Creating Employment in the Twelfth Five-Year Plan

SANTOSH MEHROTRA, ANKITA GANDHI, BIMAI KISHORE SAHO, PARTHA SAHA

This paper analyses employment trends and addresses the problem of creating decent and productive employment in the non-agricultural sector during the first decade of the 21st century. Its primary interest is to examine the transition from informal employment in the unorganised sector towards formal employment in the non-agricultural organised sector. There has been a slight structural shift in employment away from agriculture towards the non-manufacturing sector. An interesting dimension about this transformation is the rising employment in enterprises employing 20 or more workers and a decline in employment in enterprises employing less than six workers. The second half of the decade (characterised by high growth rates) witnessed a decline in employment in the manufacturing sector, while there was stagnation in services sector employment. With the rise in participation in education (in particular female education), it is most likely that a larger number of educated youth, especially women, will be joining the labour force in future years, and given the fact that the highest open unemployment rate is among educated youth, this calls for more proactive policies towards employment creation in organised manufacturing and services sectors.

1 Introduction

The structural transformation that any developing economy should undergo is that the share of agriculture in output and employment declines over time, and the share of industry and services increases correspondingly. Till two decades ago the share of agriculture in total employment was nearly 70% in the Indian economy. The most recent National Sample Survey (2009-10, 66th round) suggests that this share has declined over time to 53%. But given the fact that 53% of the Indian workforce is producing barely 15% of the gross domestic product (gdp), the decline in the share of agriculture in total employment is nowhere close to fast enough. The share of industry and services in output has increased sharply within the last 20 years but their share of employment still remains low, at 22.7% and 24.4%, respectively in 2009-10. Their contributions to gdp correspondingly are – industry 28.1% (manufacturing 15.9%, non-manufacturing 12.2%), and services 57.3% in 2009-10 (Table 1). Therefore, increasing employment outside of agriculture must be a desirable goal in and of itself. Thus, creating employment during the Twelfth Five-Year Plan would require enhancement of the rate of transition of labour out of agriculture to industry and services.

Table 1: Share of Employment and Gross Value Added (1999-2000, 2009-10, in %)

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Shares 1999-2000</th>
<th>Shares 2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>59.9</td>
<td>23.8</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>11.1</td>
<td>15.5</td>
</tr>
<tr>
<td>Non-manufacturing</td>
<td>5.3</td>
<td>11.8</td>
</tr>
<tr>
<td>Services</td>
<td>23.7</td>
<td>48.9</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: CSO, and NSS Employment and Unemployment Surveys, various rounds.

One of the objectives in the Twelfth Five-Year Plan, while creating employment, needs to be that the work created should be (a) decent work, and (b) productive employment. While increasing productive employment in all sectors of the economy is the most desirable goal, one concern is that some of the employment generated in the growth process could well lead to employment growing faster than gross value added (gva). In an ideal world this outcome is not the most desirable, since employment increase must only be an increase in productive employment, defined as the case when output grows faster than employment. However, in an economy which is suffering from 6.6% unemployment by the current daily status (cbs) definition (2009-10), an increase in employment may not always and simultaneously increase labour productivity. The movement of labour out of agriculture to higher productivity generating industry and services is itself a gain in
terms of equity and efficiency in the economy, even though the productivity gain in the case of those workers hired after employment elasticity\(^1\) goes over 1 (a phenomenon that we observe in some sectors, as discussed later) may not be termed as being employed productively and hence they constitute a loss in potential efficiency.

In order to achieve this objective, two kinds of transitions would be needed: first, movement of unskilled labour from agriculture to unorganised industry or unorganised services; second, movement of labour from informal employment in the unorganised sectors to either formal employment in organised sectors (preferably), or at least informal employment in the organised sectors. We discuss each one of these transitions in this paper.

There are several dimensions to ensuring more decent work at the current stage of development of the Indian economy. First, when agricultural labour migrates to urban areas in search of work and finds employment, even if it may be casual work in unorganised services or industries, it does so because urban wage rates even in the unorganised sector are better than those prevailing in agriculture (or there may be an absence of work opportunities in agriculture in her/his district or state). Otherwise, labour is unlikely to migrate to uncertain informal employment in urban areas. This is in fact one kind of transition to more decent work than agriculture labour, merely because the wages are likely to be higher. This kind of work is still not such as to provide employment security or income security or social security – which is our definition of “decent work” – but it is still better than work in agriculture (which may or may not be available).

There is a second transition which is a positive step in the direction of decent work, which involves the transition from informal jobs in the unorganised sector to informal organised sector employment. Of the 93% informal sector employment, some 7 percentage points are accounted for by informal employment in the organised sector (nCwus 2008). Informal employment (e.g., as contract labour) in the organised sector would be superior in terms of security of work because there is likely to be a written contract as opposed to a verbal one in the unorganised sector, some benefits (e.g., assured leave and health benefits) other than a salary are likely to be involved, and some degree of security of tenure would be available as opposed to complete uncertainty of tenure of employment that characterises informal employment in unorganised enterprises.

The third, or ideal, type of employment creation that policymakers may like to see during the Twelfth Plan, is growth in the size and share of formal employment in organised sector enterprises. This is the case because such employment would be characterised by security of tenure and wage rates well above agricultural labour, neither of which prevails in informal work in unorganised enterprises, and informal employment in the organised sector. In addition, it would be characterised by nearly complete social insurance, i.e., death and disability benefits, old-age pension, maternity leave and health benefits. None of these three are likely to prevail to the same extent in the remaining three types of employment in the economy, which together account for 93% of the total employment in the country.

In the light of this conceptual framework, we will examine in Section 2 overall employment trends in the non-agricultural sectors both quantitative and qualitative in particular over the 2000s divided into two time periods, i.e., 1999-2000 to 2004-05, and 2004-05 to 2009-10. In Section 3 we will analyse sectoral employment growth in various sectors of the economy. The last section summarises major findings along with policy implications.

2 Overall Employment Trends in India

In this section we examine labour force and workforce participation rates over the period 1999-2000 to 2009-10, the workforce estimates over the past decade, the unemployment rate by usual principal and subsidiary status (UPPS), wages and consumption expenditure. In addition to these quantitative dimensions of employment in the Indian economy, we also examine certain qualitative dimensions.

2.1 Quantitative Dimensions of Employment Trends

Labour force participation rate (LFPR) and workforce participation rate (WFPR) between 1993 and 2009-10 have been declining (IAMR 2011b). The LFPR is the ratio of the labour force in the age group 15 and above to the total population of the country. If the growth rate of total population is higher than the growth rate of those joining the labour force, the LFPR shows a declining trend, which is exactly what the total shows. The total population growth rate, despite its constant decline over the past few decades, is still 1.6% per annum (2001-11), while the growth rate of the labour force is lower. There is a constant decline in both rural and urban LFPRs over the period, as well as in the WFPRs. As soon as the population growth rate, which is systematically declining, is exceeded by the growth rate of the labour force, the LFPR will start increasing.

However, the growth in the labour force will be moderated by rising participation in education. The Right to Education (RTE) for 6-14 year-olds will ensure that even those who turn 14 will continue in school – especially since there is a high likelihood that the RTE will be extended to age 16 (to cover Classes 9-10). Moreover, with the introduction of the National Vocational Education Qualification Framework (NVQF), and vocational education starting with Class 9, there is a probability that dropout after Class 8 (age 14) will decrease, and children will continue in vocational education (IAMR 2011a). Creating employment opportunities for the educated youth will be a challenge for the country in near future (Rangarajan et al 2011).

The workforce had increased during 1999-2000 to 2004-05 by 60 million, but the corresponding increase in the second half of the decade was only two million. This number could be used to draw the conclusion that employment growth has slowed in the period of faster growth in the latter half of the decade, and therefore, casts doubt on the value of economic growth as a goal. However, this is not true and this
is demonstrated by the following inferences that can be made from Table 2.

The first point refers to what has happened to principal status (PS) employment between the first and second halves of the 2000s. The activity on which a person spends a relatively longer time (say farming his land) during the 365 days preceding the date of survey is regarded as the usual principal activity status (UPS) of the person. In addition to her principal status activity, this person could have engaged in some other activity for 30 days or more during this time (called her subsidiary status). The two measures together are used to determine the size of the workforce, and also the number of persons both working and available for work (labour force). According to the NSS employment and unemployment surveys, since 1983, there has been a consistent improvement in PS employment and a reduction in subsidiary employment (Anant and Mehta 2011). As we have analysed in the India Human Development Report 2011, this is happening because the incidence of child labour is declining and there is a simultaneous increase in school attendance of over 14-year-olds (IAMR 2011b).

The second important finding is that there is a growing absence of those under 25 from the workforce, which is another extremely welcome development. If children under six and children over 14 are not in the workforce, it is because they are increasingly in school. In fact, the 0-24 year age group sees a sharp decline in their worker population ratio (WPR). As Rangarajan et al (2011) note, only 44% of the decline in the female WPR is accounted for by increased participation of women of working-age in education.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Principal Status</th>
<th>Principal and Subsidiary Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural male</td>
<td>46</td>
<td>150</td>
</tr>
<tr>
<td>Rural female</td>
<td>20</td>
<td>62</td>
</tr>
<tr>
<td>Urban male</td>
<td>15</td>
<td>60</td>
</tr>
<tr>
<td>Urban female</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>2004-05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural male</td>
<td>48</td>
<td>167</td>
</tr>
<tr>
<td>Rural female</td>
<td>19</td>
<td>72</td>
</tr>
<tr>
<td>Urban male</td>
<td>18</td>
<td>71</td>
</tr>
<tr>
<td>Urban female</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>2009-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural male</td>
<td>41</td>
<td>186</td>
</tr>
<tr>
<td>Rural female</td>
<td>14</td>
<td>67</td>
</tr>
<tr>
<td>Urban male</td>
<td>16</td>
<td>83</td>
</tr>
<tr>
<td>Urban female</td>
<td>3</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: NSS 50th, 55th and 66th rounds.

Further, in the age group of 5-14 years, 89.3% of children were in school in 2009-10, up from 82.4% in 2004-05. Further this increase was higher for girls, rising from 79.6% in 2004-05 to 87.7% in 2009-10. In the 15-19 years age group, 59.5% of young people were in the educational system in 2009-10 as compared to 46.2% in 2004-05. Once again, the increase was more for girls, from 40.3% to 54.6%. In the next higher age group of 20-24 years, 22.5% of boys and 12.8% of girls were still in the educational system in 2009-10 against only 14.9% and 7.6%, respectively in 2004-05 (Planning Commission 2011).

The third important finding is about development in regard to women’s employment. Since the 1980s, there has been a near consistent decline in WPR for women (Mazumdar and Neetha 2011; Rangarajan et al 2011). In the Indian case, far from being a bad thing, this is entirely a welcome development. For male PS employment in ages 25 or more, there has been a sharp increase in the growth of workers – quite the opposite of what might be implied by the mere two million increase in total employment that occurred between 2005 and 2010. However, the situation is quite different for women, whose employment has declined. Their employment fell because as we noted above, young women are attending school, which is where they belong. In fact, a comparison over a longer period shows that from the 1980s there has been a sustained decline in women’s employment. The main worry here is that as Rangarajan et al (2011) note, only 44% of the decline in the female WPR is accounted for by increased participation of women of working-age in education.

The rural unemployment rate has been consistently lower than the urban, which is not surprising given the reliance of the rural workforce on self-employment in agriculture. This, of course, might be a last resort activity since evidence is growing of rural distress among the 84% of all farmers who till under one hectare of land – the small and marginal farmers who eke out an uncertain livelihood. What is worrying is that on account of the slow rate of growth of output in agriculture in an otherwise high growth economy, the unemployment rate by UPS shows a slow increase of 0.2% between 1993-94 and 2004-05, and has remained at roughly the same level in 2009-10 (IAMR 2011b). On the contrary, in urban areas, where a lot of the economic growth has tended to be concentrated, there has been a clear decline of the unemployment rate.

Table 3 shows some further positive developments in the latter half of the 2000s. Unemployment by the CBS measure has declined, after rising from 6.06% in 1993-94 to 7.31% in 1999-2000 and further to 8.2% in 2004-05. But, as we noted above, more men are indeed working in the latter half of the decade compared to the first half, more girls are going to school, both of which suggest that incomes are rising. It appears that this information is consistent with the phenomenon that wages are rising, not just in salaried work, but also in casual work (Table 3). It is also consistent with the fact that the average number of months without work in the past year for casual workers declined between 2004-05 and 2009-10 (1999-2000, 2004-05, 2009-10).

**Table 3: Unemployment and Wages**

<table>
<thead>
<tr>
<th>Unemployment Rate (%) (CDS)</th>
<th>Salaries and Wages (Rs per day, for Male Rural Workers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>6.06</td>
</tr>
<tr>
<td>1999-2000</td>
<td>7.31</td>
</tr>
<tr>
<td>2004-05</td>
<td>8.2</td>
</tr>
<tr>
<td>2009-10</td>
<td>6.6</td>
</tr>
</tbody>
</table>

**2.2 Qualitative Dimensions in Employment Trends**

**Formal and Informal Employment in the Non-Agricultural Sectors**

The share of organised sector employment was around 14% in both 1999-2000 and 2004-05. However, our
analysis of the NSS 2009-10 data (NSSO 66th round) in the second half of the decade shows it has risen to 16%. That is, unorganised sector employment has declined from 86% in 1999-2000 and 2004-05 to 84% in 2009-10. Organised and unorganised sectors have been defined as per National Commission for Enterprises in the Unorganised Sector (NCEUS) definition (Table 4).3

An analysis of formal versus informal employment, again using the NCEUS definition,4 shows employment within both organised and unorganised sectors with social security benefits. While there has been a decline in the share of formal employment from about 6% in 1999-2000, to nearly 8% in 2004-05 and further to 7% in 2009-10, there has been a consistent increase in informal employment, especially in the organised sector (Table 4).

### Table 4: Formal and Informal Employment in Organised and Unorganised Sector

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Informal (%)</td>
<td>Formal (%)</td>
<td>Total (%)</td>
<td>Informal (%)</td>
</tr>
<tr>
<td>Unorganised</td>
<td>385.08 (99.4)</td>
<td>2.26 (0.6)</td>
<td>387.34 (100)</td>
<td>393.5 (99.6)</td>
</tr>
<tr>
<td>Organised</td>
<td>42.14 (5.78)</td>
<td>30.74 (42.2)</td>
<td>72.88 (100)</td>
<td>29.1 (46.6)</td>
</tr>
<tr>
<td>Total</td>
<td>427.22 (92.8)</td>
<td>33.00 (7.2)</td>
<td>460.22 (100)</td>
<td>422.6 (92.4)</td>
</tr>
</tbody>
</table>

Figures in parenthesis are percentages.

The share of informal employment in the unorganised sector is unchanged at 99.5% throughout the decade. This is because there are hardly any social security benefits for workers in the unorganised sector. However, what is notable is that the share of formal employment in the organised sector has been falling continuously from 62% in 1999-2000, to 53% in 2004-05, further down to 42% in 2009-10. This is matched by a corresponding increase in informal employment in the organised sector which currently stands at 8% compared to 38% at the beginning of the decade. Thus, while the organised sector’s share in employment is increasing, it is only due to the increase in informal employment in that sector.

As per our conceptual framework, the first two transitions are taking place. There is a movement of workers from the agricultural sector to informal non-agricultural sectors, mainly construction. Next is the transition from informal employment in the unorganised sector to informal employment in the organised sector. This is shown by a decline of 8.4 million informal workers in the unorganised sector along with an increase of 13 million informal workers in the organised sector. Correspondingly, the share of all workers employed in the organised sector has increased (from 14% to 16%). But the cause of worry is that formal employment in the organised sector, which is by definition, the most decent form of employment, is not increasing. This shows that employers are increasingly hiring workers on contractual terms due to labour laws and other concerns.

### Size of Enterprises by Employment: In Table 5 we examine the number and share of workers in what could be termed as micro, small, medium/large enterprises. There seems to be a remarkable shift occurring in non-agricultural employment in the 2000s, if we examine the size class of enterprises by the number of workers that they employed. The workers in the enterprises with less than six employees (i.e., microenterprises) show a remarkable decline both in absolute and relative terms between 2004-05 and 2009-10. Such microenterprises accounted for 152.5 million workers in the middle of the decade, or 75% of all non-agricultural workers. By the end of the decade the number of workers in such enterprises had fallen by nearly four million, and the share of such microenterprises in the total non-agricultural employment was down to 65.6%. Correspondingly, there was an increase in the number of workers employed in enterprises with six and above but less than 10 workers, from 15.2 million in the middle of the decade to nearly 24 million at its end, thus raising the share of workers in such enterprises from 7.5% to 10.5% of all non-agricultural employment in the country. This is clearly a positive development since it is easier for slightly bigger enterprises to be reached with services (credit, marketing support, design support). It is also better for workers since it reduces the fragmentation and enables them to organise – which is next to impossible to achieve when workers are dispersed in millions of microenterprises.

What is remarkable about this shift in the size class of enterprises by employment in non-agricultural work is the growing absolute number of employees in enterprises where 20 or more workers were employed. Workers in what could be called the middle and large enterprises, by size class of employment, rose from 24 million in 2004-05 by a remarkable 15 million to nearly 39 million at the end of the decade. At the same time, the share of such employment in total non-agricultural employment grew from 11.8% to 17.1%. This is consistent with our argument, based on the analysis of organised manufacturing employment in the latter half of the 2000s, that there has been a rise in organised sector manufacturing.

### Table 5: Number of Workers by Size of Enterprise

<table>
<thead>
<tr>
<th>Number of Workers in Enterprises</th>
<th>2004-05</th>
<th>2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Workers in Million</td>
<td>Share (%)</td>
<td>Number of Workers in Million</td>
</tr>
<tr>
<td>Less than six</td>
<td>152.5</td>
<td>74.9</td>
</tr>
<tr>
<td>Six and above but less than 10</td>
<td>15.2</td>
<td>7.4</td>
</tr>
<tr>
<td>10 and above but less than 20</td>
<td>11.8</td>
<td>5.8</td>
</tr>
<tr>
<td>20 and above</td>
<td>24</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: NSS, 61st and 66th rounds.

This shift in the distribution of employment across firm size groups between 2005 and 2010 is very significant since the World Bank (2012) reports that this distribution had not shifted over time between 1993-94 and 2004-05.

### Self-employed, Regular Wage Employed and Casual Wage Labour: Table 6 (p 67) presents for three points of time disaggregated data for the workforce distributed by categorywise employment: the self-employed, the regular wage/salary worker and the casual labourer. The self-employed see a
remarkable increase in employment in absolute terms until the middle of the decade, and then a decline; a similar trend is noticeable for the share of self-employed in the workforce. The decline is largely explained by withdrawal of women from the workforce of about 23 million women (of whom 1.7 million got jobs as casual labour and 0.2 million as self-employed). As many as 21 million of these women were in rural areas who, as we noted earlier, withdrew because they were either now studying or engaged in domestic work. Urban women did the same but on a much smaller scale (Rangarajan et al 2011; Himanshu 2011).

Table 6: Number of Workers according to UPSS Approach by Broad Employment Status (in millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-employed</td>
<td>209.3</td>
<td>258.4</td>
<td>232.7</td>
</tr>
<tr>
<td>Regular wage/salaried employee</td>
<td>58.2</td>
<td>69.7</td>
<td>75.1</td>
</tr>
<tr>
<td>Casual labour</td>
<td>130.5</td>
<td>129.7</td>
<td>151.3</td>
</tr>
</tbody>
</table>

Source: NSS survey reports.

The decline in the numbers of self-employed has a corresponding increase in the numbers of those who had casual work in the latter half of the decade. Both types of work are in the unorganised segment, so there is little change in terms of the quality of employment – both would involve informal employment.

In terms of the quality of employment, the one welcome development has been the consistent rise in both the absolute number and the share of workforce of regular workers, throughout the decade. The increase over the decade was 17 million. This welcome development needs to continue. The only downside about this increase, at least in the latter half of the decade, is that 96% of the jobs were picked up by men.

Incidence of Employment by Level of Education: It was a notable fact about the incidence of employment by level of education in India (by UPSS) that illiterates have the lowest rate of employment, and the rate of unemployment tends to rise with every level of education: primary, secondary and higher secondary, with the highest unemployment rate characterising those with diploma/certificates (or those with one or two years of post-higher secondary education) (Table 7). In fact, the last group had an unemployment rate of 10.4% in 2004-05 and 9.6% at the end of the decade. The unemployment rate does decline for graduates and slightly again for postgraduates and above, but not significantly.

In other words, those with relatively higher education are clearly still able to survive, precisely because unemployment over 182 days of the preceding 365 days (before the survey closed) is a situation that can be borne only by the relatively well-off (who are also the relatively better educated). What is interesting is that by this UPSS measure the unemployment rate is very low for the illiterate or neo-literate, but by the CBS measure the unemployment rate in the country is close to that (by UPSS) of those who have graduate qualification.

3 Non-Agricultural Employment: Potential for Future Employment Growth

The strategy for increasing employment during the Twelfth Five-Year Plan must rely upon an analysis of how employment trends have evolved over the last decade. For this reason most of the analysis in this section will rely upon employment trends for agriculture, manufacturing, non-manufacturing industry and services. We examine employment trends for various sectors for three points of time: 1990-2000, 2004-05 and 2009-10 and the data are reported in Table 8.

Table 7: Incidence of Unemployment for 15 Years and Above Age Group, by Level of Education (2004-05 and 2009-10; UPSS, in %)

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>2004-05</th>
<th>2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not literate</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Literate without formal schooling</td>
<td>1.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Below primary</td>
<td>1.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Primary</td>
<td>1.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Middle</td>
<td>2.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Secondary</td>
<td>4.8</td>
<td>2.7</td>
</tr>
<tr>
<td>Higher secondary</td>
<td>6.4</td>
<td>5.2</td>
</tr>
<tr>
<td>Diploma/certificate</td>
<td>10.4</td>
<td>9.6</td>
</tr>
<tr>
<td>Graduate</td>
<td>8.8</td>
<td>6.9</td>
</tr>
<tr>
<td>Postgraduate and above</td>
<td>8.1</td>
<td>6.7</td>
</tr>
<tr>
<td>All level of education</td>
<td>2.3</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Source: NSS.

The fundamental issue facing the Indian economy at the commencement of the Twelfth Plan period is whether more rapid employment growth can be combined with the rapid growth of output in industry and in services. The problem of employment growth not keeping pace with growth of output has been experienced in other developing countries as well and it has bothered policymakers for at least half a century (Patnaik 2011; Ghosh 2011). One of the main objectives of the growth strategy in the Twelfth Plan period must be to ensure that the process of structural change in terms of employment is accelerated. So what is the nature of the structural change that is taking place in employment that we observe from the examination of data for three points of time (2000, 2005 and 2010)?

Agriculture saw an absolute increase in employment in the first half of the decade from 238 million in 1999-2000 to nearly 259 million in 2004-05. This increase in agriculture, at face value, cannot be seen to be a positive development, if the expected structural transformation with growth is that there would be a shift in labour from agriculture to non-agricultural...
employment. However, if the increase in employment in agricul-
ture in first half of the decade is accounted for by a diversi-
fication into allied economic activities like fishery, dairying,
poultry, sericulture, horticulture and floriculture, it is indeed a
welcome development.

While in the latter half of the decade there was a decline in
absolute numbers employed in agriculture from 259 million
to 245 million, the problem remains that total agricultural
employment at the end of the decade was still higher than at
the beginning of the decade. That means that the process of
structural change in employment that one would expect with
a period of very rapid, in fact, unprecedented growth in
output in the economy outside of agriculture, is not occur-
ing. In fact, if anything that process of structural change is
stalled has been least as far as the employment structure in
the economy is concerned.

In manufacturing, there is an absolute increase in employ-
ment in the first half of the decade from 44 million to nearly
56 million in 2004-05. This increase by nearly 12 million in
manufacturing in the first half of the decade was, however,
offset by a decline by five million in the second half of the decade.
What is interesting is that the absolute size of employment in
2009-10 (50.74 million) was up by about 15% from total manuf-
acturing employment of 44 million at the beginning of the
decade – but only an increase of six million in a period of 10
years. It may be pointed out here that even in China the number
of workers in the manufacturing sector has stagnated at
230 million since 2004, even though industrial production has
more than doubled during the period 2004 to 2010 (Ghosh 2011).

Reasons for Fall in Manufacturing

Several different reasons could have combined to produce this
rather grim outcome of a fall in manufacturing employment
when output in manufacturing was growing. First, average
annual increases in mean real wages in India have been 2.8%
between 1983 and 2010. These have risen faster in the second
half of the 2000s than earlier – driven perhaps by a greater
shortage of skilled staff. Between 1994 and 2010, the wage dif-
ferential between a particular level of educational attainment
and the level of attainment just below has increased. Simi-
larly, sharp increases have occurred in the wage premiums
for skilled occupations (e.g., managers, professionals, techni-
cians, even clerks) over elementary occupations in 1993-94,
1999-2000, 2004-05 and 2009-10. Thus, the situation emerg-
ing is that the supply of workers at lower levels of education
is increasing faster than demand, while the demand for workers
with secondary or tertiary education is exceeding the supply
(World Bank 2012). This data on wages suggests that the pace
of technical change increased as a result, so that total
employment actually fell despite an increase in total manu-
facturing output.

A second reason for the adverse employment outcomes
could be that the structure of output (in manufacturing or
services) shifted towards products or services that were much
less labour-intensive by 2010 compared to 2005. In other
words, the products (or services) being produced in 2010 are
more capital-intensive, while the output of labour-intensive
products actually declined – giving rise to a situation whereby
the employment elasticity of output becomes negative overall
for manufacturing.

Non-manufacturing industry has been the star performer in
terms of generating employment in the decade. In the first half
of the decade, non-manufacturing employment increased from
21 million in 1999-2000 to 30 million in 2004-05, or nearly 50%
increase from employment in 1999-2000. But in the second
half, the absolute size of employment in non-manufacturing by
the end of the decade was 1.6 times compared to 2004-05, or
2.3 times relative to the level in 1999-2000. In fact, over the
entire decade there was an increase in non-manufacturing
employment by a total of 27.5 million jobs.

The most important contribution to the increase in non-
manufacturing employment over the decade came from con-
struction (the increase was 8.5 million during the first half,
while 18.1 million during the second half). Mining and quarry-
ing has seen a small increase in employment, and electricity,
gas and water supply have seen a very marginal increase.

Trade is far and away the most important contributor to em-
ployment in services of the 10 service activities mentioned in
Table 8. It accounts for a third of total services employment in
the economy both at the beginning and at the end of the
decade. It accounted for around 36% (nearly seven million)
the increase in employment that occurred in the services
sector in India in the first half of the decade. However, in the
second half of the decade, trade hardly saw any increase in
employment. The second-most important sector within services
is transport, storage and communication. It accounted for
15.5% of the total services employment, and on account of the
increase in employment that occurred throughout the
decade it accounted for 17% of total services sector employ-
ment at the end of the decade.

The third and most important segment in service sector
employment is public administration and defence, in which
there was a fall of nearly 1.6% in total employment in the first
half of the decade, followed by a slight increase in the latter
half. The important point is that compared to the beginning
of the decade public administration and defence had seen a
fall by 9.5% of total employment. At first sight this could be
interpreted as a positive development, given the fact that the
composition of employment within public administration in
particular is heavily biased in favour of lower level personnel,
or people with rather low levels of skills. For example, in the
central government only 12% of all employees are accounted
for by class A and class B group employees, while 88% of total
central government employees are accounted for by groups C&D.
Given that wages and benefits paid in government for levels
C&D are well above those which are available to employees in
the private sector at comparable level of employment and skills,
this is a situation which remains completely unsustainable.
Among the economic services it is notable that hotels and
restaurants have seen a sharp increase in employment of 1.5
million in the first half of the decade starting from a base of
4.6 million at the beginning of the decade. What is surprising
is that this growth was not sustained at all in the latter half of this decade and there was, in fact, no change in employment in this sector. The other important economic service which has shown, as expected, an increase in employment is banking and insurance in both the first and second half of the decade. Employment in banking and insurance, which was 2.25 million in 1990-2000, had risen to 3.82 million in 2009-10.

The other interesting sector in services is real estate in which there was a consistent increase in employment throughout the decade, from 2.7 million in 1990-2000 to 4.7 million in the middle of the decade, to 5.7 million at its end. This is hardly surprising given that both housing and infrastructure investment in the Eleventh Plan period has been growing rapidly. We saw above that construction contributed the largest increase in total employment in the economy in both the first and second halves of the 2000s. The increase in employment in real estate is a mirror image of the increased construction activity. We know that investment in infrastructure at the beginning (2007-08) of the Eleventh Five-Year Plan stood at 4.4% of GDP, but its share in GDP is expected to rise to 7.5% in the terminal year of the Plan. Hence it is not surprising that both construction (within industry) and real estate services have seen a consistent increase in employment.

One can foresee that this trend will remain unabated during the Twelfth Five-Year Plan. This is because investment in infrastructure is expected to grow from $500 billion during the Eleventh Plan to $1 trillion in the Twelfth Plan, i.e., nearly 10% of GDP. Even more importantly, the share of private sector in infrastructure investment, which was 30% of all infrastructure investment during the Eleventh Five-Year Plan is expected to rise to 50% at the end of the Twelfth Plan. In other words, the scope for an increase in employment in real estate services is going to be significant, just as the expansion of employment in the construction sector is going to increase during the Twelfth Five-Year Plan.

The somewhat intriguing results are in regard to employment in health and education services. Due to government investment in school education, especially the Sarva Shiksha Abhiyan, there has been an increase in the number of teachers hired by government schools throughout the country. Private school enrolment and hence teacher hiring have also increased. Hence it is not surprising that there was an increase in the number of those employed in education from 8.5 million in 1990-2000 by about three million in 2004-05. However, there was hardly any increase in employment in education in the latter half of the decade. Meanwhile, the education sector’s growth has remained robust: the growth rate of GVA between 1999-2000 and 2004-05 in education was 7.1% per annum, and it actually increased to nearly 8.4% per annum in the latter half of the decade.

Similarly, in health, which accounts for only a third of the employment generated by the education sector, there was a large increase in employment in the first half of the decade from 2.6 million to 3.3 million, but the increase in employment was marginal in the latter half of the decade. It appears that while the growth rate of GVA in health was robust (10.1% per annum) in the first half of the decade the GVA growth in the health sector declined to 4.2% per annum in the second half of the decade, which perhaps explains the rather small increase in employment in the health sector in the latter half of the decade.

With a persistent shortage of health workers, even post-National Rural Health Mission, there is a possibility that a greater thrust by government on the health sector will increase employment in the health sector in the Twelfth Plan. The share of manufacturing in GDP is supposed to rise from its current 15% to 25% by the end of the Thirteenth Five-Year Plan 2022 (Planning Commission 2011). However, manufacturing today accounts for 15.3% of GDP, which is not different from its 15.5% share in GDP in 1999-2000. The share of manufacturing in employment actually fell slightly from 11.1% of total employment in 1999-2000 to 11.03% in 2009-10. With increasing global integration, different technologies are being imported which to a considerable extent are labour-saving. It is important that savings generated in such sectors are diverted towards labour-intensive sectors including the social sectors (health, sanitation and education in particular) which will generate demand directly as well as indirectly through the multiplier effect (Ghosh 2011). If investment in the social sectors rises, disposable income with the consumers goes up, thereby leading to an increase in demand. In India, investment in social sectors has remained at a very low level, and therefore, domestic demand expansion through higher investment in the social sectors has not taken place. Further, the rise in interest rate has dampened investment growth. This can be one of the possible reasons why employment has not grown despite very high growth in output.

In other words, the challenge before the country’s policymakers is not only to increase the contribution of manufacturing to GVA in the economy, but also its contribution to employment – in a context wherein the last decade of rapid economic growth there has been almost no increase in the contribution of manufacturing to either output or employment in relative terms. Further, resource mobilisation from labour-saving sectors to labour-intensive sectors (including the social sectors) remains an important challenge for policymakers.

### 3.1 Employment Trends in the Unorganised and Organised Segments of Industry and Services

In Table 9 we provide a detailed analysis of organised and unorganised employment, for agriculture, industry and services for three points of time: 1999-2000, 2004-05 and 2009-10.

#### Table 9: Number of Workers by Sector (1999-2000, 2004-05, 2009-10; in million)

<table>
<thead>
<tr>
<th>Workers</th>
<th>1999-2000</th>
<th>2004-05</th>
<th>2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Unorganised</td>
<td>Organised</td>
</tr>
<tr>
<td>Agriculture</td>
<td>237.67</td>
<td>232.2</td>
<td>5.47</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>44.05</td>
<td>30.92</td>
<td>13.13</td>
</tr>
<tr>
<td>Non-manufacturing</td>
<td>20.84</td>
<td>13.89</td>
<td>6.95</td>
</tr>
<tr>
<td>Total services</td>
<td>94.20</td>
<td>65.62</td>
<td>28.57</td>
</tr>
<tr>
<td>Total workforce</td>
<td>396.76</td>
<td>342.64</td>
<td>54.12</td>
</tr>
</tbody>
</table>

Source: NSS.
Agriculture: We have already seen earlier that a structural change in terms of employment has hardly even begun during the period of rapid economic growth of the 2000s, despite rapid growth in industrial and services output. The numbers employed in agriculture at the end of the decade is, in fact, more than what it was at its beginning. The share of the organised segment of agriculture in total agricultural employment (238 million in 1999-2000 and 242 million in 2009-10) was barely 5.5 million at the beginning and fell further to 2.7 million workers at the end of the decade, while numbers in the unorganised segment slightly increased from 232 million to 242 million.

Manufacturing: In the first half of the decade there was a very sharp rise of 30% in unorganised employment in manufacturing (from 31 million to 40 million), but five million workers in unorganised employment in the manufacturing sector in 2004-05 had lost their jobs by the end of the decade; as a result total unorganised manufacturing employment had fallen to 35 million.

Organised manufacturing, which accounted for 30% of total manufacturing employment at the beginning of the decade, increased its share to only 31% by the end of the decade. In other words, to the extent that organised employment constitutes an improvement in the scale of decent work over unorganised sector employment (see Section 1), over the decade of rapid economic growth there was no improvement in this regard either (Goldar 2011a and b; Nagaraj 2011; Kannan and Raveendran 2009; Mazumdar and Sarkar 2004).

3.2 Informal vs Formal Employment in Organised Manufacturing

We have noted above, on the basis of an analysis of NSS data for 1999-2000, 2004-05 and 2009-10, that employment in the organised segment of manufacturing has grown from 13.13 million to 16.06 million (during the first half of the decade), and it remained there (16.03 million) during the second half of the decade. It is very important to emphasise that even in organised manufacturing employment, as defined by the NSS, there are both types of employment: formal and informal. We noted in Section 1 that the most decent form of employment would be formal employment in the organised sector of the economy.

In order to assess the size of formal vs informal employment in organised manufacturing over the past decade we examine data from the Annual Survey of Industries (ASI) for three points of time 1999-2000, 2004-05 and 2008-09 (the last year for which ASI data for organised manufacturing is available for 2008-09). The contrast between employment in organised manufacturing as defined by the NSS and the ASI definition is instructive. In 1999-2000 the NSS reports organised manufacturing to be employing 13.13 million workers, while ASI reports that the size of employment in organised manufacturing in the same year is less than half at 6.3 million. The definition that ASI uses for organised manufacturing is that the firms counted are those registered under the Factory Act 1948 employing 10 or more workers; this is a tighter definition than the one used by the NSS to identify firms in organised manufacturing. NSS captures manufacturing enterprises run by government (or included in the public sector) and cooperatives, trust and other types of private enterprises employing 10 or more workers – these belong to organised manufacturing. The latter definition includes both formal and informal employment (see Section 1 for the distinction), while the ASI’s definition is restricted mostly to formal employment. In other words, the difference between the ASI’s number for workers employed in organised manufacturing (6.3 million) and that of the NSS (13.13 million), is explained by the fact that 6.53 million of the 13.13 million in NSS’ organised manufacturing segment are mostly workers that would be regarded as contract or ad hoc labour (i.e., informal workers in the organised segment of manufacturing industry) (NCEUS 2008 and 2009).

By 2004-05 organised manufacturing by the ASI definition barely increased from 6.3 million to 6.6 million, while NSS reports that it grew by three million (13.1 million to 16.1 million). The NSS is reporting that by the broader definition of organised manufacturing, employment remained unchanged at 16 million between 2004-05 and 2009-10. However, the ASI is reporting that by the tighter definition (which focuses on formal employment mostly) it actually increased from 6.6 million to 8.8 million between 2004-05 and 2008-09, i.e., the share of formal employment in organised manufacturing increased.

3.3 Non-Manufacturing Industry

While employment in services and in manufacturing had increased sharply in the first half of the decade, in the second half employment in these sectors either increased slowly or fell. By contrast, employment in non-manufacturing industry, and especially construction, provided hope to the millions working in agriculture who wanted to leave agriculture in favour of employment in non-agricultural sectors. Mining saw an increase in employment from 2.17 million to 2.64 million in the first half of the decade, and a further increase to 2.95 million in the second half. Most of this increase was accounted for by the organised mining segment, while the unorganised segment saw only a very marginal increase in employment over the entire decade.

The star performer of all sectors in respect of employment, by far, was construction, which saw an increase in employment from 17.54 million to 26 million in the first half of the decade and a further increase to 44 million. Table 9 shows that there was a very sharp increase in employment in the unorganised segment throughout the decade. However, the most surprising phenomenon is that the organised segment of construction also saw very sharp increase in employment, from 4.6 million to 6.35 million in the first half of the decade. But the most stunning increase is the doubling of employment that occurs in organised construction in the latter half of the decade within a matter of five years from 6.35 to 14.91 million. This latter increase in organised construction’s contribution to employment growth could only be explained by the fact that there was a significant expansion of infrastructure investment during the Eleventh Five-Year Plan period from 4% of GDP at the beginning of the Plan increasing to 7.5% of the GDP in the terminal year of the Plan. While most of the increase in
unorganised sector employment in construction would be that coming from private development of housing, it is possible that the large-scale projects involving the construction of airports, metros, highways and express ways, urban flyovers and private ports, are likely to have involved such huge firms as L&T, Gammon India, GMR, Shapoorji and so on – all of which are likely to have employed workers directly on terms usually applicable in the organised segment, even though their sub-contractors would also generate significant employment in construction in the unorganised segment.

3.4 Services
In the latter half of the decade when manufacturing employment, both organised and unorganised, was declining, the organised segment of services continue to see a growth in employment. But the unorganised segment of services saw a fall in employment from 81.7 million to 80 million in the latter half of the decade. More than half of this decline in the unorganised segment of employment in services was accounted for by the decline in employment in wholesale and retail trade, which is perhaps a reflection of the overall fall in economic activity in the aftermath of the downturn of the Indian economy after the global economic crisis. Nevertheless, the experience of the 2000s suggests that organised segment employment may well continue to grow during the Twelfth Five-Year Plan not only in the construction sub-sector, but also in services. Both these sub-sectors seem to have survived the impact of the global economic crisis.

4 Summary and Policy Implications
4.1 Some Improvement in the Transition to Somewhat ‘Decent Work’
Our analysis so far suggests that there has been an increase in relatively decent, productive work in at least two senses. First, there has been an increase in the share of industry and services in total employment, with agriculture’s share in employment declining, and a corresponding increase in non-agricultural employment from 44% to 47%. In other words, there is not only an absolute increase in non-agricultural employment, where wages tend to be better than agriculture, but also an increase in the share of non-agricultural employment in the total employment in the country.

Organised segment employment has grown – from a share of 14% at beginning to 16% of total employment at the end of the decade – an absolute increase of 19 million workers. The growth of this share is a welcome development. But clearly, the shift is small in a whole decade of rapid growth of output, and that should be worrying to policymakers concerned about promoting decent employment.

4.2 Positive Dimensions of Recent Quantitative Employment-related Trends
First, for both rural and urban males there has been a significant rise in principal status employment since 1983, and this rise has been sustained in the second half of the 2000s. This implies that these workers are relying on one source of employment, rather than more than one.

Second, there has been a sharp decline in the number of those under 25 years of age in the workforce. This denotes a drop in the labour participation rate, and a future increase in the educational level of the young population joining the workforce – a definitely positive development.

Third, the worker population ratio for women has seen a decline since the 1980s. The decline is much greater for rural females than for urban females. It was rural females who have tended to remain outside the school system historically. We know that girls’ enrolment rates in school and college have been increasing consistently, not just at elementary level, but also at secondary level and above. Hence, the decline in the female-worker population ratio in the 0-24-year-age group for women is a welcome development in the latter half of the 2000s.

Fourth, unemployment rates between 1993-94 and 2004-05 by cns had increased consistently from 6% to 8.2% of the labour force. However, consistent with the increase in the growth rate of economy, the unemployment rate by the cds measure has declined in the latter half of the 2000s to 6.6% in 2009-10.

Fifth, there has been a secular rise in the real wage rate for both regular and casual workers. This is consistent with the rise in monthly per capita expenditure in both rural and urban areas, which has led to a decline in the incidence of poverty.

4.3 Employment Potential in Different Sectors
The period of 2004-05 to 2009-10 was unusual in that there was a lower than expected increase in the labour force participation rate, because of a decline in participation of youth and women in the labour force, since they preferred to enter education. However, this lower growth in the labour force in the latter half of the decade will not continue and the pace of employment expansion will have to increase outside of agriculture. Organised segment employment in construction may well also continue to grow. It is the increase in organised construction employment that has driven the relative rise of organised employment in the economy in the latter half of the 2000s.

Agriculture: There was an absolute decline in total employment in agriculture of approximately 14 million. One would have expected that at least in the allied activities in agriculture – horticulture, animal husbandry, forestry and fisheries – there would be an increase in employment. The latter expectation derives from the high income elasticity of demand for fruits and vegetables, eggs, meat and fish. It is indeed intriguing that employment in these activities declined in absolute terms from 50.8 million to 34.6 million in the latter half of the decade. Of this decline of 16 million, 11 million is accounted for by decline in employment in animal husbandry from 34 million in 2004-05, followed by a four million decline in horticulture. One can hypothesise about the reason why there is a decline in allied activities employment. A significant proportion of animal husbandry and horticulture activities are undertaken by women. With younger women in rural areas remaining
longer in education, and with males migrating for rural non-farm or urban work, the burden of such work is falling upon women. Women were already burdened with household chores, and with increasing work on the family farm producing essential food crops, these additional allied agricultural activities are getting squeezed out in terms of the woman’s time allocation. Clearly these allied economic activities in agriculture are in urgent need of policy support by both state and central government if they are to flourish, and employment in these activities is to be increased.

Non-Manufacturing Industry: Investment in mining will continue to increase during the Twelfth Five-Year Plan, as it will be in power generation. Although these two industrial activities are relatively small employers, the rising investment should generate a modicum of employment in these sectors. But the largest increase in employment throughout the decade of the 2000s has continued to take place in construction. Since infrastructure investment and investment in housing is expected to grow very sharply during the Twelfth Five-Year Plan, construction will continue to provide a source of escape for agricultural labour desirous of moving out of agriculture. Organised segment employment in construction may well also continue to grow. It is the increase in organised construction employment that has driven the absolute and relative rise of organised employment in the latter half of the 2000s.

Manufacturing: Manufacturing employment increased sharply in the first half but then declined in the latter half of the decade. The fact that it fell just when there was a sharp increase in manufacturing output should worry policymakers. Within manufacturing, which saw an increase in total employment in the first half of the decade by 11.7 million, a very sharp increase took place in the unorganised segment, of nearly nine million new jobs.

The increase in organised employment was just under three million in the first half of the decade. In the latter half of the decade there was no change in organised manufacturing employment, while the unorganised segment in manufacturing saw a precipitous decline of five million workers. Clearly the decade of the 2000s did not see any major change in the nature of the distribution of workers between the organised and unorganised segments of manufacturing.

The increase in manufacturing employment that took place through the decade was confined to informal employment. This is the long-standing trend where manufacturing industry has tended to avoid taking on workers on the regular payroll, but have hired workers during the period of business upswing on informal contracts (contract workers, ad hoc workers) and then let them go as the business cycle turned downwards. In other words, the structural change in the direction of more decent work that one might have expected in a rapidly growing industrial sector is nowhere in evidence. This should remain a serious concern for policymakers in both states and the central government during the Twelfth Five-Year Plan.

The hope of the new proposed National Manufacturing Policy (NMP) is that not only will manufacturing become an engine of growth during the Twelfth Plan, but it will also provide at least 100 million additional decent jobs. Without these jobs “it will be difficult for Indian growth to be inclusive” (Planning Commission 2011). There are a number of issues that are of concern in the NMP, as articulated in the approach paper to the Twelfth Five-Year Plan. First, despite the rather mixed experience with identifying growth sectors in the Eleventh Plan, the approach paper for the Twelfth Plan still goes ahead to identify so-called “priority sectors” (textile and garments, leather and footwear, gems and jewellery, food processing industries, handlooms and handicrafts). Apart from stating the self-evident that these sectors are labour-intensive, there is no analysis to suggest why these sectors will be able to generate any more employment than they are currently doing. In order to make projections for the future about the employment-generating capacity of any sector, a detailed sectoral analysis of the supply-side constraints within each sector and the factors determining demand would have to be undertaken, for such an identification by “priority sectors” to be meaningful.

A second issue in regard to the NMP is that it does not deal directly with one of the major threats to Indian manufacturing at home and abroad, i.e., Chinese-manufactured exports. A serious response to the threat of Chinese manufacturing can only be formulated by a detailed analysis of where the problem lies, both in terms of government policymaking and the private sector’s ability to meet the Chinese challenge.

Finally, a critical component of the strategy for achieving the ambitious goals of the NMP is the national investment and manufacturing zone (NIMZ), which will be greenfield towns that will develop to ensure agglomeration economies, superior infrastructure, no compliance burden, flexible labour market conditions and skilled labour. These conditions do not appear to be very different from the special economic zones (SEZs) which were earlier supposed to meet all the requirements for developing world-class manufacturing activity in India. It is not entirely clear why the NIMZ phenomenon, when implemented, will be able to solve all the problems besetting Indian manufacturing, and also result in a massive increase in employment, when the SEZ phenomenon failed to do so. In that sense the plan for creating NIMZ could well remain another fond hope.

Services: Services employment had increased between 1999-2000 and 2004-05 from 94.2 million to 112.8 million; however, in the latter half of the decade it has grown, but to a lesser extent. That seems to suggest that alongside construction, which has seen a huge boom throughout the decade in terms of output and employment, services may continue to be the absorber of workers during the Twelfth Five-Year Plan. Almost all the service sub-sectors experienced a robust growth of GVA both in the first half as well as the second half of the decade. It is remarkable that in the latter half of the decade when manufacturing employment, both organised as well as unorganised,
was declining, the organised segment of services continued to see a growth in employment. But the unorganised segment of services saw a fall in employment. Nevertheless, the experience of the 2000s suggests that organised segment employment may well continue to grow during the Twelfth Five-Year Plan not only in the construction sub-sector, but also in services. Both these sub-sectors seem to have survived the impact of the global economic crisis.

We put forward some hypotheses as to why employment manufacturing fell and in services barely increased in the latter half of the decade, in contrast to the first half. These hypotheses (bring wages and changes in the composition of output, i.e., more capital-intensive products being produced) are being explored by us in research projects at the Institute of Applied Manpower Research (Planning Commission) currently.

4.4 Policy Implications of Some Qualitative Dimensions of Employment

(a) The increase in the middle and larger enterprises, by size class of employment and the decline in the share of the micro-enterprises in total employment bode well for the future ability of workers to organise themselves, to demand their rights. The more fragmented workers are in tiny enterprises the more difficult it is for the government also to provide them with services like credit, marketing support or design support (Mehrotra and Biggeri 2007). Further, the rise in the share of enterprises employing slightly larger number of workers is a welcome development from the viewpoint that there has historically been a problem in India of the “missing middle” in respect of size of enterprise. The recent developments seem to somewhat mitigate that problem.

(b) We noted that unemployment as estimated by upps measure increased with increasing levels of education of workers. The problem of unemployment of the educated can only be addressed by improving the match between the skills and competencies imparted in education and the needs of industry. This requires greater industry participation at every level of vocational education and training: at secondary and higher secondary levels in schools, at polytechnic level, and in higher education as well. These tasks will be facilitated with the rapid introduction of a competency-based vocational education and training system, based on a National Vocational Education Qualification Framework (Mehrotra et al 2011). This process has been set in motion, but it is critical for its success that all the 17 ministries of the Government of India come on board on one qualification framework for this country, and the private sector (represented by the National Skill Development Corporation—supported sector skills councils) plays a pivotal and cutting edge role in its implementation.

NOTES
1 Annual rate of growth of employment relative to annual rate of growth of GVA.
2 Anant and Mehta (2011) point out that employment on account of subsidiary status, females and the young in 2004-05 shows an increase from 1999-2000, which marks a break in this long-term pattern of decline. If we omit the data for 1999-2000, then the broad pattern of decreasing WPRs in these three categories is maintained. They also note that “what confounds the picture is the fact that in 1999-2000 we have a much sharper fall in WPR in these categories, leading to a correction”, which leads to an apparent rise in WPR between 1999-2000 and 2004-05. They note that this phenomenon has been explained by some as resulting from an employment slowdown in the 1990s, or due to the fact that 1999 was an unusual year on account of a recession. In either case the results are an illusion created by the 1999-2000 survey.
3 The unorganised sector consists of all incorporated private enterprises owned by individuals or households engaged in sale and production of goods and services operated on a proprietary or partnership basis and with less than ten total workers.
4 Unorganised/informal workers consist of those working in the unorganised sector or households, excluding regular workers with social security benefits, and the workers in the organised/formal sector without any employment and social security benefits provided by the employers.
5 It is possible that NSS data is not capturing the full extent of employment in mining in its unorganised segment, given large and growing evidence emerging over the decade of large-scale illegal mining taking place in many mining states of the country (Chhattisgarh, Jharkhand, Andhra Pradesh, Orissa and Karnataka). It is perfectly possible that these workers in illegal mining were instructed not to report where they were working for fear of being identified as engaged in illegal activity.

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