



# Structural Change in Employment and Unemployment in India

# 8

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## 8.1 Employment

As per the Periodic Labour Force Survey, 2017–18, total employment (PS + SS) in the economy is estimated at 472 million, which is almost the same as estimated in the 68th NSSO Employment and Unemployment, 2011–12. This stagnation in job creation in the economy is more worrying when during the same period the production, in terms of GDP, in the economy has grown at a good rate. This clearly indicates that the additional production in some of the sectors is not able to create additional jobs. It is important to find out which these sectors are.

Agriculture continues with the trends of shedding jobs. There is a decline of about 16 million jobs in the sector between 2011–12 and 2017–18, compared to about 19 million between 2011–12 and 2009–10 and 14 million between 2009–10 and 2004–05. Its employment share in the economy has also declined to 44% in 2017–18. It is expected that in the process of development the additional labour force will shift out of agricul-

ture. However, this magnitude of decline in employment in the sector requires careful interpretation (Table 8.1).

In the course of the development process, it is expected that the industry sector will absorb the additional labour force as the productivity is higher in the sector than the agriculture sector. However, the performance of the industry sector on employment front does not seem to be creating jobs to compensate for the decline in agriculture. The industry sector could add only about one million jobs between 2017–18 and 2011–12, which have been inadequate to absorb the shift in the labour force from the agriculture sector. Moreover, about four million jobs have declined in the manufacturing sector, which is a vibrant sector of the economy and expected to provide quality jobs. The construction sector has created an additional about four million jobs during this period.

The service sector has added about 14 million jobs between 2017–18 and 2011–12 compared to 16 million between 2011–12 and 2009–10. It contributes about one-third (31%) of the total employment in the economy (Table 8.2).

One of the reasons for the decline in the jobs in the manufacturing sector is the decline in the employment elasticity in the sector. As per estimates, the employment elasticity in the sector has declined to 0.10 between 2004–05 and 2011–12 (Table 8.3).

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**Table 8.1** Sectoral employment (person in Million PS + SS)

	Agriculture	Industry	Manufacturing	Construction	Services	All
1993–94	239.4	56.0	39.7	12.2	78.6	374.2
1999–00	239.9	64.7	43.7	17.5	92.9	397.1
2004–05	257.9	86.3	56.2	26.0	112.7	456.7
2009–10	243.6	98.5	50.4	44.0	116.3	457.9
2011–12	224.3	116.4	61.4	49.9	132.0	472.6
2017–18	208.2	117.5	57.1	55.2	146.4	472.1

Source: Computed from various rounds of NSSO

**Table 8.2** Sectoral share in employment (in %)

Year	Agriculture	Industry	Manufacturing	Construction	Services	All
1993–94	64.0	15.0	10.6	3.3	21.0	100
1999–00	60.4	16.3	11.0	4.4	23.4	100
2004–05	56.5	18.9	12.3	5.7	24.7	100
2009–10	53.2	21.5	11.0	9.6	25.4	100
2011–12	47.5	24.6	13.0	10.5	27.9	100
2017–18	44.1	24.9	12.1	11.7	31.0	100

Source: Computed from various rounds of NSSO

**Table 8.3** Manufacturing sector

Periods	GDP growth (%)	Employment growth (%)	Employment elasticity <sup>a</sup>
1993–94 to 1999–00	7.4	1.68	
1999–00 to 2004–05	6.0	5.72	0.80
2004–05 to 2009–10	10.1	–2.06	–0.27
2009–10 to 2011–12	8.1	10.91	1.74
2004–05 to 2011–12	9.5	1.32	0.10

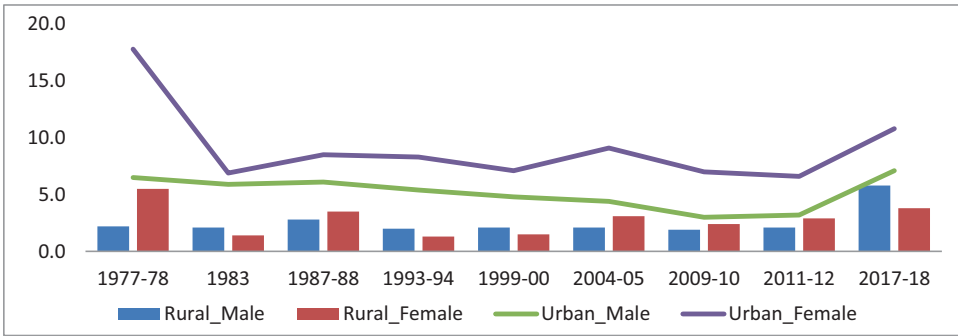
Source: Computed from various rounds of NSSO

<sup>a</sup>Estimated using the CAGR Approach by Sangita Misra and Anoop K Suresh, “Estimating Employment Elasticity of Growth for the Indian Economy”, W P S, RBI, (DEPR): 06/2014

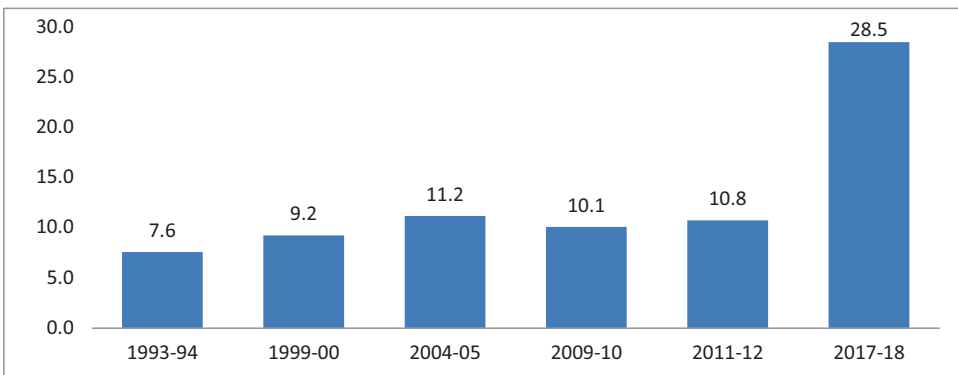
## 8.2 Unemployment

As per the latest report on employment–unemployment situation (Periodic Labour Force Survey, 2017–18 of the National Statistical Office), the unemployment rate is estimated at

6.1% at the all India level as per the Usual Status criterion, which confirms that the unemployment rate is not only on the rise in the country, but also is at an all-time high. It has been highest since 1977–78 among the males in the rural and urban areas and highest since 1983 among the females in the rural as well as urban areas (Fig. 8.1). Further, between the sexes, the unemployment rate is higher among the urban females at 10.8%, than their male counterparts, estimated at 7.1%. In the rural areas, the male unemployment rate estimated at 5.8% exceeds the female rate at 3.8%. The rate being the highest among the urban females does not come as a surprise because many of the urban females are educated and can afford to wait for long till a job of desirable status becomes available as they may not be the principal earners. The unemployed persons in 2017–18 have more than doubled to 28.5 million from 10.8 million in 2011–12 (Fig. 8.2). Before that, the number of unemployed persons was hovering around ten million in the country in 1999–00, 2004–05 and 2009–10. The rise in unemployment in the recent years is also due to an addition of about 18 million persons in the labour force in 2017–18 over 2011–12, although only 0.5 million net jobs were added during this period. The rural and urban dynamics shows a different pic-



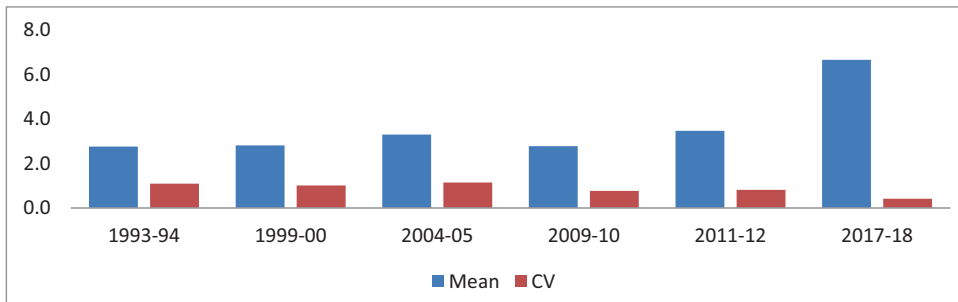
**Fig. 8.1** Unemployment rate (in %): NSSO various rounds



**Fig. 8.2** Number of person unemployed (in million)

ture. In the rural sector, between 2011–12 and 2017–18, about 17.7 million jobs have declined while about 18.3 million have been added in the urban sector. On the labour force side, about 26.4 million persons have been added to the urban labour force whereas there is a decline of 8 million persons in the rural sector during this period. These could be the reasons for why the rural male unemployment rate which usually hovered around a low of 2% or so in the past suddenly shot up and even exceeded the female unemployment rate. Among the females, the phenomenon of ‘discouraged dropouts’ from the labour market is common. With the lack of rural diversification resulting in shrinking job opportunities, the rural women are not unlikely to quit the labour market. On the other hand, the PDS and a number of schemes available for the rural population might not have allowed the spillage of unemployment to cause a deterioration in the consumption poverty.

Relating to unemployment, there are two features which stand out sharply. First, the acceleration in the unemployment rate has occurred across states. There are a number of states which have crossed 5% unemployment rate. These are Goa, Manipur, Kerala, Mizoram, Nagaland, Haryana, Assam, Punjab, Jharkhand, Tamil Nadu, Uttrakhand, Bihar, Odisha, Tripura, Uttar Pradesh, Arunachal Pradesh, Himachal Pradesh, J&K and Rajasthan. In fact, the unemployment rate in some of these states has reached double digits, viz., Goa, Manipur, Kerala, Mizoram and Nagaland. In comparison, in 2011–12, there were only three State/UTs, Tripura, Nagaland and Lakshadweep, which had a double-digit unemployment rate. Even an unemployment rate of 5% was not recorded in too many states or UTs (in addition to the three mentioned above four more, Kerala, Assam, Chandigarh and Andaman and Nicobar, belonged to this list in 2011–12). Further, another important feature of the regional



**Fig. 8.3** Mean and CV of state-wise unemployment rates (%)

unemployment rate is that across the states the variation has declined since 2009–10, as reflected in the declining coefficient of variation (Fig. 8.3). This indicates that the convergence of the unemployment rate across states is in place: The deterioration on the employment front is very much evenly distributed spatially. However, there could be another side to this which need not involve a gloomy interpretation of the data. After all, in a poor region/country it is difficult to afford unemployment for long and thus the usual status of unemployment rate was always low in the past. Given the availability of the consumption support schemes particularly in the rural areas as mentioned above, the rising opportunities for the young educated and school drop-out young adults to migrate, thanks to the contractors, have raised remittance flow, which in turn may have reduced the compulsion for the non-migrants to pick up petty and low-productivity jobs. For a long time in the informal economy, which for many it is the ‘employment of the last resort’, the situation of excess-supplies-limited-demand was prevailing widely, leading to large-scale under-employment and a residual absorption of labour in low-productivity activities. The wages varied widely across activities, leading to a multi-modal wage distribution within this sector, though on an average low labour productivity, meagre earnings, poor hiring conditions and the lack of upward mobility add up to what is called the lack of ‘decent employment’. Possibly within the informal sector, some of the jobs are fetching higher earnings and given the well-knitted support structure the desperation to strive hard is on the decline.

This note focuses more on the two questions as to why there is acceleration in the unemployment rate across states in the recent years and what explains a decline in the state-wide variation in the unemployment rate.

In spite of rising business subcontracting from the formal to the informal sector, evidence of rising real wages within the informal sector is rather scanty, which is aggravated by the existence of multi-layers of intermediaries/contractors.

The common perception about unemployment is that high and rising unemployment rates are a reflection of disequilibrium in the economy, which may further aggravate the social and economic problems. What is causing high unemployment rate is even more important to understand. As the economic literature also suggests, it may increase in response to development and structural change taking place in a country. This note is a preliminary observation focussing on the economic transitional processes which involve structural changes in economic development, labour force participation and its sex composition, educational and skill attainment and urbanisation pursuits and have the capacity to influence the unemployment rate.

### 8.2.1 Results and Discussion

There are some empirical studies which systematically studied the relation between unemployment rate and development. The work by Caselli (2005) plotted the unemployment rates against log per capita income, showing that contrary to common perceptions, unemployment rates are

not higher in poorer countries. Feng et al. (2018) analysed household surveys or censuses of 199 country-year surveys, covering 84 countries, and spanning from 1960 to 2015 and observed that the unemployment rate is increasing in response to GDP per capita and the highly educated workers are more likely than the low-educated workers to be unemployed in poor countries.

The literature providing evidence for skill-biased technological change in the rich and poor economies also argues that the unemployment rate among the skilled workers should decline with increase in development and technological change. Banerjee et al. (2016) estimated a negative correlation between the logarithm of observed GDP per worker and the unemployment rate of skilled workers at  $-0.428$ .

Lewis (1954) and Harris and Todaro (1970), using a two-sector model, documented that labour shifts from the traditional low-productivity sector (rural) to the modern high-productivity sector (urban) in the course of development. The high unemployment rate in the urban sector prevails mainly because of migration of surplus labour from the rural areas, which accelerates with an increase in connectivity between the two sectors. This may be taken to argue that higher levels of urbanisation may correspond to higher unemployment rates. Further, the most mobile and capable labour force is likely to migrate from the rural to urban areas, which may decrease the labour force and the unemployment rate in the rural areas.

This gives us a clue to understand the new trends in unemployment in response to development indicators, such as education, skills, urbanisation and the share of traditional sector.

## 8.2.2 Development and Unemployment Rate

Employment is likely to increase with improvement in the level of development (indicated in terms of per capita income). The mechanism works through production processes where more and more labour is utilised to produce more out-

put and income. However, the unemployment may increase with increase in per capita income for several reasons. First, the production process may utilise less labour with change in production technology and may not keep up the pace with increase in the labour force. Further, the income may disproportionately originate from the sector which employs a very small segment of labour on account of productivity gains. Moreover, income generation may be limited to a small section of the labour force without employing more labour.

Graph 8.1 plots the unemployment rate (axis vertical) against the log of per capita income of a state (horizontal) year-wise. It shows no concrete association between the two. The correlation coefficient is weak (except 2011–12) and statistically insignificant. The evidence can be taken to suggest that there is no concrete association between growth and unemployment rate in India. This weak association is consistent over the years. The direction of their association is also not clear. Therefore, one is not sure whether the unemployment rate is higher in poor states or whether it is lower in better developed states, vice versa.

### 8.2.2.1 Structural Change and Unemployment Rate

The unemployment rate is likely to increase during the structural change in the economy. There are several reasons for this. First, disguised unemployment is likely to become more visible once the activity status changes from the farm to the non-farm sector. For example, members of the households engaged in the farm sector, assisting, partly or wholly, in farm activities are more likely to admit that in the non-farm sector they do work as per principal or subsidiary status. However, once the family starts working in the non-farm sector, the labour of all other members may not be utilised as it was possible in agriculture. The family leaving the farm sector may also have their threshold wage limit and job preferences, which increase the duration of remaining unemployed with a view to finding a suitable work. Third, a better-educated person of a farming family may disassociate himself as a worker



**Graph 8.1** Unemployment rate % and Percapita Income of States in India

in agriculture but may still claim as part of the labour force looking for work in the non-farm sector. Fourth, the capital-intensive technology in the agriculture sector frees up labour who may not find an alternative livelihood option elsewhere.

Graph 8.2 plots the unemployment rate against the share of workforce employed in agriculture, which shows a relatively strong association between these two over the years. The statistically significant negative correlation between these two range between  $-0.6$  and  $-0.8$  (except for 1993–94) at different points in time from 1993–94 to 2017–18. This shows that the states where the agriculture share of the workforce is low are also the states with higher unemployment rates, and vice versa. This change in the rural sector of moving away from agriculture to non-agriculture has been strongly associated with the unemployment rates.

These trends of declining workforce in agriculture are likely to continue for several reasons. First, the operational holding size is declining

over the years, making survival on land alone difficult or making the holding unviable. An NSSO survey found that about 70% of the farmer households are spending more than what they are earning. Second, the productivity in agriculture is relatively low compared to non-farm and other modern sector activities. The preference of the farmers is changing, as reflected in the NSSO surveys to suggest that about 40% of the farmers want to leave the profession given the option (Agarwal et al. 2016).<sup>1</sup>

### 8.2.2.2 Education, Skill and Unemployment Rate

Education is likely to increase unemployment for several reasons. First, education and skills raise the threshold wages of a potential worker who may prefer to remain unemployed, and keep searching for suitable jobs. Second, education

<sup>1</sup>Agarwal, Bina and Ankush Agrawal (2016), “To farm or not to farm? Indian farmers in transition, Global Development, Institute Working Paper Series: 001.”



**Graph 8.2** Unemployment rate (%) and Share of Agriculture in workforce (%)

and skills also have the potential to change the job preference of a potential worker, and therefore, they may prefer to remain unemployed till a suitable job is found.

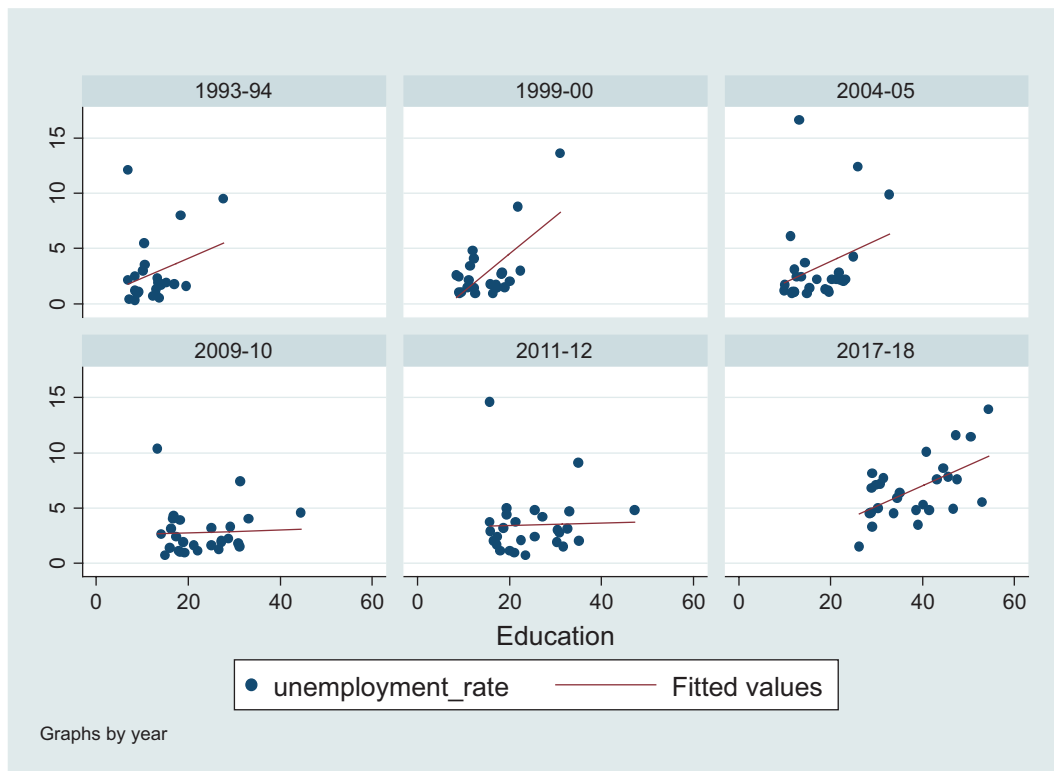
On the other hand, in the short run, participation in education and skill may delay the labour force participation. The demand for new skills has risen in the recent past on account of improved premium on education and skills due to skill-based technological progress in the organised industry and services activities. The skill premium on higher education may hold millions in the educational institutional for knowledge gain/skill development but this being a temporary phenomenon, education is more likely to increase the unemployment rate in the economy.

Graph 8.3 plots the unemployment rate against the percentage of persons having 'secondary and above education'. It shows a positive association between these two. The positive correlation coefficient is found to be strong and statistically significant in 1999–00 and 2017–18

while for other years it is weak, positive though. The states with a higher percentage of population having relatively higher education and skills are more likely to observe higher rate of unemployment.

### 8.2.2.3 Urbanisation and Unemployment Rate

Urbanisation is an important economic transition process. States in India are witnessing variation in their level of urbanisation. Even if the official urbanisation rate is moderate, the large-scale emergence of census towns in 2011 is a strong witness to the rapid transformation that is taking place in the rural areas. The possibility of disguised unemployment in the urban labour force is low compared to the rural areas and therefore, with an increased urbanisation process the unemployment rate also becomes more visible. Besides, frictional unemployment and technological unemployment are also part of the urban labour force in the relatively skilled jobs.



**Graph 8.3** Unemployment rate (%) and Secondary and above education persons (%)

Graph 8.4 plots unemployment rates against the percentage of urban population and it important to note that no concrete association between the two is evident until the year 2017–18 for which the correlation is strong, positive and statistically significant.

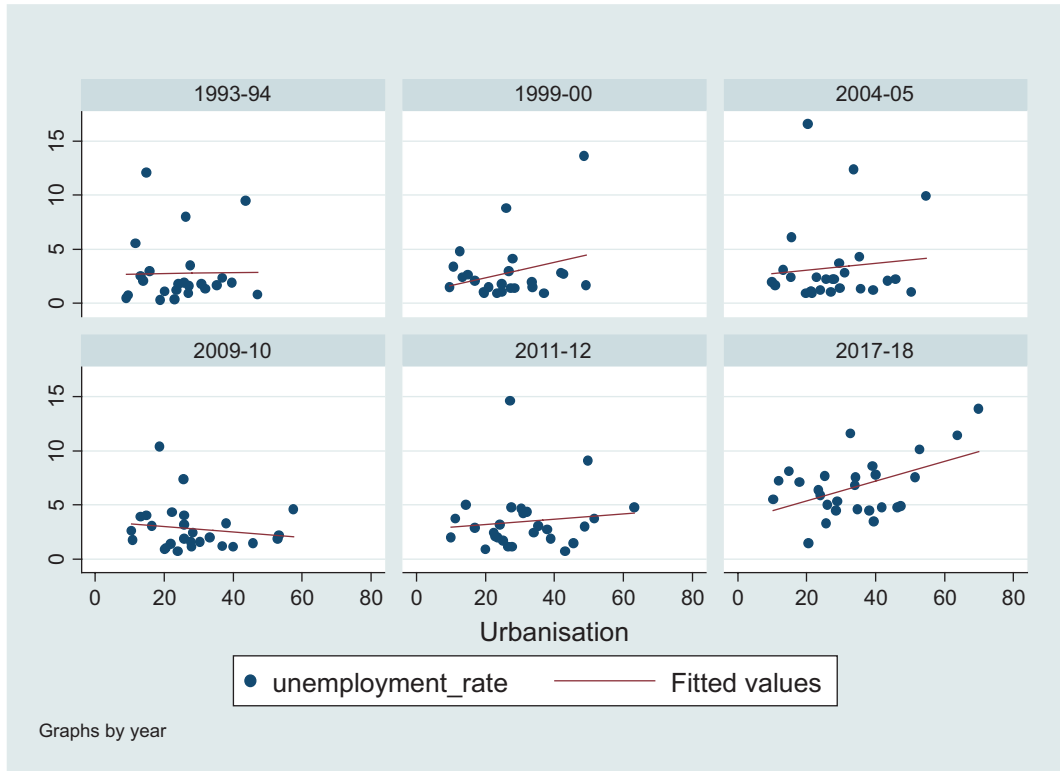
### 8.3 Conclusions

There is acceleration in the unemployment rate in the recent years along with the convergence of unemployment rate across states. The stagnation in job creation and decline in the total employment in the manufacturing sector and the structural changes in the economy appear to be pushing the unemployment level up. Though per capita income as such is not seen to be related to unemployment rate across states and over time, the structural change and educational attainments do unravel a strong effect. The changes in the rural sector with a declining dependence on

the farm sector are associated with a rising unemployment rate. Though water scarcity and low crop diversification are prevalent, new processes of contractor-led single-member migration from rural households and remittance flow, emergence of new non-farm activities and consumption support schemes are instrumental to the new transformations occurring in the rural areas and their transition to urban space. Besides, the association of the unemployment rate with educational attainments and the urbanisation–unemployment nexus observed from the recently released periodic labour force survey data are testimony to the brighter side of the development story of India.

It is also noted from the recent data that the share of the informal sector in total employment has declined compared to the earlier NSSO's enterprise survey results relating to the usual status workers. The rise in the unemployment rate as seen in the backdrop of the falling share of the informal sector employment offers space for





**Graph 8.4** Unemployment rate (%) and Urbanisation

interpretation that negates the desperation of the workers to join the informal sector, keeping the open unemployment rate low.

While pessimism gathering around the rising unemployment rate needs to be controlled, it is equally important to pay attention to the larger issue of employment creation. Since wage employment cannot be provided on a large scale, there is need to promote entrepreneurship by creating a facilitating environment for start-ups, innovations etc. Keeping in view the skill gaps in various activities, emphasis has to be given on vocational education and training which can be integrated with the general education system. Instead of confining training to the initial entry level in jobs, up-skilling/re-skilling would be necessary to adjust to the requirement of the changing economy. It also requires availability of adequate training infrastructure and considerable improvement in the quality of these institutions. Further, interventions for the provision of on-the-job training is important as with increasing contractualisation the employers do not have any

interest in providing training to the employees. The other aspect relates to the geographical location of the skill-imparting institutions. Unless the low-income households both from rural and urban areas are able to access skill, the transfer of labour from low productivity to high productivity activities would remain unrealised. However, from the demand side, it is equally important that high productivity job opportunities must grow rapidly so that labour can be motivated to acquire skills and make itself employable. Hence, the relevance of the growing business environment cannot be overlooked. The new technology with its high dependency on capital intensity is expected to pose serious challenges to employment creation both in the manufacturing and in the services sector. Without major scale effects in place, how are the dual objectives of growth with employment generation to be realised then? Often, we do not realise the importance of adequate purchasing power, the lack of which may result in economic deceleration, making growth unsustainable in the long run.

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