

Youth Employment in India

Dimensions and Challenges

DIPA MUKHERJEE, RAJARSHI MAJUMDER

India is set to add about one-fifth of incremental global youth population in the next two decades. This relative “greening” of India’s population and workforce is expected to bring down dependency ratio, increase savings rate and investment ratios, boost macroeconomic growth and yield a demographic dividend for the country, but this depends on whether the additional youth workforce finds remunerative and productive jobs. Examining the employment situation of the youth in India, we discover that labour force participation rate and work participation rate are declining, caused mainly by increased participation in education, but the increasing unemployment rate is worrisome.

Youth population is on the rise globally and India is estimated to add about one-fifth of the incremental youth population in the next two decades. The relative “greening” of India’s population and workforce that started in the late 1970s is likely to add close to 200 million working-age adults to the population by 2040. This is likely to bring down the economic dependency ratio in the country, increase savings rate and investment ratios, and create chances for a leap in the macroeconomic growth rate. This opportunity in the middle stage of demographic transition when the population pyramid bulges in the middle is thus called demographic dividend. However, whether India can reap this demographic dividend would depend on whether these additional youth find remunerative and productive jobs. The global reality is far from rosy and the International Labour Organization (ILO 2005a: 2) noted in the beginning of the century:

(a significant number of) “youth are underemployed, unemployed, seeking employment or between jobs, or working unacceptably long hours under informal, intermittent and insecure work arrangements, without the possibility of personal and professional development; working below their potential in low-paid, low-skilled jobs without prospects for career advancement; trapped in involuntary part-time, temporary, casual or seasonal employment; and frequently under poor and precarious conditions in the informal economy, both in rural and urban areas.”

If the youth is not absorbed into productive and meaningful work, this potential demographic dividend will turn into a demographic disaster. Huge youth unemployment is the surest way to frustration, social tension and unrest, as evident during the Arab Spring. Research by the Institute of Criminology at Cambridge University suggests that young people, bubbling with energy and vitality, often turn to crime when they do not have a job at hand (Farrington et al 1986). The first offence may be a petty one, but slowly it turns into a more serious crime.

Left untreated, youth unemployment may destabilise fragile economies, act as an incubator for violence, and leave a permanent scar on society that transcends generations. Given the social and spatial diversity in our vast country, there are excluded regions where the youth lack adequate marketable skills or where economic sluggishness has kept the demand for labour at a low level, trapping such regions at a low-level equilibrium. Thus, whether our increasing share of the youth population is to our advantage or millstone would depend critically on their employment situation. In this paper, we

Dipa Mukherjee (medipa@rediffmail.com) teaches at the Department of Economics, Narasinha Dutt College, Howrah, West Bengal. Rajarshi Majumder (rmajumder@eco.buruniv.ac.in) teaches at the Department of Economics, University of Burdwan, Burdwan, West Bengal.

examine the employment situation of youth in India and try to underline the challenges that lie ahead.

Background, Current Literature and Objectives

According to ILO (2004, 2005b), a growing and large magnitude of unemployed youth is one of the most daunting challenges faced by both developed and developing countries. Historically, young people always face a huge challenge in finding a job after finishing their education, and so unemployment among them has been more than double that of the older age groups, even in advanced economies (Morsy 2012). This is so as the youth—rather, fresh pass outs from the educational system—have no experience and they also do not possess skills that are obtained through “learning-by-doing.” They do not have the social capital in the form of networks necessary to land a job in the private sector. In many cases, they also wait for the right type of employment that they aspire for, adding to what we call “wait unemployment.”

Thus, the labour market poses an entry barrier to the youth who encounter difficulties in finding and maintaining a decent job (Dev and Venkatanarayana 2011). However, as they mature, they are either able to get an appropriate job through acquiring skills and social capital, or they cannot afford to remain jobless any longer and take up whatever work is available. This brings down post-youth unemployment rates in most economies. However, the period of unemployment faced by the youth just after finishing education has severe long-run implications. It is argued that this leads to deskilling, obsolescence, and demotivation among the youth and often puts them in a low-productive, low-paying job for the lifetime (Wachter et al 2009; Kahn 2010). This has considerable social and macroeconomic costs as well and estimates suggest that economic loss from youth unemployment in Europe is about 1.2% of GDP (Tse et al 2013). In addition, the youth bring in a considerable number of new ideas and creativity to the workplace and excluding them from the labour market means lost opportunities for innovation (Tse et al 2013; Kahn 2010).

Against this background, several studies have tried to analyse the youth employment/unemployment situation in India. Perhaps the foremost warning came from K N Raj (1959: 267) when he commented that “India’s future lay in the quality of jobs generated for its youth.” In recent times, the most comprehensive study has been that of Alakh N Sharma (2022), where the employment/unemployment situation among youth—disaggregated across gender and states—and the link between education, skill, employment status, industry and occupation have been analysed. Notable among the others are P Visaria (1998), C P Chandrasekhar et al (2006), S Mahendra Dev and M Venkatanarayana (2011), A Mitra and S Verick (2013), S K Sasikumar (2019), and ILO (2021). Most of these studies (barring a few exceptions) have looked at open unemployment among the youth population at the usual principal activity status (UPS) level and have not said much about the other types of unemployment among the youth, including temporary unemployment.

This paper adds value to existing literature first by exploring the labour market situation among the youth in India across

different types of unemployment. Second, it paints a long-term picture of challenges to youth employment in India starting from the mid-1980s, the start of our structural change. A cohort study is used to understand the movements of youth across labour-skill categories over a period of time. Third, we examine the link between the youth labour market situation and demographic processes at the regional level, since the issue of youth employment hinges on the notion of demographic dividend as mentioned in the previous section. Fourth, we try to understand whether economic growth per se and organised sector growth in particular have any impact on youth employment in different states of India. Fifth, accepting the fact that women’s labour market characteristics in India are more complex because of social and institutional factors (brought out by several studies in the literature), we examine the situation of youth males separately to understand the economic forces at play.

Data Sources and Methodology

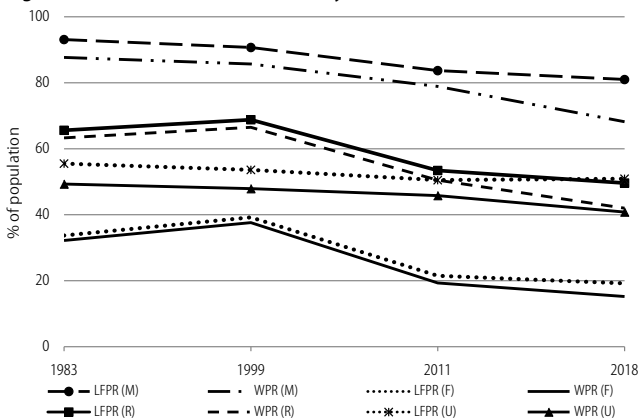
We have used data from the annual Periodic Labour Force Survey of 2018–19 of the National Sample Survey Office (NSSO) for understanding the current situation. This was the latest round before the pandemic struck, and hence, it gives us the usual situation before the extreme shock struck the economy. For past trends, we have used the Employment and Unemployment Surveys of NSSO for the 38th round (1983–84), 51st round (1999–2000), and 68th round (2011–12). In addition, reports from international and national organisations like the World Bank, ILO, Central Statistical Office, Ministry of Finance, and other departments of the Government of India have also been used.

We have considered the age group of 20–29 years as comprising youth in our study. This is to allow our sample to reach the age group at which the youth generally complete school education (12 years of formal education) in the Indian system and face the choice between entering the labour market or continuing to higher education. It is well-documented that a structural break occurs at this stage of education and there is a significant difference between enrolment rates at the school level and that in higher education. Unlike most of the previous studies, labour market particulars of the youth in this paper are examined on the basis of both UPS and current weekly activity status (CWS), to account for both permanent and temporary statuses of the sample individuals. In addition, we have looked at the young males separately since the labour market activities of young females in India are fraught with several institutional, structural and social constraints.

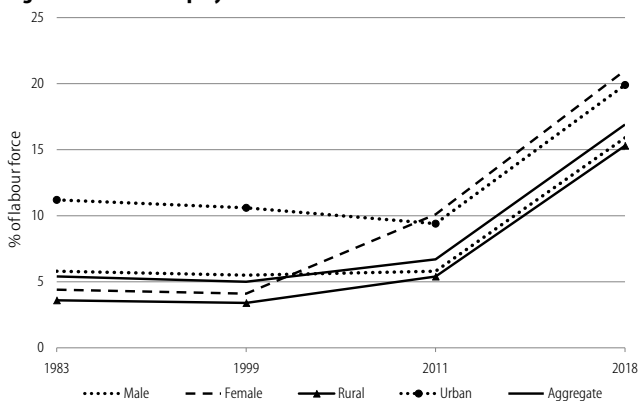
Labour Market Participation and Employment

The major markers of the labour market situation are labour force participation rate (LFPR) and employment/unemployment rate. It is observed that over the entire stretch of almost four decades (1983–2018), both LFPR and work participation rate (WPR) for youth are declining (Figure 1, p 52).

There is a marginal increase during the first two decades (1983–99), followed by a sharp decline in the current century. The decline in WPR has been sharper than that in LFPR, leading

Figure 1: Youth LFPR and WPR in India by Gender and Location, 1983–2018

Source: Authors' calculations based on NSSO (1983, 1999, 2011, 2019).

Figure 2: Youth Unemployment in India

Source: Same as Figure 1.

Figure 3: Youth Employment in India by Type

Source: Same as Figure 1.

to an almost threefold rise in the (open) unemployment rate among youth over this period, the rise being sharper after 2011 (Figure 2). This broad trend is true for both males and females, and across rural and urban locations, though the drops in LFPR and WPR are sharper for females than males, and in rural areas than urban areas. Naturally, unemployment rates have increased almost fivefold for rural youth and fourfold for young females during 1999–2018.

As for the composition of employment, the dominant form of employment among the youth workers is self-employment in rural areas and regular wage work is in urban areas (Figure 3).

However, the share of self-employment in decline for the males during the entire period, while for females it shows an alternate rise and fall. The share of regular employment is found to be declining during the first two decades and increasing for the next two, both for males and females. Casual employment, as expected, is found to follow a trend just reciprocal to it—increasing for the first two decades and declining for the next two. This indicates polarisation in the labour market where the size of the workforce is shrinking, and the axe falls on casual workers. It is also apprehended by researchers that most of the regular employment in recent times is a result of job outsourcing and it is devoid of any social security.

Dissecting Unemployment Trends

While open unemployment using ups has been widely discussed, very few studies have tried to dissect the anatomy of youth unemployment. We have tried to do that using a four-quadrant approach where the youth in the labour force are divided into four groups based on their usual (ups) and current (cws) activities. In the order of improving status and preference, these are: chronic unemployment, intermittent employment, irregular employment, and stable employment.¹ Chronic unemployment rate for the youth has increased from about 4.3% to more than 16% of the labour force during this period, almost the entire increase taking place during 2011–18 (Table 1).

Table 1: Four-quadrant Activity Status of Youth Labour Force in India (% of total)

Status	1983	1999	2011	2018
Chronic unemployment	4.6	5.1	6.1	16.5
Intermittent employment	0.9	0.1	0.5	3.1
Irregular employment	2.4	2.7	1.4	0.4
Stable employment	92.1	92.1	91.9	80.0

Source: Authors' calculations based on NSSO (1983, 1999, 2011, 2019).

This trend is mirrored at the other end of the hierarchy, and the share of stable employment—which had increased marginally during the first three decades (up to 2011)—showed a sharp decline post 2011. The share of irregular employment (those who are usually employed but are not currently) has declined consistently, while that of intermittent employment (those who are currently employed but are usually unemployed) has increased. This again points to a deteriorating labour market situation for the youth whence regular jobs are shrinking and young job-seekers are increasingly finding themselves either unemployed throughout the year or only being engaged sporadically.

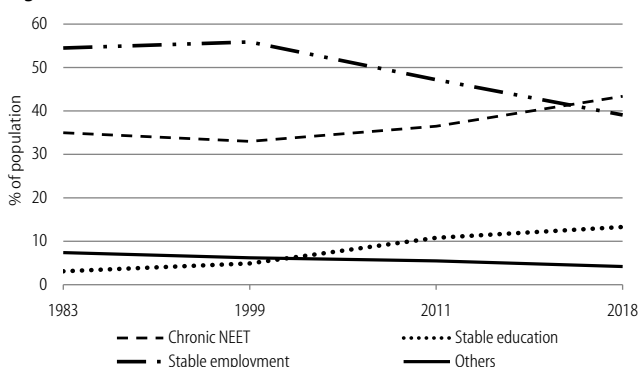
An Expanded View of Non-work

It is sometimes argued that the open unemployment rate does not reflect the true situation in a developing country. Job-seekers, faced with unemployment or experiencing that their skill set is not enough to get a job in the labour market, often withdraw from the labour force. As a result, the unemployment rate may decline. However, for young people in the age group of 20–29 years, it is expected that they would be either engaged in education/training or working or looking for work. But in developing countries, we often find young people who are neither

working, nor in education/training, and nor on the hunt for jobs. They are termed “withdrawn workers” in the literature. To examine this phenomenon, it is customary now to explore the proportion of population that is neither in education, employment or training (NEET). For young persons, it is expected that NEET and unemployment would be very close. Any departure of NEET from unemployment indicates the presence of withdrawn workers, which signals long-term maladies in the labour market.

We find evidence of such withdrawn workers in India since the proportion of the youth NEET has been almost 30 percentage points higher than open unemployment rates all throughout. While the NEET proportion had declined during the first two decades, from about 37% in 1983 to 32% in 1999, it increased in the next two decades, reaching 44% in 2018. Thus, almost half of the youth population is neither working nor engaged in any productive activities—what we may call wastage of human resources. This wasted human capital is surely creating a demographic drag in the economy rather than yielding a demographic dividend. As expected, the incidence of NEET is substantially higher among females (ranging from 66% in 1983 to 74% in 2018). However, a churning is taking place across spatial locations, and while the incidence of NEET was lower in rural areas for the first two decades, it is now higher in rural areas and lower in urban areas.

Figure 4: Dissection of Youth NEET in India



Source: Same as Figure 1.

If we look deeper into the types of NEET, we find that the share of chronic NEET (both according to UPS and cws) had undergone a marginal decrease during 1993–99, but increased consistently thereafter (Figure 4). At the same time, the proportion of youth in stable education/training has also increased substantially during this period—more than quadrupling from around 3% in 1983 to more than 13% in 2018. While this is heartening, it is sometimes argued that the youths in India are continuing education instead of joining employment because they have nothing else to do and the opportunity cost of continuing education is very low, and may even be nil when the alternative is to remain unemployed (Jeffrey [2010] calls this “timepass”). A section of youth is attending education/training or working for some part of the year, though such intermittent instances are also declining over time.

So far, we have looked at snapshots of the youth labour market situation in India at four points of time. To understand the

dynamics of the situation, we have undertaken a cohort study where we have tracked persons of the 20–29 years age group across all four NSS Employment Survey/PLFS rounds. Though we had four cohorts for the original 1983 sample, three cohorts for the 1999 sample, and two cohorts for the 2011 sample, we focus only on the 1983 cohort (Table 2). Three things stand out in the results. First, LFPR and WPR take a jump as the youth cross about 30 years, but decline thereafter. Second, with age, the incidence of self-employment increases and that of casual wage labour decreases, while that of regular wage employment remains stable. Third, and most important, some kind of “search unemployment” seems to be prevalent among the youth, that is, they enter the labour market in search of a job but are unable to be immediately absorbed in suitable positions.

Table 2: Progression of Youth Cohorts in India (UPS) (%)

Indicators	1983 Youth Cohort in the Year			
	1983	1999	2011	2018
LFPR	62.9	75.0	62.7	48.8
WPR	59.3	74.8	62.5	48.5
Unemployment rate	5.4	0.3	0.4	0.6
NEET	36.7	25.2	37.5	51.5
Self-employment	50.5	51.1	53.8	63.0
Casual employment	33.4	31.7	27.4	21.0
Regular employment	16.1	17.2	18.8	16.0

LFPR, WPR and NEET are as proportion of population. Unemployment rate is as proportion of labour force. Others are as proportion of workers.

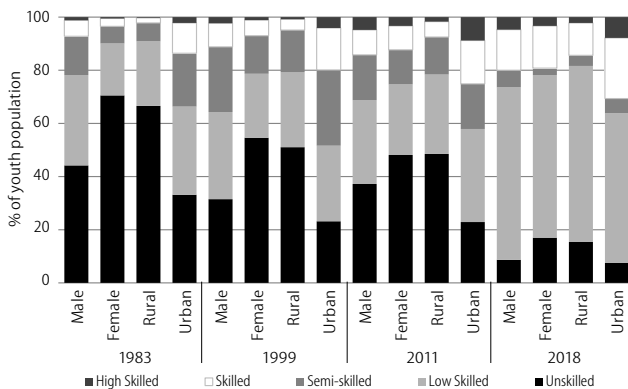
Source: Same as Table 1.

While initially the unemployment rate is high for the original cohort (among the 20–29 years age group), but as they get older, it comes down sharply. For example, for the original cohort of 1983, the unemployment rate declined from 5.4% to 0.3% as they reached the ages of 36–45 in 1999 and stayed around that range. This indicates that the unemployment problem in India is basically a problem of youth unemployment, where young men and women, on just entering the labour market, are unable to find employment. Over time, they get into some form of work as they can ill afford to remain unemployed.

Youth Employment and Skill

Thus, a close scrutiny of the employment–unemployment situation of the youth indicates a precarious situation, especially in the recent period. On the one hand, there is a decline in stable employment, leading to the withdrawal of young people from the labour market. On the other, the unemployment rate increased substantially, which is largely responsible for the huge increase in the incidence of NEET among young people. It also appears that the situation improved a bit during 1993–99 before taking a southward turn during 1999–2011 and worsening further during 2011–18. The only silver lining is that the percentage of population in stable education has increased substantially during the entire study period, irrespective of gender and location.

The question that arises at this point is that if the share of youth in stable education is increasing substantially, then why is the unemployment rate increasing simultaneously? The answer to this question perhaps is the inability of our general education system to impart the required skills to the youth. We

Figure 5: Skill Level Distribution among Youth in India

Source: Same as Figure 1.

have analysed the skill pattern of the youth in India using a five-stage skill classification: unskilled, low skilled, semi-skilled, skilled, and high skilled.² It appears that though the unskilled youth population has decreased substantially over the study period, this is mostly due to a shift to the low-skilled group—a marginal improvement in the skill level (Table 3). The share of the two highest skill levels has also increased noticeably, though their combined share is still below 20%. The two bottom-most groups, unskilled and low skilled, still dominate the skill profile of the youth, accounting for two-thirds of the youth population in India. Substantial gender and locational disparity are also observed in the skill pattern (Figure 5). This low skill profile is sometimes blamed for the poor and deteriorating employment situation among the youth in the country.

It is sometimes argued that skill training is a lifelong process and people in the labour force should have the opportunity, access and wherewithal to improve their skill level through such training even later in life. However, such opportunities are rare in the Indian context and the incentives for skill upgradation are also negligible. As a result, we find that the skill profile is almost set in stone at a young age and there is not much change in the skill distribution as the cohorts move up in age (Table 4).

Another issue of concern in terms of the skill pattern is the high incidence of unemployment among the skilled and high-skilled youth population. Though the incidence of regular employment is also higher among these two higher skill groups, close to two-fifths of the youth in these two skill groups were unemployed in 2018. This is possibly a fallout of young people continuing education in the hope of finding jobs but the narrowing of job opportunities and progressively increasing skill

demand at the higher end of the labour market shutting them out. This again points to a mismatch between the type and quality of skill formation through our formal education system and the type of skill set demanded in the labour market (brought out forcefully by Sharma [2022] and De et al [2022], among others).

Spatial Patterns and Demographic Dividend

To understand the regional/spatial pattern of the youth labour market situation, we have divided the states/union territories into six spatial regions: central, eastern, northern, north-eastern, southern and western.³ It is observed that southern and western states are performing better compared to northern, eastern and north-eastern states. They enjoy a higher percentage of workers in regular employment and significantly lower unemployment rates compared to other regions (Table 5).

Table 5: Labour Market Indicators of Youth in India by Spatial Regions (%)

Indicators	Central	East	North	North-east	South	West	Aggregate
LFPR	55.1	45.6	44.9	46.8	56.8	52.7	50.0
WPR	49.8	37.6	37.0	36.5	44.7	45.8	41.6
Unemployment rate	9.8	17.6	17.6	22.0	21.3	13.2	16.9
Self-employment	51.9	43.0	44.8	46.8	27.3	41.1	40.6
Casual employment	31.1	36.1	22.6	21.0	27.4	20.0	26.4
Regular employment	17.0	20.9	32.6	32.2	45.3	38.9	33.0

Source and note: Same as Table 1.

They are also doing better in terms of LFPR and WPR. The centrally located Madhya Pradesh and Chhattisgarh are doing well in terms of LFPR and WPR, but are lagging behind with a much lower percentage of regular employment and substantially higher unemployment rate, compared to the southern and western states. In terms of skill also, the southern and western states are doing much better compared to the eastern, north-eastern and central regions (Table 6). The northern region too is ahead of these three regions in terms of skill pattern. A similar trend is observed when we consider only youth males.

Table 6: Skill Pattern of Youth in India by Spatial Regions (%) of total

	Central	East	North	North-east	South	West	Aggregate
Unskilled	14.0	19.6	13.4	10.8	7.0	10.9	12.9
Low skilled	68.3	65.6	59.8	74.9	59.7	63.4	63.0
Semi-skilled	5.3	3.4	3.9	2.0	5.5	5.3	4.5
Skilled	10.0	9.7	19.9	11.7	19.3	16.1	15.6
High skilled	2.4	1.8	3.0	0.6	8.6	4.3	4.0

Source and note: Same as Table 3.

We had started by commenting that the labour market situation of the youth is important because of the scope for reaping the demographic dividend through an increased working-age population. We also mentioned that this dividend is not guaranteed and it may well happen that countries/regions with a youth bulge are unable to utilise this increased working-age population productively. Do the spatial differences across the states of India noted above have some overlap with the demographic pattern as well? To explore this issue, we have grouped 22 major states of the country into three demographic groups based on youth population growth rates in the state.

It is found that the youth are exhibiting better employment parameters in regions with moderate youth population growth rate, compared to that of high and low youth population growth rate states. The moderate regions have higher LFPR, higher WPR, substantially lower unemployment rates, higher percentage of workers in regular employment, and lower incidences of NEET compared to the other two demographic regions. It is quite possible that the low and high youth population growth rate regions are exhibiting a similar kind of behaviour in the labour market because of different sets of reasons, but exploring those is beyond the scope of this study.

Factors Affecting the Labour Market

We have already witnessed that skill pattern, unemployment rate and employment types are different across the states of India both along regional and demographic lines. This difference across regions in unemployment rates, especially youth unemployment, is a matter of grave concern. Unemployed youth, dissatisfied and frustrated with a lack of earning opportunities, when concentrated in specific regions of a large and diverse country like India, is a sure recipe for lawlessness and factionalism. Indeed, large-scale violence witnessed in parts of Bihar and Uttar Pradesh, the two most populous and high youth unemployment states of the country, in recent times over the employment policies of the railways and the army bear testimony to that (Kapoor 2022; *Economic Times* 2022; Mukherjee 2022).

To bring down unemployment rates in specific regions, we must try to identify factors that affect regional unemployment rates. What are such likely factors? In literature, there are references to factors like the economic base and structure of a region (Brewer 1985), economic growth and crisis (Banerji 2015; Eichhorst et al 2013; O'Higgins 2001), industrial diversity (Taylor and Bradley 1983; Simon 1988; Neumann and Topel 1991; Malizia and Ke 1993), productivity of the major sector (Lakdawala 1977), and the skill of youth (Coenjaerts et al 2009). In this study, we hypothesise that the likely factors working at the state level are aggregate economic performance of the state (net state domestic product [NSDP] growth), degree of industrialisation (growth in factory sector employment), inflow of industrial capital (amount of new industrial investment per capita), economic structure (share of major sectors in the gross state domestic product [GSDP]), public expenditure, and skill of the labour force. The functional form assumed is:

$$UR = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + b_{10}X_{10} + U$$

where, UR = unemployment rate; X_1 = per capita NSDP growth rate between 2011 and 2018, X_2 = factory worker growth rate between 2011 and 2018, X_3 = amount of new investment in 2011–18 (per capita), X_4 = share of agriculture in the state's gross value added (GVA), X_5 = share of registered manufacturing in the state's GVA, X_6 = share of trade and hotels in the state's GVA, X_7 = share of public administration in the state's GVA, X_8 = public expenditure as percentage of GSDP, X_9 = skill

index of the labour force, and X_{10} = squared skill index of the labour force.

It is expected that economic growth, industrialisation, capital inflow, higher share of registered manufacturing, trade and public administration in SDP will have a negative effect on the unemployment rate, bringing it down. On the other hand, high share of agriculture in SDP is expected to raise the unemployment rate. Skill may have a dual impact—while initially an increase in skill may lower unemployment, it may again rise at higher skill levels as already observed in earlier sections. To account for that, we have included both the skill index and square of skill index as explanatory variables. We have run the regression for all populations and males separately.

Results indicate that in a model with all the variables, only factory worker growth, amount of new investment, share of registered manufacturing in SDP, and public expenditure have negative coefficients, indicating that these are instrumental in bringing down the unemployment rate (Table 7). On the contrary, per capita NSDP growth has a positive coefficient, indicating that unemployment is higher in fast-growing regions. The share of agriculture in SDP, share of trade and hotels in SDP, and the share of public administration in SDP have positive coefficients, implying that a regional economy biased towards these sectors also has higher unemployment rate. As expected, the skill index has a negative coefficient while its square has a positive coefficient, indicating that a rise in the skill level of the workforce brings down the unemployment rate initially, but at higher levels of skill index, the unemployment rate again increases. The results are similar for both the full population and males.

Table 7: Determinants of Youth Unemployment Rate in India, 2018

Indicators	Full Model		Backward Elimination Best Fit Model@	
	All	Male	All	Male
Per capita NSDP growth 2011–18	1.099 (0.14)	0.951 (0.17)	1.138 (0.08)	0.612 (0.14)
Factory worker growth 2011–18	-0.828 (0.10)	-0.314 (0.47)	-0.736** (0.01)	
Amount of new investment 2011–18 (per capita)	-0.007* (0.04)	-0.007* (0.03)	-0.006** (0.01)	-0.006** (0.01)
Share of agriculture in state's GVA	0.123 (0.43)	0.046 (0.75)	0.072 (0.10)	
Share of registered manufacturing in state's GVA	0.177 (0.54)	0.231 (0.40)		
Share of trade and hotels in state's GVA	0.590* (0.02)	0.516* (0.02)	0.622** (0.01)	0.446** (0.01)
Share of public administration in state's GVA	0.464 (0.22)	0.193 (0.58)	0.486* (0.04)	
Public expenditure as % of GSDP	-0.024 (0.88)	-0.020 (0.90)		
Skill index of labour force	-3.684 (0.66)	0.644 (0.94)	-0.001 (0.10)	
(Squared) skill Index	0.050 (0.62)	-0.009 (0.92)	0.007** (0.01)	
Adjusted R squared	0.729	0.480	0.778	0.653
F-stat	6.102** (0.01)	2.751* (0.07)	10.486** (0.01)	12.894** (0.01)

Figures in parenthesis are p-values. ** and * denote significant at 1% and 5% levels, respectively; @ - model with maximum adjusted R square.
Source: Authors' calculation based on Gol (2012, 2013, 2019, 2020), NSSO (2011, 2019), DPIIT (2011–20), RBI (2022).

When we trim our variables using the backward elimination method, we are left with only the variables showing significant coefficients. It is seen that for the full population, these are: per capita NSDP growth, factory worker growth, amount of new investment, share of trade and hotels in SDP, share of public administration in SDP, and skill index. For the males, share of public administration does not appear as a significant variable. It thus appears that the best way to bring down the unemployment rate is to expand factory employment and bring in more industrial investment. On the other hand, macroeconomic growth that relies on the tertiary sectors like trade and hotels and public administration is likely to push up unemployment rates either because these sectors are not the drivers of labour market but are consequences of a high unemployment regime, or because these sectors are not as labour-intensive as they are popularly believed to be (for related issues, see Mukherjee and Majumder 2008; Pattanaik and Nayak 2011).

Regional Convergence/Divergence

One issue of related interest is regional convergence/divergence in unemployment among the youth. In a neo-liberal economic setting with a large magnitude of footloose workers, large differences in unemployment rates between regions are not expected to persist for long. Workers from high unemployment regions are expected to migrate to places with low unemployment, resulting in a convergence in unemployment across regions. The same impact may result from investment moving to regions where unemployment is high and, hence, inter alia, wage rates are lower. While this is a working hypothesis, the empirics are not always supportive of such an “equalisation theory.”

Often, regions show no signs of convergence because of several factors like “cumulative causation” (Kaldor 1978) and accompanying agglomeration of economic activities, selective migration, concentration of investment in already developed areas because of existing good infrastructure, regional disparity in public expenditure, mismatch between skills of surplus workers in high unemployment region and skills required from workers in high labour demand or low unemployment regions (Jackman and Roper 1987), skill-intensive migration in which relatively skilled workers migrate out leaving a mass of unemployed back home, which in turn may lead to fall in aggregate demand and hence lower production and employment in the source regions (Taylor 1996). We examine the Indian evidence over the last decade in this regard.

Convergence/divergence is examined in literature using sigma convergence, unconditional beta convergence and conditional beta convergence. In the first method, trends in variation in unemployment rates across regions are examined (generally using the coefficient of variation). Convergence is said to happen if this variation declines. In the second

method, change in the unemployment rate over a period of time is regressed on the initial period's unemployment rate. A negative beta coefficient would indicate that regions with higher initial unemployment rates have witnessed a slower change in the unemployment rate, while those with a low initial rate are witnessing a sharper change. Hence, regions are coming closer to each other and convergence is happening. A positive beta coefficient would indicate divergence. However, unconditional beta convergence is less frequent because of the effect of several other instrumental variables as mentioned earlier. To account for that, in the third method, some such variables are included in the regression of change in the unemployment rate on the initial unemployment rate. The interpretation of the sign of the beta coefficient is similar to that of previous methods. We have used all the three methods here with 2011–12 as the initial period and 2018–19 as the terminal period.

Sigma convergence is indicated as the coefficient of variation in unemployment rates across 20 major states has declined from 0.62 to 0.37. For males, this change is from 0.48 to 0.28. Results also indicate unconditional beta convergence as the coefficient of initial unemployment is significantly negative in both cases (Table 8). To check for conditional beta convergence, we have used the following instrumental variables: LFPR, skill index of the working-age population, base year per capita NSDP, amount of new industrial investment during 2011–18, sectoral shares of agriculture, registered manufacturing, trade and hotels, and public administration in SDP, and public expenditure. It is observed that for both the full set of variables and the parsimonious model with the backward elimination method, the beta coefficient of the initial unemployment rate is negative,

Table 8: Regional Convergence in Youth Unemployment Rate in India, 2011–18

Indicators	Unconditional Beta Convergence		Conditional Beta Convergence		Conditional Beta Convergence (Backward Elimination)@	
	All	Male	All	Male	All	Male
Initial unemployment rate 2011	-0.256	-0.634	-0.657* (0.05)	-0.876** (0.01)	-0.630** (0.01)	-0.881** (0.01)
LFPR			0.204 (0.49)	0.201 (0.38)		0.108 (0.34)
Skill index of working-age population			65.650 (0.41)	16.744 (0.76)	47.442* (0.05)	
Per capita NSDP 2011			-2.104 (0.78)	-2.594 (0.65)		
Amount of new investment 2011–18 (per capita)			-0.004 (0.17)	-0.005* (0.03)	-0.004** (0.01)	-0.005** (0.01)
Share of agriculture in state's GVA			0.028 (0.88)	0.019 (0.90)		
Share of registered manufacturing in state's GVA			-0.062 (0.84)	0.119 (0.62)		
Share of trade and hotels in state's GVA			0.652* (0.05)	0.586* (0.03)	0.497** (0.01)	0.527** (0.01)
Share of public administration in state's GVA			0.204 (0.70)	0.157 (0.68)		
Public expenditure as % of GSDP			0.022 (0.95)	-0.032 (0.89)		
Adjusted R squared	0.116	0.249	0.255	0.495	0.503	0.670
F-stat	2.749 (0.11)	8.306** (0.01)	1.649 (0.23)	2.862* (0.05)	5.812* (0.05)	10.638** (0.01)

Source and note: Same as Table 7.

indicating conditional beta convergence. Among the instrumental variables, the inflow of new industrial capital is leading to convergence while increased share of trade and hotels is leading to divergence.

In Conclusion

It therefore transpires that the labour market situation is far from rosy for the youth in India. While there is a historic trend of declining LFPR and WPR, mainly caused by increased participation in education, the trend has accelerated in recent times and that too with an increasing unemployment rate. About half of the youth population is neither working nor engaged in any productive activities—what we may call wastage of human resources. This wasted human capital is surely creating a demographic drag in the economy rather than yielding a demographic dividend. While unemployment is high among unskilled youth, it is also remarkably high among skilled and highly skilled youth population, raising questions

about the employability of our young graduates on the one hand and underlining the labour-replacing nature of the current economic growth pattern on the other.

Cohort studies indicate that with age, a part of the labour force gets takes up regular jobs while another part takes up whatsoever work they can find. However, the skill level hardly improves once they leave the youth bracket, highlighting the dearth of lifelong skilling opportunities and incentives. Regional analysis reveals that the labour market situation is relatively better in the southern and western states and states with moderate youth population growth rates. States at early stages of demographic transition (where growth of youth population is relatively high) and those at the advanced stage of demographic transition (where growth rate of youth population is low) have lower LFPR, WPR and higher unemployment rates. The econometric exercise shows that industrialisation is still the best bet to solve the unemployment conundrum.

NOTES

- 1 The divisions are as follows: chronic unemployment—those who are unemployed by both UPS and CWS, that is, those without work throughout the year; irregular employment—those who are employed in UPS but unemployed by CWS; intermittent employment—those who are currently working but are usually unemployed; and stable employment—those who are employed both at UPS and CWS (see Majumder 2023 for details on this).
- 2 Skill groups are prepared using general, vocational and technical educational status of individuals. For details, see De et al (2022).
- 3 The spatial regions are as follows: Central—Chhattisgarh, Madhya Pradesh; Eastern—Bihar, Jharkhand, Odisha, West Bengal; Northern—Jammu and Kashmir, Himachal Pradesh, Punjab, Chandigarh, Uttarakhand, Haryana, Delhi, Uttar Pradesh; North-Eastern—Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya, Assam; Southern—Telangana, Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, Lakshadweep, Andaman and Nicobar Islands, Puducherry; Western—Maharashtra, Gujarat, Rajasthan, Goa, Daman, Diu, Dadra and Nagar Haveli.

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