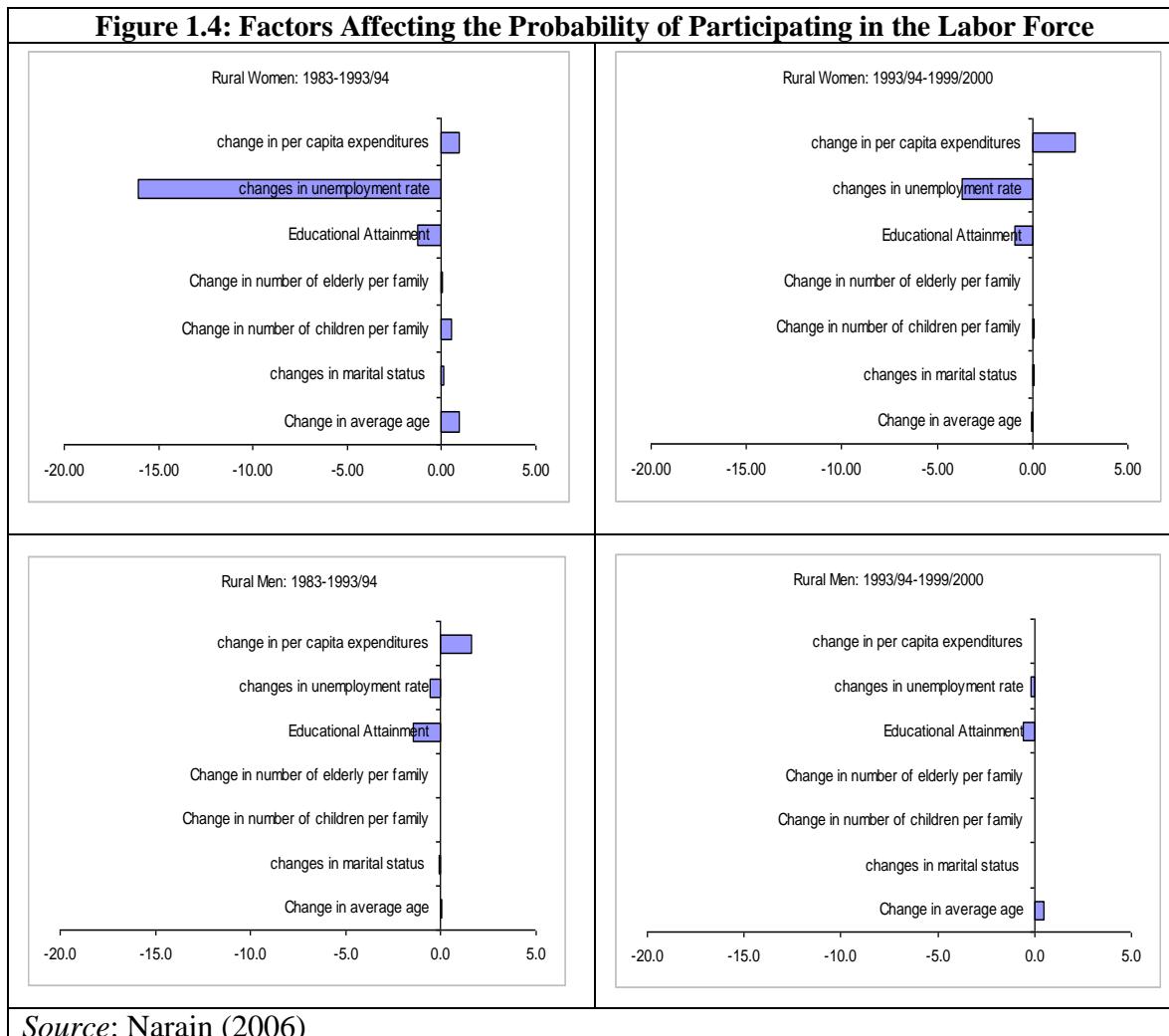
14. *Analysis suggests that another factor which lowered participation rates for principal status workers was 'discouragement' caused by lack of employment opportunities.* Increase in unemployment rates lowered the probability of employment participation by both males and females. Evidence from national surveys suggests that for females, especially in rural areas, declines in participation on the principal status were closely related to worsening unemployment rates (Figure 1.4). Rising educational levels that led to unmet expectations of finding good jobs also played a role in discouraging workers, though this effect was much smaller in magnitude. In India, the preferred occupation of the educated is non-manual regular jobs in the organized sector (Planning Commission 2001a). This is true even for workers who have received only middle level education. When these aspirations cannot be met, some young workers may become discouraged and withdraw from the labor force. While these effects became less important in urban areas by the mid-1990s, they continued to be significant in rural areas. However, they were countered to some extent by rising per capita household expenditure levels. While this had little effect on male participation, it encouraged female participation on the principal status, except at the top end of the income scale.<sup>42</sup>

15. *Evidence suggests that discouragement effects are strongest on the most vulnerable segments of the population: female workers and youth.* This is consistent with the experience of other countries which also suggests that high and persistent unemployment is accompanied by declines in labor force participation rates, as workers become discouraged by the lack of job opportunities and give up searching for jobs (World Bank, 2005c). In India, women are especially

<sup>41</sup> The role of income and substitution effects, employment opportunities and earnings by workers and their spouses is discussed at greater length in Chapter 5, 'What Do Regional Differences in Employment Outcomes Imply?'

<sup>42</sup> The fact that household income affects participation on subsidiary and primary status differently for women suggests that women's employment participation is driven by factors other than those for men.

vulnerable because social norms and inflexible working conditions restrict the range of jobs considered acceptable for them. This constrains their choices in the market place and makes them particularly vulnerable to tough employment conditions.<sup>43</sup> Women who do not enter the labor force work predominantly within the home.<sup>44</sup> Over 92 percent of women doing domestic work say they do so from compulsion, and almost one-third of this number would like to be employed -- primarily in regular part-time jobs. There is little variation in these characteristics by educational level. Thus, a combination, of norms that determine a woman's place as being in the home and a lack of appropriate employment opportunities, relegate a significant number of women out of the labor force.



## C. Employment

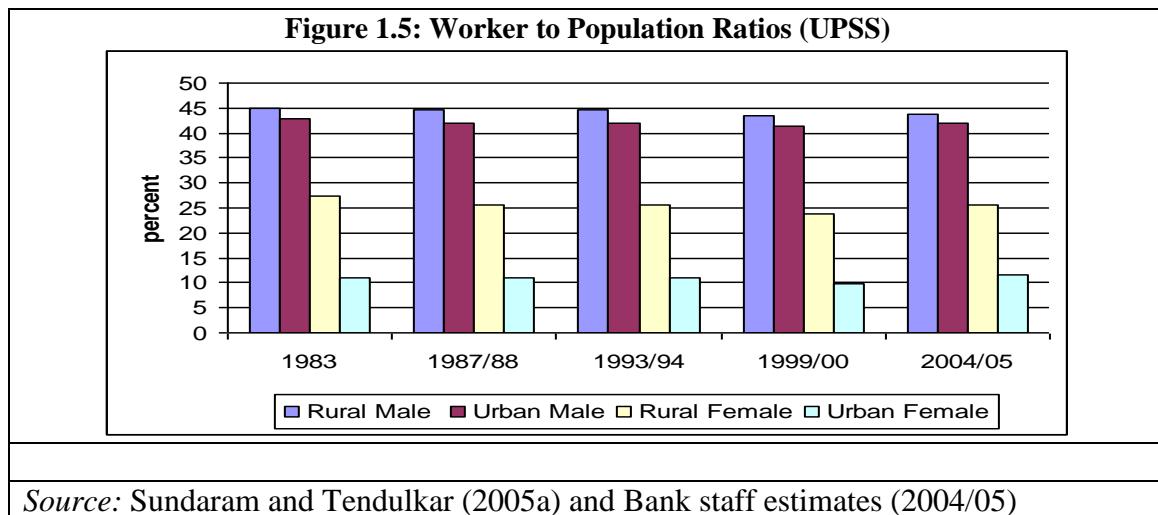
16. **Slow employment growth is a major concern for Indian policymakers.** In the 1990s, despite fast economic growth, employment growth declined. Based on national surveys, the Planning

<sup>43</sup> Occupational concentration is among the highest for female workers, especially in rural areas. This may be a consequence of their being concentrated primarily in agriculture and allied occupations (Sundaram and Tendulkar, 2005b).

<sup>44</sup> Within the home women undertake a range of activities that contribute to the economic welfare of the household; these are listed in the surveys.

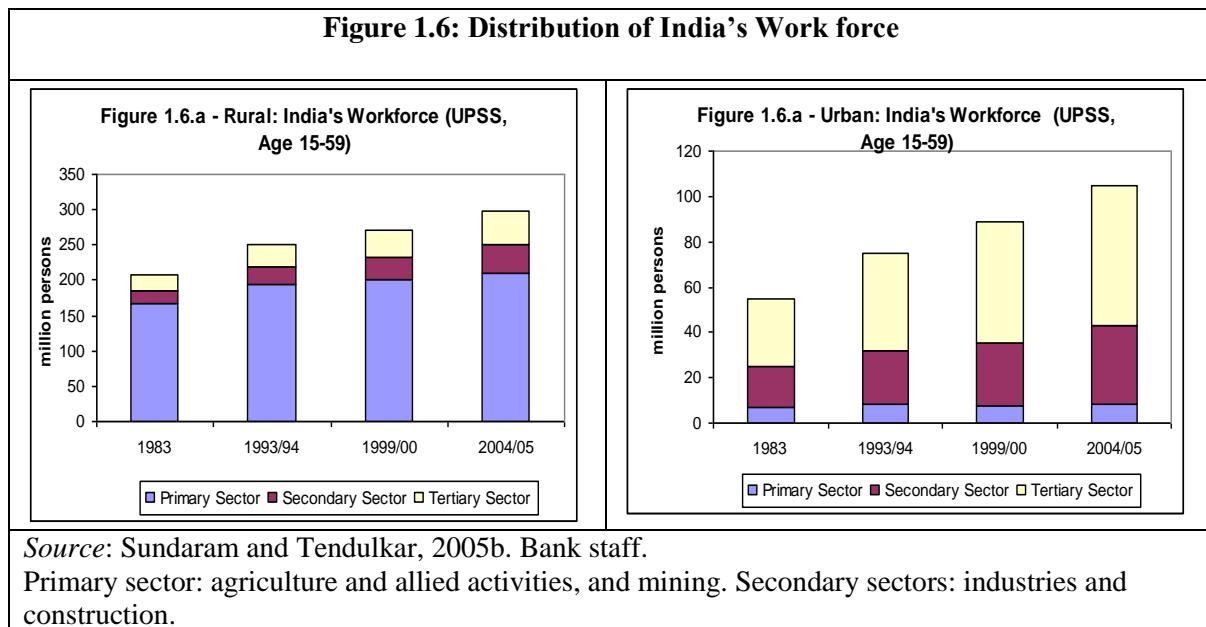
Commission of India (2001) estimated that employment growth in India declined sharply from about 2 percent per annum between 1983 and 1993/94, to less than 1 percent per year after that till 1999/00. However, as noted in the previous section, these estimates were based on an underestimate of the actual size of the labor force. After correcting for this, the decline is more moderate -- from 2.1 percent per annum between 1983 and 1993/94 to about 1.6 percent per annum between 1993/94 and 1999/00. Even so, the slowdown, coming as it did at a time when GDP growth was sustained, became an issue of concern. However, recent estimates emerging from the latest NSS survey (2004/05) suggest that this dip was a temporary phenomenon; when considered over the longer term period of 1993/94 to 2004/05, employment growth was roughly the same as in the earlier period between 1983 and 1993/94. Still, the general slow growth in employment remains an area of concern. Employment growth has barely kept pace with the growth in labor supply and unemployment rates have risen. In fact, a part of the employment growth may even be supply driven. This is suggested by the observation that most of the employment growth has come from subsidiary and self-employed workers, while growth in principal workers has slowed down. Wage growth has also decelerated post-2000.

17. ***Low employment growth and participation rates are mirrored in a low employment rate, that is, the workers to working age population ratio.*** The decline in employment rates, even among the prime-age labor force, indicates the inability of the country to utilize its labor resources to support growth. Unless this trend is reversed, India will be unable to take advantage of its declining dependency ratio. A particularly important issue is the employment rate of females. Not only is the female employment rate, at less than 30 percent, unusually low compared to other developing countries, it has also stagnated since 1987/88 (Figure 1.5).



18. ***Agriculture is still the largest employer, although it has declined in importance.*** In 2004/05, agriculture employed about 55 percent of the total Indian work force, or more than 207 million workers (Figure 1.6). In line with the changing structure of the economy, however, the share of the work force employed in this sector fell during the 1990s. The decline in agriculture's employment share is evident from the share of agricultural and allied activities in incremental work force absorption during the 1990s. This share declined from 44 percent in the 1980s to about 30 percent between 1999/00 and 2004/05. On the whole, however, the shift away from agriculture was small in comparison to that experienced by other countries. The slower pace of shift away from the primary sector, in rural areas, indicates low levels of skills of rural workers, resulting in their

inability to obtain better jobs in the non-agricultural sectors (Chadha and Sahu, 2002).<sup>45</sup> Consistent with this view, the shift from agriculture, in rural areas, is mainly into construction and manufacturing which usually employ workers who are illiterate or literate only at the primary level.



19. **The decline in the share of agriculture in employment was offset mostly by gains in the services sector and, lately, in the secondary sectors.** In the 1980s, the following sectors – ‘personal, community and business services’, ‘trade, hotels and restaurants’, and construction -- made up for nearly 84 percent of the decline in agricultural employment. In the 1990s, increase in the employment share of the last two sectors (hotels and restaurants, and construction) together balanced out three-fourths of the total decline in agricultural share. The biggest change in the new century, however, came from the growing importance of the secondary sectors. Between 1999/00 and 2004/05, manufacturing and construction together accounted for 40 percent of all incremental employment.

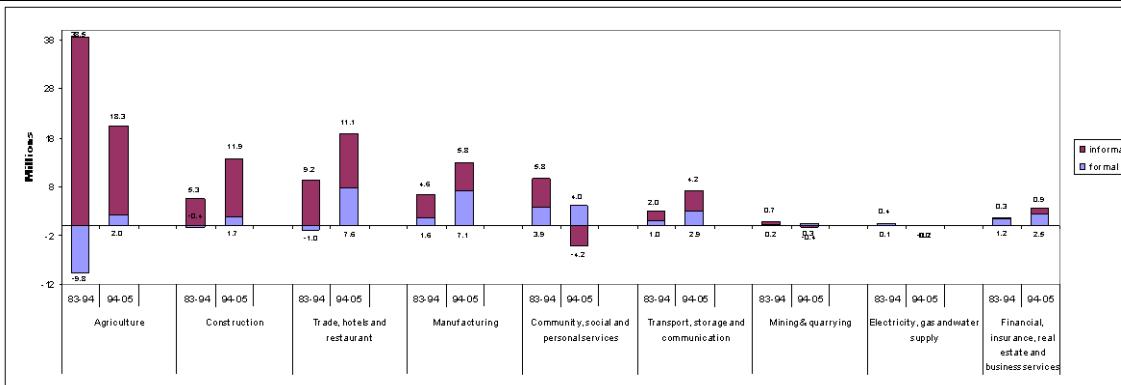
20. **The share of manufacturing in employment changed little over the past two decades.** The share of manufacturing in the total work force stagnated at around 11 percent in the 1990s, increasing only slightly to 12.5 percent in 2004/05. This happened despite a rise in the average growth rate of the sector from 5.4 percent per annum in the 1980s to 6.5 percent per annum in the 1990s, and even faster since then (Appendix 1.5). Further, as discussed in more detail in the next chapter, most of the increase in manufacturing employment took place in very small-scale informal enterprises. The Indian experience was in marked contrast to the experience of other developing countries, especially those in East Asia, where manufacturing was the major source of employment for workers moving out of agriculture.

21. **Compared to the 1980s, the 1990s saw more new jobs being created in middle productivity sectors (construction, trade, etc.).** Figure 1.7 compares the deployment of annual increments to the work force between the two periods, 1983 to 1993/94 and 1993/94 to 2004/05. Industry divisions are placed according to their Gross Value-Added (GVA) per worker. In terms of new employment generated in the 1990s, relative to the 1980s, there was a notably beneficial shift away from low

<sup>45</sup> Three-fourths of rural workers are educated only till the primary level or less. The proportion of such workers in urban areas, however, is only 4 percent.

productivity sectors towards the middle productivity sectors such as manufacturing, construction, trade, hotels and restaurants – where labor productivity was 2.5 to 3.5 times higher than in agriculture. At the very top end, employment declined in high productivity sectors like mining and quarrying, and the electricity, gas and water supply sectors. These are dominated by the public sector and were believed to be overmanned (Planning Commission, 2001a). However, the financial and other business services category, the highest productivity sector in the economy, did better in terms of generating new jobs relative to the 1980s.

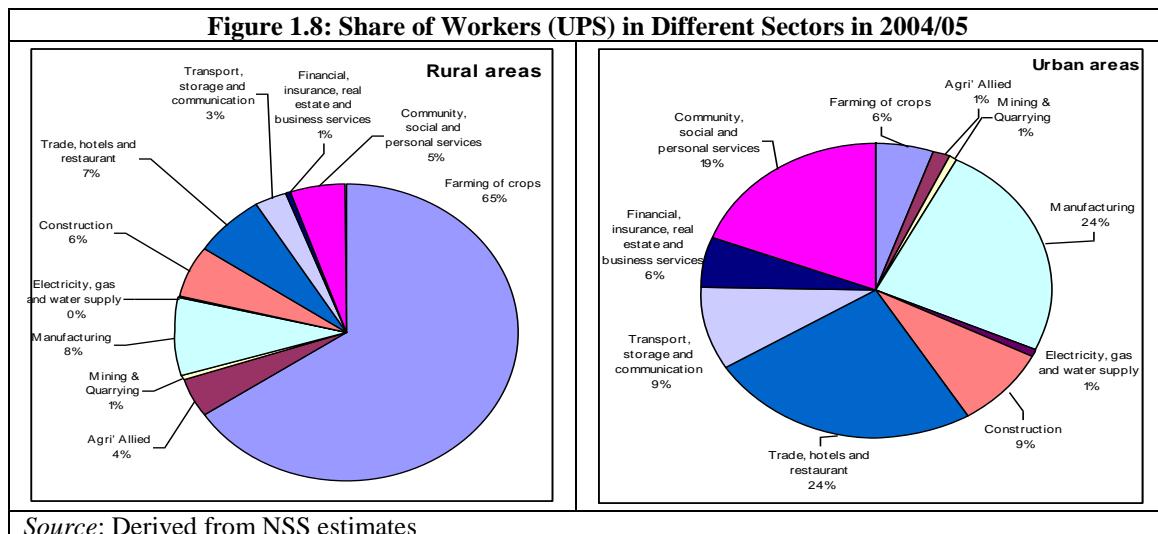
**Figure 1.7: Industry-wise Deployment of Incremental Work force (in millions) and Productivity Growth (by percentage)**



Source: Bank staff

22. **Since 1999/00, the evidence shows, productivity growth has decelerated.** If the 1993/94 to 2004/05 period is disaggregated into two periods, that is, the period before 1999/00 and the period since, it is possible to see that overall productivity growth slowed down markedly in almost all sectors in the latter period. Productivity growth in the tertiary sector, especially, declined from 10 percent per annum to less than 4 percent per annum between the two periods. While there was a surge in employment in the high productivity IT and ITES sectors, in terms of overall impact their effect is likely to be small, given that these sectors employ only about 5 million workers, or about 1.5 percent of India's labor force (see Figure 1.8 for distribution of labor force, by sectors). This slowdown in productivity growth after 2000 has important implications for wages, as discussed below.

23. **Further, employment within the manufacturing and tertiary sectors still shows signs of dualism, with most jobs clustered at the low productivity end and some growth taking place in high productivity and high skill level jobs.** This dualism, which continues to persist even a decade after liberalization, reflects the continuing barriers and disincentives to entry in the formal sector, especially in manufacturing. An important challenge will be to stimulate growth in manufacturing, especially in the 'missing middle' group of plants/firms (see Chapter 3). Though not as marked as in manufacturing, evidence indicates that job growth in the tertiary sectors also reflects dualism. At one end is the formal sector where the main source of growth has come from the proliferating ITES sector. But its pull on the overall labor market can only be marginal given that it employs only 1 million workers out of a labor force of more than 400 million. More important, in terms of generating employment, are trade, hotels and restaurants, construction, and community services. But, as evidence suggests, the bulk of jobs created in these sectors is informal and of low productivity (see Figure 1.8). Thus, as in manufacturing, workers in the tertiary sector too are clustered at two ends of the wage spectrum.



24. **Job growth since 1993/94 is higher in urban areas though the bulk of the work force lives in rural areas.** There are other important differences also among urban and rural locations. In the urban areas, the fastest growing sector in terms of employment is the tertiary sector. Job growth is particularly good in trade (especially retail trade) and the hotels and restaurants sub-categories. There is, however, virtually no change in the share of the secondary sectors, except in the share of construction. The experience of rural areas is different from that of urban areas in that the shares of both construction and manufacturing have risen as fast as those of sub-sectors like trade, hotels and restaurants, transport, storage, and communications.

25. The share of organized sector employment fell in the 1990s, largely on account of declining public sector employment, but also due to sluggish growth in private sector jobs. In India, the debate on quality of jobs has often focused on a visible indicator: ‘formal’ or ‘organized’ sector employment. An important Planning Commission Report (2001b) noted that growth in organized sector employment slowed down from 1.2 percent per annum between 1983 and 1994, to 0.53 percent between 1993/94 and 1999/00 (Table 1.2). More recently, private sector employment growth was also stagnant between 2000 and 2003. While these trends raise serious concerns, the numbers need to be interpreted with some caution. The estimates are based on information collected by the DGE&T and are widely believed to be underestimates, especially when it comes to the private sector.<sup>46</sup> Also, a significant part of the deceleration was on account of the public sector which lost an estimated 30,000 jobs over the period. This was a consequence of the severe fiscal constraints the Government faced at that time, and the over-manning in the sector which became hard to sustain in a more competitive economy.

**Table 1.2: Distribution of Prime Age Workers by Status, 1983 to 2004/05 (UPS)**

	1983	1993-94	1999-00	2004-05
<b>Self-employed (percent)</b>	52.3	50.0	48.3	52.4
<b>Regular Workers (percent)</b>	16.1	15.7	16.2	16.5
<b>Casual Workers (percent)</b>	31.6	34.3	35.5	31.1
<b>Total (in millions)</b>	232.7	300.6	332.3	378.9

Source: Calculations from NSS.

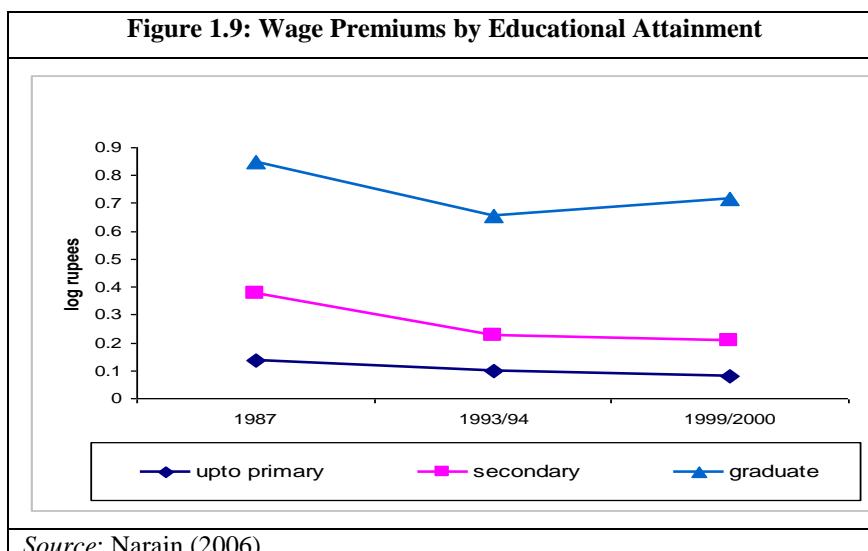
<sup>46</sup> Reporting is mandatory for all public sector units and large private sector units, and voluntary for units employing less than 24 workers. However lax enforcement and low responses from private sector units lead to under-reporting.

**26. The share of regular wage employment has remained unchanged.**

Sundaram and Tendulkar (2005b) argue that the supply of organized sector jobs, which are of superior quality compared to informal sector jobs, can be approximated from the number of workers reporting themselves to be earning regular wages/salaries in the national sample surveys.<sup>47</sup>

Support for this proposition also comes from Glinskaya and Jalan (2005) who show

that regular wage jobs are clearly better than casual wage jobs, and at least as good as self-employment. Since the 1990s, growth in regular wage employment has been the fastest among all employment categories. But it is still slower than it was in the 1980s (Appendix 1.6). The share of regular wage employment has gone up marginally in recent years – an indicator of improved quality. However, even at the start of the new century, regular wage jobs accounted for only about 16 percent of total employment. The 1990s also saw an increase in the number of casual workers in the rural, but not the urban, work force (in terms of share in incremental work force), but this trend subsequently reversed itself. (See Figure 1.9).



**27. The labor force became more educated in the 1990s.** The average number of years of schooling of a prime-age worker went up from 3.2 years in 1987/88 to 4.5 years in 1999/00. This increase was, in part, thanks to the concerted efforts by the Government to increase the reach of primary education and eradicate adult illiteracy. The number of workers with less than 5 years of education came down steeply from 80 percent of the total labor force in 1983, to 67 percent in 2004/05. The total number of graduates in the work force also increased from 7.4 million to 23.4 million over the same period (Appendix 1.7). Most new entrants to the work force since the 1990s have completed primary school sharply with increases in the levels of educational attainment (Sundaram and Tendulkar, 2005b). Overall, the increase in educational levels has also possibly contributed to an increase in the prospects and earnings of Indian labor migrating abroad (Box 1.3).

<sup>47</sup> This is based on the observation that 88 percent of workers in non-agricultural organized enterprises reported regular wage status in the 55<sup>th</sup> Round, the only Round where worker-reported affiliation by type of enterprise was also reported. Also, at least 50 percent of workers with regular wage status, in every population segment (male/female and rural/urban), were located in the organized sector.

### Box 1.3: International Migration from India

International migration is one of the most important factors affecting economic relations between countries in the 21<sup>st</sup> century. In the late 1990s, migration from India was estimated to be about 0.12 percent of the country's total population. Migrants ranged from low skill workers to highly skilled ones, with a large part of the semi-skilled and unskilled population concentrated in the Gulf countries. Many of these people migrated during the oil boom of the 1970s and 1980s. In the 1990s, migration of highly skilled workers, particularly IT workers who went on temporary work permits to Australia, Canada and the United States, increased significantly.

The remittances sent home by migrant workers showed a spectacular increase in recent years (see Figure below). In 2003, according to official estimates, the remittances amounted to about \$22 billion or approximately 3 percent of India's GDP. In addition, there may have been further remittances, through unofficial channels, of as high as 65 percent of this amount. This makes remittances from Indians living abroad one of the largest sources of financial flow into the country, much higher even than foreign direct investment. It is possible that the sudden increase in these remittances in the late 1990s may have been the result of better incentives becoming available to send and invest money in India's growing economy, the easing of exchange regulations and controls, and measures taken by the Indian Government to attract foreign deposits.

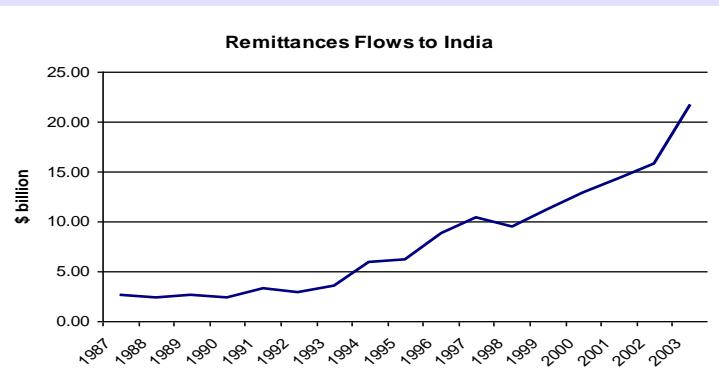
At the household level, literature suggests, remittance incomes help meet a variety of family needs. These might be in the form of increased consumption of food, housing and durable items, or increased investment in education and business. In this manner, remittances support a wide variety of development purposes -- improving family welfare, reducing economic vulnerability, and boosting the local economy. When they lead to increased investment in local businesses or the education of young children, they can also contribute to output growth and have multiplier effects on the rest of the economy. A recent World Bank study estimated that in South Asia, a 10 percent increase in total remittances (official and unofficial) from abroad led to a 0.9 percent decline in poverty levels.

Two factors are important in determining the developmental impact of migration: the educational level of migrants and the presence of investment opportunities at home.

Given the benefits, India may have a lot to gain from migration. Private sector firms in the country have played a significant role in promoting migration. At the state level, some governments have set up 'manpower corporations' to promote labor export from their states. The Central Government, however, has assumed no such role, though it provides support to expatriate workers through its diplomatic posts.

However, one issue that remains is the poor quality of remittance services available to migrants. Though India has a good network for channeling remittances to domestic recipients, the transaction costs of dealing with the formal system are relatively high. Informal transfer systems are, therefore, prevalent because of their speed and low cost, but remain vulnerable to abuse. India also has a stake in pre-empting potential protectionism and locking in the current open international trade regime in services through WTO negotiations, especially on Mode 4.

Source: World Bank (2005g), *Migrant Labor Remittances in the South Asia Region*, Report no. 31577, 2005.



28. ***The tertiary sector is the largest employer of graduates.*** In both rural and urban areas, 'community, social and personal services' employed, by far, the largest number of graduates, some 8.8 million in 1999/00. However, because these services are heavily dominated by the public sector, the Government's fiscal difficulties in the 1990s led to a decline in their share of graduate employment -- from 48 percent to 41.1 percent of graduates by 1999/00. Manufacturing, trade, and the hotels and restaurants sectors raised their share of graduate employment. Manufacturing was the

second largest absorber in 1983 with 0.87 million graduates but was displaced from this position by the ‘trade, hotels and restaurants’ category which employed 3.1 million graduate workers as of 1999/00. The expansion was predominantly urban. More than 5 million graduates were also absorbed in 1999/00 by three more industries: agriculture and allied industries (2.5 million); financial, insurance, real estate and business services (2.4 million), and; transport, storage and communications (1.1 million).

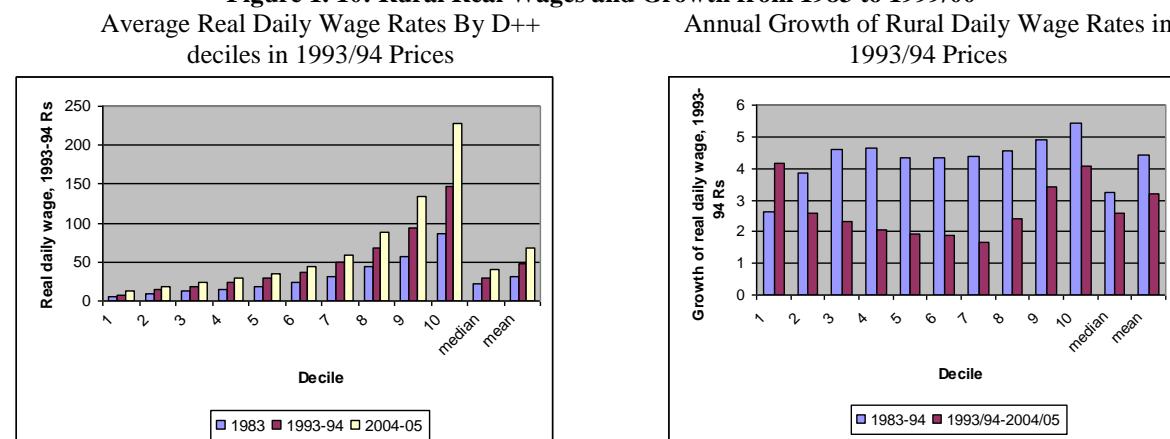
29. ***Overall, however, the Indian labor force is mostly unskilled compared to other workers in emerging economies.*** Almost 43 percent of the Indian labor force is illiterate. The average number of years of education, for the population group aged 25 and above, is 3.6 (Table 1.3). Only 17 percent of this adult population has had some secondary education, much lower than its income level would predict. This number is only half that of China. Education outcomes are even worse for females (Table 1.3). A similar picture emerges when India’s educational performance is benchmarked using Knowledge Assessment Methodology (KAM) --. India comes out ahead of other South Asian countries (except Sri Lanka) and the Africa region, but lags behind countries such as China, Mexico, South Africa, and Russia.

30. These indicators point to the need for India to catch up, especially at a time when the demand for skills is increasing with liberalization and globalization. Given that there are currently 200 million children in the elementary school age group of 6 to 14, and 87 million 15 to 18 year olds in secondary schools, there is an opportunity to expand secondary education in the medium term (Wu, 2005).

#### **D. Wages and Productivity**

30. ***Wages and earnings increased across the board in the 1990s, leading to a marked decline in the numbers of working poor.*** In a country like India, simply looking at employment rates can be misleading because most workers, especially males, have no option but to take up any work in order to survive. Employment numbers conceal significant underemployment, particularly in subsistence farming and in low productivity jobs in the informal sector. Hence, it is also important to look at real wages. Between 1993/94 and 2004/05, real wages grew, even if highly unequally, in most occupations. But the growth of wages in this period was slower than that observed between 1983 and 1993/94. Much of this was due to the slowdown in the growth of regular wage employees. Casual real wage growth, however, was equally rapid in both periods under comparison. On the positive side, in the 1990s, there was also a reduction in male-female wage disparities. Urban and rural casual wages also converged in this period, mainly due to rural wage growth (Figure 1.10).

**Figure 1. 10: Rural Real Wages and Growth from 1983 to 1999/00**

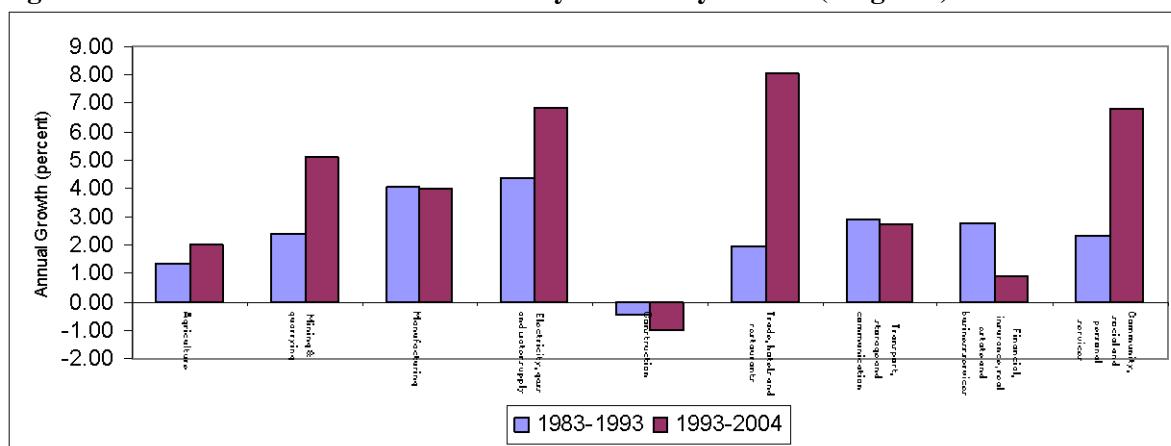


Source: Staff Estimates

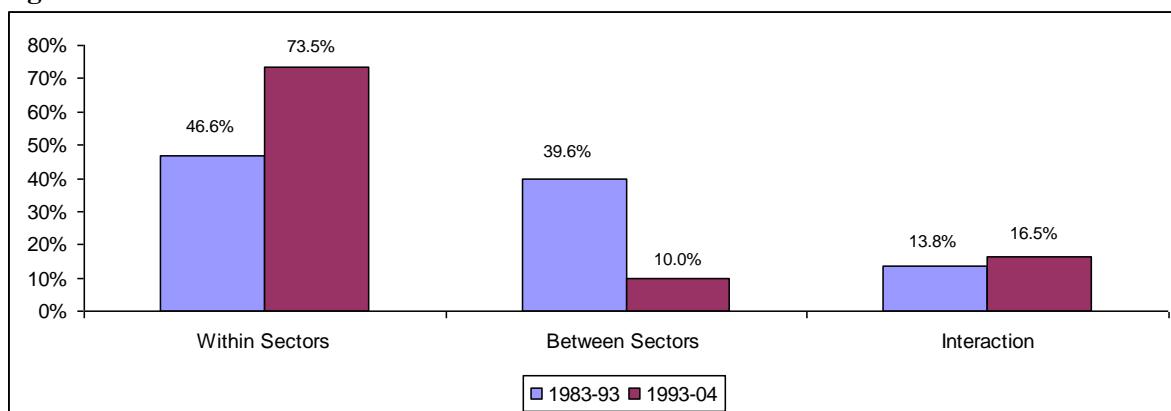
31. Rising wages led to a decline in the number of working poor in the labor force, from 115 million or 36 percent of the work force in 1993/94, to 104.4 million or 23 percent of the work force in 2004/05 (Sundaram and Tendulkar, 2004a). However, it is important to note that wages were not observed for all segments of the work force, particularly the self-employed who constitute more than 50 percent of the work force.

32. *In the 1990s, the acceleration in wage growth tracked the acceleration in labor productivity of about 5.4 percent per annum (1993/94 to 2004/05).* Figure 1.11 shows the productivity growth originating in each sector, weighted by the share of the labor force. Most of the labor productivity growth in recent decades took place due to growth in trade, hotels and restaurants, electricity, mining and quarrying, and community and personal services. The growth in the last sector during the 1990s is likely to be a statistical artifact, reflecting as it does the relatively large increase in public sector wages by the 5th Pay Commission.<sup>48</sup> The small role of productivity growth in the manufacturing sector in driving overall productivity growth is remarkable. This reflects the large share of low productivity small-scale manufacturing in this sector, discussed in more detail in the next chapter.

**Figure 1.11: Panel A: Sources of Productivity Growth by Sectors (weighted)**



**Figure 1.11: Panel B: Within and Across Sectors Movement**



Source: Estimated from NSS

<sup>48</sup> The public sector accounts for close to one-third of employment in community and public services

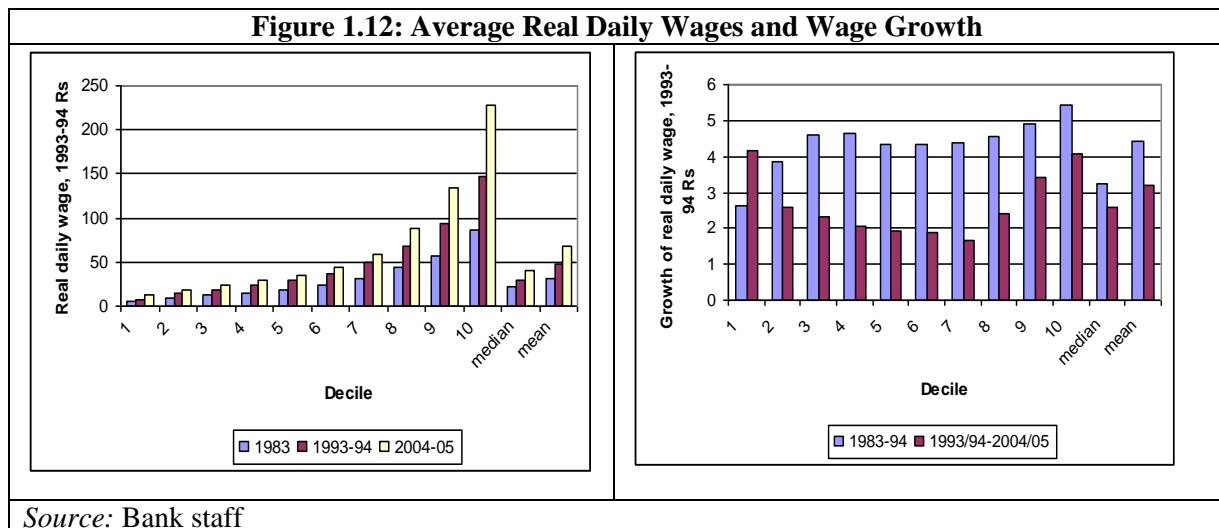
33. ***Between 2000 and 2005, however, both wage growth and productivity growth decelerated, markedly so in some sectors.*** On average, real wages actually declined in urban areas for both male and female casual workers in this period, while wage growth in rural areas decelerated markedly (Table 1.3). (Notably, wage growth in rural areas had seen significant acceleration over the previous period between 1983 and 1993/94). The decline in wage growth since 2000 has mirrored the deceleration in productivity growth in most sectors (Table 1.4). As also noticed by other observers, productivity growth has decelerated in all sectors, and even reversed in key sectors such as construction, and less expectedly, in finance and real estate.

<b>Table 1.3: Annual Real Wage Growth (CAGR)</b>				
	Rural Casual Non-agricultural Male Worker	Urban Casual Male Worker	Rural Casual Non-agricultural Female Worker	Urban Casual Female Worker
1983 to 1987/88	3.0	2.8	2.0	3.2
1987/88 to 1993/94	1.2	0.7	1.7	1.3
1993/94 to 1999/00	3.2	3.0	4.6	4.9
1999/00 to 2004/05	2.8	-0.8	2.5	-0.6
1983 to 1993/94	2.6	2.1	2.2	2.7
1993/94 to 2004/05	3.3	1.3	4.0	2.6
Source: Staff Estimates				

<b>Table 1.4: Productivity Growth (by Sectors)</b>						
	1983-1987/88	1987/88-1993/94	1993/94-1999/00	1999/00-2004/05	1983-1993/94	1993/94-2004/05
1. Agriculture	-4.3	19.4	13.2	10.2	1.3	2.2
2. Mining & Quarrying	-0.2	27.0	56.4	10.2	2.3	5.6
3. Manufacturing	15.1	29.4	42.0	8.3	3.9	4.4
4. Electricity, Gas and Water Supply	27.8	20.1	82.5	13.7	4.2	7.6
5. Construction	-31.1	38.6	-1.8	-8.6	-0.4	-1.1
6. Trade, Hotels and Restaurants	5.2	15.2	31.7	9.2	1.8	3.7
7. Transport, Storage and Communication	19.8	11.1	22.4	9.7	1.0	3.0
8. Financial, Insurance, Real Estate and Business Services	21.1	8.4	26.0	-12.5	2.6	1.0
9. Community, Social and Personal Services	21.5	3.6	54.0	33.7	2.2	7.5
Tertiary Sector (6-9)	17.3	15.7	60.5	20.8	3.0	6.8
Source: Mazumdar and Sarkar, Labor productivity based on UPS numbers (Forthcoming, 2008).						

34. ***While real wages grew, on average, in the past two decades, the growth was highly unequal.*** While wages of most income deciles increased by about 2 percent per annum between 1993/94 and 2004/05, wage growth in the top two deciles was higher at 3.4 percent and 4 percent. Across almost all wage deciles, wage growth was higher between 1983 and 1993/94 than over the next decade. The only exception was the bottom income decile where wages grew faster in the latter period (Figure 1.12). Some analyses suggest that this robust growth of the lowest decile contributed to the decline of inequality in wages among male casual workers between 1983 and 1999, mostly through a reduction in regional differences (Dutta, 2005). Overall, however, the gap between the

bottom and top wage earners grew. What caused this? There is some evidence that wage inequality increased mostly among male regular workers and a large part of it is explained by differences in workers' ages and educational levels (Mazumdar, 2005; Unni, 2005).



Source: Bank staff

35. *Despite the increases in earnings during the 1990s, average wages for casual workers in rural India today are close to or even below poverty-line wages.* In rural areas, both the lowest and average wages for casual labor by males remain below and at the poverty-line wage levels, respectively. Average wages for casual female workers in both rural and urban areas are only about 60 percent of poverty line wages (Table 1.5).

Table 1.5: Rural Workers' & Female Workers' Wages Below Poverty Line (Wage/Salary Per Day in Rs.)			
	Actual Wage		Estimated
	Average	Lowest	Poverty-Line
<b>Rural male</b>			
Regular employees	127.3	44.5	32.6
Casual laborers	45.5	39.3	46.6
<b>Rural female</b>			
Regular employees	113.9	28.2	32.6
Casual laborers	29.4	28.2	48.7
<b>Urban male</b>			
Regular employees	169.5	60.2	43.9
Casual laborers	63.3	49.7	62.7
<b>Urban female</b>			
Regular employees	140.2	33.9	43.9
Casual laborers	38.2	29	65.5

Note (1) All workers are in the age group 15-59

(2) In rural areas, the lowest wages are in the occupation of cultivation; in urban areas, lowest wages are for household service.

(3) The assumptions used to estimate poverty-line wages are as follows:

- Poverty-line expenditure per capita in 1999/00 was Rs. 335.46 in rural areas and Rs. 451.19 in urban areas.
- The average number of dependents was 1.5 for regular employees and 1.8 for casual laborers.
- Each worker got paid only for the days actually worked
- A male casual laborer found work for 4.7 days per week while a female casual laborer found work for 4.3 days per week. Regular employees, male or female, worked six days per week.

Source: Ghose, 2004

36. ***Male-female wage differentials have declined but remain significant.*** Evidence of this decline, in the case of rural casual labor, comes from Sundaram and Tendulkar (2005b). Yet, in most occupations, especially manual ones, women's wages are about one half those of men. What explains this difference? Evidence suggests that even after accounting for regional, individual, occupational and industry characteristics, male workers in 1999/00 earned 64 percent higher wages than female workers (Narain, 2005). A separate exercise that decomposed the weekly wages of men and women in casual labor for the 55th Round (1999/00) into differences attributable to individual characteristics and other factors, found that only 27.5 percent of the difference in casual wages between male and female workers could be explained by human capital and location attributes (Das, 2005). Such a discriminatory labor market may induce women to stay out of the labor force, especially if other family members are earning.

#### **E. Female Labor Force Participation**

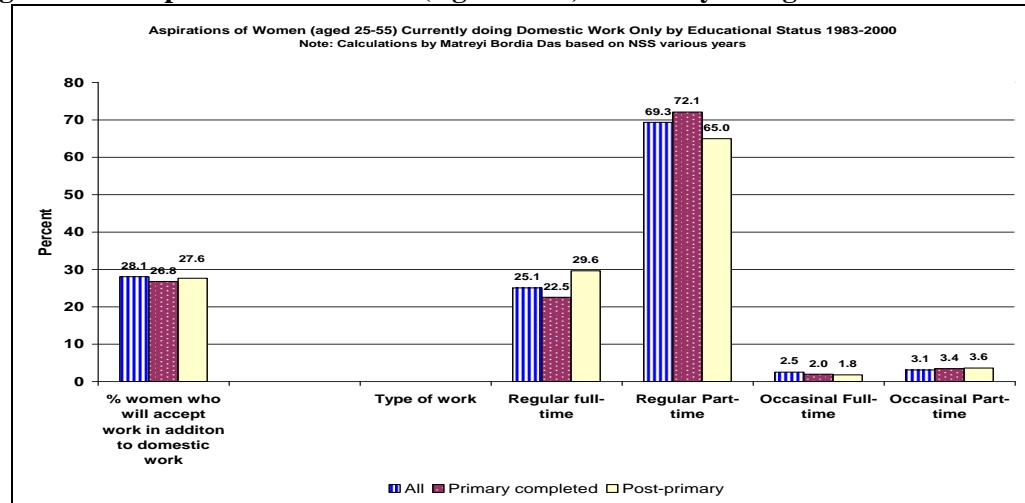
37. ***Women's participation in the labor force in India has been flat or even declining.*** Women's labor force participation in South Asia is low compared to developing country standards and India is no exception. Participation rates for women in the region range from about 16 percent in Pakistan, 23 percent in Bangladesh, to over 78 percent in Nepal. In India, they remain stubbornly close to 25 percent. Multivariate analyses at the household level, using NSS data from 1983-2000, show that for both urban and rural women, demographic variables such as age, childcare responsibilities and marital status have significant negative effects on participation. Interestingly, for women, there is a significant decline in employment participation with higher levels of education. Rural women tend to face a greater 'education penalty' than urban women, that is, the more highly educated they are the less likely they are to work outside the home. There are also large regional variations, with the southern and western regions associated with much higher participation by women in the labor market.

38. ***Both demand side and supply side explanations have been articulated for the low labor force participation by Indian women.*** The demand side argument rests on cultural mores and the values of status and seclusion in the region which may be preventing higher status households from allowing women to go out and work. For instance, family honor in most parts of India rests on restricting women to the home, thus affecting their ability to work outside the house (Chen, 1995). Basu (2006) argues that a woman's choice also has an in-built 'reinforcement property' in that whatever she does, the household's tendency is to prefer that. Thus, cultural attitudes may tend to reinforce themselves. The supply side argument postulates that the supply of well-paying, secure jobs for educated women is low. Hence, educated women, who mostly belong to the higher socio-economic strata, prefer to opt out of the labor force rather than accept low status jobs. There also seems to be an income effect at play here: our analysis finds that the higher a husband's income, the lower the probability of his wife participating in the work force (see Chapter 4 for further discussion).

39. ***What are the employment preferences of women?*** Women who do not enter the labor force predominantly work within the home. Descriptive statistics from various Rounds of the NSS show that over 92 percent of women doing domestic work say they do so from compulsion. Of these, over 65 percent say they do domestic work because there are no other members in their households who will take on their duties. The responses do not vary by educational status. However, almost one-third of the women who do only domestic work would prefer to be employed -- primarily in regular part-time jobs (Figure 1.13). Again, there is little variation by educational levels (Das, 2005). Thus,

a combination -- of norms that determine a woman's place in the home and of a lack of appropriate employment opportunities -- seems to relegate many women out of the labor force.

**Figure 1.13: Aspirations of Women (Aged 26-66) Currently Doing Domestic Work**



Source: Das, 2006

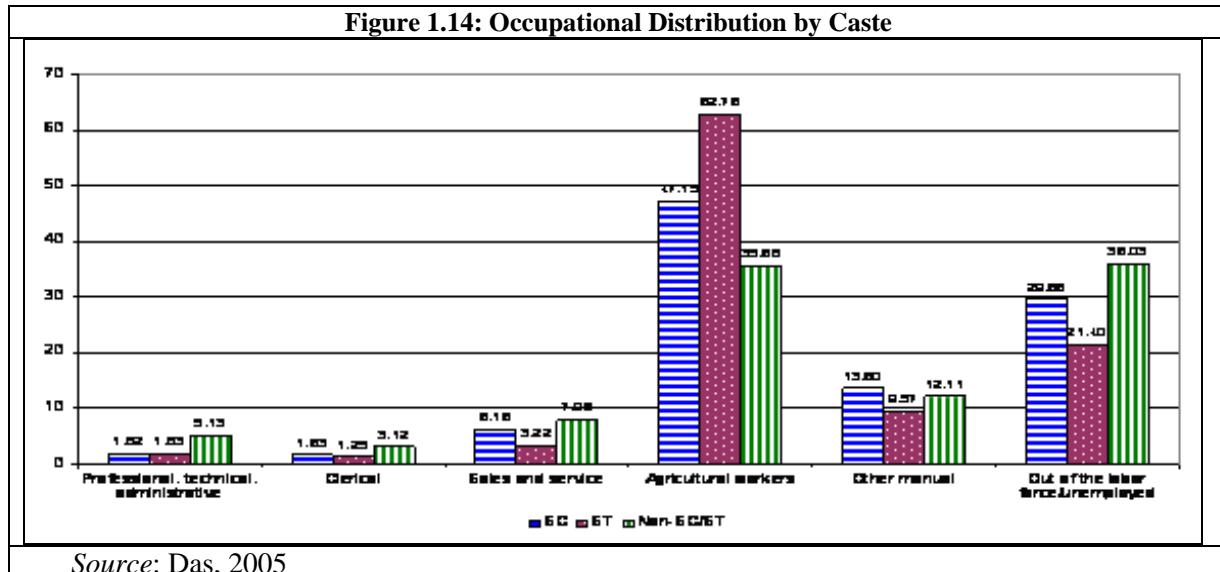
#### F. Scheduled Castes and Schedule Tribes

40. **Caste has historically been the key axis of stratification in India.** Caste is believed to be responsible for major inequalities in India – particularly in terms of restricting access to areas as diverse as education, health, technology, and jobs. Caste is especially important for labor markets because it has, at once, both a ritual and an occupational logic. Due to historically strict rules that have governed the division of labor and the relations between castes in India, certain castes or sub-castes undertake or perform only specific occupations.

41. **Caste has a significant impact on employment participation rates, occupational choice and mobility.** Labor force participation rates for both Scheduled Castes (SC) and Scheduled Tribes (ST) are higher than for their non-SC/ST counterparts, even after controlling for other characteristics. SCs are typically landless laborers while STs have historically been forest dwellers whose mainstay is subsistence agriculture. An analysis of occupational groups indicates that SCs remain restricted to caste-based occupations; this trend also plays out within the public sector. Thus, SCs dominate the manual occupations of sweeping and cleaning which were historically assigned to them in the caste hierarchy. Other occupations, notably non-agricultural semi-skilled jobs, also tend to be influenced by caste. STs are less beset by this demarcation since they were traditionally assigned a role outside the pale of the caste system. Since STs, for the most part, own some land for subsistence agriculture, they have a high likelihood of being agriculturists (Das, 2005). Recent evidence also points to caste having a significant effect on the low occupational mobility in the Indian labor market (Munshi & Rosenzweig, 2005).

42. **Controlling for other characteristics, SCs and STs are more likely to work as casual laborers and less likely to be self-employed, other than as farmers (Figure 1.14).** Job opportunities in rural areas are limited for all workers and so the effect of being SC or ST, on the type of employment undertaken, is muted. However, in villages, land-ownership patterns are important since even lucrative non-farm jobs have a basis in agriculture. For SCs and STs who do not own land, the only employment option is casual labor. In urban areas, however, SCs/STs have an advantage in

obtaining regular salaried jobs which are still predominantly in the public sector where the Government's reservation policies favor them.



43. ***Real upward mobility for SCs/STs seems to occur once they migrate to urban areas.*** Regression results suggest that SCs/STs have an advantage in getting better quality employment in urban areas. At the same time, these results need to be interpreted with caution. The fact that formal jobs need more than just education is well-accepted. In addition, workers need access to information, social networks, knowledge about rules and procedures, etc. Contacts and networks are important for successful entry into the formal salaried market since the flow of information herein often lacks transparency. Thus, educated SCs/STs who migrate to towns and have social networks, possibly enjoy a selection bias.

44. ***One of the most significant affirmative action policies in India is caste-based reservations in the public sector.*** These reservations exist for regular salaried work in the public sector and in publicly-funded education. Preferential treatment for SCs/STs (and more recently for 'Other Backward Castes' or OBCs) in other ways and in areas such as relaxation of the age bar, waiver of applications fees, special coaching, and quotas in public employment and poverty alleviation programs also have a bearing on educational attainment and labor markets. However, the impact of reservations is a controversial issue; it is also not easy to measure.

45. ***Rising educational levels and the Government's affirmative action policies have had a positive impact on STs and on rural SC women.*** While SCs/STs continue to lag behind in educational attainment, this and other disadvantages have diminished over time, particularly since the 1990s (Desai and Kulkarni, 2005). Combined with the Government's reservation policy, the progress has had a positive impact on the probability of STs obtaining regular salaried jobs, a category for which there is a dearth of candidates relative to the quotas.

46. ***However, where supply exceeds reservations, as in the case of SCs, they either crowd into casual labor or, if they can afford to, stay out of the labor force altogether.*** The supply of educated SC labor outstrips demand, leading to a glut of educated SC men in both urban and rural areas, and of educated SC women in urban areas. In this case, the multiplied effects of education on caste suggest that SC men suffer a disadvantage in obtaining regular salaried jobs if they have post-primary education. This would appear to indicate that the reservation policies have created a system of rationing of jobs for SCs and, since they cannot penetrate the non-reserved public sector jobs,

placed a cap on their access to regular jobs (Das 2005). The situation has implications for the structure of the reservation policies which may, in fact, be penalizing educated SC men and, as anecdotal evidence on the 'creamy layer' of SCs suggests, fostering an elite within them.

## G. The Unemployment Situation

47. ***In India, low open unemployment rates can often be misleading.*** Going by the UPS definition, the number of unemployed persons in India steadily increased from around 7.8 million in 1983, to 12.3 million in 2004/05. This places the unemployment rate at about 2.8 percent, a number that has shown little variation since 1983 (Appendix 1.10). The low unemployment rate is, however, misleading on many counts. First, low unemployment rates can reflect workers stuck in low value-added and poorly paid work. Second, according to the UPS definition, only those people are considered unemployed who spent more than 6 months of the year looking for or being available for work. This definition, therefore, captures only long-term unemployment. Understood this way, far from being low, the number of unemployed at any given time is very high. Two alternative approaches, based on CWS (which corresponds to the international definition of unemployment) and CDS, rely on a shorter reference period and can better capture both underemployment and short-term unemployment. According to the CWS definition, the unemployment rate in India had increased to about 5 percent in 2004; by the CDS definition, the unemployment rate increased from 7.3 percent in 1990/2000 (Figure 1.16) to 8.3 percent in 2004/05.

48. ***Underemployment, rather than unemployment, presents a more accurate picture of the employment situation in India.*** Combining the distinct notions of CWS and CDS, unemployment rates suggest that underemployment can be as high as 13 percent, on average, for all workers, and 25 percent for casual laborers (Table 1.6). Underemployment rates are much higher for females than for males.

**Table 1.6: Underemployment Rates, by Status**

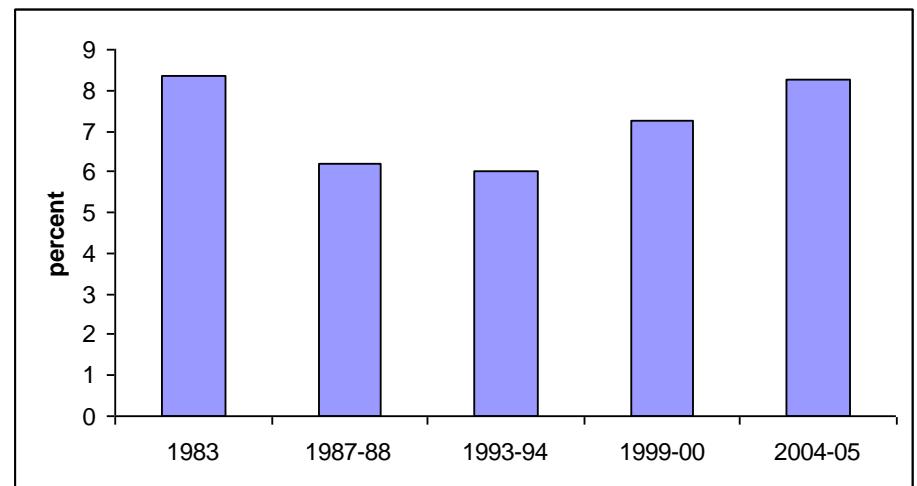
	Self-employed	Casual Laborers	Regular Employees	All Employed Persons
Male	5	21.7	0	10
Female	21.7	28.3	0	21.7
Employed Persons	11.7	25	0	13.3

Note: The estimates are based on the assumption that all workers would want to work eight-hour days, six days a week.

Source: Ajit K. Ghose (2004)

49. ***Long-term open unemployment rates are particularly high among the youth, the better educated, and in urban areas.*** Youth in the 15-29 age-group account for an overwhelming proportion (over 80 percent) of unemployed on the UPS status. This may, in part, be related to poverty. Low family incomes force people to enter the labor market at a relatively young age and this can increase youth unemployment. At the same time, prolonged and unsuccessful job searches by young family members may themselves contribute to poverty. Youth unemployment is also a cause for concern because it prevents new entrants to the labor market from gaining experience and developing labor market skills (World Bank, 2005c). In India, where formal opportunities for acquiring skills are limited and most training happens on the shop floor, this may be even more of an issue. (Figure 1.15)

**Figure 1.15: Unemployment Rate in India (CDS)**

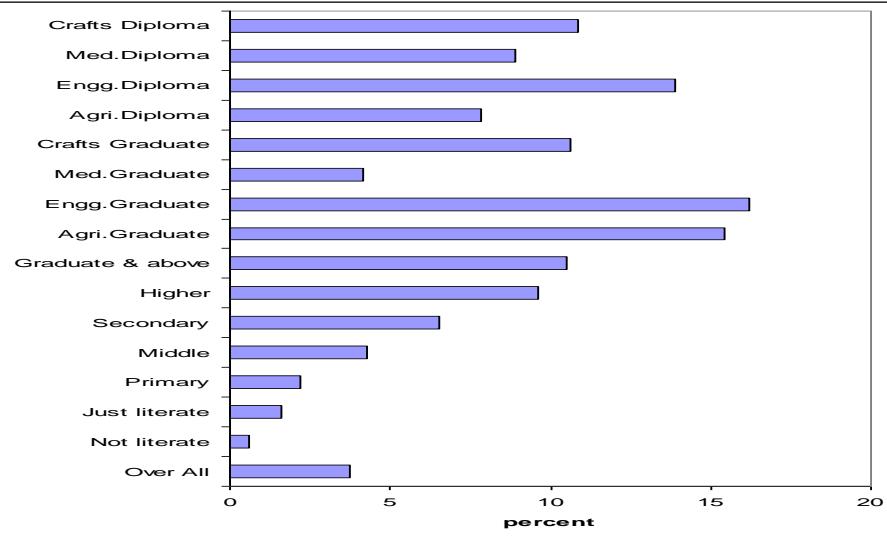


**Source:** Report of the Steering Committee of Labor and Employment, Planning Commission (2001b)

50. ***Unemployment rates are significantly higher for urban workers than for their rural counterparts.*** This reflects both the higher capacity of urban workers to sustain unemployment and, possibly, disguised unemployment in rural areas. It may also reflect the fact that job seekers take a longer time job searching, especially if there is a higher probability of their being rewarded with good jobs after the search process. Interestingly, in rural areas, unemployment rates are usually higher among males than females; the situation is the reverse in urban areas.

51. ***Education of workers and unemployment are positively related.*** Unemployment rates in India are lowest among illiterates; they rise progressively with education. They are now highest for workers with graduate and above degrees (Figure 1.16). This all-India picture also holds at the state level where, without any exception, unemployment rates among secondary and above educated workers are much higher than among workers with middle school and below education. While disguised employment among workers with low education level attainments may explain part of the story, the high rates of unemployment among the educated indicate that India is underutilizing its human capital. Surprisingly, unemployment is highest among workers holding technical diplomas. These diplomas, by design, are meant to cater to specific, identified labor market needs. The evidence, thus, strongly suggests a mismatch between labor market requirements and the training provided.

**Figure 1. 16: Education-specific Unemployment Rates 1999/00**



**Source:** Mathur and Mamgain (2004)

52. *Unemployment is mostly caused by the lack of work opportunities for casual labor (47 percent), followed, at a distant second, by lack of work in self-employed firms (Table 1.7).* Some 17 percent of all unemployed, 28 percent of female unemployed and 20 percent of youth unemployed cite lack of work in self-employed firms as the reason for their being unemployed. On the other hand, some 14 percent of the urban unemployed and 25 percent of the graduate unemployed cite quitting work as the reason for their unemployment. Only about 13 percent of urban unemployed and 4 percent of rural unemployed cite the closure of firms where they were working as the reason for their being unemployed.

**Table 1.7: Reasons for Unemployment (By %)**

	Quit Job	Loss of Job	Layoff	Firm Closed	Lack of Work in Self-employed Firms	Lack of Work as Casual Laborer	Other
All	7	3	1	4	17	47	21
Rural	5	2	1	2	18	52	21
Urban	14	8	1	13	15	25	25
Males	7	3	1	5	13	45	26
Females	5	2	0	1	28	53	11
Illiterate	3	1	0	1	20	57	18
Less Than Primary	4	2	0	4	15	54	20
Primary	6	2	1	4	16	53	18
Secondary	11	5	2	8	16	31	27
Graduate	25	12	1	10	14	6	31
Young (15-30)	8	3	1	4	20	43	22
Middle-aged (31-50)	6	3	1	5	12	51	21
Old (50-64)	4	2	1	2	12	63	17

Source: Bank Staff estimates from NSS sources.

## **H. India's Formidable Employment Challenges**

**52. Although labor market outcomes in the 1990s were not as poor as is generally perceived and employment growth has accelerated in recent years, India still faces formidable challenges in labor markets.** The employment to population ratio in India was always low to start with. In addition, unemployment, by some indicators, worsened over the 1990s and in recent years. There are also worrying indications that tough labor market conditions may be discouraging vulnerable segments of the population, particularly youth and women, from participating in the labor force. Education levels are rising among the work force, increasing workers' expectations, but employment opportunities have not kept pace and the country's human capital base is being underutilized. If this more educated work force is to be better utilized, employment growth has to pick up in the more productive formal sector, the destination of choice for these workers. An important challenge is to improve the quality of jobs in the informal sector. In recent years, since 2000, while employment growth has markedly accelerated, it has been accompanied by an equally marked deceleration in wage growth. Moreover, the share of formal sector employment has remained unchanged. In short, India needs to simultaneously accelerate the pace of job creation in the economy and improve the quality of jobs generated as well.

## **CHAPTER 2: EMPLOYMENT IN THE INFORMAL SECTOR**

*The informal sector employs about 90 percent of the Indian labor force. Further, most of the increase in employment in the 1990s was also absorbed by the informal tertiary and manufacturing sectors. Although this is widely regarded to imply a decline in welfare, this chapter argues that these developments need to be interpreted more cautiously. There is little doubt that the bulk of the increase in informal sector employment in the tertiary sector was involuntary, in the sense that the labor market entrants would have preferred regular, formal jobs. Compared to the formal sector, most of the increases in informal tertiary and manufacturing employment were in low productivity jobs. However, there was also a large shift in employment from the agricultural sector to more productive jobs in the informal tertiary and manufacturing sectors. Within the informal sector, job growth was robust in sub-sectors with rising productivity. These developments were reflected in the growth of casual wages in the 1990s. Finally, the top end of self-employed jobs (also regarded as part of the informal sector) was estimated to be as well-paying as top regular salaried jobs. The last section of this chapter argues that the agriculture sector still has considerable potential in generating a new round of jobs -- by expanding high yield cereal production in the relatively water abundant Northeast, through diversifying into more labor-intensive commercial crops. Finally, recommendations are made to improve the quality of jobs in the informal sector, to lower barriers to entry to the formal sector, and to stimulate agricultural sector jobs.*

### **A. Size of Employment in the Informal Sector**

1. ***The vast majority of India's work force is employed in what is often called the 'informal' sector.*** In India, the term 'informal sector' is of recent origin and has been in use only during the last two decades. A careful analysis of this sector is essential to understanding Indian labor markets. Not only does the informal sector provide employment to the vast majority of the country's work force, it will also continue absorbing most of the additions to the work force in the medium-term. Hence, a careful evaluation of the potential of this sector, the quality of jobs that it can generate, and the constraints to its growth, is essential. This chapter focuses on the informal sector, generally known in India as the unorganized sector.<sup>49</sup> After discussing the size of the sector, the chapter presents an assessment of the quality of jobs produced in this informal sector. Subsequently, the chapter turns to trends and prospects for informal sector employment in the manufacturing and tertiary sectors and in agriculture.

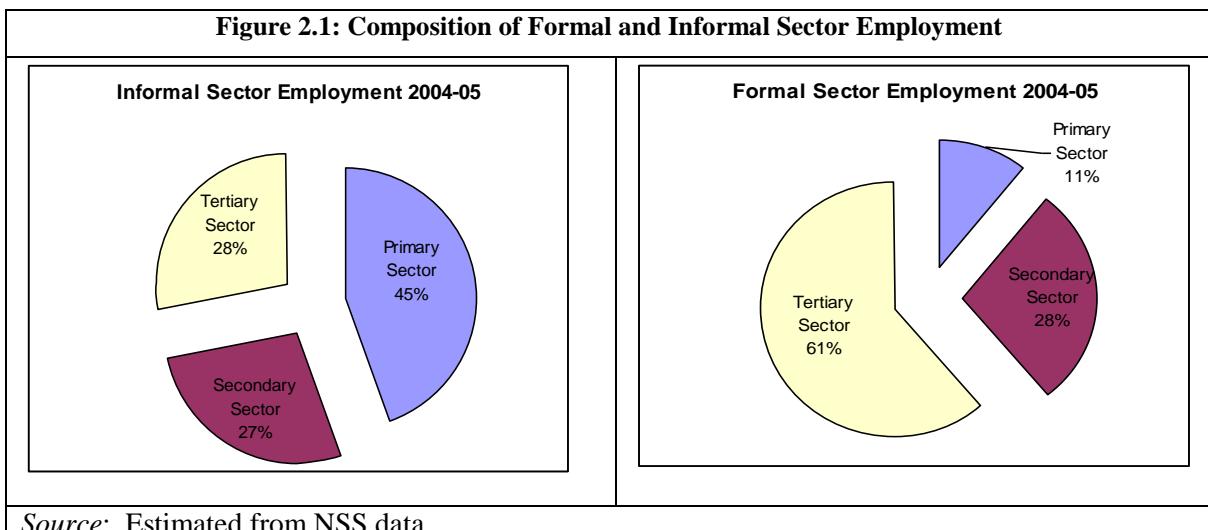
2. ***In theory, the formal sector can be distinguished from the informal sector by the presence of legal protection and formal recognition by the Government.*** Other criteria include: size of establishments, capability of workers to organize themselves into unions, and the systematic manner in which production processes are organized. In practice, however, because an exact definition is hard to establish, the informal sector is most often defined in terms of what it is not, that is, it is not organized sector employment. According to the Indian definition, employment in the Government or in establishments employing more than 10 workers constitutes 'organized' employment. While official estimates suggest that the informal sector could account for as much as 93 percent of total employment, other definitions based on the NSS survey (1999/00) suggest a figure somewhere

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<sup>49</sup> Henceforth, the terms 'unorganized' and 'informal' are used interchangeably.

between 86 to 89 percent.<sup>50</sup> Not only is this sector large, it is also the sector targeted by policy-makers to absorb most of the additions to the country's work force (Planning Commission, 2002).

**3. The informal sector is large, partly because the bulk of the country's work force is employed in the primary sector and almost 99 percent of employment in this sector is informal.** Not surprisingly, almost half of informal sector workers are in the primary sector (Figure 2.1). However, even in the other two sectors, informal employment accounts for the majority of employment: about 65 percent in the secondary sector and about 50 percent in the tertiary sector. By comparison, the formal sector is small, accounting for just about 11 percent of total employment in the economy. Most of the formal sector employment, some 69 percent, is in the public sector. The dominance of the public sector also partly explains the large share (60 percent) of the tertiary sector in formal employment.



**4. There is a close association between organized sector employment and regular wage employment; this can be used to approximate trends in formal employment.** Since information on the types of establishments employing workers was not adequately collected in earlier Rounds (before the 55<sup>th</sup> Round) of the NSS Survey, a rigorous delineation between formal and informal sectors, using the definition of enterprises under the Factories Act, is ruled out. However, it has been argued that of the three types of workers distinguished in the NSS of successive Rounds — regular wage employees, casual wage workers and the self-employed — the overlap between formal sector workers and regular wage employees is considerable (Sundaram and Tendulkar, 2005b). Trends in this category may thus be a good proxy for examining trends in formal sector employment. To facilitate analysis, self-employment and casual employment, the two kinds of employment that tend to dominate in the informal sector, are used to approximate the informal sector in the rest of this chapter.

##### 5. Between 1983 and 2004/05, the share of regular wage employment in overall employment

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<sup>50</sup> The NSS 55th round provided information on the affiliation of workers with different types of establishments, public and private, and the class of employment size to which they belonged. Information on UPSS workers was broken down into 'formal' and 'informal' categories on the basis of the following criteria: (i) all employees in public sector undertakings were considered to be in the formal sector; (ii) private sector wage workers working in units that had electricity and employed 10 or more workers, or units with no electricity but employing 20 or more workers, were considered to be in the formal sector; and (iii) self-employed workers with higher secondary or more education were considered to be in the formal sector.

**remained stagnant at the aggregate level.** Underlying this aggregate picture, however, was the fact that for both urban and rural workers, there was a small decline in the share of regular wage employment. The overall share was maintained only because of the increasing share of urban workers in the work force, for whom regular wage employment was more significant than for rural workers. Thus, in both urban and rural areas, informal employment became more important. Growth in job categories was also different for different age-groups. While the proportion of older male workers with salaried jobs increased over time, the number of young and middle-aged salaried workers fell sharply.<sup>51</sup> This is of some concern since regular employment is the preferred choice of workers, especially the educated section of the work force. Encouragingly, however, young female workers became more likely to report being regular workers, especially in urban areas.

6. **Within the informal sector also, the share of self-employed and casual workers remained largely stable over the two decades, though in the 1990s there was a decline in the proportion of self-employed workers and a corresponding increase in the proportion of casual workers.** The decline was of the order of about 4 percentage points (Glinskaya and Jalan 2005).<sup>52</sup> This led to concerns about the growing ‘casualization’ of the work force, though recent data again shows a turnaround. At the same time, the situation is worrisome because around a third of workers find employment as casual labor, and casual jobs are often at the bottom of the pile in terms of wages and job security.

7. **The increase in the share of casual workers in the 1990s was driven by trends in a few industries.** Firstly, the trend towards casualization has been driven by trends in a few important industries: agriculture, mining and construction. In these, the shift to casual jobs may have been associated with increased commercialization (in agriculture and mining), and the choice of industrial ‘technology’ (in construction). If so, the welfare implications are not immediately clear. At the same time, there were a number of ‘sunrise’ industries (for example, manufacturing and financial services) which created good quality self-employment jobs for both men and women, in both urban and rural areas. Apart from a few industries, most others also saw an increase in the proportion of workers employed in regular salaried jobs.

8. **The national samples also appear to suggest that there is a life-cycle pattern in employment that could partly account for the shift from casual work to self-employment.** Young male workers (15-30 years old) in rural areas are more likely to work as casual labor and become self-employed once older. A similar pattern exists among urban males, except that for this group the movement in later life is somewhat more pronounced towards regular salaried employment. This life-cycle movement is much less pronounced for females, in both urban and rural areas. If this hypothesis is correct, the growing share of casual employment may be a reflection of a growing young work force.

## B. Quality of Jobs in the Informal sector

9. **Apart from concern about jobless growth, the other big issue in India is the quality of jobs.** In the Indian context, regular salaried employment is the most desirable form of employment for workers from the point of view of earnings, stability of employment, and availability of some social security. It is followed, next, by self-employment which has variable returns but little security. At the bottom of the pile is casual wage work which offers the lowest levels of earnings and has the least stability. National surveys also show that though there is a wide distribution of income-levels within

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<sup>51</sup> This is not surprising given that over two-thirds of the salaried sector is public enterprises; the public sector had very high rates of hiring in the 1980s which slowed down in the early mid-1990s.

<sup>52</sup> This category includes own account (that is, self-employed) workers and unpaid family workers.

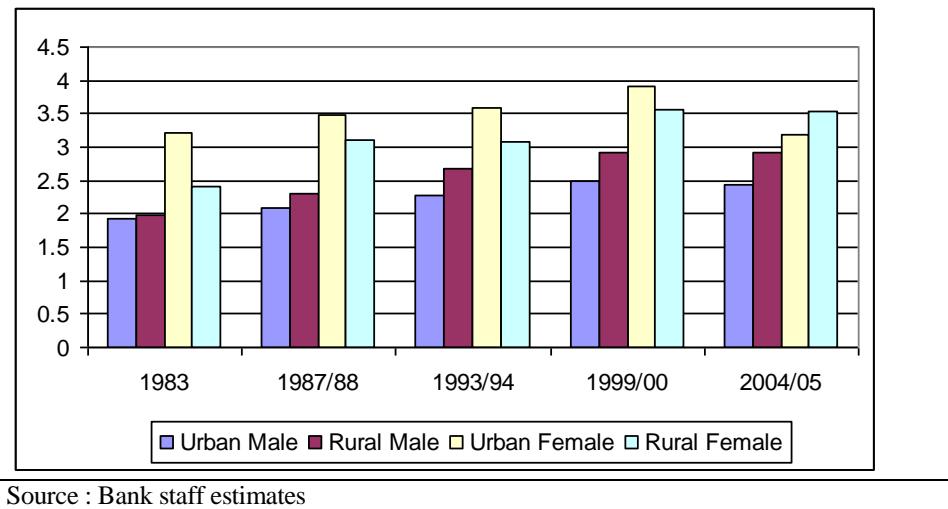
each of the major categories of employment, casual workers have jobs that are of ‘lower quality’ as measured by household per capita consumption. This is true for all industries and in both rural and urban areas. In the case of self-employed workers, earnings are better than those of salaried workers in many industries (Glinskaya and Jalan, 2005).

10. *An increase in the share of casual workers does not necessarily imply a deterioration in the quality of jobs.* Differences in human capital characteristics largely explain the differences between the welfare of casual workers on the one hand and self-employed and salaried workers on the other. Over time, the human capital stock of all workers has increased. The improved educational composition of the work force is reflected in the somewhat sharp reduction in the percentage of illiterate workers, slow decline in the numbers of literate and primary-level educated workers, and the rising share of workers in the remaining three higher level education groups. This has translated to improved welfare levels for all categories of workers.

11. *One way of assessing changes in the quality of jobs is to examine how the proportion of workers living below the poverty line (BPL) has changed in different segments of the work force.* Let us consider casual employment first. The number of casual BPL households *increased* in the 1980s but, in absolute terms, *declined* in the 1990s. Thus, for this most vulnerable segment, the 1990s registered an improvement over the 1980s. For self-employed workers, average annual increments to BPL households came down in the 1990s; so this segment too fared better compared to the 1980s. These two segments, together, accounted for 96 percent of the incremental work force in the 1980s and 86 percent of the incremental work force in the 1990s. The only segment that did worse in the second period (1993-2000) compared to the 1980s was, surprisingly, the regular wage/salaried workers, for whom the decline in increments to BPL households was much sharper in the 1980s. This is not surprising when we consider that the major share of regular wage workers are employed in the relatively high-paying public sector and there was, indeed, a decline in new employment in this sub-segment in the 1990s.

12. *An important, related question is: how disadvantaged are workers in the informal sector compared to their counterparts in the formal sector?* This can be gauged, in part, by focusing on the earnings of *wage earners* only (Figure 2.2); individual earnings are better defined for this group compared to self-employed workers. Using the wage earnings of regular and casual workers as a proxy for the gap between the formal and informal sectors, evidence from the NSS surveys shows that earnings of regular salary workers were almost 2.5 times higher than those of casual workers in 2004/05, and this gap has grown since the 1980s. The relative wage gap varies across the industry groups in urban areas. It is higher in the service sectors, being greatest in business and financial services, compared to manufacturing.

**Figure 2.2: Relative Wages: Ratio of Regular Salaried Wages to Casual Work Wages**



Source : Bank staff estimates

13. *However, average wage comparisons are also affected by differences in individual characteristics like sex, age, level of education, and other social and economic barriers to entry into the formal and informal sectors.* Unni (2005) fitted earnings functions separately for regular and casual workers to arrive at predicted wages for these workers. Her results show that after controlling for individual, household and other characteristics that may affect the wages of the workers, the absolute differences between the predicted and actual wages of regular and casual workers were quite large for both men and women. But, over time, these differences declined for men and increased only for women in urban areas.<sup>53</sup> This difference in the trends of the predicted and actual wage gaps between regular and casual workers can be explained in terms of the changing structure of labor demand. The evolution of the gap between predicted and actual wages suggests that the demand for women in regular jobs increased while the demand for males in casual jobs increased faster than the demand for them in regular jobs (Table 2.1).

**Table 2.1: Ratio of Predicted Wages for Regular Salaried Workers to Predicted Wages for Casual Labor, All India**

Sector	Rural Male		Rural Female	
	1993-94	1999-00	1993-94	1999-00
Agriculture	2.40	2.48	1.77	0.50
Non-agriculture	4.81	2.47	8.71	3.66
All	5.11	3.09	4.05	4.94
Urban Male		Urban Female		
Agriculture	3.28	2.54	2.81	8.49
Non-agriculture	1.92	1.89	2.01	3.57
All	2.16	2.15	2.08	4.73

Source: Computed from Unni (2005).

14. *Another factor which may have contributed to rising differentials is the rising premium for skills during the 1990s.* The ratio of skilled to unskilled worker wages (defined in terms of levels of education) showed an increase between 1993/94 and 1999/00, implying a movement towards

<sup>53</sup> Similar results of a declining predicted wage gap for males and an increasing wage gap for women were noticed by Carmen in another study.

skilled workers. This was true for all the one-digit industry groups (Unni and Rani, 2004). The improvement in the skill premium implied an increase in the earnings gap between skilled and unskilled workers. To the extent regular workers were more likely to be skilled and in the formal sector, the rising skill premium also implied a rise in inequality of earnings between formal and informal sector workers.

### C. *Informal Employment in the Manufacturing and Tertiary Sectors*

15. ***In 2000/01 there were 14.8 million enterprises in the manufacturing sector, employing 45.7 million workers. Of these, only 1 percent of enterprises and 26 percent of workers were in the organized sector.***<sup>54</sup> Two-thirds of the work force in the unorganized sector worked in own-account enterprises, based on self-employment and, primarily, family labor. Less than 20 percent of workers were employed in larger unorganized enterprises with 6-10 workers each. In rural areas, unorganized employment was more strongly dominated by own-account enterprises (79 percent), while in urban areas the picture was more balanced. Over the 1990s, the structure of unorganized manufacturing remained more or less stable, with only a slight decline in the share of own-account enterprises.

16. ***While own-account enterprises had a large share in employment, they produced only 39 percent of value-added in the unorganized sector.*** The most productive enterprises were the relatively larger ones employing 6-10 workers each; they produced almost the same share of value-added as own-account enterprises, but with a work force that was a third of the size of the latter.

17. ***In the mid-1990s, unorganized manufacturing did better than its organized counterpart, both in terms of wage growth and employment growth.*** The average, per annum, rate of growth of wage earnings in the unorganized sector, 5.1 percent, was much higher than that of the organized sector earnings, 1.2 percent (Unni, 2005). Similarly, while there was a virtual stagnation in employment in the organized manufacturing sector, employment in informal manufacturing grew by 2.1 percent per annum.

18. ***The mid-1990s period also saw a lot of churning in unorganized manufacturing.*** In the early part of the decade, a few industries in the sector saw growth in value-added, employment and labor productivity. Unni (2006) categorizes these as Category A industries (Table 2.2). Most of the sector saw declining value-added. However, by the mid-1990s, the unorganized manufacturing sector found its feet and grew rapidly in terms of both value-added and employment. In this period, a large number of industries shifted categories and grew in terms of value-added and productivity, while generating quality employment (Category A). These included organic industries (food and paper), chemicals (including pharmaceuticals and cosmetics), metal based industries and machinery. Another group of industries (Category B) grew in terms of value-added but faced declining labor productivity. This group included industries such as tobacco, wood products and wearing apparel. Only a small, third group of industries (Category C) did not grow in terms of value-added at all. The improvement was relatively broad-based, with most industries moving up the ladder. It is also interesting to note that this upswing happened despite the continuing de-reservation of industries which were earlier reserved for the small-scale sector.

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<sup>54</sup> The data on the organized sector is obtained from the Annual Survey of Industries (ASI). The ASI collect two separate sets of data called the Census Sector, referring to a census of enterprises employing more than 100 workers each, and the Factory Sector, referring to a sample survey of enterprises employing 10-100 workers each. We have used both sets to show the structure of the industry but, in a later limited analysis of organized sector data, only used the Census Sector data.

19. *The growth in wage earnings and employment across the different manufacturing groups in the informal sector mostly reflected productivity growth, but there were exceptions.*<sup>55</sup> In Category A industries, the benefits of growth were transferred to the workers in the form of growth in employment and/or higher wages. In Category B industries, there were different experiences. In some industries (wearing apparel, wood and rubber products), both employment and wages grew despite declining labor productivity; in others (tobacco), employment grew even as wages declined. Overall, it seems clear that in the case of some growing industries (Category A), growth in employment was mainly due to pull factors. In the case of other category of industries (B and C) push factors were likely more important (Unni 2005).

20. *Despite the faster growth of labor productivity and earnings in the unorganized manufacturing sector, the gap between the organized and the unorganized sectors remained large.* This issue is discussed in more detail in Chapter 3. How can these sets of findings be reconciled? Two points seem particularly relevant. First, the productivity and wage gaps between the organized and unorganized sectors were huge to start with. Detailed evidence presented by Little, Mazumdar and Page (1987) shows that the wage gap between the classes of enterprise at the extremes of the wage ladder could have been of the order of 3:1 or even more, after controlling for the human capital attributes of labor. Thus, a short period of higher rate of growth in unorganized sector wages would not have been sufficient to produce a significant dent in the wage gap. Second, the wage gap increased differentially for different types of unorganized enterprises, though probably the least for the registered small-scale sector (DMEs).<sup>56</sup> (See Table 2.2)

**Table 2.2: Categories of Growth and Non-Growth in Unorganized Sector Industries**

	<b>Specification</b>	<b>1989/90 to 1994/95</b>	<b>1994/95 to 2000/01</b>
<b>Category A</b>	1 Growing value-added, growing employment, and growing labor productivity	Fabricated metals; Office, accounting and computing machinery	Fabricated metals; Food products; Paper products; Publishing, printing and reproduction of recorded media; Chemical and chemical products; Basic metals; Other non-metallic mineral products; Machinery and equipment; Electrical machinery; Radio, television and communications equipment and apparatus; Motor vehicles
	2 Growing value-added, declining employment, and growing labor productivity	Leather products	Leather products; Textiles; Transport equipment; Other manufacturing
<b>Category B</b>	3 Growing value-added, growing employment, and declining labor productivity	Wearing apparel (excluding tailoring); Dressing and dyeing of fur	Wearing apparel; Dressing and dyeing of fur; Tobacco products; Wood products

<sup>55</sup> Unni distinguishes three categories of industries, designated as follows: Category A consists of growth industries with improving quality of employment. There are two groups of industries within it -- both have growing value-added and labor productivity, but one has growing employment (A.1) and the other has declining employment (A.2). Category B comprises growth industries that have declining labor productivity, but show growing value-added. Category C has the non-growth industries (declining value-added), with declining labor productivity and declining employment.

<sup>56</sup> DME stands for Directory Manufacturing Enterprises, meaning enterprises registered in directories and employing 6 to 9 workers each.

<b>Category C</b>	5	Declining value-added, growing employment, and declining labor productivity	Food products; Basic metals	-
	6	Declining value-added, declining employment, and growing labor productivity	Tobacco products; Radio, television and communications equipment and apparatus; Transport equipment	Cotton ginning; Medical, precision and optical instruments; Watches and clocks
	7	Declining value-added, declining employment, and declining labor productivity	Rubber and plastic products; Other non-metallic mineral products; Paper products; Cotton ginning; Textiles; Wood products; Publishing, printing and reproduction of recorded media; Chemical and chemical products; Machinery and equipment; Electrical machinery; Medical, precision and optical instruments; Watches and clocks; Motor vehicles; Other manufacturing	Rubber and plastic products; Office, accounting and computing machinery; Leather products

Source: Unni (2005)

21. ***The major player in the absorption of labor outside agriculture, since the 1990s, is not manufacturing, but the tertiary sector.*** The importance of the tertiary sector in employment generation has increased in spite of a significant negative trend in the growth of public services. However, an important question is: is labor being absorbed at a reasonable or growing income level in the tertiary sector or is it being pushed into it for lack of alternative opportunities? The next chapter provides detailed analysis on this point. However, evidence suggests that there has been an outward shift in the distribution of earnings in the tertiary sector, so that earnings at all levels have increased. Labor absorption has also been proportionately larger in the first and fifth income quintiles of the distribution, with relatively less absorption in the middle range. This implies an increase in inequality in the bottom half of the distribution --- a trend more prominent in the urban economy. Disaggregating the tertiary sector by its 1-digit components, it is seen that these effects are mild in consumer services, but much more striking in business services and the public sector.

22. ***The overall evidence, thus, is that there has been a movement of labor from low productivity agriculture to the higher productivity tertiary and manufacturing sectors where earnings are higher and rising.*** This development can be broadly considered to be welfare improving and, to some extent, voluntary. However, the non-agricultural sectors have seen a relatively higher rate of employment growth in the informal or unorganized sector. The welfare implication of this has to be interpreted carefully. On the one hand, the trend cannot be equated to decline in the returns from working, since casual wages are higher in these off-farm activities and there is a reduction in the incidence of poverty.<sup>57</sup> But this absolute improvement in living conditions is accompanied by a perceptible trend of increasing inequality — with the increase in differentials favoring the skilled and

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<sup>57</sup> See Maloney (2004) for evidence from Latin America on how the informal sector can be viewed as an unregulated micro-entrepreneurial sector with voluntary participation by workers, and not as a residual from the segmented formal sector.

the more educated, and also the better-off sections of the self-employed.

23. *A particularly important issue is the problem of the ‘missing middle’ firm size.* In manufacturing, while there has been some redistribution of employment from the largest to smaller size groups within the organized sector, the structure of employment on the whole displays conspicuous ‘dualism’. There are two prominent modes or concentrations of employment, at the low and high ends of the spectrum, and a large, persistent differential in productivity (and earnings) between these two groups. The scenario underlines the difficulty faced by smaller firms in graduating to become middle-size units. This is explored in more detail in the next chapter. A similar phenomenon of the ‘missing middle’ is suggested by the data on earnings distribution presented for the tertiary sector (see Chapter 3).

24. *The persistence of dualism reduces economic welfare, from both the efficiency and equity points of view.* Dualism is a constraint on the healthy, long-run development of the economy. It suggests a need for policies that ease constraints on the growth of small enterprises. Credit, technology and labor regulation are critical areas which are particularly relevant here (see Box 2.1 for a discussion on successful international experiences in promoting small and medium enterprises, or SMEs). The development of sub-contracting is one way in which the large-scale sector seeks to rectify the problem of dualism. There is some evidence of this happening in recent years in India but there are important concerns about the specific way in which the sub-contracting system develops in an economy. We discuss this in more detail in the next chapter.

### **Box 2.1: Successful Examples of the Promotion of SMEs**

While large firms in India may be important for setting the pace of economic and technological change in India, the experience of the 1990s shows that most new employment will continue to be generated by small and medium enterprises (SMEs). What does international experience tell us about how SMEs grow, and what is their relationship with larger firms? What can be learnt from public initiatives to promote SMEs in countries which have done so successfully?

Open, competitive sub-contracting seems to be the dominant pattern of relationship between large firms and SMEs in India currently. Large firms are disinclined to combine the different stages of manufacture in-house, with expensive permanent employees, and hence, source some components and services from SMEs. The advantage of this approach is that it allows costs to be driven down to meet domestic and international competition. The disadvantage, however, is that the jobs generated are mostly low-paid and insecure. There are also economic costs to not investing in and upgrading labor.

Conditions in Mexico are similar to India -- 99 percent of firms are small- and medium-sized enterprises. The Integral Quality and Modernization Program (CIMO – now renamed as PAC), established in 1988, has been reaching small- and medium-size enterprises and assisting them with upgrading worker skills, improving quality and raising productivity. All states and the Federal District of Mexico have at least one CIMO unit each. Most units are housed with business associations that contribute office and support infrastructure. The promoters organize workshops to provide training and technical assistance services, identify potential local and regional training suppliers and consulting agents, and actively seek out enterprises to deliver assistance on a cost-sharing basis. CIMO is expanding in two directions — assisting enterprises with specific sectoral needs and providing an integrated package of services that includes information on technology, new production processes, quality control techniques, marketing, and subsidized training.

Alternate examples come from countries like Italy, Germany, Japan, Denmark, and Spain where a significant share of production takes place in SME clusters. These clusters combine the advantage of smallness with economies of scale and scope, which big firms enjoy. They can give small firms the strength to choose between supplying to large firms and competing with them. This can lead to rapid economic growth, good wages and good jobs. Such flexible specialization, however, requires some degree of trust between entrepreneurs, and between them and their workers.

Some networks of firms, including innovative and successful ones in fast-developing industries, develop based on economic interest and personal friendship. Others develop within business associations of firms in the same industrial sector or because they share the same place, like an industrial estate. However, in most cases, effective networks of cooperation, capable of making SMEs competitive in national and world markets require deliberate policies from national or local governments to encourage this kind of development.

In Italy, Germany and Denmark, this 'push' came from the government (a) providing collectively 'real services' like training, consultancy and design, which single SMEs could not afford by themselves; and (b) encouraging and supporting consortia or other local arrangements, which gave clusters of inter-dependent SMEs access to European and world markets. In Italy, local and regional governments, working with private enterprises and sometimes trade unions, set up institutes to provide technical services, research and development testing, feasibility studies, and advice on management and marketing. The strategy was to develop what already existed in the region, and then to find ways of diversifying into new fields and markets. In Germany, the state Government promoted the setting up of a network of technology transfer centers closely linked to local chambers of commerce. These centers are demand-driven and almost self-funded. They usually specialize in particular industries and technologies, and often refer clients to other centers with the necessary expertise. In Spain, the Valencian regional government established a high-profile agency named Impiva. Impiva has two kinds of institutes: technological institutes and local business innovation centers. Some technological institutes are designed to help a distinct industrial sector. Others aim to develop particular technologies, like biomechanics or optics, which are used in diverse industries. Each institute is linked to an association of entrepreneurs who elect a majority of its supervisory board and determine the services the institute will provide for a fee. The institutes are meant to become self-financing.

*Source:* Holstrom, 1999; Tan et al, 2004.

#### **D. Labor Absorption in the Agricultural and Rural Sectors**

25. **Rural employment, which accounts for a little more than three-fourth of all employment in India, is overwhelmingly informal in nature and dominated by agriculture.** In 2004/05, about 56 percent of rural workers were *self-employed*, while another 36 percent were casual workers.<sup>58</sup> Further, while rural employment is diversifying into sectors such as transport, storage and communications (3 percent of all employment in 2004/05), construction (6 percent), trade and hotels (7 percent), and manufacturing (8 percent), agriculture and allied activities still account for 70 percent of rural employment. Generating rural, non-farm employment will require improving the investment climate for small and medium industries, as discussed above, and addressing regulatory barriers that constrain non-farm activity in rural areas (see below). In the medium-term, however, the role of agriculture will remain critical, both because of its large share in employment and because growth in agriculture will create a demand for non-agricultural goods, services and jobs.

26. **Growth in agricultural employment slumped between 1993 and 2000, before regaining some strength.** Agriculture accounted for a mere 23 percent of the *increase* in employment over the 1993-1999/00 period, declining massively from its 44 percent share during the 1983-1993 period. There were also important changes in the structure of employment within agriculture. Records reveal a surprising slump in non-cultivation related employment in the 1990s, after rapid growth over the 1983-1993 period. This slump, in ‘person’ days of employment generated, affected all activities except forestry. The decline came on the back of a fall in growth of cultivation-related employment (Table 2.3). Whatever employment was generated came mainly from activities such as forestry and plantation. The agricultural and allied sectors regained some strength after 2000, accounting for 30 percent of new rural employment generation between 1999/00 and 2004/05, but not to the level witnessed in the 1980s.

**Table 2.3: Growth Rate of ‘Person’ Days, by Operation**

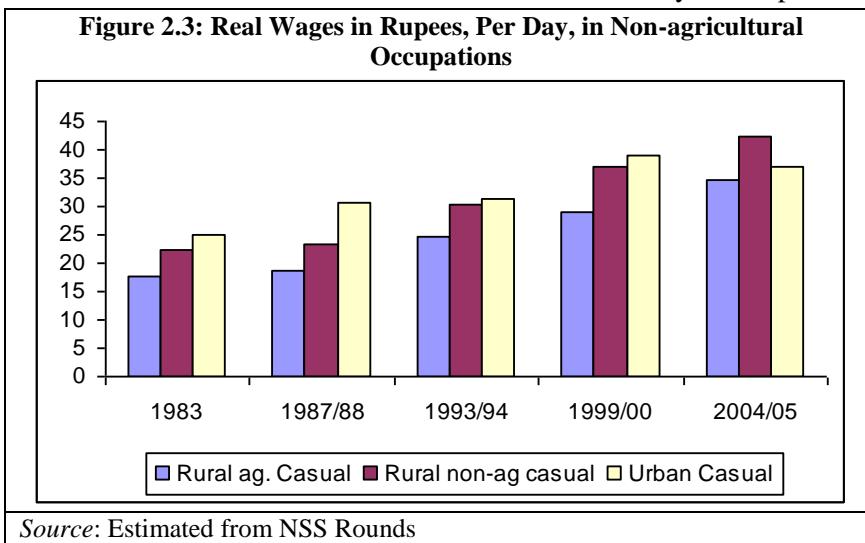
<b>Operation Type</b>	<b>1983 to 1987/88</b>	<b>1987/88 to 1993/94</b>	<b>1983 to 1993/94</b>	<b>1993/94 to 1999/00</b>	<b>1983 to 1999/00</b>
Total Cultivation	0.9	2.5	1.8	0.5	1.4
Forestry	-5.8	-3.3	-4.4	2.0	-2.1
Plantation	3.0	11.3	7.7	0.4	5.0
Animal husbandry	2.2	2.8	2.5	-0.3	1.5
Fisheries	-3.4	9.1	3.6	-7.9	-0.8
Agriculture other than cultivation	3.5	7.7	5.9	-2.5	2.7
Total agriculture	1.4	3.7	2.7	-0.2	1.7
Non-agriculture	6.8	0.7	3.2	3.2	3.2
Total	2.7	2.9	2.9	0.7	2.0

Source: Srivastava (2005)

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<sup>58</sup> World Bank staff estimates

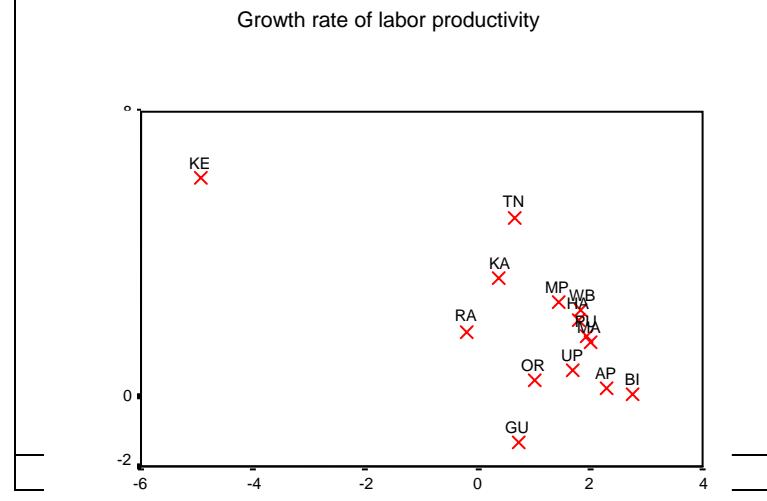
27. ***The migration of labor from agriculture to non-farm jobs was mostly a result of ‘pull’ factors, not ‘distress driven’.*** While both agricultural and non-farm rural casual wages grew steadily in real terms, non-farm rural casual wages consistently exceeded farm wages (Figure 2.3). This suggests that more non-farm opportunities were available, pulling labor away and also tightening the labor market in agriculture. Such a shift may also indicate declining underemployment in agriculture. Overall, the shift of labor away from agriculture is a part of the structural transformation of a developing economy. Still, as district-level studies show, some of the movement may also represent a distress-induced shift -- by self-employed agricultural workers leaving farming to become casual laborers. The slowdown in agricultural growth, falling productivity, uncertainty of crop yields due to low rainfall (especially in rain-fed areas), degradation of lands, and the depletion of water resources worked as factors that pushed marginal farmers away from agriculture.



28. ***With agriculture likely to remain the primary employer of India’s labor force in the medium-term, its employment prospects remain a critical issue.*** Currently, the sector employs about 52 percent of the total work force. Though shifting some part of this work force out of the sector and into more productive jobs in manufacturing and services will be necessary, the scope for doing so in the medium-term is limited. Thus, raising the demand for labor within agriculture, while raising productivity, is important. Here, there has to be a crucial distinction between labor-using and labor-saving ways of increasing productivity of labor. Some types of change (for example, mechanization of specific agricultural operations) may increase labor productivity but will do so at the cost of reducing the demand for labor, as Figure 2.4 shows. Other types of agricultural developments, however, could increase productivity at the same time as they increase the use of labor. These could include: the spread of labor-intensive HYV rice production to the northeastern regions where water is more available and current productivity is low, more emphasis on sustainable irrigation (like the Government’s plans under the Bharat Nirman Yojna), and further diversification into high value-added and more labor-intensive products. Srivastava (2005) studied variations in labor use in crop cultivation per net sown hectare, across states, in the four years for which NSS data are available. His results suggest that a 1 percent increase in the growth rate of labor days in cultivation, per hectare of sown area, requires a growth rate of 2.5 percent in gross irrigated area, or an annual shift of 0.4 percent in favor of labor-intensive crops, or a 5 percent growth rate in agriculture productivity (agriculture value-added) per hectare per year.

29. *The analysis suggests that for the country as a whole, increase in agricultural value-added has a large positive impact on labor use, per acre, in crop cultivation. This would imply that agricultural growth has been and is still very labor-intensive.* One of the primary features of the agricultural situation in the 1990s was the slowdown in the rate of growth of the sector. Several reasons have been put forward for this. Some of the prominent ones are: slowdown in public investment in agricultural infrastructure, irrigation, agricultural extension research, and so on. Irrigation may even have declined in some areas due to lack of maintenance. This is likely to have manifested itself in a slowing down of growth in both gross cropped area and agricultural productivity.

**Figure 2.4: Growth of Labor Productivity and Employment Across States**



Source: Srivastava, 2005

30. *Another important reason that may have led to a slowdown or even decline in employment growth in agriculture is the increasing use of labor-saving technological changes.* These manifest themselves through high rates of mechanization and switchovers to crops and agricultural practices that require less labor. The cost-of-cultivation data, collected by the Ministry of Agriculture, show low and negative employment elasticity for many crops, especially in the northwestern states. The impact of these changes would also depend upon the predominant presence of relatively large employers in any region. Thus, the extent to which labor-saving practices are adopted is likely to depend upon the rate of increase of mechanization, wage levels, growth in wages, tightness in labor markets, extent and growth of non-farm employment, and area under medium-large farms. Also, changing attitudes towards manual agricultural work are quite evident from a number of studies. The growth in education and rural incomes, in conjunction with the disinclination of workers to perform manual agricultural work, may be leading to a general withdrawal of the work force from agriculture, and the withdrawal of specific segments of the agricultural work force (women, children) in some areas.

### **Future Prospects**

31. An important implication of this analysis is that agricultural growth so far has been labor-intensive and the decline in employment, observed in the second half of the 1990s, was partly due to a slowdown in agricultural output. Thus, employment can be expected to accelerate with the recovery of output growth in the sector. Nevertheless, employment prospects would be enhanced with the following:

- Further spread of labor-intensive HYV rice, especially in the northeastern regions where water is more available but productivity is currently low.

- More emphasis on sustainable irrigation (similar to what the Government is currently planning under Bharat Nirman) through public and community investments in the expansion, maintenance and rehabilitation of irrigation systems. Irrigated farms hire 50 percent more labor than rain-fed farms (Table 2.4).

<b>Variable</b>	<i>All farms</i>	<i>Irrigated<sup>a/</sup></i>	<i>Rain-fed<sup>b/</sup></i>
Total crop value (Rs)	44,327	50,224	29,655
Crop area (acres)	6	7	6
Total labor (man days)	173	186	140
Family labor (man days)	60	61	58
Hired labor (man days)	112	125	81
Total labor expenditures (Rs)	7,595	8,509	5,322
Value of agricultural assets (Rs)	43,620	51,267	24,596
Observations	4,161	2,968	1,193

*Note:* These figures for states include Assam Bihar, Madhya Pradesh, and Uttar Pradesh (un-split states), and; Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, West Bengal.

a. Irrigated: Share of irrigated area > 0.25  
b. Rain-fed : Share of irrigated area <0.25

*Source:* Jin and others, 2005.

- Diversification of agriculture: some products, such as horticulture, have almost twice the labor intensity as cereals (see Box 2.3). While horticultural production growth is already accelerating, policy attention will help to sustain this trend. It will be important to strengthen links to market outlets (for example, through investments in roads, markets, electricity, and information systems) so that farmers can produce more crops and livestock products for the market. To help farmers cope with changing markets and production systems, investments must be made in financial systems for managing risk (for example, futures markets, crop insurance schemes, warehouse receipt systems, commodity exchanges, and social safety nets).
- Supporting the growth of agro-processing. Currently, only 2 percent of fruits and vegetables are processed in India compared with 30 percent in Thailand, 70 percent in Brazil and 80 percent in Malaysia (MoCFP, ICRIER, Vyas, 2005).
- Off-farm employment, such as animal husbandry, increases the incomes of rural families and also improves the economic welfare of families that are dependant on agriculture by reducing the pressure on farm land and exclusive agricultural activities. Thus, developments which increase off-farm employment should be encouraged, even if they reduce employment in the crop-producing sector. A good example of a promising initiative to promote off-farm female employment comes from the Self-Employed Women's Association (SEWA) movement in India (see Box 2.2).

#### **Box 2.2: The Self-Employed Women's Association (SEWA)**

The Self-Employed Women's Association (SEWA) was set up in 1972 in Ahmedabad, Gujarat, as a membership organization of poor women working in the informal sector. From its small beginning in 1972, SEWA's membership has grown to over 1.2 million members in 7 states in India. Recently, more than 100,000 new members have joined each year. A structure has evolved that gives SEWA great flexibility to grow and respond to its members' needs. Apart from their participation in the union's formal election and governance arrangements, members are engaged in three main ways: (a) through a union, with both urban and rural branches, that helps members demand fair treatment and access to justice, markets and services; (b) through cooperatives that help members produce and market goods, and build their assets; and (c) through member

services, which are financed partly through user charges, partly by donors, and partly by Government departments that have been unable to provide the services for which they are responsible by law.

### ***Cooperatives***

SEWA cooperatives in rural areas help women improve the quality and designs of the handicraft and woven items they produce for sale. In most cases, the women are already highly skilled in embroidery and weaving or other crafts. SEWA's task is mainly to ensure consistent quality and timely delivery. Cooperatives have also promoted new agricultural products and techniques that add value to traditional products. For example, tree nurseries are a new activity in areas where traditional tobacco workers are being displaced. Milk cooperatives improve cattle breeding, as well as milking and milk handling techniques, raising the value of sales. Salt farmers are being shown how to produce higher-value industrial salt rather than lower-value edible salt. Cooperatives also provide their members with information on market prices for traditional and new products. SEWA has also become directly involved in marketing what its members produce.

By far, the largest cooperative is SEWA Bank. At the end of fiscal 2003/4, deposits totaled \$14.4 million in 257,000 accounts, and there were 53,000 outstanding loans totaling \$3.9 million (for an average loan size of about \$73). Historically, SEWA Bank's loan recovery rate has been about 96 percent. In 2003 and 2004, the Bank started innovative mobile "doorstep banking" arrangements so that members would not have to interrupt their daily livelihood activities to go to the bank. It also offers training courses in financial planning. SEWA Bank has introduced the habit of regular saving to tens of thousands of poor women. Members pay significant interest rates to SEWA Bank (currently over 20 percent a year, while the rate of inflation is around 5 percent), but no longer feel powerless and exploited by moneylenders.

### ***Member Services***

SEWA concentrates its member services in four areas: health care, childcare, insurance, and housing. In SEWA's experience, the security of a poor woman's livelihood is not complete without access to these four basic goods. If a government-provided service functions well, then SEWA disseminates information on how to use it; if a service needs improvement or reorientation, SEWA tries to influence decision-makers accordingly. If all else fails, it provides the service on a sustainable basis.

SEWA has pioneered the provision of insurance for poor women, drawing on both the SEWA Bank and Government insurance companies. Typically, a woman saves Rs 1,000 (about \$22) and puts the money in a fixed deposit. The annual interest pays the premium and ensures uninterrupted coverage, which includes maternity benefits, as well as payments in the event of illness, death, and loss of property. In 2003, more than 110,000 members were covered: over 6,000 claims were paid for a total of close to \$180,000 (with the average payment being about \$30). SEWA is now planning an insurance cooperative, drawing on the example of the SEWA Bank.

### ***Key Factors behind the Success***

SEWA's impressive record in scaling up its membership and activities over the past three decades offers useful lessons. First, member-based organizations promote ownership and help ensure that activities are based on members' demands and needs. Such organizations can harness hitherto untapped energy and generate it anew once members attain self-confidence and learn new skills. Second, an organization based on values must emphasize them constantly. If it does so, it can maintain consistency of purpose and function very flexibly. Values generate strong loyalty among staff and members, as well as support from the wider public, and underpin the patience and perseverance required to change difficult policy environments. Third, a flexible style of working encourages learning and innovation and, therefore, facilitates adaptation to changing circumstances, including the ability to see crises as opportunities. At the same time, flexibility motivates high performance and low turnover among staff, and makes it possible to take advantage of partnerships with external actors. Finally, leadership skills are crucial, not only to define and uphold the vision of an organization, but also in establishing management and behavioral practices that minimize social distance between the management cadre and the organization's members (or clients). Moreover, with proper attention to training and practical research, an organization can find and develop new leaders among its members or clients, despite their poverty and lack of formal education, and in this way ensure its continuity and growth.

*Source:* "Collective Action by Women Workers: The Self-Employed Women's Association, India," in Ending Poverty in South Asia: Ideas that Work eds: D. Narayan and E. Glinskaya, Oxford University Press, India

## **E. Policies and Regulations to Support Informal Sector Earnings and Promote Formalization**

32. ***Completing the agenda of market reforms by changing policies and regulations that currently constrain trade, marketing, and large-scale production, will be crucial for raising employment and earnings in the informal sector, including in agriculture.*** Regulations affect two important rural activities in particular: marketing of agricultural produce is restricted under the Essential Commodities Act and the gathering of forest products is restricted by the Indian Forest Act (Saxena, 2003). At present, farmers in Punjab, Haryana, Andhra Pradesh, and Karnataka can be prevented from selling their produce outside their states. Storage of produce is restricted in states such as Gujarat (for pulses), Maharashtra, Kerala, Andhra Pradesh, and West Bengal. Storage rent is regulated by the states' cold storage regulations in West Bengal, Uttar Pradesh and Bihar. All these restrictions serve to depress demand for farm produce, as well as farmers' earnings. In the case of forestry, some 100 million forest dwellers whose livelihoods depend on forestry products are prevented from harvesting non-timber forest products like fruits, nuts, flowers, and twigs -- activities that can be sustainably pursued. The harvesting of prosopis, its conversion into charcoal, and its transportation for sale -- activities that can potentially provide significant off-farm employment, face numerous restrictions in states such as Gujarat and Tamil Nadu.

33. ***Regulatory reforms that address these barriers will increase employment and the earnings of the poor in the informal sector.*** This includes amending Acts such as the Essential Commodities Act, phasing out levies and monopoly controls, de-reserving agro-based and food-processing industries, de-controlling sugar and removing sugar from the list of commodities distributed through the public distribution system (PDS), and removing restrictions on the export of agro-products. Subsidies for food distribution and inputs (such as fertilizers), and procurement schemes such as the Minimum Support Price (MSP) policies, currently accounting for more than 5 percent of national GDP, can be more narrowly targeted to promote high value, labor-intensive crops. A good example of the success of regulatory reforms is the licensing requirements for milk processing in Uttar Pradesh – the easing of these requirements led to a doubling in milk processing capacity in four years. Another example of a more comprehensive Government intervention is the Maharashtra horticulture promotion program (Box 2.3).

### **Box 2.3: Horticulture Development in Maharashtra**

The Maharashtra Horticulture Development Program, which is linked with the state's Employment Guarantee Scheme (EGS), aims to accelerate the expansion of horticultural production and generate additional employment in rural areas. While food crops can provide employment of approximately 100 to 115 'person' days per hectare per year, horticulture production requires up to 275 'person' days per hectare per year. The program, applied to 25 fruit crops, spices intercropped in coconut plantations, and medicinal and aromatic plants, was open to all farmers, with a minimum required area per project. The scheme provided 100 percent subsidies on wages and material inputs (planting materials, fertilizers and agrochemicals) to small and marginal farmers, Scheduled Castes (SC), Scheduled Tribes (ST), and other ethnic minorities, on a declining scale – the subsidies were phased out by the third year. All other farmers received subsidies of 100 percent on wages and 75 percent on material inputs, on a declining scale, over 3 years. Wages were given in cash while the material inputs were supplied in kind. The 'grant' or subsidy averaged Rs. 7,709 (\$161) per farmer beneficiary.

To support the scheme, the Government of Maharashtra implemented complementary initiatives that ensured the supply of key inputs and services. During the first 7 years of the project, 140 Government nurseries and 24 nurseries in four agricultural universities were established to supply high-quality planting materials. Planting material supply was further expanded by the entry of approximately 1,670 private nurseries. Pesticide residue testing laboratories of international standards were established in Pune and Nagpur. A website 'agri.mah.nic.in' on agriculture-horticulture was launched by the Department of Agriculture to disseminate information about the program. A Central Government sponsored scheme for sprinkler and drip irrigation facilitated the expansion of horticulture and floriculture production. In view of water scarcity conditions in many areas, the scheme aimed to increase efficiency in water use. The drip/sprinkler scheme provided subsidies equivalent to

75 percent of cost of equipment for all farmers and 90 percent of costs for SCs/STs, up to a limit of Rs. 32,000 per individual, the cost of which was shared between the central and state governments with a ratio of 75:25.

Public and private investments further supported the growth of the sector. The Maharashtra Government's investments in infrastructure, such as building the Pune-Mumbai expressway and other roads, and upgrading airport and port facilities, reduced transportation costs and helped to increase the competitiveness of Maharashtra's products domestically and in the export market.

Private sector initiatives and investments also contributed. Large farmers and corporate investors in horticulture and floriculture -- who invested in supporting marketing infrastructure such as pre-cooling facilities, cold storage, refrigerated transport, and agro-processing -- promoted production and organized supply from other (smaller) farmers to meet the bulk requirements for export and local demand, and provided technical advice to meet export quality requirements. Increased private participation in input supply (fertilizers, agrochemicals and improved seeds) increased the accessibility of key farm inputs to farmers. Commodity marketing organizations, including Mahagrapes, Mahamangoes and the Western India Floriculture Association, were instrumental in promoting exports of local products.

The program has been a success from both the horticulture and employment perspectives. Of the 1 million hectare increase in area planted with fruits in the state between 1989/90 and 2000/01, 96 percent was supported through the horticulture-linked EGS scheme. It directly created an estimated 213 million 'person' days of work, or approximately 807,000 'person' years (assuming 220 days of work per year) over the past decade. Since the fruit orchards, once initiated, would normally require continuous employment to meet day-to-day labor needs, the scheme also opened opportunities for permanent full-time employment for agricultural laborers. In addition, the increased fruit production generated positive multiplier effects in terms of increased labor demand arising from increased demand for inputs and marketing services (transport, storage, packaging, processing, and trading). In the future, in view of the rapid uptake of the technologies, the challenge will be to more exclusively target assistance to poor, small and marginal farmers who are more capital constrained.

*Source:* World Bank, 2005d.

**34. Over the long term, however, informality can impose considerable costs on the economy; policies will be needed to encourage the informal sector to become formal.** Informality is encouraged in an economy when firms seek to avoid the transaction costs of complying with regulations concerning registration, licensing, tax administration and tax policies, and laws that reduce flexibility. Firms can also have an incentive to stay informal to be more competitive vis à vis formal sector firms that have to comply with regulations. In the long run, however, the costs of informality can be high for firms and for the economy. Firms may avoid official taxes but may end up incurring higher costs from making payments to corrupt officials or private extortionists due to their lack of legal status and bargaining power. Informal sector firms have less access to and high costs of capital, and unreliable access to electricity and business services. By becoming formal, firms can enjoy the benefits of property rights and contract enforcement, and access to finance, infrastructure and tax concessions offered by governments. These conditions, in turn, translate to lower investments and productivity growth in the economy as a whole.

**35. International evidence suggests that governments need to take two approaches to encourage firms to become formal** (World Bank, 2005i). First, recognizing that formalization will take time, the Government of India can provide a supporting environment for the growth of productivity and improvement in working conditions in the informal sector. The key step here will be to remove disincentives to growth -- such as, reserving sectors for small-scale firms, regulations that raise transactions costs and costs when firms grow beyond a certain size, and other regulatory barriers discussed above. The other prominent example of a regulation that taxes firm growth in India is Clause VB of the Industrial Disputes Act which severely restricts the rights of firms employing more than 100 workers to retrench labor. The costs of this Act are discussed in detail in Chapter 5 of this study. In general, procedures can be simplified (Chen, 2006). Governments can directly and indirectly (for example, through private sector associations) provide business services

and access to capital for informal sector firms to grow. *Second*, the Indian Government can gradually improve enforcement by raising incentives for firms to join the formal sector and impose penalties for non-compliance with formal sector regulations. A whole range of tax and regulatory reforms that reduce concessions to informal sector firms, and lower taxes, social security contributions and regulatory burdens on formal sector firms, can be employed for this purpose. In implementing the second step to increase the penalties for non-compliance, however, the Government will need to be careful. Eliminating informality can lead to high costs in the short term by throwing firms and workers out of jobs. Rather, the spirit should be to encourage growth and increase the incentives for firms to become formal, because this will enable them to gain access to services and benefits and grow faster.

## CHAPTER 3: EMPLOYMENT IN THE FORMAL SECTOR

*This chapter examines the trends in formal sector employment in the secondary and tertiary sectors low in India during the last two decades? In formal manufacturing, an analysis of the elasticity of employment to GDP shows that three factors were responsible for low employment growth in the 1990s: (i) an adverse movement of the terms of trade against producers; (ii) the adjustment of the economy to trade liberalization in the early 1990s -- while export-intensive sub-sectors witnessed increased employment growth, import-competing sectors saw a slowdown in employment, and; (iii) the choice made by formal sector firms to raise wages and productivity of existing workers rather than increase employment. The tertiary sector accounts for most of the growth in formal sector employment in recent years in India. But, like manufacturing, employment in this sector too displays a dualistic pattern. At one end are the main sources of growth in the formal services sector -- the rapidly evolving information technology enabled services (ITES) and financial sectors. But the pull of these sectors on overall labor markets is muted, given that they employ only 7 million workers out of a labor force of more than 400 million. Instead, most jobs are being created in the trade, hotels and restaurants, construction, and community services sectors where the bulk of the jobs are informal and of low productivity. Thus, as in manufacturing, workers in the tertiary sector are clustered at two ends of the wage distribution scale.*

### A. Employment in Organized Sectors<sup>59</sup>

1. ***Employment growth in the formal ('organized') sectors in India has been disappointing in spite of a fairly healthy rate of growth of output.*** Although likely an underestimate, according to official figures, employment in the organized sector grew minimally from 26.7 million in 1991 to 28 million in 2001, and then declined to 26.4 million in 2004. Over the same period, manufacturing employment fell from 6.3 million in 1991 to 5.7 million in 2004.<sup>60</sup> The bulk of manufacturing jobs today remain in the informal sector.<sup>61</sup> As with manufacturing, employment in the formal services sector (according to official estimates) grew minimally from 15.7 million in 1991 to 16.8 million in 2000; the most recent estimates put it at 16.7 million (Figure 3.1) out of a total prime age work force of 412 million.

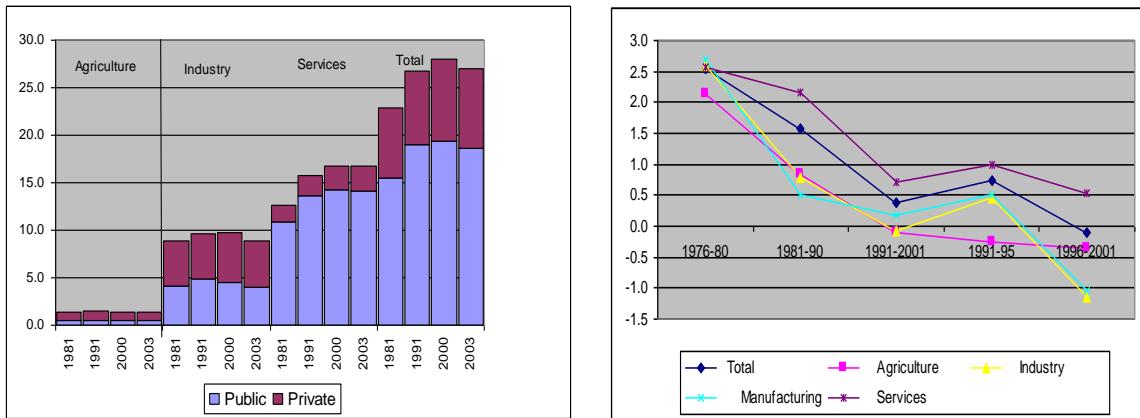
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<sup>59</sup> Organized sector workers are defined as those working in private establishments employing more than 10 workers and those working in the public sector. The organized sector is generally referred to as the formal sector. All other workers are considered to be in the unorganized or informal sector. In this chapter, we also consider other definitions of the formal sector in order to analyze trends.

<sup>60</sup> DGE&T estimates and Economic Survey, 2005-2006

<sup>61</sup> While another source, the Annual Survey of Industries (ASI), estimates current organized manufacturing employment to be around 11 million out of a total manufacturing work force of 46 million, the overall picture does not change significantly

**Figure 3.1: Total Formal Sector Employment Levels (in Millions) and Growth**  
 Formal Sector Employment (in millions)      Growth Rate of Formal Sector Employment



Source: DGE&T estimates. These are considered to be underestimates, including by the DGE&T itself.

2. **Low elasticity of employment and persistent dualism are the key reasons for low employment growth in the formal manufacturing sector.<sup>62</sup>** Overall, the share of all manufacturing jobs in total employment has remained largely unchanged. Even during the period of relatively rapid growth between 2002 and 2005, employment elasticity of output was less than 0.3. This chapter attempts to answer four main questions: (i) Why has employment elasticity been so low in manufacturing? (ii) How has international trade impacted employment growth and elasticity? (iii) Is dualism still persisting in manufacturing and, if so, why? (iv) What role is sub-contracting playing in mitigating dualism? The last section of this chapter addresses issues related to employment growth in the services sector.

<sup>62</sup> Dualism refers to the concentration of employment in very low productivity jobs at one end and high productivity jobs at the other end.

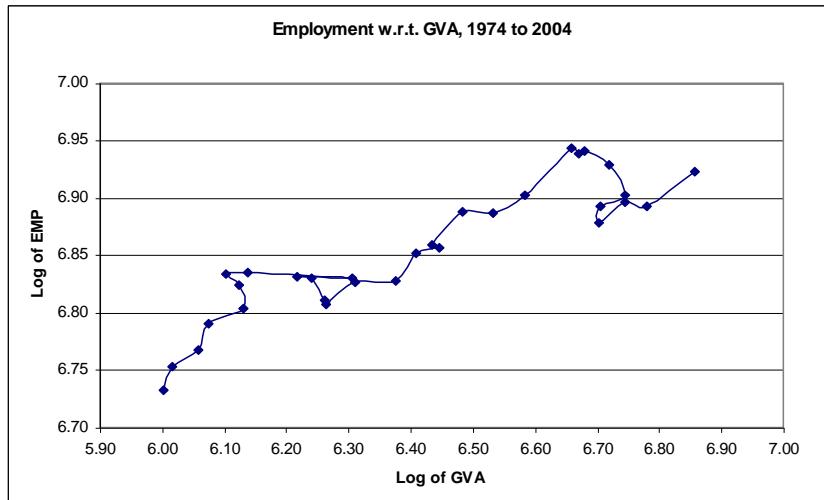
## B. Why Has Employment Elasticity in Formal Manufacturing Been Low?

3. In fact, not only has employment elasticity been low with respect to output, it has been fluctuating over time (Figure 3.2).

Between 1974 and the present time, it is possible to distinguish between five periods, or distinct breaks, in the value of employment elasticity: (i) 1974-1980, when employment elasticity had a high positive value of 0.99; (ii) the 1980-86 period of ‘jobless growth’ when employment elasticity actually turned negative (with an average value of -0.16); (iii) the reform period of 1986-96 which saw a recovery of employment elasticity to positive values (increasing to 0.33),

although it was significantly lower than the value attained in the first period; (iv) the post-reform period, 1996-2001, when elasticity turned substantially negative at a time when output growth also slowed down, and; (v) the last period, since 2001, when elasticity has again turned positive, albeit to a modest 0.28 (Table 3.1).

**Figure 3.2: Employment and Real Gross Value-added in Formal Manufacturing- (1974/75 to 2004/05)**



Source: Mazumdar and Sarkar, 2007.

GVA stands for Gross value-added

**Table 3.1: Growth Rate of Value-added and Employment Elasticity**

Period	Value Added Growth	Employment Elasticity
I 1974-1980	3.99	0.99
II 1980-86	6.21	-0.16
III 1986-96	10.65	0.33
IV 1996-2002	1.75	-1.42
V 2002-2005	12.54	0.28

Source: Mazumdar, 2005

4. Employment growth in manufacturing was obviously influenced by the rate of growth of output or value-added. But, given this, what determined employment elasticity? The analysis in this chapter suggests two main factors: (i) manufacturing producers faced adverse terms of trade for most of this period because the prices of consumer goods used by workers increased faster than the prices of manufactured products received by producers, and; (ii) the producers chose to use more capital-intensive techniques of production, leading to wage growth substituting for employment growth (this trend has also reversed since 2002). By using a model to decompose elasticity of employment (see Box 3.1 and Appendix 3.1), three important elements that determine the value of the employment elasticity can be identified:

- (i) the **trend in the share of wages in value-added**, that is, as determined by the rate of growth of the wage bill, relative to value-added, in current prices facing the producer ( $\alpha$  in Box 3.1);
- (ii) the **relative rates of increase in the producer and consumer price indices** [ $P_p/P_c$  -- sometimes called the Domestic Real Exchange Rate (DRER)]. These translate the value of the wage bill, measured in producer prices, into consumer prices, the value relevant to workers, and;
- (iii) the **trade-off between employment increase and real wage increase**. Given the growth of the real wage bill, as determined by the variables  $\alpha$  and DRER, the parties in the wage bargaining process (employers and employees) have the option of realizing their objective either in the form of employment increase or wage increase — or in various combinations of the two.

**Box 3.1: Determinants of Employment Elasticity**

The equation below, explained in detail elsewhere (Mazumdar, 2003), quantifies how the different elements affecting the growth rate of employment or employment elasticity are related:

$$L' / v' = \alpha + (\alpha P_p' - P_c') / v' - w' / v' \dots \dots \dots (1)$$

-- where  $L'$  stands for growth of labor,  $v'$  for growth of manufacturing value-added,  $P_p'$  for growth of producer prices,  $P_c'$  for growth of consumer prices, and  $w'$  for growth of wages.

The left side of the equation shows the ratio between employment growth and value-added growth, that is, employment elasticity.

The first term on the right side of the equation,  $\alpha$  defines the rate of growth of the wage bill, relative to the growth rate of output, and hence determines the trend of the share of wages over the time-period considered.

The second term on the right side of the equation, the relative movement of the producer and the consumer price indices (DRER), translates the wage bill growth into real terms (from the point of view of the workers).

The negative relationship between  $w'$  and  $L'$  clearly shows the wage-employment trade-off, that is, the way the growing wage bill cake is divided between wage increase and employment increase.

*Source:* Mazumdar, 2005.

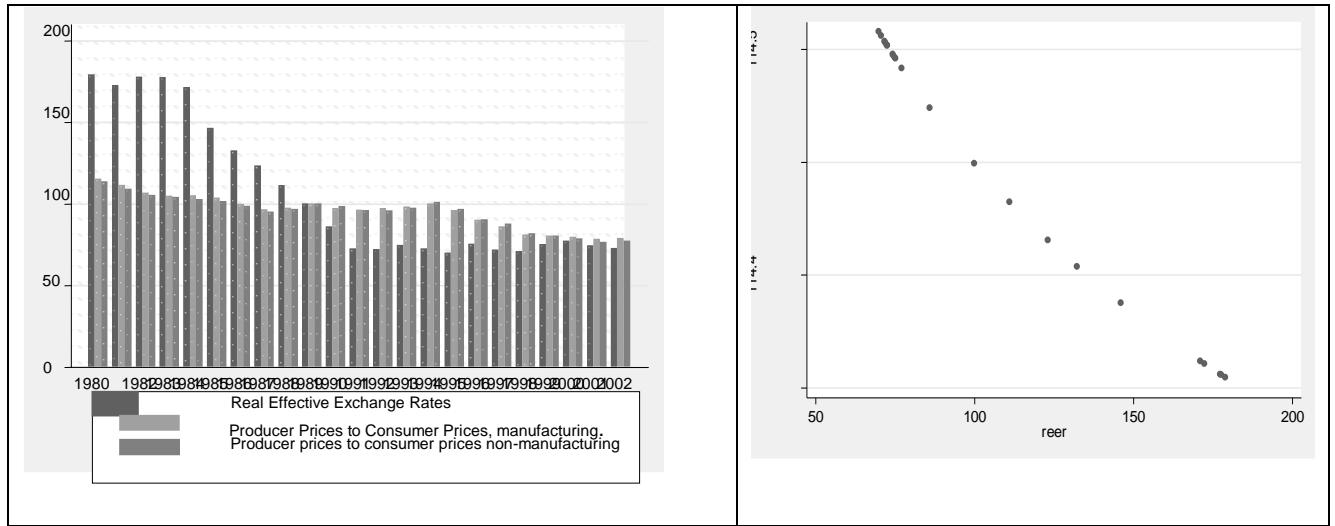
5. *The three variables affecting elasticity are influenced by different sets of factors. The movement of the DRER is affected by the product market conditions which set the price trend of the final manufactured goods ( $P_p$ ), and by the factors which affect the price of consumer goods ( $P_c$ ). The behavior of the other two variables – the wage bill growth and the employment-wage trade-off within the wage bill, depend largely on labor market conditions. Typically, firms have the incentive to choose more capital-intensive techniques if these can increase their profit rates through faster productivity growth. This would result in a higher share of profits or a lower share of wages, both of which lower employment elasticity, other things remaining the same. As Table 3.2 shows, the choice made by Indian manufacturers to opt for higher wage growth rather than higher employment growth was an important factor in keeping employment elasticity low. Separately, Mazumdar and Sarkar (2004) also present evidence that in the Indian manufacturing sector, investment has been positively correlated with the movements of  $\alpha$ , that is, the share of wages in value-added tends to rise along with investment. What determines whether the benefits of growth will flow down to workers in the form of employment growth or wage growth? If strong trade unions are biased towards the welfare of those already employed, wage growth would be preferred to employment growth. A similar outcome is likely if employers are wary of expanding their complement of permanent labor. The practical importance of these different elements, based on the decomposition model of Box 3.1, is presented in Table 3.2.*

**6. Because the trend in domestic real exchange is an important factor in determining elasticity of employment (Table 3.2), macroeconomic management becomes additionally important.**

Table 3.2 shows that the adverse movements of producer prices, relative to consumer prices, contributed significantly to making manufacturing elasticity negative in

two periods: 1980 to 1986, and 1996 to 2002. This relative movement of prices, however, depends not only on labor market conditions but also on overall macroeconomic factors. For instance, if real effective exchange rates appreciate, or do not depreciate enough to maintain manufacturing competitiveness, the domestic terms of trade can be adversely affected. As Figure 3.3 (left panel) shows, this indeed happened in the mid-1990s: real effective exchange rates stabilized and have even appreciated slightly since then. This was associated with an adverse movement of producer prices, relative to consumer prices. Econometric estimates show that after controlling for time trends, there is a robust relationship between real exchange rate appreciation and adverse movements in the domestic real exchange rates (Figure 3.3, right panel), which in turn lowers employment elasticity. Thus, one policy implication will be to keep real exchange rates competitive by guarding against inflation, especially in prices of consumer goods. This, in turn, has implications for fiscal policy. Higher deficits, government borrowing and inflation tend to appreciate real exchange rates. If the government's expenditure is directed disproportionately towards consumption, as was the trend in India during the 1990s, this too would turn the domestic real exchange rate against producers and discourage the growth of jobs. If government policy raises food prices in an artificial manner, that will also lower manufacturing elasticity.

**Figure 3.3: Changes in Real Effective Exchange Rates and Domestic Real Exchange Rates (Producer Prices to Consumer Prices)**



Source: Estimated from Mazumdar (2005) data and Reserve Bank of India (RBI) data on real exchange rates.

**7. The other policy implication is that the wage-employment trade-off needs to be managed, so as to not create a bias against employment.** There is a cyclical pattern in the wage-employment trade-off (as measured by the difference between the growth rates of employment and wages), which has an important bearing on the oscillating values of employment elasticity (Table 3.2). Such a

pattern suggests that firms treat their labor force as a ‘quasi-fixed’ factor -- a firm operates with at least a core body of tenured workers whose size is slow to respond to changes in the current demand for labor. Like the stock of fixed investment, the firm’s stock of ‘permanent’ workers is built up based on its perception of *expected* demand. If current demand deviates from the expected demand, the firm adjusts the labor input for the period in question by varying the number of hours worked, or by using temporary workers, rather than adjusting the stock of labor. When manufacturing growth accelerates in a sustained manner, as it did from 1986 to 1996 and between 2002 and 2005, it increases expected demand and leads to employment growth overtaking wage growth.

8. *An important implication here is that job security legislation (as buttressed by the state-supported legal system) that increases the ‘fixed’ cost of hiring permanent labor, tilts the wage-employment trade-off against employment.* If the fixed cost is high, firms become cautious about changing the complement of workers in the permanent roster and the role of expectations about future demand becomes stronger. In this case, employment elasticity is likely to have cyclical swings with changes in business expectations, as it happened in the case of India. As noted, the reform period (Period III in Table 3.2) and the post-2002 period witnessed higher expectations about future growth, leading to an increase in output and investment growth. But, while the share of wages showed a downward trend with the increase in the investment rate, employment elasticity, while positive, was not very high at 0.33. The employers’ perception of labor as a ‘quasi-fixed’ factor is likely to have slowed the tilt towards employment increase. Conversely, the substantial slowdown in industrial growth in the post-reform years (Period IV in Table 3.2), drastically reduced expectations of future growth and led to negative employment elasticity as employers started to shed labor. A distinct reduction in the power of labor unions in enforcing job security might also have contributed to the large fall in employment, even as the persistent fear of the fixed cost of labor, and uncertainty about future labor policies, encouraged labor-shedding. Thus, one policy implication is the importance of continued labor reforms for employment expansion in manufacturing.

9. *Employment reduction over the 1996-2002 period (Period IV in Table 3.2) was related to stagnation in the value-added in manufacturing.* It is obvious that while the growth rate of manufacturing output slowed down in real terms, a more important factor was the DRER turning against manufacturing. It is also apparent that this was partly due to the slackening of producer prices, particularly in the domestic market. But the other major development was the increase in consumer prices as the ‘minimum support prices’ of key agricultural commodities were increased in the post-reform years. A turning of the terms of trade towards agriculture could be expected to strengthen the domestic market for industrial goods. But this effect, if any, seems to have been swamped by the direct effect of the increase in the price of wage goods, leading to higher product wages. This leads to another important policy conclusion: the Government needs to take a broader and more comprehensive outlook on the consequences of policies. While increase of farmers’ prices might be desirable from some angles, its adverse effect on manufacturing, and particularly employment in this sector, has to be recognized. Finally, the impact of another major development, the growth of international trade, on employment, needs to be considered as well.

### C. How Has Trade Affected Employment Growth in Manufacturing?

**Figure 3.4: Growth of Manufacturing Exports**

10. ***India underwent significant trade liberalization in the 1990s.*** Mean tariffs for manufacturing declined from 71 percent in the early 1990s to 29 percent in 2001, to about 15 percent in recent years. The share of trade in GDP increased from 16

percent to over 30 percent in the same period, and export growth has accelerated sharply in recent years (Figure 3.4). Thus, a key issue is the impact that trade liberalization had on employment growth in manufacturing, and on employment elasticity. Analysis reveals that export-oriented industries likely experienced higher employment growth and employment elasticity. However, overall employment growth has remained low and export patterns have not been as labor-intensive as expected but, rather, skill-intensive and capital-intensive. We draw on two recent studies to first show how trade impacted employment growth and elasticity, and then analyze the route through which elasticity was impacted.

**Table 3.3: Industries, Classified by Trade Orientation**

Category	Key Industries
Export-oriented	Textile Fabrics, Apparel, Footwear, Drugs & Pharmaceuticals
Import-competing	Paper, Iron & Steel, Electrical & Non-electrical Machinery, Office & Computing Machinery, TV & Communications, Watches and Plastic Products
Food, Beverages and Tobacco	Grain Mills, Wine, Soft Drinks, Cigarettes
Petroleum Refining and Coal Products	Petroleum Refining Products (Naphtha, Gasoline, Diesel, etc.), Coal & Coke Products
Auto & Tire	Four-wheelers, Two-wheelers, Bicycles, Tire & Tubes, Auto Components
<b>Others</b>	Wood Containers, Cane, Paper, Rubber Products, Cement, Glass, Soap & Cosmetics.

Source: Ramaswamy, 2005



11. ***We examine the impact of trade on employment growth and elasticity*** by first classifying industries according to their trade orientation, as presented in Table 3.3 (Ramaswamy, 2005). Industries are classified as export-oriented, import-competing and ‘others’, based on the following criteria: first, all the 4-digit International Standard Industrial Classification (ISIC) industries are ranked in terms of net exports, and each industry’s export share in total manufactured exports is estimated. Second, net exports, net exports to output, and export to output ratios for each industry are calculated. Two industry groups are specially identified -- automobile (including the tires and tubes industry) and food (including food, beverages and tobacco) -- for their importance in India. The automobile sector in India has recently emerged as a global outsourcing hub for many leading automobile manufacturers in the world and, thus, deserves to be looked at separately. The food sector needs to be considered separately because food is an agro-product based industry. An industry is classified as export-oriented if its net exports to output ratio is significantly positive and it figured on the list of leading net export earners in the manufacturing sector in the year 1999. An industry is

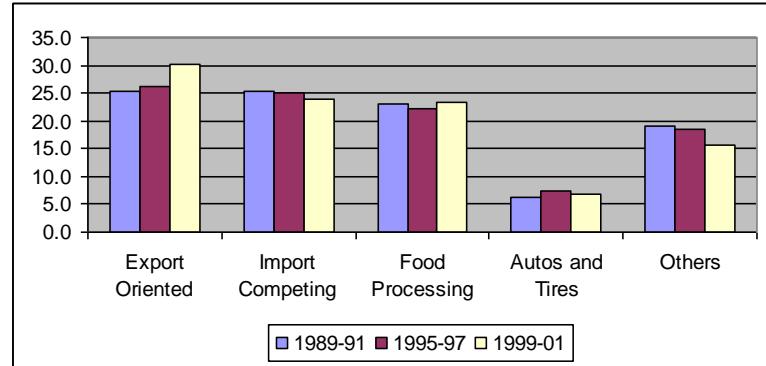
classified as import-competing if the net exports to output ratio is significantly negative.<sup>63</sup> Import-competing industries must satisfy an additional criterion: their import share in total manufacturing output needs to be more than 1 percent. The remaining industries are grouped under the heading ‘others’

12. ***The results, presented in Figure 3.5 are revealing.*** Looking at the averages of employment growth in three periods -- the pre-trade reform period (1989-1991), the post-reform period (1995-1997), and the most recent period for which data is available (1999-2001), two points are evident. First, the export-oriented industry group is the only group where employment share has increased. But, the increase in its share, from 25 percent of manufacturing employment to 30 percent over one decade, is not remarkable. Second, while employment share in import-competing industries has decreased, the decrease is marginal. Finally, quite remarkably, the automobile parts and tires industry which has shown rapid expansion in recent years, shows a loss in employment share, indicating the high capital-intensity of the techniques used there.

13. ***What are the effects of international trade on elasticity of manufacturing employment?***

Here, again, a five-group classification of manufacturing sub-sectors (see Table 3.4 drawn from Mazumdar, 2005) is used in decreasing order of their exposure to trade, which in turn depends on export ratio and import penetration and the level of technology employed in the sector. Table 3.5 shows how the two main components, the employment-wage trade-off and the movement of producer prices relative to consumer prices, affected the elasticity of the different groups and how this changed in two periods -- 1986/87 to 1995/96, and 2001/02 to 2004/05.<sup>64</sup>

**Figure 3.5: Trade and Employment Share (percent)**



Source: Estimated from Ramaswamy, 2005

<sup>63</sup> Significance is determined by the relative magnitude of the export-output and import-output ratios of the manufacturing sector.

<sup>64</sup> While data is available for the period in between, it was left out in consideration of the fact that this was a period of adjustment.

**Table 3.4: Manufacturing Sub-sectors, According to Exposure to International Trade**

Technology Level plus Exposed Ratio	NIC Code	Import Penetration	Export Ratio	Exposed Ratio	Size of Sector (percent)
High Technology/ Exposed	38	25.31	28.37	46.50	5.46
Medium Technology/ Exposed	30+35 to 37	29.50	6.05	33.76	31.77
Low Technology/ Exposed	23 to26; 28+29	2.73	15.79	18.09	23.35
Medium Technology/ Domestic	31 to 34	11.08	3.83	14.48	23.86
Low Technology/ Domestic	20, 22, 27	1.35	2.98	4.29	15.55
All		14.30	8.54	21.62	100.00
<b>Definitions:</b>					
Import Penetration= $(\text{Value of Import})/(\text{Value of Output} - \text{Value of Export}) * 100$					
Exposed Ratio= $(\text{Value of Export})/(\text{Value of Output}) * 100$					
Exposed Ratio= $(\text{Value of Import} + \text{Value of Export})/(\text{Value of Output}) * 100$					
Source: Mazumdar, 2005					

**Table 3.5: Relative Importance of Wage-Employment Trade-off and DRER in Employment Elasticity**

Sub-group	L - W	Pp - Pc	Employment Elasticity	L - W	Pp - Pc	Employment Elasticity
	1986/87 to 1995/96			1995/96 to 2001/02		
High Technology/ Exposed	3.83	-1.07	0.37	-5.72	-2.36	8.05*
Medium Technology/ Exposed	6.16	-4.29	0.46	0.42	-4.55	0.13
Low Technology/ Exposed	0.51	0.84	0.40	-3.29	-6.34	-1.01
Medium Technology/ Domestic	1.38	-0.85	0.27	-3.88	-4.69	-0.98
Low Technology/ Domestic	1.30	0.21	0.43	-2.25	-1.28	-0.04
All	1.94	-0.46	0.33	-3.35	-3.85	-1.42

Note: Both output growth and employment growth are negative in this case, producing the positive elasticity.

14. *The following points follow from this analysis:*

- Starting in the mid-1990s, elasticity of employment fell slightly in all categories, except in the case of low technology exposed industries and medium technology domestic industries where the elasticity increased slightly.
- Sectors more exposed to trade experienced higher employment elasticity in both periods (1986/87-1995/96 and 1995/96-2001/02). Notice that this happened even when in some exposed sectors, producer prices fell sharply relative to consumer prices. Moreover, it was only the medium exposed group that maintained a positive elasticity of employment (the high exposed group had a positive elasticity only because both employment and output fell in the second period).
- Significantly, the tilt in the employment-wage trade-off towards wage growth in the post-reform period seems to have been particularly strong in the ‘exposed’ category. This suggests that the search for competitiveness, in the wake of liberalization, induced firms

in this category to opt for smaller bodies of workers with high wages. This type of labor deployment contrasts with the alternative of a more labor-intensive solution. If so, the expectation that liberalization was likely to increase employment by increasing the profitability of labor-intensive products, was at least partly thwarted. Firms exposed to more international competition may have found it important to increase product quality by raising labor productivity. It is likely that institutional factors which raise the fixed cost of employing labor contributed to this outcome.

- **Although the adverse changes in producer prices, relative to consumer prices, were fairly widespread, the changes were relatively larger in the two ‘domestic’ sectors.** This suggests that the adverse price shift might have been more due to a slackening of the domestic market for manufactured goods produced by these industries. This general negative swing may also have been partly fuelled by the increase in ‘minimum support prices’ for agricultural commodities. The need to have a general equilibrium framework for the consequences of price policies is brought out by these results.
- **The updating of this analysis, with recent data covering the period 2002-2005,** suggests that employment elasticity has increased and become positive in all the groups, except the low technology domestically oriented group. On the other hand, employment elasticity has recovered most strongly in the low technology trade-oriented group.

15. *In sum, while employment elasticity declined across the board and then increased for all but one of the groups, it appears to have been related to the degree of exposure to trade.* In the more exposed industries, the choice of techniques that tilted towards higher wages instead of increased employment (which is consistent with firms adjusting to raise skills and productivity of workers) was the more important factor behind reducing elasticity in the immediate post-adjustment period. The converse was true in the second period when manufacturing exports took off. In the more exposed industry groups, the recent significant increase in the domestic real exchange rates has helped to increase elasticity. In the less exposed domestic industries, the converse was important in reducing elasticity in the 1990s. Overall, however, the elasticity of employment and employment growth were higher in the more exposed industries.

#### D. Dualism in the Manufacturing Sector

16. *The consequence of limited employment growth in the formal manufacturing sector was that workers were absorbed either in the tertiary sector or in unorganized manufacturing.* Since the gap in labor productivity and earnings between the unorganized and the organized sectors is large, this leads to the phenomenon of ‘dualism’ in manufacturing. There are two aspects to this ‘dualism’. The first is the productivity gap and distribution of employment between the unorganized sector on the one hand and the organized sector, as a whole, on the other. The second is that, within the organized sector, the distribution of employment is skewed heavily towards large firms, with relatively small representation by small and medium enterprises. Consequently, taking organized and unorganized manufacturing together, the distribution of employment is strongly bi-polar with two peaks of employment, one at the low end and the other at the high end of the size spectrum, and a wide range of size-groups with relatively smaller numbers of workers in the middle. This is the phenomenon of the ‘missing middle’ firm size in India.

17. *Underscoring the dualism in the manufacturing sector is the striking ‘missing middle’ firm size in India.* A review of the size structure of manufacturing in Asian countries reveals three major types. One is where small, medium and large firms play more or less equally important roles and the productivity differential between the size classes is small. The second is the pattern in which the distribution of employment by size-groups is distinctly skewed towards large firms. India belongs

to the *third* type — the ‘dualistic’ structure. In this, it shares the experience of the typical Asian pattern which arises when modern industry is superimposed on a largely agrarian economy with a high man-land ratio, but also having a large presence of traditional industry, albeit at a low level of productivity (historical Japan, the Philippines, and Indonesia). Figure 3.6 shows how Indian manufacturing employment was concentrated in the two extreme modes. While the picture presented in Figure 3.6 refers to the 1980s when countries other than India had developed to a higher level of GDP per capita, earlier data available for a few countries shows that India had a more marked dualistic pattern than what these other Asian economies showed in their early stages of development. The Indian pattern resembled that of Japan where ‘dualism’ had existed for a long time in manufacturing, with a large concentration of employment at the low and top ends.

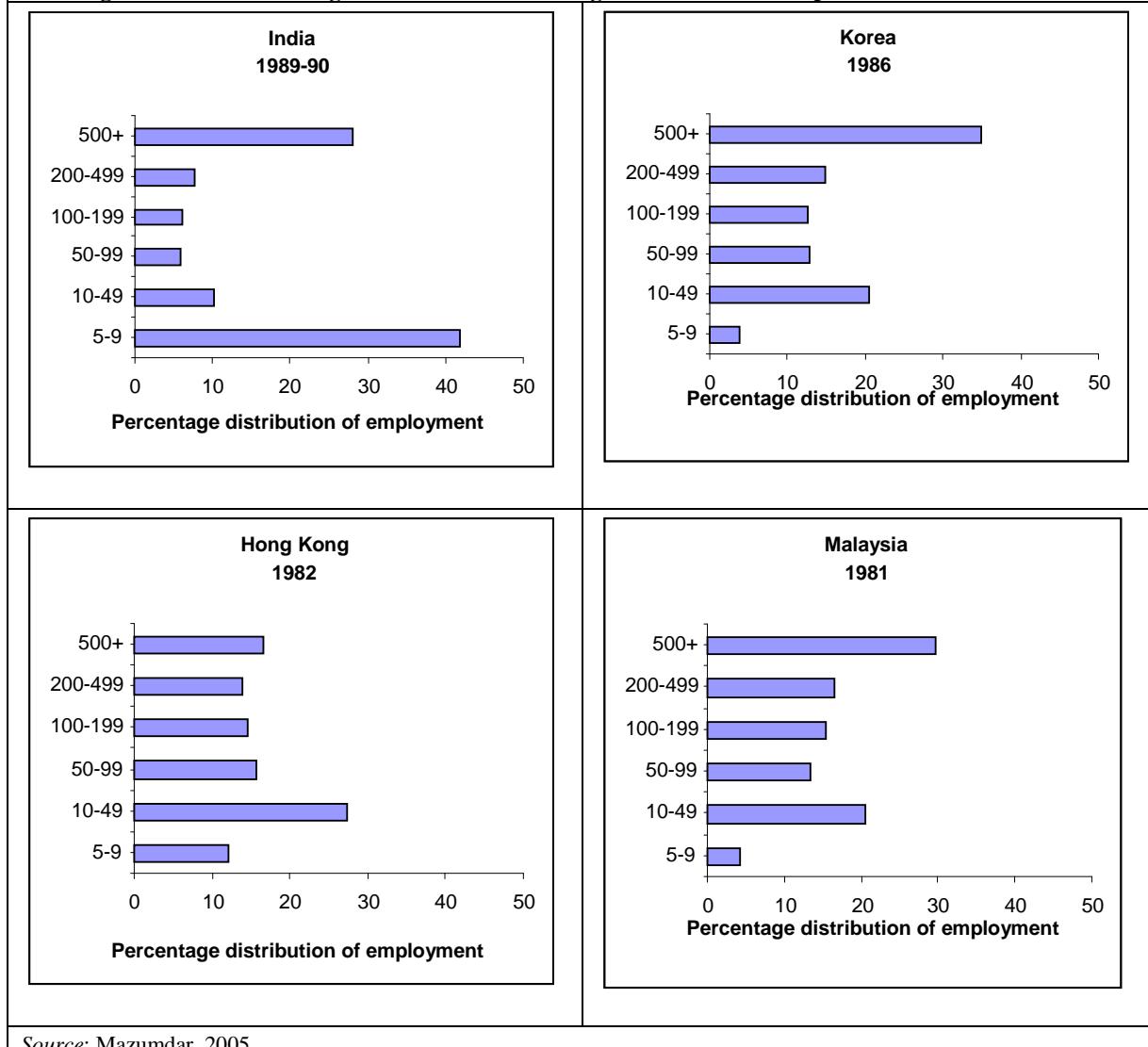
18. ***But the peculiarity of the Indian pattern is that it had an exceptionally large productivity differential between the largest and smallest size groups — of the order of 8:1 compared to 3:1 in the case of Japan before its era of post-War growth.***<sup>65</sup> India also contrasts dramatically with the case of Taiwan which had a much more even distribution of employment by size classes in the course of its manufacturing growth, and a large-small productivity differential no more than that of Japan. Even in Korea, where distribution of employment in formal manufacturing was heavily skewed towards large firms during the country’s early stage of development, the productivity differential was not larger than that of Japan or Taiwan; it continued to be moderate as state policies worked towards a redistribution of employment in the small-medium sector over the last three decades of the 20<sup>th</sup> century.

19. ***Recent data shows that dualism has persisted and the concentration of the Indian labor force in the bi-polar mode continues to the present day (Figure 3.6 Panel A).*** The only change, over the period covered, seems to have been the significant reduction in the number of workers employed in very large firms (1000 and above). The distribution is, however, still strongly bi-polar, with the two types of employment size firms concentrated at the two extremes (those employing 6-9 people and those with 500+ employees) and accounting for 40 percent and close to 25 percent of employment respectively. Further, over time, the productivity differentials by size-groups seem to have changed even less than employment patterns (Figure 3.6). If anything, the extreme ‘dualism’ noticed in India, compared to other Asian countries, seems to have worsened since 1984/85, though much of the deterioration occurred in the first half of the 1980s.

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<sup>65</sup> Broadbridge, 1966, Table 16, p.56

**Figure 3.6: The ‘Missing Middle’ Manufacturing Firms – India Compared to Other Countries**

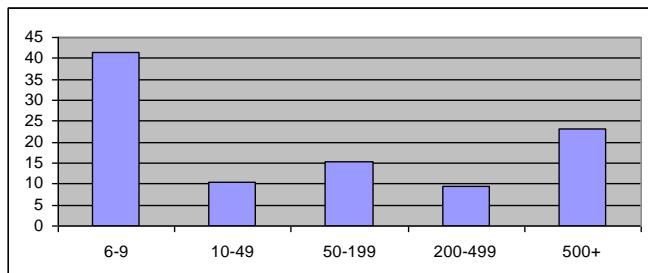


Source: Mazumdar, 2005.

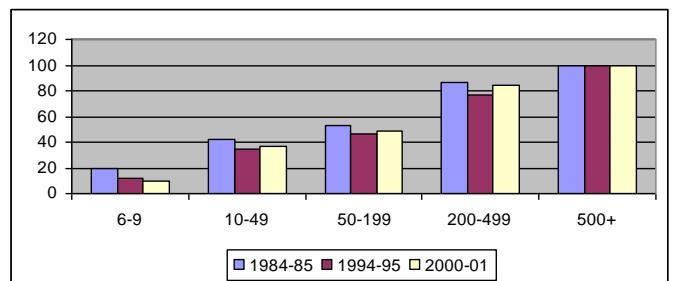
20. From a welfare point of view, the Indian pattern of manufacturing employment **distribution is least satisfactory of the several types discussed**. For one thing, the absence of the ‘missing middle’ means that the bulk of the labor force is stuck in very small firms (Figure 3.7, Panel A) with low productivity (Figure 3.7, Panel B). Second, the industrial structure offers limited opportunity for small firms to graduate to middle-sized units. This is a serious drag on the formation of dynamic entrepreneurship, particularly of the type oriented to searching for new technology and new markets. Third, from an efficiency aspect, the wide difference in wages, which the dualistic structure implies, points to a loss of output and welfare. Fourth, this pattern produces a significantly higher degree of inequality in the distribution of earnings than a more equal size distribution of firms would.

**Figure 3.7: India – Distribution of Employment and Productivity by Size-Groups**

Panel A: Distribution of Employment (in percent) in Manufacturing Firms by Employment Size Groups



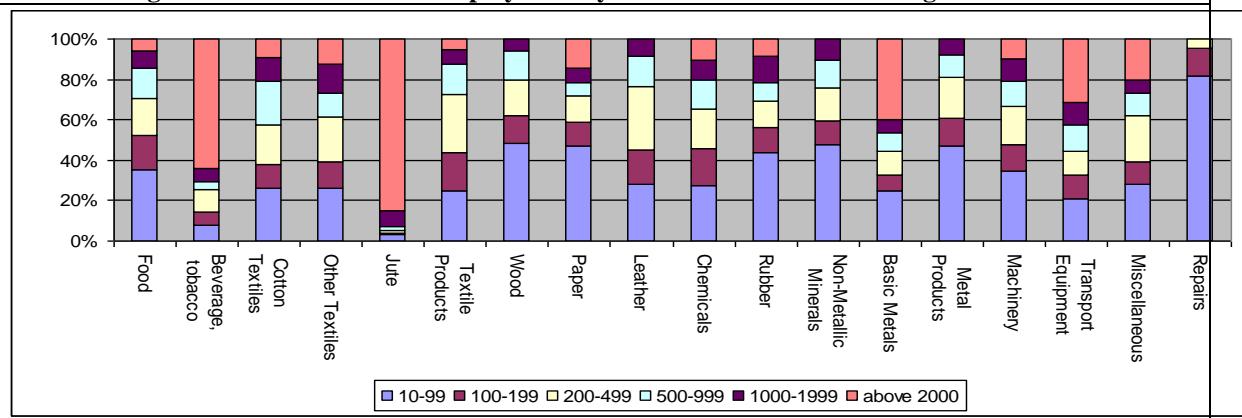
Panel B: Index of Labor Productivity by Size of Firms



Source: Mazumdar, 2005

21. ***It is worth emphasizing that the persistence of dualism in India appears to cut across most manufacturing sub-sectors.*** Data disaggregated by sectors show that in 14 of the 18 large (two-digit) industry groups, the largest share of workers is found in the group of firms employing 10-99 workers (Figure 3.8). When 2000/01 figures are compared with those from 1994/95, it is seen that there was a loss in the share of employment in the 100-199 class for as many as 13 out of 18 industries (Table 3.7).

**Figure 3.8: Distribution of Employment by Firm Size in Manufacturing Sub-sectors**



Source: Annual Survey of Industries, 2000/01, and Central Statistical Organization (CSO)

**Table 3.6: Change in Employment Share, by Factory Size,  
1994-2000: Gainers and Losers**

	Employment Size Class of Factories					
	10-99 Workers	100- 199	200- 499	500- 999	1000- 1999	Above 2000
Food	3.5	-4.7	-2.0	-5.6	2.3	5.4
Beverage & Tobacco	-48.9	-3.4	-4.7	-11.5	2.4	63.0
Cotton Textiles	5.0	-6.5	-4.3	-3.1	-5.4	-1.0
Other Textiles	0.1	-1.6	7.2	-3.0	-6.7	-1.4
Jute	0.6	-0.1	-0.5	0.9	-4.4	3.3
Textile Products	-11.3	-9.4	18.8	5.8	4.3	4.7
Wood	-12.8	1.9	4.9	1.7	2.3	0.0
Paper	13.0	-3.4	1.5	-5.5	-4.9	-0.2
Leather	-4.1	-11.7	16.7	0.9	5.3	-4.3
Chemicals	-11.8	4.9	5.7	0.1	-2.5	1.5
Rubber	19.0	-8.7	0.2	-4.0	1.6	-5.8
Non-Metallic Minerals	3.0	-3.5	0.9	-0.5	3.0	-1.7
Basic Metals	5.3	-4.0	-4.3	-7.2	-0.5	3.0
Metal Products	1.9	0.2	7.4	-1.9	1.3	-6.4
Machinery	4.4	-4.5	6.7	-0.4	1.4	-9.0
Transport Equipment	7.4	1.4	1.3	2.5	0.1	-15.7
Miscellaneous	-5.7	-7.3	7.8	-3.8	-6.2	15.5
Repairs	50.9	-0.2	-1.5	-5.9	-4.7	-27.4

Source: Authors' estimates based on Tables 3.1 and 3.2

22. *The fall in the share of firms employing 100-199 workers, in a large number of industries, may have been partly due to the rising practice of using contract labor.* A look at disaggregated groups of industries shows that contract intensity in export-oriented or import-competing industries peaked in the 100-199 group (Table 3.7). This happened, probably, in response to firms searching for more flexible ways to increase output.

**Table 3.7: Contract Intensity (Percent of Contract Labor) by Size of Factory in Six Industry Groups:  
2000-2001**

Employment Size-Class	Export- Oriented	Import- Competing	Food	Auto & Tire	Petroleum	Others
0-9	3.0	2.5	5.8	1.2	3.7	4.4
10-99	10.6	11.6	21.2	8.6	10.5	22.7
100-199	18.7	18.9	17.7	16.2	19.4	18.6
200-299	14.6	15.6	21.3	18.1	36.5	14.1
300-above	7.6	16.1	38.2	6.2	15.3	19.6
All Factories	NE	NE	NE	NE	NE	NE

Source: Ramaswamy, 2005.

**Table 3.8: Distribution of Manufacturing Employment**

23. *As noted in the beginning of this chapter, dualism also exists and has persisted between the organized (also known as ‘registered’) and the unorganized sectors.* Unorganized sector firms are those which use power and employ less than 10 workers, the threshold size of registered sector firms.<sup>7</sup> Their employment share is very large – nearly 3/4<sup>th</sup> of the manufacturing labor force -- and the productivity gap between them and organized sector firms is huge (Table 3.8). In the early post-reform years, when organized sector employment share increased marginally, the productivity gap between unorganized and organized sectors widened even more. In the more recent period, between 1994 and 2001, the employment share of the organized sector tended to fall.

Organized Sector Share of Employment			
No. of workers in firms	1984/85	1994/95	2000/01
100+ workers	10.0	11.8	10.2
10-100 workers	15.0	18.4	16.3
Total Organized	25.0	30.2	26.5

Unorganized Sector Share of Employment			
DME (6-9 workers)	9.7	12.8	14.1
NDME (1-6 workers)	65.2	9.2	10.4
OAME (family operated)		47.9	49.0
Total Unorganized	74.9	69.8	73.4
Total	100.0	100.0	100.0

Source: Unni (2005), NSS Unorganized Sector Survey Module.

## E. Is Outsourcing Mitigating Dualism?

24. *Although the outsourcing of production from formal sector firms to informal sector firms can mitigate dualism, this does not appear to be the experience in India.* For instance, it is well known that the Japanese system of dualism in the manufacturing sector enhanced efficiency, both in the static and dynamic aspects, by the vital system of outsourcing (Little, Mazumdar and Page, 1987). But while there is some evidence of this happening in Indian manufacturing, a good deal of outsourcing is in the nature of ‘capacity outsourcing’ in response to the perceived limits to growth beyond the threshold size, and not driven by a need to increase efficiency.

25. *In India, most outsourcing takes place by small, unregistered firms.* In the case of the food industry, small firms procure as much as 36 percent of their output from other firms (Table 3.9). This suggests that firms have a strong incentive to not expand beyond the size group of 9, to avoid becoming registered firms.

Table 3.9: Product Outsourcing Intensity, by Employment Size of Factories: 2000/01

Employment Size	Export-oriented	Import-Competing	Auto	Food	Others
0-9	22.1	26.2	-	36.2	11.2
10-99	8.8	11.4	27.6	12.5	11.8
100-199	6.1	9.1	7.7	7.4	4.7
200-299	7.7	6.2	-	10.5	5.6
Above 300	6.3	3.4	4.0	8.6	4.2
Total	6.3	4.0	6.0	10.0	5.1

Source: Estimated from Ramaswamy, 2005.

26. *This issue can also be looked at from the viewpoint of the firms in the unorganized sector which do the sub-contracted work.* Using the questions canvassed in the ‘Unorganized Sector Survey’ of 2000/01, Unni (2005) reported that 30 percent of unorganized sector firms undertook sub-contracted work (Table 3.10). The industries in which this percentage was particularly high were:

Tobacco Products (National Industrial Classification, NIC, code 89), Textiles (NIC 56), Chemical Products (NIC 67), and Office Accounting and Computing (NIC 64). Other key points revealed were:

- ***The distribution of sub-contracted firms by place of work showed that an overwhelming number of them (81.2 percent) operated from home.*** Only 15 percent operated from business premises. In the chemical industry, the percentage of home-based firms was as high as 95 percent, suggesting that modern industry had clearly penetrated the lowest segments of the informal sector.
  - ***Besides sub-contracted production work, unorganized sector firms were also linked through service contracting.*** The Unorganized Manufacturing Sector Survey captured the ‘receipts from services provided to others, including commission charges’. From this, the subcontracting-in of services undertaken by firms can be estimated. About 67 percent of firms reported undertaking sub-contracted service activities, with DMEs (firms with 6-9 workers) less likely to undertake this activity compared to the NDME (firms with 1-5 workers) and OAME (owner-operated family firms) firms. Such service contracts were not necessarily regular arrangements between two firms and were probably only indicative of market interactions between firms.
  - ***Is the sub-contract undertaken by a firm ‘vertical’ or ‘horizontal’ sub-contracting?*** In ‘vertical’ sub-contracting, the firm is fully dependent upon the parent firm/middleman/contractor to supply the raw material, design and equipment. This can be called a form of transfer of technology between firms. In ‘horizontal’ sub-contracting, the firm is independent and sources its raw material, design and equipment on its own. According to Watanabe (1983), the majority of Indian firms which undertook sub-contracting work were ‘vertical’ sub-contractors and only 1.6 percent of the 30.7 percent firms involved in sub-contracting could be called the ‘horizontal’ types.
27. Vertical sub-contracting can facilitate the transfer of technology because the sub-*contracted firm supplies raw material, equipment and sometimes the design also. But, again, this is not the case in India.* While 88 percent of firms received raw material from contractors, only 7 percent were supplied equipment. The designs were specified by contractors for 93 percent of firms. These numbers were similar across different sizes of firms for both design specification and equipment supply, but there was a slight variation with regard to the supply of raw material. A significantly higher proportion of OAME firms received raw materials, compared to NDME and DME firms. The vertical linkages of raw materials and design specifications were much higher in modern industries than in traditional industries. Across industry groups, more modern industries were supplied with equipment, compared to traditional industries.
28. Overall, these findings suggest that sub-contractors in Indian manufacturing are yet to graduate from their ‘dependant’ status and become independent producers that seek out the mother firms — a development that underlies the success of the Japanese model of sub-contracting.

**Table 3.10: Proportion and Distribution of Firms Subcontracting-In, by Location and Industry Group: 2000/01**

Industry	Proportion of Sub-contracting Firms	Distribution of Sub-contracting Firms by Location			
		Total	At Home	Outside	No Fixed Premises
					Total

14. Cotton Gin, Cleaning & Bailing	8.3	6.9	93.1	0.0	100
15. Food Products	3.6	71.1	23.5	5.4	100
16. Tobacco Products	89.3	99.1	0.8	0.1	100
17. Textiles	55.5	89.7	10.3	0.1	100
18. Apparels	17.4	70.5	29.4	0.1	100
19. Leather Products	23.7	66.2	33.8	0.0	100
20. Wood (except Furniture)	11.3	58.9	16.3	24.8	100
21. Paper & Paper Products	42.0	80.2	19.8	0.1	100
22. Publishing, Printing	39.6	31.7	68.3	0.0	100
23. Coke, Refined Petroleum	0.3	0.0	100.0	0.0	100
24. Chemical Products	66.8	95.9	4.1	0.0	100
25. Rubber Products	42.6	59.0	40.9	0.0	100
26. Nonmetallic Mineral Products	5.6	69.4	29.6	1.0	100
27. Basic Metals	36.5	36.9	63.1	0.0	100
28. Fabricated Metal Products	22.1	39.8	59.7	0.4	100
29. Machinery and Equipment	22.0	25.2	73.9	0.9	100
30. Office Accounting & Computing	63.6	0.0	100.0	0.0	100
31. Electrical Machinery	32.0	57.0	43.0	0.0	100
32. Radio, TV, Communications	46.8	44.8	55.2	0.0	100
33. Medical, Precision, Optical	37.7	33.5	66.5	0.0	100
34. Motor Vehicles	48.1	7.3	92.7	0.0	100
35. Other Transport Equipment	42.7	22.7	77.3	0.0	100
36. Furniture & Other Manufactures	35.4	52.1	37.8	10.1	100
37. Recycling	44.2	61.0	39.0	0.0	100
Total	30.7	82.0	15.3	2.6	100

Source: Data from Unorganized Manufacturing Sector Survey, 2000/01, New Delhi, Central Statistical Organization; Unni (2005).

## F. Why Has Dualism Persisted?

29. **Dualism in manufacturing has persisted even after 15 years of liberalizing reforms.** This suggests that the factors that created dualism have not altered significantly, despite significant policy changes. One change in the post-reform period was the virtual elimination of the reservation of specific product lines as the exclusive purview of the small-scale sector. Secondly, the liberalization of imports of consumer goods also profoundly altered the monopoly of small-scale producers in these markets. A third change was that efforts were made to reduce the strength of capital market segmentation. Despite these, surprisingly, available survey data show, the size structure of industry has hardly changed in the last 25 years.

30. **The fact that there is little change in the size structure of the manufacturing industry implies, possibly:** (i) segmentation of factor markets — in labor and capital — is more important in supporting dualism than product market segmentation which the reservation policy encouraged, and; (ii) once the specialization by small and large firms in different segments of the product market has been firmly established, it is difficult for firms to alter their market positions easily, especially in the short- to medium-term.

31. **There are four important reasons for the emergence and persistence of the Indian pattern of dualistic industrial structure:**

- The first is **labor market segmentation** which ensures that wage levels (even after controlling for human capital attributes or skill levels of workers) increase sharply with firm size. Even if there are some economic reasons for the prevalence of this size-wage relationship (for example, efficiency wages could be higher in larger units due to the cost of managing larger groups of workers), there can be no doubt that these are cemented, and indeed augmented, by institutional factors. For example, for a long time, in many industries, wage boards were responsible for setting wage levels. Their rulings on wage levels for different classes of firms were based partly on the levels of labor productivity attained. This strengthened the high productivity-high wage nexus found in larger firms. At the same time, labor laws also impact through inducing large firms with more capital assets to invest in labor-saving techniques, leading to higher labor productivity and wages (see Chapter 5 for more on this). Finally, wages in the public sector, which dominates employment in the formal sector, are set above the market rates for most workers. This is another factor that segments the labor market in all sectors. It can also lead to unemployment as educated workers queue up and wait for public sector jobs (See Box 3.2)
- **Capital market segmentation** and a generous depreciation allowance make the availability and cost of capital significantly more favorable for large firms. This group of factors works in the same direction as labor market segmentation, in inducing firms to adopt more capital-using and labor-saving methods. The net effect is to strengthen forces which increase the small-large differential in labor productivity and wages.
- **Product market segmentation** differentiates between small and large firms by the quality of the products (even in the same general category) in which they specialize. Smaller firms opt for low-quality, labor-intensive sub-categories of products which cater to the needs of low-income groups. The result is a further strengthening of the factors that create the gap in labor productivity (value-added per worker) between large and small firms.

32. ***Reservation policies have been largely abandoned in the post-reform years since 1997, both by increasing the size of investment permissible to qualify as a small-scale industry, and by ‘de-reserving’ specific sectors.*** In any event, the impact of this policy lost its bite with the liberalization of imports and increased competition in the market for consumer goods which were the mainstay of the small-scale sector in manufacturing.

33. ***However, there still exist a number of fiscal subsidy programs and policies that discourage firm growth.*** For instance, there are fiscal and credit market benefits to enterprises below a certain size. Thus, there are built-in disincentives for enterprises to go beyond this size limit. In addition, labor laws on wages, benefits and job security apply to units *above* the critical size. Enterprises graduating out of the protected small-sector thus face extra costs, even as they are denied the benefits of fiscal subsidies and other programs. This causes a polarization of the industrial structure even within the same sector -- small-scale and large enterprises have increasingly occupied different niches of the market in the same industry (Box 3.2).<sup>8</sup>

#### **Box 3.2: Wage-setting in the Public Sector**

Wages of central Government employees are revised on the recommendations of the Pay Commissions, specially appointed at intervals of approximately ten years by the federal Government. For state Government employees, State Pay Commissions are appointed by the respective states, which may endorse in full or partially the recommendations of the central government's Pay Commissions. (In the central public sector undertakings, there are periodic wage settlements between management and workers, four years being the typical duration of a wage agreement.) The recommendations of the Pay Commissions usually revolve around fixing a minimum pay, determining maximum pay, neutralizing the rise in the cost of living (dearness

allowance), and establishing vertical and horizontal pay scales. The Fifth Pay Commission was constituted in 1995 and its recommendations were implemented starting 1996.

In fixing the **minimum salary** in the Government, the Fifth Pay Commission took the basic pay fixed by the Fourth Pay Commission (1986) and the dearness allowance as on January 1, 1996, and suggested adopting a compensation factor of 30.9 percent, by which the per capita net national product had grown during the period 1985-1995. For the lowest functionaries, it worked out an increase of 3.25 times in nominal pay, much higher than that suggested by consultants.

In fixing the **maximum salary**, the Fifth Pay Commission sought to reverse the consequences of the first four Pay Commissions' concerns about whether the maximum salary in government should be reduced in view of the inordinately high disparity ratio. The practice of offering only partial neutralization for increased cost of living at the higher levels, and complete neutralization at the lower levels, would explain, partly, this fall in disparity ratio in current prices between the maximum pre-tax remuneration and the minimum pre-tax remuneration going down progressively from 54.5 in 1948 to 8 in 1996. (The post-tax disparity ratio in current prices came down even more drastically from 41 in 1948 to 6.1 in 1996.) The Commission also compared the existing scales with those in the private sector and in public sector undertakings. It noted wide differentials between the salaries of senior functionaries in the government and their counterparts in private and public undertakings. Substantial erosion in the real income of senior level government officials was noted. The Commission tried to bridge the gap, to some extent, between the top level government employees and their counterparts in private or public undertakings by trying to retain the pre-tax disparity ratio between the minimum and maximum salary at the Fourth Pay Commission level of 10.7. To achieve this, it advocated a 100 per cent neutralization of cost of living at higher levels. For the higher cadres, it introduced the concept of full neutralization of cost of living and giving allowances and pensions net of income tax; in fact it recommended a uniform neutralization of dearness allowance at the rate of 100 per cent to all employees at all levels, as the erosion in the real value of salary at the highest level was found to be severe by the Fifth Pay Commission.

The new basic pay, both for maximum and minimum salaries, was about 3.25 times higher than the unrevised pay. In addition, the Commission recommended de-linking pay from position in the hierarchy, meaning that a person could enter into a higher pay scale based on experience, without another post being created for him/her in the hierarchy.

## G. The Tertiary Sector

34. *Absorbing close to 40 percent of the increase in labor force between 1983 and 2004, the tertiary sector has been the leading sector in India's economic growth, both in terms of output and employment.* Employment in the sector doubled over this period, compared to an increase of only 43 percent in the case of the manufacturing sector. The employment elasticity in the sector as a whole, in the post-reform period (1993-2004), was significantly higher than in all of manufacturing (Table 3.11). However, the tertiary sector is still heavily dominated by the public sector which accounts for 70 percent of jobs in rural areas and 59 percent of jobs in urban areas.

35. *Taking the public and private sectors together, tertiary sector employment has grown faster than manufacturing employment since the 1980s.* The differential in the growth rates of employment has been much higher with respect to agriculture. But employment growth in the tertiary sector fell in the second half of the 1990s, relative both to the 1987-1993 period and the longer 1983-1993 decade. This was entirely due to a decline in employment in the public sector in the latter half of the 1990s. Table 3.11 shows that compared to the 1983-1993 decade, the decline in employment growth in financial services in the second half of the 1990s was marginal. All other groups increased their rate of growth of employment. Particularly strong were increases in the trade and hospitality sectors.

**Table 3.11: Employment Elasticities for Different Sectors and Periods**

NIC	Industry	Growth Rates of GDP			Growth Rates of Employment			Elasticity of Employment		
		1983-1993/94	1987/88 - 1993/94	1993/94 - 1999/00	1983-1993/94	1987/88-1993/94	1993/94 - 1999/00	1983-1993/94	1987/88-1993/94	1993/94 - 1999/00
1	Agriculture & Allied Activities	2.7	4.8	2.9	1.4	2.2	0.7	0.503	0.459	0.250
2&3	Mining, Quarrying and Manufacturing	5.8	6.1	5.2	4.2	3.8	-4.2	0.726	0.628	0.806
4	Electricity, Gas and Water	5.2	5.2	7.3	2.0	1.4	1.9	0.382	0.262	0.262
5	Construction	7.9	7.9	6.9	3.9	3.9	-2.3	0.488	0.499	-0.331
6	Trade, Hotels and Restaurants	4.6	5.3	6.4	5.5	0.1	6.4	1.183	0.024	1.007
7	Transport, Storage & Communications	5.3	5.6	9.2	3.9	3.4	6.3	0.741	0.608	0.691
8	Financial, Insurance, Real Estate & Business Services	5.8	5.6	9.4	3.5	3.5	5.4	0.608	0.629	0.570
9	Personal, Business and Community Services	9.62	10.5	8.4	5.3	4.4	5.6	0.555	0.416	0.666
6+7+8+	Tertiary	5.4	4.9	8.6	3.6	4.4	-1.2	0.663	0.900	-0.137
	All Sectors	6.4	6.5	8.8	3.8	3.9	3.1	0.590	0.597	0.346

Source: National Accounts for GDP and NSS for Employment (Based on UPS employment estimates)

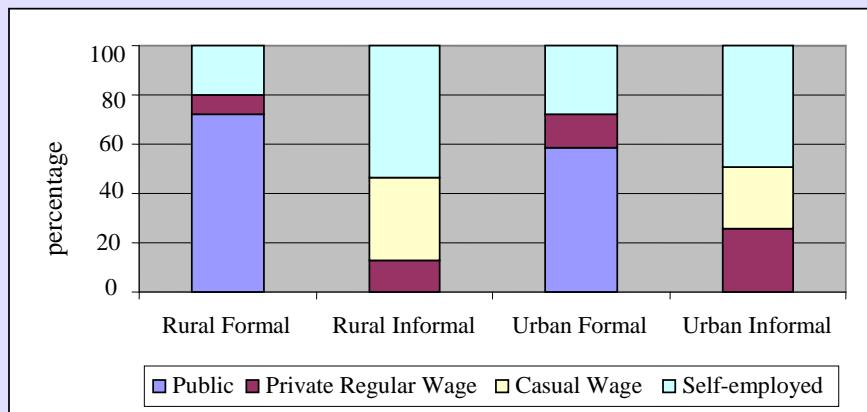
36. ***It is possible to give estimates of employment in the formal and informal sub-sectors, in tertiary activities, on the basis of some accepted criteria.*** Estimates for 1999/00 show that the formal sector accounted for a quarter of tertiary employment in the rural areas, and more than a third of employment in the urban economy. Even after the decline in public sector employment in the post-reform period, this sector still accounts for more than half of *formal* tertiary employment in the urban areas and more than 70 percent in the rural (See Box 3.3). In the absence of time-series data for the formal and informal sectors in the tertiary sector, trends in low- and high-paid employment in the sector have been analyzed by looking at changes in the entire distribution of earnings in this sector over time. The issue has been examined from several angles:

- Productivity differentials between sectors. The average productivity in the tertiary sector as a whole is pulled up by the high value in the financial sub-sector, but seems to be about the level of manufacturing (in 2000) in most sectors, except trade (where it is 20 percent lower).
- There is indeed some evidence to support the general perception that some sub-groups like consumer services have witnessed a relatively large influx of labor, pushing down their relative productivity to some extent, while others like business services have improved their position due to demand factors.

**Box 3.3: Composition of Employment in the Tertiary Sector**

The 55<sup>th</sup> (1999/00) Round NSS Survey made it possible to identify workers in the public sector by obtaining information on the establishment types in which workers were employed. In this study, workers in all public and semi-public establishments have been grouped as being in the formal sector. The 55<sup>th</sup> Round Survey also reported, for the first time, the employment sizes of the establishments in which workers were employed. For the purpose of this study, all establishments employing more than 10 workers are considered to be in the formal sector.

For the large group of the self-employed, the usual classification in terms of the workers' education has been adopted. Those with lower secondary education or less education are considered to be in the informal sector and the more highly educated (which includes professionals) are taken to be in the formal. These criteria help give a rough picture of the composition of tertiary sector employment for the year 1999/00, as presented below:



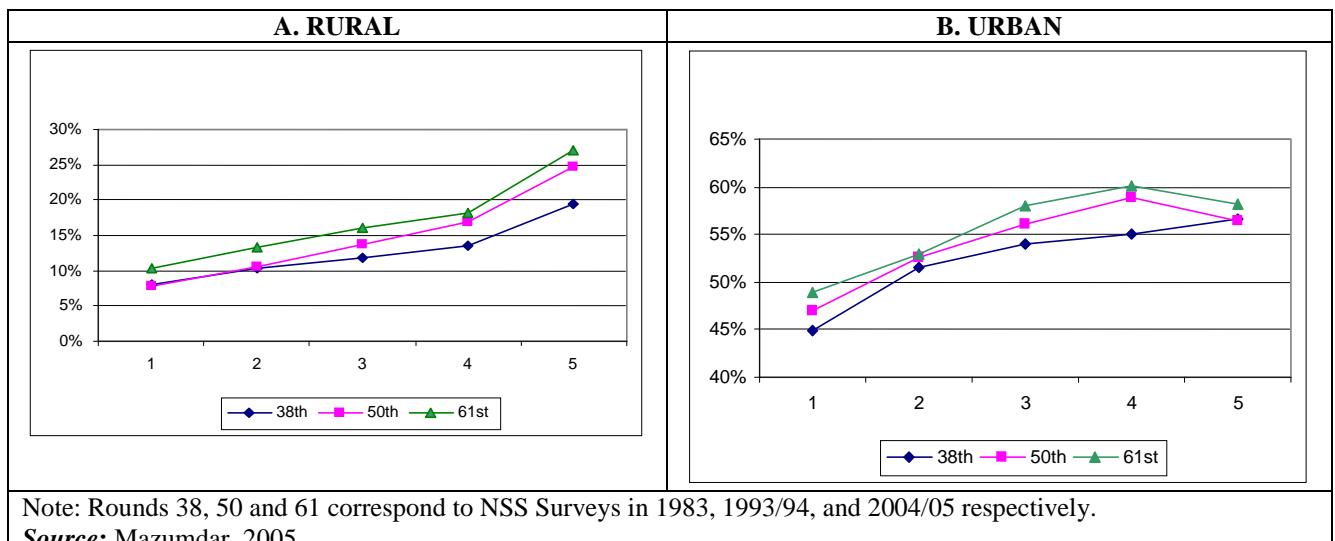
Source: Mazumdar, 2005.

37. ***Is labor being pulled or pushed into the tertiary sector?*** It is possible to get some idea about this by looking at the share of main family earners in the tertiary sector, in different quintiles of the income distribution curve, for successive NSS Rounds. Figure 3.8 (Panels A and B) throws some light on where jobs have been created – at the low end or uniformly across household quintile ranges.

38. ***A major change seemed to take place in the post-liberalization period in the nature of jobs created in the tertiary sector, both in rural and urban areas.*** In the 1980s, jobs were created in the upper quintiles in rural areas. But in the post-reform period (1993-2004), the graph shows distinctly larger movements in the lower two quintiles, indicating that most new employment was created in lower income jobs. In the urban areas, the picture is somewhat similar in that during the pre-reform period, more jobs were created in the upper income quintiles (except for the top-most quintile). In the post-reform period, the job-creation was more or less evenly spread out over the income scale.

39. ***In the 1980s, across rural and urban locations, more jobs were created in the higher quintiles in the tertiary sector.*** The slopes of the graphs increase between 1983 and 1993 (the 38<sup>th</sup> and the 50<sup>th</sup> NSS Rounds) — more prominently in rural areas. But between 1993 and 2004 (the 50<sup>th</sup> and 55<sup>th</sup> NSS Rounds), the graph for the rural sector shows a more or less parallel movement outwards, with some suggestion that the movement was largest in the 5th quintile. In the urban sector, the differential movement by quintile groups is quite striking at the two ends of the distribution scale. There was a sharp increase in the share of tertiary earners both at the lower (2<sup>nd</sup>) and the highest (5<sup>th</sup>) quintiles, at the expense of the middle (3<sup>rd</sup> and 4<sup>th</sup>) quintiles. This suggests that the tertiary sector is absorbing labor disproportionately at the lower and upper ends of the earnings distribution scale. While the category of consumer services is represented at the low end, business services play the dominant role at the high end.

**Figure 3.9: Employment Share of the Tertiary Sector by Quintile Groups, Different Rounds**

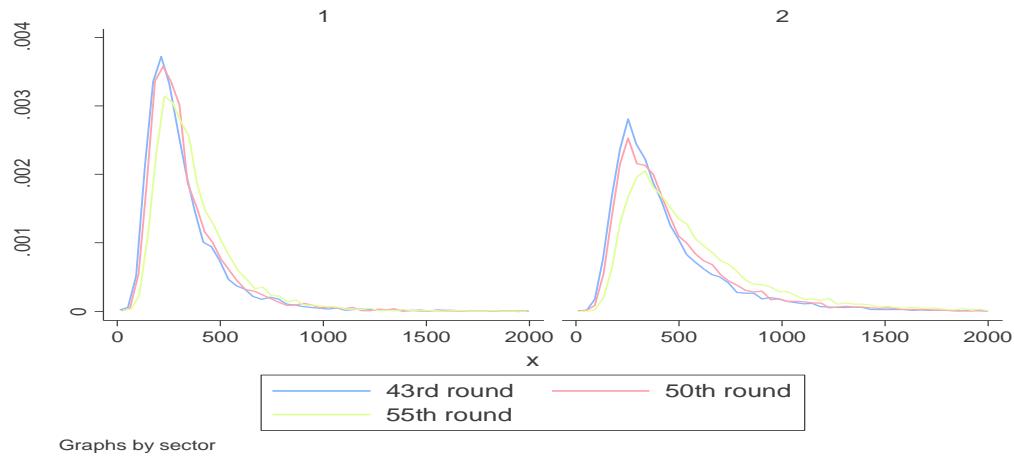


Note: Rounds 38, 50 and 61 correspond to NSS Surveys in 1983, 1993/94, and 2004/05 respectively.

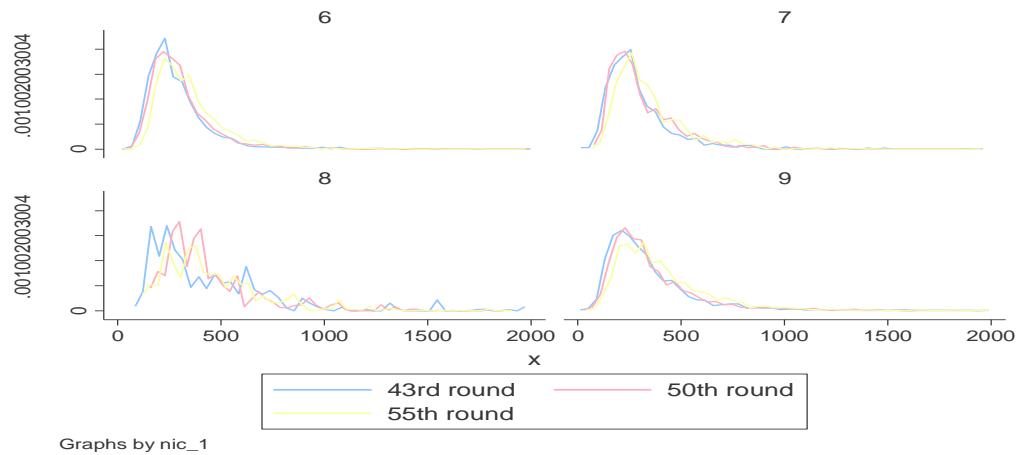
**Source:** Mazumdar, 2005.

40. *The fact that more tertiary sector employment has been created in the lower quintiles does not mean that there has been immiserizing growth in the tertiary sector, in the sense that earnings in the sector have not become depressed.* This is brought out clearly by the graphs of the kernel distribution functions in Figure 3.10. The movement of the distribution of mean household per capita expenditures (MPCE) for the successive Rounds brings out two important points: (i) there is an outward shift of the distribution in the tertiary sector so that earnings at all levels have increased, and; (ii) there have been proportionately larger increases in the numbers in the 1st and 5th quintiles of the distribution — with relatively less absorption of labor in the middle range. This implies an increase in inequality in the bottom half of the distribution --- a trend more prominent in the urban economy. Disaggregating the tertiary sector further (Figure 3.11), it is seen that these effects are mild in consumer services, but much more striking in business services and in the public sector.

**Figure 3.10: Kernel Density Functions of Expenditure Per Capita in the Tertiary Sector, Different Rounds: 1. Rural; 2. Urban**



**Figure 3.11: Kernel Density Functions by Major Sub-groups of the Tertiary Sector**



6: Trade, Hotels and Restaurants; 7: Transport, Storage and Communication; 8: Finance, Real Estate and Business Activities; 9: Public, Community and Personal Services

41. **The finding that labor is being absorbed more in the lower and upper parts of the earnings distribution scale raises the question: is ‘dualism’ greater in the tertiary sector?** As noted earlier, ‘dualism’, in terms of the gap between low and high earners, is high in manufacturing in the Indian economy. If the dualism is stronger in the tertiary sector, then the ‘net’ tertiary-manufacturing differential, after controlling for other major determinants of earnings (like human capital attributes), would be expected to increase when moving up the scale in earnings distribution. Quantile regressions on the 55<sup>th</sup> Round of the NSS were used to estimate the net differential at the five quintiles of the distribution.<sup>66</sup> Dummies for the sectors (with primary as base) were used in the regressions, along with a set of other explanatory variables. The latter included education, age, sex,

<sup>66</sup> The quantile regression technique estimates the coefficients of the explanatory variables, not just at the mean values as in ordinary least squares estimation, but at each of their five quintile values. Thus, the dummies of the sector coefficients which have been used to show the ‘net’ earnings differential in the sector concerned (tertiary or secondary), with respect to the base (primary) at five points of the expenditure (or earnings) distribution of the latter (Mazumdar, 2005).

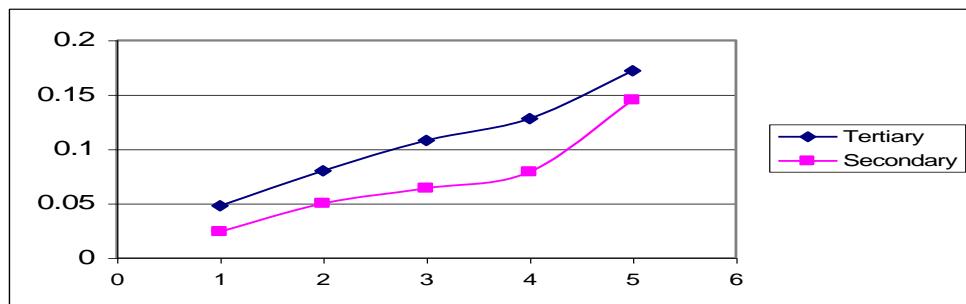
and urban/rural location. The exercise was done separately for mean per capita expenditures (MPCE) of households (in which the characteristics of the ‘main earner’ were used for the explanatory variables) and for monthly earnings of regular wage earners. There were some differences in the sets of explanatory variables used in each case.

42. *The coefficients of the tertiary and manufacturing dummies at the different quintiles are given in Table 3.12 and they are graphed in Figure 3.12.* They show the ‘net’ difference in MPCE with respect to the base, the agricultural sector. The differential is, all along, higher for tertiary sector workers. The gap between the agricultural and tertiary sectors increases in the middle range and diminishes, somewhat, only at the highest quarter of the distribution.

**Table 3.12: Values of Dummies of Quantile Regressions: 55<sup>th</sup> NSS Round**

Co-efficients of Dummies (Base= Primary)		Q5	Q25	Q50	Q75	Q95
<b>Mean Per Capita Household Expenditures</b>						
Tertiary		0.048	0.08	0.108	0.128	0.172
Secondary		0.024	0.05	0.064	0.079	0.145

**Figure 3.12: Coefficients of (Dummy) Variables from Quantile Regressions on Mean Per Capita Expenditures**



Source: Mazumdar, 2006.

43. *The conclusion is that dualism is quantitatively more important in the tertiary sector when the ‘net’ earnings of the lowest quintile are compared with those of the higher quintile — except that the difference is reduced for the highest quintile.* There is, thus, some support for the popular perception that the tertiary sector is home to a body of low-earners, more so than the secondary sector.

## **CHAPTER 4: WHAT DO REGIONAL DIFFERENCES IN LABOR MARKET OUTCOMES IMPLY?**

44. Not only are there significant differences in labor market outcomes across India's states and regions, these differences have also been persistent. Employment outcomes have been consistently poor in the northeastern states, the northern states of Uttar Pradesh and Bihar, the coastal regions of Orissa and Kerala, and the former French and Portuguese colonies of Goa and Pondicherry respectively. One important exception to these differences is real wages (wages adjusted for inflation), which show a slight tendency to converge across regions and, more robustly, across rural and urban areas. This exception helps explain why migration rates across Indian states have been unusually low, as have urbanization rates

45. Two proximate factors stand out as the main drivers behind regional differences. First, contrary to the widespread perception of 'jobless' growth, differences in economic activity levels (that is, GSDP) and economic growth affect employment, earnings and unemployment rates significantly. However, the GSDP and employment nexus is not robust in the short run, indicating that regulations, which differ from state to state, play a role in affecting the labor market. The second proximate factor is differences in female participation rates which, in turn, depend largely on the opportunities for employment and earnings.

### **A. Introduction**

46. The Labor *market outcomes vary significantly across India's 32 states and 78 regions*.<sup>67</sup> The differences can be dramatic --for instance, male employment rates can vary from 65 percent to 83 percent and female participation rates from 10 percent to 53 percent.<sup>68</sup> In 1999/00, rural weekly earnings in one region were less than one-tenth of weekly earnings in another. Further, not only are these differences large, they have persisted over the past two decades. In this context, some important questions would be: What can regional differences tell us about the determinants of labor market outcomes in India? What role do economic growth and economic activity levels play in affecting labor market outcomes? Why do female participation rates vary so dramatically across India's states and regions and what light can this phenomenon throw on the decline in female participation rates in the 1990s?

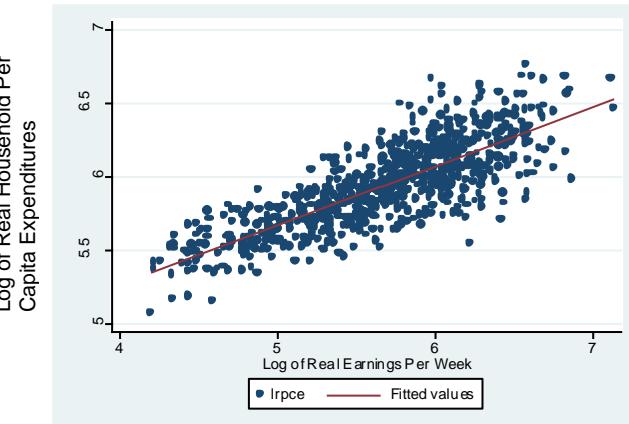
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<sup>67</sup> This refers to the 78 regions in the NSS, which correspond loosely to agro-ecological areas.

<sup>68</sup> Employment rate refers to the share of the population in the 15-59 age group which is employed.

47. This *chapter attempts to deepen our understanding of the determinants of labor market outcomes by analyzing the regional differences*. The motivation is two-fold: first, by being able to examine the variations in labor market outcomes across states and NSS regions, and the changes in them over a period of time, this analysis can help shed light on the determinants of labor market outcomes in India in general; second, understanding regional variations is important for its own sake because it brings into focus the regional dimensions of employment issues. Regional perspectives can be advantageous, for instance, in providing evidence of the importance of labor force earnings in per capita household expenditures which, in turn, determine household welfare and poverty. Figure 4.1 highlights the dramatically tight link between labor earnings (the product of employment and wages) and household consumption, and thus, poverty rates and welfare. Before proceeding further, it may be worth highlighting a few significant key facts next.

**Figure 4.1: Log Household Real Per Capita Expenditures (Vertical Axis) plotted against Log Real Weekly Earnings (Horizontal Axis) for Regions for Five Rounds from 1983 to 2004/05**



*Source:* Authors' estimates from NSS data. An increase in wage earnings explains about 66 percent of the variation in per capita household expenditures by itself.

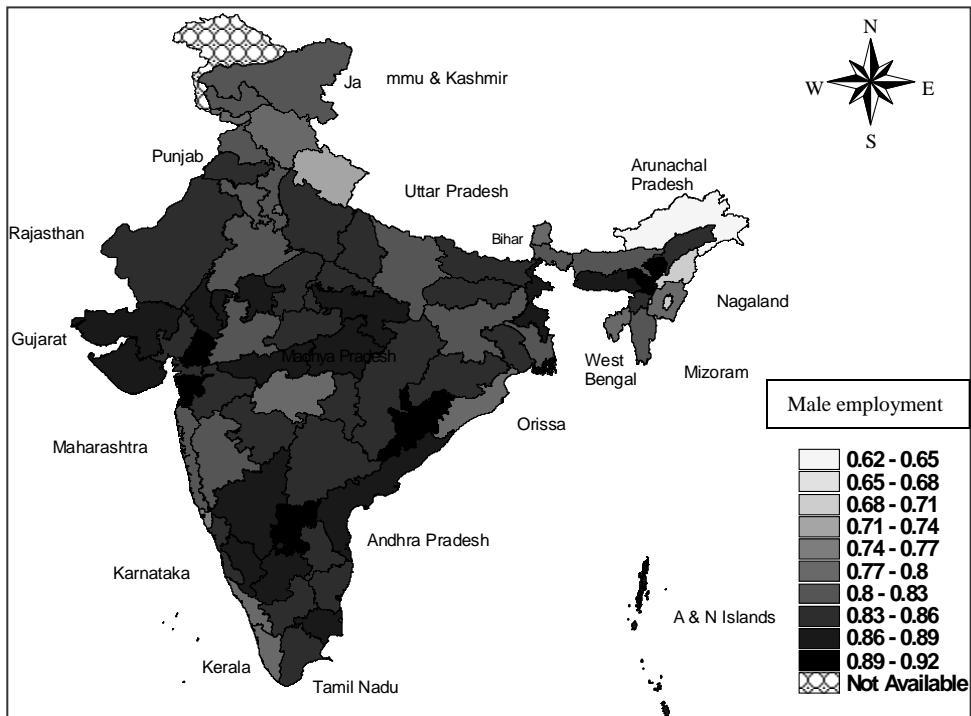
## B. The Stylized Facts -- How Significant Are Regional Differences?

48. **Labor market outcomes and trends differ across India's regions in four respects.** First, there is striking regional clustering of employment outcomes. The northeastern states of Arunachal Pradesh, Assam, Nagaland, Tripura, Manipur; the northern states of Uttar Pradesh and Bihar; the coastal regions of Orissa and Kerala, and; the former Portuguese and French colonies of Goa and Pondicherry respectively, have low employment rates (Figure 4.2). On the other hand, the southern states of Andhra Pradesh, Karnataka and Tamil Nadu, and the western states of Gujarat and Maharashtra, show higher employment rates. These trends largely mirror the participation rates across the same regions, indicating the close correlation between employment rates and participation rates (Figure 4.3).

49. **Second, variations in female employment and participation rates are markedly higher than those for males.** These variations drive most of the regional differences (Figures 4.3 and 4.3). The coefficients of variation of employment and participation rates for females are nearly four times those of men. In addition to low employment and participation rates in the northeastern regions (including Tripura), Uttar Pradesh and Bihar, female employment rates are also very low in West Bengal and, perhaps not that surprisingly, in prosperous Punjab (Figure 4.2) as well. Once again, female employment and participation rates are much higher in the prosperous western states of Gujarat and Maharashtra, and the southern states of Karnataka, Andhra Pradesh, and Tamil Nadu. One implication of this pattern is that it makes it difficult to attribute the low participation rates in West Bengal, specifically, and India, generally, to higher school attendance rates (which it is possible

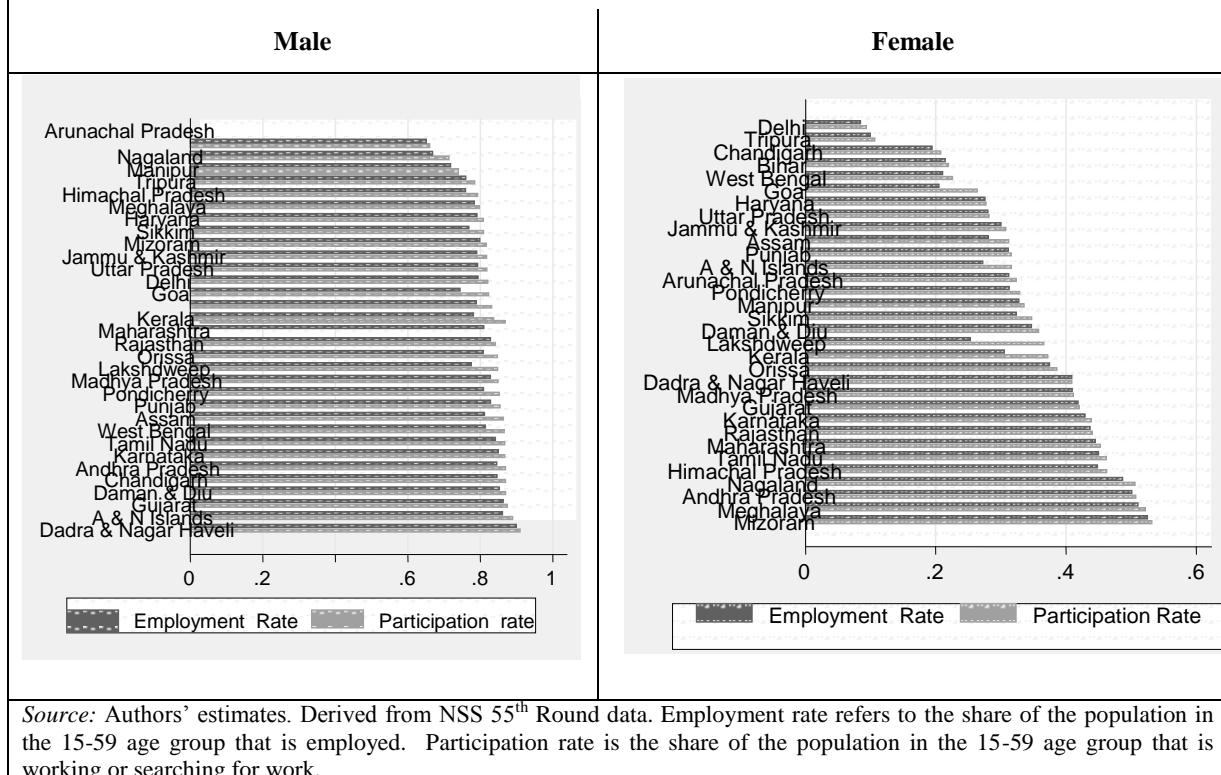
sometimes to do) because school attendance rates are also high in the western and southern states.

**Figure 4.2: Map of Male Employment Rates**



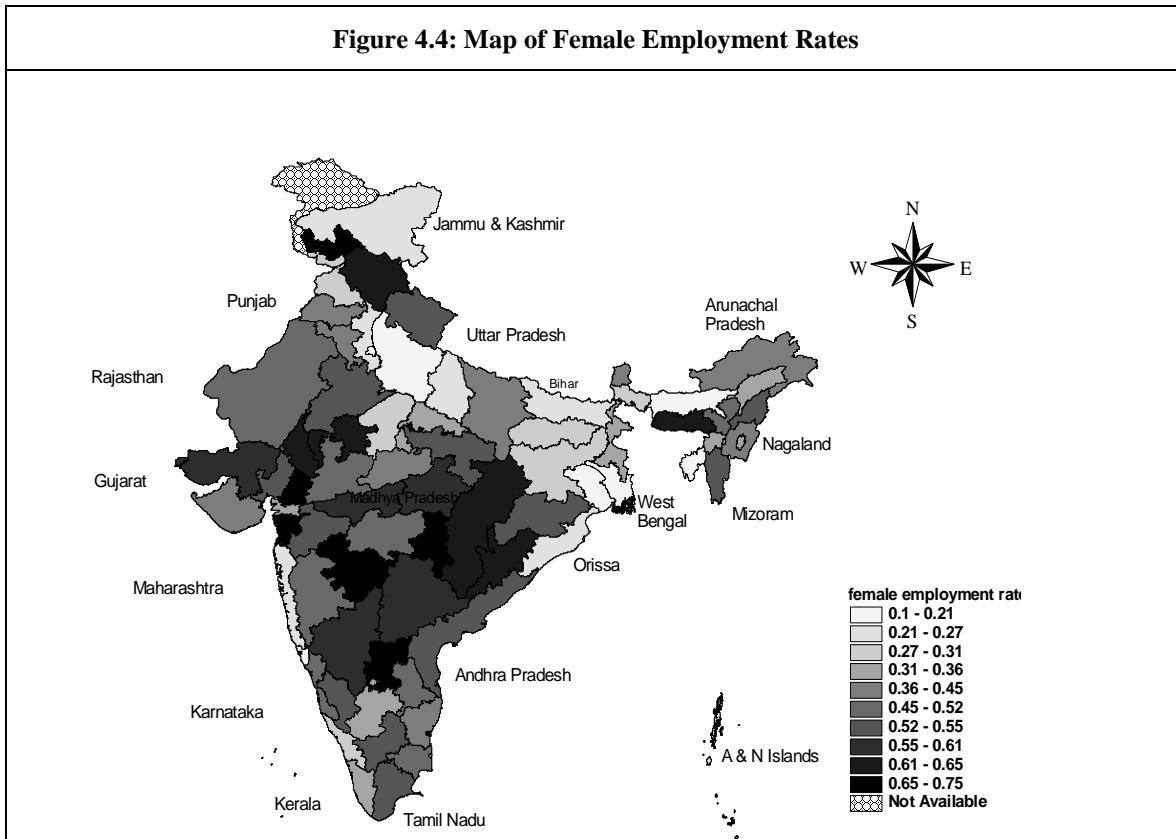
Source: Derived from NSS data for the 55<sup>th</sup> Round.

**Figure 4.3: Employment and Participation Rates for Males and Females Across Different States**



Source: Authors' estimates. Derived from NSS 55<sup>th</sup> Round data. Employment rate refers to the share of the population in the 15-59 age group that is employed. Participation rate is the share of the population in the 15-59 age group that is working or searching for work.

**Figure 4.4: Map of Female Employment Rates**



Source: Staff Estimates

50. **Third, regional differences are persistent.** There are few signs of convergence in employment rates or participation rates across regions. If we use the threshold of one standard deviation from the Indian average to classify regions as being significantly different from all-India averages, the number of regions significantly different has either stayed the same or increased in the NSS 55th Round (male employment rates were significantly different in 34 regions out of 78 regions in 2000) compared to the 50th Round (when 32 regions were significantly different in 1993). Particularly noteworthy is the increasing divergence from the all-India average in rural employment rates in the 55th Round, compared to the 50th Round. The persistence in employment indicators is also confirmed when we see that employment and participation rates are highly correlated across Rounds (Table 4.1). Employment and participation rates tend to show persistence across the different Rounds, in sharp contrast to real wages which are not correlated across Rounds.

**Table 4.1: Employment and Participation Rates in Regions are Correlated Across Rounds**

Correlation Between One Round and Previous Round								
Employment Indicators						Real Wages		
Employment Rate		Participation Rate		Unemployment Rate		Urban	Urban	Rural
Male	Female	Male	Female	Male	Female	Salaried	Casual	Casual
0.8266	0.8971	0.7955	0.8924	0.6485	0.5581	-.1143	-.0547	-.0819

Source: Estimated from NSS Data -- 38<sup>th</sup>, 43<sup>rd</sup>, 50<sup>th</sup> and 55<sup>th</sup> Rounds.

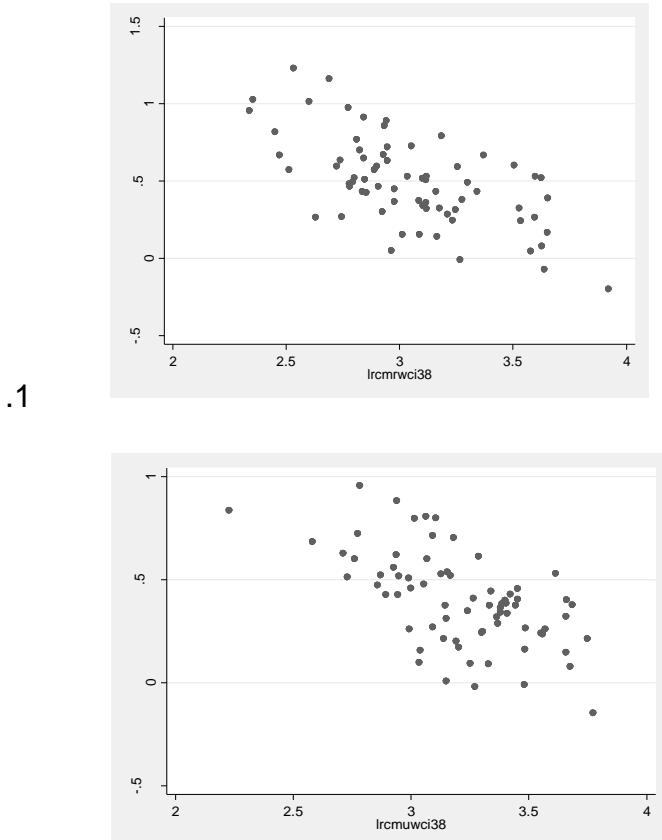
51. **Fourth, in contrast to employment indicators, real wages are showing signs of convergence, even though there are still substantial differences in wage rates across regions.** Wage inequality appears to be falling, across regions, for all categories of casual wages. There was a drop in measures of inequality -- coefficient of variation and gini coefficients -- in all three casual wage categories – rural, agricultural and urban -- between 1993 and 2000. Although there was a slight increase in regional inequality in salaried wages, the inequality was low to begin with. Convergence in wages is indicated by econometric tests of convergence which show that regions that had the lowest wage rates in 1983 had higher growth in wages in the next 17 years for which data is available. Conversely, regions which had higher real wages in 1983, experienced lower growth rates later on (Figure 4.5). This is also seen in the significant negative relation between growth rates of real wages and initial wages. Table 4.2 presents the estimates which show that wages are converging. Significantly, the convergence is least for wages in agricultural operations. Given that agricultural productivity varies widely depending on agro-ecological conditions, a slower degree of convergence is not unexpected.

**Table 4.2: Regional Convergence -- Regions with Higher Initial Real Wages have seen Slower Real Wage Growth**

Rounds	Urban Casual Industry	Urban Salaried Industry	Rural Casual Industry	Rural Casual Agriculture	Rural Casual Agricultural Operations	Rural Salaried Industry
38-50	-1.06	-0.64	-1.07	-1.21	-0.19	-0.68
50-55	-1.13	-1.24	-0.97	-0.95	-0.20	-0.92
38-55	-1.03	-1.03	-0.87	-0.99	-0.24	-0.97

*Source:* Ahsan and Pages, 2006. Note, all estimates are statistically significant.

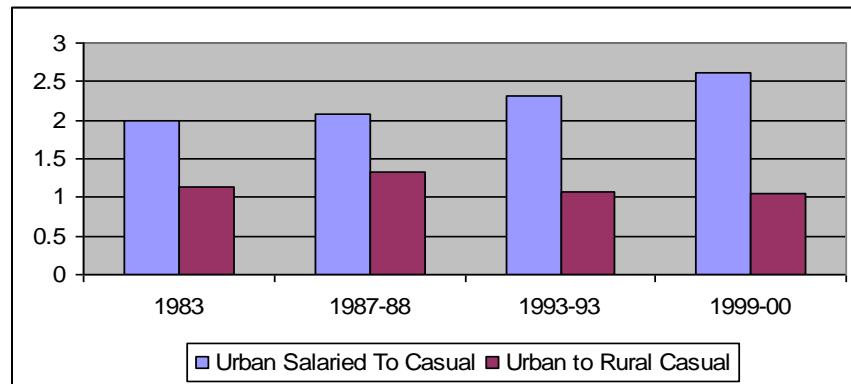
**Figure 4.5: Convergence of Casual Wages: Growth from 1983-2000 Against Real Wages in 1983. Rural Wages in Left Panel and Urban Wages in Right Panel**



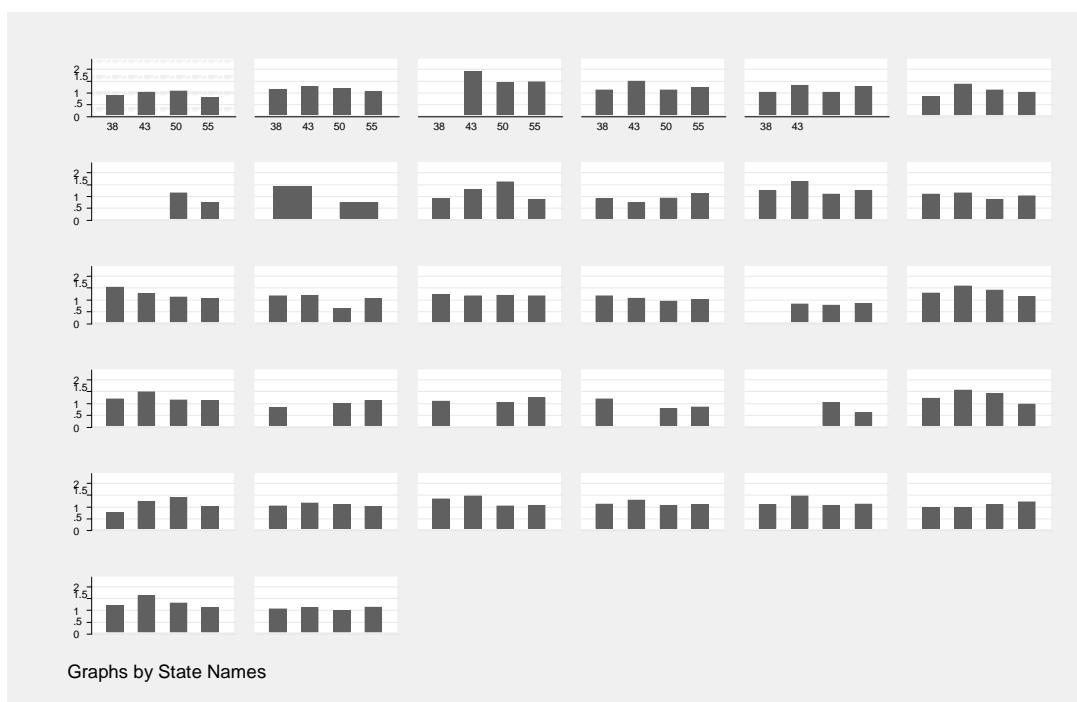
Source: Ahsan and Pages, 2006.

52. **Within each region, however, there are two contrasting trends.** Differences between casual wages in rural and urban areas largely disappeared in the 1990s. However, salaried and casual wages began to diverge (Figure 4.6 shows urban casual and regular wages). Seen across the last four Rounds, the ratio of urban to rural off-farm casual wages declined as the growth rate of rural casual wages exceeded those of urban casual wages. While the growth rate of agricultural wages was lower than that of off-farm casual wages, it was still higher than the growth rate of urban casual wages. Indeed, once human capital attributes and the differences in cost-of-living are taken into account, there is little difference between rural and urban casual wages. Further, as Figure 4.6 (bottom panel) shows, most states replicate the pattern of narrowing urban-rural wage differences. Unlike casual wages, urban salaried and casual wages show a divergence on average and across different regions. As noted earlier in Chapter 3, a substantial part of this divergence cannot be accounted for by skill and human capital differences, though these have certainly contributed. Regulatory barriers and public sector salaries (which account for most of the salaried jobs) create market segmentation and shore up salaried wages, as elaborated in Chapter 5.

**Figure 4.6: Rural and Urban Casual Wage Ratio is Narrowing but Regular and Casual Wage Ratio is Increasing**



**Ratio of Urban-Rural Casual Real Wages by States and Rounds**



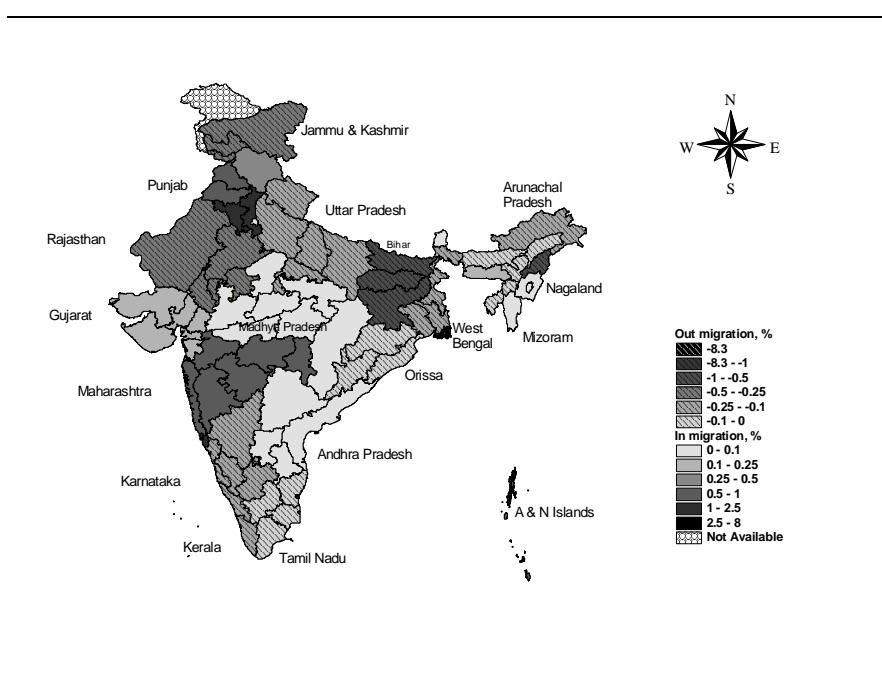
Source: Estimated from NSS data.

### C. Low Migration and Urbanization Rates

53. Given the significant differences in labor market conditions across different regions, India's unusually low economic migration rates present a puzzle. Overall, while about 1.8 percent of India's population migrated on average each year between 1997 and 2000, only about 0.3 percent did so due to economic factors. A small number of them, 0.3 percent, did so outside of their districts or states. In comparison, some 5.5 percent of the US population migrated across the county or across states in a similar period.<sup>69</sup>

54. A look at the pattern of migration from and to different regions in the map of India in Figure 4.7 confirms that migration rates are low across many regions. In three years, from 1998 to 2000, most regions showed less than 1 percent net in- or out-migration. Chandigarh, Goa, Daman and Diu, Haryana, Punjab, Delhi, Mumbai, and the Kolkata areas showed the maximum inflow, exceeding 1 percent of the total labor force in the three years from 1998 to 2000. Overall though, Maharashtra and Gujarat showed in-migration of around 0.5 percent and 0.2 percent respectively. Northern Tamil Nadu, Andhra Pradesh, parts of Madhya Pradesh, and less expectedly, Mizoram and Nagaland, also show in-migration. The main out-migration regions were Bihar, western Rajasthan, and Jammu & Kashmir. Kerala, Karnataka, and southern Tamil Nadu were also regions from where out-migration took place.

**Figure 4.7: Economic Migration Across States and Regions, 1997-2000**



Source: Estimated from NSS data, 55<sup>th</sup> Round

55. The trend of real wages converging across regions on the one hand and growing unemployment rates in major urban areas on the other, can help explain why migration rates have not picked up. While wage differences are high, they are converging and do not appear to significantly affect migration. However, urban casual wages – the best proxy of spot-market wages -- are positively related to in-migration. On the other hand, unemployment rates are significantly inversely related to net economic migration rates. In sum, low migration rates appear to be related to low prospects for increases in earnings after migration.

56. Another issue related to labor markets is India is low urbanization rates. Even in the larger metropolitan areas of Mumbai, Delhi, Kolkata, and Chennai which attract the highest rates of migrants, the in-migration rates, about 1.5 percent of the population per annum, are low (Figure 4.8

<sup>69</sup> U.S. Bureau of the Census, Geographic Mobility: March 2000 to March 2001

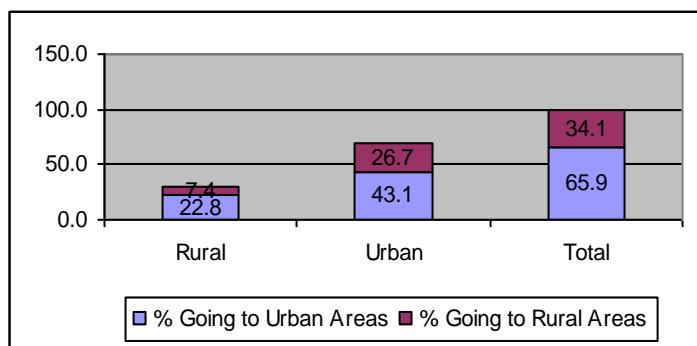
presents a picture of rural to urban migration within each region). Further, the share of economic migration to urban areas was stagnant from 66 percent in the mid-1990s (Figure 4.9 A) to 62 percent in 2000 (Figure 4.9 B). Compared to other Asian countries such as China, Indonesia, Vietnam, Pakistan, and Bangladesh, India has the lowest rate of urban population growth (Figure 4.9 C). China provides a dramatic contrast: urban population grew by close to 190 million from 1990 to 2003. In India, the corresponding number was about 87 million, or less than half.

**57. Urbanization slowed down in India in the 1980s and 1990s as casual wages in rural and urban areas converged.** Demographic projections in 1981 estimated that India's urban population would be about 31 percent of the total population in 2001. In reality, it turned out to be only 27 percent of the population, that is, lower by about 40 million persons (Mohan and Dasgupta, 2004). Part of the answer as to why urbanization rates have been low would appear to lie in the converging trend in rural-urban wages. As the gap between rural and urban wages narrows, and the urban unemployment rate grows, the expected earnings from migration are falling. It follows then that the incentives to migrate to cities are declining accordingly. There may be important implications to these developments. Urban infrastructure and service development may not be growing fast enough to create jobs that are better paying than those in rural areas..

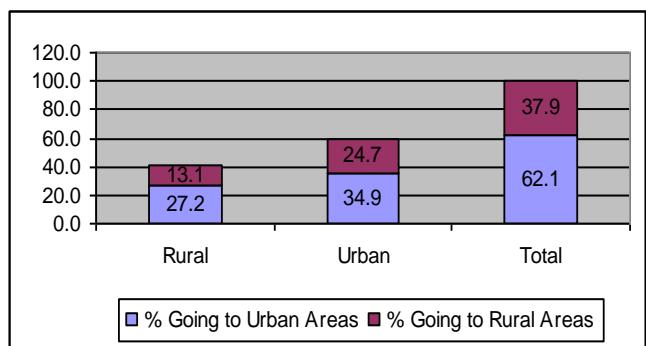
**58. Not only has urbanization slowed down, there is also evidence that job and population growth have shifted away from large metropolitan cities and rural areas to mid-size towns.** Decomposing urban growth by size of cities (Table 4.3), we can see that there is a significant shift of jobs from rural centers and large cities to secondary towns and, to a lesser degree, to sub-urban areas of the large cities (or peri-metro areas). The implication of these developments has to be interpreted carefully. The growth of large cities (100,000 or more) is not fast enough to accommodate the movement of labor and population out of rural areas, hence this population is now moving to secondary cities (with populations between 20,000 to 50,000 persons). Given that these town sizes are probably too small to take advantage of agglomeration externalities, there is a particular need to develop peri-metro areas.

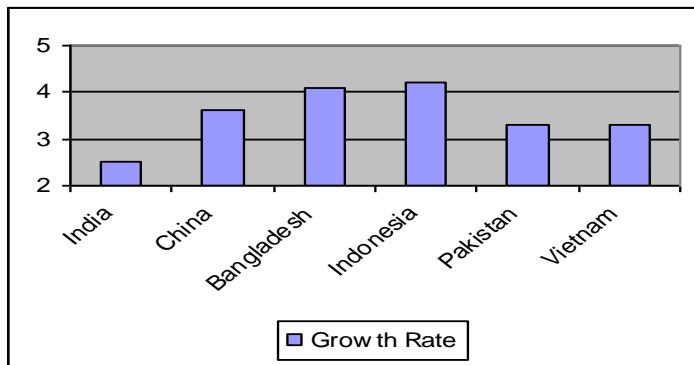
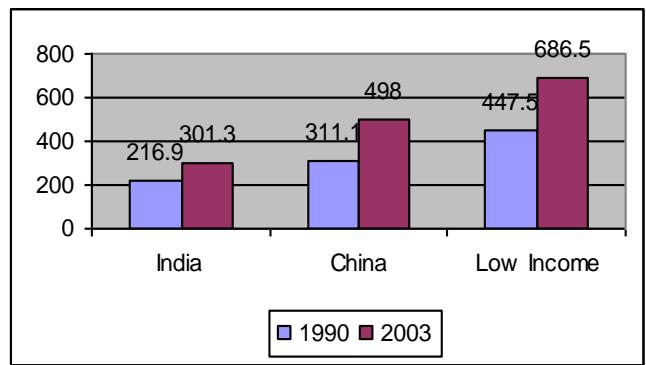
**Figure 4.8: India's Urbanization Growth by Types of Cities**

**A: Share of Economic Migrants, 1995-1998**



**B: Share of Economic Migrants, 1998-2000**



**C: Growth Rate of Urbanization, 1990-2003****D: Urban Population in Millions****Table 4.3: Growth of Population and Manufacturing Jobs by Size of Town**

District type	Population, 1991 (in millions)	Percentage share of population	Percentage share of manufacturing employment in 1989	Percentage share of manufacturing employment in 1996
Metropolitan centers (100,000 + persons)	40.4	5.1	15.7	13.5
Peri-metro (50,000-less than 10,000 persons)	21.7	2.7	3.9	8.3
Secondary cities (20,000-less than 50,000 persons)	100.2	12.6	10.4	21.1
Tertiary cities (10,000-less than 20,000 persons)	86.5	10.9	7.5	10.2
Towns and rural centers (less than 10,000)	549.2	68.8	62.4	46.9

Source: Bank staff estimates from Census and other sources.

#### D. What is Driving the Regional Differences in Labor Market Outcomes?

59. **Two proximate factors play key roles in driving regional differences in labor market outcomes.** From the demand side, economic activity or, more specifically, differences in Gross State Domestic Product (GSDP) levels and economic growth play a key role in the long term in explaining differences in employment levels and earnings. From the supply side, the differences arise primarily because of variations in female labor force participation rates across different regions, with male participation rates remaining relatively invariant. A step deeper, differences in female participation rates depend on employment prospects and wages, across regions, in a complex manner. If opportunities and wages for female employment increase, female participation increases. On the

other hand, increases in earnings of spouses and increases in household wealth (measured by household expenditures) create increased incentives for females to leave the labor force. These issues are discussed in more detail in the following section.

### The Role of Economic Activity

60. **A major policy issue in India is that economic growth in the 1990s, at the all-India level, was seen to be 'jobless' – meaning it did not create enough employment opportunities.** Measured by the simple employment elasticity of growth, which fell markedly from 0.52 between 1983/84 and 1993/94 to 0.19 between 1993/94 and 1999/00, such a concern is not misplaced. But how accurate is this statement when we look within states and regions? Studying differences in labor market outcomes and growth across regions provides a good handle for addressing the employment-output relationship.

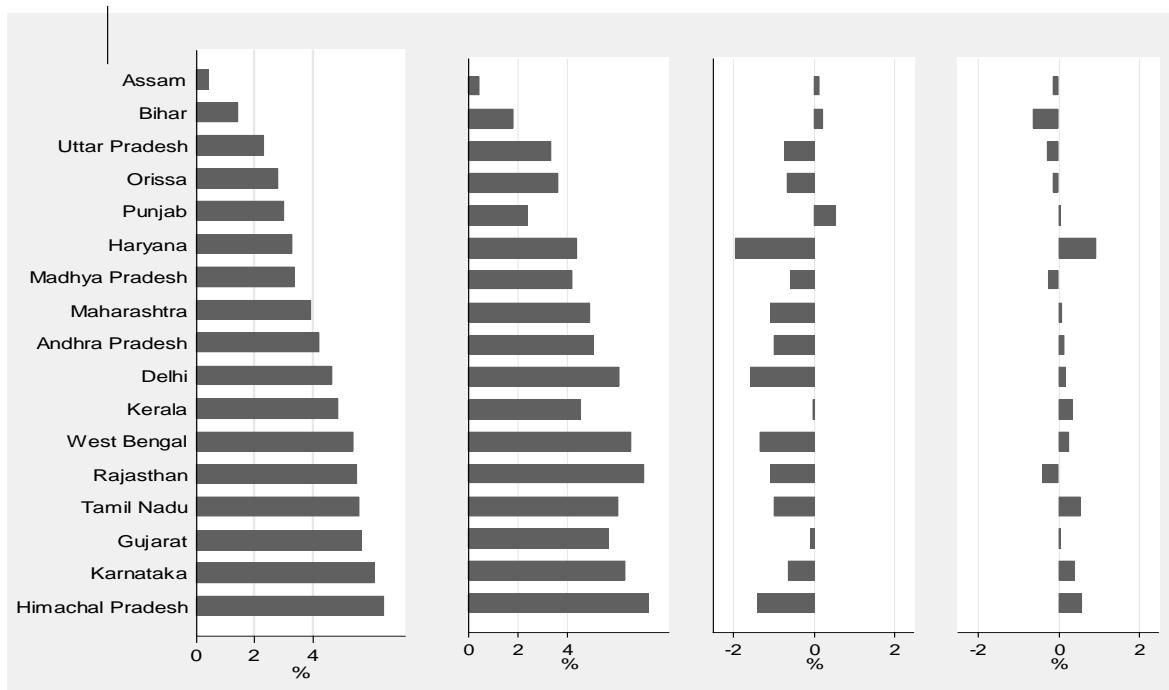
61. **Across states also, economic growth is almost entirely driven by labor productivity growth.** Thus, Figure 4.10 which decomposes per capita income growth in the larger Indian states, shows that quite remarkably, labor productivity has increased at a very high rate of above 4 percent a year, in 12 out of 17 states. At the same time, employment to working-age population ratios have declined in all states but three. Moreover, Figure 4.10 shows that employment rates have typically fallen less (or increased more) in those states that have the lowest gains in productivity.

62. **Across the world, productivity gains do not necessarily cause a decline in employment rates.** In popular perception, productivity growth causes lower employment growth. In reality though, productivity growth and employment growth are related in a more complex manner. In the short run, an increase in productivity translates, by definition, into lower employment elasticity – that is, lower employment growth for a given level of output growth. However, output can also increase with technological growth, implying that firms can do more with the same resources. What happens to employment then depends on whether firms decide to produce the same with less workers, or produce more with the same or even more workers. The decisions of the firms depend on how much more output can be put in the market and whether the firms want to try and substitute away from labor in the production process. The outcomes in India strongly suggest that firms are taking advantage of technological advances to substitute away from labor in the production process, something that will also be discussed in the next chapter. This is strongly related to current labor regulations and policies.

63. **The inverse relationship between labor productivity growth and employment growth in the current period disappears when we relate labor productivity growth in the previous period to employment growth in the current period.** The right panel in Figure 4.9 indicates that the relationship between lagged productivity growth – productivity growth five to six years earlier -- and current employment is positive and significant. It suggests that regions that had productivity growth in the past can, after a period of adjustment, generate relatively high employment growth compared to regions which had relatively low productivity growth in the past. The relationship between labor productivity and employment growth is largely the result of elasticity of employment (Box 4.1).

**Figure 4.9: Decomposing Growth by Contribution of Productivity, Employment Rate, and Dependency Ratio**

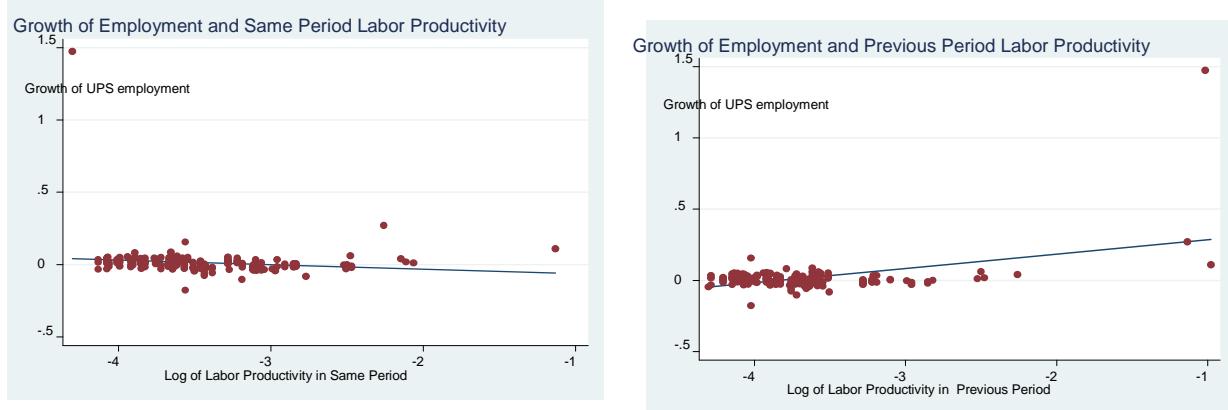
$$\Delta \text{GSDP per capita} = \Delta (\text{GSDP}/\text{Employment}) + \Delta (\text{Employment}/\text{Working-age pop.}) + \Delta (\text{Working-age pop}/\text{Total population})$$



Source : Bank staff estimates

**Figure 4.10: Growth of Employment and Growth of Labor Productivity by Regions –**

Same Period and Previous Period



Source: Bank staff estimates

**Box 4.1: Does Increase in Labor Productivity Imply a Decline in Employment?**

It is commonly perceived that if an economy is able to produce the same level of goods and services with less labor, this leads to a decline in employment rates. However, this is not necessarily the case; it depends on what is driving the labor-saving process. For example, if excessively high labor costs drive employers to substitute

labor for a less expensive factor, for example capital, then this process of labor saving is associated with a decline in employment in firms that undertake such labor substitution. If, instead, the underlying factor is an increase in the capacity of workers to produce more with the same factors, either because workers are learning new production techniques or because new technologies allow workers to be more productive, then there need not be a decline in employment rates. The final outcome on employment depends on the price elasticity of the goods produced by such workers.

For goods where large increases in production do not imply a large decline in their price, increases in the productivity of labor will result in an expansion of employment. This is because while fewer workers are needed to produce the same goods, more goods can now be produced at lower costs. Instead, if the gains in productivity occur in sectors where an increase in production leads to a sharp decline in prices, firms will be reluctant to increase the production of goods and will consequently need fewer workers. Notice, however, that even when some employment losses are likely to occur in this case, they need not be long-lasting. This is because increases in productivity lead to lower prices which, in turn, boost the ability of workers to consume other goods, in turn boosting the demand for workers to produce such goods. A successful and smooth process is such in which workers who lose jobs in one sector as a result of productivity growth, can be quickly re-employed in another thriving sector. Clearly, for this smooth process to take place: (i) cost reductions brought on by increases in productivity need to be passed on to consumers; (ii) workers need to have sufficient skills so they can quickly adapt to working in other sectors, and; (iii) some form of income-protection needs to be in place to protect the incomes of workers while they search for other jobs.

**64. The lack of short-run correlation between economic activity and employment levels is highlighted again when state GSDP levels are related to employment levels, separately for women and men and for rural and urban areas, controlling for regional fixed effects.** This study looked at changes across the levels of states' GSDPs, changes in GSDP across time, and took care to account for the fact that employment also determines GSDP levels (see Box 4.2). In doing so, the effects that other economic variables such as availability of credit, roads, power, and irrigation have in determining GSDP were also considered. Then, changes in GSDP caused by changes in these variables were linked to employment. The results of this exercise, provided in Appendix 4.1, suggest a lack of correlation between GSDP and any of the employment variables, when regional fixed effects are included and only the time variations around the state means are considered. The results are substantially different if the fixed effects are not included.

**65. In the long run, however, there is an important relationship between employment and growth.** The results, without regional fixed effects, indicate that across states, levels of GSDP have a significant impact on employment levels of males in urban areas. A 1 percent increase in GSDP leads to, on average, a 0.4 percent increase in male employment levels. The effect is much weaker, though still significant, in rural areas where the elasticity is 0.2 percent compared to urban areas, where the elasticity is 0.8 percent (see Appendix 4.1). Figure 4.12 shows the average increases in male (left panel) and female employment (measured in logs) against the increase in the log of the state GSDP. It is evident from the left panel, from the fitted quadratic curve, that the increase in GSDP leads to an increase in the employment of males but at a declining rate: that is, elasticity falls as GSDP levels increase.

#### **Box 4.2: Relating GSDP Levels to Employment – the Need to Address Endogeneity**

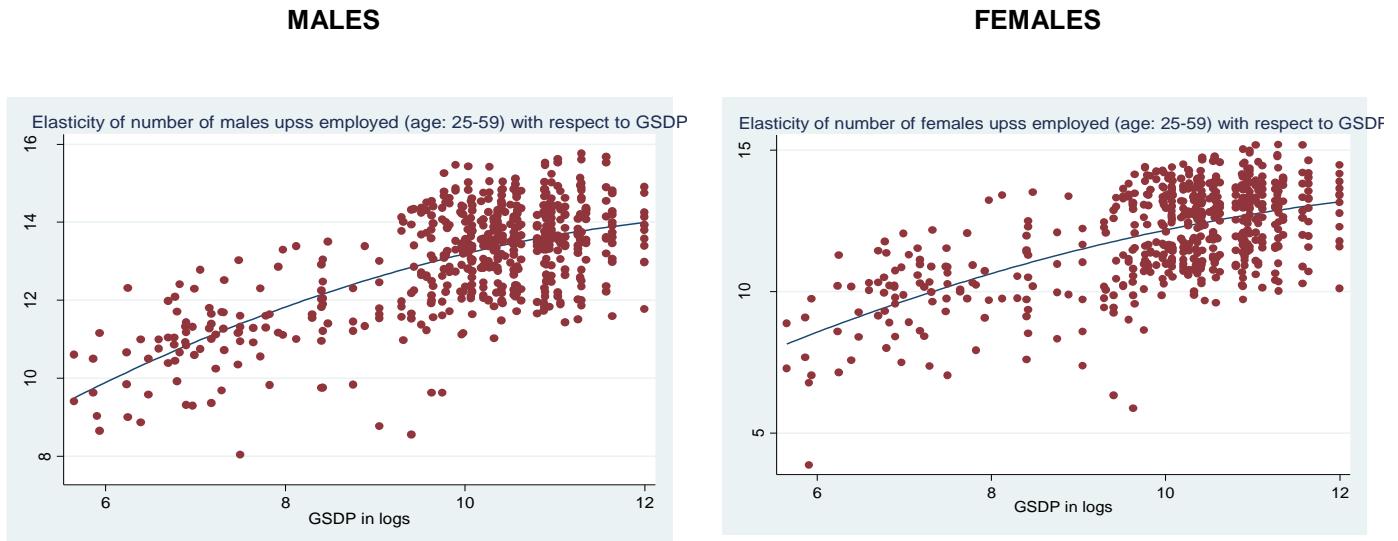
A key issue in estimating the relationship between GSDP levels, employment levels, participation rates, and earnings is the endogeneity of GSDP, wages, and earnings: that is, these variables can have a two-way relationship because they affect each other. For example, not only do GSDP and wages determine employment, but employment also determines GSDP and wages. Or, these variables can be jointly determined by another third set of factors.

Econometric techniques such as two stage least squares and the use of instruments can help address endogeneity problems, though they have their own pitfalls. In the estimates presented in this chapter, GSDP, wages and earnings are estimated as being determined by the structure of the economy (share of industry), infrastructure variables and credit flows as instruments.

Similarly, earnings are also instrumented in estimating the relationship between participation and earnings. Thus, endogeneity is accounted for. Then, using predicted GSDP and wages, a significant relationship is found to exist between GSDP and employment and earnings, and between labor force participation and earnings of workers and their spouses.

*Source:* Bank staff, see Appendix 4.1 to 4.4.

**Figure 4.11: Employment Levels of Males and Females and GSDP Levels – Variations Across Regions and Time**



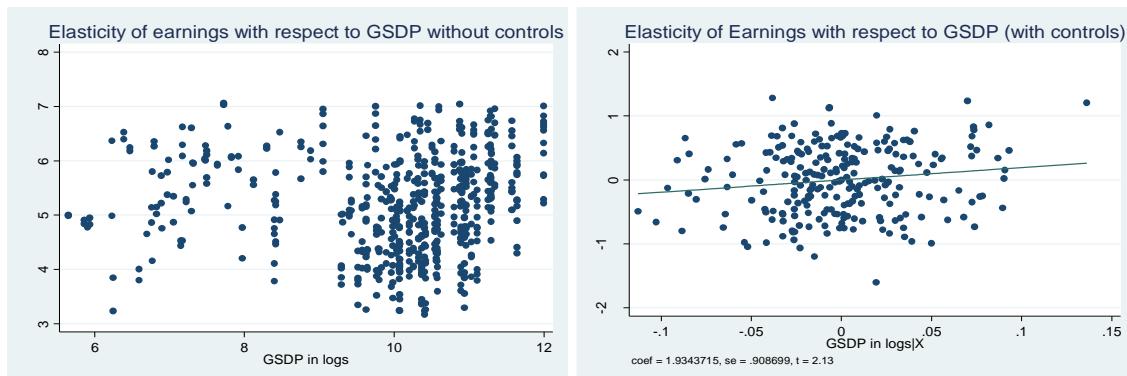
*Source:* Estimated from Appendix 4.1 Ahsan and Pages (2006a)

66. The long-run impact of differences in GSDP levels is more marked on female employment than on male employment, and is significant both in rural and urban areas. For female workers, a 1 percent increase in GSDP leads to a 0.7 percent increase in employment levels, a 0.8 percent increase in urban employment, and a 0.5 percent increase in rural employment. This is also brought out in the right hand panel of Figure 4.12 which shows that, unlike in the case of males,

the relationship between GSDP levels and females earnings is linear – that is, there is no evidence of declining elasticity. This has important implications because it suggests that there is a pool of female workers for whom higher level of economic activity opens up employment opportunities.

**67. In the short-run, gains in GSDP contribute to gains in earnings in rural areas. Increase in GSDP levels by 1 percent increases earnings by nearly 2 percent for rural casual non-agricultural jobs, and by 1.4 percent for agricultural jobs held by males (see Appendix 4.2).** Figure 4.13 presents this point in the following way: the left panel shows that earnings and GSDP levels are unrelated if the estimates are made without accounting for other factors such as education levels or tribal and caste groups. But once these factors are accounted for (as in the right panel of Figure 4.12), the relationship is very clear. This relationship is also visible when we correlate changes in earnings with changes in GSDP across states.

**Figure 4.12: The Effect of Variations in GSDP on Male Earnings**



*Source:* Estimated from Appendix 4.2

**68. In sum, the results indicate that across states, the recent period has been characterized by strong GSDP and labor productivity growth, though relatively small gains in employment rates.** In the long run, however, strong gains in productivity and output are related to higher employment. While in the short run firms can do the same amount of work with few workers, in the long run the higher earnings and profits brought on by economic growth will create a demand for goods and services that will require more labor for production. As to how long this transition will take and how important growth is for increasing employment, will depend, among other things, on two major factors: whether growth brings more women into the labor market and whether firms make use of increased opportunities to produce more instead of cutting down on labor. The first issue is analyzed in the next section. Labor institutions and policies are dealt with in the following two chapters of this report.

## Understanding Regional Variations and Trends in Female Participation Rates

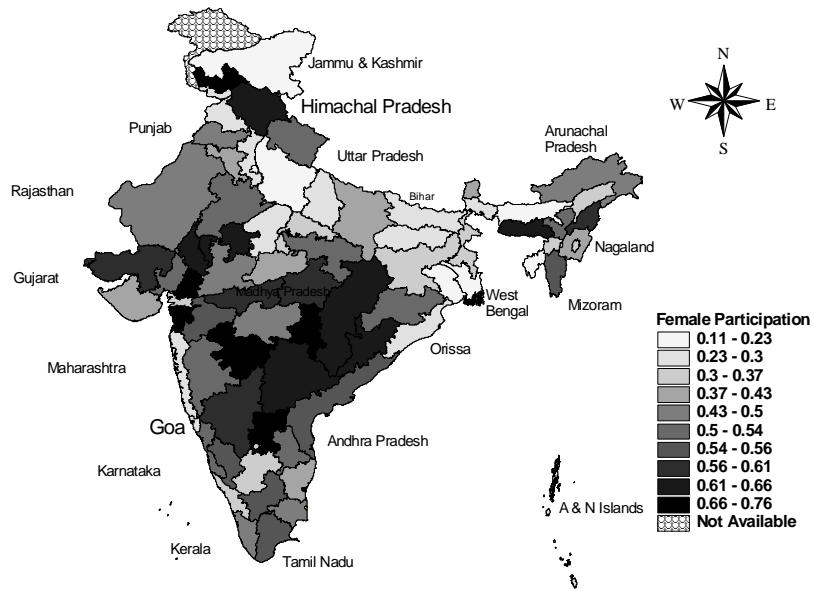
69. **Understanding the differences and trends in female participation rates – which account for most of the regional variations – is of vital importance.** If India is to grow at a sustained rate and reach the ranks of middle-income economies, female participation rates will likely have to increase significantly and reach East Asian and Latin American levels. There are two issues here. First, the large variation in female participation rates has to be understood: the coefficient of variation for female participation rates is some 15 to 20 times higher than that for men, even though female participation rates are uniformly lower than those of men (Table 4.4 and Figure 4.13). Female participation rates are particularly low in Bihar, Uttar Pradesh, Jammu & Kashmir, and parts of the northeastern region. Second, it is necessary to understand why female participation rates declined over the 1990s. This is puzzling, given the increase in the education level of the female labor force, the decline in fertility rates, and India's already low female participation rates (compared to East Asian and Latin American countries).

**Table 4.4: Participation Rates for Males and Females**

<b>Variable</b>	<b>Rural</b>		<b>Urban</b>	
	<b>Mean</b>	<b>CV</b>	<b>Mean</b>	<b>CV</b>
Prime-age Male, 15-59 years	0.8925 91	0.0539 57	0.8235 59	0.0607 79
Male (excluding school population), 25-59 years	0.9764 55	0.0199 59	0.9637 66	0.0190 26
Prime-age Female, 15-59 years	0.5486 92	0.3689 57	0.253 506	0.3583 85
Female (excluding school population), 25-59 years	0.5887 16	0.3514 26	0.2884 71	0.3562 56

*Source:* Estimated from NSS data.

**Figure 4.13: Participation Rates for Females, 55<sup>th</sup> Round**



*Source:* Authors' estimates. Participation rates measured as a share of the 15 to 59 age-group, working or seeking work.

**70. Two factors have been identified to account for the decline in female participation rates (Sundaram and Tendulkar, 2005b; Vaidyanathan, 2003; Mazumdar, 2005):**

- First, the rise in secondary and high school attendance by females – that is, members of the age-group 15-25 have opted for education over work.
- Second, the effect of higher incomes – as wage rates (for male spouses) increase, women workers drop out of the labor force to spend more time on housework or on leisure.

Further, decisions to marry, which often take place between the ages of 15 and 25, may also lead to women dropping out of the labor force.

**71. A careful look at the evidence (see Chapter 1), though, suggests that education can only partly explain the decline in participation.** Of greater importance is the decline in the participation rate of prime-age females in part-time or 'subsidiary' occupations, and an increase in the time they spend on housework or leisure. A better understanding of the reasons for the low participation rate of females is thus important.

**72. Specifically, it is crucial to ascertain whether women are withdrawing from the labor force voluntarily, because the incomes of households are increasing (the 'income effect'), or whether they are doing so for lack of opportunity: jobs and good earnings (the 'substitution effect').** The 'income effect' refers to the effect of the rise in household incomes which can take place due to increased earnings by spouses or from other sources; female labor can then opt out of the labor force to do housework or enjoy leisure. The 'substitution effect' refers to the better

incentives women have to work -- the availability of good jobs and higher earnings. Which of these effects is at play and, if both are at play, which is dominant? If the ‘substitution effect’ is dominant then the scope for including more women in the labor force increases, if they can be provided with greater opportunities for employment.

73. **Two approaches have been used to answer these questions in this report.** The first approach estimates the determinants of participation rates for females aged 25 years or older, by testing the relationship of both female wages and spouses’ wages with participation rates, to capture ‘substitution’ and ‘income effects’ respectively. A positive relationship between female wages and female participation rates would highlight the presence of ‘substitution effects’. A negative relationship between spouses’ wages/household expenditures and female participation rates would point to ‘income effects’. In order to filter out any possible role played by decisions to go to school or decisions to marry, only females in the age group 25 or older are considered here. Unemployment rates are included to measure opportunities (specifically, the absence thereof) in the labor market. Finally, household per capita expenditures (equations 7 through 9 in Appendix 4.4a) are used instead of spouses’ wages, after taking into account female wages. The results, presented in Appendix 4.4a, are clear:

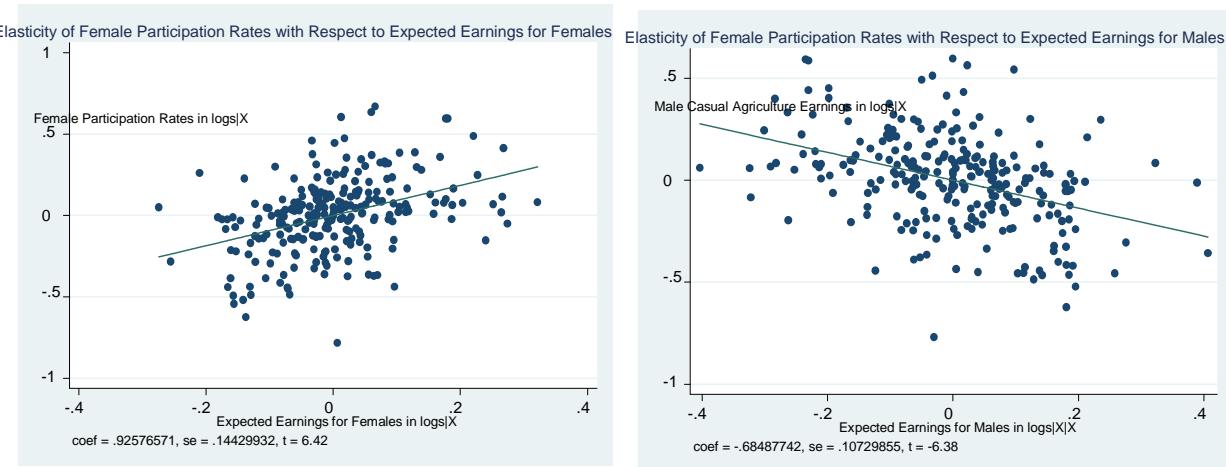
- Urban unemployment and overall high unemployment rates for females appear to discourage participation. Thus, low urban unemployment rates are partly explained by lack of opportunities.
- Higher wages encourage female participation in rural casual work – again stressing that opportunities are important.
- Men’s wages appear to have little impact on female participation rates, indicating the weakness of the ‘income effect’ in this model.

74. **Hence, in this first approach, it is the lack of opportunities that is highlighted as explaining low levels of female participation.**

75. **In the second approach, ‘expected earnings’ are used as a composite measure of labor market conditions: the prospects for employment and earning an average market wage.** Variables are constructed to represent female and male expected earnings by multiplying wages with the probability of employment. Female ‘expected earnings’ represent ‘substitution effects’ and also capture the employment opportunities available to women. Men’s ‘expected earnings’ represent ‘income effects’. In sum, the higher the ‘expected earnings’ for females, the greater the incentives for females to participate in the labor force; the greater the ‘expected earnings’ for males, the greater the scope for females to drop out of the labor force, leading to a decline in participation rates. The effects are quite clear and consistent: female ‘expected earnings’ in rural areas robustly increase participation. Figure 4.14 presents the key results with the detailed results presented in Appendix 4.4.

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**Figure 4.14: Female Participation Rates (25 years and above) and Expected Earnings for Females and Males**



Source: Bank staff estimates.

76. **The results are clear and similar to the first approach: the left hand panel in Figure 4.15 shows that an increase in the ‘expected earnings’ for females has a significant impact on increasing female participation, across regions, after taking other variables (education, caste, etc.) into account.** The right hand panel shows that increasing ‘expected earnings’ for male casual workers in rural areas, and salaried workers in urban areas, reduces female participation after a certain point. However, the effect is weaker and does not hold for work in urban areas – that is, higher ‘expected earnings’ from casual urban work do not lead to lower participation rates. It is only higher ‘expected earnings’ from urban salaried work that lower the participation rate of urban women.

77. **How can female participation be increased? From the analysis of household level factors, some policy conclusions seem to emerge.** As expected, earnings are important. *Firstly*, unexplained wage differentials among males and females have to be reduced. This requires enforcement of equal pay for equal work (as mandated in the Constitution), especially in the casual labor market; it also requires galvanizing the legal system to respond to complaints about the infraction of this law. Policy makers also need to take a fresh look at minimum wages and whether the lower wages set for women may actually be harming women in the labor force. *Secondly*, it is likely that low quality of education and lack of technical skills are hampering women’s entry, at full potential, into the new services sector. Thus, it may be necessary to focus on higher education and technical education for women. *Thirdly*, since the majority of women are employed in agriculture or agriculture-based occupations, policy also needs to address issues that would enhance women’s productivity in the agricultural sector. *Fourthly*, almost 30 percent of Indian women would like to enter the labor force, but as part-time workers. Thus, flexible work hours and part-time work also need to be promoted by policy in regular salaried jobs. The possibility of more efficient, well-regulated child care arrangements would also likely encourage the entry of women into the labor force.

## E. Summing Up

78. **Regional differences in labor market outcomes are striking in India and have persisted over the last two decades. The exception is real wages which show signs of converging across regions and across rural and urban areas.** The latter fact, combined with unemployment in states, may help explain why economic migration rates and urbanization rates are unusually low in India. Some policy implications can be drawn:

79. **Foremost among these is the fact that economic growth and activity levels have been important in causing good labor market outcomes, though in a somewhat nuanced way.** When regional differences are taken into account, growth has not been ‘jobless’. In the short run though, growth has had a muted effect on employment. Increasing labor productivity, which leads to growth, is associated with lower employment growth as an immediate effect. But in the medium-term, increasing productivity does not adversely affect employment growth. Over the longer term, the relationship between growth and employment is clearer. States with higher levels of GSDP are also states which have created more urban employment and rural earnings in the case of males. Given that male unemployment rates are negligible in rural areas, this result is understandable. The effect of differences in GSDP levels is more striking for female employment, which is low in India on average. Higher GSDP levels lead to higher female employment in rural and urban areas.

80. **This analysis also reveals that increasing employment opportunities for females will help to arrest the decline in female participation rates.** Although there is some evidence of ‘income effects’ that lead females to drop out of the labor force, economic opportunities are the strongest factor affecting female participation.

81. **The analysis in this chapter also highlights the importance of urbanization and domestic migration.** The narrowing of the wage gap between rural and urban areas, in each region, and higher unemployment rates have lowered urbanization rates. Conversely, impediments to urbanization lower the growth of employment and higher wages. At present, slow urban development is also slowing down manufacturing growth – with about half of new manufacturing jobs being created in rural areas. A complementary approach would be to facilitate economic migration, both to regions that are more dynamic and also to urban areas. Policies that can mitigate obstacles to domestic migration, through better safety nets and insurance for migrants, will also improve labor market outcomes by allowing workers to work in areas where there are more opportunities and higher returns.

82. **Given that poor employment outcomes are persistently clustered in the northern, northeastern and some coastal regions, a regional focus on growth and employment is called for. Investment in infrastructure – power, road, irrigation, and credit facilities -- which are found to affect GSDP positively, can lead to higher employment prospects.** Related to this is the need to improve the investment climate in these regions – a key aspect of which is labor market related regulatory reforms. Also, it is important to enhance the effectiveness of active labor market policies. In the next two chapters, we turn to regulatory reforms and active labor market policies that can improve India’s labor market outcomes.

## **CHAPTER 5: LABOR REGULATIONS IN INDIA: HELPING OR HURTING WORKERS?**

*A growing body of evidence suggests that labor regulations in India are unusually complex and costly. Research conducted for this chapter suggests that some current regulations hurt workers by preventing good jobs from being created -- especially in the manufacturing and formal sectors. These regulations discourage manufacturing sector growth, encourage informality and deepen dualism (division or extreme disparities, especially between formal and informal sectors). They also foster inequality between a very small segment of workers in the organized sector and the vast majority, about 90 percent of workers, in the informal sector, as well as between regions. Indeed, manufacturing firms employing more than 100 workers identified labor to be as big a constraint to their growth as the availability of power (electricity). Reforming labor markets should involve the following: simplifying regulations; reforming the dispute resolution processes in the Industrial Disputes Act (IDA) to reduce transaction costs; and ensuring that workers in both formal and informal sectors are protected and get adequate compensation by introducing broader and more effective employment programs and social insurance (this topic is discussed in the next chapter). The aim should be to protect workers, not jobs.*

### **A. The Role of Regulations in Labor Markets**

1. ***Well-functioning labor markets will be key to achieving equitable growth in India.*** First, growth prospects will depend not only on the economy's ability to provide employment opportunities to the 80 million new entrants to the labor force over the coming decade, but also to employ them in good, productive jobs. Second, the impact of growth on reducing poverty and promoting equity will depend on the extent to which labor markets help create employment opportunities, with good wages for the majority of people whose main source of earnings is their labor. It is evident from the previous chapter that labor market earnings in India's regions are closely correlated to household expenditures and welfare. But how well labor markets perform in meeting the goals of growth and equity will depend, in turn, on the quality of labor regulations in India -- the theme of this chapter.

2. ***How well labor markets function will depend on the regulations that govern them.*** Regulations influence labor market performance in several ways. *First*, by affecting the efficiency and flexibility with which workers can be allocated among various jobs, regulations affect the productivity and wages of workers and the profitability of firms. *Second*, by changing the costs of adjusting production, regulations can influence the ability and incentives of firms and labor markets to create jobs. *Third*, by providing protection against sudden and arbitrary job losses and poor working conditions, regulations can enhance the welfare and productivity of workers. *Fourth*, by determining the processes by which wages are set, regulations affect the earnings of labor (from the point of view of workers) and hence labor supply, and the cost of labor (from the point of view of employers) and hence labor demand. *Fifth*, by affecting industrial relations between workers and employers, regulations can help or hinder profit and employment prospects. It is worth stressing here that although regulations have costs attached to them, there are strong

economic arguments for most countries in the world having regulations and for the existence of international labor conventions (See Box 5.1).

#### **Box 5.1: The Economic Case for Labor Market Regulations**

The economic case for labor market regulations arises from the need to correct labor market failures, that is, situations where the free market does not lead to outcomes that maximize social welfare. Specifically, labor market regulations and policies address:

- Asymmetry in market power between employer and employee that can lead not only to inadequate protection of workers, unsafe working conditions and low wages, but also to inefficient economic outcomes.
- Information failures – lack of knowledge on the part of workers about existing opportunities, and lack of information among firms about workers and credit market failures. These failures may lead to lack of opportunities for workers, and high costs to firms. In both cases, output and employment will be less than the potential.
- Insurance market failures -- around the world, information asymmetries prevent the emergence of private unemployment insurance markets. Labor regulations (by means of severance payments and other mechanisms) and labor policy (through unemployment insurance) address such failures by protecting the incomes of workers in the event of their losing their jobs.
- Spillovers from labor markets that affect other markets and society in general -- for instance, unemployment lowers incomes for all, not just the unemployed. Unemployment can also strain the social fabric, creating political instability and adversely affecting social interests.
- Misalignment of private and social incentives -- for instance, by improving poor working conditions or stopping child labor. These may be costly for firms and employers but are beneficial for employees and society as a whole.

3. ***In India, 45 central laws and 170 state statutes deal directly with labor market issues.***

These laws – a few dating back to the 19th century -- regulate minimum wages, hours of work, benefits, safety, security, conditions of employment, dismissal, trade unions, and other aspects of industrial relations. As is widely recognized now, these numerous laws have created an unusual complexity in labor markets through overlapping and sometimes contradictory mandates, and inconsistencies in basic definitions of commonly used concepts and terms, such as, factory, worker, workmen, employees and employer. These complexities have been further compounded by a long trail of judicial decisions that have interpreted these laws, sometimes in an inconsistent manner.

4. ***This chapter surveys the main labor laws and regulations and assesses their impact on labor markets and job creation, in general.*** It concludes that current labor regulations lead to several unintended and adverse consequences: (i) ambiguity and uncertainty in the interpretation of labor laws; (ii) high administrative and judicial costs in enforcement; (iii) large output and employment costs; (iv) inequality resulting from dualism between the formal and informal sectors; and (v) regional differences and disparities in labor market outcomes.

5. ***There are two overall effects.*** First, evidence presented in this chapter shows that these regulations constrain the growth of jobs, especially in the formal and manufacturing sectors. They also promote informality and dualism which, in turn, lead to inefficiencies as labor and other resources are not allocated efficiently. Second, in trying to protect about 26 million jobs in the formal sector, these laws fail to protect the employment conditions of the remaining 390 million workers in the informal sector. For instance, despite the average 40 or so minimum wages that are

in force in the typical Indian state, large segments of the labor force receive below minimum wages. Finally, these regulations have not been helpful to the cause of industrial peace. In 2004, 482 major cases of work-stoppage cost industry 15 million man-days. The ratio of workers involved in major work-stoppages (strikes and lockouts) to total factory workers, was in the range 8 to 10 percent between 1995 and 2001. In China, by comparison, the ratio was consistently near zero.

6. ***Two kinds of laws have had particularly pernicious effects on the growth of manufacturing and formal sector jobs in India:*** laws concerning dispute resolution mechanisms and laws restricting retrenchment and layoffs of workers (including those arising from closures of firms). Both these aspects have had a significant adverse effect on job creation – the severity of the impact depending on the labor intensity of the industry. On average, it is estimated that current regulations could have cost India almost 40 percent of existing formal sector manufacturing jobs. This chapter also provides evidence that although the Contract Labor (Control and Abolition) Act introduced a certain measure of flexibility in manufacturing labor markets, ambiguity surrounding the status of this law lends to uncertainty regarding its use and a large variation in its application across different states.

7. ***As a consequence, labor laws have actually reduced the welfare of workers as a whole.*** Labor regulations have not increased the share of income going to workers (labor share). Instead, a constant labor share has meant that any gains in wages and working conditions have quickly translated into lower job creation. With a growing labor supply, the scarcity of formal sector jobs has fueled income insecurity -- the loss of a formal sector job is associated with a very low probability of re-employment in a similar type of job. Better regulations would enable more job creation and higher income gains for workers.

8. ***This chapter provides recommendations for regulation reform*** with a view to balancing the need to provide income security and good working conditions to formal sector workers with the need for providing more jobs, good jobs, and preferably formal sector jobs to the vast majority of workers in the informal sector. Chapter 6 discusses active labor market policies that can provide employment protection and better benefits to informal sector workers.

## ***B. Labor Regulations in India and Their Enforcement***

9. ***Labor market regulations were first introduced in India in 1880 when the Factories Act was legislated.*** Driven in part by the English textiles manufacturers' concerns about "evening" the competition between the growing Indian textiles industry and its competition in England, and in part by a nationalist desire to protect the interests of Indian labor, regulations, from early on, placed more emphasis on employment protection and less on the efficiency of labor markets and on dispute settlement (Pages and Roy, 2005). Historically, the principle of 'employment protection' was subsumed under the principle of 'social justice': Employment security was enhanced in the formal sector not only by a whole range of new laws but also by cases where judges referred to 'social justice' to interpret laws. Removing or changing laws became politically difficult, with the result that demand for new laws led to a proliferation of laws.

10. ***While most labor regulations are the concurrent responsibility of the central government and the state governments, the implementation of regulations is almost wholly the responsibility of state governments.*** The Constitution's Article 246 divides legislative powers for promulgating labor laws between the Center and the states. But most labor laws are listed on

the concurrent list, List III, where both Parliament and state legislatures have the powers to make laws. Only the economic activities enumerated under List I of the Seventh Schedule lie in the exclusive purview of the central government and Parliament. Prominent among these central laws are the regulations on labor and safety in mines and oilfields, ports and insurance, and telecommunications. The important labor regulatory issues lie in the concurrent list shared by the Center and states – ‘trade unions, industrial and labor disputes’ (Item 22 on this list); ‘social security and social insurance, employment and unemployment’ (Item 23); and ‘welfare of labor, including conditions of work, provident funds, employers’ liability, workmen’s benefits, compensation, invalidity and old age pensions, and maternity benefits’ (Item 24). However, the implementation machinery for enforcing these concurrent list laws rests almost exclusively with the state governments.

11. *Although many in number, Indian labor laws cover four main areas:* industrial relations, working conditions, wages, and social security and welfare (see Table 5.1). The rest of this section discusses these four laws.

### **Industrial Relations**

12. *Industrial relations between employers and employees are covered by several Acts, of which the two most important are:* (i) The Trade Unions Act, 1926, which specifies the conditions that a trade union needs to satisfy in order to be recognized under the Act; and (ii) the Industrial Disputes Act (IDA), 1947. Of minor importance are three other Acts: the Bombay Industrial Relations Act (BIRA), 1946; the Administrative Tribunals Act, 1985; and the Maharashtra Recognition of Trade Unions and Prevention of Unfair Labor Practices Act, 1971. The objectives of these Acts and their coverage are presented in Table 5.1.

**Table 5.1: Labor Laws and Regulations Governing Industrial Regulations**

Laws and Aim Regulations	Coverage
Industrial Disputes Act, 1947	Existing industry in all of India. Chapter Vb of the Act applies to establishments that employ 100 or more workers
Trade Unions Act, 1926	All India
Bombay Industrial Relations Act (BIRA), 1946	State of Maharashtra

Source: Pagés and Roy, 2006.

13. *The IDA is probably the most important law governing the Indian labor market.* The IDA specifies a multi-tier conciliation-cum-adjudication system, created and maintained by the state governments. Although the system is invariant in principle, its working changes from state to state. The lowest and most immediate tier consists of Conciliation Officers and Boards appointed by the government. This tier was in place even before the IDA was enacted. The Conciliation Officer either settles the dispute or sends a ‘failure report’ to the government. The emphasis in the Act, however, is less on encouraging conciliation, and more on adjudication. The dispute then goes to the Labor Court and, further, to an Industrial Tribunal. The Labor Courts

deal with disputes that affect workers. The Industrial Tribunals, apart from working as appellate bodies, deal with cases that affect all workers in an industry. Therefore, cases dealing with wages usually go to Tribunals. In rarer cases, disputes go to National Tribunals, which are centrally administered bodies empowered to deal with cases of potentially national significance. There is some uncertainty about the status of Labor Court orders. Although the government can in principle suspend orders, in practice this option is not used often.

14. ***In addition to setting up adjudication systems, the IDA imposes significant restrictions on employers regarding retrenchment and exit of workers.*** Units employing more than 100 workers require authorization from the government (Chapter Vb) for retrenchment and layoffs of employees. In practice, such authorization is rarely granted. Retrenched workers also receive priority in case of new recruitment. Closure of units (firms) also requires prior authorization as per Clause 25-0. All establishments that are going to close are required to provide one month advance notice and severance pay equivalent to fifteen days of work, per year of completed service, to workers who have completed more than one year of service at the firm.

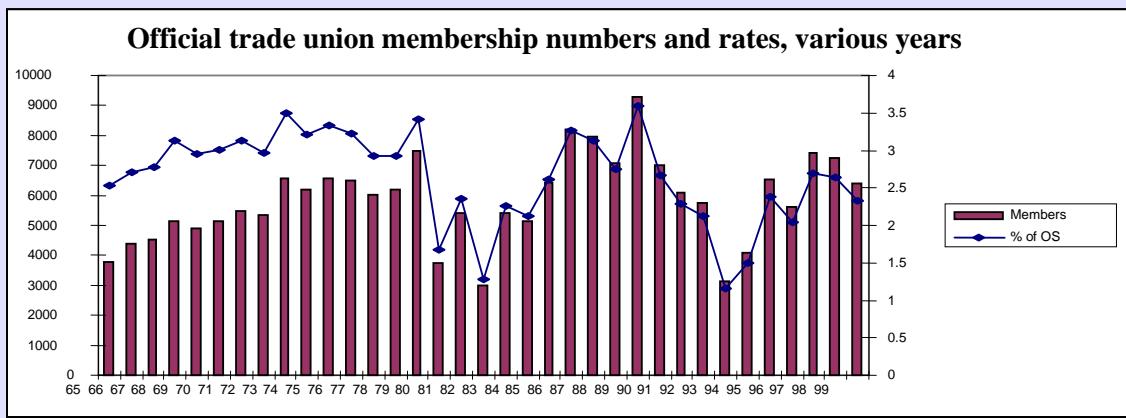
15. ***The provisions of the Trade Union Act, largely unchanged since their enactment, facilitate trade union activities.*** Any seven or more ‘workmen’ can apply for registration as a union; the ‘workmen’ need not work for the same employer. In 1926, the year when the Act was legislated, the implicit idea behind allowing outside members into unions was that trade unions were not organizations *of* workers but organizations *for* workers. This notion was widely held among nationalistic circles in the late-interwar period and it influenced early labor legislation (See Box 5.2 for a discussion on trade unions in India).

16. ***The coverage of the Trade Union Act has gradually extended beyond industry.*** Through the application of case laws, workers in government undertakings and religious trusts who made goods and services for sale were brought under the Act. Civil servants ‘engaged in the tasks of the sovereign and regal aspects of the Government’ were excluded from the purview of the Act (*Tamil Nadu Non-Gazetted Government Officers’ Union, Madras v. Registrar of Trade Unions, Madras*, 1962-63). It was also clarified that ‘industry’ would have the same meaning in the Trade Union Act as it does in the IDA, that is, ‘any business, trade, undertaking, manufacture, or calling of employers’ (Section 2j of IDA) or, essentially, any commercial organization. Thus, even though the IDA explicitly excludes hospitals, educational institutions, universities, charitable institutions and welfare organizations, clubs, cooperatives, and research institutes, these have come to be covered by the Act because of court rulings over the years.

### Box 5.2: Trade Unions in India

Trade unions have long been important in India. The 1950s and mid-1960s saw both public sector employment and unionism expand significantly. Unionism was aided by the important role assigned to the public sector which facilitated the creation of centralized unions with strong political affiliations. In the mid-1960s reforms were also made in the IDA which gave greater legal footing to collective bargaining. However, in the 1980s the union movement became more fragmented with decentralized bargaining emerging in some parts of the country. This reflected, in part, the growing role of unions which were independent of political parties and competed with traditional politically-affiliated unions. The 1990s saw unions being further forced to make greater compromises in the face of economic liberalization and frozen, or sharply reduced, hiring in the public sectors where they had traditionally been dominant. In recent times, the increased reliance on contract labor (with very low unionization rates) and the rise of features such as voluntary retirement schemes also weakened the position of unions. In the private sector, unions now tend to focus more on job security than they did in the past when wages and other conditions were the main issues. These pressures have also encouraged more coordination among unions.

Official data on the total number of members belonging to registered unions and their share in the organized sector work force shows a decline over time as far as period averages go (figure below). There are, however, sharp annual fluctuations that emerge from 1980 onwards, suggesting the growing unreliability of these estimates. Household level data are a more reliable source, particularly for the unorganized sector. The NSS 55<sup>th</sup> Round Survey found that around 8.6 percent of Indian workers were members of trade unions or associations. There were substantial state variations, with Kerala having a union/association membership of 22 percent while Madhya Pradesh had a density of only 5.7 percent. Also notable is the fact that trade unions were not equally present in all sectors, but where they were present, membership tended to be strong. Therefore, while only around 15 percent of workers reported having a union or association in their work activity, around 58 percent of workers said they were members of unions in places where there was a union presence.



An Asian Development Bank (ADB)-financed survey conducted in 2004, which covered a nationally representative sample of organized and unorganized sectors, also found that trade union membership was strongly concentrated among workers in the urban organized tertiary sector (7.9 percent) and among workers with higher education levels (5.4 percent). Union membership in the unorganized sector was low, only about 2.2 percent. Not surprisingly, given the urban and organized sector bias of membership, the poorest people had very low membership rates. Average membership rates kicked in only above the 50<sup>th</sup> percentile of income distribution among workers.

### **Box 5.2 (continued): Trade Unions in India**

Though overall membership is small, unions can potentially play an important role in settling disputes through conciliation and arbitration. The Second National Commission on Labor made a number of recommendations to improve the effectiveness of conciliation. The reasons why arbitration has failed to catch on in a significant way to date are also well understood (See Hazra, in Debroy, 2005). Apart from the supply side issue of there being too few qualified arbitrators, the absence of a legal framework for determining a representative union (except in a few states) in a firm is problematic. Overall, there is a lack of adequate grievance-redressal options within firms and beyond that would promote more rapid settlement of disputes.

Some measures which could help unions remain relevant in the new environment are:

- *Strengthening the legal framework for collective bargaining, which could have benefits for both employers and workers, provided there is scope for bargaining to remain decentralized and at the firm level where preferred.*<sup>1</sup> A key element of this would be to create provisions for the recognition of unions in the workplace to represent workers' interests in bargaining. A second issue would be to clarify the legal status of collective agreements. These have no direct legal force in Indian law, except insofar as they are formally endorsed as the outcome of conciliation proceedings.
- *Addressing factors that undermine the link between trade union representatives and workers (see Hazra, op. cit., and Nath, in Debroy).* With the exception of a few states such as Rajasthan and Maharashtra, there is *no provision for trade union recognition* in the bargaining and dispute settlement processes. This results in fragmentation among worker representatives and lack of clarity about whom employers should negotiate with (union formation requires only 7 workers, with no lower limit on the share of enterprise work force in a particular union). There is also a lack of internally democratic procedures in trades unions. Under the Trade Unions Act, 1926, office bearers of unions are not required to be elected by secret ballot of members, a procedure common in most countries. Similarly, there is no requirement of approval from the membership for initiating activities such as strikes, amending the rules of the union or maintaining a political fund. A further dimension to this is the lack of requirement for union representatives to come from the enterprise work force. All these features increase the risks of unions pursuing agendas which go beyond the interests of the workers they represent. They also undermine the accountability of union management, which in turn reduces the appeal of union membership for workers.
- *In order for unions to become more appealing to unorganized sector workers, it is necessary that unions strongly emphasize service provision for their members.* While all unions are committed to expanding their memberships in the unorganized sector, this has largely failed to happen to date, particularly in rural areas. In this respect, the experience of NGOs, such as the Self Employed Women's Association (SEWA) which are transforming into unions, provides lessons. The membership of these unions is being driven by a demand for services (for example, social security schemes) which the unions can provide or facilitate. Particularly for unorganized sector workers, it is likely to be the appeal of different services which the union can provide or intermediate that will facilitate expansion in membership.

*Source: O'Keefe (2006)*

## **Working Conditions**

17. **Working conditions are governed principally by:** (i) the Factories Act, 1948; (ii) the Industrial Employment (Standing Orders) Act, 1946, which specifies the form of the employment

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<sup>1</sup>Note that Indian employers are not obliged to bargain collectively. The question of whether it is desirable for them to do so, is not addressed here. However, facilitating bargaining where both parties are agreeable would be desirable, whatever the position on obligation of bargain in good faith.

contract; and (iii) the Contract Labor (Regulation and Abolition) Act, 1970. Of minor importance is the Apprentices Act, 1961. Table 5.2 presents the objectives and coverage of these regulations.

<b>Table 5.2: Laws and Regulations on Working Conditions</b>		
<b>Laws and Regulations</b>	<b>Aim</b>	<b>Coverage</b>
The Factories Act, 1948	Governs the health, safety and welfare of workers in factories and plantations that use power and employ 10 workers or more. The Act requires all units to file annual returns about their activities.	Extends to the whole of India and includes service sector units employing intellectual labor.
The Industrial Employment (Standing Orders) Act, 1946, specifies the form of the employment contract.	Requires employers with industrial units employing 100 or more workers (excluding managers and supervisors) to specify working conditions in line with 'model standing orders'.	All India. This is a central act but the states are empowered to change some of its provisions. Many states apply the Act to units below the specified size, even shops and establishments.
The Contract Labor (Regulation and Abolition) Act, 1970.	Gradual abolition of casual labor hiring and, where permitted, to regulate the working conditions of casual labor.	All India.

18. ***The Factories Act governs the health, safety and welfare of workers in factories and plantations that use power and employ ten workers or more (20 workers or more if firms do not use power).*** However, Section 85 of the Act empowers state governments to extend the provisions of the Act to smaller factories. In several states, small-scale and seasonal factories such as rice and oil mills and textile power-looms have been brought under the Act by the use of this provision. The Act, which requires all units to file annual returns about their activities, extends to the whole of India and includes service sector units employing intellectual labor. Separate acts cover mines and railways workers. In 1987, a major amendment incorporated elements of occupational health and safety into the Factories Act.

19. ***The Industrial Employment (Standing Orders) Act, 1946, requires employers with industrial units that employ 100 or more workers (excluding managers and supervisors) to ensure that working conditions conform to 'model standing orders'.*** Like the Factories Act, this is a central act but the states are empowered to change some of its provisions. Many states apply the Act to units below the specified size and even to shops and establishments. The 'model standing orders' distinguish between 'permanent' and various types of casual workers, and set out rules regarding leave, disciplinary action, layoffs and retrenchment, and other minor issues.

20. ***The Contract Labor (Regulation and Abolition) Act, 1971, another key law in industrial relations today, is a major source of regulatory ambiguity.*** Initially created with the objective of gradually abolishing casual labor hiring, this law is now being used extensively – in many but not all states -- as the primary recourse by employers and state governments to increase labor market flexibility within the existing legal regime. Notably, the original purpose of the Act was quite the opposite.

## **Wages**

21. ***The principal laws relating to wages are: (i) the Payment of Wages Act, 1937; and (ii) the Minimum Wages Act, 1948.*** Of lesser importance are the Payment of Bonus Act, 1965, and the Equal Remuneration Act, 1976. The Payment of Wages Act, 1937, is again a central act, the enforcement of which is a state responsibility, except in mines, railways, oilfields, ports, and air transport which lie in the ‘central sphere’. The Act specifies the standard wage period (a month or less), payment day, permissible deductions, mode of payment, and inspections. It applies to workers below a certain salary range. The Minimum Wages Act, 1948, is a central act, the enforcement of which is a state responsibility, except in mines, railways, oilfields, ports, and air transport. This Act specifies minimum wages (and is also empowered to specify the length of the working day) in ‘scheduled’ employment (that is, those jobs explicitly identified in a schedule). The statutory minimum wage is set based on proposals by central and state advisory boards.

## **Social Security and Insurance**

22. ***Coverage of workers by formal social security and insurance programs is extremely limited and covers less than 10 percent of India’s labor force.*** The principal laws here are: (i) the Workmen’s Compensation Act, 1923, which specifies compensation that employers need to pay on account of injury by accident at the worksite or because of occupational diseases. An important provision of the Act is the liability of the principal employer in case of contract labor employment; (ii) the Employees State Insurance Act, 1948, extends to workers who earn less than a certain salary limit in factories covered under the Factories Act and commercial establishments employing 20 or more persons. It requires contributions from both employers and employees for insurance covering sickness, maternity, death, and disablement; and (iii) the Employees Provident Funds Act, 1952, applies primarily to factories and specifies deposit-linked provident funds or pension schemes.

## **Reform of Labor Laws**

23. ***There has been little legal or de jure liberalization in labor regulations in India despite demand from industry and recommendations by several government commissions.*** Even the cautiously worded recommendations of the National Labor Commission (2002) exceeded the limits on changes placed by the national trade unions. As a result, Indian labor regulations, formulated during a period when India was largely a closed economy unexposed to international competition and when the arrival of information technology had not speeded up business processes enormously, have remained largely unchanged for the past 50 years.<sup>2</sup>

24. ***Some liberalization has taken place in recent years.*** Overall, the IDA has been revised the maximum number of times, but these revisions have more often been aimed at making laws more stringent rather than liberal (Table 5.3). The Trade Unions (Amendment) Act, 2001 (Act No. 31 of 2001) was aimed at reducing the multiplicity of unions, limiting the number of ‘outsiders’ in the executives of trade unions, and prohibiting professional politicians from becoming members of the executives of trade unions. More recently, in March 2005, the Union Cabinet decided to amend the Factories Act, 1948, to allow women workers to do night-shifts. This was done in view of the fact that there is already a large and growing number of female workers in the information technology industry and in export-oriented manufacturing units.

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<sup>2</sup> There have been a number of state amendments to the IDA; most often the laws were changed with the objective of increasing protection of workers.

**Table 5.3: Amendments in the IDA**

<b>Central amendments</b>	<b>Major change/clause introduced</b>
1953	Layoff compensation
1956	Layoff compensation rules detailed
1965	Section 29: Penalty on employers for breach of Section 25 (layoff compensation) introduced.
1971	Revision of layoff rules for mines that close because of exhaustion of resources.
1972	Chapter Vb is introduced. 60 days notice required for closure of industrial undertakings employing more than 300 workers.
1982	A number of changes based on the National Commission on Labor (1969) recommendations. The most important change is the revision of Vb in view of the Excel Wear case in which the Supreme Court rejected the Government's right to refuse closure. The Government is now empowered to refuse or grant closure to units employing 100 or more workers.
2002	Amendments to Sections 2(a) and 2(s) defining 'appropriate government' and 'workmen'. Higher salaried employees brought under the Act; the state governments are the appropriate governments to issue orders refusing or granting permission for retrenchment, closure or layoffs.
<b>Major state clauses and amendments</b>	
Industrial Disputes (West Bengal Amendment) Act, 1971, Layoffs, retrenchment and closure	<p>First introduced requirement of prior notice for closure of undertakings with 50 or more workers. Generalized in the 1972 central amendment.</p> <ul style="list-style-type: none"> <li>• Government is authorized to force an undertaking to maintain 'continuity and normalcy' of work (West Bengal)</li> <li>• Maharashtra and Andhra Pradesh stipulate compensation payments before closure.</li> <li>• Permission required for retrenchment and closure of undertakings with 50 or more workers (West Bengal), 100 or more workers (Karnataka), 300 or more workers (Maharashtra and Rajasthan), and later brought down to 100 workers in most states.</li> <li>• Notice required for 90 days before closure (West Bengal, later Maharashtra).</li> <li>• Closure is valid when it occurs due to non-renewal of licenses (Maharashtra).</li> <li>• Full compensation to workers for retrenchment on any ground other than discontinuance of power supply (Maharashtra).</li> </ul>

25. ***Even bolder initiatives have occurred at the state level.*** In June 2000, the Government of Maharashtra announced a fairly broad-based labor law reform package, the highlights of which were: (a) raising the employment limit of a 'factory' that is subject to the Factories Act, from 10 or 20 to 50; (b) restricting trade union size, restricting number of trade unions to one per company, laying down minimum conditions for registration, and restricting links between unions and political parties; (c) rationalization of visits by government inspectors; (d) raising the permissible extent of contract labor employment; and (e) abolishing the Maharashtra Trade Union (MRTU) & Prevention of Unfair Labor Practices (PULP, 1971) Acts 'as the required purpose is being efficiently served with the use of the Industrial Disputes Act, 1947.' Uttar Pradesh (UP) amended its own UP IDA, 1947, to raise the threshold of applying clause Vb of IDA from 100 to 300. The Government of Punjab introduced fast-track courts, called Labor Lok Adalats, which cleared more than 11,000, or two thirds, of the pending cases in the Labor Courts and Tribunals in

three rounds of hearings since 2000. The Andhra Pradesh Government announced its intention to introduce liberalized labor laws for designated Special Economic Zones (SEZs).<sup>3</sup>

26. ***Special Economic Zones (SEZs) are another possible means to introduce labor policy reforms.*** For example, In China, financial, legal, labor and other policy reforms were introduced and tested first within the SEZs before being extended to the rest of the economy. Internationally, export processing and other zones are witnessing increasing share of trade flows and are employing a growing number of workers. In 1986, there were 176 zones across 47 countries; by 2003, the number had increased to over 3,000 across 116 countries. Export Processing zones have a long history in India dating back to 1965. In 2000, the government replaced the old EPZ regime by a new scheme of “Special Economic Zones” (SEZs) with several lucrative incentives/benefits that were not available in the earlier scheme. In 2005, it enacted the SEZ Act and the SEZ Rules were notified in February 2006. (See Box 5.3) The commerce ministry’s web site described the SEZs as “designated duty free enclaves to be treated as foreign territory for trade operations and duties and tariffs.” The most important change of the new law is that it offers a highly attractive fiscal incentive package consisting of (i) exemption from custom duties, central excise duties, service tax, central sales taxes and securities transaction tax to both the developers and the units; (ii) tax holidays for 15 years (currently the units enjoy a seven year tax holiday), i e, 100 per cent tax exemption for 5 years, 50 per cent for the next five years, and 50 per cent of the ploughed back export profits for the next five years; and (iii) 100 per cent income tax exemption for 10 years in a block period of 15 years for SEZ developers. States have the right to determine which labor laws.

#### **Box 5.3: Special Economic Zones and Employment**

There is a variety of reasons why countries have gone for economic zones. These include export promotion, attraction of foreign investment, development of depressed regions and policy reform experimentation. In China, financial, legal, labor and other policy reforms were introduced and tested first within the SEZs before being extended to the rest of the economy. The main rationale for the Shannon Free Zone in Ireland, in contrast, was to establish a ‘growth pole’ in the economically distressed southern part of the country.

India has not remained immune to these developments. In 2005, it enacted the SEZ Act and the SEZ Rules were notified in February 2006. The commerce ministry’s web site described the SEZs as “designated duty free enclaves to be treated as foreign territory for trade operations and duties and tariffs.” The most important change of the new law is that it offers a highly attractive fiscal incentive package. There has been a tremendous rush to set up SEZs since the Act came into effect in February 2006. The Ministry of Commerce claims that these zones are expected to attract investment of about US\$20 billion, including FDI of US\$ 5 billion and create additional 500,000 direct jobs.

The supporters of the SEZ Act claim that promotion of SEZs is an attempt to deal with infrastructural deficiencies, procedural complexities, bureaucratic hassles and barriers raised by monetary, trade, fiscal, taxation, tariff and labor policies. Under the given socio-economic and political institutions, the establishment of industrial enclaves (SEZs/EPZs) is seen as an important strategic tool for expediting the process of industrialization. These claims notwithstanding, the policy has come under heavy criticism. Dissenters contend that the policy would be misused for real estate development rather than for generating exports. Concerns have also been expressed on the displacement of farmers by land acquisition, loss of fertile agricultural, forests or coastal land, a huge revenue loss to the exchequer and adverse consequences of uneven growth. Many contend that the SEZ Act was framed without giving sufficient attention to the ancillary issues, such as for massive land acquisition.

International evidence suggests that the role of SEZs in employment generation is often relatively marginal. In most countries SEZs are not a major source of employment and they account for less than 1% of the

<sup>3</sup> (*Business Standard* online, May 24, 2005): “In the race for new investments, the state is expected to go all out in modifying the labor laws”, the online report of *Business Standard* said.

global workforce. Their role in employment generation in India too has been muted: compared to the 30 million jobs created in 15 special economic zones in China, India EPZs have created less than 100,000 jobs in India (see Table 1).

**Table 1: India's export processing zones have not been as effective in generating employment as zones in other countries in the region.**

	No. of zones	Total empl. (2000-03)	Investment (US\$ million)
<b>Bangladesh</b>	6	2,138,341	750
<b>China</b>	15	30,000,000	43560
<b>India</b>	8	95,000	NA
<b>Malaysia</b>	14	322,000	NA
<b>Pakistan</b>	22	410540	815
<b>Philippines</b>	34	820960	387
<b>Sri Lanka</b>	12	461,000	2627

Source: RIS (2006)

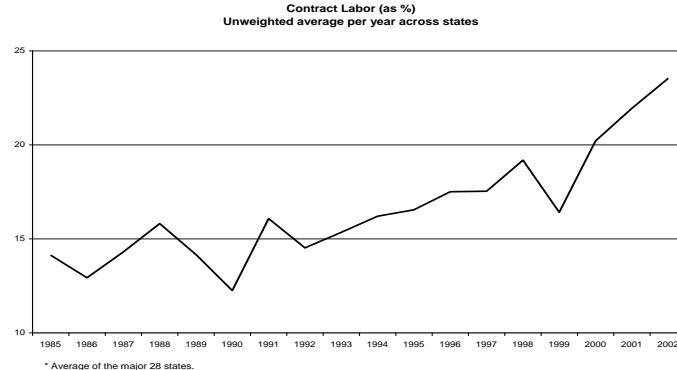
The SEZ Act may also entail significant revenue losses, and also set the stage for tax exemptions in other sectors. The MOF has estimated that SEZs will lead to a revenue loss, on account of direct and indirect taxes of around 0.4%-0.6% of GDP a year. Estimates by NIPFP suggest similar numbers. Moreover, the SEZ Act may well set the stage for further tax exemptions in other sectors. Importantly, the inclusion of IT in the SEZ Act has contributed to reigniting the debate on extending the tax holiday in the IT sector beyond 2009. At the same time, international experience shows that tax incentives by themselves will not attract investment. This is supported by both econometric studies, and surveys of investors, which are generally in agreement that investors do not consider tax incentives as a determining factor in their location decisions.

### Enforcement of These Laws and De Facto Reforms

27. ***Although de jure reforms have been limited, de facto there has been perceptible liberalization.*** At the state level, where the implementation takes place, de facto labor regulations appear to have undergone a fair amount of liberalization (Roy, 2003). Signs of weakening law enforcement are appearing in ineffective and corrupt inspections and an increasing recourse to contract labor. A shift in the stand of the judiciary may also be contributing to a more flexible application of the law. The incidence of voluntary retirement and contractual employment has increased. Firm-level bargaining has increased too, suggesting some decline in the penetration of national trade unions which usually lead the resistance to legal reforms.

**Figure 5.1: The Use of Contract Labor Has Increased Markedly**  
 (Percentage of Contract Labor in Total Manufacturing Labor Force)

28. *In particular, the significant increase in the use of contract labor (see Figure 5.1), rent seeking and corruption, has reduced the bite of the IDA, though there are considerable variations across states.* There has been a large decline in the number of factories inspected (inspections are the key instrument for enforcing labor laws), again with considerable variations across states. However, more than the decline in inspections, the evidence of the widespread use of bribes (or rents) collected by inspectors from factories (where managers report labor legislations to be more of an obstacle to growth), is eroding the application of these laws.



29. *Industrial disputes declined significantly during the 1990s, with exceptions in some states.* But, the number of man-days lost in such disputes has increased since 1997, suggesting the continuing costs of the IDA.

### Core Labor Standards

30. *India has ratified four out of the eight International Labor Organization (ILO) core labor standards.* These include: the Forced Labor Convention (No. 29); Abolition of Forced Labor Convention (No. 105); Equal Remuneration Convention (No. 100); and Discrimination (Employment Occupation) Convention (No. 111). The remaining four that have not been ratified so far are: Freedom of Association and Protection of Right to Organized Convention (No. 87); Right to Organize and Collective Bargaining Convention (No. 98); Minimum Age Convention (No. 138); and Worst Forms of Child Labor Convention (No. 182). Box 5.4 discusses issues related to the implementation of the core standards.

#### Box 5.4: Implementation of Core Labor Standards

India is a founder member of the ILO and has ratified 39 of its conventions. ILO instruments have also provided guidance in the formulation of domestic legislation and government measures aimed at protecting and advancing workers' interests. So far, the Government of India (GoI) has ratified four of the eight core labor standards. Conventions 87 and 98 have not been ratified, with the Government citing its own inability to promote the unionization of Government servants given the political nature of trade unions in the country. On minimum age, existing laws mandate different minimum ages for employment in different sectors -- bringing these into conformity would be a prerequisite for ratifying Convention 138. The Government is considering the possibility of enacting an omnibus legislation that would designate 14 years as the minimum age for entry into all occupations, other than agriculture in family and small holdings that produce for self-consumption. Similarly, on the child labor convention, the Government is examining the feasibility of ratification. It should be noted that in the Indian Constitution, labor is a concurrent area between the central and state governments – this makes it necessary to build consensus and coordination internally before any major legislation or ratification can be undertaken.

At the same time, India has declared that it remains committed to giving effect to the principles contained in the core conventions, whether or not they have been ratified. In this spirit, national legislation (the Trade Union Act, the IDA) largely fulfills the requirements of freedom of association and collective bargaining, though the absence of clear rules regarding recognition of bargaining agents and the status of such agreements remains problematic (see Box 5.2). In the case of child labor too, Article 24 of the Indian Constitution mandates that no child below the age of 14 can be employed in any factory, mine or other

hazardous job. The Factories Act, 1948, also prohibits the employment of children below the age of 14. In addition, in 1986, the government passed the Child Labor (Prohibition and Regulation) Act which further listed occupations and processes where children cannot be employed. These include activities like slaughterhouses, carpet-weaving, wool-cleaning, cloth-printing, and dyeing and weaving, which were not covered in the previous Acts. These actions by the Government underscore the legislative intent to progressively eliminate child labor in India. The Government also recognizes that significant progress in this regard cannot be made without tackling the socio-economic milieus which force children to work. It has formulated a National Child Labor Policy to design a specific program of action in this regard. There is also a Central Advisory Board which reviews progress and recommends further action. Besides, the Government also runs programs, directly and through voluntary organizations, to rehabilitate child workers. The Government has also redoubled efforts to put children in schools by improving access and providing free mid-day meals in schools. In addition, there are many state level initiatives, such as the Andhra Pradesh Integrated Action Plan to Eliminate Child Labor. This is innovative in that it defines child labor not as ‘working kids’, but more broadly, as children out of school, thus getting around the vexed issue of what types/extent of child work actually constitute a harmful situation. Despite these efforts, child labor remains a significant issue. According to NSS surveys, slightly fewer than 11 million children remained in India’s work force in 1999/2000, mostly in rural areas, employed in agricultural activities.

### C. Assessing India’s Labor Regulations

#### Some Key Issues

31. *Notwithstanding some liberalization and the easing of enforcement in recent years, there is increasing awareness, supported by research, that Indian labor laws are stiflingly complex and restrict growth of the manufacturing and formal sectors in particular.* Work done by several national commissions and Government-appointed working groups, business and trade groups, firm-level surveys, and recent research on labor issues in India, all point to this direction. For instance, the report of the Second National Commission for Labor criticized labor laws as being “ad hoc, complicated, mutually inconsistent, if not contradictory, lacking in uniformity of definitions and riddled with clauses that have become outdated and anachronistic<sup>4</sup> Further, a growing body of research, discussed below, shows how labor regulations complicate dispute resolution and restrict retrenchment and layoffs of workers in manufacturing, effectively constraining the growth of the manufacturing sector and manufacturing jobs. The existence of these laws helps explain, partly, why the Indian manufacturing sector is so small relative to that of many other countries.

32. *Overall, there are three main issues. First, there are too many laws.* Some 47 Acts directly regulate working conditions, wages and benefits, industrial relations, social security, and insurance. States have as many as 40 minimum wages, corresponding to different types of workers. This multiplicity of laws – several of them overlapping and sometimes inconsistent in their definitions -- leads to ambiguities in interpretation. This, in turn, not only creates difficulties in enforcement but also provides opportunities for discretionary behavior, rent-seeking and corruption. Specifically, it creates conditions for the ‘Inspector Raj’ to operate and extract rents (bribes) from industry. It has a particularly pernicious effect on small- and medium-scale industries for which these costs are disproportionately high. Further, the numerous laws, by cross-referencing one other, often extend the mandate of labor laws to organizations far different from manufacturing enterprises<sup>5</sup>

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<sup>4</sup>Planning Commission Report, 2001b.

<sup>5</sup>For instance, Section 2i of the IDA states: “Industry means any systematic activity carried on by cooperation between an employer and his workmen (whether such workmen are employed by such employer directly or through any agency, including a contractor) for the production, supply or distribution of goods with a view to satisfy human wants... whether

33. ***Second, clauses in Chapters Va and Vb of the IDA impose inordinately high administrative costs on retrenching or laying-off workers and on closing firms.*** These administrative costs are among the highest in the world<sup>6</sup> For instance, Section 25-0, which makes it mandatory for employers to refer cases of retrenchment due to firm closure to state governments, has been in the eye of a legal storm for nearly 50 years on account of the barriers it creates for failed firms to close their operations. Chapters Vb and Clause 25-0 make labor, effectively, a fixed factor. They create disincentives for employers to hire more labor on a permanent basis, and encourage the use of contract labor or casual labor. This law also creates incentives for employers to choose more capital intensive techniques and increase wages instead of employment.

34. ***Section 9A of the IDA also restricts the flexibility of firms to quickly adjust to changing market conditions.*** It requires employers to provide three weeks written notice for changes in (a) shift work; (b) grade classification; (c) technology that may affect labor demand; and (d) occupation, process or department. The worker then has the right to dispute such changes, leading to the costs of dispute resolution.

35. ***Third, the design of labor dispute settlement processes in the IDA creates incentives to adjudicate disputes rather than reconcile them.*** The IDA makes provisions for dispute settlement in three stages: (i) negotiation; (ii) mediation; and (iii) adjudication -- involving six tiers of officers (Table 5.4). The first stage involves voluntary communication between the disputants. The Act provides for Works Committees to be constituted for the purpose of mediating. These bodies are internal to firms. However, if a significant number of outsiders are represented in the union, then conciliation marginalizes the unions and other outside political actors. It is then in the unions' interests to sabotage conciliation. Second, and more important, the majority of cases of dispute concern discharge, dismissal and retrenchment. The legal provisions of the IDA are so protective of workers that they expect to gain more from the courtroom than from conciliation efforts. As a result, the number of pending court cases concerning labor disputes is huge (around 533,000 at the end of the 1990s).

**Table 5.4: Industrial Dispute Reconciliation Bodies**

- Works Committees,
- Conciliation Officers,
- Board of Conciliation,
- Courts of Inquiry,
- Labor Courts,
- Industrial Tribunals, and
- A National Industrial Tribunal

*Source:* Debroy (2005).

36. ***Numerous, and often conflicting, court decisions on labor disputes have increased uncertainty about the interpretation of labor laws.*** This has raised transaction costs, created large rents (bribery) in enforcing these laws, and lowered investors' confidence (Debroy, 2005; Pagés and Roy, 2006). Enforcing the IDA has also become more unwieldy and complex with the state governments and courts intervening more in enterprise-level disputes and raising the costs and rents to regulators. This has resulted in excessively long waiting times for resolving labor disputes. Labor termination disputes that should, in principle, take no longer than 3 months to decide, in practice sometimes take as long as ten years with, at times, 2000 pages of reported

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or not -- (i) any capital has been invested for the purpose of carrying on such an activity; or (ii) such activity is carried on with a motive to make any gain or profit..." Consequently, all activities can be defined as industrial and under the purview of the IDA. In practice also, organizations as different as *panchayat samitis*, hospitals, real estate companies, operators of tubewells, religious institutions, etc., have been considered to be industries, making, in principle, laws applicable to industries also applicable to these institutions.

<sup>6</sup>Doing Business in 2006 (World Bank)

materials being submitted for review<sup>7</sup> Disputes referred to High Courts can lie pending for as long as 10 years as well (Table 5.5).

**Table 5.5: State-wise Details of Number of Dispute Cases Pending in Labor Courts (Oct, 2000)**

Major States	No. of Cases Pending	No. of Cases Pending for More Than 10 years
Assam	189	138
Bihar	5,200	566
Delhi	28,837	2,342
Gujarat	133,916	8,616
Kerala	3,450	63
Karnataka	17,457	2,924
Maharashtra	142,345	11,508
Madhya Pradesh	89,341	0
Punjab	14,784	110
Rajasthan	20,066	775
Tamil Nadu	21,713	150
Uttar Pradesh	22,539	10,303
West Bengal	2,225	283
<b>Total (All States and Union Territories)</b>	<b>533,038</b>	<b>28,864</b>

Source: Ministry of Labor

37. *An important consequence of these costs imposed by the IDA is that firms are encouraged to remain small and thus, outside the purview of the law.* Interviews suggest that medium- and small-scale firms are threatened by permanent loss of business and clientele due to prolonged disputes. A recent McKinsey report on India's textile industry pointed out that Indian manufacturers often set up multiple small plants instead of a single big one in order to take advantage of easier labor laws. As a result, Indian clothing plants typically have 10 to 20 percent of the capacity of Chinese plants and work at lower levels of efficiency.<sup>8</sup>

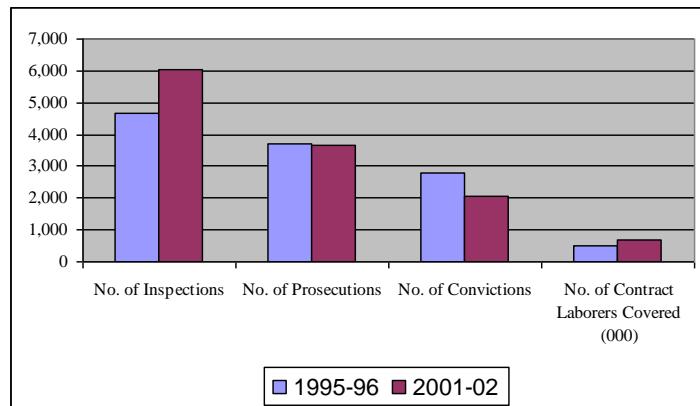
38. *The uncertainty surrounding some of the labor laws also leads to high transaction costs, a most prominent example of which comes from the Contract Labor Act.* The most important example of this is the large number of prosecutions and cases concerning the Contract Labor (Regulations and Abolition) Act. While the contract labor act provision has been interpreted by firms and many states as a means of introducing flexibility in the labor market, leading to a marked increase in the use of contract labor in many states, the provisions of the law contain considerable ambiguity regarding the legality of using contract labor. Section 10 of the Act prevents firms from outsourcing most core functions, or hiring workers on temporary contracts for more than 120 days (anyone so employed can demand permanent employment from the company). The prohibition of contract workers in 'core' areas follows from a Supreme Court judgment (*Standard Vacuum Refinery Company v their workmen*, 1960) which prohibited temporary labor in tasks that were (a) perennial; (b) necessary for the work of the factory; (c) sufficient to employ a considerable number of whole-time workmen; and (d) were being done in most concerns by regular workmen.

<sup>7</sup>Amir Ullah Khan (2005), 'Regulating Labor Markets,' page 90, in B. Debroy ed., Reforming Labor Laws in India.

<sup>8</sup>*Business Standard*, February 19, 2005.

39. ***These detailed rules on the use of contract labor are backed up by strong discretionary enforcement powers vested in Government bodies.*** A Central Advisory Board and a State Advisory Board, consisting of the Labor Commissioners and nominees of the Governments, have the discretion to determine whether the work involving contract labor is of a perennial nature and justifies the use of casual, in place of permanent, work force. On the advice of such Boards, state governments can issue orders prohibiting contract labor and/or its absorption in the core work force. A series of government notifications has extended the scope of this prohibition to individual industries and fields of service. From 2001 to 2002, there were close to 4000 prosecutions and over 2000 convictions arising from the use of contract labor, which affected nearly half a million workers (Figure 5.2).

**Figure 5.2: Prosecutions and Convictions from Violations of the Contract Labor (Control and Abolition) Act**



Source: Ministry of Labor

40. ***The uncertainty surrounding the use of contract labor even extends to the new ITES*** (Information Technology Enabled Services) **firms** which use many contract laborers in non-core services. These firms face the prospect of standing in violation of the Contract Labor Act or being compelled to add contract workers to their regular work force<sup>9</sup>

<sup>9</sup>Interview with IT firm in Bangalore, February 2005.

## International Comparisons with Indian Labor Regulations

41. *India comes across as one of the most restrictive countries in the world in terms of regulations governing retrenchment and layoffs.* These comparisons are based on the *Doing Business* indicators, a publicly available database based on a detailed study of employment laws across the world.<sup>10</sup> Besides providing other information, this data summarizes information on legal provisions related to hiring, hours of work and retrenchment of workers. These provisions are assigned scores which increase progressively as labor laws are revealed to be more pro-worker (see Box 5.5).

### Box 5.5: Doing Business Indices

A first index (*restrictions on hiring*) measures how difficult it is for employers to offer non-standard contracts, that is, they have to hire workers using modalities other than open-ended, permanent contracts. A higher score indicates higher difficulty in hiring through alternative contracts.

A second index (*restrictions on hours of work*) measures legal provisions pertaining to hours of work. It compares countries in aspects related to overtime, restrictions on night work, and length of the work-day and work-week. Countries where employers face more restrictions on hours of work are given a higher score.

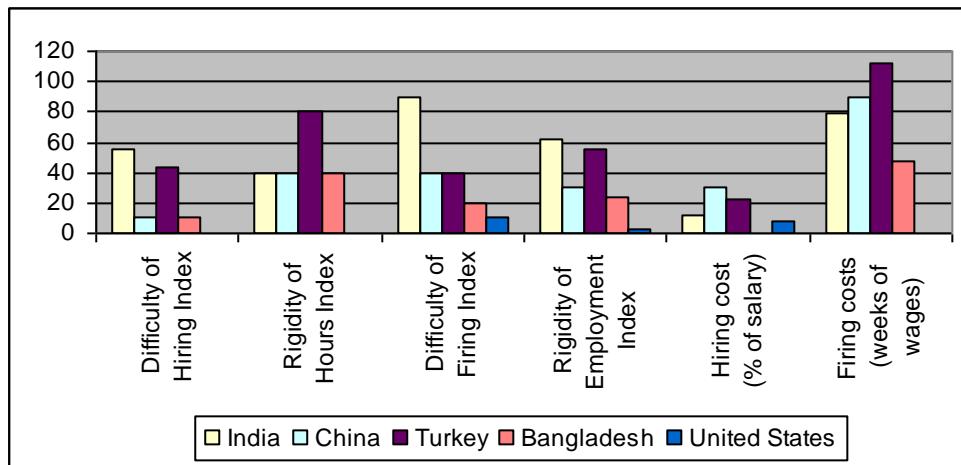
A third index (*restrictions on retrenchment*) measures legal and administrative constraints on dismissals. Finally, the *rigidity of employment* index provides a summary index of the rigidity of labor laws.

42. *According to these measures, Indian labor laws are atypically restrictive in those provisions that refer to worker retrenchment and, within this group, those that effectively deny firms authorization to retrench.* On the other hand, neither do provisions related to hours of work, nor those related to the hiring of workers, appear to especially favor workers or restrict employers, relative to the rest of the world. Furthermore, retrenched workers in India receive fairly low compensation compared to those in other developing countries.

43. *Indian laws regarding the use of alternative contracts are more restrictive than those in other large developing economies, but are in line with international standards.* India is assigned a score of 33 in the *restrictions on hiring* index, slightly above the international median of 31 and below the international average of 35 (Figure 5.3). Yet, when comparing India to a sample of countries -- of either large developing economies or countries in the south and east Asia regions -- it is seen that hiring rules tend to be more restrictive in India than in other countries in the group, with the exception of Brazil, Indonesia, Pakistan, Thailand, and Vietnam.

<sup>10</sup>See <http://rru.worldbank.org/DoingBusiness>

**Figure 5.3: India Labor Laws Compared to Selected Countries**

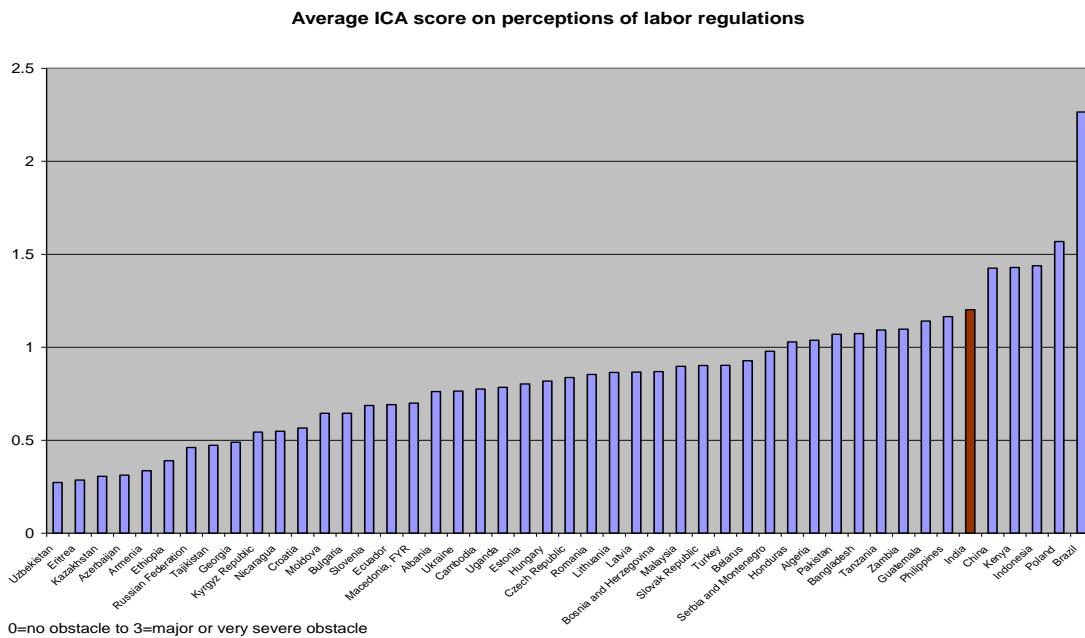


44. **Thus, while Indian labor laws exert little restriction on hours of work, they impose high administrative costs on dismissal.** India scores 20 on the restrictions on hours of work index, well below the international median score of 60 and the international average of 50. Indian scores are also much lower than the mean of the group of comparators, with the exception of Malaysia and Nepal which have similarly unrestricted laws on hours of work. However, Indian labor laws impose high administrative constraints on dismissals relative to most countries in the world. On a scale of 1 to 100, India scores 90 on the restrictions on dismissals index, well above the international median of 40 and the international average of 37.4. Indian firms also experience much higher bureaucratic restrictions on dismissals than firms in the sample of comparator countries.

#### D. The Impact of Some Key Labor Regulations in India

45. **How important are labor regulations in the eyes of employers?** The information on this is available from a survey of 1900 firms that were asked about the various constraints to growth that they face, including those from labor regulations. The results of this combined Confederation of Indian Industries (CII) and World Bank Investment Climate survey can be used to assess, first, how constraining labor regulations are relative to other factors. Second, how do responses regarding labor regulations and other constraints in India compare with those from other countries? Figure 5.4 shows the average response to labor laws (as an obstacle question) across all countries for which the survey is available. All surveys were conducted in the period starting at the end of the 1990s and continuing into the early 2000s. It is interesting that India (along with Kenya, Indonesia, Poland, and Brazil) is one of the countries where employers perceive labor regulations to be a big obstacle. Somewhat surprisingly, Chinese employers rate China's labor regulations to be at least as binding as the ones in India, while objective measures of labor regulations, such as the ones presented in the World Bank *Doing Business Report*, classify India as a country with more stringent regulations than China.

**Figure 5.4:Firms Consider India's Labor Laws to be More Binding than Those of Most Other Countries**



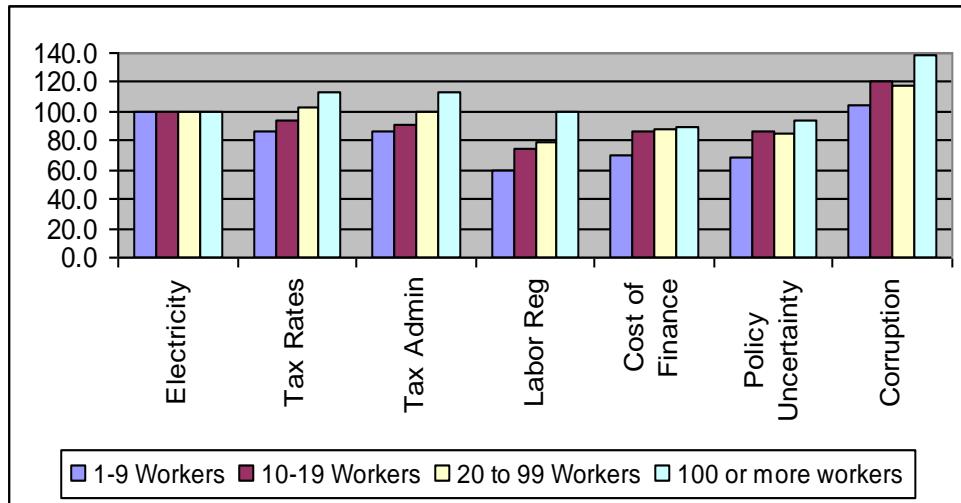
Source: Estimated from Investment Climate Survey of 2002. Ahsan and Pagés, 2005b.

46. **Importantly, the perception of constraints posed by labor regulations varies greatly according to firm size.** Overall, given that Indian firms score labor regulations to be a minor to moderate obstacle (that is, a score between 1 and 2), it may appear that labor problems are not very significant in comparison to other obstacles. However, when perceptions of labor constraints by firms are broken down by firm-size, labor regulations are highly significant for the larger firms for which most regulations apply.

47. **Large firms consider labor issues to be as big a constraint as electricity.** Infrastructure and, in particular, unreliable and insufficient supply of power have been identified as a major constraint for the future growth of India. For instance, Krueger and Chinoy (2002, p 31) note that: “By the end of the decade, the growth of the 1990s had already pushed infrastructure utilization well above the optimum. It is then noticeable that the data from the 2002 Investment Climate Survey show that firms with more than 100 workers consider labor regulation to be as important a constraint to their growth as electricity shortages”.<sup>11</sup> (Figure 5.5).

<sup>11</sup> Although most firms rank labor regulations as 99.5 compared to 100 for power, statistically there is no difference between the two scores.

**Figure 5.5: Ranking, by Firm Size, of Constraints to Manufacturing Growth Relative to Power Shortage Problems**



Source: Computed by authors from Investment Climate Survey; Ahsan and Pagés (2006b).

### What Are the Economic Costs of Regulations?

48. *Recent research provides mounting and clear evidence on the adverse impact of restrictive labor laws.* *A priori*, economic theory would suggest several reasons why poorly designed labor regulations can be costly in terms of growth and jobs lost (see Box 5.6). Empirical research on the impact of labor regulations in India first started in the early 1990s and has grown considerably in the last two years. This literature shows how costly rigid labor regulations can be in terms of foregone production and job growth in formal manufacturing, and deepened dualism, and how they can reduce the mobility of labor. In one of the early works on the impact of labor regulations in India, Fallon and Lucas (1991 and 1994) showed how labor demand fell significantly due to amendments to the IDA in 1976 which made it binding on firms to seek government permission before retrenching regular workers. This law reduced the mobility of labor.

#### **Box 5.6: What Does Economic Theory Say About the Costs of Labor Regulations?<sup>12</sup>**

**Higher adjustment costs:** By restricting changes in the use of labor, a key factor in production, regulations hinder firms from adjusting output and labor in response to changes in demand and market conditions. Consequently, firms may be unable to produce at the most efficient scale of production.

**Higher labor costs and wage stickiness:** Protecting jobs of existing workers and deterring recruitment of new workers, creates a wage premium for formal sector workers over casual workers that is unaccounted for by skills, experience or other human capital attributes. Further, regulations restricting labor retrenchment or layoffs can also result in wage rigidity in the formal sector, creating unemployment.

**Higher transaction costs and rents:** When administrative and judicial procedures dominate recruitment, retrenchment and industrial relations, transaction costs increase for both firms and workers. This is because instead of simple and transparent financial compensatory mechanisms being used, the use of administrative or legal procedures can result in rent-seeking or bribe taking by inspectors.

**Reduced incentives to invest.** Excessively protective labor laws reduce the returns to capital, leading to reduced investment and capital accumulation.

**Uncertainty.** Complicated regulations that are enforced mostly through administrative rules create uncertainty for investors. This leads, in turn, to lower investments (because investments are costly to reverse), lower hiring of regular and permanent workers, and reduced training of workers.

**Slower growth of jobs and employment in the formal sector:** The sum total of effects leads to slower growth of production and jobs in the sectors affected by the laws.

**Lower productivity.** By hindering the movement of labor from less productive to more productive jobs, regulations can lower overall economic and labor productivity, adversely impacting wages and growth.

**Off-setting factors:** Simple, transparent regulations that rely more on financial compensatory mechanisms can lead to increased welfare of workers, more harmonious industrial relations, and less uncertainty for investors and workers – leading to overall better outcomes than when markets are entirely unregulated.

49. **Recent research, focusing on differences in labor laws among Indian states, shows how states that increased the stringency of the IDA experienced a decline in formal sector manufacturing value-added and employment (Besley and Burgess, 2004).** Building further on this work Hasan, Mitra and Ramaswamy (2003) find that states with more stringent labor regulations (as measured in Besley and Burgess, 2004) have lower demand elasticities and these elasticities are less affected by trade reforms. A recent work (Lall and Mengistae, 2005) that analyzed plant level data in 40 of India's major cities using a measure for the enforcement of laws, suggested that an inadequate investment climate (principally inadequate power supply and the rigidity of labor laws) results in lower productivity at the plant level and lower manufacturing development in the states most affected by these laws.

50. **Recent research for this study, which tries to measure both de jure and de facto applications of the IDA, has also shown how manufacturing value-added, employment and the number of factories are all adversely affected in states with more restrictive labor laws.** This research assesses the impact of state amendments to the IDA on output, employment, wages, labor share, and number of factories in the manufacturing sector of such states, during the period 1959-1997. Some states made amendments to reduce the costs of labor disputes while other states

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<sup>12</sup> See Basu (2006) for a theoretical exposition of how India's labor market regulations, especially the provisions of the IDA, can harm labor market outcomes.

passed amendments that made labor disputes more costly.<sup>13</sup> As mentioned above, state amendments that increased the cost of labor disputes or retrenchment, above the cost stipulated by the central Act, resulted in declines in registered manufacturing employment and output in that state, relative to the states that did not implement such changes. There is some evidence that the use of contract labor across different states in the 1990s may have helped to reduce adjustment costs for firms, but did not do away with all the effects of regulations. Figures 5.6 through 5.8 present the results of research that measure the costs of IDA regulations that (i) make labor disputes costly; and (ii) raise retrenchment costs through the Vb clause. The main results are the following:

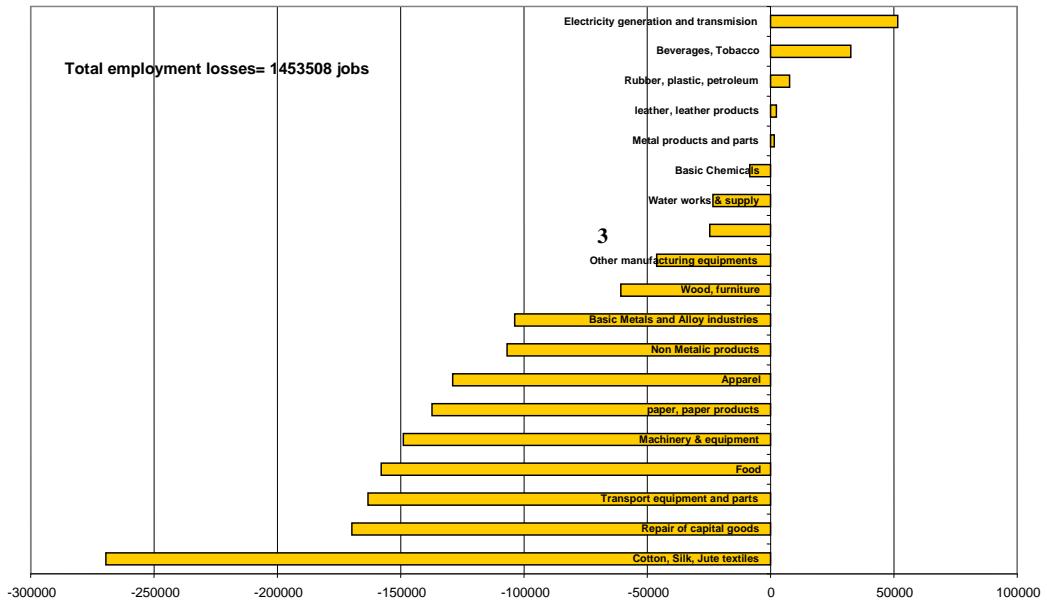
- Overall, India loses out on 2.8 million jobs in the formal manufacturing sector due to the IDA per se, which is, about 45 percent of the 6.4 millions jobs that currently exist in the formal manufacturing sector.
- The costs, in terms of jobs lost, are caused almost equally by the disputes related sections of the IDA and the retrenchment barriers clauses in the IDA.
- However, the disputes-related regulations cost more jobs in capital-intensive industries (top panel of Figure 5.6), while retrenchment-related regulations cost more jobs in labor-intensive industries (bottom panel of Figure 5.6).
- Retrenchment-related regulations affect jobs in more states (top panel in Figure 5.7) than disputes-related regulations. This is due, in part, to the fact that some states have implemented laws that reduce the costs of labor disputes, resulting in employment gains. But no states have implemented laws that reduce the costs of retrenchments.
- West Bengal and Maharashtra pay, by far, the biggest costs in terms of jobs lost – accounting for more than half of gross job losses.
- States such as West Bengal, Maharashtra, Gujarat, and Rajasthan pay the costs in terms of thousands of factories that do not exist because of the IDA regulations. This is because these states have more stringent labor regulations relative to the rest of states.

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<sup>13</sup> For example, in 1988, Tamil Nadu introduced an amendment that increased the power of Conciliation Officers in terms of enforcing attendance, compelling the production of documents and issuing commissions for the examination of witnesses. Examples of laws that reduce the costs of disputes are: (i) eliminating the need for the parties to refer labor disputes to the government prior to referring them to a tribunal; and (ii) granting the government the power to transfer any industrial dispute pending before a tribunal to any other tribunal constituted by the state government for adjudication.

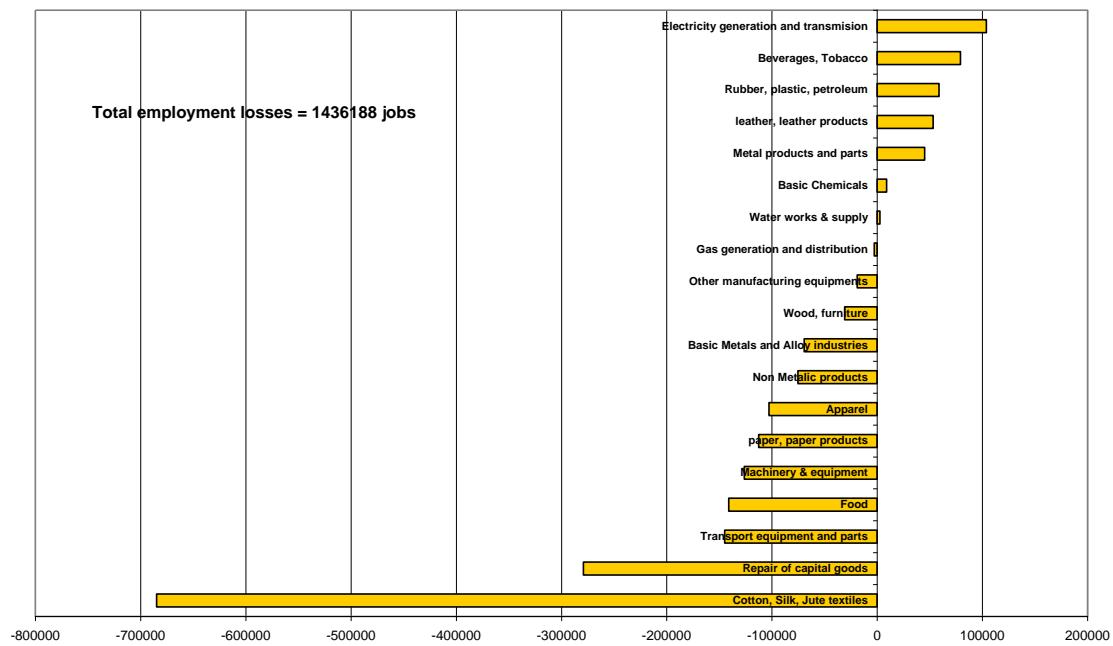
**Figure 5.6: Measuring the Costs of Regulations on Employment, By Sectors**

**Effect on Employment by Industry of an IDA Amendment making resolution of disputes more costly**  
Computed using 1997 employment levels by industry



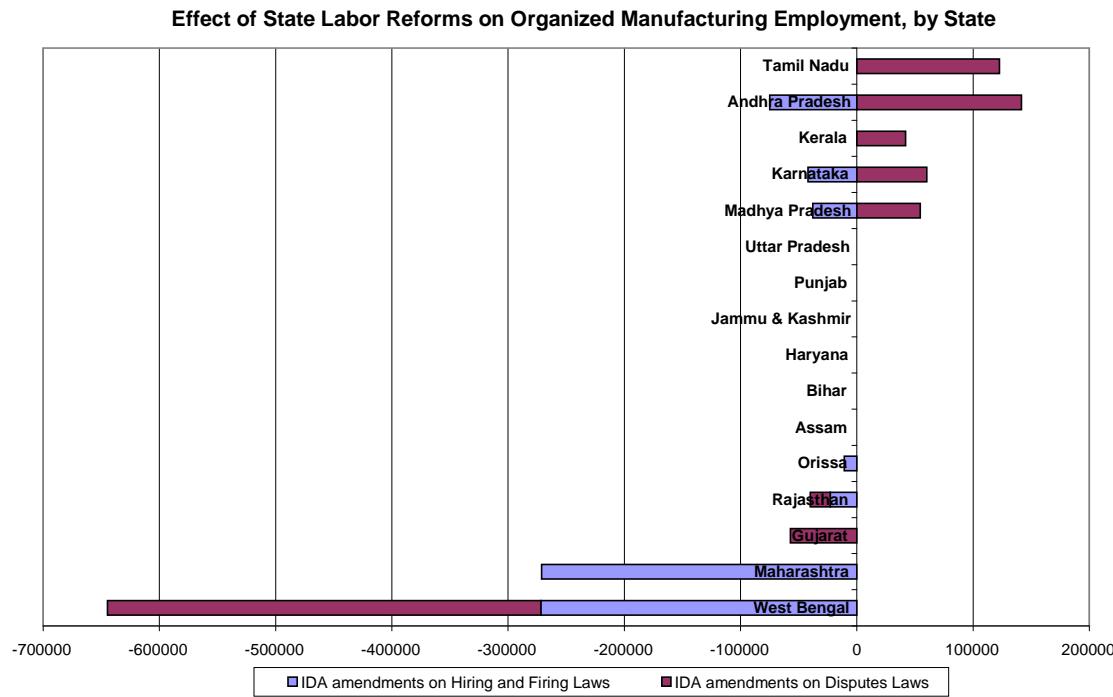
Source: Ahsan and Pagés, 2006

**Effect in Employment by Industry of an Amendment in IDA making retrenchment more costly**  
Computed using 1997 employment levels by industry

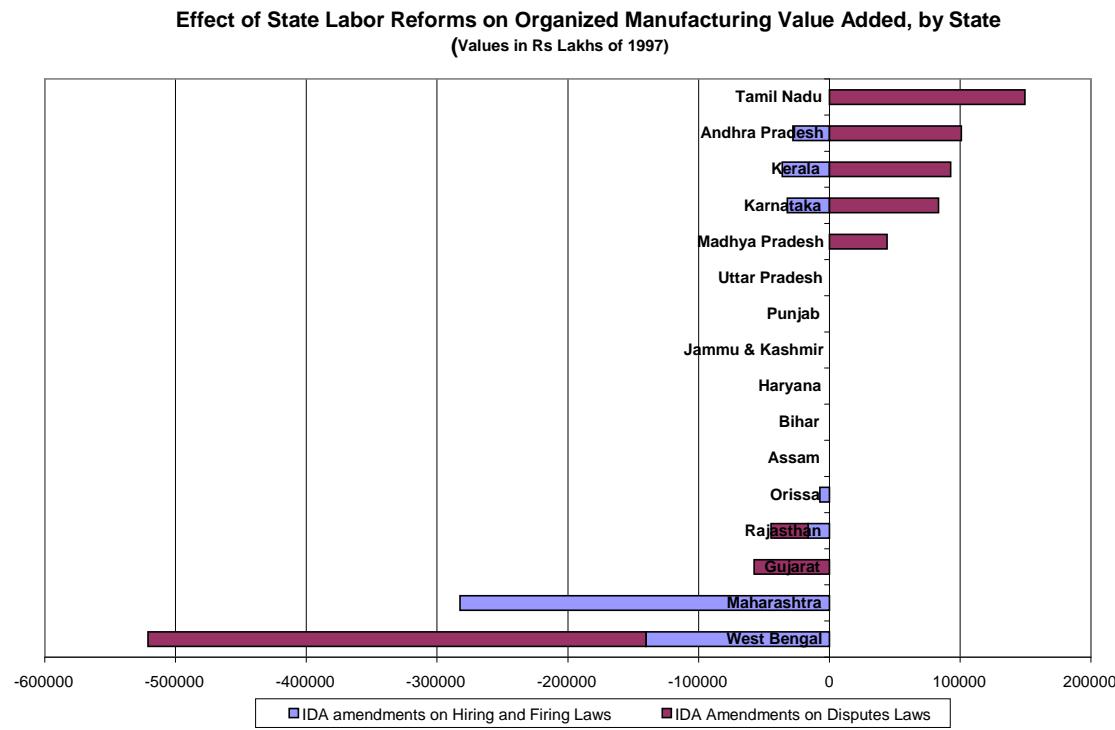


Source: Ahsan and Pagés, 2006

**Figure 5.7: Measuring the Costs of Regulations on Employment and Value-Added, by State**

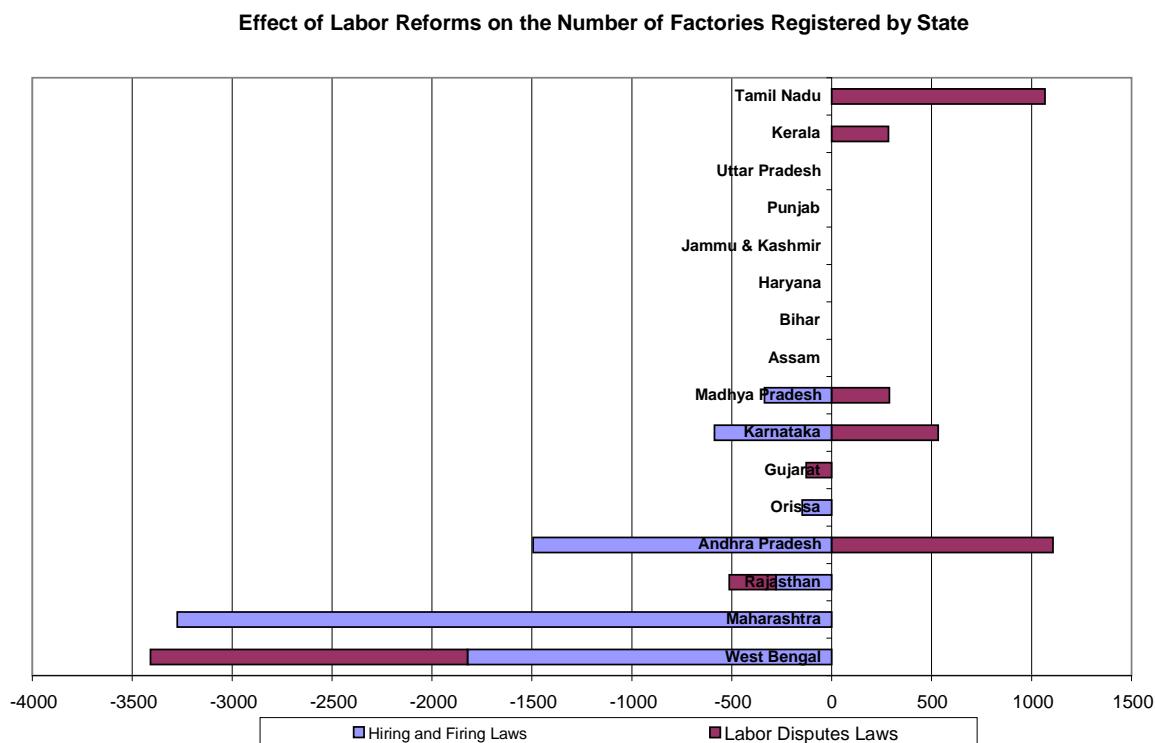


Source: Ahsan and Pagés (2006)



Source: Ahsan and Pagés (2006)

**Figure 5.8: Measuring the Costs of Regulations on the Number of Registered Factories, by State**



Source: Ahsan and Pagés (2006)

51. *Quite surprisingly, restrictive regulations do not make formal sector workers, as a whole, better-off.* Restrictive regulations on employment adjustment increase wages but not enough to compensate for the decline in formal jobs. As a consequence, total payments to formal workers decline and the labor share (the share of a company's value-added that goes to workers) does not increase. Dispute-related laws are even more costly for formal sector workers as they reduce both employment and wages, and therefore, total payments to workers (Ahsan and Pagés, 2006).

52. *Dispute-related laws have large adverse effects on labor productivity, mostly driven by declines in investment and capital-output ratios.* The lengthy procedures and uncertainty involved in dispute resolution reduce incentives to invest. In turn, lower capital-output ratios result in lower labor productivity rates and lower wages for workers.

53. *Some additional evidence points to the effect of regulations on reducing the mobility of labor:*

- Separation of workers happens markedly less in India than in other countries. In 2001, for instance, records show there were only 151 closures in the manufacturing sector that affected 11,599 workers. Another 133 retrenchments and 236 layoffs led to 3668 workers and 26231 workers being laid off (Khan, Amir U, 2005). Overall, this makes for a job destruction rate of about 1 percent of the private sector labor force in formal manufacturing. In addition, data from the annual India Labor Yearbook (various years in the 1990s) reveal the total job flow – including voluntary separation and entry – to be

around 14 percent in the 1990s. In comparison, gross worker flows for the formal sector in OECD countries can range from 60 percent in Germany to about 80 percent in the US. Middle income countries, such as Mexico and Brazil, have gross worker flows of 65 percent and 80 percent respectively.

- Firm level surveys reveal that ‘labor hoarding’ can be as much as 17 percent, that is, firms may have as many as 17 percent more workers than their desired number of labor force.
- To avoid disputes, firms are willing to pay two to six times the legally mandated compensation for retrenching or laying-off workers. Instead of the mandated two weeks of wages for each year of service, firms often offer up to four to six weeks of wages as compensation.

54. ***Restrictive regulations and labor laws also contribute to inequality by perpetuating dualism between the formal and informal sectors.*** With the exception of chapter Vb in the IDA, most regulations, including labor regulations, become binding in manufacturing firms which have more than 10 workers (if power or electricity is used) or 20 workers (if no power is used) registered under the Factories Act. The impact of this is seen starkly on the overwhelming share of workers (about 75 percent) in firms or plant sizes of below 10 workers – the bulk of employment in firms that remain unregistered. In contrast, less than 20 percent of workers in a sample of fast-growing East Asian countries work in such small firms. More generally, as seen in Chapter 3, Indian manufacturing sector firms continue to show a highly bi-modal size structure: the bulk of the firms are low-productivity small enterprises at one end and on the other, upper end, are relatively large firms with high productivity.

55. ***Recent data suggests that dualistic trends are persistent in the manufacturing and tertiary sectors.*** In manufacturing, for instance, only 2 percent of firms belong to the formal organized sector (that is, firms that employ more than 10 workers each). But the share of employees working in these firms has declined to 25 percent of all manufacturing sector employment (Unni, 2006). Thus, on the one side are the more productive, relatively better paid, salaried, formal sector workers (14 percent of the Indian labor force) who enjoy the ‘insider benefits’ of being protected by employment protection legislation, and on the other side are the vast majority of informal or unorganized sector workers who work for much lower wages and have little or no social protection. This is evident from the persistent real wage premium of about 28 percent that exists for salaried workers over casual workers, even when they have similar human capital characteristics.

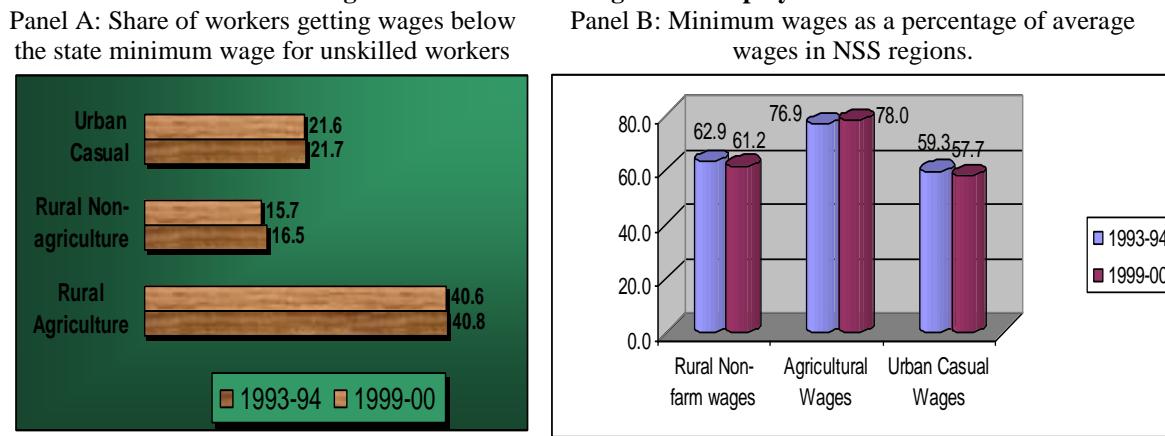
56. ***The dualism in India’s manufacturing sector spills over to the tertiary sector through two channels.*** First, by discouraging growth of the formal manufacturing sector, in particular, and the manufacturing sector in general, regulations push a large number of workers towards low-end tertiary sector employment. Second, regulations can also directly impinge on the services sector through the broader application of laws such as the IDA, something that was not originally intended. For instance, clauses in the Shops and Establishment Act sometimes overlap with those of the IDA and some court decisions have extended the reach of the IDA to cover tertiary sector activities.

57. ***Contrary to the adverse impact of some clauses of the IDA, preliminary analysis suggests that minimum wages for unskilled workers can be welfare-enhancing in India.*** Minimum wages may be supporting the wages of less skilled workers, without apparent costs to employment. However, minimum wage regimes need to be streamlined. With individual states having as many as 40 or more minimum wages in place, set by both central and state governments, minimum wage regulations in India are also as complex as other labor laws. Within

the agricultural sector alone, there are minimum wages for ploughing, weeding, sowing, transplanting, harvesting, winnowing, threshing, picking, and herding. In the construction industry, the central government has set eight minimum wages which are differentiated by the thickness of around an inch of the stones meant to be broken. There are also floor minimum wages for unskilled workers which have been set by the state governments.

58. ***One result of this complexity is that minimum wages laws are not well-enforced.*** A large share of workers, some 40 percent of agricultural workers and 21 percent of urban casual workers (see left panel of Figure 5.9), get wages below the lowest minimum wage (typically the one set for unskilled casual workers). These figures likely underestimate the lack of compliance since, in most states, minimum wages are considerably below the average wages of casual agricultural and urban workers (right hand side panel in Figure 5.9).

**Figure 5.9: Minimum Wages and Employment**



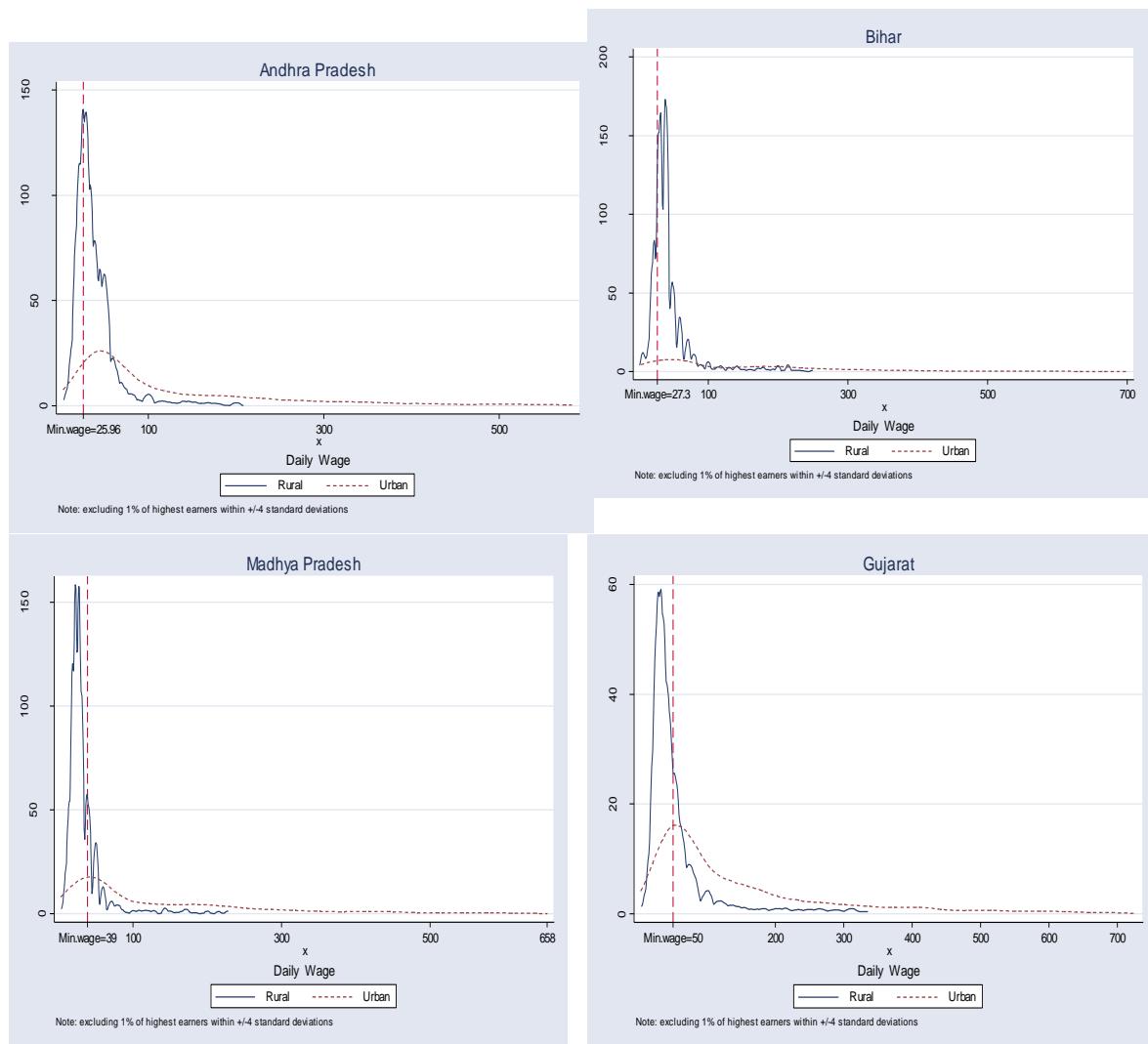
Source: Wage data from NSS. Minimum wage data from Indiastat.com

59. ***The data suggests the strong effect minimum wages have on supporting wages for unskilled casual workers in urban and rural areas.*** In most states, casual wages tend to be concentrated around the minimum wage for unskilled workers (Figure 5.10). The data also shows that casual wages for agricultural and urban workers, as well as minimum wages, moved in the same direction over the period between 1993-1994 and 1999-2000. This is the case even after controlling for state fixed effects which take into account other factors that determine the level of minimum wages.

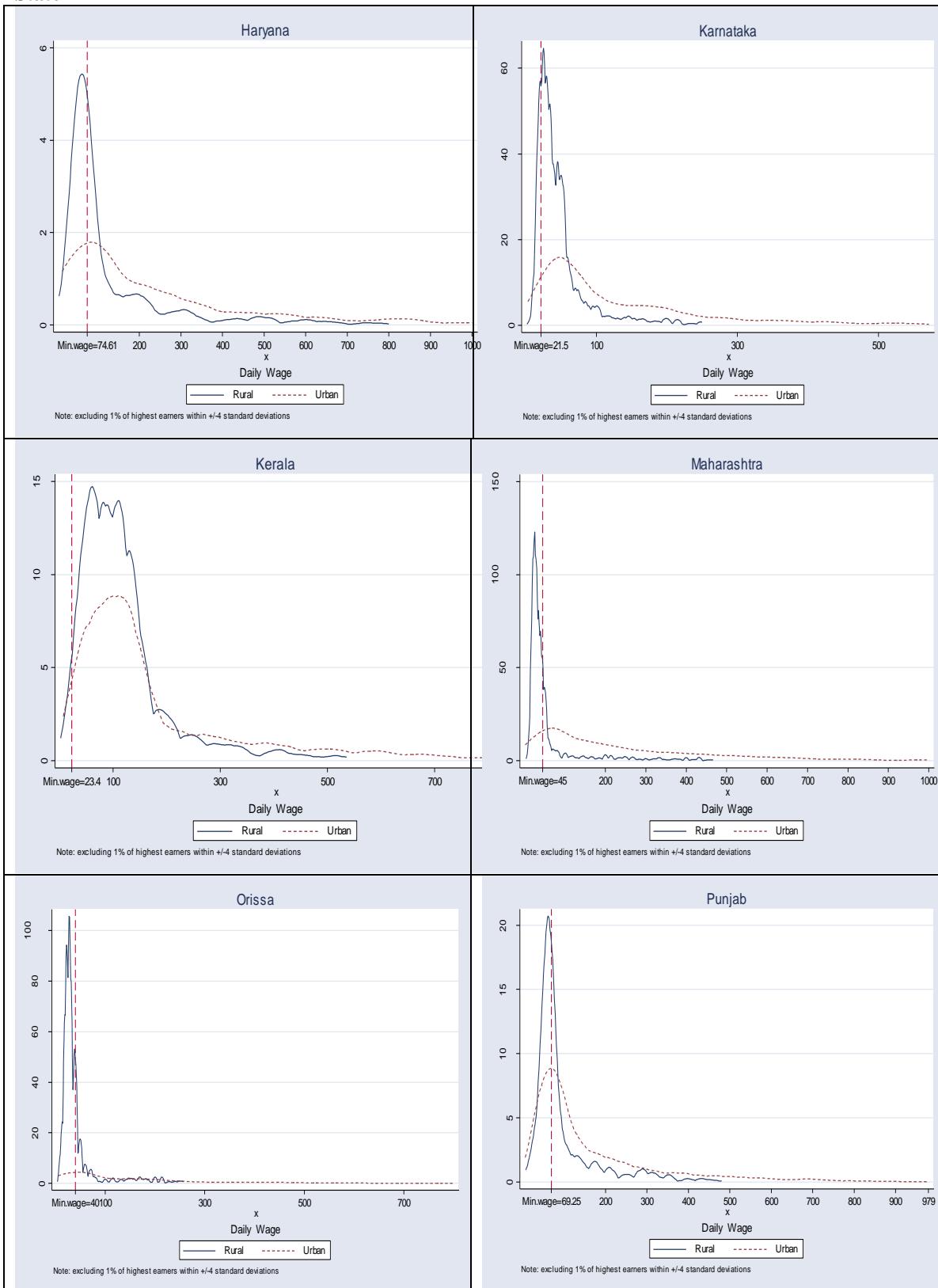
60. ***On average, minimum wages did not seem to ration jobs in the 1990s.*** A separate exercise shows that unemployment (UPS) and underemployment (CDS) rates in the different states do not appear to be related to minimum wages.<sup>14</sup> Such results are consistent with our finding that real wages do not affect casual employment levels or employment rates. A preliminary conclusion of this analysis is that minimum wages for unskilled workers can be welfare-enhancing as they raise wages for unskilled poor workers without increasing unemployment significantly. Such a conclusion is only tentative in that it needs to be supported by further analysis. However, it points to an under-researched area of major policy importance as it can imply that a streamlined regime of minimum wages can be welfare-enhancing for those in more need.

<sup>14</sup> This accounted for other omitted factors. See chapter 1 for definition of these terms.

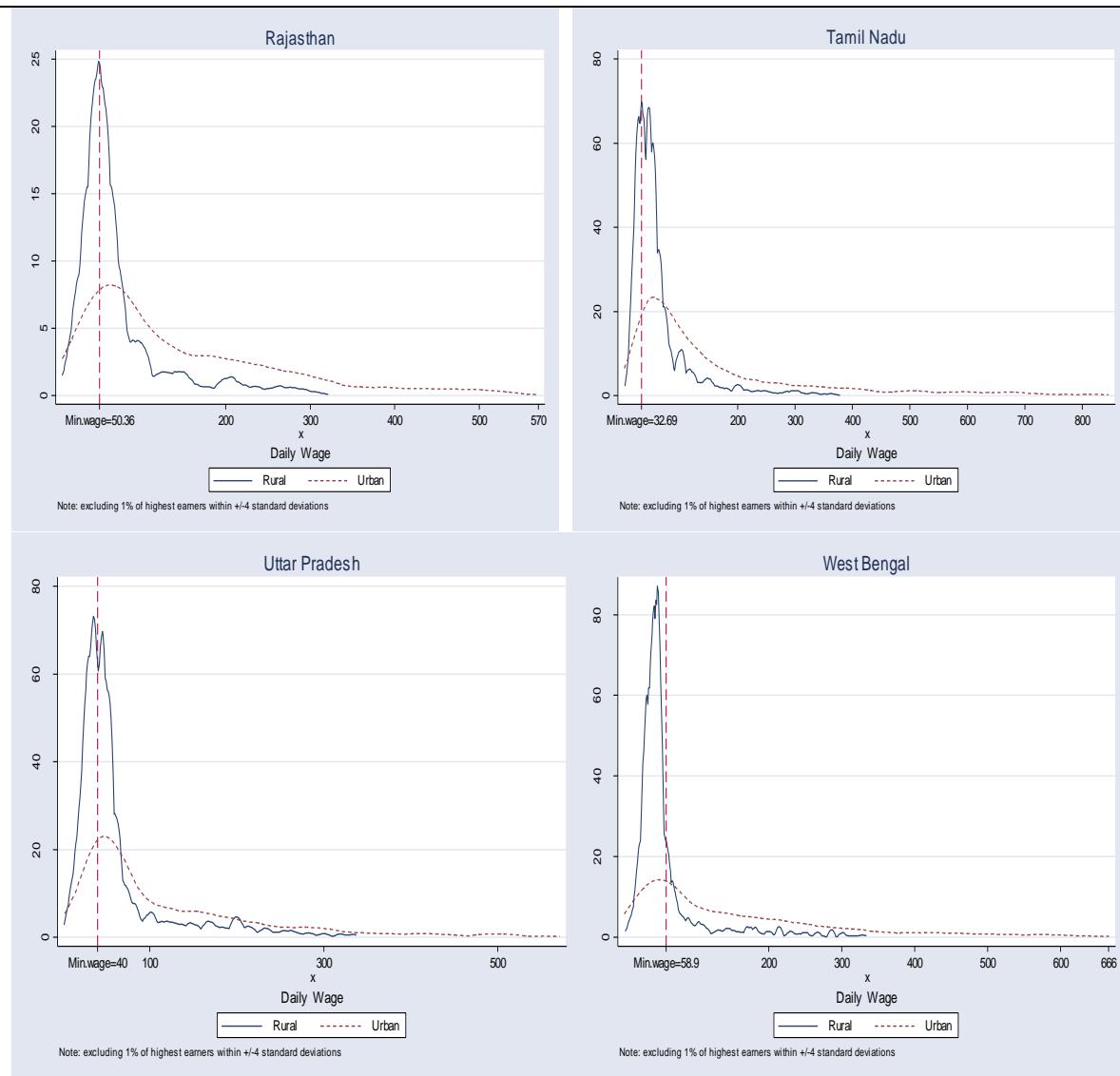
**Figure 5.10: Clustering of Urban and Rural Casual Wages and Minimum Wages, by State**  
 Kernel Distribution of Urban and Rural Casual Wages



**Figure 5:10 (Continued): Clustering of Urban and Rural Casual Wages and Minimum Wages, by State**



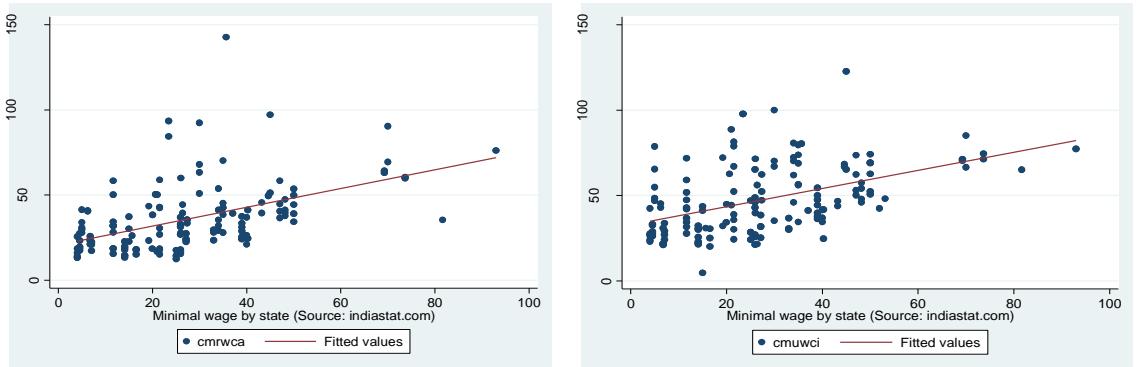
**Figure 5:10 (Continued): Clustering of Urban and Rural Casual Wages and Minimum Wages, by State**



**Figure 5.11: Rural and Urban Wages**

Rural Agricultural Wages and Minimum Wages,  
by Regions, in 50<sup>th</sup> and 55<sup>th</sup> Rounds

Urban Casual Wages and Minimum Wages, by  
Regions, in 50<sup>th</sup> and 55<sup>th</sup> Rounds



Source: NSS and Ministry of Labor for minimum wages. Adjusted R squared for the two estimates at 0.85 and 0.75 respectively.

#### E. Some Options for Reforming Labor Regulations

61. **Recent research and employer surveys suggest that the costs of labor regulations are high – both in terms of growth of jobs in general, and in terms of growth of good formal sector jobs in particular.** The direct costs mainly arise from lowering manufacturing value-added and jobs. But the indirect costs, in terms of the spillover effects on tertiary sectors like services, trade, hotels and restaurants, and construction, can also be significant. The complexity and ambiguity of labor laws not only leads to efficiency losses for the economy but also undermines their effectiveness in protecting workers' welfare and security. By widening the gap in earnings between the formal and informal sectors, labor regulations also increase inequality between a small section of formal sector workers and the vast ranks of unorganized sector workers.

62. **It is widely recognized by now that labor regulations in India need reform.** A rapidly growing and increasingly open economy faces higher opportunity costs from restrictive labor laws. At the same time, it is also easier to reform labor laws in a growing economy where workers have greater opportunities for finding jobs and are less concerned about moving from their current ones. A more prosperous economy can also make available more resources to provide temporary support for workers who have to change jobs or retrain in order to increase their employment prospects. The current phase of rapid growth in India, thus, offers the country a window of opportunity to reform its labor laws. What are some of the ways by which India's labor markets can be reformed?

#### The Way Forward

63. **Before suggesting specific reforms, it is useful to outline some general principles that labor market reforms should follow. These are presented in Box 5.7.**

##### Box 5.7: Principles to Guide Labor Market Reforms

**Having balanced objectives.** Labor market reforms should balance the objective of protecting the rights of workers with the objective of promoting investment, productivity and growth. This is because in the long run, investment and growth of productivity and earnings are the best jobs programs that a country can introduce. However, no less important are short-run welfare goals that ensure workplace safety and humane working conditions, protection against arbitrary action by employers to eliminate jobs or reduce wages, and provision for the rights of workers to form associations to protect their rights.

**Basing policy reforms on well-identified market and policy failures.** Given political and capacity constraints, reforms are costly and should only be based on good research that identifies exactly the market and policy failures that regulations need to address.

**Objectives and instruments should be well-distinguished.** For instance, it should be clear that labor market flexibility is not an end in itself but rather a means to create more jobs and better outcomes.

**Reform legislation should be flexible so that unforeseen and undesired consequences can be easily mitigated.** The clearer the distinction between objectives and instruments for reforms, the more effective reforms can be.

**Identifying the winners and losers from the reforms, and providing compensation as needed.** Even when reforms have clear net gains, they can still hurt some groups of workers and employers. The challenge for the Government is to organize assistance to compensate the losers.

(From Pagés and Saavedra, 2002).

64. **In the case of India, the preceding analysis suggests labor market reforms should address four priority areas:**

- (i) streamlining and simplifying labor laws;
- (ii) reducing market rigidities by modernizing the IDA;
- (iii) resolving ambiguities concerning the Contract Labor (Regulation and Abolition) Act; and
- (iv) improving enforcement of laws to make them more effective, while reducing transaction costs and rents for firms.

Before discussing the specific reforms that can be carried out in each area, it is worth laying out some guiding principles that reforms could follow.

### Rationalizing and Consolidating Labor Laws

65. **Rationalize and consolidate labor laws.** Perhaps the greatest consensus between Government, labor and industry is in the case of this reform. The existence of 55 central labor laws and more than 100 state laws is causing extraordinary confusion and complexity. It is impossible for either firms or workers to be aware of their rights and obligations when rules and regulations are spread over so many national and state level Acts. The current 47 centrally enacted labor laws can be consolidated into four Acts centered on industrial disputes, wages and benefits, conditions of employment, and social security (Table 5.6).

**Table 5.6: Suggestions for Consolidating Labor Laws**

<b>Current Laws</b>	<b>Possible Consolidation Into New Law</b>
Industrial Employment (Standing Orders) Act,	Terms and Conditions of Employment And Disputes Mechanism
Industrial Disputes Act,	
Trade Unions Act.	
Factories Act,	Conditions of Work and Welfare
Maternity Benefits Act,	
Workmen's Compensation Act,	
Contract Labor (Regulation) Act.	
Minimum Wages Act,	Wages and Benefits
Payment of Wages Act,	
Bonus Act.	
Employees Provident Funds Act,	Social Security
Employees State Insurance Act,	

## Payment of Gratuity Act.

Source: Federation of Indian Chambers of Commerce (FICCI)

66. **Alongside consolidation of laws, key concepts such as workmen, industry and factory – the meanings of which are ambiguous and variable among Acts -- should be clarified and harmonized.** Concepts should be broad and comprehensive and give room to very few exceptions and ambiguities. If the objective is to provide a minimum set of rights and obligations, it is unclear why employers and workers in certain sectors or industries (say hospitals or educational institutions) should be exempted from or devoid of such obligations and rights respectively. As stated by Debroy (2005), while there may be debates on the nature of regulations, “unification and harmonization is an issue on which there should be no lack of consensus”. Harmonization and consolidation are also two of the recommendations submitted by the Second National Commission on Labor (2NCL)

## **Modernizing the IDA**

67. **Next to simplifying and consolidating labor laws, which can take some time, modernizing the IDA is a priority.** IDA reforms should focus on two main areas. First, the disputes resolution mechanism should be simplified to reduce time and resources consumed in disputes (see Box 5.8).

### **Box 5.8: Amending the IDA to Simplify Dispute Resolution Mechanisms**

- **Allowing only rights-based disputes should be adjudicated.** By distinguishing between ‘rights disputes’ (those disputes that are based on a legal right) -- and ‘interest disputes’ (disputes which are not based on any existing rights), transaction costs can be lowered by limiting dispute cases. Disagreements belonging to the ‘interest disputes’ category should be solved by means of collective bargaining or, if that fails, conciliation and arbitration mechanisms (Nath, 2005).
- **Strengthening grievance-handling mechanisms at the enterprise level.** While Section 9C, introduced by the Amendment Act of 1982, created a grievance-redressal mechanism at the enterprise level, it has not been enforced, with employers and employees often failing to recognize it. Accordingly, Section 9C could be enforced better after suitable procedural amendments. The aim should be to provide greater authority and incentives to Conciliation Officers to resolve disputes at their level or at the Conciliation Board level.
- **Providing Conciliation Officers with the powers currently awarded to the Conciliation Board.** Conciliation should be made a compulsory step to adjudication in industrial dispute cases. Appropriate training and incentives can be given to officers to enable them to resist pressures from interested groups (Hazra, 2005).
- **Reintroducing the Labor Appellate Tribunals which were abolished in 1954.** This will reduce the work of higher judiciary, that is, High Courts and the Supreme Court, which consumes considerable time and cost.
- **Addressing the shortage of well-trained presiding officers in labor courts and tribunals** (Hazra, 2005).
- **Fixing the limit of filing disputes to, say, one year after occurrence of disputes (by amending Section 10 of the IDA).** The aim should be to reduce the burden on the courts and discourage the filing of non-genuine claims.
- **Making industrial dispute decisions enforceable within 30 days after they have been communicated in writing to all parties, as in civil court cases.** At present, Section 17 of the IDA makes laws enforceable 30 days after publication of the decision; this can often delay implementation.

68. ***The second major reform of the IDA should aim at protecting workers rather than protecting jobs.*** Change, transformation and upgradation are the engines of economic growth. In order to foster growth while ensuring the livelihoods of workers, governments are turning to mechanisms that protect the incomes of the workers rather than their jobs. This, in turn, implies that current provisions aimed at ensuring job security have to be transformed into mechanisms that protect the incomes and welfare of those workers who are adversely affected by technological change or market fluctuations. Some specific measures are suggested in Box 5.9.

#### **Box 5.9: Amending the IDA to Increase Labor Market Flexibility**

- **Eliminating the requirement for firms employing 100 or more workers to seek prior permission from governments for layoffs would be the first best solution.** Such arbitrary thresholds only create strong disincentives for firms to grow above the thresholds. This, in turn, prevents firms from enjoying economies of scale at a time when India's manufacturing trade is increasing. The threshold for all industrial establishments, plantations and mines, employing 100 workers or more, having to seek prior permission from the appropriate government before layoffs, retrenchment, or closure, should be increased to at least 500 workers. Anything less than this reduces incentives for firms to grow and, in the process, create jobs. It should be noted that investment climate data suggest that increasing the threshold from 100 to 300 will not be effective in solving the problem but will involve similar political costs.
- **Waiving the condition of prior government permission for retrenchment under Section 25N, if workers accept compensation higher than that prescribed by the IDA.**
- **Removing the requirement for prior government permission for layoffs (Section 25M) and replacing it with Section 25C.**
- **Eliminating Section 25G which requires that employers should start retrenchment by laying off the last person hired.** In the current, fast-changing work environment, this Section penalizes firms that seek to hire and maintain workers with the latest up-to-date skills, relative to firms that rely on experience. This creates disincentives because it secures the jobs of older and more experienced workers, even if they don't perform in their jobs.
- **Eliminating the requirement of notice for change of service (Sections 9A and 9B of IDA) under which employers cannot change the terms and conditions of service without 21 days notice.** This can be replaced with a requirement of notice for a smaller period.
- **Increasing compensation for retrenchment and firm closure.** The current compensation contemplated in the IDA is well below the standards of developing countries. Although it is in line with compensations prevalent in developed countries, workers in industrial countries have access to other forms of unemployment insurance. A compensation equivalent to one month's salary per year of work, with an upper maximum of 8-12 months pay, would be in line with international standards.<sup>70</sup>
- **Building funds for a rainy day would allow the very meager compensation that workers now receive in case of closure (Section 25FFF) to be increased to the same level as compensations awarded for retrenchment.** To make this possible, firms that default on their contributions should be penalized for breaching the law. A slightly different alternative, already in effect in some Latin American countries (Colombia, Peru, Ecuador, and somewhat differently in Brazil), is to create individual accounts for each worker in which firms deposit a certain percentage of the worker's wage every month. The funds accumulated in the individual accounts are available to the worker in case the worker is retrenched, laid-off or quits, or in case of firm closure.<sup>71</sup>

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<sup>70</sup> It should be noted that a level of compensation of 45 days and 60 days of compensation per year of service, in case of restructuring sick industries and profit-making companies respectively, is above the norm in both developing and developed countries.

<sup>71</sup> For more information on the operation of these schemes see Heckman and Pages (2004), Inter-American Development Bank (2004), Kugler (2004, 2005), Saavedra and Torero (2004) and Paes de Barros and Corseuil (2004).

- **Making job search assistance and training available to workers affected by retrenchment.** The most successful income-support mechanism for a worker who loses his or her job is to find a similar or better job as fast as possible. Labor policy should assist workers to this end.

69. *In addition to amending the IDA, India may also consider other broader measures to undertake labor market reforms.* Malaysia, perhaps, offers one of the more extreme models of introducing labor market flexibility by allowing specific contracts to be freely negotiated between workers and firms. The lead article of the 1995 Employment Act in Malaysia states: “Every employee must be given a written contract of employment which states the terms and conditions of employment, including the notice period required to terminate it.” This is an example of a legal system that gives freedom to employers, workers and unions to enter into mutually satisfying contracts. By allowing unions to advise workers on contracts, the interests of the workers are also protected. The role of the state is limited to providing a legal framework that respects and enforces these contracts. Examples of reforms in other countries are provided in Box 5.10.

**Box 5.10: Example of Labor Market Reforms in Other Countries that Increased Market Flexibility**

	<u>Main Reforms</u>
<b>Slovakia</b>	<p><i>Pre-reform:</i> No part-time contracts; term contracts could not be extended; limit of 150 hours of overtime a year; approval by union for firing a worker; retraining before dismissal; union approval for flexible work-time; and approval by union for group dismissals.</p> <p><i>Now:</i> Part-time contracts for students, women and retirees; extension of term contracts possible; limit of 400 hours of overtime, with worker consent; no approval for shifting hours in a 4 month period; no notification/retraining requirement; and notification for group dismissals.</p>
<b>Colombia</b>	<p><i>1990</i></p> <ul style="list-style-type: none"> <li>• Reduction in severance payments (from one month of last salary for each year worked, to a monthly contribution equivalent to one month of yearly salary into a severance account).</li> <li>• Wider definition of fair dismissals (extended to include noncompliance with company regulations/instructions). Also employees with less than 10 years of service cannot sue company for unfair dismissal.</li> <li>• Extended use of temporary contracts (permitted to be used for periods of less than one year; can be renewed up to three times)</li> <li>• Faster process for mass dismissals (reduction in advance notice requirement).</li> </ul> <p><i>2002</i></p> <ul style="list-style-type: none"> <li>• Employers permitted to hire workers by the hour.</li> <li>• Severance payments for employees with 10 years of service reduced to 45 days pay for first year, and 20 days pay for each year thereafter.</li> </ul>
<b>Thailand</b>	<p>Labor Protection Act enforced in August 1998. Covers working hours, wages, severance pay, child labor, holidays/leave, female workers, and so forth. Key changes introduced were:</p> <ul style="list-style-type: none"> <li>• Employee Welfare Fund created to assist employees who become unemployed or face other problems. Contributions made by employer, employees, government, and income from penalties.</li> <li>• Severance pay enhanced. Workers fired because of no fault of their own are entitled to severance pay depending on their tenure of employment. This payment was enhanced for those with more than six years of service. Provision for special severance pay in case firm relocates.</li> </ul>

## **Reducing Uncertainty by Making Contract Labor Law Clearer**

70. ***Reducing regulatory uncertainties surrounding the use of contract labor is another priority.*** Currently, the Contract Labor (Regulation and Abolition) Act (CLA) is designed to prohibit and discourage the use of contract labor, thereby introducing considerable uncertainty in the working of this increasingly important contractual arrangement. There is a need to formalize contract labor. The main instrument for implementing this would come from restricting the application of Section 10, Chapter 3 of the Contract Labor (Regulation and Abolition) Act, 1970, under which, currently:

“(1) Notwithstanding anything contained in the Act, the appropriate Government may, after consultation with the Central or a State Board, prohibit by notification in the National Gazette, employment of contract labor in any process, operation or other work in any establishment.”

Although the appropriate government is required to consider whether the ‘contracted’ work is incidental for the industry, trade or business, or whether it is ‘perennial’ to the operation, the government makes the final decision regarding this. This is leading to uncertainty even among firms in the ITES sectors. The way to resolve this may lie in clearly identifying certain specialized and supporting occupations that ‘naturally’ tend to use contractual work for a variety of industries. Such a list could include: cleaning; security, maintenance, housekeeping, laundry, loading, information technology, support services for ports, airports, hospitals, and export-oriented units in SEZs. A second issue is that contract law prohibitions are being applied to establishments as small as those employing 20 or more workmen. Raising the threshold over which the Contract Labor (Abolition and Regulation) Act applies would be another way to introduce flexibility.

## **Improving Enforcement**

71. ***At present, labor laws are not very effective in providing protection, security and benefits to workers, due to weaknesses in the enforcement machinery.*** Not only do regulations raise transaction and adjustment costs for firms, they also provide scope for rent seeking and corruption. Hence, a key area of reforms would be strengthening labor inspections and labor law enforcement. The aim of the reforms should be that firms should not have to devote too much valuable time in dealing with inspections, and inspectors should not be able to use their inordinate powers to extract unofficial payments. With this objective in mind, the following reforms can be considered:

72. ***First, the system of multiple inspections under different laws may be replaced with an optional ‘self-certification’ system, the enforcement of which can be selectively (risk-based) or randomly enforced through inspections and audits.*** The self-selection system can be given force by requiring legal affidavits, laying the responsibility on the CEO, and specifying a few crucial laws that are amenable under this. Alongside, the current system of multiple registers and records may be replaced with one register for each broad area covering muster rolls, accidents, and wages. The process of filing many returns can be reduced drastically by switching over to a system of single filing.

73. ***For those firms that do not opt for ‘self-certification’ systems, the inspection regime can be reformed on the following lines:***

- *Inspections should be targeted and publicly pre-announced.* Firms to be inspected should be selected based on formal complaints raised by workers' representatives. For firms where no complaints are raised, inspections should be targeted based on an assessment of which firms are more likely to evade the law. The list of firms to be inspected every month should be posted on an official, public list, in advance, and an inspection order should be signed by the labor commissioner to be valid. Priority should be assigned to firms where workers have raised a complaint. Firms that engage in irregular payments to inspectors or those that do not report irregular behavior on the part of inspectors should be made liable. Inspections for the numerous labor acts should be merged in a consolidated inspection that covers all labor acts.
- *Inspections should focus on technical assistance and not just sanctions.* This, in turn, requires that inspectors be appropriately trained to be able to perform. On this issue, the ILO recommends that the inspectorate not be funded from revenues generated from fines, as this inhibits the educational/promotional role of the inspectors. Some initiatives, such as employer-generated implementation plans (EGIPs), have produced good results in other countries. Employers can tailor implementation plans and policies to suit their needs. They report to the inspectorate on progress against self-defined benchmarks in their annual plans for improving working conditions. Compliance is more likely since employers and often, as recommended, workers, 'own' the strategy. Other useful strategies are providing special educational components and information provision to small and medium firms.
- *Other important measures are:* (i) *building a culture of compliance through mass media campaigns and education in business schools;* and (ii) *professionalizing inspections by providing adequate training and compensation.*

74. In conclusion, reforming labor market regulations which hinder the creation of jobs is one of two key approaches for addressing India's employment challenge. The other part will be to help workers by providing more protection against unemployment and uncertainty, and giving them the skills that are in demand by employers. Increasing the effectiveness of active labor market policies will help to achieve these goals. The next chapter takes up this issue.

## **CHAPTER 6: INCREASING THE EFFECTIVENESS OF ACTIVE LABOR MARKET POLICIES**

*Increasing labor market flexibility will be most effective in creating good jobs if it is complemented with policies that help workers obtain social protection, skills and help in finding good jobs. Increasing social protection for workers in the informal sector who are mostly not covered by these policies, and for workers affected by regulatory reforms, should be a priority. Presently, the major Government intervention in this regard is employment generation through public works programs. However, despite their progressive incidence, the employment and income effects of public works programs have been limited historically. The programs have been beset by problems of poor accountability, uneven implementation and design issues. The Government's commitment to a major expansion of public works through the national Rural Employment Guarantee (NREG) Act has considerable potential to provide protection and reduce poverty through employment but only if its many design innovations can be delivered in practice. More broadly, India is also poised to move from its current reliance on safety net programs to a more comprehensive system of social protection which promotes risk management among unorganized sector workers to reduce their vulnerability. But serious administrative challenges and high transaction costs have to be overcome first. Social insurance coverage should be expanded in a phased manner which takes account of constraints and adjusts programs in the light of initial experience. The Government has also made substantial efforts to establish a vocational training system to fill the skills gaps in the economy. This system, however, suffers from a lack of proper targeting and an overly bureaucratic approach which stresses delivery over quality. In order to make it more relevant, the system needs to be made more flexible and responsive to market needs. There is also a need to reassess where public interventions are most needed and the forms these interventions should take.*

### **A. Introduction**

1. **The close correlation between labor earnings and poverty in India has created a demand for active labor market policies.** These are especially necessary to improve conditions for vulnerable groups such as the poor, the young, and women, particularly in rural areas where employment tends to be seasonal. There is also a strong equity rationale for such policies since one of the major factors driving both chronic and transient poverty in India is the uninsured risk faced by households from loss of work due to unemployment, poor health or injury.<sup>72</sup> In turn, such uninsured risks and associated credit and insurance market failures may be contributing to workers remaining in low productivity employment in the unorganized sector and making poverty more persistent.<sup>2</sup> In the current situation, where there is a need to reform labor regulations, there is an additional rationale for such policies. Public interventions to provide social security and

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<sup>72</sup> See World Bank (2002) and Duflo (2004) regarding health shocks, and Pal and Palacios (2005) regarding old age security.

<sup>2</sup> See World Development Report (WDR) 2006, and Munshi and Rosenzweig (2005) for empirical evidence of credit and insurance market failures leading to limited mobility in rural areas.

employment support to workers, some of whom may face increased risk of unemployment due to reforms, may be necessary to build up acceptance of such reforms.

2. **Public works programs have a long history**, dating back to the colonial period, starting with famine relief works. Since the late 1970s, they have been an increasingly important component of the Indian safety net, with a succession of centrally sponsored and state specific workfare programs. Most schemes operate largely in rural areas where they perform a social assistance function and provide, possibly, an insurance-like element. It is difficult to form a comprehensive picture of public works programs across India because there is a multiplicity of schemes. There have also been frequent changes in the names and guidelines of these programs though, in practice, this has not implied any fundamental change in approach. The 1990s saw two major policy shifts though. The first was an increase in the role of the *panchayati raj* (local government) Institutions (PRIs). The second was a shift from scheme-based commitments to providing work in rural areas through a legislatively-backed 100-day employment guarantee, the newly launched national NREG Act.

3. **After the decline in real spending that started in the mid-1990s, India appears to have now entered a new phase of expansion in public works spending.** This is being driven, in large measure, by a shift towards greater Central financing. Though the rate of expansion is unlikely to be sustained, reversal is also unlikely, given legal commitments. This puts the country at an interesting stage in the evolution of social protection spending. While public works programs provide some form of social protection in rural areas, urban areas remain mostly outside the reach of these programs. At the same time, there is considerable scope for increasing social insurance coverage in urban areas as well. Another thing of note is that the increased commitments to NREG, combined with existing significant spending on other social protection programs, will raise social welfare spending (as a share of GDP) to a level which international evidence suggests is about as high as countries reach. This, together with democracy and the opening of the economy, suggests that future expansions in social protection spending are likely to come through the expansion of social insurance rather than through social assistance.

4. **Given the high rate of informality of Indian labor markets and the low levels of income,** coverage by social insurance is predictably very low and concentrated in the organized sector. At the same time, the public sector and the non-government and private sectors are all making efforts to expand social insurance coverage. The Government of India (GoI) has, in recent years, increased its efforts to expand social security among unorganized sector workers. It has tabled a bill before the Parliament on social security in this sector, its most ambitious effort to date.

5. **This Chapter concentrates on the major active labor market programs of the Government.** These can be broadly grouped under (i) public works programs; (ii) social insurance for workers; (iii) employment exchanges; and (iv) training workers to increase their employability. It discusses the labor market impacts and shortcomings of these policies and makes recommendations.

## B. Central Public Works Programs

6. **In terms of spending, public works, confined largely to rural areas, are the most important element of the Government's active intervention in labor markets.** Box 6.1 lists the major rural works schemes run by the Central Government from the late 1980s to date. Nominal spending on these increased rapidly during the 1980s but was broadly stable by the mid-1990s.

This means that as economic growth picked up, expenditure on the schemes, both as a share of GDP and total Central Government spending, fell. At its lowest level, the share of expenditure on these schemes in 2002/03 was a third of what it was in the early 1990s -- about 3.5 percent of Central spending. This trend has reversed in recent years and if the NREG is rolled out as rapidly as is anticipated, the spending share can be expected to further increase sharply.

**Box 6.1: Major Central Rural Employment Programs in the 1990s and at Present**

- *Jawahar Rozgar Yojana* (JRY), from 1989 to 1999, was a Central scheme (CSS) targeted at below poverty line (BPL) households in rural areas, with preference given to scheduled castes/scheduled tribes (SCs/STs) and women. The financing for this program was split 80:20 between the Center and states respectively, and the wages to materials ratio was 60:40. The District Rural Employment Agencies (DRDAs) and *zila parishads* (ZPs) were the main implementing agencies through line departments and *gram panchayats* (GPs).
- *Employment Assurance Scheme* (EAS), from 1993 to 2001, was a CSS that initially focused on 261 districts and gradually expanded to provide nationwide rural coverage by 1997. The EAS committed to provide 100 days of lean season employment, per year, for up to two adults per rural family. It was financed on the basis of an 80:20 Centre and state split. As with JRY, the wages to materials ratio was 60:40 and the DRDAs and ZPs were the main implementing agencies through line departments and GPs.
- In 1999, the JRY was restructured into the *Jawahar Gram Samidhi Yojana* (JGSY), with the main difference being that the creation of demand-driven community infrastructure moved from being a secondary objective to the primary objective, and rural employment generation, conversely, became the secondary objective.
- In 2001, the EAS and JGSY were merged into the *Sampoorna Grameen Rozgar Yojana* (SGRY) which has a target of providing 100 days employment, per year, per rural household. Financing is split 75:25 between the Centre and the states respectively and PRIs have, in principle, been given an increased role in its implementation.
- In late 2004, the *National Food for Work Program* (NFFWP) was introduced in 150 backward districts with a massive increase in funding to Rs 5400 crore in the 2005-2006 budget.
- The *National Rural Employment Guarantee Act* (NREG) was passed in August 2005 and commenced implementation in February 2006. It initially covered 200 backward districts (now covers 330) with commitment to national rural coverage within 5 years of launch. This is the first legislated national rural employment program and it commits to 100 days guaranteed employment, per rural household, annually. The funding split is 90:10 between the Centre and states respectively, and PRIs are the primary implementing agencies. The program is self-targeting, designed to encourage the participation of the target population and deter participation by others.

*Source:* O'Keefe, 2005.

7. ***Public works programs can potentially improve labor market outcomes in several ways.*** Other than the direct benefits (cash or kind) to participating households, they may also have a positive spillover impact on overall wages which could be felt by non-participating households. There may also be indirect benefits from the assets created under the scheme. Depending on their scale and comprehensiveness, such programs may also perform an insurance function by acting as an effective minimum wage. Other potential effects stem from the skills development of workfare participants, either directly through work provided or indirectly through training provided to workfare participants (though this has not been emphasized in Indian programs to date).<sup>73</sup> Such programs could also impact gender and other social and economic relations, for example, through

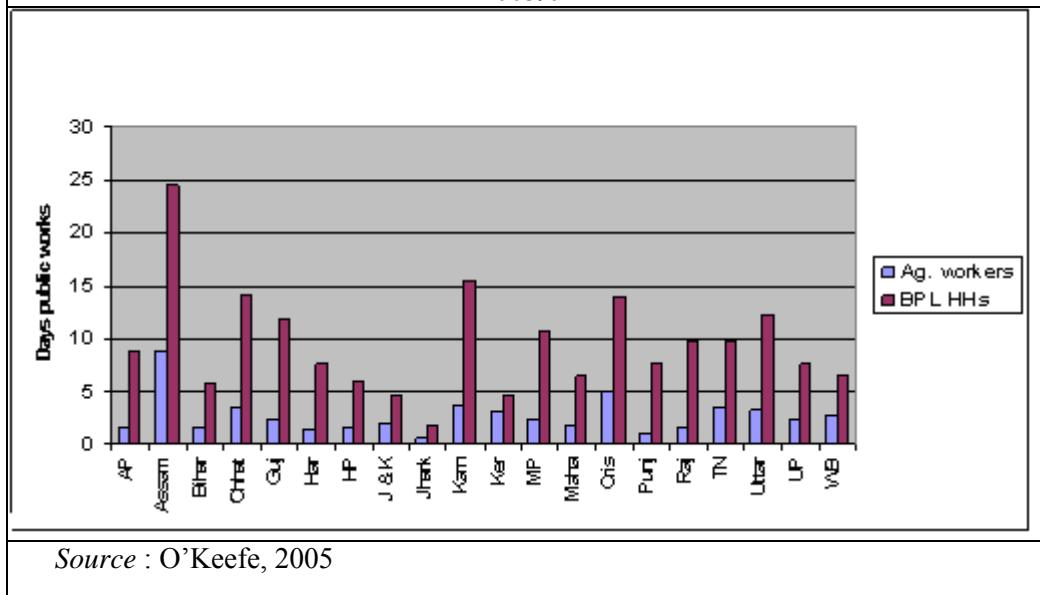
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<sup>73</sup> For summaries of international experience, see Subbarao (2003); Devereux (2002); Ravallion (1991).

increased female labor force participation. However, in India as well as internationally, the focus of policy-makers has overwhelmingly been on the direct transfer effect arising from employment generation and of the economic impact of the assets created.

8. ***However, the direct employment effects of these public works programs, prior to the NREG, were far lower than those stated in the objectives.*** The official numbers show that the average annual employment under JRY was 16 days of employment per BPL household, 15 days of employment per registered EAS worker between 1992 and 1999 and, at best, about 7 days of employment per rural household, annually, under SGRY from 2001 to 2004. Underlying these averages were large inter-state variations in coverage, but even relatively better performing outliers such as Assam and Orissa generated less than 10 days of work per agricultural worker, and none but Assam and Karnataka generated more than 15 days SGRY employment per BPL household (Figure 6.1). This, when the official numbers are likely to be overestimates due to the method of calculating employment generation.<sup>74</sup>

**Figure 6.1: SGRY Workdays per Agricultural Worker and per BPL Household, 2003/04**



9. ***Why have the employment effects of public works, so far, been less than expected?*** With the recent major expansion of the public works program through the NREG, it is important to assess the reasons why, historically, there was such a large gap between program expectations and actual outcomes. First, potential employment effects were overestimated to start off with because, in practice, the actual share of wages in expenditure was lower than the recommended 60 percent. Reliance on contractors further whittled away at this share. Second, national surveys show that public works wages were often significantly higher than the average wages of casual agricultural workers, their best comparator (Murgai and Ravallion, 2005; Deshingkar and Johnson; 2003). Public works wages also rose rapidly over the 1990s, at a time when real spending on these programs declined; this further hurt employment generation. Apart from these issues, the persistence of major implementation problems -- lack of accountability in workfare design, financing and management -- reduced the potential impact of the programs. Assessments

<sup>74</sup> Estimates of employment generation are based on ‘arithmetic calculation’, assuming a 60:40 split in expenditure between wages and materials, a condition which is not met for most major categories of public works. The average share of wages in total expenditure, across all states and all activities, was found to be about 47.5 percent.

by the Government and others point to significant leakages, in part due to poor monitoring and evaluation of programs, both administrative and through mechanisms such as social audits, and the lack of reliable records (in particular, of muster rolls of funds).<sup>5</sup>

10. ***Do public works programs provide some insurance to the target population?*** Even if employment generation through workfare programs is small, they can still play an important safety net role if they reach the people who need them the most, at the time when they need them the most. This should be one of the most important objectives of well-designed schemes. The evidence in India suggests that where the coverage is good, workfare programs do play a positive insurance function. Most of the evidence comes from the state of Maharashtra which has been running an employment guarantee scheme (EGS) for some time. A 1980s study from Maharashtra found that income variability among landless agricultural households, in villages where EGS was available, was half the level of villages where it was not (Walker 1990). Farmer studies in Maharashtra also found that there was greater adoption of higher-risk higher-return agricultural practices (Devereux 2002) in the state, though what percentage of these can be attributed to the EGS is open to debate.

11. ***Most public programs (other than JRY) are aimed primarily at the poor and are mildly progressive in their incidence.*** The main targeting mechanisms for most schemes have been the wage rates and work requirements under the programs. The programs appear to be mildly progressive. For example, in 1999/00 57 percent of beneficiaries of employment generation programs lived in households with monthly per capita incomes equal to or less than Rs. 400, compared to an overall population share of 45 percent (O'Keefe 2005). Interestingly, programs explicitly targeted at poor households appear to achieve no better outcomes than self-targeting, even when the wages paid by these programs are above market wages. This is consistent with findings on targeting performance from other developing countries; it suggests that the choice of method is less important than effective implementation. Evidence suggests that poor households may benefit relatively more from increased public works and be hurt relatively more by cuts in works spending (Lanjouw and Ravallion 1999).

12. ***The timing of public works programs has often not matched the timing of the need for such programs.*** There have been consistent difficulties in matching peak periods of public works provision with periods of lowest market demand. In Maharashtra, public works employment drops sharply during the monsoon when market-based work is least likely to be available. This is also consistent with the findings in Rajasthan and Orissa where public works are typically carried out January-March when the opportunity costs of labor are high. Part of the problem is that certain work cannot be executed during the lean season due to the monsoons. Public expenditure management practices, which concentrate disbursements for works in the final quarter of the fiscal year, make the problem more acute.

13. ***Historically, the insurance effects of Central public work programs have also been low due to their patchy geographical and household coverage.*** Despite commitments to full rural coverage, the share of villages covered by employment schemes is far less than complete. The assessment of EAS for 1993-1997 found that only 53 percent of villages had any EAS works, with the numbers for some states being much lower. Analysis from the 2002 NSS village data also confirmed that partial spatial coverage had continued, with only 48.5 percent of villages (56.4 percent of population) reporting any public employment programs in 2001. Coverage is also not consistent. Strikingly, the proportion of villages covered in all the four assessment years

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<sup>5</sup> See, for example, Comptroller and Auditor General (CAG) Reports (1997 and 2000); Planning Commission Reports (1997 and 2000).

from 1993 to 1997 was only 5.4 percent. This is consistent with anecdotal reports of rotation of public works between different areas/villages. Thus, in terms of local availability, public works, to date, have been a rather unreliable source of employment in most of India.

14. ***Evidence suggests that public works prior to the NREG did not help ease gender differences in participation.*** Female labor force participation in SGRY appears to have been lower than general rural female participation rates. The all-India share of SGRY female participants was only 12 percent, which is similar to the Comptroller and Auditor General's (CAG) report findings on JRY and EAS of only around 16 percent female beneficiaries (the target share was 30 percent). In states such as Uttar Pradesh, Bihar and Punjab, female participation in public works was less than 2 percent. Clearly, an important range of issues will need to be addressed to make the new NREG more effective (see Box 6.2).

#### **Box 6.2: The National Rural Employment Guarantee (NREG) Act**

The NREG is the GoI's most ambitious public works initiative. Financed almost wholly by the Central Government, it guarantees every rural household up to 100 days employment, per year, at the agricultural minimum wage. Coverage was initially confined to 200 backward districts, and expanded to 330 districts in 2007, with nationwide rural coverage planned within 5 years of launch (from February, 2006).<sup>75</sup> Analysis to date suggests a mixed picture of costs and benefits. First, there is significant potential for a lean season NREG. Simulations of a nationwide 100 day employment guarantee suggest (Murgai and Ravallion, 2005):

- The lean season rural poverty rate can be reduced from 37 percent to around 23 percent, or to around 30 percent on a year round basis.
- The annual fiscal cost will be around 1.7 percent of GDP, if implemented nationally at a wage rate of around Rs. 60 per day at current prices.
- Gains should be progressive, with the poorest 20 percent of the rural population accounting for 29 percent of participants. For them the gains from the EGS, direct and indirect, would be 51 percent of their pre-EGS consumption levels. The bulk of participants are expected to be casual laborers.

There are, however, issues about scheme design that influence effectiveness, efficiency and equity:

- Using the state agricultural minimum wage rates as the scheme wage rates is likely to be problematic. If scheme rates are above market rates this typically results in 'rationing' (that is, the demand for scheme jobs is greater than available jobs so they have to be 'rationed' according to some criteria). The experience from the Maharashtra EGS confirms that this 'rationing' could also apply to 'guarantees'.
- Participating in the NREG, for many, implies giving up work that they are already doing and also the income from this. The additional income they get from the NREG, therefore, is lower than what they would receive if they did not change their current employment and the wage portion of the NREG was simply distributed to everyone on a pro-rata basis. Using this option would reduce poverty to around 15 percent – as against 23 percent from NREG. While the comparison is imperfect – as it measures only the transfer impact of NREG and not the other economic impacts – it implies that the non-transfer gains from NREG would need to be substantial for it to be better than an untargeted transfer. The point highlights the importance of achieving significant economic returns from the NREG assets and for the poor to capture a reasonable share of the gains.
- A significant improvement in the NREG over previous works schemes is the strengthened role of *panchayats* in design, implementation and monitoring. However, it will be important to develop accountability mechanisms which avoid the bundling or concentration of functions with specific actors (in particular DRDAs) which has contributed to implementation problems in previous schemes. It remains to be seen if the incentive and accountability structure ensures that GPs are at the heart of NREG implementation. In addition, the Act offers limited guidance on funds flow mechanisms. If GPs

<sup>75</sup> See Papola (2005) for a positive view on the feasibility of rolling out the NREG in its full dimension.

are to be empowered, it will be important for them to have direct control over a portion of scheme funds.

- The scheme benefits from a stronger monitoring and evaluation (M&E) system than previous works schemes, including funds earmarked for this purpose. In order to expand the system of concurrent evaluation to include robust impact evaluation, it will be critical to collect regular surveys for evaluation purposes.

*Source:* O'Keefe (2005).

15. ***Overall, it is too early to make conclusions about the effects of the NREG*** on parameters such as poverty, labor markets and the local economies. Nonetheless, relative to previous public works schemes, there are a number of design features in the NREG which are very sensible, and in many states there has been greater political and institutional commitment to trying to “make the scheme work”. Administrative data show that the NREG generated significant demand from rural households in its first 18 months of implementation, with 66 million rural workers issued with job cards and around 20 million people provided with work. This is a major achievement in program coverage relative to prior public works schemes. That said, the summary of initial implementation experience suggests that implementation is highly variable across (and even within) states, and that there remain major challenges in implementation.

16. ***While the NREG has the potential to reduce poverty through workfare, ongoing improvements in implementation will be needed to realize this potential and justify its costs.*** Initial field-based studies of NREG implementation suggest that it will take some time to consolidate the good practices reflected in the implementation to be included in program design.<sup>76</sup> These includes: operationalizing the anticipated roles of communities in a meaningful way; making the “guarantee” stronger through provision of unemployment allowance where necessary; continuing to work on the difficult issue of mobilizing demand for work from the poor; increasing transparency in implementation to reduce corruption, and; staffing and equipping administrative support systems.

17. ***Public works, set to become an expanded component of the social safety net in India, are one of the easiest instruments for providing social protection in rural areas.*** They combine elements of social assistance and insurance and possibly have a productivity enhancing impact through asset creation. However, the experience so far suggests that the delivery of works will need to undergo major improvements if their potential effects are to be realized in a manner that justifies their significant fiscal costs (see Box 6.3). Their opportunity costs, in terms of foregone spending on a range of alternate public services including education, health and nutrition interventions, will be high. It is also important to realize the limitations of these programs. Firstly, they are not likely to be major drivers of rural employment and productivity growth, and should not be viewed as such. Rather, they can – if better implemented – be a useful tool at the margin for poverty alleviation and for providing some level of insurance to the poor. Even here, such programs can, at best, be only one risk management strategy for poor households. Such households will continue to rely on informal sources of support and look towards different types of public interventions for additional risk protection. It is in this context that the other major public intervention -- providing social security to unorganized sector workers -- becomes important.

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<sup>76</sup> CBGA (Chattisgarh, MP, AP and Jharkhand); IHD (Bihar); CDA (Gujarat), all 2006.

### C. Social Insurance Schemes

18. *International evidence suggests that as countries become richer, social insurance usually accounts for an increasingly higher share of GDP.* In this context, India is at an interesting threshold in the evolution of social protection; international experience suggests that it is likely to start moving away from reliance on public safety net programs towards greater provision of social insurance. At the same time, country experience also shows that major coverage expansions typically do not come from voluntary social insurance systems. More formalized labor markets, where mandated participation can be enforced, are associated with higher coverage rates of social insurance. In India, however, the bulk of the work force is employed in the unorganized sector; this will be a challenge in expanding coverage.

19. *Given the high rate of informality of Indian labor markets and the general low level of income, coverage by social insurance is predictably low and concentrated very heavily in the organized sector.* Even within the organized sector, coverage is concentrated in the public sector. Table 6.1 provides coverage estimates of different social insurance types for the organized and unorganized sectors in 2004. It should be noted that apart from life insurance, contributory initiatives for other types of social insurance, in both public and commercial sectors, have achieved minimal coverage in the unorganized sector. The singular exception of life insurance may give an indication, from the demand side, on where attention should be focused in terms of sequencing expansion of public intervention.

**Table 6.1: Coverage Rates of Social Insurance for Organized and Unorganized Sectors, 2004**

	Org. Sector Coverage	Unorg. Sector Coverage
<b>Public schemes:</b>		
Employees' Provident Fund	25.1 percent	0.18 percent
Employees Pension Scheme	12.2 percent	0.02 percent
Government Pension Scheme	48.7 percent	0.24 percent
Government Provident Fund	54.0 percent	0.21 percent
Contributory Provident Fund	4.0 percent	0.02 percent
Any Formal Pension Coverage	Around 95 percent	Less than 1 percent
<b>Commercial Schemes</b>		
Life Insurance (endowment)	54 percent	23 percent
Personal Accident Insurance	3.6 percent	1.2 percent
Private Health Insurance	2.0 percent	0.5 percent
Non-life General Insurance	2.8 percent	1.4 percent

Source: O'Keefe (2005)

20. *Most of the employed in the unorganized sector, especially the poor, face an array of uninsured risks that renders them highly vulnerable to shocks.* Presently, the effect of public safety nets is limited and the poor rely on family, *jaati* (caste) and other informal support networks to tide over shocks. The risk-sharing functions these networks perform are, however, far from perfect. It is more effective in the case of individual shocks rather than those which affect the group as a whole, and for small and intermediate rather than catastrophic shocks. The role that such informal institutions play also declines with increased labor mobility. Migration and marriage outside the community, for example, often trigger loss of access to support systems.

21. *It is evident from surveys that uninsured shocks impact the welfare of households.* This is particularly the case with health shocks, especially for the poor.<sup>77</sup> Data indicate that at least 24

<sup>77</sup> See Peters et al (2002); Duflo (2005), and World Bank report "Social Protection for a Changing India (forthcoming)

percent of Indians who are hospitalized fall into poverty as a result (Peters et al., op. cit.). There are also concerns that credit market failures lead to coping mechanisms, which may turn transient poverty into long-term and even inter-generational poverty. This may happen, for example, if transient poverty induces the withdrawal of children from school or pushes people into debt bondage. Evidence from countries such as Indonesia shows that the benefits of social insurance in poor countries may come less from their direct contribution to consumption smoothing and more from their help in reducing destructive coping strategies (Chetty and Looney, 2005; Gertler and Gruber, 1997) The vulnerability of households to shocks also has a wider economic effect -- credit and insurance market failures may be important factors in limiting the ability of rural workers to seek more productive employment opportunities, both outside traditional occupations and away from home.

22. ***The public sector (Central and state governments), non-government sector and private sector are all involved in efforts to expand social insurance to unorganized sector workers, most of whom have little or no coverage.*** Various approaches are being tried with differing degrees of success in terms of reaching scale, achieving financial viability and providing financial protection. Each approach has potential advantages and drawbacks, some inherent to the intervention (for example, viability in the face of co-variate and/or catastrophic idiosyncratic shocks for genuine community-based initiatives) and others a product of specific design and/or implementation features. The main initiatives discussed in this section are: (i) welfare and provident funds for unorganized sector workers at both Central and state levels, both occupation-specific and generalized for the sector; (ii) national schemes for unorganized sector workers outside the welfare fund model; and (iii) non-governmental organization (NGO) and community-based initiatives, which range from coverage of specific insurance types (most often health) to somewhat more bundled social insurance packages.

#### *Welfare Funds*

23. ***Welfare funds are traditionally occupation-specific and provide a range of benefits for members.*** The earliest fund dates back to 1946, though welfare funds have proliferated since the late 1970s. It is difficult to obtain a comprehensive picture of such funds due to their typically decentralized nature, both geographical and occupational, and attention here is restricted mainly to documented funds. Most discussions about welfare funds have been centered around the Kerala funds (of which there were more than 20 in the year 2000) and the Central Government funds (of which there are 5 with direct Central financing, and 1 under a Central act but which is implemented and financed at the state level). However, in terms of total coverage, welfare funds in other states -- initially the southern and western states but spreading, in recent years, to the north and east of the country -- have had an increasing share of participating workers since the 1990s. The membership, contribution structure and benefits provided, in a sample of these funds, are presented in Appendix 6.1.

24. ***The financing of welfare funds follows two basic models.*** Some are financed through either a proper cess or excise duty. This is the mode for all Central Government welfare funds. The more common mode though (for 24 out of 30 documented funds) is financing through contributions (See Box 6.2). Contributions may be either tripartite -- between Government, employers and workers, or bipartite -- between employers and employees. In cases where the Government contributes, the dominant method is direct contribution. Contribution rates exhibit dramatic variations -- from very low amounts to rates more akin to formal sector contribution rates (see Appendix 6.1). Management of the funds is either tripartite or rests solely with the Government, for roughly equal proportions of documented funds.

25. *Welfare funds may have a potential as vehicles for expanding social insurance to some segments of the unorganized sector, if some key design and implementation challenges can be met.* They are most likely to work in segments which are amenable to a cess, and/or those segments where there is a strong presence of intermediary organizations which can share the transaction intensity inherent in a wide-membership/low-contribution scheme. They are, however, less likely to succeed where employers feel reluctant to allow a formal registration process for workers, given the potential costs associated with quasi-formality. Other issues and challenges that can constrain their use are inherent in the nature of these funds:

- These funds are often small and, as a result, administrative costs are high: between 25-54 percent of fund value.<sup>9</sup> The high administrative costs and the inherent concentration in the risk pool suggest a weak capacity to absorb significant shocks which affect the entire sector. In theory, these challenges can be surmounted through group insurance with larger and diversified commercial insurers, but in practice it is unclear as to what extent this avenue has been exploited to date.
- Welfare funds typically cover entitlements ranging from education and housing support to benefits such as medical cover and pensions, so that their pure social insurance focus is diluted.
- An initial examination suggests little correlation between contribution rates and benefits. The scope of benefits provided in many funds may therefore lead to inadequate financial protection for any specific type of benefit. For the pensions portions of schemes, the large majority are defined-benefit programs, with benefits typically expressed in nominal rupees and hence subject to deterioration in real value.
- Similarly, for the more insurance-like benefits, there appears to be no actuarial basis for determining contributions. This raises concerns about their long-term viability.

26. *The emerging experience of the West Bengal Provident Fund for unorganized sector workers presents a promising case of a fund which appears to have got around a number of these design issues by relying on a defined contribution (rather than defined benefit) approach to pension payments* (see Box 6.3). While not a welfare fund per se, it is a most interesting model of a contributory approach which is likely to avoid the financial viability problems of welfare funds, and may provide lessons for future reforms throughout the country.

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<sup>9</sup> It is important to note though that administrative costs in the *beedi* (a type of low-cost Indian cigarette) workers' fund have been historically much more reasonable, with data for 1993-2000 indicating an average administrative share of 6-7 percent.

### **Box 6.3: West Bengal's Provident Fund for Unorganized Sector Workers**

Since 2001, West Bengal has operated a Provident Fund for workers in the unorganized sector, not including agricultural workers. By mid-2005, enrolment was almost 640,000, with a further 60,000 membership applications pending. Membership is open to wage and self-employed workers in designated industries/activities (which are expanding over time), whose family income is no more than Rs 3,500 per month (though the means test appears to be rather informal). The key feature of the Fund is that it is a defined contribution scheme. Members contribute Rs 20 per month, with a matching contribution from the state Government. Interest accrues in the account at a rate designated by the Government (the Employee Provident Fund Organization rate is being used to date). Accrued principal and interest are paid to the worker at age 55, or at death, or when there is no account activity for 6 months.

Rapid expansion has been driven by a highly decentralized distribution network and governance structure, with support from trade unions and political parties in mobilizing awareness and interest. Collection agents are typically public workers who are incentivized with a Re 1 payment for each enrollee. The state government covers the administration costs of the Fund. While the West Bengal experience shows great promise, particularly given its defined contribution basis, it remains to be seen whether the promotion and distribution success it has achieved is replicable in states with less stable political institutions.

*Source: International Labor Organization (ILO), 2004.*

#### *Other Government Initiatives*

27. ***The Central Government has, in recent years, increased its efforts to expand social security to unorganized sector workers through non-welfare fund mechanisms*** (Report of the Planning Commission (2002), headed by S. P. Gupta). It launched the Krishi Shramik Samajik Suraksha Yojana scheme in 50 selected districts in 2001. This scheme closed in February 2004. It was operated through the Life Insurance Corporation of India and covered life, survivor and pension insurance for agricultural workers. Another major initiative was the Universal Health Insurance Scheme (UHIS), launched in 2003 and targeted at poor households. In 2004, the Government introduced a social insurance scheme for unorganized sector workers (excluding agricultural workers), with the intention of targeting 2.5 million workers in 50 pilot districts nationwide. It provides for old age, medical and accident insurance. Membership in both schemes is voluntary. Both are funded by contributions primarily from the Government and partly from the covered parties. Unfortunately, these schemes have had negligible penetration.

28. ***A recent initiative, that uses a different approach, is linking participation in anti-poverty programs with social insurance.*** This can be seen in the social insurance component of the SGSY credit scheme targeted at BPL individuals and self-help groups. This approach has the advantage of providing effective mandatory coverage for a sub-group of the poor, though the extent of its financial sustainability is less clear.

29. ***A final and important element of public sector attempts to expand insurance cover for the unorganized sector is crop insurance.*** Although this is not addressed in any detail here, research on different efforts is rather negative on the effectiveness of major public schemes to date.<sup>10</sup> Despite repeated major initiatives to expand subsidized crop insurance, penetration has been relatively low, estimated at around 12 percent of farmers nationally in 2002. Several concerns recur in assessments, including lack of actuarial viability, low awareness of schemes among some categories of farmers, partial coverage of crop types, and complex administration.

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<sup>10</sup> See Ramaswami, Ravi and Chopra (2004) regarding the Comprehensive Crop Insurance Scheme and the National Agricultural Insurance Scheme. See also Kalavakonda and Mahul (2005) regarding Karnataka.

30. *Though the coverage of previous initiatives here is by no means comprehensive, some preliminary conclusions may be drawn.* First, the frequent rollover of central insurance schemes is problematic; especially when trust in the whole notion of insurance is low and information dissemination is weak. This ‘start-stop’ approach is likely to discourage future participation. Second, there have also been design problems which have limited their usefulness. Most of these schemes take up health insurance first. While the need for this is clearly high, this is one of the most challenging areas of social insurance even in developed countries. Starting coverage with life insurance may be more feasible. Third, as with welfare funds, it is not apparent that the contributions for various schemes are based on an informed assessment of claims information from existing insurance products. Lastly, most Central schemes, to date, have failed to address the fundamental issue of high transaction costs and the need for establishing decentralized distribution networks. The Government is seeking to take these lessons into account in its new initiative for social security for unorganized workers, which it has recently submitted to Parliament for consideration (Box 6.4).

#### **Box 6.4: The Government’s Recent Initiatives on Social Security for Unorganized Sector Workers**

In 2006 and 2007, the Government of India (GoI) did considerable work to develop proposals for expanding social security to the unorganized sector, with a strong focus on health, life and disability insurance, together with benefits for old age. This came from the strong commitment in the GoI’s Common Minimum Program for improving social insurance in this sector. A first proposal was made by the National Commission on Enterprises in the Unorganized Sector (NCEUS) in 2006 and, building on this, the GoI in mid-2007 submitted a draft Bill on the subject to the Parliament.

The Bill provides for several types of social insurance, with particular emphasis on BPL workers and their families. In contrast to some of the earlier approaches for reform in this area, the GoI’s proposals place more emphasis on the intermediary and other implementation arrangements necessary to make different insurance schemes functional for the target population. They also give the states a stronger role in defining the specific institutional arrangements of schemes. Finally, the proposed phased expansion of programs takes into account fiscal realities. These features increase the chances of a scheme being implemented.

At the same time, there will be a need for a massive implementation agenda to make the draft Bill workable, including strong outreach efforts, building capacity of states and partner intermediaries such as Micro-finance institutions, NGOs and others to help workers access programs, and working with insurers and health providers to put in place workable systems for service provision and claims processing. There will also be a need for coordination by the Center to develop the elements of common platforms such as beneficiary identification systems.

#### *NGO and Community-based Social Insurance Initiatives*

31. *Given the very low coverage rates achieved, to date, by the Central Government initiatives outlined above, community-based micro-insurance (CBMI) initiatives assume greater significance as a potential channel for the expansion of social security in the unorganized sector.* Estimates of the scale of social insurance provision by NGOs and other community-based actors (for example, MFIs and health facilities) vary from a coverage figure of around 3 million to around 5 million. Most of the schemes are small though the largest have achieved significant memberships. The Yeshasvini scheme in Karnataka, for example, had enrolled 2 million farmers in 2004/05 after only one year of operation.

32. *The primary focus of most schemes has been health insurance, though some schemes also cover associated costs such as loss of income and life and accident insurance.* Most work on a voluntary participation basis. In terms of financing, all CBMI schemes require contributions. However, there is a range -- both of the level of contribution required and the extent to which it is

subsidized. In the best cases, contributions cover the bulk of medical claims under the schemes and administration are covered by donor support. At the other end of the spectrum, contributions are covered for many of the members by the NGOs'/funders' own resources. An additional innovation in some schemes is the provision for deposit of a lump sum by the participant, from which the interest generated covers the annual premium. Although community/NGO involvement controls administrative costs, most schemes rely on external subsidies. The subsidies may come from the Government, the NGOs or donors, cooperatives, or other sources. This is very typical of rural health insurance initiatives in developing countries, virtually none of which cover services from contributions alone (O 'Keefe, 2003).

33. ***There are a few basic models of community-based social insurance.***<sup>11</sup> The first is the insurer-agent model, where the NGO/MFI or other founders act as intermediaries between members and the insurers. This model has been relied on by large organizations such as Self Employed Women's Association (SEWA) and Buldhana, and much smaller ones such as Navsarjan in Gujarat and Bharatiya Agro Industries Foundation (BAIF) in Maharashtra (Acharya and Ranson, 2005). The second model is where the founding organization itself acts as the direct insurer but is not the provider of the insured services. This applies both to some NGO schemes (Yeshasvini in Karnataka and Dhan in Tamil Nadu) and more occupationally-based programs (for example, Tribhuvandas Foundation).<sup>12</sup> The last model is one where the founding organization is both the direct insurer as well as the main provider of the insured services. Examples include Action for Community Organization, Rehabilitation and Development (ACCORD) in Tamil Nadu, Kasturba Hospital Scheme in Maharashtra, and Students' Health Home in West Bengal. Of these, the insurer-agent model appears to have the most potential for broadening coverage. It appears to combine the benefits of large-scale pooling of risks (both within the membership group when group insurance is purchased, and beyond through the risk pool of the end-insurer) and the cost-reducing benefits of an intermediary organization close to the client. At the same time, the Yeshasvini experience cautions against being very prescriptive on a preferred model.

34. ***The experience to date is mixed, with serious questions remaining on the capacity to go to scale, given the reliance on subsidies from funding institutions and donors.*** In addition, community-based initiatives to date have focused primarily on health insurance and not yet addressed other types of social insurance, particularly that related to old age. There are also legal issues with respect to CBMIs as the Insurance Regulatory and Development Authority (IRDA) Act does not provide for such schemes as part of the broader insurance market. Recent IRDA guidelines aim to address this issue though.

### *The Way Forward*

35. ***While the case for public intervention in providing social insurance for unorganized sector workers in India is clear, it is by no means axiomatic that more is better.*** Badly designed schemes can have negative impacts on the poor (for example, they contribute to health cost escalation which harms the uninsured and dilutes impact even for the insured). It is important for public policy to be framed with realistic expectations of the scope and timeframe for coverage and expansion, and by taking into account India's income levels, high degree of labor market informality, current informal support mechanisms, and their likely impact on demand, administrative and institutional capacities, demographics, and other factors.

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<sup>11</sup> Devadasan et al., op. cit., gives a useful typology and overview, noting around 20 community-based health insurance schemes. See also Ahuja and Narang, 2005.

<sup>12</sup> See Kuruvilla et al, 2005 for a detailed discussion of Yeshasvini, and also ILO.2005.

36. Evidence suggests that inadequate design of many public and quasi-public initiatives, combined with high ambitions, has failed to take into account these constraints in the past. Future initiatives should be based on a serious analysis of previous public, welfare fund and CBMI initiatives, to understand the factors driving more and less successful schemes. The experience, to date, suggests serious skepticism about overly-defined top-down schemes. It would seem sensible to place more explicit emphasis on group-based insurance for schemes where a public subsidy is involved.

37. ***What might be some elements of a strategy for gradual expansion of social insurance coverage in the unorganized sector?*** The experience of middle-income countries in expansion suggests that achieving wide-scale coverage at India's current income levels and degree of labor market informality is very challenging (See Palacios, forthcoming). Some portions of the unorganized sector (for example, urban workers with a strong organizational structure, members of cooperatives) can more feasibly be included in social insurance in the short- to medium-term than others. This points to the critical role that intermediary organizations need to play between the Government/insurers and the unorganized worker population if schemes are to be both effective and affordable. Being aware of the 'low hanging fruit' is important in developing a sequenced and more focused expansion strategy. Similarly, based on prior experience and insurance principles, policies should focus on exploring what appear to be the easier wins in terms of specific types of social insurance that are less subject to moral hazards and administrative problems. Two types of insurance that stand out as somewhat more easy to expand are life insurance (for which demand in the commercial market already appears high among unorganized sector workers) and disability insurance, which acts in one sense as the most extreme form of ex post health insurance. These points suggest a cautious and gradual approach to expansion of social insurance coverage. Such a strategy may not be consistent with the political desire for broad-based schemes with high announcement value. However, it is a strategy which lessens the risks of doing harm and also extends coverage sustainably and as rapidly as feasible.

#### **D. Employment Exchanges<sup>13</sup>**

38. Employment exchanges were established under the Employment Exchanges (Compulsory Notification of Vacancies) Act of 1959 which made it compulsory for public establishments and private sector establishments engaged in non-agricultural activities, employing 25 workers or more, to send notices about specified types of vacancies to the nearest employment exchanges. The administration of employment exchanges rests with state and union territory (UT) governments.<sup>78</sup> As of end-2004, there were 947 regular employment exchanges in India, concentrated in urban areas. There are different types of employment exchanges. Most employment exchanges cater to all types of job seekers but some (totaling an additional 76 in 2001, with a further 82 bureaus for universities) specialize in particular types of jobs. The special exchanges include those for colliery workers, exchanges for professionals and executives only, and special employment exchanges for the physically handicapped.

39. ***The main function of exchanges is to register and place job seekers.*** The officer in charge of an exchange meets individual job seekers at the time of registration where evidence of educational levels, and medical certificates in the case of special exchanges for the handicapped, is collected. Vocational guidance is provided at the time of registration. Persons interested in

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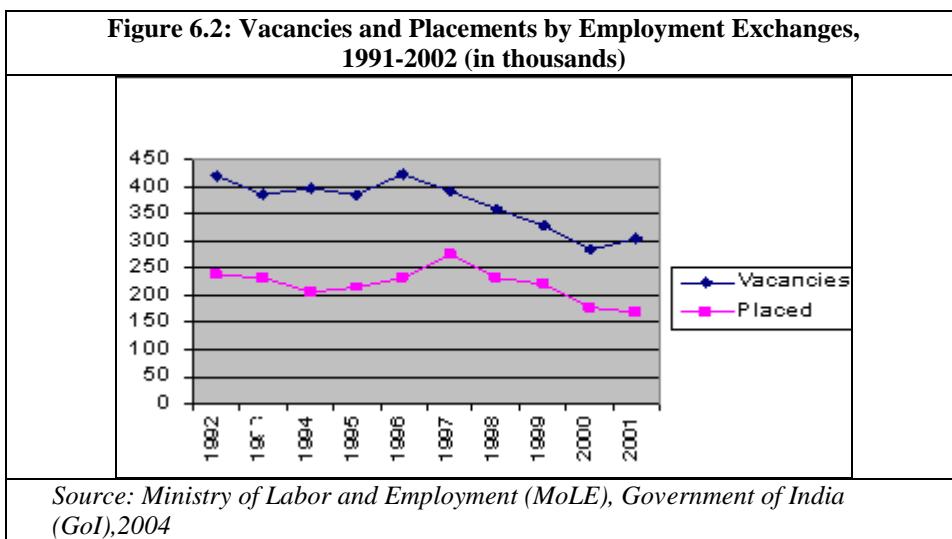
<sup>13</sup> This note draws extensively on ILO (2003), and Mitra and Sambamoorthi (2006).

<sup>78</sup> In practice, enforcement of the Employment Exchanges Act has been limited, with only few private establishments reporting their vacancies to the exchanges.

self-employment and those needing further training are guided towards relevant public programs. The exchange receives vacancies and then shortlists the names of job seekers who meet the requirements of the vacancies, based on seniority of registration on the live register. The shortlists are sent to potential employers. In practice, placements are overwhelmingly in the public sector.

40. *Apart from their placement function, exchanges are tasked with job counseling, training, labor market information collection and dissemination, aptitude testing of job seekers, and promotion of self-employment through special cells.* The limited availability of assessments and field work indicate that in the large majority of exchanges, these functions are performed poorly, often by staff who do not have the skills and knowledge of local labor markets to allow for effective service. While the challenges in public provision of such services are not restricted to India,<sup>79</sup> the problems in India have been unusually acute.

41. *Nationally, the performance of exchanges is poor and has been declining over recent years.* The ‘placement to registration ratio’ at the all-India level, never more than 5 percent, declined to almost 3 percent in the 1990s. Figure 6.2 also confirms the substantial decline in both registered vacancies and placements between 1991 and 2001, with a fall of over a quarter in both cases (though accompanied with rising expenditures on the exchanges). This can be attributed to several factors, the dominant one being the combination of flat public sector hiring demands and failure by the majority of exchanges to develop new markets in the formal and unorganized private sectors. This was reinforced by a Supreme Court judgment in 1996 which allowed employers to meet their staff requirements from sources other than employment exchanges, and the growing role of private sector placement agencies. The link between employment exchanges and establishments in the private sector is weak, though there are exceptions. Gujarat, Andhra Pradesh, Haryana, and Tamil Nadu are notable in this respect. Even in more effective systems, however, rural outreach remains a major shortcoming, though states like Tamil Nadu are making greater outreach efforts.



42. *At the same time, commercial private placement organizations have also been increasing their presence.* Consolidated information on private placement agencies is not available

<sup>79</sup> See Betcherman, Dar and Olivas (2004) for a review of developing and transition country experience with various active labor market policies. They find generally that informational and job brokerage services have been far more cost effective typically than training, credit and other interventions in public employment services.

but the Directorate General of Employment and Training (DGE&T) estimates that at least 800 existed as of the early 2000s (for example, it is estimated that there are more than 100 private placement agencies in Gurgaon, Haryana alone).<sup>80</sup> Like the Government-run employment exchanges, these focus primarily on urban areas and the formal sector, often with specific sectoral focus. Fees are charged either to the job seekers who are placed or to the employer upon placement. Even less is known about organizations in the unorganized sector that intermediate between employers and more casual laborers, though there are concerns in industries like construction that business practices are often less than ethical.

43. ***There is a fundamental need to reorient the National Employment Service if it is to regain relevance in the current labor market.*** The problems are well-understood by the Government, having first been reviewed by the 1978 Matthew Committee and subsequently by a Working Group on Employment of the Planning Commission in 2001. The increasing role of the private sector in providing employment placement services points to the need for focusing public intervention where it is most needed to address market failures. It may also be useful to discontinue some functions of the exchanges altogether. For example, some exchanges have been operating small credit schemes for job seekers looking to pursue self-employment. Results, to date, have been poor. Given the range of public and private credit channels available in India, the more logical function for exchanges in this regard would be to provide information – pointing entrepreneurial job seekers in the direction of existing credit facilities rather than the exchange itself being the provider. Similarly, best practices suggest that training should not be provided by the employment exchanges themselves. Instead, exchanges should focus on referring workers to the appropriate public or private training providers.

44. ***Exchanges could play a more important role if they develop a greater service orientation and fill gaps unlikely to be met by the private sector.*** Both official and ILO analyses point towards some key areas where reinvigorated employment exchanges might focus. They include: developing a service orientation by more active engagement with trade associations, workers associations and employers, including those in the unorganized sector, and; assessing needs which cannot be met by private sector providers. In many countries, employment exchanges are moving in the direction of establishing partnerships with private placement agencies. The exchanges serve as the contact points from where workers get linked and referred to networks of services. The partnerships work best when the government sets the appropriate regulatory framework and oversight mechanisms. In general, this requires intensive use of information technology.

45. ***Another important function for employment exchanges can be providing timely and more localized labor market information.*** This function has been generally neglected till now. Timely information on trends in local labor markets is a product which can provide value addition for both employers and job seekers. This will require innovation in information gathering in local labor markets, ranging from regular (at least annual, and preferably more regular) and quick assessments of labor market developments in both urban and rural areas to analyzing emerging/declining labor demands and skills gaps. This will, in turn, require linking with a broader range of partners, including public and private sector training providers, other departments of government that are engaged with productive sectors of the economy, local employer organizations in the formal and unorganized sectors, and labor researchers. Given the current skill base of employment exchanges, it may be necessary in many states to explore the contracting out of surveys and other investigations. At the national and state levels, another important role could be developing much more effective rural outreach strategies.

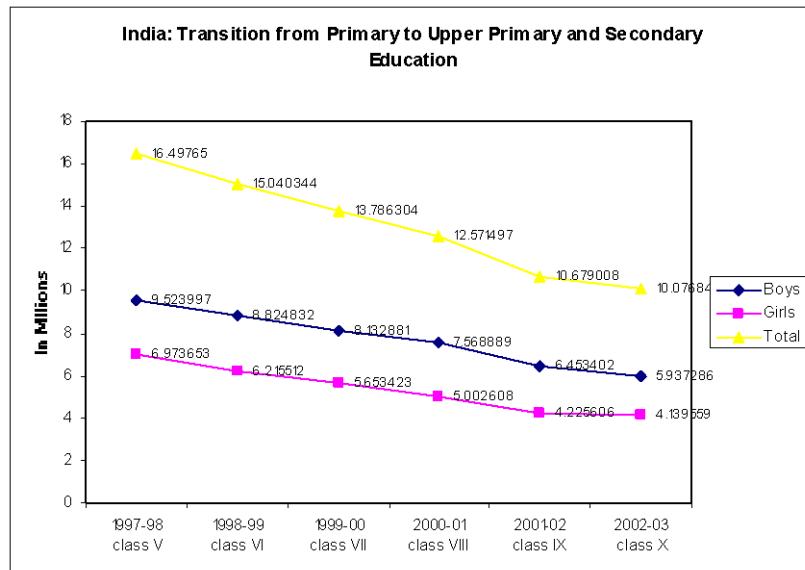
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<sup>80</sup> India is not a signatory to the ILO Convention of 1996 on private employment agencies.

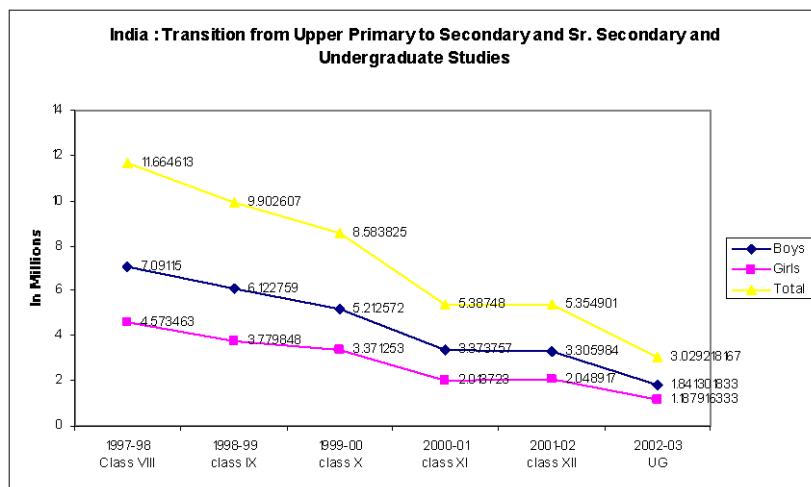
**46. The future role of employment exchanges could draw from emerging good practices in two Indian states: Gujarat and Tamil Nadu.** Both have expanded the role of Information Technology (IT) in increasing outreach to job seekers and employers. In particular, they are able to offer detailed information on job seekers which employers can sort through according to their needs. This addresses a fundamental weakness in the typical exchange system where the exchange itself proposes job seekers to prospective employers, largely on the basis of the seniority on the job seeker roll and not on the suitability for the specific vacancy. Both have also been active in arranging job fairs where job seekers and employers engage directly. These practices have proven more effective than regular procedures. For example, Gujarat placed over 50,000 job seekers with employers in 2003-2004 alone (that is, around one-sixth of total national placements in 2001) through 32 Industrial Recruitment Rallies. Both states have also attempted to strengthen vocational guidance functions which, in most exchanges, remain desultory. This has included job seeker groups, initiatives like ‘career corners’, and greater availability of resource material on specific sectors and job openings. A particularly interesting initiative in Gujarat has been the Rojgar Sahay Kendra that linked a group of NGOs, which had knowledge of local job opportunities, with the job seeker database and intermediated between employers and appropriate job seekers.

## E. Vocational Education and Training

**Figure 6.3: Secondary School Drop Out Rates in India**



**47. Another element of the Government's active labor market policies has been providing support to the vocational education and training (VET) system in the country.** Not only does providing skills training to workers enhance the efficiency and flexibility of the labor market and reduce



Source: Wu (2005).

skills bottlenecks, skilled workers are also more easily absorbed into the economy and their job mobility is improved. This is especially important in a country like India where a large part of the work force remains stuck in agriculture and does not possess the skills to transit to more productive employment in other sectors. Further, close to 5 million school children drop out of school between Grades 6 to 10 (Figure 6.3); another 3 million drop out between Grades 10 and 12. For these student groups, access to secondary education and VET can potentially facilitate an effective school to work transition and improve their employment prospects and lifetime earnings.

**48. The vocational education stream is quite small, enrolling less than 3 percent of students at the upper secondary level.** Currently, vocational skills are provided either within the schooling system in Grades 11 or 12 (vocational education) or through separate institutions for students who leave school after completing Grade 10 (vocational training). Aimed at students who want to enter the labor market, 6,800 schools, almost all in the public sector, currently provide vocational education. These schools offer a total of over 100 courses in various areas -- agriculture, business and commerce, humanities, engineering and technology, home science and health, and para-medical skills, etc.

**49. The vocational education program has, however, not met with much success to date.** This stream has not been very popular; just about 40 percent of the available student capacity in the schools is filled. Even students who opt for vocational education appear to be more intent on entering higher education than in entering the labor market. Employers too, international experience suggests, look for young workers with the basic skills taught in primary and general secondary education, and not for workers trained in narrow vocational skills. In India, there have been very thorough evaluations of the performance of vocational education. However, a study by the Operational Research Group in 1998 reported that only 28 percent of graduates of vocational education were, in fact, gainfully employed. (See Box 6.5).

#### Box 6.5: International Experience of Vocational Education Programs

The international experience of vocational education points to a few key things.

- Vocational subjects are desirable on general education grounds, as part of a well-rounded education intended for everyone, but they should not detract from efforts to improve the quality of core subjects. No study has shown that vocational courses offered as a minor part of a student's total curriculum give an advantage in finding work (let alone self-employment) within the first few years after leaving school. This

is particularly so when the labor market conditions for youth are severely depressed. Vocational subjects may foster an interest in the types of work for which the subjects are broadly intended, and the skills learned may have private uses. However, tracer studies have found that they have no positive impact on access to work after students leave school and no strong effect on access to further relevant technical training.

- Providing vocational education is costly. Most variants are more costly per student class period than general education subjects, primarily because of smaller classes and the greater cost of facilities, equipment and consumables. Unless a course can be taught to a full class of students (few can), operating costs will be more than twice that of non-laboratory academic subjects.
- Enrollment in some types of vocational courses is often strongly gender- biased. Many skills taught are culturally identified with one gender only -- for example, domestic science and secretarial skills with girls, industrial arts skills with boys, etc.
- Vocational education is hard to implement well. It requires specially trained instructors, preferably with work experience in the types of skills taught. Teachers with these qualifications are hard to recruit and retain. Time spent on vocational skills training can detract from the teaching of basic academic skills which are badly in need of improvement and also essential for labor market purposes.

*Source:* Johanson and van Adams (2004)

**50. *It is more appropriate for the Government to focus its efforts on strengthening secondary education.*** India's enrolment ratio for secondary education is lower than what its country income level would predict. Access by gender and social groups, by rural and urban locations, and by expenditure quintiles, also remains more unequal for the secondary school age group relative to the elementary school age group. This is worrisome because the positive effects of secondary education on health, gender equality and poverty alleviation are even stronger than those of primary education (Wu, 2005). Through its impact on delayed marriage, reduced fertility and safer birth practices, secondary education of girls can also lead to significantly reduced maternal and child mortality, and slower population growth, both of which are important Government goals. In achieving the goal of expanding secondary education, the Government faces two challenges. One, creating opportunities for all to attend secondary education and securing that everyone takes advantage of the opportunities created. Two, the even greater challenge of improving student learning. This entails strengthening existing institutions; implementing reforms in curriculums, textbooks, examinations, and teacher training, and; improving accountability and monitoring, and evaluation of outcomes (Wu, 2005). (Box 6.6)

#### **Box 6.6: Secondary Education in India**

In India, the average number of years of schooling among people over the age of 25 is just over 4 years. 44 percent have never even been to school. In this respect, India lags behind most East Asian countries. Over the past decade, thanks to the Government's drive to universalize elementary education, access to schooling for children aged 6 to 14 rose rapidly. The enrolment rate in elementary schools for this age group has reached 94 percent. No such rapid increase has, however, taken place at the secondary level where the enrolment rate still stands at only 38 percent. This is low, relative to what international experience suggests it should be at India's income level. At the same time, improving the skills of future workers requires expanding secondary education and improving the quality of both elementary and secondary education. Worldwide, in response to globalization and the emergence of the knowledge economy, the role of secondary education is now changing to prepare young people for lifelong learning, and the boundaries between general and vocational education are rapidly blurring.

Both demand-side and supply-side factors have contributed to India's poor educational outcomes. Demand-side constraints include the inability of poor households to bear the direct and opportunity costs of schooling, a parental bias against girls' secondary education, and poor quality of education and high dropout rates in elementary schools which limit the number of students ready for secondary education. Policies to improve the efficiency and quality of elementary education, information campaigns to change

parental attitudes towards schooling and delayed marriages, and financial assistance targeted at disadvantaged students, have the potential to raise the demand for secondary education.

The limiting factors on the supply side include distances from homes to schools and the reluctance of teachers (particularly of mathematics, science and English teachers) to serve in rural areas and urban slums. Correcting the imbalances in supply requires: improving policies regarding teacher recruitment, deployment, transfer and evaluation; more effective utilization of private school capacities for expansion; the use of vouchers to encourage private schools to serve disadvantaged students, and; building government schools in under-served and remote communities.

However, beyond enrolment, quality is also an issue. A 2005 World Bank survey of secondary schools in Rajasthan and Orissa administered separate mathematics tests, drawn from a sample of published test items in mathematics from the Third International Mathematics and Science Study (TIMSS), to a sample of 9th and 11th graders in order to benchmark Indian student performance with some international measures. The Rajasthan and Orissa mean scores for many items were below the international mean of the same items. What is the reason behind this? A comparison of the curricula in mathematics and science prescribed by India's Central Board of Secondary Education and the respective state education boards, with the Geneva-based International Baccalaureate and Britain's International General Certificate of Secondary Education (IGCSE), found that the coverage was similar but the emphasis of both systems was very different. India's school system remains oriented towards examination and rote memorization at the expense of conceptual understanding and application. This weakness in foundation in elementary education also contributes to low achievements at the secondary level. Improving quality requires strengthening the basic skills and promoting deeper understanding in order to enable students to tackle new materials and devise solutions.

India developed a progressive national curriculum framework in 2005 which aims to prepare children and youth with higher order thinking and flexible skills. However, syllabi, examinations, textbooks, teacher education, and in-service training have yet to be revised to align with the new framework. Since every state has its own system and standards, setting national standards regarding the basic skills students need to master in each subject and in each grade, would be helpful in raising standards for all and facilitating labor mobility.

*Source:* Wu (2005)

**51     *Another Government intervention is the running of certificate level crafts institutes.***

Programs are operated by the Industrial Training Institutes (ITIs) and Industrial Training Centers (ITCs). These are open to 5 million or so students a year who leave school after completing Grade 10. About 80 percent of the students take admission in engineering courses, and the remaining in non-engineering courses. In addition, there are about 150,000 apprentices employed in various industries. Students who complete crafts training are certified when they pass an All India Trades Test, conducted under the aegis of the National Council for Vocational Training (NCVT) but administered by the states. Individual states also administer tests for state-approved trades that are not affiliated with the NCVT.

**52.    *The crafts certificate courses have, however, only met with limited success.*** A comprehensive study of vocational training programs was conducted by the ILO in 2002/03. The study found that employment of ITI/ITC graduates in the organized sector was very low. In none of the states did more than 50 percent of the graduates find wage employment, or become self-employed, or even work in a family business. There were significant inter-state differences: in Andhra Pradesh, unemployment ranged from 33 percent for ITI graduates to more than 70 percent for ITC graduates, while in Maharashtra it was around 23 and 27 percent respectively. At the same time, employers in the same states reported experiencing problems finding employees with the right skills, implying that graduates did not meet employers' needs. A survey by the Federation of Indian Chambers of Commerce and Industry (FICCI) in late 2001 also reported that close to 60 percent of industry respondents felt that these institutions were not geared to meet the challenges of the global economy, and over 43 percent felt that academic institutions were not

aligned to the needs of industry. 87 percent felt that institutions should have greater exposure to industrial practices.

**53. *The poor outcomes may reflect the many constraints the public vocational training system faces.*** Management of the system is shared between Central and state authorities. While, on paper, the functions of each are clearly specified, there is little coordination between them, leading to poor accountability and duplication of efforts. Furthermore, a preoccupation with providing and financing training has resulted in the Government neglecting a key role – providing information about the availability and effectiveness of training programs. There are few incentives to institutes to improve their performance and little industry inputs in defining training policies and developing courses. This is now changing, and industry associations and individual employers are showing considerable interest in involving themselves in developing and managing ITIs.

**54. *A bigger failing of the system is that the current programs are quite inadequate to meet the training needs of the large work force in rural areas, arguably the group which should have been its main target.*** The formal training system, because of its entry requirements and geographical mapping, is not designed to offer skills to low-educated people, and particularly not to those in the rural non-farm sectors.<sup>81</sup> But, there are also no other providers to fill this gap. Most workers continue to learn trades on the job and through informal apprenticeships at their places of work from other low-skilled crafts people. These apprenticeships are based on traditional technologies and ideas from previous generations. The quality of training is thus only as good as the skills of the master and his/her willingness and ability to pass them on. The theoretical aspect of learning is weak or absent; only the simplest skills are learnt, resulting in low quality products. However, re-orienting public training institutions to meet the needs of rural workers would not seem to be the solution. Public institutions would find it difficult to make the changes to serve both the formal and informal sectors with the same skills and experience. Innovative solutions are, thus, needed (see Box 6.8).

**55. *In-service training in India is also much lower, on average, than international levels, though there are wide variations among states.*** Provision of in-service training is another area which has not received much attention by policy-makers. No more than 17 percent of manufacturing establishments in India provide in-service formal training. This is less than half the average for Europe, East Asia and Latin America. On average, Indian firms are less likely to train than even firms in Bangladesh (27 percent) and Sri Lanka (38 percent). Within India, too, there is a wide variation in the incidence of formal in-service training among the states. Only 11 percent of firms provide training in West Bengal, Punjab and Uttar Pradesh, compared to 27 percent in Andhra Pradesh and Karnataka. From the point of view of coverage, only about 7 percent of employees receive training in a given year. The proportion of workers in India receiving in-service training is especially low among micro and small firms, where fewer than 4 percent of employees receive training. In medium and large firms, the figures are around 17 percent for managers and professionals, and about 11 percent for less-skilled groups. These estimates again appear low compared to countries in South Asia or East Asia. For example, the level of employees receiving in-service training in Sri Lanka is twice as high. Generally, the incidence of in-service training in states with good ‘investment climates’ and those receiving more FDI was strikingly higher (21 and 25 percent respectively) than in the other states (10 percent and 8 percent respectively).<sup>82</sup>

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<sup>81</sup> While one of the mandates of ITIs is to train workers in the informal sector, evidence shows this is rarely the case (Dar 2005).

<sup>82</sup> A World Bank study (2004b) categorized 12 Indian states according to their investment climates.

**56. There are distinct differences between industry sectors and firms of different kinds in their propensity to offer formal in-service training.** A survey of 1,827 industries in India showed that industries where training levels were below average included textiles, garments, leather products, food processing, automobile parts, and metal products. Industries where training levels were above average, included chemicals, pharmaceuticals, machine tools, electrical white goods, electronic products, and software. The second list can be considered to be more technologically sophisticated than the first one of low-training industries. Firms that have no R&D capacity and are not involved in export have a poor track record of providing in-service training. The incidence of formal in-service training also rises with firm size, from 6 percent for micro enterprises to 56 percent for large enterprises. This is a common finding in all countries for which data are available, and probably reflects size-related differences with respect to access to finance, scale economies in the provision of training, education levels of workers, managerial capabilities, and use of new technologies.

**57. Indian employers do not appear to rate the skills of their work force as an especially important constraint.** This may explain why, for all types of Indian firms, the employers' pay policies reward formal pre-employment education and training but not the later acquisition of skills. Information from an Investment Climate Study done by the World Bank (2004) also indicated that in-service training actually had very little, if any, impact on wages. At the same time, external training appeared to have a positive and statistically significant effect on productivity, especially for firms that either exported or conducted R&D, indicating the importance of such training.

**58. Strengthening the in-house training capabilities of Indian firms should thus be a priority for policy-makers.** Public institutions have typically focused on pre-employment training in basic skills and may have little capacity to provide, on demand, the kinds of tailored training programs that firms want and private providers can deliver. Given the limited capacity of public institutions, private providers – firms themselves, industry associations, buyers and equipment suppliers, and private training institutes -- are important for expanding the resources available for work force skills development. International experience suggests that there are three market failures that constrain training, particularly among small firms: (a) the high cost of training; (b) lack of adequate information; and (c) high turnover of skilled workers. The first failure can be addressed by financial sector reforms that improve access to funding for all kinds of investments, including training. The appropriate policy response to the second failure would be to disseminate widely the evidence of the productivity benefits of training, best practices in training know-how, and information about the availability, offerings and costs of services from different public and private sector training providers. The problem of high turnover (or 'poaching' of skilled workers by other employers) requires collective action. In this respect, the Human Resource Development Fund of Malaysia is an example that has successfully increased training among firms.

**59. Consideration could be given to employer-targeted training policies to remedy the under-investment in in-service training.** Programs used elsewhere include: (a) training levy rebate schemes where firms are partially reimbursed for approved training out of payroll levies; (b) levy exemption schemes where employers are exempt from levy payments, provided they spend a given percentage of their payrolls on training; and (c) tax incentives for approved training, paid out of general revenues.

**60. Going forward, rather than only expanding vocational education, policymakers should focus on strengthening general secondary education and reforming the vocational education system, including promoting private sector participation in VET.** Such reforms would include improving the management of the system. This would require creating a clear demarcation between the functions of various levels of government and developing an effective coordination

mechanism between them. Significant involvement of employers in the decision-making process of these bodies would also be critical to ensure that the system is responsive to market demands. Another way to incentivize the system would be to give institutions greater autonomy in terms of deciding on training programs, hiring and firing of teachers, and generating revenues by selling goods and services.

**61. *Finding the right role for the public sector in training is critical.*** State provided training can be used to address market failures (for example, externalities from training, in general) and equity issues (for example, provision of training for the informal sector) but may be less needed in an environment where private capacity exists (Box 6.7 presents the general principles for the role of the public sector in training). As a rule, unplanned public provisions should not crowd out private supply. It is also not necessary that the Government intervene solely through providing training. Indeed, it may have a more important role to play in things that the non-government sector cannot do, such as, developing policies and standards, preparing teaching materials, training instructors, and even contracting training to the private sector. A key function could be the providing information on the nature and quality of training and facilitating regular and independent evaluations of the impact of these training programs. The GoI is keen to undertake reforms to move towards a system where it plays a key role in policy development, standards setting, financing, and monitoring and evaluation, while engendering greater competitiveness and accountability among institutions. A key ingredient of the reform agenda is to move the private sector into a lead role at all levels of decision making – from policy-making at the Central and state levels to managing institutions through Institutional Management Committees (IMCs) which are led by employers. The Ministry of Labor and Employment (MoLE) is working closely with the private sector to transfer this vision into reality. In terms of public investment, the GoI aims to upgrade 500 public sector ITIs, out of a total of 1,863 institutions (there are 3,500 additional ITIs that are fully private), between 2005 and 2010. It has already used its own funds to upgrade 100 ITIs and is in the process of selecting another 100 for upgrading.

#### **Box 6.7: The Appropriate Role for the Public Sector in Training**

There has always been an extensive debate regarding the appropriate role of the Government in providing and financing training. While the debate is by no means resolved, international experience points towards some guiding principles in this regard:

- No government today can afford to provide and finance all the skills needed by a modern economy. Finding the appropriate balance between government and non-government provision and financing of skills is essential. The highest priority for a government in this context is to formulate the right policies which facilitate skills development and encourage both the public and private sectors to pursue their comparative advantages in a market context. The balance in the partnership may vary from country to country, given the economic context, and will need to be informed by analysis of this context.
- Some rather clear roles for government emerge where ensuring equity of access to training is concerned, and where markets fail to provide the right signals to guide training decisions. Encouraging the cost recovery of training can improve the efficiency with which training resources are used but reduce access to training for those without a capacity to pay. The state has a clear role in promoting equity in access and can use its financing in a targeted fashion to achieve this goal in state-sponsored and non-government sources of skills training. Where markets fail to send the right signals to guide training decisions, governments can also justify financing interventions. The presence of social benefits to training that are not captured in increased earnings for the trainees or higher profits for the enterprises, will lead to lower levels of private investment in skills development than those needed from a social perspective. Targeting public financing at those who will invest in these skills can improve the performance of the market.
- State-sponsored provision of training can also be used to address equity and market failures, but it is not a necessary condition in an environment where non-government capacity for skills development exists. Determining the role of the public sector in the provision of training therefore requires carefully assessing what the non-government sector is willing to do and whether, with appropriate incentives, it can be encouraged to fill training gaps.
- There are many things the non-government sector does not or cannot do. These include overall policy development and guidance, standards setting, the provision of information about the benefits and locations of training, preparing teaching materials, training instructors, and running standardized examinations of graduates. Here, the state's role is clear and positive.

*Source:* Johanson and van Adams, 2004.

**62. In the informal sector, instead of delivering training, the Government can act as facilitator by creating an environment that is supportive of non-public providers of training.** In India, as in many other countries, non-government providers are much more active in providing training in the informal sector. Non-public providers pick up innovative training approaches much more quickly and need less support. Instead of delivering training itself, the Government can focus on creating an environment to support non-public providers through: (i) supporting curriculum development, training of trainers, and development of competency-based skills testing; (ii) stimulating investment through tax incentives or financial support so as to increase the capacity and quality of training; and (iii) revising apprenticeship Acts that are outdated and contain regulations which hamper enterprise-based training. One successful approach in this regard is Kenya's Jua Kali project (see Box 6.8).

#### **Box 6.8: Training for the Informal Sector – The Jua Kali Experience**

The *Jua Kali* (informal sector) project in Kenya, funded by the International Development Association (IDA), is aimed at providing skills and technology up-gradation to about 25,000 informal sector manufacturing workers; increasing the access of informal sector entrepreneurs to services, and; improving the policy and institutional environment by removing restrictive laws and policies.

A key feature of the project is a voucher program intended to introduce consumer choice, enabling informal sector operators to purchase the training they want, wherever they want. Intermediaries — allocation agencies — are selected by competitive tender to market, allocate and redeem vouchers in a decentralized way throughout Kenya. Allocation agencies receive a fee equal to 3 percent of the value of vouchers issued. Vouchers can be used for any kind of training from any registered training provider.

Over the course of the project, about 700 training providers have become pre-qualified to provide training. By early 2001, some 18,000 training vouchers had been issued. The impact of the project, evaluated through two tracer studies, has been highly positive for the beneficiaries. Employment among the graduates has increased by 50 percent compared with employment before training, and the income of enterprises has also increased by 50 percent. According to anecdotal evidence, some participants who received vouchers for basic training have paid the full costs of more advanced training.

One unexpected outcome of the voucher training program is the emergence of a new kind of training provider — the skilled master craftsperson. The strong preference of *Jua Kali* workers for appropriate, accessible training by master crafts persons was revealed in the first phase of the project: 85 percent of all vouchers went to pay for the services of master crafts persons and only 15 percent went to private and public training institutions.

Some important lessons include: (a) the use of a voucher mechanism enabled the project to stimulate demand for training, technology and management and marketing consultation among micro and small enterprises. A supply response was generated and a training market established to address the needs of micro enterprises; (b) an unexpected impact of the voucher training program was the emergence of skilled craftsmen as the leading providers of training. Entrepreneurs preferred the training services of master crafts persons in the informal sector to training in formal institutions. The training by master crafts persons was usually well adapted to entrepreneurs' needs for short, practical training. These training providers were previously invisible to agencies that wished to pay for training directly; and (c) the implementation experience underscored the importance of appropriate management arrangements — a project for the private sector is best managed by the private sector, with the government at best playing a facilitating role.

*Source:* Johanson and van Adams, 2004.

#### **F. Conclusion**

63. The GoI already has in place a range of active market policies to help improve labor market outcomes. It has also committed to a major expansion of two important components of this program: public works and social insurance. This significant expansion is in line with the Government's objective of protecting vulnerable sections of the work force, and also with the country's rising income levels. Improvements in the social protection system are also a prerequisite if the GoI is to undertake any reform of labor regulations.

64. Prior experience, however, suggests that significant changes and improvements are required to make such programs more effective. In public works programs, poor implementation remains an issue. For these to be more effective, program designs need to be improved and reinforced through the development of better monitoring and evaluation mechanisms. Similarly, previous experience on social insurance provision suggests a cautious and gradual approach to expansion which may not be consistent with the political desire for broad-based schemes with high 'announcement value'. The vocational training system in India suffers from a lack of proper

targeting and an overly bureaucratic approach which stresses delivery over quality. If this is to be made more relevant, the system needs to become more flexible and responsive to market needs. There is also a need to reassess where public interventions are most needed, and the form these interventions should take.

65. These policies involve substantial fiscal expenditure and may come at the cost of other possible welfare-enhancing interventions. Experimentation is also not without cost. Thus, it is essential to fully learn the lessons from previous experiences and incorporate them going forward. While such policies have considerable potential, moving from the big picture of policy initiatives to the 'nuts and bolts' of effective implementation will remain the biggest challenge in realizing the full labor market potential of the policies and the benefits they may hold for the poor.

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## Appendix 1.1

### ***Panel A: Number of Persons in Labor Force (in thousands) and Rates of Growth of Labor Force (percent per annum)***

Population Segment	1983			1993-94			1999-2000			2004-2005			1983-1993/94		1993/94-1999/00		1993/94-2004/05	
	UPS	SS	UPSS	UPS	SS	UPSS	UPS	SS	UPSS	UPS	SS	UPSS	UPS	UPSS	UPS	UPSS	UPS	UPSS
Rural Males	154676	4244	158920	185113	3991	189104	200800	2582	203382	214112	3535	217647	1.73	1.67	1.36	1.22	1.47	1.42
Rural Females	66986	23956	90942	73089	28853	101942	82010	23925	105435	90077	30303	120380	0.83	1.09	1.94	0.56	2.11	1.68
Rural Persons	221662	28200	249862	258202	32844	291046	282810	26007	308817	304189	33839	338027	1.46	1.46	1.52	0.99	1.65	1.51
Urban Males	49632	768	50400	66582	628	67210	80051	493	80544	90602	759	91361	2.84	2.78	3.12	3.06	3.13	3.12
Urban Females	10330	2340	12670	14199	3546	17745	16658	2819	19477	21191	4314	25505	3.08	3.26	2.7	1.56	4.09	3.69
Urban persons	59962	3108	63070	80781	4174	84955	96709	3312	100021	111793	5073	116866	2.88	2.88	3.04	2.76	3.30	3.24
Males	204308	5012	209320	251695	4619	256314	280851	3075	283926	304714	4294	309008	2.01	1.95	1.84	1.72	1.93	1.89
Females	77316	26296	103612	87288	32399	119687	98668	26244	124912	111267	34617	145885	1.16	1.38	2.06	0.71	2.46	2.00
Persons	281624	31308	312932	338983	37018	376001	379519	29319	408838	415982	38911	454893	1.78	1.76	1.9	1.41	2.07	1.92

### Panel B: Average Annual Increments to Labor Force (in thousands)

Population Segments	1983-1993/94			1993/94-1999/00			1993/94-2004/05		
	UPS	SS	UPSS	UPS	SS	UPSS	UPS	SS	UPSS
Rural Males	2899	-24	2875	2615	-235	2380	2636	-41	2595
Rural Females	581	466	1047	1487	-905	582	1544	132	1676
Rural Persons	3480	442	3922	4101	-1140	2562	4181	90	4271
Urban Males	1614	-13	1601	2245	-23	2222	2184	12	2196
Urban Females	369	114	483	410	-121	289	636	70	705
Urban Persons	1983	101	2084	2655	-144	2511	2819	82	2901
Total Males	4513	-37	4476	4859	-257	4602	4820	-30	4790
Total Females	950	581	1531	1897	-1026	871	2180	202	2382
Total Persons	5463	544	6007	6756	-1283	5473	7000	172	7172

## Appendix 1.2

Estimates of Children (0-14 years of age) in Labor Force on Usual Principal and Usual Principal plus Subsidiary Status: All-India, 1983-1999/00  
(in thousands)

Population Segment	Persons in Labor Force												Labor Force Growth Rate Percent Per Annum					
	1983			1993-94			1999-2000			2004-2005			1983-1993/94		1993/94-1999/00		1993/94-2004/05	
	UPS	SS	UPSS	UPS	SS	UPSS	UPS	SS	UPSS	UPS	SS	UPSS	UPS	UPSS	UPS	UPSS	UPS	UPSS
Rural Males	9091	1733	10824	5120	1177	6297	4277	507	4784	2995	745	3740	-5.32	-5.03	-2.95	-4.48	-5.22	-5.08
Rural Females	6477	2609	9086	4378	1496	5874	3480	988	4468	2406	1170	3576	-3.66	-4.07	-3.75	-4.46	-5.81	-4.84
Rural Persons	15568	4342	19910	9498	2673	12171	7757	1495	9252	5401	1915	7316	-4.6	-4.58	-3.32	-4.47	-5.49	-4.96
Urban Males	1226	233	1459	938	121	1059	865	48	913	961	79	1040	-2.52	-3.01	-1.34	-2.44	0.24	-0.18
Urban Females	612	170	782	501	161	662	455	125	580	456	180	636	-1.89	-1.57	-1.59	-2.18	-0.94	-0.40
Urban persons	1838	403	2241	1439	282	1721	1320	173	1493	1417	260	1676	-2.3	-2.48	-1.43	-2.34	-0.16	-0.26
Males	10317	1966	12283	6058	1298	7356	5142	555	5697	3956	824	4780	-4.94	-4.77	-2.7	-4.17	-4.17	-4.22
Females	7089	2779	9868	4879	1657	6536	3935	1113	5048	2862	1350	4212	-3.5	-3.85	-3.52	-4.21	-5.20	-4.30
Persons	17406	4745	22151	10937	2955	13892	9077	1668	10745	6817	2175	8992	-4.33	-4.35	-3.06	-4.19	-4.62	-4.26

### Appendix 1.3

Age-group Specific Student-Population Ratios by Gender and Rural/Urban Location: All-India, 1993-1999/00

Panel A: Rural India									
	Males				Females				
Age-group	1983	1993-94	1999-2000	2004-2005		1983	1993-94	1999-2000	2004-2005
5-9	479	670	707	808		341	561	631	776
10-14	572	743	777	870		320	546	635	771
15-19	276	368	414	476		94	190	258	340
20-24	52	80	86	121		11	20	30	54
25-29	6	8	9	25		1	2	2	30
Panel B: Urban India									
	Males				Females				
Age-group	1983	1993-94	1999-2000	2004-2005		1983	1993-94	1999-2000	2004-2005
5-9	705	841	838	886		652	801	810	880
10-14	771	866	873	899		663	812	821	883
15-19	481	559	585	595		347	490	517	573
20-24	151	205	218	235		65	121	158	168
25-29	24	28	30	46		6	8	11	33

Notes: Computed from Unit Record Data.

## Appendix 1.4

Usual Status Worker-Population Ratios (WPRs), per 1000, by Age, Gender and Rural/Urban Location: All-India, 1983-2000

Panel A: Rural India															
Sno	Age-group	Rural Males							Rural Females						
		1983		1993-94		1999-2000		2004-2005		1983		1993-94		1999-2000	
		ps	ps+ss	ps	ps+ss	ps	ps+ss	ps	ps+ss	ps	ps+ss	ps	ps+ss	ps	ps+ss
1	0-9	10	13	5	6	3	4	1	1	9	13	6	7	3	4
2	14-Oct	213	253	112	138	82	91	54	68	170	240	104	141	74	96
3	15-19	604	666	524	578	475	503	453	497	333	452	264	364	234	304
4	20-24	864	897	824	859	823	844	820	849	353	488	318	456	310	410
5	25-29	956	968	947	958	942	950	956	966	404	557	354	525	373	491
6	30-44	981	985	984	986	979	982	981	985	457	614	425	598	444	571
7	45-59	950	955	963	968	953	958	958	962	407	552	401	543	407	518
8	<b>60-64</b>	<b>812</b>	<b>830</b>	<b>848</b>	<b>860</b>	<b>786</b>	<b>800</b>	<b>807</b>	<b>822</b>	<b>239</b>	<b>342</b>	<b>256</b>	<b>357</b>	<b>260</b>	<b>324</b>
9	<b>65 &amp; above</b>	<b>518</b>	<b>551</b>	<b>564</b>	<b>583</b>	<b>510</b>	<b>528</b>	<b>527</b>	<b>541</b>	<b>103</b>	<b>155</b>	<b>117</b>	<b>165</b>	<b>117</b>	<b>148</b>
10	<b>60 &amp; above</b>	<b>643</b>	<b>670</b>	<b>679</b>	<b>695</b>	<b>608</b>	<b>625</b>	<b>630</b>	<b>644</b>	<b>160</b>	<b>233</b>	<b>172</b>	<b>242</b>	<b>169</b>	<b>211</b>
11	All Ages (1)	528	547	538	553	522	531	535	546	248	340	234	328	231	299
12	All Ages (2)	538	557	534	549	525	534			248	339	226	317	228	295
Panel B: Urban India															
Sno	Age-group	Urban Males							Urban Females						
		1983		1993-94		1999-2000		2004-2005		1983		1993-94		1999-2000	
		ps	ps+ss	ps	ps+ss	ps	ps+ss	ps	ps+ss	ps	ps+ss	Ps	ps+ss	Ps	ps+ss
1	0-9	3	4	2	3	1	2	1	1	3	3	2	3	1	1
2	14-Oct	94	113	59	66	46	49	44	48	54	70	34	45	28	36
3	15-19	375	414	337	356	303	314	314	335	121	155	94	123	87	105
4	20-24	698	727	654	675	644	658	662	684	138	182	137	180	130	155
5	25-29	915	921	892	904	879	883	900	909	183	229	175	224	161	194
6	30-44	972	975	974	975	968	969	972	975	234	291	230	295	233	266
7	45-59	921	926	931	935	918	921	917	923	226	276	230	283	218	251
8	<b>60-64</b>	<b>620</b>	<b>635</b>	<b>557</b>	<b>570</b>	<b>510</b>	<b>528</b>	<b>465</b>	<b>476</b>	<b>172</b>	<b>202</b>	<b>133</b>	<b>172</b>	<b>117</b>	<b>137</b>
9	<b>65 &amp; above</b>	<b>389</b>	<b>407</b>	<b>346</b>	<b>359</b>	<b>308</b>	<b>322</b>	<b>288</b>	<b>299</b>	<b>80</b>	<b>97</b>	<b>66</b>	<b>78</b>	<b>63</b>	<b>70</b>
10	<b>60 &amp; above</b>	<b>488</b>	<b>505</b>	<b>431</b>	<b>444</b>	<b>382</b>	<b>397</b>	<b>355</b>	<b>366</b>	<b>118</b>	<b>140</b>	<b>92</b>	<b>114</b>	<b>82</b>	<b>94</b>
11	All Ages (1)	500	512	514	521	513	518	541	549	120	151	121	155	117	139
12	All Ages (2)	512	525	512	520	522	527			119	150	117	149	118	140

### 2. Notes:

1. Estimates of worker-population ratios in all columns labelled “ps” relate to Usual Principal Status and those labelled “ps+ss” relate to Usual Principal Status workers plus workers on the Subsidiary Status among those classified as “non working” on the Usual Principal Status.
2. The overall WPRs for all-ages in this row represent, for each population segment, the weighted average of survey-based WPRs with the survey-based share of each age-group in the total population in that segment as weights.
3. The overall WPRs for all ages in this row have also been derived as weighted averages of survey-based age-specific WPRs but with the Population Census-based share of each age-group in the total population in a given population segment as weights.

## Appendix 1.5

### Distribution of Total Prime-Age Work Force (in thousands), by Industry

Industry	Description	1983	1993-94	1999-2000	2004-2005	Average Annual Increments		
						I	II	III
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>Panel A</b>								
0	Agriculture Allied Activities	176716 (66.66)	204539 (62.28)	211898 (58.72)	207599 (54.63)	2650 (43.89)	2226 (22.72)	278 (5.94)
1	Mining and Quarrying	1723 (0.65)	2562 (0.78)	2129 (0.59)	2514 (0.66)	80 (1.32)	-72 (1.34)	-4 (-0.09)
2&3	Manufacturing	29289 (11.04)	35869 (10.92)	40488 (11.22)	46080 (12.13)	627 (10.38)	770 (14.26)	928 (19.81)
4	Electricity, Gas and Water	928 (0.35)	1412 (0.43)	1119 (0.31)	1210 (0.32)	46 (0.76)	-49 (0.9)	-18 (-0.39)
5	Construction	6547 (2.47)	11299 (3.44)	16960 (4.7)	24183 (6.36)	452 (7.49)	943 (17.48)	1171 (25)
6	Trade, Hotels and Restaurants	17255 (6.51)	25588 (7.79)	33271 (9.22)	42407 (11.16)	794 (13.14)	1280 (23.73)	1529 (32.64)
7	Transport, Storage & Communications	7448 (2.81)	10380 (3.16)	14326 (3.97)	17045 (4.49)	279 (4.62)	658 (12.18)	606 (12.93)
8	Financial, Insurance, Real Estate & Business Services	1988 (0.75)	3482 (1.06)	4691 (1.3)	6663 (1.75)	142 (2.36)	202 (3.73)	289 (6.17)
9	Personal, Business and Community Services	23166 (8.74)	33340 (10.15)	35978 (9.97)	32306 (8.50)	969 (16.04)	440 (8.14)	-94 (-2.01)
	Grand Total	265060 (100)	328471 (100)	360860 (100)	380006 (100)	6039 (100)	5398 (100)	4685 (100)
<b>Panel B</b>								
0	Agriculture & Allied							
	Rural	169252 (80.5)	195956 (77.48)	204537 (75.33)	201176 (62.14)	2543 (62.59)	1430 (46.02)	475 (7.37)
	Urban	7464 (13.51)	8583 (11.42)	7361 (8.23)	6423 (6.69)	107 (5.41)	-204 (8.91)	-196
	Male	105785 (59.62)	123311 (55.2)	128796 (51.5)	133486 (47.75)	1669 (38.02)	914 (20.58)	925 (18.14)
	Females	70931 (80.89)	81228 (71.37)	83102 (75.04)	74113 (52.85)	981 (59.45)	312 (32.62)	-647
	Memo totals:							
	:Rural Workers	210251	252913	271558	323761			6441
	:Total male workers	177374	223458	250109	279555			5100

#### Notes:

Figures in brackets are percentages of corresponding totals.

Period I: 1983 to 1993-94 covering 10.5 years

Period II: 1993-94 to 1999-2000 covering 6 years

Period III: 1993-94 to 2004-2005 covering 11 years

#### Notes:

1. Figures in brackets are percentages of corresponding totals.
2. Period I: 1983 to 1993/94 covering 10.5 years
- Period II: 1993/94 to 1999/00 covering 6 years
- Period III: 1993/94 to 2004/05 covering 11 years

## Appendix 1.6

### Total Workers, by Employment Status

		(in thousands)			Increments (in thousands)			Growth Rate (% p.a.)			
		1983	1993-94	1999-00	2004-05	I	II	III	I	II	III
RWS		38964	48647	57377	59111	922	1455	10464	2.14	2.79	1.79
		(14.7)	(14.81)	(15.9)	(15.53)	(15.27)	(33.08)	(20.1)			
CL		79279	106786	120599	115444	2620	2302	8658	2.88	2.05	0.71
		(29.91)	(32.51)	(33.42)	(30.34)	(43.38)	(52.34)	(16.63)			
SE		146817	173038	182884	205987	2497	1641	32949	1.58	0.93	1.60
		(55.39)	(52.68)	(50.68)	(54.13)	(41.35)	(37.31)	(63.28)			
ALL		265060	328471	360860	380542	6039	5398	52071	2.06	1.58	1.35
		(100)	(100)	(100)	(100)	(100)	(100)	(100)			

#### Notes

RWS: Regular wage/salary

CL: Casual Labour

SE: Self-employed

Periods I, II, III -

I : 1983 to 1993-94 (10.5 years)

II: 1993-94 to 1999-2000 (6 years)

III: 1993/94 to 2004/05 (11 years)

Percentage shares in bracket

## Appendix 1.7

### Educational Composition of the Indian Work Force (in thousands)

SNo.	Education Category	All Workers				Avg. Annual Additions			Share of Male Workers in each education category			
		1983	1993-94	1999-2000	2004-2005	I	II	III	1983	1993-94	1999-2000	2004-2005
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Illiterate	149043 (56.23)	156812 (47.73)	154448 (42.8)	146745 (40.56)	740 (12.22)	-394 (-7.30)	-915 (-30.24)	51.7	50.3	50.49	46.08
2	Literate upto Primary	63137 (23.82)	78800 (23.99)	82060 (22.74)	95346 (26.36)	1492 (24.71)	543 (10.06)	1504 (49.7)	83.16	79.77	78.27	73.53
3	Primary upto Middle	25923 (9.78)	39646 (12.07)	52144 (14.45)	61522 (17)	1307 (21.64)	2083 (38.59)	1989 (65.71)	90.25	87.03	85.23	79.59
4	Middle upto Graduate	19588 (7.39)	37906 (11.54)	50773 (14.07)	58149 (16.07)	1744 (28.88)	2145 (39.74)	1840 (60.81)	91.18	89.31	88.47	83.40
5	Graduate & above	7369 (2.78)	15307 (4.66)	21435 (5.94)	23410 (6.47)	756 (12.52)	1021 (18.91)	737 (24.34)	89.06	87.3	86.46	82.91
6	Total	265060 (100)	328471 (100)	360860 (100)	361762 (100)	6039 (100)	5398 (100)	3026 (100)	66.92	68.03	69.31	65.01

Notes: Figures in brackets are percentages of totals

I: Period from 1983 to 1993/94

II: Period from 1993/94 to 1999/00

III: Period from 1993/94 to 2004/05

Appendix 1.8: Average Annual Increment to Adult (15-59 years of age) Work Force by Gender, Rural/Urban Location and Poverty Status: All-India, 1983-1993/94 and 1993-94/00

Panel A: Rural India						
	1983-1994			1993/94-1999/00		
Category	Rural Males	Rural Females	Rural Persons	Rural Males	Rural Females	Rural Persons
Self-employed						
All Households	1220	497	1717	521	96	617
APL Households	1655	864	2519	1017	420	1437
RWS Workers						
All Households	69	27	96	325	103	428
APL Households	271	52	323	344	102	446
Casual Laborers						
All Households	1558	695	2253	1563	469	2032
APL Households	1224	375	1799	1688	750	2438
All Workers						
All Households	2847	1219	4066	2409	668	3077
APL Households	3150	1491	4641	3049	1272	4321
Panel B: Urban India						
	1983-1994			1993/94-1999/00		
Category	Urban Males	Urban Females	Urban Persons	Urban Males	Urban Females	Urban Persons
Self-employed						
All Households	664	179	843	792	123	915
APL Households	465	90	555	739	53	792
RWS Workers						
All Households	586	163	749	773	220	993
APL Households	497	135	632	789	234	1023
Casual Laborers						
All Households	294	89	383	437	(-) 38	399
APL Households	100	19	119	343	17	360
All Workers						
All Households	1544	431	1975	2002	305	2307
APL Households	1062	244	1306	1871	368	2239

### Appendix 1.8 (Contd)

Panel C: All Areas (Rural + Urban)						
	1983-1994			1993/94-1999/00		
Category	Males	Females	Persons	Males	Females	Persons
Self-employed						
All Households	1884	676	2560	1313	219	1532
APL Households	2120	954	3074	1756	537	2293
RWS Workers						
All Households	655	190	845	1098	323	1421
APL Households	768	187	955	1133	336	1469
Casual Laborers						
All Households	1852	784	2636	2004	431	2431
APL Households	1324	594	1918	2031	767	2798
All Workers						
All Households	4391	1650	6041	4411	973	5084
APL Households	4212	1735	5947	4920	1640	6560

Note:

APL Households are Above Poverty Line Households

RWS Workers are ‘regular wage salaried’ workers

### Appendix 1.9

Rural Average Daily Earnings of Adult (15-59 years of age) Male and Female Casual Wage Laborers: All India (*in Rupees at 1993/94 prices*)

S.No.	Operation Codes	Males					Females				
		1983	1993/94	1999/00	I	II	1983	1993/94	1999/00	I	II
1	1-6	16.08	21.06	25.10	2.60	2.97	11.09	15.08	18.23	2.97	3.21
2	7-11	18.75	24.88	30.02	2.73	3.18	11.05	16.48	20.03	3.88	3.30
3	1-11	16.42	21.87	25.85	2.77	2.83	11.09	15.31	18.44	3.12	3.15
4	13-14	22.84	30.42	35.43	2.77	2.57	11.54	17.32	23.84	3.94	5.47
5	1-11,13-14	16.64	22.37	26.82	2.86	3.07	11.12	15.37	18.64	3.13	3.27
6	12	23.27	30.07	38.71	2.47	4.30	11.63	17.93	24.05	4.21	5.02
7	14	24.48	30.98	35.64	2.27	2.36	12.13	17.62	24.07	3.62	5.34
8	12-14	23.22	30.14	37.69	2.52	3.80	11.63	17.80	23.98	4.14	5.09
9	All Ag	16.39	21.96	26.03	2.83	2.87	11.05	15.26	18.25	3.12	3.03
10	All Non-ag	23.78	30.46	38.32	2.39	3.90	11.66	17.91	23.88	4.17	4.91
11	All Activities	18.01	23.91	29.26	2.74	3.42	11.14	15.57	18.78	3.24	3.17
12	Public Works	19.51	24.65	31.47	2.25	4.15	11.92	18.54	25.91	4.30	5.74

Notes: 1. Operation Codes:

- 1-6: Manual work in cultivation
- 7-11: Manual work in other agricultural work
- 7-11: Manual work in agriculture
- 13-14: Non-manual work in agriculture
- 1-11 and 13-14: Casual work in agriculture
- 12: Manual work in non-agriculture
- 14: Non-manual work in non-agriculture
- 12-14: Casual work in non-agriculture

2. Column (6), (7), (11), and (12) Growth Rate (percent per annum), for Period I: 1983 to 1993/94 (10.5 years) and Period II: 1993/94 to 1999/00 (6 years)

## Appendix 1.10

Panel A: Persons (All Ages) Unemployed on UPS and UPSS Persons unemployed on UPS & UPSS (000)								
Population Segments	1983		1993-94		1999-2000		2004-2005	
	UPS	UPSS	UPS	UPSS	UPS	UPSS	UPS	UPSS
Rural Males	3260 (21)	2225 (14)	3647 (20)	2709 (14)	4275 (21)	3556 (17)	4430 (20)	3345 (15)
Rural Females	940 (14)	593 (7)	1040 (14)	816 (8)	1228 (15)	1096 (10)	2923 (30)	2218 (17)
Rural Persons	4200 (19)	2818 (11)	4687 (18)	3525 (12)	5503 (19)	4652 (15)	7353 (23)	5562 (15)
Urban Males	2888 (58)	2541 (50)	3061 (46)	2752 (41)	3878 (48)	3650 (45)	3290 (35)	2879 (30)
Urban Females	733 (71)	632 (50)	1224 (86)	1165 (66)	1192 (72)	1128 (58)	1669 (75)	1512 (57)
Urban Persons	3621 (60)	3173 (50)	4285 (53)	3917 (46)	5070 (52)	4778 (48)	4958 (43)	4391 (36)
Total Males	6148 (30)	4756 (23)	6708 (27)	5461 (21)	8153 (29)	7206 (25)	7719 (24)	6224 (19)
Total Females	1673 (22)	1225 (12)	2264 (26)	1981 (17)	2420 (25)	2224 (18)	4592 (39)	3729 (24)
Total Persons	7821 (28)	5991 (19)	8972 (26)	7442 (20)	10573 (28)	9430 (23)	12312 (28)	9953 (21)
Panel B: Youth (15-29) Persons unemployed on UPS & UPSS								
Population Segments	1983		1993-94		1999-2000		2004-2005	
	UPS	UPSS	UPS	UPSS	UPS	UPSS	UPS	UPSS
Rural Males	2776 (49)	1851 (31)	3291 (48)	2463 (35)	3724 (51)	3157 (43)	3852 (49)	3002 (37)
Rural Females	690 (28)	498 (15)	869 (32)	724 (19)	1057 (37)	978 (26)	2251 (75)	1852 (44)
Rural Persons	3363 (41)	2349 (25)	4160 (44)	3187 (29)	4781 (47)	4135 (37)	6103 (56)	4855 (40)
Urban Males	2442 (122)	2161 (106)	2678 (108)	2415 (96)	3311 (115)	3118 (107)	2794 (85)	2484 (74)
Urban Females	637 (156)	557 (112)	1065 (193)	1015 (149)	969 (168)	925 (138)	1313 (170)	1191 (126)
Urban Persons	3079 (128)	2718 (107)	3743 (123)	3430 (107)	4280 (124)	4043 (113)	4107 (101)	3675 (86)
Total Males	5115 (66)	4012 (151)	5969 (64)	4878 (51)	7035 (69)	6275 (61)	6646 (60)	5486 (48)
Total Females	1327 (46)	1055 (27)	1934 (60)	1739 (39)	2026 (59)	1903 (440)	3564 (94)	3043 (59)
Total Persons	6442 (61)	5067 (43)	7903 (63)	6617 (47)	9061 (67)	8178 (56)	10210 (69)	8529 (52)

Notes: Figures within brackets relate to unemployment rates defined as number of persons unemployed expressed per 1000 persons in the labor force.

## Appendix 2.1

### Sundaram-Tendulkar on the statistics on employment in the organized sector

Attempts have been made recently to explore the connection between the NSS-based RWS (regular wage salaried) workers and employment in the organised high productivity units. The most commonly used data source for organised employment is the number of employees on regular payrolls, as on March 31 each year, reported by the Directorate General of Employment and Training (DGE&T) and published in the annual Economic Surveys of the Ministry of Finance. DGE&T collects this information under the Employment Exchanges (Notification of Vacancies) Act. Under this legislation, the reporting is mandatory for all public sector units, irrespective of size, as also for large private sector establishments with 25 or more employees. It is voluntary for private sector units with 10-24 employees. The data are known to suffer from under-reporting because of the voluntary nature of reporting from small units and lax enforcement of mandatory requirements from large units. The NSS 55<sup>th</sup> Round collected, for the first time, worker-reported information on the types of enterprises where workers were employed. This was confined only to workers engaged in non-agricultural activities. Three types of enterprises provide a reasonable approximation to organised sector employment: (i) public sector, (ii) semi-public, and (iii) other (including cooperative society, private limited company and other units under the Annual Survey of Industries). A special tabulation of the self-reported affiliation of workers by type of enterprise, carried out by the Central Statistical Organization (GOI-CSO, 2004), brought out two results of interest in the present context. One, the aggregate employment in (i) to (iii) was 31.85 million, compared to 26.54 million as reported on 31<sup>st</sup> March 2000 by DGE&T, thus providing some support to the apprehension of under-reporting in DGE&T data. Two, the shortfall was almost entirely in organised services where the NSS-based estimate was 16.8 million compared with 11.5 million in DGE&T. Sundaram (2004) reported an alternative tabulation of the 55<sup>th</sup> Round data, in which he focused on activity-status categorisation. He reported two findings that are relevant. One, close to 88 percent of the workers in organised non-agricultural enterprises reported RWS status. Second, in every population segment (rural/urban x male/female), at least 50 percent of the workers with RWS status were located in the organised segment, with this proportion being as high as 57 percent for rural RWS female workers. These results suggest that RWS status would provide a good approximation of organised high-productivity employment and possibly be a good alternative source of information on employment in the sector so that it would not be necessary to rely solely on DGE&T data. Why can't data on worker-reported affiliation by type of enterprise in non-agricultural activities be used directly as a measure of employment in the organised sector? One reason is that this information is available so far only for the 55<sup>th</sup> Round and not for earlier periods. It was not collected in the earlier quinquennial Rounds. Secondly, self-reported affiliation by type of enterprise is yet to stabilise itself in the NSS reporting system. Consequently, data from the two exercises cited above may only be used to provide support to the suggestion of approximating organised sector employment by the number of RWS workers.

## Appendix 2.2

Percentage of Employment in Formal and Informal Sectors, by Industrial Categories,  
1999/00.

Column Percentages				Row Percentages		
INDUSRTY	FORMAL	INFORMAL	TOTAL	FORMAL	INFORMAL	TOTAL
Primary	5.79	67.31	60.53	1.05	98.95	100
Secondary	28.31	14.14	15.71	19.88	80.12	100
Tertiary	65.90	18.54	23.77	30.67	69.43	100
TOTAL	100	100	100	11.03	88.91	100

### Appendix 2.3

**Relative Wages of Regular Salaried and Casual Laborers, All India, 1983-2000**

Industry	Urban Male				Urban Female			
	1983	1987/88	1993/94	1999/00	1983	1987/88	1993/94	1999/00
Agriculture(0)	1.47	2.11	2.02	3.10	1.95	2.50	2.83	2.00
Mining & Quarrying(1)	1.88	2.65	3.20	3.37	2.80	2.71	2.84	2.69
Manufacture (Organic)	1.79	1.65	1.67	1.62	1.63	1.58	1.87	1.49
Manufacture(Inorganic)		1.89	2.54	2.41	2.43	5.57	3.73	3.62
Electricity, Gas, Water (4)		2.65	2.97	2.56	3.35	-	4.16	3.86
Construction(5)	1.83	2.01	1.88	1.92	2.35	2.32	1.54	2.78
Trade and Hotels(6)	1.49	1.46	1.51	1.74	2.37	2.14	2.02	2.75
Transport(7)	2.11	2.34	2.14	2.50	2.71	3.12	3.86	3.80
Business, Financial Services(8)		3.41	3.55	4.37	3.96	5.50	2.89	3.35
Social, Personal Services(9)		2.73	2.71	3.11	3.92	3.29	3.87	5.80
Non-agriculture	2.11	2.35	2.34	2.71	3.27	3.61	3.22	3.94
All (0-9)	2.18	2.46	2.41	2.68	3.28	3.88	3.37	3.67
	Rural Male				Rural Female			
Agriculture	1.04	1.30	1.27	1.73	1.95	1.43	1.51	1.73
Non-agriculture	1.89	2.22	2.21	2.42	2.29	2.85	2.32	3.89
All	2.04	2.41	2.52	2.80	2.20	2.80	2.28	3.88

Note: Figures refer to regular wage earnings per worker/casual wage earnings per worker.

Source: National Sample Survey Organisation, Employment and Unemployment Surveys, various issues.

Computed from Unni (2006), Table 8.

## Appendix 2.4

**Skilled-Unskilled Workers, by Level of Education and Skill Premium (W), All, Regular, and Casual.  
1993/94 and 1999/00**

ALL WORKERS				
B. Industry	SKILLED/UNSKILLED		$W_H/W_L$	
	1993/94	1999/00	1993/94	1999/00
Agriculture, Forestry & Fishing	0.03	0.04	1.56	1.72
Mining & Quarrying	0.19	0.20	2.27	2.33
Manufacturing	0.36	0.48	2.38	2.42
Electricity, Gas & Water	1.00	1.42	1.67	1.55
Construction	0.08	0.11	2.20	1.69
Trade	0.46	0.59	1.79	1.79
Hotels & Restaurants	0.17	0.28	1.62	1.94
Transport, Storage & Communications	0.43	0.57	1.85	1.94
Finance & Real Estate	-	-	2.87	2.41
Services	1.45	1.58	2.41	2.61
Total	0.22	0.25	3.50	3.37
Regular Workers				
Agriculture, Forestry & Fishing	0.08	0.16	2.92	2.37
Mining & Quarrying	0.53	0.61	1.30	1.33
Manufacturing	0.64	0.78	1.94	2.20
Electricity, Gas & Water	1.14	1.52	1.56	1.48
Construction	0.59	0.58	2.26	1.94
Trade	0.63	0.84	1.74	1.73
Hotels & Restaurants	0.22	0.40	1.57	1.94
Transport, Storage & Communications	0.67	0.91	1.57	1.66
Finance & Real Estate	-	-	2.54	2.24
Services	1.93	2.25	2.07	2.13
Total	0.99	1.17	2.10	2.16
Casual Workers				

Agriculture, Forestry & Fishing	0.02	0.04	1.22	1.28
Mining & Quarrying	0.02	0.05	0.96	1.19
Manufacturing	0.09	0.13	1.20	1.25
Electricity, Gas & Water	0.21	0.58	0.99	1.22
Construction	0.05	0.09	1.12	1.19
Trade	0.15	0.21	1.10	1.16
Hotels & Restaurants	-	-	0.93	1.29
Transport, Storage & Communications	0.09	0.13	1.06	1.09
Finance & Real Estate	-	-	1.22	0.94
Services	0.07	0.08	1.27	3.09
Total	0.03	0.06	1.25	1.37

Note: Skilled workers are those who completed education of secondary school and above.

$W_H$  - wages of skilled workers;  $W_L$  - wages of unskilled workers.

Source: Unni (2006), Table 13.

Computed from the National Sample Survey Organisation, Employment and Unemployment Survey, 1993/94 (50<sup>th</sup> Round) and 1999/00 (55<sup>th</sup> Round). Obtained from Compact Discs, New Delhi.

## APPENDIX 2.5

### Model 1: Estimating the Determinants of Labor Use in Cultivation by 2SLS Instrumental Variable Regression with Time Dummies

<i>Dependent: Labor Days in Cultivation Per Hectare of Net Sown Area</i>			
	Coef.	t -value	p-value
Area under labor intensive crops (%)	7.03	7.93	0.00
Tractors per hectare	-1.69	-1.96	0.56
Total non-farm workers (%)	-5.97	-3.45	0.00
D for Year 1987/88	26.12	0.66	0.51
D for Year 1993/94	74.29	1.83	0.07
D for Year 1999/00	116.06	2.64	0.01
Constant	311.76	4.85	0.00
( <i>p &gt;F =0.000</i> )	<i>R</i> <sup>2</sup> =0.63	<i>R</i> <sup>2</sup> =0.59	<i>Df=49</i>

Endogenous Variable: Area under Labour Intensive Crops (%)

### Model 2

<i>Dependent: Growth of Labor Days in Cultivation Per Hectare of Net Sown Area</i>			
	Coef.	t -value	p-value
Growth in gross irrigated area	0.40	1.92	0.069
Growth of rural non-farm workers	-0.59	-2.60	0.016
Annual % change in area of labor intensive crops	2.57	3.80	0.001
Growth of NSDP in agriculture per 1000 hectares	0.18	1.80	0.085
D for Period 1994/00	-1.01	-1.65	0.113
Constant	1.10	1.12	0.276
( <i>p &gt;F =0.000</i> )	<i>R</i> <sup>2</sup> =0.49	<i>R</i> <sup>2</sup> =0.38	<i>Df=22</i>

## APPENDIX TABLES

### Appendix 3.1

Distribution of Employment in the Tertiary Sector: Formal and Informal (*percentages as indicated*)

#### RURAL

Category	FORMAL			INFORMAL		
	Males	Females	Total	Males	Females	Total
<b>Public</b>	69.7	86.3	71.9	--	--	--
<b>Private Regular Wage</b>	7.8	8.1	7.9	<b>12.6</b>	<b>12.2</b>	<b>12.6</b>
<b>Casual Wage</b>	--	--	--	<b>34.1</b>	<b>29.5</b>	<b>33.5</b>
<b>Self-Employed</b>	22.5	5.6	20.2	<b>53.3</b>	<b>58.4</b>	<b>53.9</b>
<b>TOTAL</b>	100.0	100.0	100.0	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>% of All Tertiary</b>	<b>21.3</b>	<b>3.4</b>	<b>24.6</b>	<b>65.5</b>	<b>9.9</b>	<b>75.4</b>

#### URBAN

Category	FORMAL			INFORMAL		
	Males	Females	Total	Males	Females	Total
<b>Public</b>	57.1	67.4	58.7	--	--	--
<b>Private Regular Wage</b>	12.5	19.7	13.6	<b>24.6</b>	<b>31.0</b>	<b>25.6</b>
<b>Casual Wage</b>	--	--	--	<b>24.5</b>	<b>27.9</b>	<b>25.0</b>
<b>Self-Employed</b>	30.4	12.9	27.7	<b>50.9</b>	<b>41.1</b>	<b>49.4</b>
<b>TOTAL</b>	100.0	100.0	100.0	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>% of All Tertiary</b>	<b>31.7</b>	<b>5.8</b>	<b>37.5</b>	<b>53.1</b>	<b>9.5</b>	<b>62.5</b>

### Appendix 3.2

Labor Productivity, by Broad Sectors 1983-2000

[ Based on UPS estimates of employment]

NIC	Labor Productivity (UPS)				Labor Productivity Index(UPS)			
	55 <sup>th</sup>	50 <sup>th</sup>	43rd	38 <sup>th</sup>	55th	50th	43rd	38th
<b>0</b>	13,349	11,752	10,116	10,223	100	100	100	100
<b>1</b>	129,579	73,754	64,802	62,920	971	628	641	615
<b>2&amp;3</b>	46,999	34,444	27,547	24,801	352	293	272	243
<b>4</b>	239,870	139,433	111,410	93,247	1,797	1,186	1,101	912
<b>5</b>	34,406	34,492	25,551	37,543	258	294	253	367
<b>6</b>	42,838	36,593	32,298	31,866	321	311	319	312
<b>7</b>	60,537	48,310	42,871	38,468	453	411	424	376
<b>8</b>	303,895	259,820	184,626	171,029	2,276	2,211	1,825	1,673
<b>9</b>	47,729	27,137	26,387	22,588	358	231	261	221
<b>6+7+8+9</b>	61,216	44,144	37,985	33,950	459	376	375	332

*Source: NSS and National Accounts*

## Appendix 3.2

### Decile and Quartile Ratios for the Distribution of Expenditure Per Capita in the Tertiary Sector, Different Rounds.

#### *A Rural Areas*

Round	P90/P10	P90/P50	P10/P50	P75/P25	P75/P50	P25/P50
43 <sup>rd</sup>	3.660	2.068	0.565	1.938	1.432	0.739
50 <sup>th</sup>	3.442	1.989	0.578	1.883	1.401	0.744
55 <sup>th</sup>	3.265	1.919	0.588	1.869	1.408	0.754

#### *B Urban Areas*

ROUND	P90/P10	P90/P50	P10/P50	P75/P25	P75/P50	P25/P50
43 <sup>rd</sup>	4.054	2.174	0.536	2.090	1.482	0.709
50 <sup>th</sup>	4.107	2.191	0.533	2.118	1.496	0.706
55 <sup>th</sup>	4.067	2.116	0.520	2.118	1.476	0.797

The conclusions suggested by the two tables are as follows:

- As far as rural areas are concerned there has been a decided improvement in the distribution. Inequality has decreased in magnitude in the lower half of the distribution—judged both by the decile and the quartile ratios. There has been a smaller improvement in the top half; both the P90/P50 and the P75/P50 ratios have moved down a bit.
- In the urban economy, there is evidence of deterioration in the lower part of the distribution. The P10/P50 ratio has deteriorated particularly between the 50<sup>th</sup> and the 55<sup>th</sup> Rounds—when there was such a pronounced increase in the absorption of labor in low-income tertiary jobs. But the deterioration is not by any means large.

#### Appendix 4.1: Instrumental Variable Estimates of the Effect of GSDP on Employment Levels for Male and Female Workers

	without State Dummies			with State Dummies			without State Dummies			with State Dummies		
	1 Male Rural	2 Male Urban	3 Male All	4 Male Rural	5 Male Urban	6 Male All	7 female Rural	8 female Urban	9 female All	10 female Rural	11 female Urban	12 female All
GSDP	0.21 [1.73]+	0.817 [4.73]**	0.423 [4.99]**	-0.155 [0.22]	0.452 [1.05]	-0.453 [0.26]	0.515 [4.41]**	0.77 [3.63]**	0.677 [4.02]**	1.089 [1.20]	0.188 [0.14]	2.115 [1.28]
Rural Casual Wage Male	0.146 [0.31]	0.242 [0.52]	0.223 [0.26]	0.968 [0.67]								
Urban Salaried Wage Male		-8.368 [2.90]**	-3.835 [2.15]*		-0.493 [0.54]	0.145 [0.08]						
Rural Casual Wage Female							0.287 [0.83]	1.249 [2.11]*	0.014 [0.03]		-0.723 [0.89]	
Urban Salaried Wage Female								5 [1.22]	-2.201 [0.90]	0.48 [0.39]	1.544 [0.91]	
1987-88 Dummy	0.054 [0.30]	1.095 [2.17]*	0.422 [1.25]	0.142 [1.51]	-0.105 [0.60]	-0.179 [0.55]	-0.052 [0.39]	-0.775 [1.15]	0.176 [0.43]	-0.123 [0.86]	-0.19 [0.62]	-0.554 [1.23]
1993-94 dummy	-0.03 [0.14]	2.913 [2.74]**	1.213 [1.67]+	0.295 [1.76]+	0.112 [0.24]	0.1 [0.09]	-0.225 [1.20]	-1.933 [1.25]	0.456 [0.45]	-0.386 [0.95]	-0.013 [0.01]	-1.287 [1.02]
1999-00 Dummy	-0.229 [0.72]	4.954 [2.65]**	2.023 [1.59]	0.326 [1.13]	0.038 [0.05]	-0.052 [0.03]	-0.648 [2.31]*	-4.137 [1.40]	0.368 [0.22]	-0.929 [1.35]	-0.407 [0.24]	-2.502 [1.17]
Urban Dummy			-1.262 [24.02]**			-1.262 [24.02]**			-2.063 [39.42]**			-2.063 [26.90]**
Constant	11.311 [5.53]**	38.175 [3.21]**	24.39 [2.91]**	16.653 [3.26]**	10.058 [1.44]	15.326 [0.77]	7.554 [5.20]**	-15.334 [1.05]	11.713 [1.48]	1.822 [0.20]	7.397 [0.46]	-12.847 [0.62]
Observations	247	277	492	270	253	492	235	253	462	233	251	462

#### Test for Validity of Instruments

Overidentification Test of all instruments (P-val=)	0.29779	0.20501	0.22334	0.73552	0.1719	0.40246	0.50153	0.49159	0.18463	0.47135	0.40425	0.8337	
1st stage Centered R2 for Instrumented Variables	Igspd Urban Salaried Wage, Male Rural Casual Wage, Male Urban Salaried Wage,female Rural Casual Wage, female	0.341 0.761 0.3231	0.2407 0.7736 0.3201	0.3395 0.8426 0.5754	0.9971 0.9968 0.5792	0.9965 0.8553 0.4177	0.2838 0.4053 0.1864	0.3121 0.4916 0.1931		0.9959 0.5315 0.3726	0.9968 0.6218 0.3723		
Excluded Instruments	Share of Industry in GSDP Road density Percentage of villages electrified Industrial Credit Rs. Per Capita Agricultural Credit Rs. Per Capita	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x	x x x x x		

Notes:

1. Absolute value of z statistics in brackets. Robust z is reported where heteroskedasticity exists.

2. + significant at 10%; \* significant at 5%; \*\* significant at 1%

3. x - excluded instruments used in the specification.

## Appendix 4.2 : Effect of GSDP on Male Earnings GSDP Instrumented

	With State Dummies			
	Rural	Urban		
	Casual non-agriculture	Casual agriculture	Casual	Salaried
GSDP	1.934 [2.23]*	1.381 [2.44]*	-0.368 [0.55]	-1.181 [2.17]*
Schedule Tribe (shae in 25 plus)	-0.048 [1.13]	-0.068 [1.70]+	0.026 [0.57]	0.063 [1.63]
Schedule Caste	-0.153 [2.40]*	-0.141 [2.22]*	0.023 [0.51]	0.057 [1.50]
Primary Educated	0.172 [0.93]	0.221 [1.30]	0.068 [1.10]	0.07 [1.37]
Post Primary Educated	-0.148 [0.80]	-0.177 [1.08]	0.08 [0.53]	0.027 [0.21]
1987-88 round	0.301 [2.15]*	0.343 [3.73]**	0.436 [4.19]**	0.619 [7.46]**
1993-94 Round	0.256 [0.62]	0.533 [1.89]+	1.273 [4.03]**	1.903 [7.24]**
1999-00 Round	0.297 [0.41]	0.73 [1.51]	1.95 [3.60]**	2.951 [6.46]**
Constant	-16.377 [1.80]+	-10.934 [1.84]+	8.58 [1.22]	18.07 [3.16]**
Observations	245	243	246	248
Adj R-2	0.57	0.6	0.57	0.69

### Test for Validity of Instruments

Overidentification Test of all instruments (P-val=)	0.13694	0.26443	0.19339	0.15474	
1st state centered R2 for Instrumented Variables	GSDP	0.9963	0.9964	0.996	0.9963
Excluded Instruments	Road density	x	x	x	x
	Share of industry in the state economy	x	x	x	x
	Percentage of villages electrified	x	x	x	x
	credit to industry per capita	x	x		
	credit to agriculture per capita	x	x	x	x

Notes:

1. State fixed effects is not reported in this table
2. Robust z statistics in brackets
3. + significant at 10%; \* significant at 5%; \*\* significant at 1%
4. x - excluded instruments used in the specification

**Appendix 4.3: Impact of GSDP Levels on Unemployment Rates**

	OLS with State Dummies			GSDP and Wages Instrumented With State Dummies		
	1	2	3	4	5	6
Growth of GSDP	-1.014 (1.95)+	-0.317 (1.02)	-0.653 (1.78)+	-4.179 (1.56)	-2.698 (1.39)	-2.116 (1.94)+
Round 2 Dummy	0.083 (0.61)	0 (.)	0 (.)	-0.738 (1.25)	-0.379 (0.89)	0 (.)
Round 3 Dummy	0 (.)	-0.115 (1.45)	-0.105 (1.18)	0 (.)	0 (.)	0.384 (1.34)
Round 4 Dummy	0.233 (3.09)**	-0.022 (0.27)	0.06 (0.68)	0.17 (1.32)	0.026 (0.26)	0.521 (2.01)*
Urban Dummy			0.271 (4.19)**			0.235 (3.21)**
Urban Salaried Wages					-0.984 (0.85)	0.505 (0.48)
Rural Casual Wages				0.564 (1.32)		0.8 (1.0)
Constant	1.523 (6.10)**	1.718 (20.26)**	1.526 (12.08)**	0.87 (0.49)	6.638 (1.26)	-3.136 (1.04)
Observations	213	212	425	188	193	375
R-squared	0.7	0.56	0.58	0.59	0.28	0.31

Robust t statistics in parentheses

+ significant at 10%; \* significant at 5%; \*\* significant at 1%

**Appendix 4.4A: Estimates of Determinants of Female Participation Rates: Female and Male Wages, Household Earnings and Unemployment Rates**

Dependent variable:Female Participation Rates	OLS			Female Wages and Unemployment Rate Instrumented			Household Per Capita Expenditures, Unemployment Instrumented		
	1 Rural	2 Urban	3 All	4 Rural	5 Urban	6 All	7 Rural	8 Urban	9 All
Rate of Unemployment	-0.098 [3.68]**	0.001 [0.05]	-0.05 [2.74]**	-0.778 [2.70]**	0.092 [0.22]	-0.338 [3.91]**	-0.475 [2.72]**	-0.235 [0.40]	-0.325 [1.45]
Real Household per Capita Expenditure							-1.812 [0.93]	3.381 [0.47]	1.685 [0.52]
Rural(non-agr) Casual Wages, Female	0.133 [2.20]*	0.119 [3.35]**	0.734 [1.06]		1.491 [2.59]**		1.547 [1.69]+		1.359 [1.50]
Urban Casual Wages, Female		-0.019 [0.29]			-2.069 [0.94]	0.155 [0.19]		2.855 [0.53]	-1.596 [0.68]
Urban Salaried Wages, Female		-0.114 [1.10]	-0.126 [1.44]		5.651 [0.97]				
Urban Casual Wages, Male		0.211 [1.92]+							
Rural Casual Wages, Male	-0.187 [2.01]*	-0.051 [0.79]		0.046 [0.10]		-0.617 [1.57]			
Urban Salaried Wages, Male		-0.169 [0.77]	-0.071 [0.40]		-4.35 [0.98]	-1.412 [1.91]+			
Urban Dummy			-0.573 [10.85]**			-0.182 [1.18]			-0.71 [0.57]
1987-88 round	0.217 [2.16]*	0.016 [0.20]	0.097 [1.40]	0.624 [2.16]*	0.199 [0.49]	0.405 [2.42]*	0.889 [1.29]	-2.226 [0.49]	-0.229 [0.24]
1993-94 Round	-0.012 [0.11]	0.162 [1.70]+	0.105 [1.28]	-0.486 [1.44]	-0.026 [0.05]	0.144 [0.77]	1.072 [0.67]	-4.339 [0.48]	-1.636 [0.63]
1999-00 Round	-0.032 [0.26]	0.122 [0.89]	0.066 [0.56]	-0.724 [1.48]	-0.112 [0.13]	0.152 [0.56]	1.217 [0.57]	-6.719 [0.50]	-2.494 [0.70]
Constant	-0.946 [2.48]*	-0.87 [1.14]	-0.316 [0.48]	-6.757 [2.55]*	0.668 [0.12]	1.034 [0.53]	2.006 [0.26]	-27.422 [0.53]	-9.869 [1.03]
heteroskedasticity test (P-val=)	0.0981	0.8393	0.0459	0.9498	1	0.9828	0.999	1	0.9995
R-squared	0.14	0.04	0.45						
Observations	177	210	371	159	170	322	161	177	324

**Test for Validity of Instruments**

Overidentification Test of all instruments (P-val=)	0.81588	0.88074	0.15068	0.543	0.84699	0.39977
1st stage centered Partial R2 for Instrumented Variables	0.1884 0.2989	0.1247 0.3332	0.4474 0.6647	0.3931 0.292	0.236 0.2699	0.4387 0.267
Excluded Instruments	Share of Industry in GSDP Share of sch tribe25-59: female Share of sch caste 25-59: female Share of primary educated female 25-59 Share of secondary educated female 25-59 Industrial Credit Rs. Per Capita Agricultural Credit Rs. Per Capita Gini - real daily wage count no_salaried_15-59	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x	x x x x x x x x

Notes:

1. t statistics in brackets. Robust t is reported where heteroskedasticity exists.

2. + significant at 10%; \* significant at 5%; \*\* significant at 1%

3. x - excluded instruments used in the specification

#### Appendix 4.4B: Determinants of Female Participation Rates: Expected Earnings of Males and Females

Female Participation Rate	OLS without State Dummies			OLS with State Dummies			Expected Earnings Instrumented with State Dummies		
	1 Rural	2 Urban	3 All	4 Rural	5 Urban	6 All	7 Rural	8 Urban	9 All
Expected Earnings for Females in Rural Casual Work	0.083 [1.68]+	0.045 [1.31]	0.1 [3.96]**	0.074 [3.47]**	0.926 [3.26]**	0.352 [2.19]*			
Expected Earnings for Females in Urban Casual Work		-0.06 [1.03]	-0.045 [0.94]		-0.069 [1.50]	-0.055 [1.62]		-0.021 [0.10]	-0.649 [3.43]**
Expected Earnings for Males in Rural Casual Work	-0.318 [3.40]**	-0.228 [3.19]**	-0.183 [2.13]*		-0.149 [2.28]*	-0.685 [3.24]**			
Expected Earnings for Males in Urban Casual Work		0.222 [2.43]*	0.233 [2.55]*		0 [0.00]	-0.075 [0.75]		-0.086 [0.78]	-0.128 [0.71]
Expected Earnings for Males in Urban Salaried Work									0.19 [0.85]
Urban Dummy			-0.708 [20.59]**			-0.716 [29.08]**			-0.749 [23.21]**
1987-88 round	0.05 [0.66]	0.003 [0.04]	-0.003 [0.07]	0.051 [1.14]	0.026 [0.55]	0.046 [1.26]	0.106 [1.24]	0.033 [0.51]	0.11 [1.67]+
1993-94 Round	0.042 [0.54]	0.053 [0.80]	0.009 [0.17]	0.041 [0.88]	0.094 [1.57]	0.083 [1.87]+	-0.093 [0.96]	0.083 [1.14]	0.076 [0.80]
1999-00 Round	0.042 [0.51]	-0.06 [0.85]	-0.047 [0.82]	-0.01 [0.17]	0.006 [0.10]	0.028 [0.54]	-0.248 [1.98]*	-0.01 [0.10]	0.022 [0.15]
Constant	0.214 [0.78]	-1.911 [6.69]**	-0.624 [2.56]*	-0.809 [3.10]**	-1.314 [3.32]**	-0.298 [0.99]	-1.235 [2.86]**	-1.167 [3.11]**	-0.546 [0.63]
heteroskedasticity test (P-val=)	0.7878	0.4838	0.1421	0	0		1	0	0.006
Observations	263	277	498	263	277	498	258	232	432
R-squared	0.05	0.03	0.48	0.71	0.55	0.74			
Adj R-2	0.03	0.01	0.47	0.67	0.48	0.71			

#### Test for Validity of Instruments

Overidentification Test of all instruments (P-val=)		0.21917	0.3455	0.60499
1st stage centered R2 for Instrumented Variables	Expected Earnings for Females in Rural Casual Work Expected Earnings for Females in Urban Casual Work	0.4564	0.4703	0.429 0.5021
Excluded Instruments	Share of sch tribe25-59: female Share of sch caste 25-59: female Share of primary educated female 25-59 Share of secondary educated female 25-59 Gini - real daily wage Industrial Credit Rs. Per Capita Agricultural Credit Rs. Per Capita share of industry in GSDP count_no_salaried_15-59	x x x x	x x x x	x x x x

Notes:

1. State fixed effect is not reported in this table;
2. Absolute value of t statistics in brackets. Robust t is reported where heteroskedasticity exists;
3. + significant at 10%; \* significant at 5%; \*\* significant at 1%
4. x - excluded instruments used in the specification

**Appendix 4.5: Effect of GSDP on Unemployment Rates for Males and Females**

	OLS			Instrumental Variables		
	Rural 1	Urban 2	All 3	Rural 4	Urban 5	All 6
GSDP	-1.036 (2.58)*	-0.966 (3.00)**	-1.01 (3.61)**	-2.028 (-1.45)	-1.225 (1.85)+	-1.26 (-1.42)
Rural Casual Wage	0.051 (0.48)		0.116 (1.49)	0.896 (1.99)+		1.002 (1.42)
Urban Salaried Wages		-0.042 (-0.46)	-0.129 (-1.28)		-0.663 (-0.87)	0.08 (0.08)
Round 2 Dummy	0.169 (1.42)	0.172 (2.16)*	0.164 (2.17)*	-0.582 (-1.05)	0 (.)	0 (.)
Round 3 Dummy	0.224 (0.99)	0.334 (1.95)+	0.301 (2.07)*	0 (.)	0.217 (0.9)	0.379 (0.99)
Round 4 Dummy	0.863 (2.46)*	0.784 (2.72)**	0.829 (3.43)**	0.917 (1.79)+	0.718 (1.56)	0.955 (1.47)
Urban Dummy			0.263 (4.51)**			0.236 (3.26)**
Constant	12.094 (2.85)**	11.871 (3.53)**	12.1 (4.14)**	20.37 (1.39)	17.435 (1.87)+	10.968 (1.05)
Number of Observations	280	285	556	188	193	375
R Square	0.68	0.56	0.58	0.57	0.46	0.37

## Appendix 6.1

### Selected Welfare/Provident Funds: Membership, Contribution Structure and Benefits

Fund and year of establishment	Member estimate (2002)	Contribution (annual, unless stated)	Main services
Beedi workers (central – 1976)	4 million	Cess	Health/education/
TN Construction Workers (1994 in 3 cities; 1997 statewide)	380,000	Rs. 25 registration + Rs. 10 every 2 years for workers 0.3% of estimated cost of construction for employer	Accident/death/education/maternity
West Bengal US Provident Fund	650,000	Rs. 240 for worker Rs. 240 – GoWB	DC pension/lumpsum death payout
AP Labor Welfare fund (1988)	1 million	Rs 2 – employee Rs. 5 –employer Govt subsidy	Education/emergency relief/health and funeral
Karnataka Labor Welfare Fund (1965)	675,000	Rs. 3 –employee Rs. 6 –employer Rs. 3- GoK	Medical/accident/self-employment
Kerala Agricultural Workers' Fund (1974)	1,050,000	Rs. 24 – worker Rs.10-15 per hectare for landowners	Superannuation/medical/education/insurance/maternity
Kerala Labor Welfare Fund (1975)	453,000	Rs. 8 – employee Rs. 16 - employer	Education and training/medical assistance/compassionate relief
Kerala Cashew Workers' Welfare Fund (1988)	135,000	Rs. 0.5 per day for worker Rs. 1 per day – employer Rs. 1 per day – GoK.	Medical/maternity/death and accident/unemployment/education
Maharashtra Mathadi Boards (1969)	150,000	26-46% of employee wage	Provident fund/medical/paid leave and holidays/education/injury and death

Source O'Keefe (2006).

## **Appendix 6.2**

### Coverage Rates in Selected Voluntary Rural Health Insurance Schemes

	<b>Coverage rate among eligible population (late 1990s)</b>	<b>Target eligible population</b>
Health card (Thailand)	25%	Non-poor villagers
Rural voluntary HI (Vietnam)	9%, but higher among school children and very low among adults.	(i) school children; (ii) households below poverty line; (iii) self-employed (around 75% of population)
Dana sehat schemes (Indonesia)	13%	Primarily rural population
ORT (Philippines)	11%	Local community
Grameen (Bangladesh)	66%	Poor banking with Grameen
National HI - Category II (Korea)	100%	Urban and rural self-employed, including farmers

Source: O'Keefe (2006)

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