



# Harnessing Demographic Dividend Before it is Lost Forever in India

Jajati Keshari Parida<sup>1</sup> · S. Madheswaran<sup>2</sup>

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## Abstract

Based on the secondary data taken from Population Census, and the Employment-Unemployment Surveys and Periodic Labour Force Survey of the National Sample Survey, it is found that Indian economy is passing through a critical phase of economic development in which it is likely to lose its demographic advantage. Because, in India while about 4.5 million people were leaving agriculture every year prior to the Covid-19 pandemic years, the non-farm sectors job was not growing adequately to accommodate the persons leaving agriculture, and the newly educated non-farm job seekers. As a result there was an upsurge in educated youth unemployment (18% and about 24 million) rate, and hence the discouraged youth labour force. On the other hand, an increase in the share (from 8.0 to 10.2%) and growth (3.0–5.1%) of elderly population put a question on the process of harnessing demographic dividend in India. Based on these findings it is argued that an integrated approach of development is necessary to boost the labour force participation of youth and overall population to boost the growth of per capita national state domestic product (NSDP) in Indian states. This could be achieved through the promotion of micro and small enterprises along with infrastructure development along with a systematic emigration and remittances policy.

**Keywords** Demographic transition · Youth LFPR · Industrial development · Demographic dividend

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✉ Jajati Keshari Parida  
jkparida@uohyd.ac.in

S. Madheswaran  
madhes.hina@gmail.com

<sup>1</sup> School of Economics, University of Hyderabad, Gachibowli, Hyderabad 500046, India

<sup>2</sup> Institute for Social and Economic Change (ISEC), Naagarabhaavi, Bengaluru, Karnataka 560072, India

## 1 Introduction

The changing age structure of the population can have positive implication on the economic growth and overall welfare of a country (Lee and Mason 2006; Gribble and Bremner 2012). The demographic dividend can be defined as the process of acceleration of economic growth owing to the changes in the age structure of a country's population with the transitions from high to low birth and death rates, resulting in a higher share of working age population. The Indian economy was passing through a phase demographic dividend, in which the share of working population was the highest (Aiyar and Mody 2011; Joe et al. 2018; Mehrotra 2015). But with falling total fertility<sup>1</sup> rate, the share of elderly population has started rising (it increased from 8.2% to about 10.2% during 2011–12 and 2018–19).

In this context, the decline of overall labour force participation rates (Kannan and Raveendran 2019; Parida 2015; Mehrotra and Parida 2021) and an upsurge in youth unemployment (Mehrotra and Parida 2019, 2021), have certainly put questions on the process of harnessing demographic dividend (which is going to disappear during post 2040, and India will become an ageing society for ever) in India. Since the structural transformation, which began during post 2004–05 seems to be stalled during 2017–18 (Mehrotra and Parida 2021), the rising enrolments in higher educational institutions (in general, technical and vocational education) in recent years (Kannan and Raveendran 2012; Mehrotra and Parida 2019) is likely to exacerbate the problem of educated youth unemployment and employability issues. Hence, the main objective of this paper is to examine the pattern of youth unemployment in India, and to identify the sectors in which educated youth could be accommodated. Moreover, this paper provides a discussion on effectiveness of the previous policy measures, and suggests measures to reduce the extent of youth unemployment in order to sustain the process of economic growth in India.

This paper is organized in seven sections. Section provides the introduction. Section two provides the sources of data and outlines the econometrics methods. Section three provides regression results and discussion. Section four details the context of losing demographic dividend in India, while section five explains the broad sectoral youth employment trends, quality of jobs and the situation of rising unemployment and its implications on poverty in India. Section six provides a discussion on the effectiveness of past and present initiatives of the government. It also outlines a road map that could help in tackling the problem of rising youth unemployment so as to sustain economic growth in India. Finally, section seven concludes the paper.

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<sup>1</sup> As per the Census population projection (by Govt. of India), Total Fertility Rate (TFR) is expected to decline from 2.34 during 2011–2015 to 1.72 during 2031–2035 and it will continue to decline at this pace.

## 2 Data and Methods

This paper is based on secondary data. The major sources of secondary data includes: National Sample Survey Organisation (NSSO), the Periodic Labour Force Survey (PLFS) and Census of India. Employment indicators like workforce, labour force, unemployed, Not in Labour Force Education and Training (NLET), labour force participation rate and unemployment rates etc., are calculated using both NSS and PLFS data. NSS and PLFS estimates are adjusted further to the projected census population to obtain absolute numbers. Both employment and unemployment figures are computed using the Usual Principal and Subsidiary Status (UPSS) of persons. The sectoral employment, formal-informal employment etc., are computed using other information like National Industrial Classification (NIC) codes, enterprise type, number of workers in the enterprise, types of job contract, availability of social security benefits etc. The enterprise survey conducted during 2010–11 (67th round) and 2011–12 (73rd round) are also used to provide a broad picture of informality by estimating the number and share of un-registered and informal enterprises.

To examine the impact of labour force participation on per capita gross state domestic product (GSDP) (proxy for the demographic dividend), we have estimated dynamic panel data regression models. Since, we have a short panel (number of cross sects. (27 states<sup>2</sup>) greater than number of years (15 years<sup>3</sup>), the system Generalized Method of Moments (GMM) method developed by Arellano and Bover (1995) and Blundell and Bond (1998) is preferred to pooled Ordinary Least Square (OLS) regression model. This method of estimation not only produces unbiased and consistent estimators in presence of potentially endogenous regressors, but it also overcomes the possible heteroscedasticity and autocorrelation problems in the data. According to Roodman (2009), the system GMM is an augmented version of the difference GMM (developed by Arellano and Bond, 1991) with an additional assumption that first differences of instrumental variables are uncorrelated with the fixed effects (See Eq. 9a and 9b), which allows the introduction of additional instruments that can improve the level of efficiency considerably. The estimated system GMM results based on the two step method is given in Table 1. These results satisfy both Sargan's and Hansen's over identification of instruments test, and Arellano-Bond autocorrelation tests. Hence, the estimated results are robust.

## 3 Econometrics Results

The system GMM estimates (see Table 1) suggest that the growth working age population has positive impact on the per capita NSDP in Indian states during the period 2005–2019. Hence, a slowdown of the working age population due to recent fall in the fertility rate may hamper the growth of per capita NSDP.

<sup>2</sup> Out of 29 states of India two states viz., Meghalaya and Sikkim were excluded from the dynamic panel data regression modeling because of non-availability of data on the length of railway routes in these states.

<sup>3</sup> From the year 2005 to 2019.

**Table 1** Determinants of per capita NSDP in India (the system GMM results)

List of control variables	(Model 1)		(Model 2)	
	Coefficients	<i>t</i> -value	Coefficients	<i>t</i> -value
Growth of Working Age Population	1177.4	2.43**	1141.3	2.38**
Labour Force Participation Rate (Overall)	0.00002	2.62**	–	–
Labour Force Participation Rate (Youth)	–	–	0.0001	2.42**
Log of GCF	2.491	2.09**	2.438	2.03**
Growth of No. of Industry	1.11	3.05***	1.118	3.07***
Growth MPCE	321.6	10.3***	320.2	10.02***
Lag (1) NSDP-Per Capita	1.086	382.2***	1.086	374.7***
Constant	– 6001.7	– 8.37***	– 5970.1	– 8.3***
Observations	406		406	
No. of Instruments	22		22	
Arellano-Bond AR1 ( <i>p</i> -value)	0.032		0.032	
Arellano-Bond AR2 ( <i>p</i> -value)	0.339		0.339	
Sargan ( <i>p</i> -value)	0.000		0.000	
Hansen-J ( <i>p</i> -value)	0.162		0.160	
F Statistic (6, 28)	218,493.43***		227,194.06***	

Source: Authors Estimation using macro level data.

Calculated *t*-statistics are given in parentheses, \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.010$

In order to off-set the likely negative impact owing to the slowdown of the growth of working age population (due to falling fertility rate), the labour force participation rate (LFPR) of the overall population and youth in particular need to be improved substantially. The coefficients of overall LFPR in the first model is (0.00002) positive and statistically significant, but its absolute value is quite low. Similarly, coefficients of youth LFPR in the second model is also quite low (0.00001) though positive and statistically significant. These facts suggests that the LFPR needs to be increased substantially in order to harness the demographic dividend in Indian states.

In this context, the growth of gross capital formation (GCF or investment on capital goods) and growth of industries are crucial. The coefficients of growth of GCF are positive and statistically significant in both the equations. Similarly, the coefficients of growth of industries is positive and statistically significant in both the equations. These coefficients suggest that both growth of GCF and growth of industry are playing important roles in driving the growth of per capita NSDP in Indian states. Hence, an increased level of GCF through an increased number of industries through measures for industrialization would help reap the benefit of demographic advantage. An increase in investment in infrastructural development and along with a pro-industrial growth policy will foster growth of per capita NSDP in Indian states.

**Table 2** Demographic and employment profile of India, 1994–2019

Indicators by age groups	Absolute numbers (million)				
	1993–94	1999–2000	2004–05	2011–12	2018–19
	Total population (all ages)				
Population	891.6	1007.0	1092.8	1227.6	1328.1
Workforce (UPSS)	374.0	399.5	459.1	474.2	468.8
Unemployed (open)	7.2	9.0	10.8	10.6	29.0
<i>Youth (age 15 to 29 years)</i>					
Population	239.8	264.8	289.2	329.6	361.8
Workforce (UPSS)	133.7	137.4	154.1	138.0	113.8
Unemployed (open)	6.4	7.8	8.9	9.0	23.9
<i>Elderly (age 60 years and above)</i>					
Population	59.1	70.9	78.6	100.3	134.8
Workforce (UPSS)	25.3	27.0	30.9	37.1	38.7
Unemployed (open)	0.01	0.03	0.05	0.03	0.12

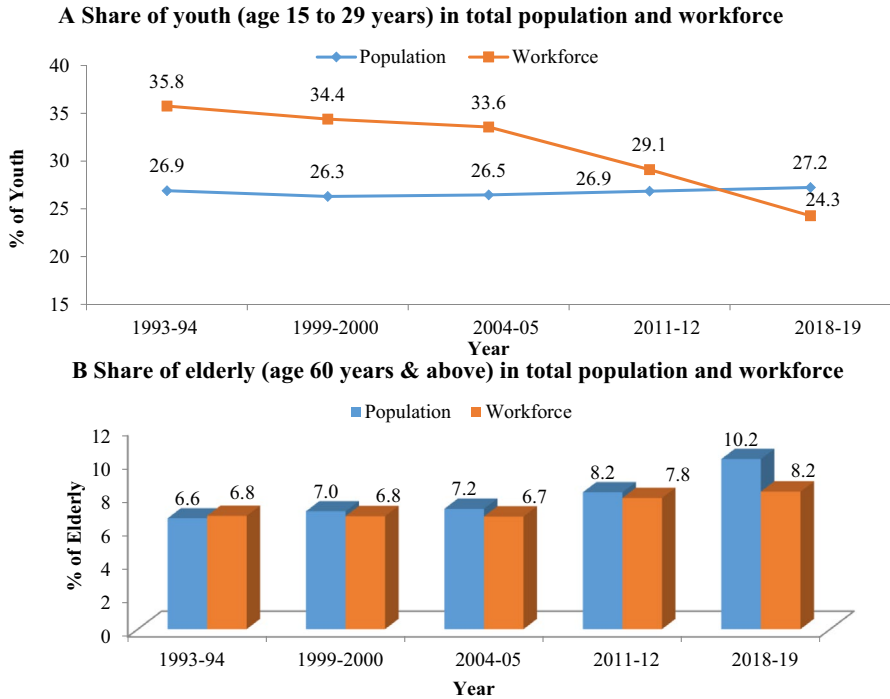
Source: Author's estimation based on NSS and PLFS unit level data, and Census projected population for respective survey years.

#### 4 Demographic Dividend is at the Cross-Road in India

The total population in India continued to increase from about 0.89 billion to about 1.33 billion during 1993–94 and 2018–19 (Table 2). During this period, the number of youth (age group 15 to 29 years) increased from about 240 million to 362 million, while number of elderly population (age 60 years and above) increased from 59 million to about 135 million (a massive rise during post 2004–05 period). It is noted that while the growth of total population and youth declined marginally (between 1993–94 and 2004–05 and post 2005 periods), the growth rate of elderly population is actually increased.

The growth rate of total population declined from 2.1% per annum during 1993–94 and 2004–05 to 1.5% per annum during 2004–05 and 2018–19. Similarly, the growth rate of youth population declined from 1.9% per annum during 1993–94 and 2004–05 to 1.8% per annum during 2004–05 and 2018–19. But the growth rate of elderly population increased from 3.0% per annum during 1993–94 and 2004–05 to 5.1% per annum during 2004–05 and 2018–19. While the falling growth rate of total fertility rate during the post 2001 Census period could be the reason for falling growth rate of youth population (and overall population), improved life expectancy and falling death rate due to improved healthcare system could be the reason for high growth rate of elderly population in India (Aiyar and Mody 2011; Joe et al. 2018).

Moreover, it is noted that the share of elderly population has consistently been rising in India. This means Indian economy is now moving quickly towards an ageing society. The share of elderly population was 6.6% in total population during 1993–94, which increased to 7.2% during 2004–05, and further to 8.2% and



**Fig. 1** Share of youth and elderly in total population and workforce in India, 1994–2019. Source: Author's estimation and plot based on NSS and PLFS unit level data, and Census projected population for respective survey years

10.2% during 2001–12 and 2018–19, respectively (Fig. 1: Panel B). Similarly, the share of elderly population in the total workforce also increased from about 7.0% to 8.2% during 1993–94 and 2018–19 (Fig. 1: Panel B). Since, a large proportion of the total work force in India is either engaged in agriculture and allied activities or in the low paid informal service sectors, the share of elderly in the total workforce is likely to increase further as Indian economy gradually advances towards an ageing society (Mehrotra 2015).

On the other hand, the share of youth in the total work force has constantly been declining despite the fact that their share in total population still continues to rise. The share of youth in the total population increased from 26.5% to about 27.2% during 2004–05 and 2018–19. But the share of youth in total work force declined from about 36.0% to 33.6% during 1993–94 and 2004–05, and further to 29.0% during 2001–12 and to 24.3% during 2018–19 (Fig. 1: Panel A).

The falling share of youth in total workforce could be due to both supply and demand side factors. On the supply side, since a large number of youth (both boys and girls) were attending higher education (Mehrotra and Parida 2019), they could have remained out of the labour force for a considerable period of time (but they have already started joining the labour force, which is reflected by massive

increase in educated unemployment). The negative income effect due to rising standard of living and falling incidence of income poverty (Chauhan et al. 2016) and stagnant real wages (Mehrotra and Parida 2021) might discourage many youth to remain out of labour force. On the other hand, demand side factors like lack of industrialisation and slow growth of manufacturing sector, falling investment and output growth in infrastructure sector, skill miss-match issues (NSDC 2013; Mitra 2013; Mehrotra 2014; Singh & Parida 2020) and growing mechanisation/automation in agriculture (Mehrotra et al. 2014) etc., might have negatively affected the growth of youth employment in both rural and urban India.

As a consequence, the number of open<sup>4</sup> unemployed youth increased massively to an unprecedented level in the recent years. While total unemployment (based on UPSS,) increased from about 7 million during 1993–94 to about 11 million until 2011–12, it increased massively to 29 million during 2018–19. Among total unemployed, youth alone constitutes about 24 million (about 82.5%). This is an indication of the labour market crisis that Indian economy is currently passing through. Unless this problem is addressed, at the earliest, it will have negative implications on both economic growth as well as the process of harnessing demographic dividend in India.

The sectoral youth employment patterns, and their unemployment scenario are explored in the next section in detail.

## 5 Rising Youth Employment Challenges in India

### 5.1 Sectoral Employment Trends

The demographic advantage that Indian economy is currently having is characterized by a rise in the share of the working age population (and youth) in total population (Mehrotra and Parida 2019). But the falling total youth employment is an indication of the crisis, in which Indian economy is currently passing through. Because, while total youth unemployment increased massively (about 2.1 million per annum) during 2011–12 and 2018–19 (Table 2), total youth employment during the same period actually declined by 3.5 million per annum (Table 3). That means those who are completing their education and training are not getting jobs. The depth of the labour market crisis could be revealed by the rate of decline of youth employment, which exaggerated further from 3.2 million per annum during 2004–05 and 2011–12 to about 3.5 million per annum decline during 2011–12 and 2018–19 (Table 2). Total youth employment continued to decline from about 154 to 114 million during 2004–05 and 2017–18, respectively. The sectors that contributed to this decline is explained below.

Agriculture and allied sector continued to register decline of youth employment at the rate of 3.1 million per annum (about 22 million decline in total) during

<sup>4</sup> It includes those persons who continued to seek jobs are available for jobs during the entire year or major part of the year preceding the date of survey.

**Table 3** Sectoral youth employment trends in India, 2005–2019

Broad Sectors	Absolute number of youth (million)			Share of employment (%)		
	2004–05	2011–12	2018–19	2004–05	2011–12	2018–19
Agriculture	85.7	60.7	39.0	55.6	44.0	34.3
Manufacturing	22.4	22.1	17.4	14.5	16.0	15.3
Non-manufacturing	11.6	19.4	18.0	7.5	14.1	15.8
Service	34.5	35.7	39.4	22.4	25.9	34.6
Work force (WF)	154.2	138.0	113.8	100	100	100
Labour force (LF)	163.1	147.0	137.7	–	–	–
Participating in education	56.8	99	126.6	–	–	–
Youth NLET	69.5	83.7	97.5	–	–	–

Source: Author's estimation based on NSS and PLFS unit level data, and adjusted to Census population

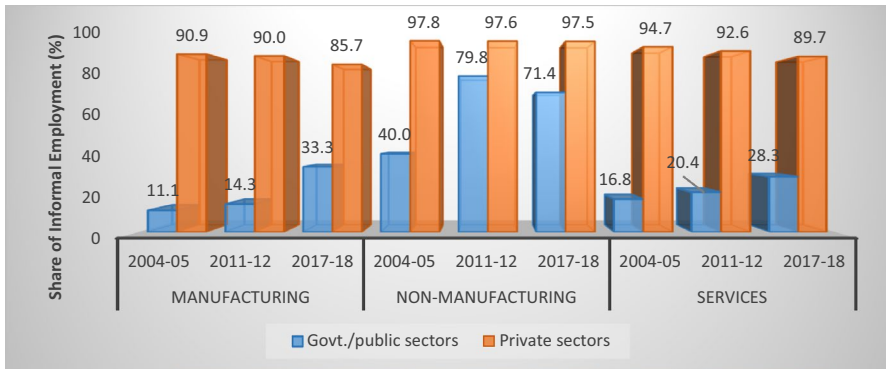
2011–12 and 2017–18, in addition to 3.6 million per annum decline (about 25 million decline in total) during 2004–05 and 2011–12. During this period manufacturing sector also recorded a 4.7 million decline in jobs for youth (in addition to 0.3 million job loss during 2004–05 and 2011–12), which resulted in a fall in its share of employment from 16 to 15%. According to Mehrotra and Parida (2019) “falling manufacturing jobs is the opposite of the goal of ‘Make in India’, and the opposite of what is desirable if the process of structural transformation is to be sustained to harness the demographic dividend in India”.

Though labour intensive sub-sectors of manufacturing sector viz., wearing apparel, textiles, furniture, non-metallic mineral products and wood products (Parida 2015) generated employment opportunities for the overall population (particularly low skilled jobs without written job contract and provision of social security), the real question for the future is: can the Indian economy's registered manufacturing segment expect growth to be employment-intensive enough to generate employment in non-agriculture to absorb both those entering the labour force as well as those leaving agriculture for non-agricultural jobs?

The non-manufacturing sector (mostly construction and utilities) which was creating about 1.1 million per annum jobs for youth during 2004–05 and 2011–12, also registered 0.2 million per annum loss of jobs during 2011–12 and 2017–18 (Table 3). This declining youth employment in construction and utility sectors is an outcome of the slowdown of the infrastructure sector's growth rate. This implies the fact that the low skilled youth job seekers (illiterates or having upto primary and middle level of education) are also not finding alternatives, particularly those who tend to lose their livelihoods (in rural and suburb areas) due to growing mechanisation in agriculture. Hence, those who are leaving agriculture will also likely to join this group of unemployed youth to form a “reserve army” as rising unemployment has implications on the incidence of rural poverty and standard of living.

The only sector which registered a positive growth of jobs for youth is services (0.2 million per annum during 2004–05 and 0.5 million during 2011–12 and 2018–19). But the quality of jobs in this sector is mostly poor (Mehrotra and Parida





**Fig. 2** Share of informal employment (%) in the non-farm sectors in India. Source: Author's estimation and plot based on NSS and PLFS unit level data

2019) and gig jobs in private sector without any written job contract and social security measures.

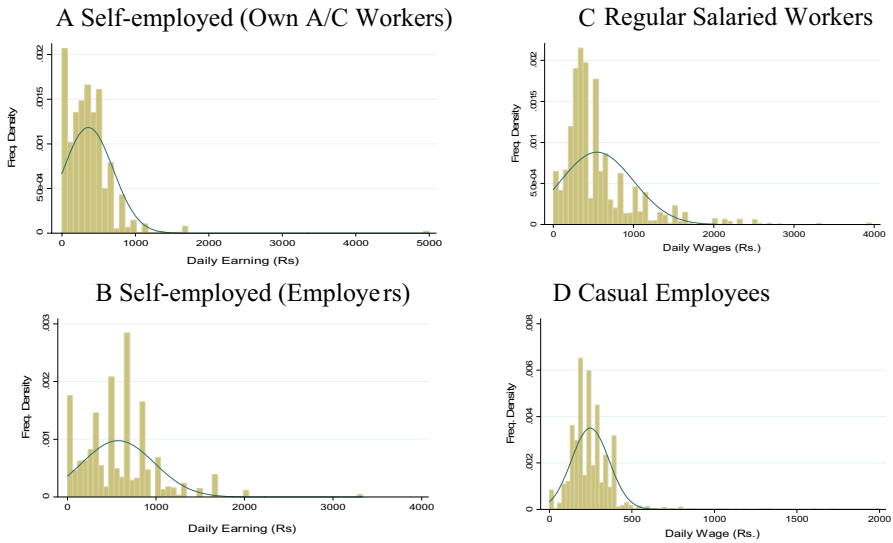
## 5.2 On the Quality of Jobs, Earnings and Poverty

Although, the share of informal<sup>5</sup> employment in industry (manufacturing and non-manufacturing together constitutes industry) and service sectors declined marginally during 2004–05 and 2017–18, it is still holding a major share in total non-farm sector employment in India (Fig. 2). Moreover, it is interesting to note that the share of informal employment in government or public sector enterprises is also on the rise since 2004–05 (Fig. 2). This is just opposite to objective of achieving decent jobs in India.

In India, the government or public sector enterprises contribute only about 13% of total non-farm sector jobs, whereas in the private sectors (both in industry and service sectors) a substantial proportion of jobs (within regular salaried jobs) is still without any written job contracts (more than 90%) or with a written contract for less than a year (Mehrotra and Parida 2019). This implies, a substantial change on the ground is yet to happen to reduce the volume of informality, which seems to be a challenging job in the contexts of changing labour market conditions and employment relations due to globalization. However, China has succeeded in reducing their informality through an improvement in labour force participation rate of both men and women through a structured industrial and skilling policy along with a few reform measures. India could also have achieved this by now through a structured and strategic industrial policy in past (during early 1980s or 1990s), but unfortunately until today, we are still far away from these measures.

This poor quality of jobs is further reflected by a very low average daily earning/wage level of the workers (Fig. 3: Panel A through D). On an average, casual

<sup>5</sup> As per NCEUS (2007) definition.



**Fig. 3** Daily earnings/wage (₹) of workers by their types of employment, 2017–18. Source: Author's estimation and plot based on LFS unit level data, 2017–18

workers and self-employed workers earn less than ₹200 per day (nominal wage rate during 2018–19). While self-employed employers tend to earn about ₹500 per day on average, the regular salaried workers earn even less than ₹500 per day (as in 2017–18). This is worrying as workers in the unorganized sector and informal workers in the low skilled service sectors and industry are more vulnerable with more risk of retrenchment in case of slightest economic shock. At the same time, labour laws will need to be re-examined by state governments if this trend towards informal employment is to be stemmed.

Because of the poor quality of jobs and low level of earnings, a higher share of Indian labour force are living below the poverty line. Though development programmes like MGNREGA helped improving the wage rates (Shah et al. 2015) and had a knock-on-effects standard of living in rural India (Mehrotra et al. 2014) through which incidence of poverty declined substantially (with absolute fall in number of poor persons), but it has never sustained in reducing poverty because of the higher share of informality in total employment. As the employment contract and earning level of the workers in informal sector is uncertain in the changing labour market conditions, they are more vulnerable to income poverty in those situations. This is noted (Table 4) across the casual employment and self-employment categories. The incidence of poverty among these informal workers declined during 2004–05 and 2011–12, but it increased again during post 2011–12 periods.

It is expected that informal sector workers would not able to spend a higher share of their income (which is transitory in nature) on improvement of the level of human capital (on education and training) of their family members. Hence, their family member are less likely to access quality (formal sector) jobs that could reduce their household level poverty on a sustainable basis.

**Table 4** People living Below the Poverty Line (BPL) by their employment status

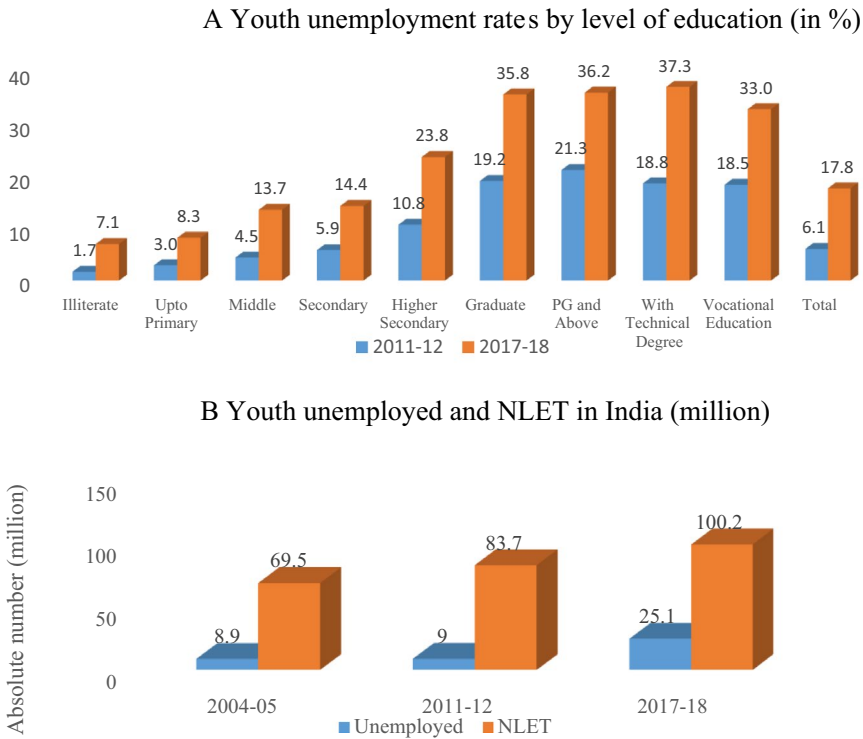
Employment status	Percentage of people living Below the Poverty Line (BPL)		
	2004–05	2011–12	2017–18
	Types of employment		
Self-employed (OAW and unpaid family helpers)	35.6	24.8	35.9
Self-employed—employers	6.5	4.8	9.4
Regular salaried workers	18.8	10.2	16.7
Casual workers	56.7	38.4	44.2
Unemployed	29.4	20.8	31.1
Not in labour force	43.1	29.6	38.2
<i>Employment status (formal vs. informal)</i>			
Formal jobs	7.9	4.7	7.1
Informal jobs	42.1	28.8	37.2
Total	41.2	28.1	36.3

Source: Author's estimation on NSS and PLFS unit level data.

### 5.3 Educated Youth Unemployment is at the Rise

In India, youth unemployment rate increases with rising levels of education and training. This contrasts to the belief that rising years of schooling helps improve youth employability. The overall youth unemployment rate (based on UPSS) in India increased from 6.1% to 17.4% during 2011–12 and 2018–19, respectively. The number of open unemployed youth (Table 2) also jumped from 9 to 24 million (difference between youth LF and WF). For each level of education, the unemployment rate increased during 2011–12 and 2017–18 (Fig. 4: Panel A). Among illiterates it increased from about 2–7%. For youth having upto primary level of education it increased from 3 to 8%. For middle school education it increased from 4.5% to about 14.0%. For secondary education, it increased from 6.0% to about 14.5%. Among youth with higher secondary education, it increased from 11 to 24%. Among graduates, it increased from 19 to 36%. Post graduate youth unemployment increased from 21 to 36%. This is really massive at the higher education level. These statistics clearly show how the general education system has completely failed in improving youth employability in India.

Furthermore, it is noted that even technical and vocational education and training are also not helpful. The unemployment rate among youth having technical education and training was the highest (37.3%). In the case of formally vocationally trained this rate was 33%. The incidence of unemployment almost doubled between 2011–12 and 2017–18 across the education categories (in general education and technical and vocational training).

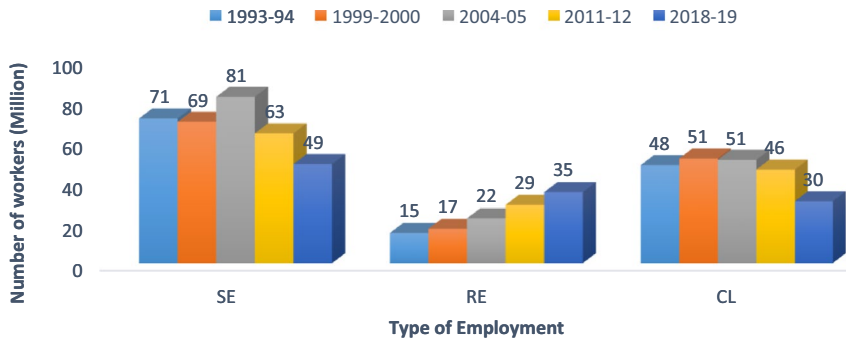


**Fig. 4** Youth unemployment and NLET situation in India. Source: Author’s calculation and plot based on NSS and PLFS unit level data

#### 5.4 Growth of Disheartened Labour Force

The slow growth (or scarcity) of non-farm jobs and the rising open unemployment together have resulted in a massive increase in disheartened youth. Youth “Not in Labour Force, Education and Training (NLET)” increased in India by about 2 million per annum during 2004–05 and 2011–12, which further increased by about 3 million pa in 2011–12 and 2017–18. About 100.2 million youth declared themselves as NLET during 2017–18 (Fig. 4: Panel B). The situation is alarming because an additional 127 million youth (Table 2) are currently attending education and training (in addition to those currently unemployed or currently NLET). After completing education/training they would either search for jobs or would remain NLET. If they join the labour market, the unemployment rate would increase further. But if they prefer to remain NLET, it would increase the volume of disheartened labour force or the so called “potential reserve army”. These increased NLET youth along with the elderly population (which started growing<sup>6</sup>) would constitute the total

<sup>6</sup> Share of elderly population in India increased from 8.6% (Census, 2011) to 9.8% (PLFS, 2017–18).



**Fig. 5** Youth employment trends by their types of employment in India. Source: Author's calculation and plot based on NSS and PLFS unit level data

demographic liability of the economy as a whole. However, if measures are taken to create non-farm jobs in both rural and urban areas, India could still harness its demographic dividend.

## 6 On Harnessing Demographic Dividend

### 6.1 Role of Self-Employment Programmes

It is clear that despite government's measures<sup>7</sup> to promote the growth of self-employment activities, the number of youth engaged as self-employed (in both farm and non-farm sectors) declined from 81 to 63 million during 2005–2012 and further to 49 million during 2012–2018. This could be due to several reasons. First, educated youth could not acquire the required level of skill that could help them to set up their own business. Second, the inclination of youth for self-employed activities is shattered, perhaps due to either low level of earnings or because of the existing constraints (mostly financial and other kinds of legislations etc.) in setting up of new businesses. Hence, youth instead prefer to look for a regular salaried job. This is pretty clear from the number of youth engaged as regular salaried workers, which has consistently been rising in India. Youth engaged as regular salaried (with and without of written job contract or social security measures) increased from 22 to 35 million during 2005–2018 (Fig. 5).

### 6.2 Does Vocational Education and Training Help?

Though the number of vocationally and technically trained youth increased during 2004–05 and 2018–19, their work force participation had declined substantially.

<sup>7</sup> The self-employment schemes/programmes of the Government of India include: IRDP, JRY, SGSY, NFWP, *NRLM*, SGRY, PMKVY, HRIDAY, PMEGP etc.

Moreover, it is noted (from the previous section) that there is an upsurge in the open unemployment rate among these vocationally and technically trained youth in India.

Although, the “new education policy-2020” is likely to increase the supply of vocationally trained youth further, due to introduction of vocational training curricula at school level, it will have no impact on the labour demand conditions of the industries. Hence, supplementary measures including development of infrastructure (roads, canals, electricity and warehouses etc. for promoting agriculture growth), and local industrialisation (may be through PPP or private model) are necessary. The development agriculture and agro-based industries will have both forward and back linkages on the growth of large scale industries and on the expansion of service sectors, which will definitely help improving quality jobs through reduction of informality over long run in India.

### 6.3 Role of Emigration and Remittances Policies

India consistently ranked first among the top remittance receiving countries of the world with a receipt of about US \$ 69 billion (about 2.6% of India’s GDP) during 2017, keeping its competitors like China, the Philippines, Mexico, France, Nigeria, and Pakistan etc., much behind (Rath 2003; Parida and Raman 2018; Parida 2019). Various research studies conducted on India and other developing countries have found that inflow of remittances have far reaching positive and developmental consequences including: poverty and inequality reduction, raising domestic savings and investment on human capital, boosting economic growth through increased domestic demand for goods and services etc. (Parida et al. 2015) The best example are states of Kerala, Punjab Tamil Nadu and Gujarat which achieved development due to huge inflow of remittances (Noushad et al. 2020).

The interstate (rural–urban) migration is also crucial for the sustaining the structural transformation process and economic development in India. Because people from relatively back states like Bihar, Jharkhand, Odisha, Uttar Pradesh and North-East migrate to other states like Kerala, Punjab, Haryana, Gujarat, Maharashtra, Tamil Nadu, Karnataka etc., either in search of employment opportunities or for better sources of earning (Parida and Raman 2020; Parida 2019). This internal labour flow not only brings equilibrium in the labour market (to fill the labour demand–supply gaps) by increasing labour productivity (through reduction in under employment and unemployment), but it also contributes to poverty reduction, increased domestic savings, and improved demand for goods and services, and hence helps speed-up the process of urbanisation.

Hence, it is argued that a suitable emigration and remittance policy would not only help ease the labour market problems (by reducing extend of youth unemployment) in India, but it would also cause large scale inflows of foreign exchange reserves that would help improving the balance of payment position of India.

#### 6.4 Role of Unregistered, Micro and Small Enterprises

Although the number of registered enterprises increased from 16.8 million to 19.6 million during 2010–11 and 2015–16 respectively,<sup>8</sup> the numbers jobs in the organized non-farm sector actually declined (Mehrotra and Parida 2019). On the other hand, number of jobs in the un-organized sectors continued to rise along with the number of un-registered enterprises (increased by 3 million during 2010–11 and 2015–16 from 40.8 million to about 44.0 million), despite the government's formalisation measures.

The overall growth of non-farm sector jobs is driven by the enterprises which hire less than 10 total workers (Mehrotra and Parida 2019). These enterprises contributed about 68% of the total non-farm employment during 2017–18. In manufacturing their share is 61%, while in non-manufacturing and services their share is about 66% and 71%, respectively, during 2017–18 (Mehrotra and Parida 2019). This result shows why the share of informal and unorganized sector employment are still so high in India, despite a rise in the number of registered enterprises. Because even though these enterprise might have registered themselves under GST to continue their business (and pay sale tax), but they could not provide employment with social security benefits to their employees because of the size of their business.

As per the Economic Survey (2019), the share of dwarf firms (which remained micro or small firms) is still very high within the registered enterprises, while their contribution to registered employment generation is quite negligible. Due to the predominance of tiny enterprises and informality in the industrial sector it is very difficult to harness the economies of scale, adopt new technologies and regular upgradation. It is often found that the main challenge for many small and marginal enterprises (SMEs) is to cultivate right skills and management practices for establishing and integrating knowledge created by external partners with in-house practices and innovation processes. Hence, it can be stated that the growth of enterprises size (in both manufacturing and service sectors) is necessary to boost the growth of quality jobs as well as to ensure global competitiveness of Indian enterprises. Hence, suitable measures (pro-growth measures for the enterprise) should be taken that would help micro and small firms to grow into medium and then large scale enterprises in the long run.

#### 6.5 Prospects of Infrastructure Development

One of the overarching constraints in India's development policy is the failure to develop power and transport infrastructure in line with the needs of industry (Maira 2014). Good physical infrastructure in terms of improved transportation, uninterrupted power supply and adequate land along with flexible regulations (with respect to bureaucratic controls) regarding safety, pollution, inspections, licensing, and labour conditions are needed to improve the competitiveness of our manufacturers.

<sup>8</sup> Also Economic Survey (2018). It claims that the number enterprises under Goods and Services Tax (GST) registration increased during the post GST implementation periods.

Given the fact that about 99% of unregistered and 95% of unregistered enterprises are micro-enterprises, they are likely to be concentrated in the small towns (<0.5 million) and nearby villages. Indian manufacturing has been becoming urban slowly, but could become more urban. For that to happen, India's urban infrastructure must improve. But the real question is: in which class of cities must it improve. Since, about 27% of India's urban population lives in middle-tier cities (those with a population between 0.5 and 4 million), it is the brownfield sites of modern clusters that must grow for manufacturing output/employment to expand. This requires public investment in infrastructure—both physical and social—that must focus on the middle-tier cities. Instead of its mega (> 10 million population) and large cities— it is the middle-tier of cities that must now receive the greater attention.

## 6.6 Necessity of Industrial and Employment Policies

The most important root cause of the problem on the jobs front has been that unlike other developing countries that were successful industrializers with job growth (and unlike countries, mostly in Latin America which were less than successful), India has not had a manufacturing policy ever since economic reforms began. The successful countries—all in East and South East Asia—all had an industrial policy. The most well-known are Japan (where industrial policy was led by the Ministry of Trade and Industry MITI), China (where the process was led by the State Planning Commission (and its successor, the National Development and Reforms Commission), and so on.

The problem in India has been that since economic reforms began, the deregulation (or the end of industrial licencing), domestic liberalisation and the opening up of the economy, were taken to be proxies for manufacturing policy. But necessary as these were, these merely provided the context in which industrial policy should have been pursued with the objective of enhancing manufacturing growth. The absence of policy meant that the global trends favouring de-industrialisation, (Rodrik 2012) were internalized by the Indian economy very quickly. This fact of the absence of industrial policy since 1991 is admitted in the 12th Five Year Plan as well.

There were many elements of industrial policy that allowed China to become the manufacturing hub, or the 'factory of the world'. These reforms measures include: strategy for reforms in agriculture, development of SMEs, foreign direct investment, and vocational education eco-system etc. First, China started its reform process in 1979 with agriculture; industry related reforms came almost a decade later. This allowed food prices to remain low, demand for industrial goods to rise, and facilitated the shift of labour from agriculture to industry and services. This process has been much weaker in India on all these counts, because of slow agricultural growth.

Second, the Chinese government followed '*yizhenyi pin*' policy with one town or area specialising in one product. Clustering based on the promotion of Township and Village Enterprises (TVEs) was occurring based on both an industrial as well as territorial specialisation. TVEs' development was facilitated indirectly by the government policy of 'leaving the land but not the village'—which favoured investment



in social infrastructure in small sized town, reducing internal migration to big cities. Decentralisation encouraged local governments to support TVEs. Expansion of China's agricultural bank and rural credit cooperatives relieved their credit constraints, which are one of the main problems facing SMEs in all developing countries. The efforts led to the low labour costs of rural enterprises and their market orientation made TVEs internationally competitive exporters of labour intensive products. Clustering of enterprises in a sector was an essential ingredient of success.

Third, there was a clear strategy underlying the gradual opening up to FDI. FDI into China was small till end of 1990s especially via Hong Kong, Singapore and Taiwan, with their large Chinese populations. In the early reform periods, China allowed FDI only in the form of joint ventures (except in the Special Economic Zones), because the authorities felt this form was better suited to tapping advanced foreign technology. It was not until 1986 that wholly foreign-owned enterprises were permitted outside the SEZs. FDI was encouraged to focus on export-oriented manufacturing. The initial focus was on labour-intensive exports of manufactures, later on technology-intensive exports. Lastly, it can be stated that China is a manufacturing giant in the world, because of its ability to: (a) build a foundation of technical and vocational education and training (TVET) over many years; and (b) continuously upgrading the TVET system in response to China's growing share in world manufacturing output. Reforming our skill development system can move India to a higher growth trajectory, especially its manufacturing sector, whose share in gross domestic product (GDP) and employment is stagnant for over two decades.

Moreover, in India, we need an additional National Employment Policy that should be designed to ensure: (i) an effective Labour Market Information System to establish an effective national coordinating and monitoring mechanism involving both state and civil society organisations to enhance employment promotion and creation; (ii) to improve women's human capabilities and ability to adapt to changing labour markets conditions by providing supportive ecosystem; (iii) equal access to employment opportunities for marginalized sections; (iv) to promote emigrations and encourage remittance inflows; and (v) to laydown strategies to incorporate the informal sector under the fold of labour legislation, social security and decent earning as per the international standards.

## 7 Concluding Remarks

Indian economy is passing through a critical phase of economic development. While about 4.5 million people are leaving agriculture every year, the non-farm sectors job is not growing adequately (grown only about 2 million per annum during post 2012 periods) to accommodate them. Moreover, the number of youth joining the labour force after completion of their education and training is at the rise. This results in an upsurge in educated youth unemployment (18% and about 24 million) as well as the disheartened labour force (youth completed education and training but still neither in jobs nor searching jobs actively). Since, the growth of youth population (age 15–29 years) already started declining with a corresponding rise in the share (from

8 to 10.2%) and growth (3–5.1%) of elderly population, unless necessary measures are taken at the earliest, Indian economy is going to lose its demographic dividend forever and it would become an ageing society without sufficient economic prosperity like that of the developed countries of the Global North. Hence, in this context, an integrated approach of development through a structured industrial policy for the promotion of micro and small enterprises along with infrastructure development and emigration and remittances policies are necessary.

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