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▶ India Employment Report 2024

Youth employment, education and skills



▶ **India Employment Report 2024**

Youth employment, education and skills

Dedicated to the Memory of

Ajit K. Ghose

(1947-2023)

**who made significant contributions to labour market and
employment issues during his long tenure with both ILO and IHD.**

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▶ Foreword

The India Employment Report 2024 is the third in the series of regular publications by the Institute for Human Development on labour and employment issues. Undertaken in partnership with the International Labour Organization (ILO), this report examines the challenge of youth employment in the context of the emerging economic, labour market, educational and skills scenarios in India and the changes witnessed over the past two decades.

Drawing on the latest official data, the report highlights recent trends in the Indian labour market, which indicate improvements in some outcomes along with persisting and new challenges, including those generated by the COVID-19 pandemic. While the labour force participation rate, especially for women, and the unemployment rate experienced some improvement post-2019, this needs to be interpreted carefully due to an increase in agricultural employment in rural areas. A novel Employment Conditions Index applied across the states of India reveals a positive trend over the last decades, though this was negatively impacted by the COVID-19 pandemic.

India remains poised to take advantage of its demographic dividend, though the situation varies across the country. Education levels have improved considerably and is a key determinant of accessing better jobs. At the same time, educated youth have higher rates of unemployment, reflecting a mismatch with their aspirations and available jobs. Beyond a narrow view of the unemployed, there is a large proportion of youths, particularly young women, not in education, employment or training. Technological change and digitalization are rapidly affecting the demand for skills, which will continue to impact young people in the Indian labour market.

The report highlights five key policy areas for further action, which apply more generally and also specifically for youth in India: 1) promoting job creation; 2) improving employment quality; 3) addressing labour market inequalities; 4) strengthening skills and active labour market policies; and 5) bridging the knowledge deficits on labour market patterns and youth employment. Given the importance of these issues, we believe the report will serve as a timely and constructive input for policymakers, social partners, civil society and other researchers over the coming years.

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▶ Acknowledgement

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The report was prepared by a team of IHD researchers in close collaboration with ILO experts. Alakh N. Sharma and Ravi Srivastava of IHD and Sher Verick from ILO led, coordinated and edited the report. The background chapters were prepared by Balwant Singh Mehta, Tanuka Endow, Diksha Tayal and Shipra Nigam of IHD. Balwant Singh Mehta and Tanuka Endow also contributed in editing other chapters along with the team leaders. Thanks are due to all of them. Additional appreciation is due to Siddharth Dhote, whose excellent research assistance in statistical analysis, with overall supervision of Balwant Singh Mehta, significantly contributed to the preparation of this report. Special thanks is also due to G.C. Manna for validating the statistical analysis and reviewing draft chapters, with insightful comments and suggestions.

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► Abbreviations

CSO	Central Statistical Organization
CWS	current weekly status
GVA	gross value added
ICT	information and communication technology
ILO	International Labour Organization
LFPR	labour force participation rate
NCO	national classification of occupations
NEET	not in employment, education or training
NSSO	National Sample Survey Organisation
TVET	technical and vocational education and training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UPSS	usual principal and subsidiary status

► Glossary

Aatmanirbhar Skilled Employees Employer Mapping Portal	It is a directory of skilled workers serving as a platform for matching the supply of skilled workers with the market demand for them.
Active labour market policies (ALMPs)	These are publicly financed interventions intended to improve the functioning of the labour market by inducing changes in labour demand and labour supply as well as their matching process.
Activity status	It is the activity situation in which a person is found during the reference period. According to this, a person could be in one or a combination of the three broad activity statuses during the reference period: (a) working or being engaged in economic activity (work); (b) being not engaged in economic activity (work) but either making tangible efforts to seek work or being available for work if work is available; and (c) being not engaged in economic activity (work) and also not available for work.
Apprenticeship	It is a skills training programme wherein a person is engaged by a company as an apprentice and gains classroom (theory) learning for a short period, followed by on-the-job (practical) training.
Casual employment	All workers who do not have any tenure and are mostly employed on a daily wage basis are casual workers.
Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)	DDU-GKY is a demand-driven placement-linked skills training initiative launched by the Ministry of Rural Development in 2014. It is part of the National Rural Livelihoods Mission, offering placements to rural youths aged 15–35 from poor households.
Economic activity	Any activity resulting in the production of goods and services that adds value to the national product is considered an economic activity for the Employment and Unemployment Surveys and Periodic Labour Force Survey conducted by NSO.
Employment by current weekly status (CWS)	All persons who have performed any economic activity at least for one hour on any day of a reference week of the preceding seven days of the survey are included under CWS employment.
Employment by usual principal status (UPS)	Usual principal status refers to the activity in which a worker was engaged most of the time during a reference period of the 365 days preceding the date of a survey. All persons engaged in a principal activity for most of the period are covered under UPS employment.
Employment by usual principal and subsidiary status (UPSS)	Subsidiary status workers are persons who are engaged in an economic activity for a shorter duration in a reference period. All persons engaged in a principal activity (UPS) and a subsidiary activity are included in UPSS employment.

Employment elasticity	Employment elasticity with respect to GDP during a period is the ratio of the average annual growth of employment to the average annual growth of GDP during that period.
Employment status	Employment status is classified into three categories: self-employment, regular employment and casual employment.
Formal workers (or formal employment)	Formal workers consist of persons working in the unorganized, or informal, sector who are regular workers with social security benefits provided by their employer and the workers in the formal sector with any employment and social security benefits provided by their employer.
Gross value added (GVA)	GVA is the value of all goods and services produced by an industry, sector, manufacturer, area or region in an economy.
Informal workers (or informal employment)	Informal workers consist of persons working in the unorganized, or informal, sector enterprises or households, excluding regular workers with social security benefits provided by their employer and the workers in the formal sector without any employment and social security benefits provided by their employer.
Jan Shikshan Sansthan	It is a scheme of the National Literacy Mission that was set up by the Government of India that provides vocational skills to non-literate, neo-literates as well as school drop-outs by identifying skills that have a market in the region of their establishment.
Labour force	Labour force constitutes all persons who are working, seeking work or are unemployed or available for work.
Labour force participation rate (LFPR)	The LFPR is the proportion of the country's population actively engaged in the labour market either by working or seeking work. It is an indication of the total supply of labour.
Lakh	It is equal to 100,000.
Monthly per capita consumption expenditure (MPCE)	MPCE is the household consumer expenditure over a period of 30 days divided by the household size.
National classification of occupations (NCO)	NCO is the categorization of individual occupations on the kind of work and skill level involved in that particular occupation.
National Employment Service (NES)	NES operates in India through a network of employment exchanges. Its primary objective is employment for jobseekers, either through regular jobs or through self-employment.
National Industry Classification (NIC)	NIC is a statistical standard for developing and maintaining a comparable database according to economic activities. Such classifications are frequently used in classifying the economically active population, statistics of industrial production and distribution, the different fields of labour statistics and other economic data, such as national income.
Organized or formal sector	The organized, or formal, sector consists of the government and public departments and public and private enterprises plus the private enterprises that employ ten or more workers.

Own-account workers	They are self-employed persons who operate their enterprises on their own account or with one or a few partners and who during a reference period of a survey, by and large, run their enterprise without hiring any labour. They may, however, have unpaid helpers to assist them in the activity of the enterprise.
Pradhan Mantri Kaushal Vikas Yojana (PMKVY)	PMKVY was launched in 2015 to encourage and promote skill development in the country by providing free short- duration skills training and incentivizing this by providing monetary rewards to youths for skill certification. The overall idea is to boost industry as well as the employability of youths.
Pradhan Mantri Mudra Yojana (PMMY)	The PMMY is a scheme launched in 2015 for providing loans of up to 1,000,000 rupees to non-corporate, non-farm micro and small enterprises.
Prime Minister's Employment Guarantee Programme (PMEGP)	PMEGP aims at generating self-employment opportunities for unemployed youths in both rural and urban areas. It is a major credit-linked subsidy programme to facilitate youths in establishing a microenterprise in the non-farm sector.
Regular employment	It refers to all wage or salaried workers who are on relatively longer tenure of works and who are usually paid wages or a salary on a weekly or monthly basis.
Rozgar Mela	The Rozgar Mela is a half-day event organized by the National Skill Development Corporation with the help of the Sector Skill Councils and the Pradhan Mantri Kaushal Kendras and brings together employers from high-growth sectors and jobseekers in an area or state for fast-tracking applications and recruitment.
Self-employment	All persons who are own-account workers, working employers, unpaid family workers and home-based workers are included under self-employment.
Skill India Mission	It is a Government of India-recognized autonomous body that provides skills training to the country's youth and creates a skilled workforce.
Technical and vocational education and training (TVET)	TVET refers to aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life.
Unemployment rate	The unemployment rate is the proportion of the labour force that does not have employment and is seeking and/or available for work.
Unorganized or informal sector	Enterprises that employ fewer than ten workers and are not government or public and public or private limited are in the unorganized, or informal, sector. These enterprises can belong to any of the following five categories: (a) proprietary; (b) partnership; (c) cooperative societies, trusts or other non- profit organizations; (d) employer's households (private households employing maids, watchmen, cooks, etc.); and (e) others.
Worker population ratio (WPR)	WPR is the proportion of the labour force engaged in work.

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► Executive summary

Background to the *India Employment Report 2024*

The *India Employment Report 2024* is the third in the series of regular publications by the Institute for Human Development on labour and employment issues. This report on *Youth Employment, Education and Skills* examines the challenge of youth employment in the context of the emerging economic, labour market, educational and skills scenario in India and changes over the past two decades. The report is primarily based on analysis of data from the National Sample Surveys and the Periodic Labour Force Surveys between 2000 and 2022, with a postscript for 2023. Other sources of data include the Annual Survey of Industries, the National Account Statistics and the Reserve Bank of India-KLEMS database.

Employment trends and current scenario

The key labour market indicators in recent years reflect paradoxical improvements. The labour force participation rate, the workforce participation rate and the unemployment rate showed long-term deterioration between 2000 and 2019 but improvement thereafter. The improvement coincides with periods of economic distress, both before and during the COVID-19 pandemic, with the exception of two peak pandemic quarters.

The trend in overall labour market indicators is mirrored even more strongly by the female labour market indicators. The female labour market participation rate, after declining significantly in the earlier years, took to a faster upward trend as of 2019, particularly in rural areas.

In general, there have been improvements in employment conditions over the years. The employment condition index prepared for this report and based on seven labour market outcome indicators indicated that between 2005 and 2022, there was a slow but steady increase in values, indicating improvement in employment conditions. But again, this trend was halted – and even reversed after 2019 – after onset of the COVID-19 pandemic. Notwithstanding the modest improvements, employment conditions remain poor.

The slow transition to non-farm employment has reversed. One of the most significant features of the Indian labour market is a slow and steady transition of the workforce away from agriculture and into the non-farm sectors. The share of manufacturing employment was stagnant, at around 12-14 per cent. The increase in non-farm employment was absorbed by construction and services. After 2019, this slow transition reversed due to the pandemic, with a rise in the share of agricultural employment as well as an increase in the absolute size of the agricultural workforce.

Women largely account for the increase in self-employment and unpaid family work. Nearly two thirds of the incremental employment after 2019 comprised self-employed workers, among whom unpaid (women) family workers predominate. The share of regular work, which steadily increased after 2000, started declining after 2018.

Employment is dominated by poor-quality employment in the informal sector and informal employment. Employment in India is predominantly self-employment and casual employment. Nearly 82 per cent of the workforce engages in the informal sector, and nearly 90 per cent is informally employed. Due to the nature of employment growth since 2019, the share of total employment, which is in the informal sector and/or in informal employment, increased.

Wages and earnings are stagnant or declining. While wages of casual labourers maintained a modest upward trend during 2012–22, real wages of regular workers either remained stagnant or declined. Self-employed real earnings also declined after 2019. Overall, wages have remained low. As much as 62 per

cent of the unskilled casual agriculture workers and 70 per cent of such workers in the construction sector at the all-India level did not receive the prescribed daily minimum wages in 2022.

The production process has increasingly become capital-intensive and labour-saving. Due to increasing mechanization and capital use, the employment generation in India has become more and more capital-intensive, with fewer workers employed between 2000 and 2019 than in the 1990s. The skill intensity of employment in industry and services increased during this period, which was contrary to the labour market needs of the country.

Digitalization and introduction of new technologies are changing the structure of industrial employment. There has been a rapid introduction of digitally mediated gig and platform work, which are algorithmically controlled by the platforms and have brought about new features in control of the labour process. Increasingly, platform and gig work have been expanding, but it is, to a large extent, the extension of informal work, with hardly any social security provisions.

Disparities are predominant in the labour markets across states and regions. There are large variations between states in their employment outcomes, which are captured through the employment condition index prepared for this report. The index showed that although there were improvements in all states in labour market outcomes, albeit at different rates, there was little change in the position of states at the bottom and at the top. Bihar, Uttar Pradesh, Odisha, Madhya Pradesh, Jharkhand and Chhattisgarh had much poorer employment outcomes; they were at the bottom in 2005 and remained so in 2022. In most of the labour market indicators, the variations across the states were significant, suggesting impact of policies at the regional level.

The migration rate is likely to increase in future. The migration levels in India are not adequately captured through official surveys. The rates of urbanization and migration are expected to considerably increase in the future. India is expected to have a migration rate of around 40 per cent in 2030 and will have an urban population of around 607 million. The bulk of this increase in urban growth will come from migration. The pattern of migration also shows regional imbalance in the labour markets. The direction of migration in general is from eastern, north-eastern and central regions to southern, western and northern regions.

Growth and employment

Employment growth remained stagnant up to 2019 and then moved upward. Between 2000 and 2012, employment in India experienced an annual growth rate of 1.6 per cent, while gross value added grew at a much faster rate, at 6.2 per cent. This pattern was intensified between 2012 and 2019, when gross value added continued to grow at 6.7 per cent, but employment growth was nearly negligible, at 0.01 per cent. After 2019 and due to the COVID-19 pandemic, there was a substantial increase in employment, with agricultural employment growth even outpacing the growth in agriculture gross value added.

The rise in labour productivity up to 2019 was accompanied by capital deepening. Labour productivity consistently increased alongside capital deepening, indicating that economic growth was increasingly associated with technological progress and productivity gains rather than employment. Labour productivity was the primary driver of per capita gross value added growth during 2000–19. The rise in capital intensity suggests that growth has been closely linked with technological advancements that favour capital-intensive production.

Employment has shifted from low-productivity agriculture to relatively higher-productivity non-agriculture sectors. During 2000–19, there was a shift in employment from low-productivity agriculture to relatively higher-productivity non-agriculture sectors. However, this transition slowed and then reversed between 2019 and 2022. Employment in the agriculture sector experienced negative growth rate during 2000–19, accompanied by significant growth in the construction and service sectors. This trend reversed with substantial growth in agriculture during 2019–22. This surge can be attributed to

individuals returning to subsistence activities in agriculture due to the lack of work opportunities outside the agriculture sector that was exacerbated by the pandemic-related economic slowdown.

The construction sector maintains high employment elasticity. The construction sector stands out for consistently demonstrating high employment elasticity throughout the post-liberalization (after 2000) period. Yet, most jobs generated in this sector are characterized by low wages and their informality.

Growth in manufacturing employment remains sluggish despite the robust gross value added growth. Employment in manufacturing expanded by only 1.7 per cent, even though the gross value added exhibited a high growth rate of 7.5 per cent per year during 2000–19. From 2019 to 2022, employment and gross value added increased by 3 per cent and 3.5 per cent per year, respectively, prompted by the partial post-pandemic recovery. The significance of the manufacturing sector becomes evident when considering that most of the additional employment generated in the sector was regular and self-employment types, with much higher earnings and productivity compared to construction, agriculture and some services, like trade.

The service sector has been the primary driver of India's growth since 2000. The remarkable performance by certain modern services contributed to the creation of more productive and decent employment. The services sector exhibited consistent growth during the periods of 2000–19 and 2019–22 in gross value added (7.5 per cent and 2 per cent, respectively) and employment (2.9 per cent and nearly 1.1 per cent, respectively). Software, IT, IT-enabled services, business and financial services had significant roles: They generated direct employment opportunities and stimulated job growth in other sectors through multiplier effects. These services consistently generated highly paid, regular formal job opportunities.

There has been slow and steady structural transformation, which reversed after 2019. An important feature of the growth process was the slow transition of the workforce from agriculture to non-agriculture between 2000 and 2019. The transfer of labour from agriculture has been to construction and services; manufacturing remained stagnant, at 12–14 per cent. There has been a decline in the share of agricultural employment but a much faster decrease in the share of gross value added. This process of slow structural transformation reversed after 2019, with a substantial rise in agricultural employment. This pattern of growth is rather unique for a lower-middle-income country like India.

Challenge of youth employment

India remains poised to reap a demographic dividend. A large proportion of the population is of working age, and India is expected to be in the potential demographic dividend zone for at least another decade. But the country is at an inflexion point because the youth population, at 27 per cent of the total population in 2021, is expected to decline to 23 per cent by 2036. Each year, around 7–8 million persons are added to the labour force whose productive utilization could lead to India reaping a demographic dividend.

The education participation of youths and youths who are out of the labour force drive the low youth labour force participation rate. Youth participation in the labour market has been much lower than among adults and was on a long-term (2000–19) declining trend, primarily due to greater participation in education. But the increase in unemployment between 2012 and 2019, is attributable to a proportion of youths, mainly women, remaining out of the labor force. After 2019, the trajectory reversed, with a rise in the youth labour force participation rate (LFPR) and the worker population ratio and declining unemployment rates, particularly among rural women.

The activity status of youth reflects a preponderance of unpaid family work. Youths have greater participation than adults in regular employment and comparatively lower participation in self-employment. Among self-employed persons, the proportion of unpaid family workers is much larger for youths than for adults.

Youth employment is, by and large, of poorer quality than employment for adults. Employed youths have been much more likely to be in more vulnerable occupations (informal) or in the informal sector. Youth wages and earnings have increased with age but are lower than what they are for adults for all categories of employment. There has been only a marginal gap between youth earnings from wage employment and self-employment, indicating poor conditions of work.

The structural features of youth employment indicate less presence in the agriculture sector, although with an obvious gender gap. Youth have been relatively less engaged in agriculture and more engaged in industry and services. As youth grow older and acquire higher levels of education, they are more likely to engage in non-farm activities. Young women are more likely to engage in agriculture than young men. In tertiary sector activities, such as trade, hotels and restaurants, public administration, health and education and transport, storage and communication, there is a large gender gap in favour of men. Between 2000 and 2019, youths shifted out of agriculture much more than adults, but the COVID-19 pandemic reversed the long-term trend of youth employment expansion into non-farm sectors.

Youth unemployment and underemployment increased between 2000 and 2019 but declined during the pandemic years. Youth unemployment increased nearly threefold, from 5.7 per cent in 2000 to 17.5 per cent in 2019 but declined to 12.1 per cent in 2022 and further to 10 per cent in 2023. The incidence of unemployment was much higher among young people in urban areas than in rural areas and among younger youths (aged 15–19) than older youths (aged 20–29). Female unemployment rates were much higher than among men in 2019 but fell to the same level by 2022.

Educated youths have experienced much higher levels of unemployment.¹ The youth unemployment rate has increased with the level of education, with the highest rates among those with a graduate degree or higher and higher among women than men. In 2022, the unemployment rate among youths was six times greater than among persons with a secondary or higher level of education (at 18.4 per cent) and nine times greater among graduates (at 29.1 per cent) than for persons who cannot read and write (at 3.4 per cent). Educated female youths experienced higher levels of unemployment compared with educated male youths.

India has a large proportion of youths, particularly young women, not in education, employment or training. One in three young people has had such status in India, which has been almost equal in rural and urban areas and increased over the years after 2000. Young women are much more likely to not be in employment, education or training than young men, and this was especially more pronounced among older youths than younger ones. In fact, women not in employment, education or training amounted to a proportion nearly five times larger than among their male counterparts (48.4 per cent versus 9.8 per cent) and accounted for around 95 per cent of the total youth population not in employment, education or training in 2022.

During the COVID-19 pandemic, the youth labour market indicators worsened only during peak periods. After the lockdowns, the youth labour market indicators recovered quite quickly. But this movement was accompanied by additions to the labour force and workforce, primarily in poor-quality work. The number of youths in self-employment expanded much more than in other categories of employment during the pandemic, which was mostly in household unpaid work, especially among rural women and considered the worst form of employment. Additionally, the number of young workers engaged in regular salaried jobs declined during the pandemic period. The participation of young people in employment expanded in subsistence agriculture and in the low-productive and low-wage construction sectors during the pandemic, while it remained somewhat stable in the industrial and

¹ The National Sample Survey Office's annual Periodic Labour Force Survey categorizes general education attainment levels in India into the following: "not literate, literate without formal schooling or below literate, primary, middle, secondary, higher-secondary, diploma/certificate course, graduate, post-graduate and above". Persons with a technical education are also listed as having a technical degree in: agriculture, engineering/technology, medicine, crafts, other subjects; or having a diploma or certificate in those streams, which is further categorized as "below graduate level" or "graduate and above level". "Graduate" throughout the report refers to university graduates (with a bachelor's degree) or persons with an equivalent recognized diploma or certificate.

services sectors. This sectoral trend suggests an increase in largely informal, unpaid and low-paying work, especially in farming and the construction sectors and among women.

Technological change and digitalization have rapidly affected the demand for skills and for certain types of employment. The proportion of high- and medium-skill jobs is greater among youths than among older people. Young people are also better represented in the gig and platform economy, where jobs remain insecure and the labour process is tightly controlled through algorithmic management. In services and, to a lesser extent, in manufacturing, youth are more likely to be in high- and medium-skill jobs.

Regional trends and outcomes of youth employment vary across states. Because states are at different stages of demographic transition, the potential demographic advantage also varies across them, as do the employment outcomes. A synthetic indicator constructed for this report to capture regional outcomes found that youths fare poorly in Bihar, Jharkhand, Uttar Pradesh, Rajasthan, Madhya Pradesh, Assam, Odisha and West Bengal, many of which also otherwise have a high potential demographic advantage. But most of the southern and western states, along with some of the northern states, such as Himachal Pradesh and Delhi, show higher values of the composite index.

Education and youth employment

Improvements in educational attainment remain steady, although disparities persist. Education attainment among the youth has improved significantly in the past two decades across all sections of youth, indicating that youth are better equipped to deal with technological change and emerging labour market opportunities. However, gaps persist and have grown for some social groups, the individual monthly per capita expenditure quintiles, location (rural or urban) and region. Thus, different segments of youths have placed differently in terms of availing of the emerging labour market opportunities. At an aggregate level, as much as 42 per cent of youths have less than a secondary level of education and only 4 per cent of them have accessed formal vocational training.

Returns to education are low at lower levels of education. Analysis of returns to different levels of education showed that improvement at the lower levels of education bring little incremental returns. The highest jump occurred for employed youths who had a graduate degree or higher or technical education. Returns were influenced by gender, location, social origin and economic background.

Non-student youths have had a declining worker population ratio except during the recent pandemic period. A declining trend in the worker population ratio continues among non-student youths; it is more marked among those with a low level of education. The worker population ratio among all non-student youths, especially young men, exhibits a weak inverted U-shaped pattern in relation to educational attainment. This underscores the dual challenges faced by men with low and high levels of education in terms of their participation in the labour market. The worker population ratio among technically qualified non-student youths has declined sharply, raising concerns about the quality of technical education. Formal vocational training among young individuals in India continues to be associated with a low worker population ratio as well as unemployment.

Education correlates with better jobs. Highly educated youths are predominantly employed in regular salaried jobs. But youths with little education engage more in casual or informal work. Youths with technical degrees and graduate-level diplomas are more predominant in regular or formal employment than youths without technical qualifications. Highly educated youths tend to more actively engage in the high-productivity sectors, primarily the tertiary sector, such as business, telecom, finance and information technology. The skills and knowledge acquired through higher education equip these individuals with the expertise required to excel in these sectors, which contributes significantly to economic growth and development. Less-educated youths are more likely to be employed in the primary (agriculture) and secondary sectors (manufacturing and construction). Youths with technical degrees and graduate diplomas are involved more in the tertiary sector.

The probability of any kind of employment is lower as education rises but higher for youths having technical education. The probability of being employed rises with age; it is higher for men and in rural areas and for socially deprived groups; it increases for those in higher expenditure quintiles. And it is higher for the country's more economically dynamic regions – the North, West and South. The likelihood of highly educated youths being engaged in regular formal employment increases with the level of education and technical qualifications.

Youths with a low level of education want stable jobs, and the vast proportion of young men and women want to be employed. An Institute for Human Development survey of youths in low-income localities in Delhi and Ranchi (the capital of Jharkhand State) found a high propensity for education among youths but a low propensity for vocational training. Educated youths, whether men or women, want jobs and aspire for stable white-collar jobs. But most young women still opt out of the labour force due to societal pressures, and the actual nature of jobs that young people do is markedly different from the jobs that they aspire to. The average waiting period for a first job is more than a year.

A large proportion of highly educated young men and women, including the technically educated, are overqualified for the job they have. The analysis of the extent to which highly educated youths (graduate level and higher) had taken up blue-collar public sector jobs indicated large shares, even in 2004–05, with the mismatch increasing for students with only a graduate degree. Even among the technically qualified youths, nearly two fifths of them engaged in vocations that did not correspond to their qualifications. Although educational attainment has increased overall, there appears to be sharp constraints on the demand side that are pulling down the employment rates (for highly educated and poorly educated youths) and thus pushing up the unemployment rates. This leads to even highly educated youths taking up a low-skill blue-collar job. Insight into these dynamics can aid in policy formulation to address the complex challenges surrounding youth employment and to promote inclusive and equitable opportunities for all.

Despite the considerable progress, the level of educational attainments at higher levels remain low and quality is a concern. The drop-out rates after the middle and secondary levels of education in poorer states and among marginalized groups are high. Enrolment in higher education in India, although rising, is much lower than the levels in developed as well as in middle-income countries. The quality of education continues to remain a concern. There is significant learning deficit at school levels and in general, and the quality of education imparted by institutions of higher learning remains poor.

Skills and active labour market policies

Skills training and active labour market policies (ALMPs) supplement and complement each other in overcoming the skills-supply and skills-demand gaps. In the rapidly changing labour market scenario, skills training is needed to improve the employability of youths while short-term skills training along with other ALMPs are needed to bridge the supply–demand gaps and skill mismatches. A proper skills and ALMP setting can help to realize India's demographic potential.

The Indian skills training scenario has changed with initiation of several policies and setting up of institutions. India's skills scenario has changed significantly over the past 25 years or so. A national skills mission has been set up, and two national skills policies have been formulated to guide skills development. A Ministry of Skill Development and Entrepreneurship was established in 2014, with several institutions created to work in partnership with the private sector to determine skills gaps, create courses, implement programmes and certify skills. Although several ministries and departments are involved in skills training, the apex Ministry of Skill Development and Entrepreneurship has formulated an umbrella programme called the Pradhan Mantri Kaushal Vikas Yojana for implementing short-term and long-term programmes. Skill development is being integrated within the education system, and Centres of Excellence are being set up.

Expansion of skills training faces many challenges. First, there is a limited uptake of training due to factors on both the supply and demand sides, even though there is evidence of a gap between the

supply and demand for skills. Second, there are spatial imbalances in the training. The creation of training capacity is low in poorer regions where the potential demographic advantage is high. Third, there are low levels of socio-economic inclusion in training programmes, despite evidence that training positively relates to education and socio-economic levels. Fourth, the overarching nature of informality makes it difficult to design training such that returns from it can be internalized by trainees. And fifth, the returns from training are inadequately remunerated in the labour market, making training socially and economically less attractive.

Apprenticeship training remains low. Although there is a renewed focus on apprenticeship training, low apprenticeship enrolment against the stated targets is an issue of concern. Of around 120,000 establishments, only around 25,000 offer apprenticeships. Given the size of the youth population, it is very low.

Fresh stimulus for entrepreneurship development is an important policy instrument. Although government policy stressed entrepreneurship development in the past, it only recently was singled out as a key instrument to create a fresh supply of and demand for jobs. The National Policy for Skill and Entrepreneurship Development articulates five pillars of an ideal environment for entrepreneurship: access to funding; an entrepreneurial culture; supportive regulatory and tax regimes; educational systems that support entrepreneurial mindsets; and a coordinated approach that links the public, private and voluntary sectors. But there has hardly been satisfactory progress in most of these spheres.

Job search assistance programmes are still in infancy. Digitalization has provided opportunity for developing job assistance programmes. This includes setting up the Aatamanirbhar Skilled Employee Employer Mapping, or ASEEM, portal, which helps to match skills supply with demand. Yet, policy interventions designed to facilitate matches between jobseekers and employers are having modest effect on youth employment due to the mismatch between the expectations and the job offers received through the online job search platform. Job fairs are another means of bringing jobseekers and employers together in a region.

Emerging policy agenda

Some policy issues emerging from this analysis need to be urgently tackled.

Mission 1: Make production and growth more employment-intensive. Five groups of policy measures are recommended here: (a) Integrate an employment creation agenda with macro and other economic policies to boost productive non-farm employment, especially in the manufacturing sector. India is likely to add 7–8 million persons annually to the labour force during the next decade or so. To absorb them along with existing unemployed and underemployed youths, the country needs to have a high rate of growth but also an employment-intensive process of growth. (b) Give primacy to labour-intensive manufacturing employment to absorb the abundant unskilled labour and also to combine with select services. Support the emerging employment-generating modern manufacturing and services sectors (identified in this report) through appropriate policies and other benefits. (c) Direct greater focus to micro, small and medium-sized enterprises, especially by providing a more supportive, decentralized approach. This will require close examination of local policies and the regulatory environment, support for marketing and technology enhancement (including digitalization and artificial intelligence) and a cluster-based approach to manufacturing. (d) Increase agriculture productivity, create more non-farm jobs and promote entrepreneurship. (e) Expand and invest in the green and blue economies. There is huge potential for employment creation if it is supported by strategic investments, capacity-building initiatives and policy frameworks.

Mission 2: Improve the quality of jobs. This can be strengthened in three ways: (a) Invest in and regulate sectors that are likely to be an important source of employment for young people, such as the care sector, digital economy, etc. However, concerns regarding quality of jobs remain and need to be addressed. (b) Create an inclusive urbanization and migration policy. India is likely to experience a higher rate of urbanization and migration in the future as more and more youths aspire to seek decent

employment, which would be available mostly in urban areas. An inclusive urban policy is required to address the needs of migrants, women and impoverished young people in India (recognizing that young people dominate the migration flows). India is also among those countries from where significant international migration is taking place – 3.5 million people migrated looking for work between 2010 and 2021 – and the migration policy should be supportive of them. (c) Secure a strong supportive role of labour policy and labour regulation by ensuring a minimum quality of employment and basic rights of workers across all sectors.

Mission 3: Overcome labour market inequalities. The creation of good-quality employment needs to be supplemented by measures that reduce the stark inequalities in the labour market. Six approaches would help improve the current situation: (a) Craft policies that boost women’s participation in the labour market with quality work. These policies should include larger provision for institutional care facilities, adaptable work arrangements, improved public transport, improved amenities and enhanced workplace safety. These policy measures should be seamlessly integrated into the urban planning and development agenda. (b) Embrace different strategies to tackle the problems of youths not in employment, education or training, including those who are unemployed and youths (mainly women) who have opted out of the labour force for a variety of reasons. (c) Impart quality and mainstreaming skills in education for inclusion of socially and economically poorer groups and to improve employability. The quality of education needs to be augmented at all levels, with equitable access to all sections of society and in all regions. The National Education Policy is attempting an overhaul of education at all levels and mainstreaming skills training in education with the aim of fulfilling Sustainable Development Goal 4, unleashing the creative and employment potential of individuals and meeting the developmental challenges facing the country. This will require, as the policy recognizes, critical changes in educational governance and substantial human and financial resources, with a focus on implementation and outcomes. (d) Improve information and communication technology access and bridge the digital divide. (e) Create a non-discriminatory labour market. Concrete measures are needed to address labour market discrimination against women and marginalized social groups. (f) Adopt regional-level policy approaches to reduce labour market inequalities across regions and states. This is very important, given the broad differences across regions and states in the labour market outcomes and the potential demographic dividend.

Mission 4: Make systems for skills training and active labour market policies more effective. Skills training and ALMPs are crucial for bridging the supply–demand gaps and improving employability. The analysis of youth-related data for this report led to three areas for necessary change: (a) Skills development and ALMPs need a more effective role in bridging the supply–demand gap in jobs and in making the overall labour market more inclusive. A larger and more targeted role for state governments and stronger partnerships with the private sector and other stakeholders is also needed, along with greater contribution by the private and non-state sector. (b) Greater effort is needed to facilitate youths to connect with work opportunities through the labour market and job search information, with hand-holding for youths from marginalized segments. (c) The Government should address the issue of unfilled vacancies in the public sector by leveraging technology, conducting efficient assessments and implementing transparent and merit-based selection procedures.

Mission 5: Bridge the deficits in knowledge on labour market patterns and youth employment. Bridging such deficits requires: (a) reliable labour market statistics on the emerging new forms of jobs to shape effective policy, given the fast-changing nature of the labour market as well as the uncertainties consequent upon emerging technologies, and (b) more effective use of implementation and monitoring data for estimates of youths and formal jobs.



▶ 1

Introduction

▶ 1.1 Context

This *India Employment Report 2024* is the third in a series of publications by the Institute for Human Development on labour and employment issues. The first report, *India Labour and Employment Report 2014: Indian Workers in the Era of Globalization*, was the first of its kind on development and employment issues in India. It provided a comprehensive view of the employment situation in the country and analysis of labour market developments in the wake of globalization of the Indian economy (IHD 2014). The second report, *India Employment Report 2016: Challenges and the Imperative of Manufacturing-Led Growth*, provided an in-depth review of the evolving characteristics of India's labour force and the employment challenges confronting the country. Based on an overview of the policy interventions that would be required for India's continued development, the report concluded that pursuing a manufacturing-led growth strategy would help the country overcome the formidable challenges (Ghose 2016).

The Institute for Human Development collaborated with the International Labour Organization (ILO) to produce this 2024 report, which revolves around youth employment, education and skills. Based on analysis of the trends and patterns of the Indian labour market over the past two decades, including the impact of the COVID-19 crisis, the report describes the emerging characteristics of the employment challenges now confronting the economy as well as the impact of growth on employment. The report presents in-depth analysis of the youth labour market, the emerging youth employment challenges and the important links with education and skills. It also reviews the prevailing strategies and suggests additional policies and approaches to address emerging employment challenges and the challenges to youth employment in particular.

► 1.2 Sustained and high economic growth

India has experienced high economic growth since the 1980s, particularly since the 1990s, with the liberalization of the economy. The growth rate accelerated in the 2000s and, in some years, even exceeded 8 per cent. But after 2008, the growth rate substantially declined due to the global financial crisis and then collapsed during the COVID-19 pandemic in 2020 and 2021. Despite these disruptions, the economy has achieved, on average, more than a 6 per cent growth rate over the past four decades. Although not at the level achieved during the 2000s, growth has almost stabilized since the end of the pandemic, and India is among the fastest-growing major economies in the world. Currently the world's most populated country and the fifth-largest economy in dollar terms, India is expected to have sustained economic growth of 5–6 per cent in the next 15 years or so. It is also projected to become the third-largest economy in the world by 2027 (Ernst & Young 2023) and is expected to touch a gross domestic product (GDP) of US\$7 trillion by 2030 (DEA 2023). India's growth story has benefited from a demographic advantage, huge investment in digital public infrastructure, a large expansion in physical infrastructure, reforms in the goods and services tax and better service delivery thanks to adoption of technologies. The Government's resources have increased due to increasing tax revenues. According to current estimates, the Indian economy grew 7.3 per cent and 7.2 per cent in 2022 and 2023, respectively (Government of India 2023).¹ India has thus exhibited resilience in economic growth, including in the post-pandemic period.

The economy has gradually globalized since the 1990s. The export of goods and services as a percentage of GDP has increased, from 6.3 per cent in 1984 to nearly 22 per cent in 2022. The composition of goods and services as a percentage of GDP has also considerably increased, from 7.7 per cent in 1984 to 23.6 per cent in 2018. Service exports, particularly of software and information technology-enabled services, has had an important role in the growth (DEA 2023).

The high growth has led to important changes in the Indian economy and society: The level of absolute poverty has declined significantly. There have been improvements in the living standards as well as other social and human development indicators, although the Human Development Index is still low when compared with other country averages.

Although India has performed well in terms of its rate of growth and size of the economy, which has placed the country in a leading position on the world stage at an aggregate level, its position in terms of per capita income has much scope for improvement. Estimations based on International Monetary Fund data indicate that India's per capita income is the lowest among G-20 countries in both dollars (US\$2,601) and purchasing power parity (PPP) (US\$9,073) terms. According to estimates by the World Development Indicators in PPP terms, gross national income per capita in 2022 was US\$8,210 for India, US\$21,250 for China and US\$77,530 for the United States (World Bank 2024).

¹ These rates pertain to fiscal years, which are from April to March in India. All other figures also correspond with the fiscal year only, except the Periodic Labour Force Survey and NSSO data, which pertain to the period from July to June. In this *India Employment Report 2024*, data for employment and other factors the year used is the end year (2022 for 2021–22).

Within India, the growth story is an uneven one. There is wide variation in the per capita net state domestic product. In 2021, the per capita national state domestic product in Delhi was more than eight times what it was in Bihar and six times that in Uttar Pradesh. Between 2011 and 2021, the per capita state domestic product in Bihar, Uttar Pradesh, Rajasthan, Jharkhand, Manipur, Meghalaya and Assam grew at a slow pace, in contrast to other states in the North, South and West (CSO 2024).

India has only a limited window of opportunity remaining to capitalize on its growth story, relative to its demographic advantage of an increasing working-age population – in contrast to the population decline evident in developed countries as well as in China. The expanding digital infrastructure, along with increasing physical and social infrastructure, particularly educational opportunities, are likely to propel growth in the future. Another growth opportunity lies in the form of India assuming an important role in the global supply chains through output-incentive plans and the growth of its domestic consumer market.²

▶ 1.3 Indian labour market

While the economic growth has had some positive impact on the country's labour market conditions, it has not led to a radical structural transformation in employment conditions. There has been a slow, although steady, decline in the share of agriculture and a rise in the share of services in total employment – the share of agriculture fell from 60 per cent in 2000 to around 42 per cent in 2019. This shift has been largely absorbed by construction and services, the share of which in total employment increased from 23 per cent in 2000 to 32 per cent in 2019. The share of manufacturing has remained almost stagnant, at around 12–14 per cent (see Part 1 of Ghose 2016 and Chapter 1 of IHD 2014).

An important change has been the increase in labour productivity, largely due to increasing capital intensity. The proportion of regular and formal sector workers have increased from 14 per cent and 12 per cent in 2000 to 21 per cent and 18 per cent, respectively, in 2019. However, the increase in formal workers has been insignificant, with 90 per cent of workers still informal (including informal workers in the formal sector). The share of labour income in total income has been falling, and despite some recovery, as of 2019 it was still below its 2000 level.

The Indian labour market exhibits several characteristics akin to a lower-middle-income country.³

1. The observed growth pattern has been different from the experiences of other developed countries where manufacturing was the main driver of growth in the earlier stages of development. In India, the growth has been services-led. Although the share of agriculture in total employment has declined, it has largely shifted to services, which account for 23 per cent of total employment. Agriculture accounted for a mere 14 per cent share of GDP in 2022 while services amounted to 55 per cent and manufacturing for 18 per cent.
2. Until recently, the open unemployment rate was low, at 2–3 per cent, which increased to about 5.8 per cent in 2019 (but further declined in 2022). The low open unemployment rate is indicative of the lack of livelihood opportunities common to developing economies.
3. The Indian labour market is highly informal – around 90 per cent of workers are informally employed. Although the percentage of regular workers has increased along with the share of formal sector workers, a significant proportion of regular workers in the formal sector are informal. The persistence

² See Eric Martin and Ruchi Bhatia, "India Wants Key Supply-Chain Role as Firms Shift From China", Bloomberg, 11 April 2023.

³ Ibid.

of self-employment is another feature of the Indian labour market, and self-employment continues to constitute about half of total employment in the economy, which is indeed one of the highest in the world.

4. The labour market is highly segmented in terms of gender, location, occupation, social groups and geographical regions. Although the gap in earnings across gender and other social categories has declined over the years, the broad socio-economic hierarchies in access to employment, education and earnings persists.
5. Women's labour force participation rate is very low, at around 25 per cent of the total female working-age population in 2022. It increased during the pandemic, driven by a significant increase in subsistence employment. India has one of the lowest female labour force participation rates in the world, which is a reflection of its considerable gender inequalities.

► 1.4 Employment challenges

The following four important employment challenges emerged in the analysis of the labour market characteristics and are addressed throughout this report in detail, with focus on the employment challenges for youths.

Slow employment generation and lack of structural transformation

Despite the reasonably high growth, there has not been commensurate expansion in productive employment opportunities. Instead, there has been falling employment intensity in the growth process. It is widely acknowledged that this has been mainly due to the growth process being services-led – contrary to manufacturing-led that most developed countries experienced during their development process. Consequently, the process of structural transformation has been slow in India and even characterized as “stunted”.

Labour market inequalities and the challenges of technology

New technological developments have led to significant changes in the labour market. First, capital intensity over the years has been increasing, leading to lower employment intensity of the growth process. Second, the skills composition of work has been changing: while jobs requiring high skills have been increasing, those requiring low skills have been contracting, thus exacerbating the labour market inequalities.

The labour market exhibits rather high levels of inequality in terms of regions, social groups, gender and occupation. This is a major factor behind the labour market inequalities and the overall societal inequalities.

Regional disparities

Regional demographic changes highlight the disparity in employment outcomes, particularly youth employment, across the regions. Many large states in the eastern and central parts of India are characterized by a youth bulge. These states are relatively underdeveloped and have low per capita income. In addition, these states have a small proportion of highly educated youths, low incidence of formal (regular) employment and a large proportion of young people not in employment, education or

training, which underscores the need for regional policies designed to address such differences in the employment situation for youths and promote more-balanced opportunities.

Education and skills mismatch and the challenge of employability

The proportion of youths with a higher education level rose substantially among unemployed persons over the past two decades, from 2000 to 2022, along with heightened aspirations, which could be indicative of some degree of a mismatch between education levels and relevant skills required for the high-skill jobs. If so, it indicates a crisis of employability. It also indicates that education levels are an imperfect proxy for skill levels, given the co-existence of educated unemployed persons with an underqualified workforce in high-skill and medium-skill jobs.

Fast-changing technologies and climate change

A major challenge emerging in the labour market stems from the rapidly changing technologies that will increasingly have major implications for the various aspects of the labour market and employment. For example, artificial intelligence has created opportunities as well as major challenges. The labour market is being – and will further be impacted – by climate change, which seems to be occurring more rapidly than was forecasted by climate scientists only a decade ago (Stern 2015). It is critical to understand this important issue and its consequences for the labour market in the likely transition to new requirements of a carbon-reducing regime. Although workers in the informal sector are adversely affected by extreme weather events, such as record-breaking heat waves, opportunities are also emerging in terms of green jobs. A major share of India's transformational target of 500 GW of installed non-fossil fuel electricity-generation capacity by 2030 will come from renewable energy technologies like solar and wind (CEEW et al. 2022). India can potentially create about 3.4 million jobs (in the short and long terms) in the solar and wind sectors by installing new capability to achieve the targeted non-fossil electricity-generation capacity. The two major issues of changing technology and climate change are not discussed with any depth in this report, but they require due attention in any discussion on employment and the labour market.

► 1.5 Challenge of youth employment

India is at an inflexion point in terms of its demographic transition, whereby the share of the working-age population increased from 59 per cent in 2011 to 63 per cent in 2021 and is expected to remain stable over the next 15 years or so. Thus, the country is in the final stage of reaping its demographic dividend. Although the share of youths in total population has now started to decline, youths in India still account for a large population share (27 per cent) and size (371 million persons) when compared with most countries and will continue to be significant in the country's demographic structure for the next ten years.

Characteristics of youth employment

The labour force participation rate (LFPR) among youths has been declining, with a reduction from 54 per cent in 2000 to 42 per cent in 2022, and the decline has been sharper among youths aged 15–19 compared to youths aged 20–24 and 25–29. The worker population ratio for youths also experienced a declining trend between 2000 and 2019, before the COVID-19 pandemic (ILO 2022a).

Rising unemployment among youths

In keeping with global trends in which young people are three times as likely as adults⁴ to be unemployed (ILO 2020a), the unemployment rate of Indian youths is higher than for adults.⁵ The youth unemployment rate has been rising over the past several decades – from 5.6 per cent in 2000 to 6.2 per cent in 2012, and then increasing threefold, to nearly 18 per cent in 2018, and reaching around 15.1 per cent in 2020. Unemployment among educated youths is particularly high and had exceeded global averages by 2018 (ILO 2022). Indian youths are attaining high levels of education, but not enough employment opportunities are getting created for them, as reflected by the declining participation in the labour force and workforce. The challenge of educated youth unemployment is increasing and becoming huge in India, with immense implications for societal balance and peace (box 1). There are segments of the industry in which there is potential for youths to take up jobs where modern rather than traditional skills are in demand, but issues related to low skills and employability persist.

► Box 1. Too many educated youths rushing for few government jobs

The Indian media frequently reports stories of thousands of educated youth applying for a small number of advertised government jobs, often much below their educational qualifications. Recently, more than 93,000 candidates applying for jobs included 3,700 PhD holders, 5,000 graduates and 28,000 post-graduates who applied for 62 posts of “peon” in the Uttar Pradesh Police Department, although the jobs require only a minimum eligibility of education till Class 5.^a The SSC MTS 2023 recruitment examination conducted in May 2023 in Uttar Pradesh State received a staggering 5.5 million applicants for group D jobs (positions such as peon, watchman, gardener). Among the applicants, many candidates had high qualifications, such as bachelor or master of technology, master of business administration, master of art or master of science degrees.^b Fifteen vacancies for peons, drivers and watchmen in Gwalior, Madhya Pradesh State had nearly 11,000 unemployed young people with graduate, post-graduate, engineer and MBA or PhD degrees

and even civil judge aspirants applying – and not just from within the state but also the neighbouring state of Uttar Pradesh.^c Sometimes, such a rush for job applications leads to violence. Millions of youth had applied in 2022 for about 150,000 jobs with the Indian Railways in Bihar and the neighbouring state of Uttar Pradesh. Bihar experienced massive protests when thousands of jobless youth hit the streets in the last week of January 2023 over the alleged irregularities in the results published by the Railway Recruitment Board for the non-technical popular categories examination. There was widespread violence, with agitators pelting stones at train compartments, blocking railway tracks and even burning bogies of trains (as reported by media at that time). Although such reports are more frequent from less-developed (northern) states, this rush, although on a smaller scale, has also been reported from developed states. In June 2022, for instance, about 1.7 million people applied for 3,400 jobs requiring a minimum qualification of Class 10 in the developed state of Gujarat.

Source: a=The Economic Times, 31 January 2024; b=India Today Education Desk (Updated), 7 June 2023; c=NDTV, 29 December 2021.

Impact of the COVID-19 pandemic

Globally, the COVID-19 crisis exacerbated the labour market challenges generally faced by young people (ILO 2022c). In India, the decline in the Worker Population Ratio among youths was reversed between 2019 and 2022, with a much higher increase among women than among their male counterparts, especially in rural areas. The pandemic crisis likely compelled young people to work to support their family’s income (ILO and UNICEF 2020).

4 Defined as 25 years and older (ILO 2020a).

5 Defined as 30 years and older.

Gender gap in the youth labour force participation rate, with low participation for women

There is a significant gender gap in the labour market, with low rates of female labour force participation. This gender gap in the LFPR has remained almost consistent over the past two decades. In 2022, the LFPR of young men (at 61.2 per cent) was almost three times higher than that of young women (at 21.7 per cent), and the gender gap was similar in both rural and urban areas.

Large share of youths not in employment, education or training

The rate of youths not in employment, education or training globally has been consistently the highest in South Asia, at an average of 29.2 per cent between 2010 and 2019 (ILO 2022a). India also has a large share of youths not in employment, education or training, and the rate is much higher among young women than men. The majority of young women not in employment, education or training are also out of the labour force, while the men with the same status are largely unemployed.

Lower quality of youth employment compared with adult employment

The quality and condition of employment among youths are poorer compared with the older age cohort, although more youths are in industry and services. They are more likely to be engaged in self-employed unpaid family work and casual wage work. They are also more likely to be involved in no-skill and low-skill informal work, which typically offers lower wages or earnings.

► 1.6 Data sources

The developments in the Indian labour market and the long-run structural trends examined throughout this report encompass roughly two decades (2000–19). The period beginning in March 2020 through 2022 marks the crisis brought about by the COVID-19 pandemic and hence constitutes unusual years in terms of growth patterns and labour market trends. Thus, the analysis for the pre-pandemic period was broken down into time periods – 2000, 2012 and 2019 – to highlight the changes and continuities from a long-run perspective, expanding on the more recent subperiod wherever necessary to bring out a more detailed picture. The analysis also relied on available data for 2020 to 2022 to discuss the impact of the COVID-19 pandemic. The quinquennial rounds of the Employment and Unemployment Survey of the National Sample Survey Office provided the main basis for analysis of employment for 2000 and 2012. The National Sample Survey Office reports of the Periodic Labour Force Survey data were available from 2018 up to 2022, along with unit-level data.

The unit-level data in these surveys were chiefly used to develop conceptual tools and statistical indicators appropriate for the analysis of the labour market and employment in India. That they are the official data sources was the main reason for doing so. But also, the all-India estimates of the LFPR, the worker population ratio, the unemployment rate, including the distribution of employed persons in the country according to gender, location (rural and urban), broad industry and other categorizations, from the Employment and Unemployment Surveys and the Periodic Labour Force Surveys are generally found to be quite robust with reasonably low relative standard errors. Although there have been certain changes in the sample design of the Periodic Labour Force Survey, particularly in the method of stratification of households, the findings are comparable with the Employment and Unemployment Survey findings. This is due to the high level of precision of the all-India estimates and because the final estimates of

aggregates (and accordingly, the ratios) for different domains are derived after appropriately adjusting the sample data with corresponding design-based weights at the household level.

Other databases, such as the Reserve Bank of India-KLEMS⁶ and the Annual Survey of Industries database, were relied upon where relevant, along with information from a range of published surveys, reports and literature. This includes the Survey on Youth and Skills that the Institute for Human Development conducted in urban areas of Delhi and Ranchi (the capital of Jharkhand State) in 2019. At various points in the report there is also disaggregated analysis of major employment trends and other labour market indicators by age, gender, education, social group and region to highlight underlying trends, especially regarding the youth working-age population.

► 1.7 Report structure

The report is divided largely into two parts. After the introduction, Chapters 2 and 3 speak to the emerging pattern of employment and growth–employment linkages (Part 1). They provide an overview of the important changes and continuities in the overall labour market and employment scenario in India and the implications of the growth process for employment and the labour market. The analyses in these chapters goes into detail on the characteristics of the labour market over the past two decades and the factors behind the slow structural transformation. The chapters also discuss the transfer of labour from agriculture to the manufacturing and services sector and assess the changes in employment conditions. The challenges brought about by technological developments as well as labour market inequalities are briefly assessed.

In Part II, chapters 4, 5 and 6 move to the challenge of youth employment, education and skills in the face of the changing structure of the labour market and overall developments, along with a discussion of the active labour market policies. These chapters also map the emerging characteristics of youths and their labour market profile and provides detail on the education–employment links and the nature of the skills mismatch in India.

Chapter 7 then wraps up with summary analysis and emerging policy pointers on facing the overall employment challenges – especially youth employment. It is followed by a postscript in Chapter 8 on data that emerged for 2023 after the analysis for this report was completed.

The report focuses on the challenges associated with jobs, skills and education for youths and how to address those challenges. Some of the highlighted challenges as well as the policy measures to redress them are well recognized. The report has consolidated them while highlighting new challenges that emerged more recently, fuelled by the structural transformation brought about by the country's recent growth trajectory. It also highlights continuities that persist due to longstanding structural features of the Indian labour market.

⁶ KLEMS (K=capital, L=labour, E=energy, M=materials and S=purchased services) refers to broad categories of intermediate inputs that are consumed by industries in their production of goods and services. See www.bea.gov/help/faq/192.



▶ 2

Trends, emerging characteristics and current challenges in India's labour market

▶ 2.1 Introduction

This chapter encompasses an overview of employment trends and patterns in India's labour market over the past two decades, beginning from 2000. It further summarizes emerging characteristics and current challenges in the labour market.

The second section examines labour force, employment, unemployment and underemployment patterns and trends. The third section briefly delves into the growth of the economy and employment, and then the fourth section highlights employment quality and conditions. The fifth section discusses segmentation and inequality in the Indian labour market, and the sixth section looks at migration briefly and the seventh section looks at the impact of the COVID-19 pandemic on employment. The eighth section turns to the implications of technological advancement and digitalization on employment before the ninth sections explains use of the employment condition index. And in conclusion, the tenth section sums up the trends and the persistent challenges.

The chapter relies on unit-level data obtained from the Employment and Unemployment Surveys and the Periodic Labour Force Surveys. The various sections centre on comparative analysis for three distinct periods: 2000 to 2012, 2012 to 2019 and 2019 to 2022. The appendix tables at the end of the report provide more disaggregated results of intervening years for which data are available. The chapter also examines the abnormal pandemic years of 2020–22 to gain insight into the impact on India's employment situation. Throughout the text, tables and figures, the fiscal, agricultural and calendar years are interchangeably used, with 1999–2000 as 2000, 2011–12 as 2012, 2018–19 as 2019, 2019–20 as 2020, 2020–21 as 2021 and 2021–22 as 2022. The scope of the chapter refers to individuals aged 15 years and older who were in the labour force or employed or unemployed based on their usual principal and subsidiary status (UPSS), as defined in box 2. To complement the quantitative information, the analysis drew on secondary sources, such as published reports and articles.

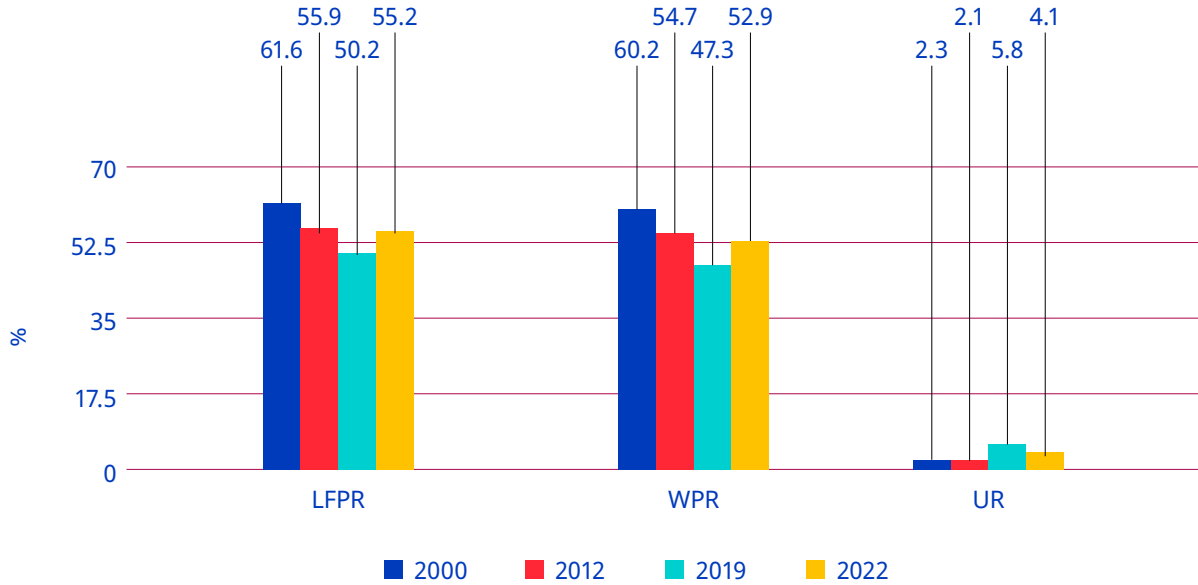
▶ 2.2 Labour force, employment, unemployment and underemployment

This section presents the long-term patterns and trends of India's employment, unemployment and underemployment situations. The labour market dynamics underlying these results are analysed in subsequent sections.

2.2.1 Labour force, employment and unemployment

The LFPR in India for individuals aged 15 years and older was 55.2 per cent in 2022, which was lower than the world average of 59.8 per cent (figure 2.1). It consistently declined over the past two decades, from 61.6 per cent in 2000 to 50.2 per cent in 2019, before increasing to 55.2 per cent in 2022. The worker population ratio also exhibited a similar trend, declining from 60.2 per cent in 2000 to 47.3 per cent in 2019 before increasing to 52.9 per cent in 2022. The overall open unemployment rate, measured by the usual status criteria (see box 2), was quite low – a little more than 2 per cent in 2000 and 2012, which sharply increased to 5.8 per cent in 2019, followed by a significant fall to 4.1 per cent in 2022. As appendix tables A2.1–A2.3 show, these upward trends in the labour market can be observed from 2018 onwards, during the economic slowdown, and continuing into the pandemic period (Jha and Kumar 2022; Basole et al. 2021; Kapoor 2020), raising questions on the drivers of these changes.

► **Figure 2.1. Labour force participation rate, worker population ratio and unemployment rate (UPSS) among persons aged 15+ (rural and urban combined), 2000, 2012, 2019 and 2022 (%)**



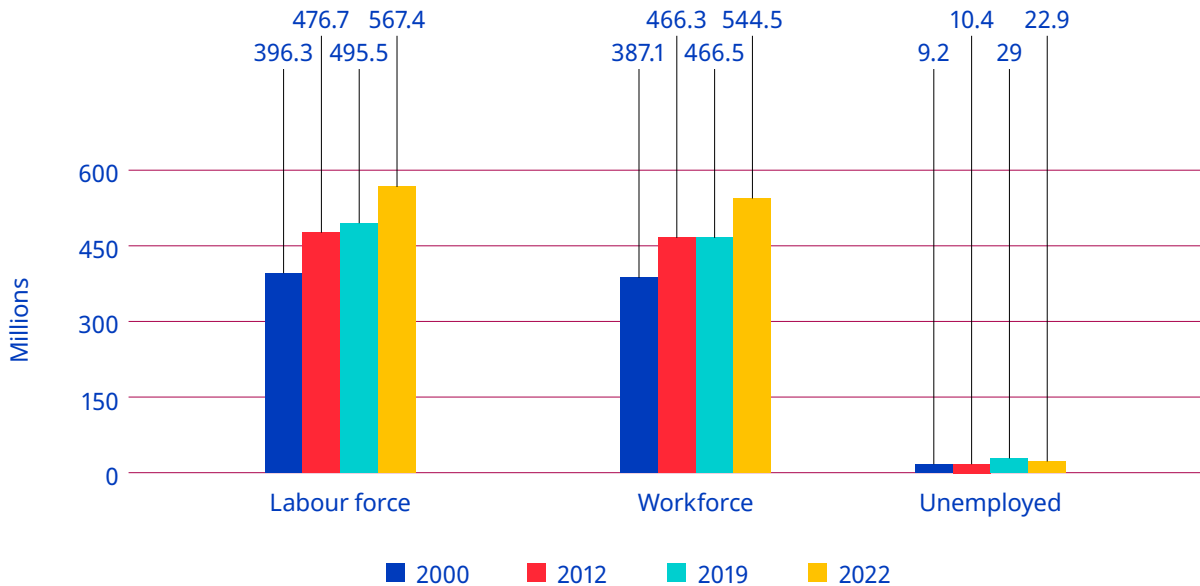
Note: LFPR=labour force participation rate; WPR=worker population ratio; UR=unemployment rate.

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

In absolute terms,⁷ the labour force grew by 99.2 million persons, from 396.3 million in 2000 to 495.5 million in 2019 (figure 2.2). Yet, the growth of the workforce (at 79.4 million persons) was not commensurate with the growth of the labour force, resulting in a substantial rise in open unemployment (19.8 million persons). In particular, open unemployment grew significantly (by 18.6 million persons) between 2012 and 2019, when the employment generation was virtually negligible (at 200,000 persons). A relatively greater increase in the workforce (by 78 million persons) occurred during the pandemic years, from 466.5 million in 2019 to 544.5 million in 2022, in comparison to the labour force increase (by 71.9 million persons), from 495.5 million in 2019 to 567.4 million in 2022. This dynamic resulted in a substantial reduction in unemployment (by 6.1 million persons) during this period.

⁷ The absolute number of persons in the labour force and workforce (aged 15 and older) was estimated by multiplying the LFPR and worker population ratio with the mid-year (January) projected population (aged 15 and older) for the respective years. The population (aged 15 and older) was based on the population projections that are available for all age groups combined in the report of the Technical Group on Population Projections by the Ministry of Health and Family Welfare (2020).

► **Figure 2.2. Size of labour force, workforce and unemployed workers (UPSS), by persons aged 15+ (rural and urban combined), 2000, 2012, 2019 and 2022 (millions)**



Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

The substantial **increase in the open unemployment rate between 2012 and 2019 was primarily due to the growth of the labour force without a corresponding increase in employment.** But the increase in the labour force from 2019 to 2022 was accompanied by significant growth in the workforce and a decrease in unemployment.

However, the recent improvement in the Indian labour market indicators needs to be interpreted with caution, along with other changes in labour market participation that are discussed later in this chapter. As the ILO (2023) pointed out, the quality of employment generated during the ongoing global slowdown is a matter of concern, with many workers forced to accept low-quality jobs and often with low wages or earnings.

► **Box 2. Employment terminology used in the *India Employment Report 2024***

Activity status: It is the activity situation in which a person is found during a reference period, typically for a survey. A person can be in one or a combination of three broad activity statuses during this reference period: (a) working or engaged in economic activity (work); (b) not engaged in economic activity (work) but either making tangible efforts to seek work or available for work if work is available; and (c) not engaged in economic activity (work) and also not available for work.

Usual principal activity status (UPS): The usual principal activity status relates to the activity status of a person during the reference period of 365 days preceding the date of a survey interview. The activity status on which a person spent relatively long time (major time criterion) during the 365 days preceding the survey interview is considered the usual principal activity status of a person.

Subsidiary economic activity status (SS): Subsidiary status workers are engaged in an economic activity for a short duration of at least 30 days during the 365 days prior to a survey interview.

Usual principal and subsidiary status (UPSS): All persons engaged in usual principal activity and subsidiary activity are included in this employment status.

Employment by current weekly status (CWS): All persons who have performed any economic activity for at least one hour on any day of the reference week (the seven days preceding a survey interview) are included in this grouping.

Workforce (workers or employed persons): Persons who were engaged in any economic activity or who, despite their attachment to economic activity, abstained from work for reason of illness, injury or other physical disability, bad weather, festivals, social or religious functions or other contingencies necessitating temporary absence from work, constitute as workers or employed persons. Unpaid household members who assist in the operation of an economic activity in the household farm or non-farm activities are also considered as workers.

Labour force: Persons who are either “working or employed” or “seeking or available for work” or unemployed constitute the labour force.

Unemployed: Persons who, owing to lack of work, have not worked but sought work through employment exchanges, intermediaries, friends or relatives or by making applications to prospective employers and express their willingness or availability for work under the prevailing conditions of work and remuneration are considered as “seeking or available for work”.

Labour force participation rate (LFPR): The rate is the percentage of the working-age population in the labour force.

Worker population ratio (WPR): The ratio is the percentage of employed persons in the population.

Unemployment rate (UR): This rate is defined as the percentage of persons unemployed as a percentage of the persons in the labour force.

Source: NSO 2023.

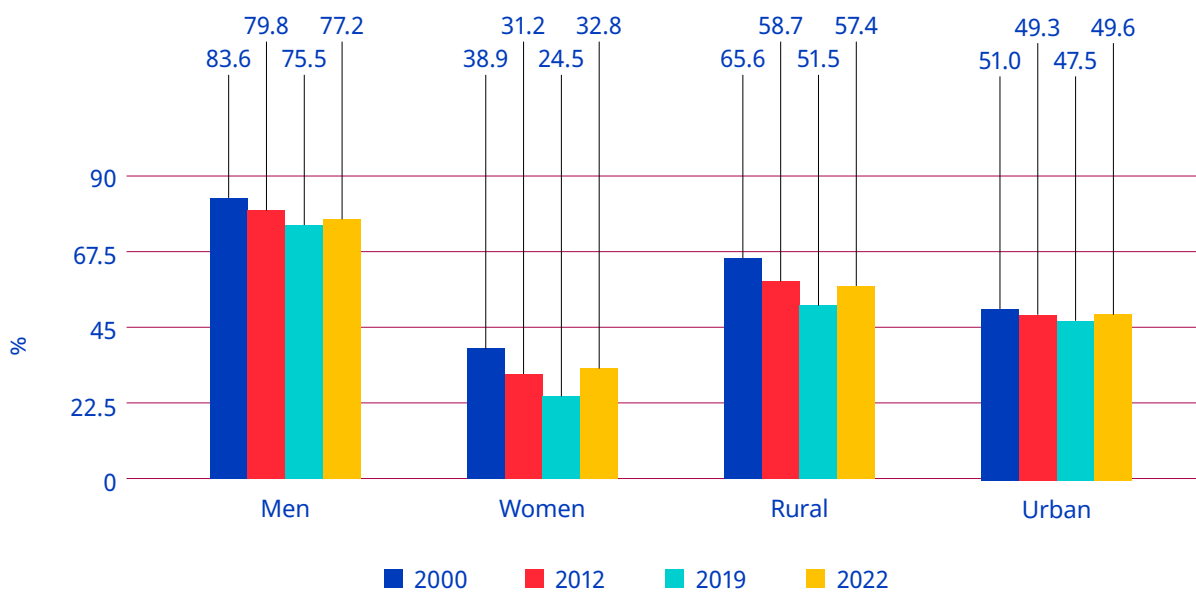
The gender distribution shows that the **female LFPR declined sharply (by 14.4 percentage points) when compared with the male counterparts (by 8.1 percentage points) between 2000 and 2019. But this trend reversed between 2019 and 2022, with a much greater increase in the female LFPR (by 8.3 percentage points) than in the male LFPR (by 1.7 percentage points)** (figure 2.3). As discussed later in the chapter, this rise, along with other labour market changes, is consistent with more women coming into the workforce in response to crises. This situation was also observable in 2005 (see appendix table A2.1; Himanshu 2011).

There is a considerable gender gap in the Indian labour market, with the women’s LFPR (32.8 per cent) in 2022 around 2.3 times lower than the rate for men (at 77.2 per cent). India’s low LFPR is largely attributed to the low female LFPR, which is much lower than the world average for 2022, of 47.3 per cent, but higher than the South Asian average of 24.8 per cent (ILO 2023).

The LFPR declined significantly more in rural areas (by 14.1 percentage points) than in urban areas (by 3.5 percentage points) between 2000 and 2019. But then this pattern reversed between 2019 and 2022, with a much higher increase in the LFPR in rural areas (by 6 percentage points) than in urban areas (by 2.1 percentage points). This trend was more pronounced among women in rural areas than their female urban counterparts.

Similar patterns and trends were also observed in the worker population ratio, resulting in a rise in the unemployment rate in the first period and a decline in the more recent period for both men and women in rural and urban areas (see appendix tables A2.1–A2.3). The unemployment rate, however, was relatively higher in urban areas than in rural areas.

► **Figure 2.3. Labour force participation rate (UPSS, aged 15+), by gender and location, 2000, 2012, 2019 and 2022 (%)**

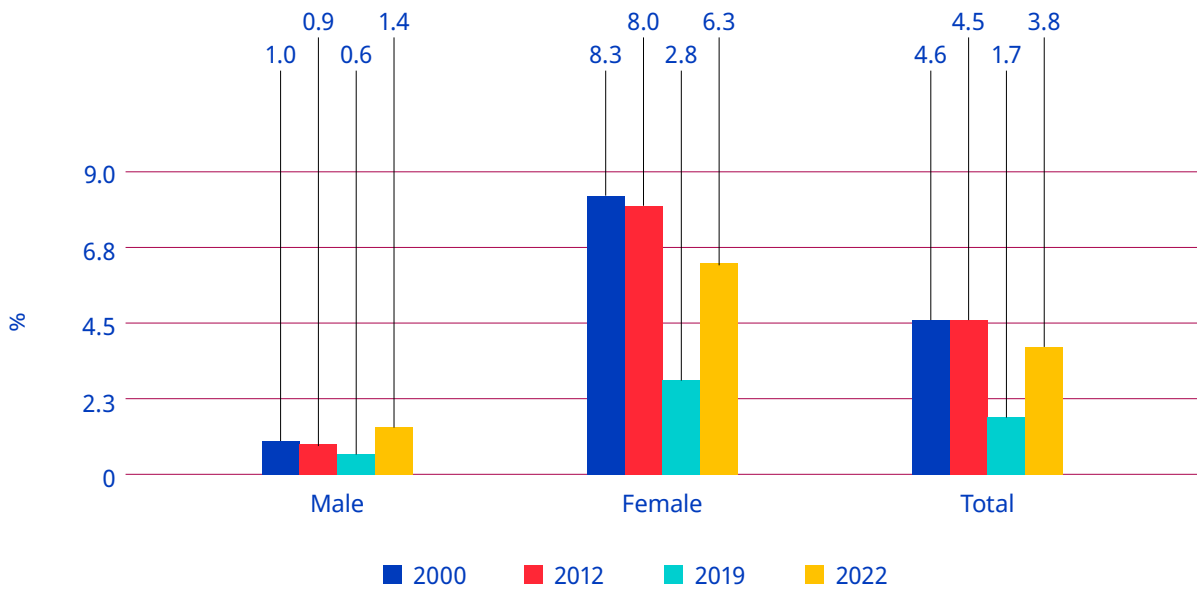


Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

These trends indicate that the fluctuation in women’s participation in the labour market, especially in rural areas, has been a significant contributing factor to the changes in the overall LFPR over the past two decades. It has been widely argued that family members, and especially women, increasingly participate in economic activities to support their family during an economic downturn or when their household experiences income losses, and once the situation improves, they may opt out of such activity (Basole 2022; Verick 2018; IHD 2014; Himanshu 2011; Srivastava and Srivastava 2010).

Figure 2.4 shows that the participation of women in subsidiary status of employment had been declining, from 8.3 per cent in 2000 to 2.8 per cent in 2019, but then increased significantly, to 6.3 per cent in 2022. This indicates that women, who did not have a long-term attachment to the workforce, were participating in it in larger measure in 2022. The women’s decline in the workforce in rural areas prior to 2019 was attributed to a variety of factors, but there was a substantial increase of women in self-employment and as subsidiary workers between 2019 and 2022, when many women needed economic activity to support their family.

► **Figure 2.4. Proportion of workers in subsidiary status, by gender (aged 15+), 2000, 2012, 2019 and 2022 (%)**



Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

The literature suggests that fluctuation in women’s labour force participation associates with various demand and supply factors. On the supply side, the income effect, the education effect, the underreporting of women’s work in official statistics, the gender wage gap, social and cultural norms, domestic and care responsibilities and migration limit women’s participation in the labour force (Srivastava and Bhaskar 2020; Dasgupta and Verick 2016; IHD 2014; Rustagi 2013; Rodgers et al. 2013; Hirway 2012; Kannan and Raveendran 2012). On the demand side, the mechanization of agriculture, the shift towards commercial dairies, the declining household-level animal farming or related work, occupational segregation, a fall in demand for labour-intensive tasks and the discouragement effect – the lack of jobs deemed suitable for women – also restrict women’s participation in the labour force (Mehta, Laha and Sharma 2022; Srivastava and Bhaskar 2020; Verick 2018; Klasen and Pieters 2015; Kapos et al. 2014; Neff et al. 2012; Himanshu 2011; Mazumdar and Neetha 2011). **These demand and supply factors are interrelated and can reinforce each other.** For instance, a decline in demand for labour in certain sectors can lead to limited job opportunities, which can discourage women from participating in the labour force and subsequently lead to a decline in the LFPR and in the worker population ratio, as the findings of the 2022 Periodic Labour Force Survey revealed.⁸

2.2.2 Underemployment

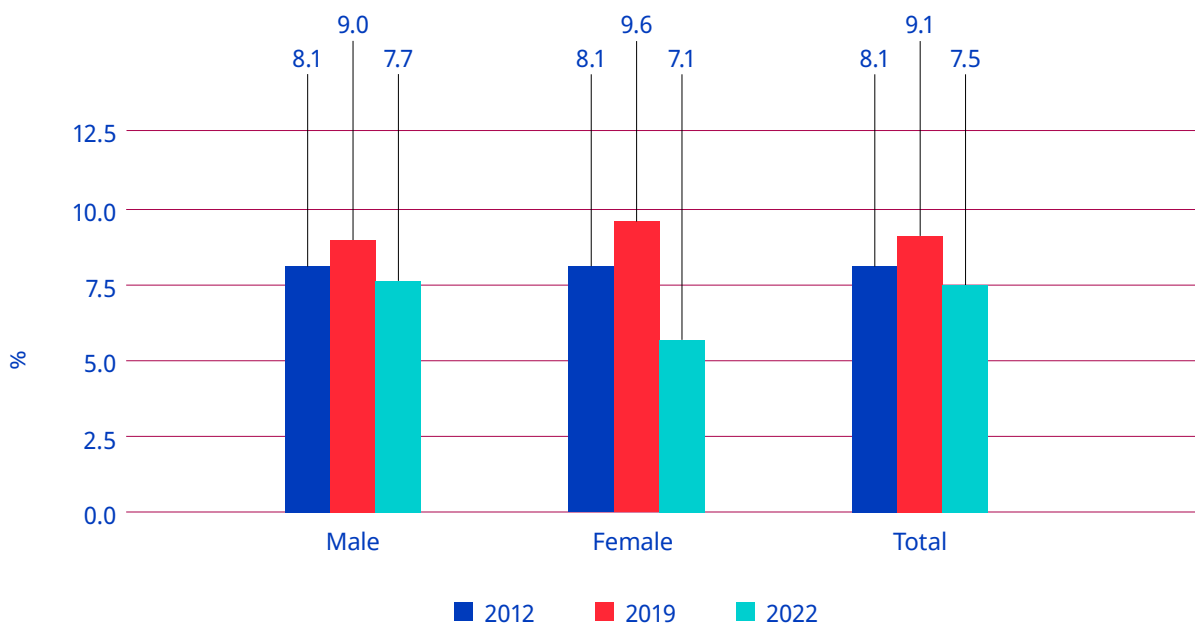
Open unemployment in developing countries like India is not a suitable indicator to measure the underutilization of the labour force. This is because only a few people can afford to be unemployed for a period of time – most people of working age must engage in some economic activity to survive, no

⁸ Some of the demand and supply factors that respondents in the Periodic Labour Force Survey for 2022 cited as reasons for not working included childcare or personal commitment to homemaking (44.2 per cent), the desire to continue studying (27.1 per cent), health reasons (17.4 per cent), social reasons (3.4 per cent), lack of required training, qualification or age (1.2 per cent), being well-off (0.8 per cent) or the non-availability of work at a convenient location (0.8 per cent). Childcare or personal commitment to homemaking (59 per cent) and social reasons (4.4 per cent) were significantly more prevalent among women while the desire to continue studying (57.5 per cent) and health-related reasons (33 per cent) were more dominant among men.

matter how little or inadequate it may be. That is why the open unemployment rate has been historically low in India. There are also limitations of using a single measure, in this case the usual status, as an indicator of unemployment. In such circumstances, the employment situation cannot be fully described by unemployment data alone and should be supplemented by underemployment data (ILO 2023). The common measure used to measure underemployment is based on a time criterion. Box 3 summarizes the definition used by the 16th International Conference of Labour Statisticians and the norms used in this report for estimating India’s underemployment. This section thus looks at the challenges of underemployment, or labour underutilization, in India.

Time-related underemployment in India was high as of 2022, at 7.5 per cent. It had fluctuated over the years, increasing from 8.1 per cent in 2012 to 9.1 per cent in 2019 before declining to that 7.5 per cent in 2022 (figure 2.5). The underemployment rate was only slightly higher among men in 2022 (at 7.7 per cent) than among women (at 7.1 per cent) and more prevalent in urban areas (at 8.4 per cent) than in rural areas (at 7.2 per cent) (see appendix table A2.4). Although underemployment was considerably higher than open unemployment, it, too, came down between 2019 and 2022, especially among women (by 2.5 percentage points). Again, **the increase in underemployment in the pre-pandemic period and the decline in underemployment during the pandemic and post-pandemic periods, especially among women, raise questions about the availability of additional employment opportunities.** These questions are explored in the next sections.

► Figure 2.5. Underemployment (LU1) and labour utilization among all persons aged 15+, by gender, 2012, 2019 and 2022 (%)



Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

▶ Box 3. Definition of underemployment

According to the definition adopted by the 16th International Conference of Labour Statisticians, persons in time-related underemployment are identified using three criteria: (a) willingness to work additional hours; (b) availability to work additional hours; and (c) total number of hours actually worked during the reference period, below a specified threshold, to be determined as per the national labour policies or circumstances. To consider a person in time-related underemployment, all three criterion must be satisfied simultaneously.

A rate of time-related underemployment can be calculated as the ratio between the number of persons in time-related underemployment and the total number of employed persons (LU1). Alternatively, such a rate can be calculated as the ratio between the number of persons in time-related underemployment and the number of persons in the labour force (employed

persons plus unemployed persons). In the latter case, a composite rate of time-related underemployment and unemployment, referred to as LU2, can be obtained by summing the rate of time-related underemployment and the unemployment rate. The LU2 definition has been used in this report to measure underemployment in India.

In India, the Occupational Safety, Health and Working Conditions Code, 2020, prescribes a standard working day as eight hours and a working week as six days. Although the Periodic Labour Force Survey collects information on reported working hours per day for a reference week, the Employment and Unemployment Survey that preceded it collected information for a half day (one hour to fewer than four hours of work) and a full day (four hours or more of work). Underemployment in the analysis for this report was estimated using these norms, combined with criteria (a) and (b).

Source: Labour Force Statistics database, ILOSTAT 2023.

▶ 2.3 Growth of employment and output

This section looks at employment growth and changes in employment and output over the past two decades. The pattern of employment changes along with changes in the employment and output structure link to the process of structural transformation, where resources such as employment and capital move in the long run from low- to high-productivity sectors. Therefore, it is important to understand whether people are moving from the low-productivity farm sector and the subsistence sectors to high-productivity dynamic non-farm sectors, such as manufacturing or services. This is the stylized Kuznets–Lewis process, which is used to characterize structural transformation (Kuznets 1955; Lewis 1954). The detailed relationship between employment and output growth is discussed in Chapter 3.

2.3.1 Growth in employment

Table 2.1 highlights the dynamics of the employment and labour force growth cited in section 2.2. Between 2000 and 2012, workforce growth and labour force growth moved in tandem but fell far short of the population growth, resulting in a fall in the LFPR and the worker population ratio. Between 2012 and 2019, employment grew at a negligible rate – much below the rate of growth of the labour force, which in turn fell far short of the population growth. This resulted in a rising unemployment rate and a falling LFPR and worker population ratio. Between 2019 and 2022, workforce growth exceeded labour force growth, which in turn far exceeded population growth. This led to the falling of the unemployment rate and the rising of the LFPR and the worker population ratio.

► **Table 2.1. Compound growth rate of the population, labour force, workforce and employment across major sectors (%)**

Compound rate of growth of	2000 to 2012	2012 to 2019	2019 to 2022
Population (aged 15+)	2.39	2.07	1.15
Labour force (aged 15+)	1.54	0.56	4.62
Workforce (aged 15+)	1.55	0.01	5.29
Agriculture	-0.39	-2.55	8.93
Manufacturing	2.89	-0.33	3.00
Construction	9.15	2.18	6.37
Services	-0.67	10.80	1.09
Total non-agriculture	3.86	2.09	2.61

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data. Computations based on census-adjusted unit data.

Table 2.1 also demonstrates the sectoral picture of the employment growth. The agriculture workforce declined at a growing pace between 2000 and 2019 but increased to a very high rate of 8.9 per cent between 2019 and 2022. Non-farm employment grew at a slightly higher rate in 2019–22 than in 2012–19. Employment thus showed a reversal towards agriculture (see the next section) during this period. Non-farm employment growth was largely sustained during the latest period by growth in construction employment, at nearly 6.4 per cent. Notably, while manufacturing employment also grew at a rate slightly higher than total non-farm employment, services sector employment grew at a low rate of nearly 1.1 per cent during 2019–22.

2.3.2 Sectoral changes in employment and output

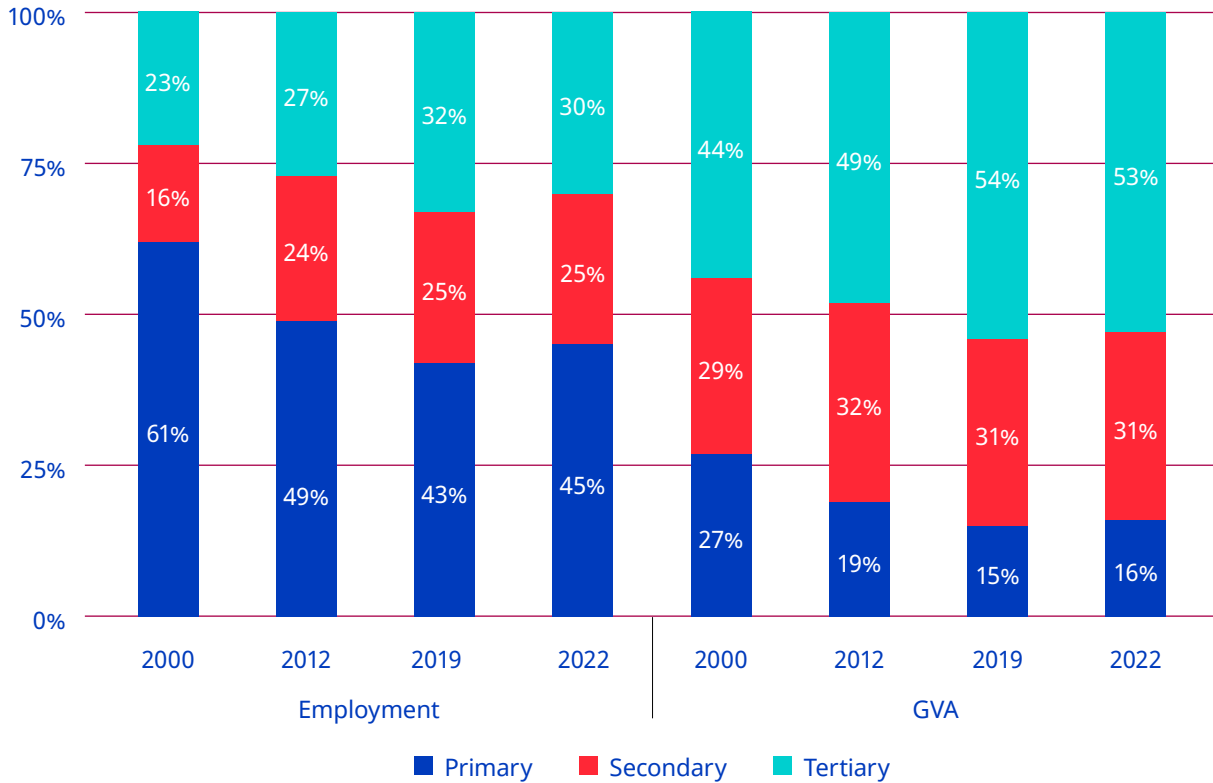
In the roughly two decades between 2000 and 2019, the Indian economy’s production structure moved straight from agriculture to services-led growth without substantial expansion in the share of manufacturing. The manufacturing sector underperformed compared to the overall gross value added (GVA) growth (figure 2.6). As a result, the share of manufacturing in GVA stagnated, at around 15–18 per cent, which was much lower than in developed economies and even much lower than in East and South-East Asian countries.⁹

India experienced some modest and relatively retarded structural transformation in terms of employment during the same period, with an increase in the share of various non-farm subsectors, such as construction, manufacturing, trade, hotel and restaurants, transport, storage and communications, and finance, business and real estate services (see appendix table A2.5). These employment shifts occurred at a slower pace than the change in output structure.

Largely due to impacts of the COVID-19 pandemic, **this trend reversed between 2019 and 2022.** The share of the primary sector in total GVA increased from 14.8 per cent to 15.6 per cent, respectively, while the share of employment in agriculture experienced a significant reversal, rising from 42.4 per cent in 2019 to 46.4 per cent in 2021 and then falling marginally to 45.4 per cent in 2022. **There was a corresponding decline in the share of the non-farm sector** (except for construction and trade, hotels and restaurants). Importantly, manufacturing was the second-largest employer after agriculture in 2019. As of 2022, the **construction sector had become the second-largest employer**, followed by trade, hotels and restaurants, with manufacturing relegated to the fourth spot. Although there was a sharp increase in employment in agriculture during the pandemic years (2020 and 2021), it marginally declined in 2022.

⁹ Asian Development Bank, *Key Indicators Database*, 2022.

► **Figure 2.6. Structure of economy (GVA at constant 2012 prices) and employment (UPSS, aged 15+), 2000, 2012, 2019 and 2022 (%)**



Note: Latest gross value added (GVA) was estimated as of 28 February 2023.

Source: Ministry of Statistics and Programme Implementation for 2023; employment computed from unit-level data of various Employment and Unemployment Surveys and the Periodic Labour Force Surveys.

The recent changes in the production structure and employment suggest a reversal in the Kuznets-Lewis process over the most recent (pandemic) period. The disaggregation of employment by gender and location indicates that the primary or agriculture sector dominates in rural areas (at 59 per cent) while the tertiary sector dominates in urban areas (at 58.8 per cent). Notably, as of 2022, the proportion of women employed in agriculture (at 62.8 per cent) was significantly larger than that of men (at 38.1 per cent), highlighting the continued predominance of female employment in subsistence farming (see Table 8.5).

► 2.4 Employment quality and conditions

In a developing country like India, neither the growth of employment or the decline of unemployment signifies an improvement in employment conditions for the large mass of workers. Such improvement occurs basically through the movement of workers from low-income or low-productive activities to higher-income and higher-productive activities – through a change in the type of employment (Ghose 2016), which also involves improvement in other associated conditions of employment. Conceptually, two types of movement can be distinguished: One type involves movement from the unorganized (subsistence) sector to the organized sector, and the other type involves within-sector movement to

better types of employment, which is reflected in the activity status of employment (box 4), formality and informality or improved earnings.

2.4.1 Status of employment

An important aspect of employment quality is the composition of the workforce in terms of employment status. And as box 4 explains, the employment status has three categories: self-employment, regular employment and casual work. Regular employment is generally regarded as providing better-quality jobs due to the regularity of employment and associated social security benefits. In contrast, casual work offers relatively poor-quality jobs due to its irregular nature and lower daily earnings. This is the lowest category in terms of labour conditions among the three.

▶ Box 4. Employment status definitions

Employment status is classified into three categories: self-employment, regular employment and casual employment.

Self-employed: All persons who are own-account workers, working employers, unpaid family workers and home-based workers.

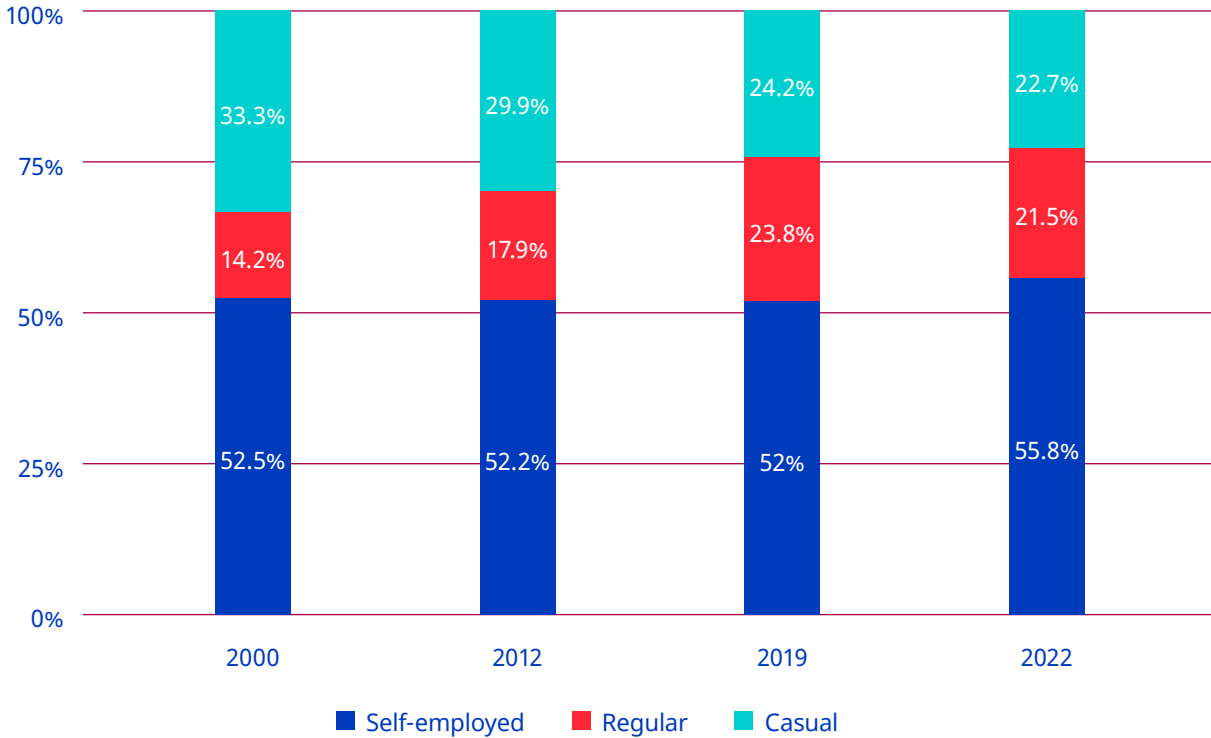
Regular employment: All wage and salary workers who are on relatively long job tenure and who are usually paid wages or a salary on a weekly or monthly basis.

Casual employment: All persons who do not have any tenure and are mostly employed on a daily wage basis.

Source: Annual Report: Periodic Labour Force Survey, 2020–21.

The dominant category of employment in India remains self-employment, followed almost equally by regular and casual employment. In 2022, self-employment accounted for 55.8 per cent of employment while casual and regular employment accounted for 22.7 per cent and 21.5 per cent, respectively (figure 2.7). The share of self-employment remained almost stable, at around 52 per cent between 2000 and 2019, and regular employment consistently and considerably increased, by nearly 10 percentage points, from 14.2 per cent to 23.8 per cent. **But these trends reversed by 2022, with an increase in the share of self-employment by 3.8 percentage points, to 55.8 per cent, while the share of regular employment declined by 2.3 percentage points, to 21.5 per cent.** The share of casual employment consistently declined, from 33.3 per cent in 2000 to 22.7 per cent in 2022.

► **Figure 2.7. Share of employment (UPSS, aged 15+), by work status, 2000, 2012, 2019 and 2022 (%)**



Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

Women were engaged more in self-employment, especially in rural areas, while men were more prominent in regular employment, particularly in urban areas. In 2022, the proportion of women in self-employment (at 62 per cent) was significantly larger than that of men (at 53.1 per cent). The opposite was true in the case of regular employment, with the proportion of men (23.6 per cent) much larger than that of women (at 16.6 per cent). In casual work, however, the proportions of men (23.2 per cent) and women (21.4 per cent) were similar. Women in rural areas (67.7 per cent) were considerably more involved in self-employment than their urban counterparts (39.3 per cent), while men in urban areas (46.2 per cent) engaged more in regular employment than men in rural areas (14.7 per cent) (see appendix table A2.6).

The reversal in the trend towards declining self-employment was much more significant among women than among men. Between 2000 and 2019, the share of women in self-employment declined from 55.4 per cent to 53.2 per cent, while the share of men remained stable, at around 51 per cent. This trend reversed in 2022, with the proportion of women in self-employment increasing by 8.8 percentage points, to 62 per cent. The percentage of men also increased but only by about 2 percentage points, to 53.1 per cent (see appendix table A2.6).

The percentage of women in regular employment increased almost threefold, from 7.4 per cent in 2000 to 21.9 per cent in 2019, while the percentage of men increased from 17.3 per cent to 24.4 per cent. **This trend reversed in the pandemic years**, with the share of women in regular employment declining by 6 percentage points, to 16.6 per cent in 2022, and the share of men declining marginally, by 0.6 percentage points, to 23.6 per cent (see appendix table A2.6).

Men and women experienced a declining trend in employment shares in casual work over the past two decades. Self-employed fluctuations were more pronounced in rural areas, but changes in regular employment were more visible in urban areas.

Women in rural areas were predominantly engaged in unpaid family work of the self-employment category, which is considered the most vulnerable category of self-employment. The proportion of women in unpaid family work declined between 2000 and 2019 but increased significantly between 2019 and 2022, indicating a rise in vulnerable self-employment. The proportion of own-account workers within self-employment increased, from 30.7 per cent in 2000 to 36.6 per cent in 2019, but then slightly declined, to 35.8 per cent in 2022. Conversely, the proportion of unpaid family workers, who worked without receiving any payment, decreased from 20.5 per cent in 2000 to 13.2 per cent by 2019 but then significantly increased to 17.4 per cent between 2019 and 2022. The proportion of the employer category (individuals who hire employees to work for them) marginally increased, from 1 per cent in 2000 to 2.3 per cent by 2019 and then further to 2.6 per cent as of 2022. Women dominated in the share of unpaid family workers (at 36.5 per cent), and their share increased much more over time (by 5.7 percentage points) than their male counterparts (by 1.8 percentage points). This category of employment was more pronounced in rural areas (at 42.6 per cent) than in urban areas (at 12.6 per cent) (see appendix table A2.7).

2.4.2 Organized or formal and unorganized or informal employment

A dichotomy between the informal and formal sectors, also known as the organized and unorganized sectors, prevails in India's labour market (see box 5 for definitions).

Informal or unorganized employment is a dominant feature of the Indian economy, whereby the informal or unorganized sector is the dominant form of organization of production in the economy. A large portion of all workers as well as informal workers engage in the informal or unorganized sector. Although there has been a rise in the share of formal sector employment, there also has been an increase in the share of informal workers within the formal sector, which is also referred to as the "informalization" of the formal sector. This trend was accentuated between 2019 and 2022, as reflected in the decline in the proportion of regular formal workers or better-quality work (see appendix table A2.6).

There was growth in (the share of) the formal sector between 2000 and 2019 (table 2.2). Around 11 per cent of all workers engaged in the organized sector in 2000. This increased to almost 20 per cent in 2019, but the share declined to 18.9 per cent in 2022. The share of formal employment in the economy also increased, although to much less extent. This indicates that a large part of the increasing number of workers in the organized sector were informal workers. The share of formal employment in total employment increased, from 8.5 per cent in 2000 to 10.5 per cent in 2019 but declined to 9.7 per cent in 2022 because a large share of the additional workforce was part of the informal economy. The share of regular formal employment (which is considered of better quality) during 2000–19 in total employment increased from 7.6 per cent to 10.2 per cent but dipped to 9.4 per cent in 2022.

▶ **Box 5. Unorganized and organized sectors and informal and formal employment definitions**

The definitions for the unorganized and organized sectors and informal and formal employment are based on the International Labour Organization (2023) and the National Commission for Enterprises in the Unorganised Sector (2009a) and modified for this report (see appendix tables A2.8a and A2.8b).

Unorganized or informal sector: The unorganized or informal sector includes persons categorized as “proprietary” male and female, partnerships with members from the same household or partnerships with members from different households and fewer than ten workers. Additionally, it includes the household sector, such as people employed in private households as maids, nannies, security guards, cooks, etc. Even the enterprises whose number of workers is not known or cannot be ascertained and that do not give their workers any social security benefit are included in the unorganized sector.

Organized or formal sector: Government or local bodies, public sector enterprises, public and private

limited companies, autonomous bodies, cooperative societies and trusts and other non-profit institutions are all considered part of the organized or formal sector. Enterprises categorized as proprietary male and female, partnerships with members from the same household and partnerships with members from different households having more than ten workers are also part of the organized or formal sector. If the number of workers in a particular enterprise type is unknown but the workers in that enterprise are receiving social security benefits, those workers are also considered part of the organized or formal sector.

Informal workers (or informal employment): All self-employed own-account workers, self-employed unpaid workers and workers in the household sector are informal workers. Regular salaried workers and casual workers who have no form of social security benefit are also informal workers. Self-employed workers who are employers in the informal sector are considered informal.

Formal workers (or formal employment): Formal workers include self-employed workers who are employers in the formal sector and regular salaried and casual workers who receive social security benefits.

As noted earlier, **there was a significant increase in the number of regular jobs, but they were associated with a variety of conditions, including informality and lack of a stable or written contract.** Over the years, the percentage of regular workers without a contract increased by about 10 percentage points, from 59.6 per cent in 2005 to 69.8 per cent in 2019 (table 2.2). As the economy shed vulnerable regular jobs during the pandemic, this decreased to 61.9 per cent in 2022. Yet, the percentage of workers with a long-term contract (more than three years) declined consistently, from 35.9 per cent in 2005 to 21.5 per cent in 2019, before reversing to 26.4 per cent in 2022. The recent decline in the share of regular workers without a written contract and the increase in workers having a long-term contract indicate a reduction of jobs for vulnerable regular workers during the pandemic period.

► **Table 2.2. Status of employment (UPSS, aged 15+), 2000, 2012, 2019 and 2022 (%)**

Share in total employment	2000	2012	2019	2022
Formal employment	8.5	7.8	10.5	9.7
Informal employment	91.5	92.2	89.5	90.3
Organized sector	10.9	17.5	19.6	18.9
Unorganized sector	89.1	82.5	80.4	81.1
Regular formal employment (% of total employment)	7.6	7.5	10.2	9.4
Regular workers without written contract (% of regular employment)	59.6*	64.5	69.8	61.9
Regular workers with long-term contract (more than 3 years) (% of regular employment)	35.9*	29.1	21.5	26.4

Note: *=The data are for 2005.

Source: Computed from various years of the Employment and Unemployment Surveys and the Periodic Labour Force Survey unit-level data.

2.4.3 Wages and earnings

Level and growth in wages

There were significant differences in the average level of daily earnings across status of employment (self-employed, regular salaried and casual workers), gender (female or male) and location (rural or urban) (table 2.3). The average earnings or wage rate for regular salaried workers was considerably higher than that of self-employed and casual workers. In 2022, regular workers earned an average of 19,010 rupees per month, followed by self-employed individuals earning 11,973 rupees and casual workers earning 8,267 rupees. **There was a gender gap in the average monthly earnings as well, with self-employed individuals having the largest gender gap in earnings, followed by casual workers and regular salaried workers. Although the gender and rural-urban gaps in regular earnings declined over the years, it widened in the case of earnings from casual work and self-employment** (see appendix table A2.9).

► **Table 2.3. Average monthly earnings of self-employed,* regular salaried and casual workers, by location and gender, 2022 (rupees, nominal value)**

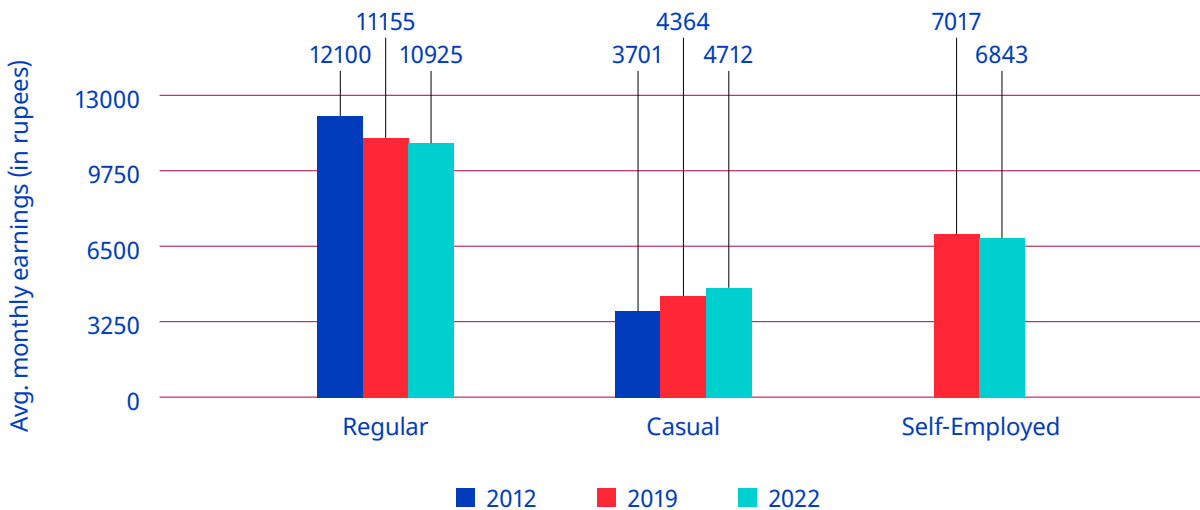
	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Self-employed	11 397	4 814	10 201	19 992	7 733	17 991	13 386	5 424	11 973
Regular	16 319	10 567	15 177	22 898	18 374	21 826	20 033	15 398	19 010
Casual	8 831	5 451	7 997	10 326	6 432	9 749	9 086	5 548	8 267

Note: *=Self-employed monthly earnings were recorded as gross value.

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

Over the past decade, the average monthly real earnings of regular salaried and self-employed persons either declined or remained stable. The average real earnings of casual workers only slightly increased, pointing to poor-quality employment generation. The average monthly real earnings for regular salaried workers declined annually by 1.2 per cent, from 12,100 rupees in 2012 to 11,155 rupees in 2019, and by 0.7 per cent as of 2022, to 10,925 rupees (figure 2.8). Similarly, the average real earnings of self-employed individuals declined annually by 0.8 per cent, from 7,017 rupees in 2019 to 6,843 rupees in 2022. The average real monthly earnings of casual workers increased by 2.4 per cent annually, from 3,701 rupees in 2012 to 4,364 rupees in 2019, and by 2.6 per cent annually, to 4,712 rupees in 2022. A sustained rise in real earnings or wages of workers is a positive sign for the economy and an indicator of better-quality employment generation (Drèze 2023). The declining real earnings of regular salaried workers and the self-employed, along with only a small increase in real wages for casual workers in India, indicates that the quality of employment generation was poor between 2000 and 2022.

► **Figure 2.8. Average monthly earnings of regular, casual and self-employed workers, 2012, 2019 and 2022 (rupees, at 2012 prices)**



Note: Casual wages also included wages in public works, such as the Mahatma Gandhi National Rural Employment Guarantee. Wages were adjusted using the consumer price index-R and consumer price index-U by taking 2012 as the base year.

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

Distribution of workers by their monthly wages

The analysis of the trend in the distribution of regular workers by their real monthly wages at constant (2012) prices (table 2.4) for three years (2012, 2019 (being the year immediately preceding the COVID-19 pandemic) and 2022) revealed that the proportion of regular workers with monthly wages up to 5,000 rupees declined by 7.7 percentage points over the ten-year period, from 34.6 per cent in 2012 to 26.9 per cent in 2022, which is a positive development. A similar trend occurred for the casual workers (table 2.5), with a much sharper decline of 42.2 percentage points (from 75.4 per cent to 33.2 per cent) in the proportion of such workers. The proportion of casual workers with real monthly wages above 10,000 rupees rose by 5 percentage points, reaching 8 per cent in 2022, from about 3 per cent in 2012.

► **Table 2.4. Distribution of regular workers, by monthly wages (rupees, at 2012 prices), 2012, 2019 and 2022 (%)**

Monthly wage range	2012	2019	2022
Up to 2 000	5.2	3.0	3.8
2 001–5 000	29.4	23.7	23.1
5 001–10 000	29.0	35.8	38.9
10 001–20 000	19.2	22.3	19.2
More than 20 000	17.1	15.2	14.9
Total	100.0	100.0	100.0

Source: Institute for Human Development's calculations based on the unit-level data from the Employment and Unemployment Survey for 2012 and the Periodic Labour Force Survey for 2019 and 2022.

► **Table 2.5. Distribution of casual workers, by monthly wages (rupees, at 2012 prices), 2012, 2019 and 2022 (%)**

Monthly wage range	2012	2019	2022
Up to 2 000	7.3	13.1	3.5
2 001–5 000	68.1	50.2	29.7
5 001–7 500	18.2	29.1	44.9
7 501–10 000	3.5	6.4	13.9
More than 10 000	2.9	1.2	8.0
Total	100.0	100.0	100.0

Source: Institute for Human Development's calculations based on the unit level data from the Employment and Unemployment Survey for 2012 and the Periodic Labour Force Survey for 2019 and 2022.

Trend in average monthly wages

Along with the trend in the proportion of workers across different wage classes, it is also of interest to see whether there has been a rise in the average level of monthly earnings of workers for different income (wage) quintiles. As shown in tables 2.6 and 2.7, there was a substantial rise in the average real monthly earnings among the poorest quintiles during the ten-year period for regular workers and casual workers, with the rise being much sharper for casual workers, although a decline in the average earnings of casual workers did occur in 2019. Yet, during the four years between 2019 and 2022, the real average monthly earnings of regular workers remained almost flat. But it increased by nearly 80 per cent for casual workers. A substantial part of this rise is possibly explained by the base effect.

Regarding the richest quintile, the real average monthly earning declined for the regular workers in 2022 (from 2012) against the opposite trend observed for casual workers. As expected, there was a great deal of variation in the average monthly earning levels of workers in the poorest and richest wage quintiles. During 2022, the ratio of average monthly earnings of workers in the poorest quintile to that of workers in the richest quintile was about 12 per cent for the regular workers and 30 per cent for casual workers, depicting a larger inequality in terms of earnings among the regular workers as compared to their counterparts working as casual labourers – which is to be expected.

► **Table 2.6. Average monthly wages of regular workers, by wage quintiles, 2012, 2019 and 2022 (rupees, at 2012 prices)**

Monthly wage range	Average real monthly wage		
	2012	2019	2022
Q1 (poorest)	2 546	3 084	3 095
Q2	4 642	5 550	5 470
Q3	6 990	7 767	7 453
Q4	13 041	12 344	11 789
Q5 (richest)	31 094	27 420	26 890

Source: Institute for Human Development’s calculations based on the unit level data from the Employment and Unemployment Survey for 2012 and the Periodic Labour Force Survey for 2019 and 2022.

► **Table 2.7. Average monthly wages of casual workers, by wage quintiles, 2012, 2019 and 2022 (rupees, at 2012 prices)**

Monthly wage quintile	Average real monthly wage		
	2012	2019	2022
Q1 (poorest)	2 042	1 670	2 991
Q2	3 049	2 938	4 403
Q3	3 785	3 976	5 831
Q4	4 796	5 150	7 047
Q5 (richest)	7 638	7 322	9 995

Source: Institute for Human Development’s calculations based on the unit-level data from the Employment and Unemployment Survey for 2012 and the Periodic Labour Force Survey for 2019 and 2022.

Proportion of workers not receiving minimum wages

The Ministry of Labour and Employment regularly updates the daily minimum wage it prescribed for workers engaged in various scheduled jobs across the country. The minimum wage (as of January 2017) was fixed at 300 rupees for unskilled workers in the agriculture sector and at 350 rupees for unskilled workers in the construction sector working in type C areas, which cover relatively smaller towns and the rural areas of the country. The minimum wage was higher for workers in bigger cities and towns. Among the various categories of workers based on their level of skill and sector or industry of work, the minimum wage for unskilled workers in the agriculture sector was the lowest. The analysis of the proportion of workers who might be deprived of even the minimum wage prescribed for unskilled workers in the agriculture sector was based on the Periodic Labour Force Survey for 2022 (table 2.8) and revealed:

- At the all-India level, 40.8 per cent of regular workers and 51.9 per cent of casual workers did not receive the average daily minimum wage prescribed for unskilled workers in the agriculture sector.
- Among the workers engaged in the construction sector, 39.3 per cent of regular workers and 69.5 per cent of casual workers did not receive the average daily minimum wage prescribed for unskilled workers in the sector.

► **Table 2.8. Percentage of workers not receiving average daily minimum wage, 2022**

	Regular workers			Proportion of construction sector workers not getting minimum wage prescribed for unskilled workers in the sector	Casual workers			Proportion of construction sector workers not getting minimum wage prescribed for unskilled workers in the sector
	Proportion not getting minimum wage prescribed for unskilled workers in the agricultural sector by industry of work				Proportion not getting minimum wage prescribed for unskilled workers in the agricultural sector			
	Agriculture	Construction	All		Agriculture	Construction	All	
India	73.9	27.2	40.8	39.3	76.2	36.5	51.9	69.5

Note: Major states entail Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand and West Bengal.

Source: Institute for Human Development's calculations based on the unit-level data from the Periodic Labour Force Survey for 2022.

2.4.4 Change in the incidence of poverty by household status of employment

The latest official estimates of poverty incidence, based on the concept of household consumer expenditure, relate to 2012. The proportion of poor persons across households at the all-India level during 2012 was 25.7 per cent for rural India and 13.7 per cent for urban India. By utilizing the unit-level data of the Periodic Labour Force Survey for 2022, this report's analysis sought to determine the likely changes during the ten years (2012–22) in the proportion of poor persons across different types of households classified according to status of employment, with the classification based on the source of earning that brought maximum income to the households. The calculations involved the following assumptions or steps.

- First, the official all-India poverty line for 2012 was inflated or adjusted separately (for the rural areas and urban areas) to bring it to the level during the mid-point (January 2022) of the survey period of the Periodic Labour Force Survey for 2022 to have the current (2022) adjusted poverty line by applying the ratio of the Consumer Price Index number for the month of January 2022 to that for the month of January 2012, which was the midpoint of the National Sample Survey 68th round (2012) on household consumer expenditure, the data of which were used to derive the poverty line for 2012.
- Second, monthly household consumer expenditure based on the Periodic Labour Force Survey for 2022 was inflated by using an adjustment factor of 1.15 for the rural households and 1.12 for the urban households to derive the adjusted monthly household consumer expenditure. Accordingly the adjusted household monthly per capita expenditure was obtained by dividing the adjusted household consumer expenditure by the household size. The adjustment factors used inputs from a study by Manna and Mukhopadhyay (2024), who compared the National Sample Survey 68th round (2012) and the Employment and Unemployment Survey for 2012 with the consumption expenditure round and found that the latter underestimated the aggregate household consumer expenditure at the all-India level by 10 per cent for rural India and 8 per cent for urban India. An allowance for a higher extent of underestimation was considered in this report's analysis because the Periodic Labour Force Survey for 2022 collected data on household consumer expenditure based on five items only, which was likely to result in greater underreporting of the household consumer expenditure, as found from the National Sample Survey's 68th round.

- Third, estimates on the proportion of persons with their adjusted household monthly per capita expenditure below the adjusted or current (2022) poverty line was considered as the likely proportion of poor persons across the different household types. This analysis in no way was an attempt to derive either the current poverty line, which is a complex exercise by itself, or to find the exact proportion of poor persons in the country. Instead, it was an attempt to infer the possible directional change in the incidence of poverty across different types of households as per their employment status.

The broad findings regarding the likely change in the incidence of poverty across different types of households are summarized in table 2.9. It may be reasonable to infer that there was a fair likelihood of reduction in the incidence of poverty during the ten-year period, with the extent of reduction being much more in rural India. The decline was much sharper among households whose major earnings come from the engagement of household members as casual workers.

► **Table 2.9. Change in the proportion of poor persons across household status of employment, 2012 and 2022 (%)**

Sector	Household employment status	2012	2022	Change
Rural India	Self-employed in non-agriculture	19.3	13.2	6.1
	Self-employed in agriculture	16.8	11.9	4.9
	Regular workers	7.6	7.2	0.4
	Casual workers in agriculture	31.6	19.7	11.9
	Casual workers in non-agriculture	27.8	21.6	6.2
	Others	17.4	11.7	5.7
	All	25.7	18.2	7.5
Urban India	Self-employed	15.3	10.0	5.3
	Regular workers	7.4	5.7	1.7
	Casual workers	33.0	20.8	12.2
	Others	8.4	4.5	3.9
	All	13.7	12.5	1.2

Source: Institute for Human Development’s calculations based on the unit-level data from the Employment and Unemployment Survey for 2012 and the Periodic Labour Force Survey for 2019 and 2022.

► 2.5. Segmentation and inequality in the labour market

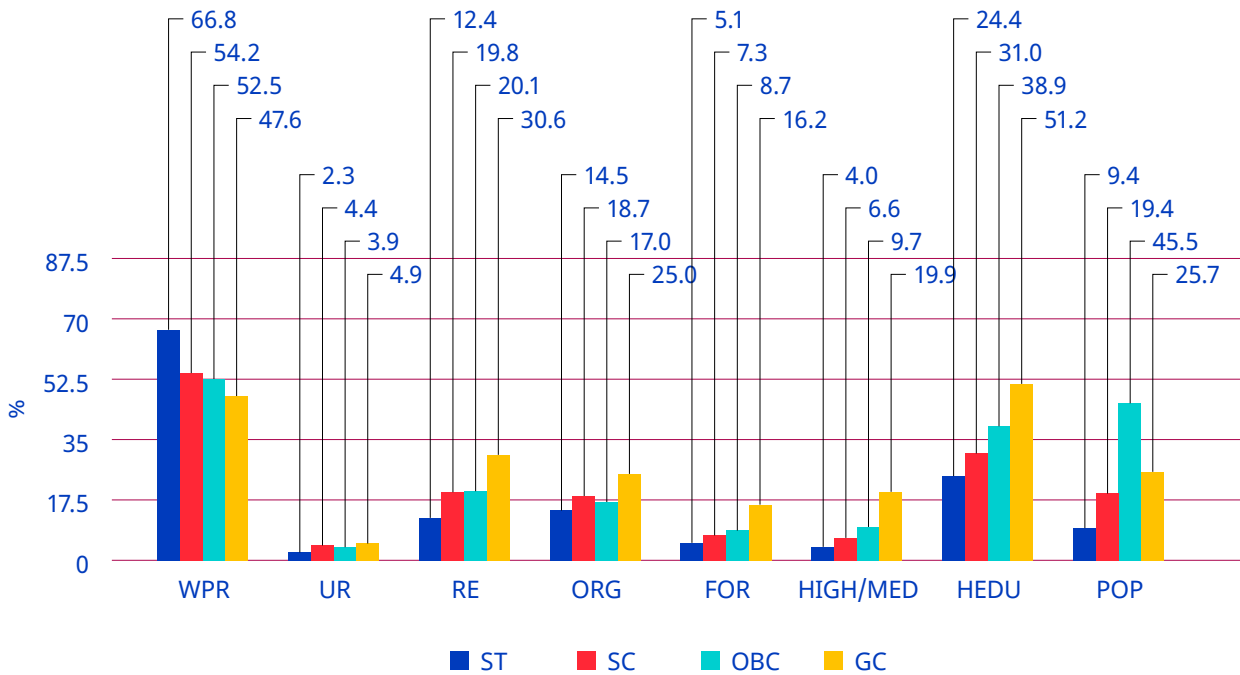
Labour market segmentation is a dynamic process that categorizes workers into different groups. Institutional, societal and structural factors contribute to this categorization (Srivastava 2019; Mazumdar 1978; Doeringer and Piore 1971). An early perspective of labour market theory proposed the concept of “dual labour market segmentation”, with a primary and a secondary market. The primary market has higher wages, better working conditions and more job security while the secondary market has the inverse: lower wages, poor working conditions and lack of regulation. Later research focused on formal and informal employment contracts, gender, race, ethnicity and class as determinants of labour market segmentation (Papola 2012; Atkinson 1987). This section examines some basic facts about labour market segmentation and inequalities based on social groups, income (household monthly per capita

expenditure) classes, gender and also differences across the geographical regions in terms of access to better jobs, such as formal employment, organized sector employment, regular employment and medium- and high-skill jobs (for definitions of skill types, see box 5).

2.5.1 Social groups

There is diversity in employment across the social categorizing in India. Scheduled Castes and Scheduled Tribes are lower in the social hierarchy than Other Backward Classes and General Category castes (IHD 2014; Papola 2012). **Despite affirmative action and targeted policies, the Scheduled Castes and Scheduled Tribes still lag in terms of access to better jobs. Scheduled Castes and Scheduled Tribes have greater participation in work due to economic necessity but engaged more in low-paid temporary casual wage work and informal employment** (figure 2.9). They are also involved in low-skill and no-skill jobs and have low levels of educational attainment. These factors contribute to their overall lack of access to decent employment opportunities in the labour market (see appendix table A2.10a).

► Figure 2.9. Employment and other characteristics (UPSS, aged 15+), by social group, 2022 (%)



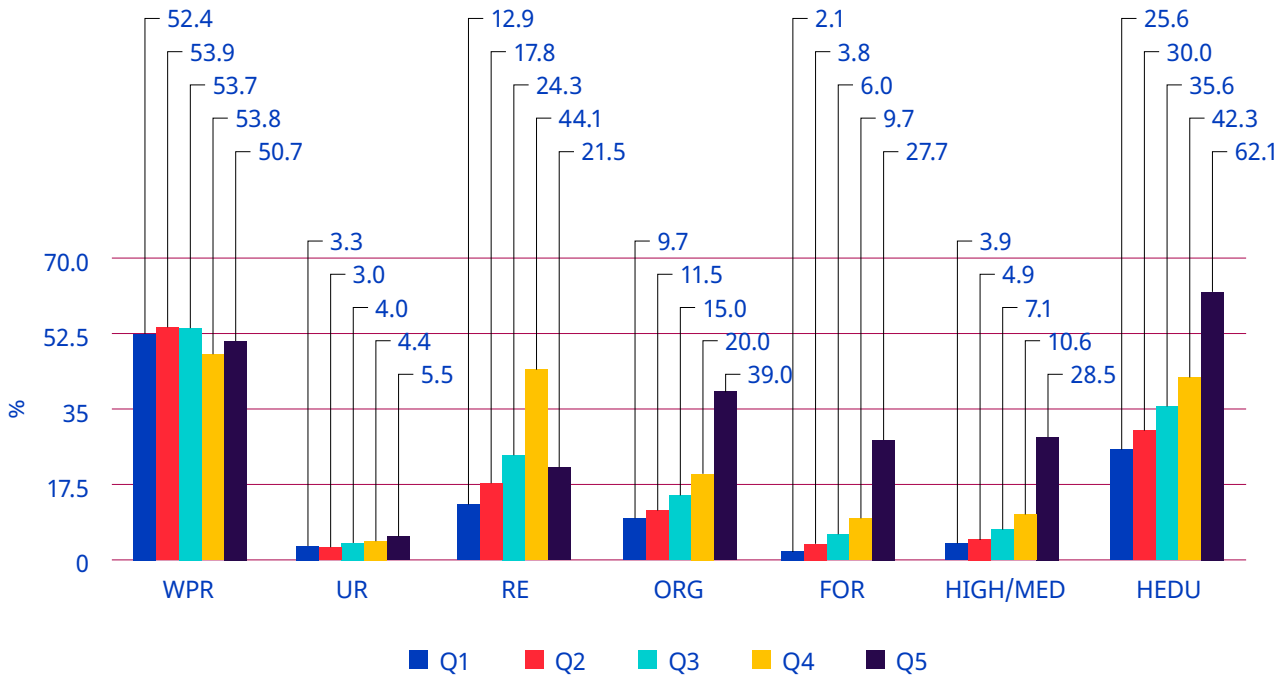
Note: WPR=worker population ratio; UR=unemployment rate; RE=regular employment; ORG=organized sector; FOR=formal employment; HIGH/MED=high- and medium-skill jobs (see box 5 for definitions); HEDU=secondary education and higher; and POP=population. The WPR and UR are rates while the RE, ORG, FOR, HIGH/MED, HEDU and POP are shares. Scheduled Tribes (ST) and Scheduled Castes (SC) are regarded as lower in the social hierarchy than Other Backward Classes (OBC) and the General Category castes (GC).

Source: Computed from the Periodic Labour Force Survey data for 2022.

2.5.2 Income classes

The distribution of employment characteristics across income classes, as proxied by household monthly per capita consumption expenditure quintiles, reveals that workers from the lower-income categories have lower educational endowments than workers in higher monthly expenditure quintiles. The former are more involved in casual, informal and no-skill jobs, whereas persons from the higher categories engage more in regular, formal and high- and medium-skill jobs that are of better quality (figure 2.10), resulting in significant labour market inequality across the monthly expenditure quintiles. Workers from the highest income categories have the lowest worker population ratio and the highest unemployment rate, indicating that they can afford to wait longer for suitable jobs (see appendix table A2.10b).

► **Figure 2.10. Employment (UPSS, aged 15+) characteristics, by income class (monthly per capita expenditure quintiles), 2022 (%)**



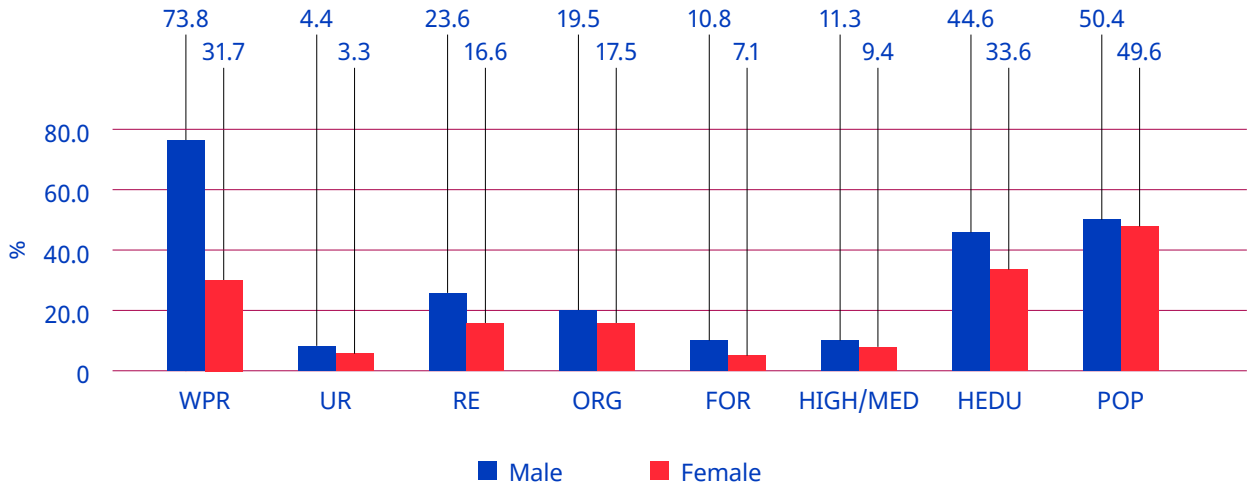
Note: Q1 (poorest); Q5 (richest). WPR=worker population ratio; UR=unemployment rate; RE=regular employment; ORG=organized sector; FOR=formal employment; HIGH/MED=high- and medium-skill jobs (see box 5 for definitions); HEDU=education secondary level and higher; and POP=population. The WPR and UR are rates while the RE, ORG, FOR, HIGH/MED, HEDU and POP are shares.

Source: Computed from the Periodic Labour Force Survey data for 2022.

2.5.3 Gender

Historically, women around the world have been denied opportunities in both society and the economy, especially in developing countries like India, due to deep-rooted biases in the social system. As in many countries, including India, gender discrimination is not limited to the domestic arena but also extends to the labour market, leading to a range of inequalities. As discussed in the previous sections of this chapter, **women’s participation in work and their earnings are much lower than that of men, and they overwhelmingly engage in self-employment, informal employment or no-skill manual jobs - much more than their male counterparts** (figure 2.11). Women had lower levels of educational attainment in 2022, with 33.6 per cent possessing a secondary education or higher, compared to 44.6 per cent of men (see appendix table A2.10c). These factors contribute to the significant gender differences and barriers in women’s participation in the Indian labour market.

► Figure 2.11. Employment (UPSS, aged 15+) characteristics, by gender, 2022 (%)



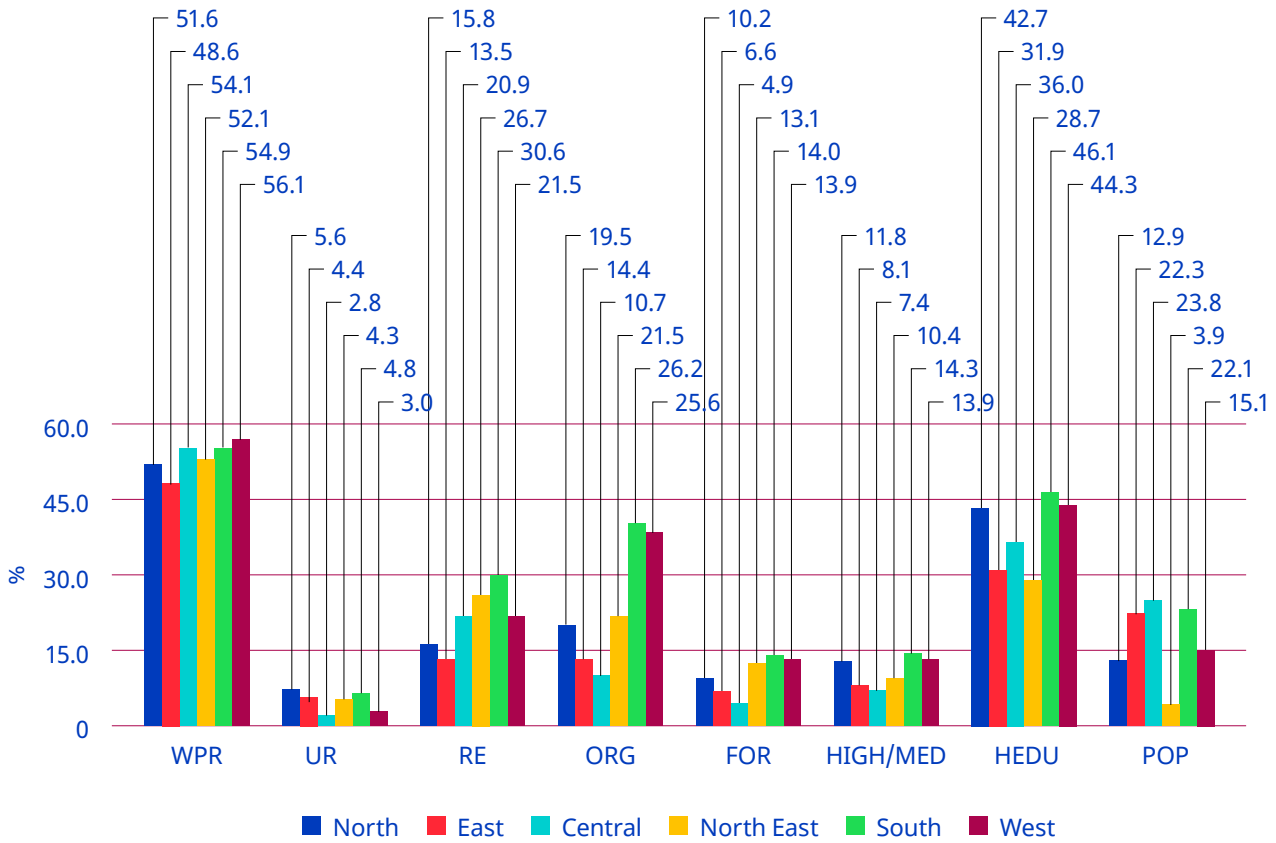
Note: WPR=worker population ratio; UR=unemployment rate; RE=regular employment; ORG=organized sector; FOR=formal employment; HIGH/MED=high- and medium-skill jobs (see box 5 for definitions); HEDU=education secondary level and higher; and POP=population. The WPR and UR are rates while the RE, ORG, FOR, HIGH/MED, HEDU and POP are shares.

Source: Computed from the Periodic Labour Force Survey data for 2022.

2.5.4. Regional distribution

There were considerable regional differences in India’s labour market as well. **The geographical distribution of employment characteristics shows that the share of regular, formal and organized sector employment and high-skill jobs is significantly larger in the South, West and North-East regions than in the East and Central regions in 2022** (figure 2.12). Some of the less economically developed states, namely Bihar, Jharkhand and Odisha, in the East and Uttar Pradesh and Madhya Pradesh in the Central region (see appendix table A2.10d) have poor employment outcomes. It is also important to mention that the population aged 15 years and older in the East and Central regions also had relatively poor educational outcomes when compared with the other regions(see appendix table A2.10d).

► Figure 2.12. Employment (UPSS, aged 15+) characteristics, by geographical region, 2022 (%)



Note: The major 22 states were included in the analysis and divided into five regions: Central – Uttarakhand, Uttar Pradesh, Chhattisgarh, Madhya Pradesh; East – Bihar, West Bengal, Jharkhand and Odisha; North – Jammu and Kashmir, Himachal Pradesh, Punjab, Haryana, Delhi, Rajasthan; North-East – Assam; South – Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana; and West – Gujarat and Maharashtra. WPR=worker population ratio; UR=unemployment rate; RE=regular employment; ORG=organized sector; FOR=formal employment; HIGH/MED=high- and medium-skill jobs (see box 5 for definitions); HEDU=education secondary level and higher; and POP=population. The WPR and UR are rates while the RE, ORG, FOR, HIGH/MED, HEDU and POP are shares.

Source: Computed from the Periodic Labour Force Survey data for 2022.

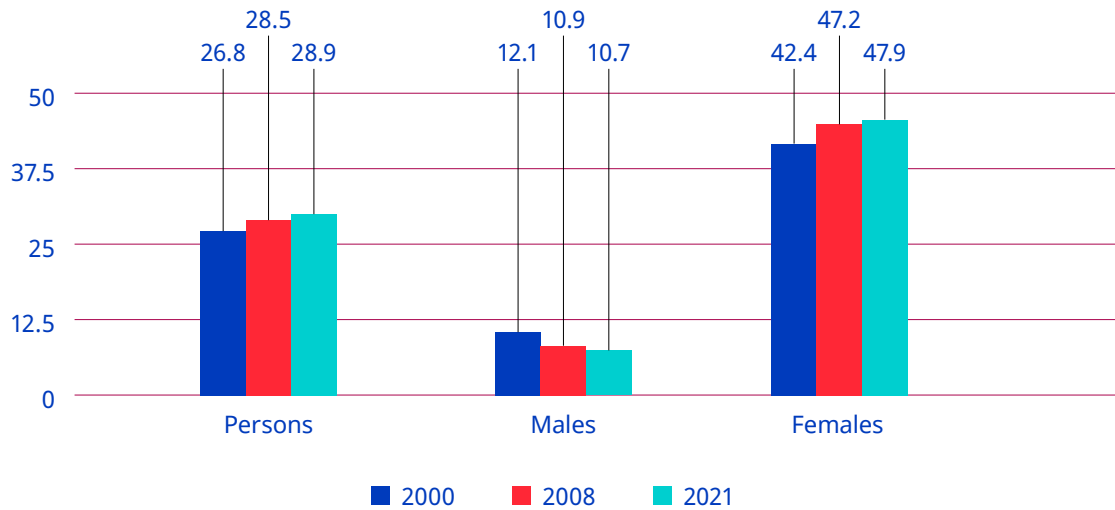
There is significant segmentation and inequality in the Indian labour market across various social and income groups, gender and geographical regions. This implies that certain social groups or classes, such as persons belonging to Scheduled Castes and Scheduled Tribes or persons in lower-income brackets, face more formidable barriers to accessing formal and organized sector employment opportunities or high-skill jobs. Similarly, women face discrimination or biases in hiring and promotion practices, resulting in limited career advancement opportunities (Tabassum and Nayak 2021; Das and Kotikula 2019). The geographical location of an individual also influences employment outcomes: Regions with lower educational attainment or economic development may have fewer opportunities available, resulting in large-scale migration of impoverished persons from the economically disadvantaged regions.

Migration rate and overall trends in migration

The discussion on employment pattern and growth in employment also requires looking at the trends in the migration rate in the country and, more importantly, in the proportion of persons among the migrants who migrated for employment-related reasons. During the past two decades (2000–21), the overall migration rate in India increased marginally, by 2.1 percentage points, from 26.8 per cent to 28.9 per cent (figure 2.13). However, interestingly, the trend was opposite for men and women. While the

migration rate among women – being much higher than among men – increased by 5.5 percentage points (from 42.4 per cent to 47.9 per cent) over the period, it declined by 1.4 percentage points (from 12.1 per cent to 10.7 per cent) for men.

► **Figure 2.13. Migration rate in India, by gender, 2000, 2008 and 2021 (%)**



Source: Employment and Unemployment Survey for 2000; Employment, Unemployment and Migration Survey for 2007–08 and Periodic Labour Force Survey for 2021.

► 2.6 Migration due to employment-related reasons

Among all migrants in 2021, about 10.7 per cent of them migrated due to employment purposes, which included searching for employment or better employment, transfer, proximity to place of work and lack of employment opportunities in the previous place of residence. This proportion, being as low as 1.7 per cent among women (for which the analysis is not shown) was 49.6 per cent among the men, with the states and union territories that had a corresponding larger proportion than the national average being Delhi (87.1 per cent), Karnataka (63.2 per cent) and Maharashtra (59.5 per cent) (table 2.10).

► **Table 2.10. Proportion of migrants who migrated for employment-related reasons and overall migration rate, by major states and union territories, 2021 (%)**

State or union territory	Proportion of persons among the migrants who migrated due to employment related reasons among the males	Overall migration rate
Andhra Pradesh	46.9	31.6
Andhra Pradesh including Telangana	50.2	29.0
Assam	54.7	23.7
Bihar	39.0	14.2
Chhattisgarh	54.9	30.4
Delhi	87.1	27.6
Gujarat	51.4	31.9
Haryana	54.7	29.0
Himachal Pradesh	49.3	38.1
Jammu & Kashmir	38.3	22.1
Jharkhand	44.6	28.3
Karnataka	63.2	32.5
Kerala	37.2	41.2
Madhya Pradesh	50.9	31.8
Maharashtra	59.9	29.3
Odisha	46.4	33.1
Punjab	44.4	29.3
Rajasthan	46.5	28.5
Tamil Nadu	46.3	36.3
Telangana	56.2	25.2
Uttar Pradesh	35.9	28.4
Uttarakhand	48.8	35.0
West Bengal	48.5	31.7
All India	49.6	28.9

Source: Computed from the Periodic Labour Force Survey data for 2021.

► 2.7 Impact of the COVID-19 pandemic on employment

As evident from the analysis in the preceding sections, there was a break in the structural trends in the labour market and employment after 2019 due to the COVID-19 pandemic and subsequent lockdowns. Although India recovered rather quickly, it seems that the impacts of the lockdowns persisted even when the pandemic ended. This section analyses the impact of the pandemic on the Indian labour market, based on short-term annual and quarterly trends of the employment characteristics available in the Periodic Labour Force Survey data for 2019, 2020, 2021 and 2022.

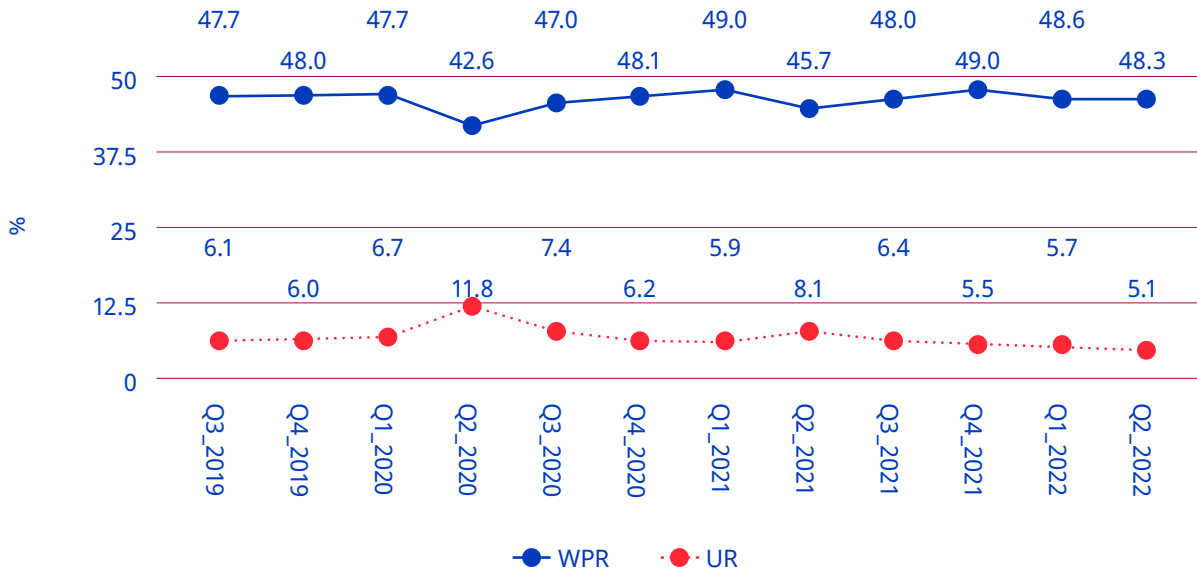
2.7.1 Employment trends during and after the pandemic

The Indian labour market showed considerable quarterly variation during the pandemic. Two of the key labour market indicators – the LFPR and the worker population ratio – sharply declined while the unemployment rate rose in the peak pandemic quarters in 2020 and 2021. They recovered in the subsequent quarters, reaching the pre-pandemic levels and have shown continued improvement in the post-pandemic period (figure 2.14). These changes are largely attributed to increased women's participation in the labour market in rural areas. However, other changes that show a retrogression in the structure of employment do not indicate a full recovery in the final year (2022) covered in this report. Any analysis of the labour market during the pandemic period must contend with these apparent opposing realities.

The LFPR increased steadily over the years, from the 50.2 per cent in 2019 to the 55.2 per cent in 2022 (see appendix tables A2.1–A2.3). Similarly, the worker population ratio also increased, from 47.3 per cent in 2019 to 52.9 per cent in 2022. **In absolute terms, 63.5 million additional persons joined the labour force and 68.1 million additional persons joined the workforce between 2019 and 2021. Consequently, the unemployment rate and the number of unemployed persons declined by 1.6 percentage points and 4.6 million, respectively.** The female LFPR and worker population ratio increased significantly more than what those rates did among their male counterparts between 2019 and 2020 and between 2020 and 2021, particularly in rural areas. Between 2021 and 2022, the LFPR increased at a similar pace for men as well as women – from 77 per cent to 77.2 per cent for men and from 32.2 per cent to 32.5 per cent for women. In absolute numbers, the labour force and the workforce increased much more in rural areas (at 47 million workers and 51.3 million workers, respectively) than in urban areas (at 16.5 million and 16.8 million persons, respectively) between 2019 and 2021.

The post-pandemic recovery and the upward movement in the quarterly employment rates suggest positive trends. But these results must be moderated on the basis of the quality of employment generated and the changing structure of the workforce, which is examined in sections 2.4 and 2.6.2. The quarterly data from the Periodic Labour Force Survey show the impact of the pandemic on each quarter. The worker population ratio started declining, from nearly 48 per cent in the fourth quarter of 2019 (October–December) to 42.6 per cent in the second quarter of 2020 (April–June), which also included a nationwide lockdown period (figure 2.15). However, the worker population ratio quickly recovered, to 49 per cent in the first quarter of 2021 (January–March), only to decline to 45.7 per cent in the second quarter of 2021, coinciding with the second COVID-19 wave and local lockdowns. This again recovered, to 48 per cent in the third quarter (July–Sept) of 2021 and showed further improvement in the subsequent quarters. During the same period, the unemployment rate also increased significantly, to 11.8 per cent in the second quarter of 2020 and then to 8.1 per cent in the second quarter of 2021, which consistently reduced to 5.1 per cent by the second quarter of 2022.

► Figure 2.14. Quarterly key labour market indicators (CWS, aged 15+), 2019Q3 (July-September) to 2022Q2 (April-June) (%)



Note: The nationwide lockdown period began 25 March 2020 and ended on 17 May 2020 (2020Q1: January–March and 2020Q2: April–June). WPR=worker population ratio; UR=unemployed rate.

Source: Computed from the Periodic Labour Force Survey data for 2019 and 2021.

2.7.2 Impact of the pandemic on quality of employment and sectoral change

The impact of the COVID-19 pandemic was evaluated using broad employment indicators, as previously done by several scholars (Abraham et al. 2022; Behera et al. 2021; Ghose 2020; Kannan and Khan 2020; Kesar et al. 2020). The analysis presented here is based on the employment status and sectoral employment patterns.

The number of workers in the self-employment category increased consistently during the pandemic years and continued into 2022, particularly in vulnerable unpaid family work in rural areas and among women. In contrast, the number of people engaged in regular formal, informal and casual employment increased at a slower pace during the pandemic period and declined afterward, with the exception of casual employment. The number of self-employed individuals increased by 27.4 million in 2020, by 24.8 million in 2021 and by 10.8 million in 2022. Of the total additional people who joined the workforce, self-employed persons comprised more than 69 per cent in 2020, 87 per cent in 2021 and nearly all in 2022, largely consisting of unpaid family workers (table 2.11). There were more women involved in unpaid family work, while more men were involved in own-account work. Working as an unpaid helper in a family-owned enterprise is a particularly inferior form of work because it does not lead to independent income or increase women’s participation in the public sphere (Deshpande 2020). The increase in employment in unpaid family work for women was more than three times that of their male counterparts. More than three fourths of the additional people who joined self-employment work were in rural areas (see appendix table A2.11).

► **Table 2.11. Changes in status of employment (UPSS, aged 15+), pre- and post-pandemic, 2019–22 (millions)**

	Employed persons				Additional employment		
	2019	2020	2021	2022	2019 to 2020	2020 to 2021	2021 to 2022
Regular employment	115.6	120.3	121.9	118.1	4.7	1.6	-3.8
Regular formal employment	47.5	48.7	52.4	51.6	1.2	3.7	-0.8
Regular informal employment	68.1	71.6	69.5	66.5	3.5	-2.1	-3.0
Casual worker	109.9	116.2	119.4	122.2	6.3	3.2	2.8
Self-employed	241.1	268.5	293.3	304.1	27.4	24.8	10.8
Own-account worker	170.1	179.3	193.5	195.5	9.2	14.2	2.0
Employer	10.7	11	11.3	13.9	0.3	0.3	2.6
Unpaid family worker	60.3	78.2	88.5	94.8	17.9	10.3	6.3
Total	466.5	506.1	534.6	544.5	39.6	28.5	9.9

Source: Computed from the Periodic Labour Force Survey data for 2019, 2020, 2021 and 2022.

Other studies corroborate these findings: Abraham et al. (2022), Behera et al. (2021) and Deshpande (2020) pointed out that women’s participation increased as they sought to supplement falling household income at the time of the pandemic-related slowdown. A large part of this increase in employment was due to rural women joining the workforce as self-employed workers in agriculture. Some studies investigating the links between the pandemic-related income shocks and the female LFPR also found that the probability of women’s employment increased in households that had experienced sharp negative shocks induced by the lockdowns (see Bansal and Mahajan 2021). Women were several times more likely to lose their paid job than men and far less likely to recover work after the restrictions were lifted (APU 2021). In particular, women and youths, irrespective of the nature or industry of work, were more vulnerable to losing work and not returning to paid work (ILO 2022c; Deshpande 2020).

There was some increase in less remunerative employment during the pandemic period, which persisted to some extent into the post-pandemic years. The rise in employment in subsistence agriculture, either as own-account workers or unpaid family workers, as well as in casual workers in the construction sector, indicates that a large number of poor migrants returning to their native home and marginal workers may have been compelled to work in these sectors in rural areas for their livelihood.

The changes in real monthly wages and earnings are shown in table 2.12. These results illustrate that the negative impact of COVID-19 was felt strongly on wages during the peak pandemic years, with some recovery in 2022. Casual wages grew slowly during the first year (2020), in which the last 14 weeks were affected by a lockdown, and at a negligible rate during 2021. But the growth rate of casual wages revived during the recovery year (2022). Both the growth rate of regular and self-employed earnings remained low or negative right up to 2021 but grew during 2022. Overall, as mentioned in section 2.4.3, the regular wages of both female and male workers experienced a small negative growth rate between 2018 and 2022. However, female self-employed workers experienced a considerably higher negative growth rate in earnings compared with men. Additionally, women’s casual wages exhibited a slightly higher growth rate than what it was for men.

► **Table 2.12. Annual growth rate of real monthly wages and earnings (rupees), 2018–22 (%)**

Period	Casual wages			Regular wages			Self-employed		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2018–19	4.20	4.12	4.53	-0.29	-0.68	0.06	0.74	6.91	-1.05
2019–20	2.90	5.69	1.68	0.31	1.38	-0.61	0.52	-4.28	-1.95
2020–21	0.02	1.68	0.39	-2.02	-7.94	-3.03	4.83	-12.94	-6.07
2021–22	5.10	3.26	5.76	0.27	5.95	1.61	7.67	1.18	5.89

Source: Computed from the Periodic Labour Force Survey data for 2019, 2020, 2021 and 2022.

The broad sectoral analysis found that the number of people engaged in construction, trade, manufacturing and information and communication services either remained stable or had a small increase between 2019 and 2022, whereas the agriculture sector had a consistent and considerable increase in employment. The number of workers in the agriculture and allied sectors increased by 30.8 million in 2020, 12.1 million in 2021 and 12.9 million in 2022 (table 2.13). Yet, employment in the construction sector also consistently increased, by 2.4 million, 5.7 million and 3.3 million, respectively. The quarterly data indicate that people lost their jobs in manufacturing, construction, trade, hotels and restaurants and even some in the farm sector during the nationwide lockdown. Once the lockdown was lifted, employment in the agriculture and construction sectors considerably increased, confirming the annual sectoral changes in employment during the pandemic period.

► **Table 2.13. Changes in sectoral employment (UPSS, aged 15+ pre- and post-pandemic, 2019–22 (millions))**

Sectors	Number				Additional employment		
	2019	2020	2021	2022	2020	2021	2022
Agriculture, forestry and fishing	190.7	221.5	233.6	246.5	30.8	12.1	12.9
Mining and quarrying	2.0	1.4	1.7	1.8	-0.6	0.3	0.1
Manufacturing	57.8	58.1	61.5	63.2	0.3	3.4	1.7
Electricity, gas, water supply and other utility services	2.7	3.2	3.3	3.0	0.5	0.1	-0.3
Construction	56.5	58.9	64.6	67.9	2.4	5.7	3.3
Trade	52.2	61.2	60.9	56.8	9.0	-0.3	-4.1
Hotels and restaurants	9.0	9.0	9.5	9.5	0.0	0.5	0.0
Transport and storage	22.7	23.3	23.7	22.7	0.6	0.4	-0.1
Postal and courier activities	0.8	0.7	0.8	0.9	-0.1	0.1	0.1
Information and communications services	5.0	5.1	6.0	7.0	0.1	0.9	1.0
Financial services	5.8	5.7	6.0	5.6	-0.1	0.3	-0.4
Business services	4.5	4.2	4.3	10.6	-0.3	0.1	6.3
Public administration and defence	8.1	8.1	8.7	8.3	0.0	0.6	-0.4
Education and health	23.8	23.3	23.7	22.9	-0.5	0.4	-0.8
Other services	25.0	21.3	26.2	17.7	-3.7	4.9	-8.5
Total	446.5	505.1	534.6	544.5	38.6	29.5	9.9

Source: Computed from the Periodic Labour Force Survey data for 2019, 2020, 2021 and 2022.

The analysis found that apart from causing loss of jobs of regular salaried workers, the COVID-19 pandemic also affected the quality of employment. The disruptions put pressure on households to either start their own economic enterprise or involve other family members in unpaid work to cope with the financial strain caused by the pandemic responses. Specifically, the pandemic pushed many workers to return to their native rural home, where they primarily engaged in self-employment or casual work in agriculture or construction. Non-working family members, such as women in urban areas prior to the pandemic, were also pushed to engage in livelihood activities, resulting in a substantial increase in self-employment in agriculture during the pandemic years. It has been argued that during times of exogenous shocks, households, especially those who are poor and vulnerable, are forced to protect their livelihoods by creating some form of economic activity (Chand 2023; Kannan and Khan 2020).

The significant increase in self-employment in rural areas during the pandemic years was accounted for by the incremental workforce created by the exodus of migrant labourers from different parts of the country back to their native rural areas, which was a troubling scene to watch. The poor quality of additional employment and decline in underemployment during the pandemic and afterward was also reflected in the decrease in the average real monthly earnings of regular and self-employed categories of workers, along with only a small increase in casual wages, as discussed earlier in this section.

▶ 2.8. Implications of technological advancement and digitalization on employment

2.8.1 Technological advancement and employment

The economic disruption caused by the COVID-19 pandemic has changed work patterns and accelerated the adoption and demand for digital technologies across various industries and the services sector. This rapid integration of digital solutions offers potential for enhanced operational efficiency and productivity. But the rise of digital technologies is causing significant changes in the structure of the global labour market. Digital technologies are replacing or automating existing jobs and creating new ones, leading to job polarization and income inequalities in developed countries (Autor 2019; Jaimovich and Siu 2018; Acemoglu and Autor 2011). However, studies of those trends mostly focused on developed economies and cannot be generalized to developing countries like India. It is thus important to understand the impact of new technologies on skill demand and job polarization in the Indian labour market.

For that analysis, this section uses the National Occupational Classification (NCO) 2004 framework based on labour tasks. Some studies have used this classification in developing countries to understand the impact of technological change on the labour market (see Kuriakose and Iyer 2018; Sarkar 2018; Vashist and Dubey 2018; Vashist 2017). Labour tasks are classified into routine and non-routine, cognitive and manual tasks, and skill and no-skill categories, which are further divided into no-skill, low-skill, medium-skill and high-skill categories (see box 6 for definitions). To perform long-term comparative analysis, the NCO-1968 classification was converted to the NCO-2004 classification for 2000.

▶ Box 6. Skill level based on occupation or task performed

The following are national classifications based on the National Classification of Occupations (NCO-04 and NCO-15) regarding skill level, as defined in International Classification of Occupations-08.

No skill (I): Typically involves the performance of simple and routine physical or manual tasks (NCO code 9: elementary occupations or unskilled workers, such as domestic helpers, cleaners, street vendors and garbage collectors).

Low skill (II): Typically involves the performance of such tasks as operating machinery and electronic equipment, driving vehicles, maintenance and repair of electrical and mechanical equipment and manipulation, ordering and storage information (NCO codes 4–8 for low-skilled works, such as clerical workers, service

workers, shop and market sales workers, craft and related trade workers).

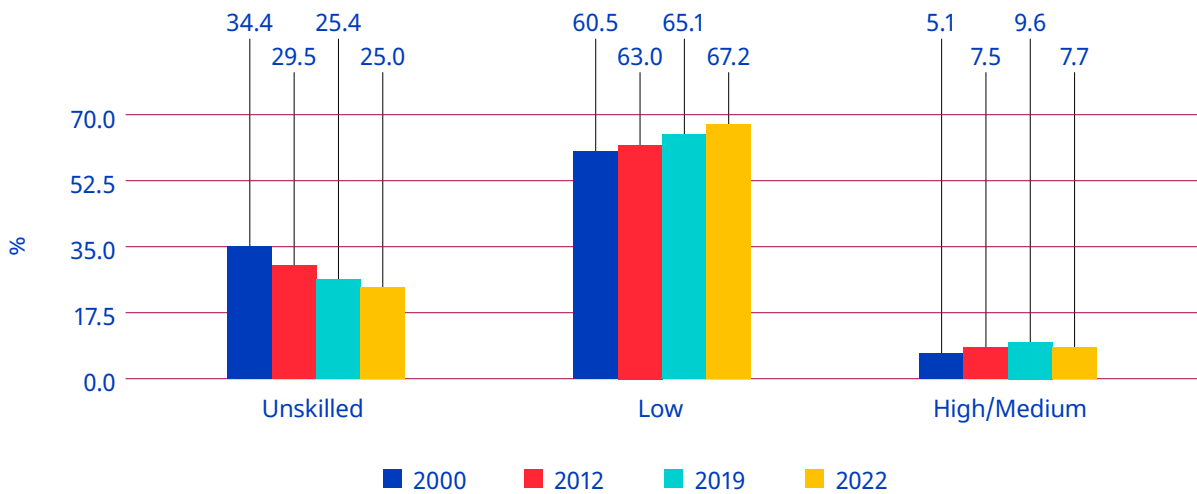
Medium skill (III): Typically involves performance of complex technical and practical tasks that require an extensive body of factual, technical and procedural knowledge in a specialized field (NCO code 3 for professional and technical associates).

High skill (IV): Typically involves the performance of tasks that require complex problem-solving, decision-making and creativity based on an extensive body of theoretical and factual knowledge in a specialized field (NCO code 2). The concept of skill level was not applied in the case of NCO code 1 (legislators, senior officials and manager who are grouped together) because skills for executing task and duties of these occupations varied to such an extent that it was not feasible to link them with any of the four broad skill levels.

Source: ILO 2012.

The share of high- and medium-skill jobs increased from 5.1 per cent in 2000 to 9.6 per cent in 2019, while low-skill jobs increased from 60.5 per cent to 65.1 per cent. Simultaneously, the share of no-skill jobs decreased from 34.4 per cent to 25.4 per cent. These trends suggest a rise in high- and medium-skill jobs and a decline in no-skill or routine-type jobs. However, the trend shifted, with a consistent increase in low-skill jobs and a decrease in high- and medium-skill jobs between 2019 and 2022 (figure 2.15). This indicates a sustained increase in the supply of low-skilled labour in the job market because many individuals were compelled to work to support their family income, as discussed in the previous section.

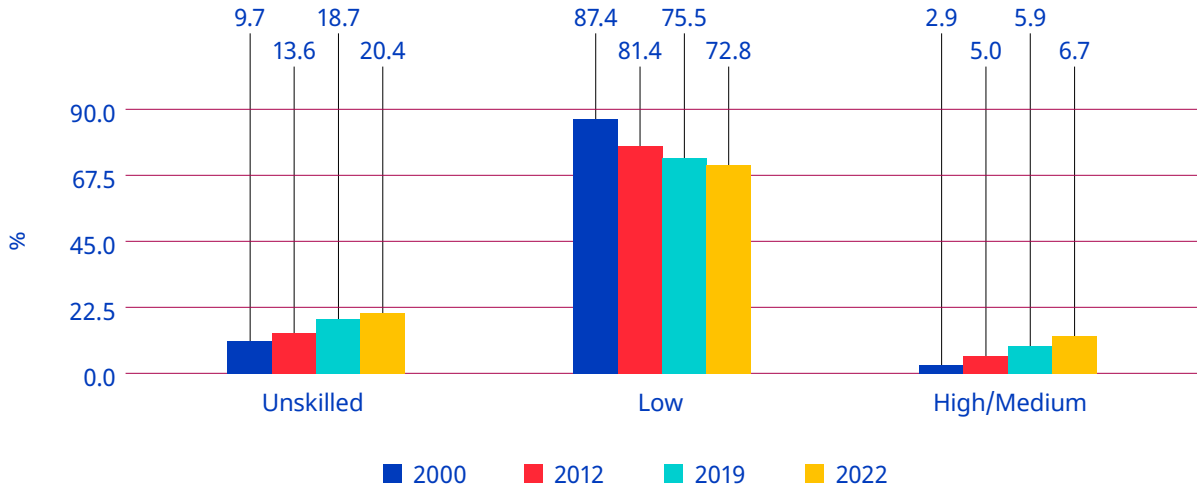
► **Figure 2.15. Occupation-based skill structure of employment (UPSS, aged 15+), 2000, 2012, 2019 and 2022 (%)**



Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

The manufacturing sector consistently experienced an increase in the share of high- and medium-skill (2.9–6.7 per cent) and no-skill jobs (9.7–20.4 per cent) between 2000 and 2022 (figure 2.16). However, this trend did not apply to all enterprises. In the Indian manufacturing sector, more than 90 per cent of enterprises are micro and small and informal, relying heavily on manual and unskilled labour for their operations, as documented by Mehta, Laha and Sharma (2022), Goldar (2014) and Mazumdar and Sarkar (2013). This trend was more prevalent in the formal, capital-intensive and modern manufacturing sectors, such as automobiles, electronics and pharmaceutical units.

► **Figure 2.16. Skill level in manufacturing sector employment (UPSS, aged 15+), 2000, 2012, 2019 and 2022 (%)**



Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

In the services sector, the share of high- and medium-skill jobs in public administration, health and education (45.1 per cent) and financial, business and real estate (42.3 per cent) is much higher than in transport, storage and communication (19.7 per cent) and trade, hotels and restaurants (3 per cent) (table 2.14). On the contrary, the share of low- and no-skill jobs are predominant in trade, hotels and restaurants (97 per cent). In particular, the share of high- and medium-skill jobs consistently increased among the transport, storage and communication category between 2000 and 2022 (from 2.7 per cent to 19.7 per cent), which includes information and communication technology-related services. The demand for high- and medium-skilled ICT workers accelerated during and after the COVID-19 pandemic.

► **Table 2.14. Skill level in services sector employment (UPSS, aged 15+), 2000–22 (%)**

	Trade, hotels and restaurants				Transport, storage and communications				Finance, business and real estate				Public administration, health and education			
	2000	2012	2019	2022	2000	2012	2019	2022	2000	2012	2019	2022	2000	2012	2019	2022
No skill	11.0	13.8	10.3	9.5	41.3	21.2	12.6	9.3	8.0	12.2	10.5	9.7	24.9	17.6	14.0	14.2
Low skill	86.7	79.3	82.3	87.5	56.1	66.6	72.6	71.0	52.6	38.9	45.4	47.9	31.7	35.4	36.7	40.7
High and medium skill	2.2	6.9	7.4	3.0	2.7	12.2	14.8	19.7	39.4	48.9	44.0	42.3	43.5	47.0	49.3	45.1
Medium skill	1.7	1.6	2.2	1.3	1.9	3.7	6.0	3.5	21.0	29.9	27.0	20.9	25.1	23.2	25.8	8.4
High skill	0.5	5.3	5.3	1.7	0.8	8.5	8.8	16.2	18.4	19.0	17.0	21.4	18.4	23.8	23.5	36.7
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

Technological changes have increased the employment of highly skilled labour and reduced employment of low-skilled labour (often in absolute terms) in the manufacturing and services sectors over the past two decades (Ghose and Mehta 2022). Unlike in developed economies, however, the technological change

has not reduced the employment of medium-skilled labour in absolute terms. In addition, technological advancement in India has led to demand for high- or medium-skilled workers in select sectors, such as large and medium-sized manufacturing enterprises and modern services, like information and, communication and software services, but at a much lower level than in developed economies. The robotization rate in India is still very low, accounting for only 0.8 per cent of the global robots, with 4,945 industrial robots in 2021, and is largely confined to capital-intensive industries and medium-sized and large services units, where it is used in few tasks with a low chance of displacing low-skilled and unskilled labour to a large extent in the near future (Ghose 2023; Mani 2022; Mehta et al. 2022). The impacts of technological changes and capital intensity on output and employment are further examined in Chapter 3.

2.8.2 Digitalization and employment

The rapid growth of digitization in the form of advancements in internet data connectivity and the availability of high-speed computers, laptops and smartphones are reshaping the world of work, providing new opportunities for companies and individuals to hire the services of freelancers on a flexible or temporary basis. This type of short-term contractual task-based work is commonly known as the platform or gig economy and offers people with different skill sets income opportunities and work flexibility, although it also often entails poor working conditions and no social security benefits. Despite these challenges, the gig economy showed resilience even during the COVID-19 pandemic, when many services were delivered directly to people's doorsteps.

There are several estimates of the number of gig workers in India. In 2021, the Boston Consulting Group (2021) estimated gig economy jobs in India at between 8 million and 18 million, with a projection of more than 90 million in the next eight to ten years. According to a National Institution for Transforming India (NITI Aayog) study,¹⁰ there were 7.7 million gig workers in 2021, constituting 2.6 per cent of the total non-farm workers, or 1.5 per cent of the total workforce in India. However, the estimates of gig workers based on the Periodic Labour Force Survey data should be used cautiously because the data lack sufficient indicators to estimate gig and platform workers.

Despite the potential for rather large employment opportunities, there are growing concerns about the work offered in the gig economy. Working conditions on digital platforms are largely regulated by the terms of service agreements, which often characterize the contractual relationship between the platform owner and worker as something other than employment, making it difficult for platform workers to access workplace protections and entitlements. It has been pointed out that on-demand app-based service aggregator companies in India have poor working conditions.¹¹ **The lack of job security, irregular wages and uncertain employment status for workers pose significant challenges for gig or platform work** (NITI Aayog 2022). This effectively reproduces or produces new forms of informality and can further deteriorate working conditions. Further, the uncertainty associated with work and income regularity also leads to increased stress and pressure for gig economy workers.

¹⁰ See www.niti.gov.in/sites/default/files/2023-06/Policy_Brief_India%27s_Booming_Gig_and_Platform_Economy_2706202.

¹¹ As documented by the Fairwork Project initiated by Oxford University researchers, of 11 companies, only two (Flipkart and Urban Company) scored 5 or more out of 10 in the fair work score, based on five principles: pay, conditions, contracts, management and representation.

▶ 2.9 Employment condition index

To assess the regional differences and progress in quality and conditions of employment, a composite index – employment condition index (box 7) – was constructed for 22 major states of India.

▶ Box 7. Employment condition index methodology

Although this report uses the usual principal and subsidiary status (UPSS) criteria for employment consistently, the usual principal activity status criteria were used to construct an “employment condition index” for capturing employment conditions relatively better than the UPSS because of longer duration of work in a year. The employment condition index was constructed for 2005, 2012, 2019 and 2022 using the following seven indicators.

Percentage of workers employed in regular formal work: This represents the proportion of formal workers in the total workforce, with states that have a larger proportion of regular formal workers receiving a better ranking in the index.

Worker population ratio: This represents the proportion of working individuals in total population. States with a high worker population ratio receive a better ranking in the index.

Proportion of casual workers: This indicates the percentage of casual workers in the total workforce. States with a small proportion of casual workers receive a better ranking in the index.

Proportion of self-employed workers with income below the poverty line: This reflects the proportion of self-employed workers living below the poverty line, calculated using the poverty line figures provided by the National Institution for Transforming India (formerly the Planning Commission). These figures were adjusted using the consumer price indices to determine the poverty line for 2019 and 2022. States with a small proportion of self-employed workers living

below the poverty line receive a better ranking in the index.

Average monthly earnings of casual workers: This represents the average monthly wages of casual workers. States offering higher casual wages receive a better ranking in the index.

Unemployment rate of youths with a secondary or higher level of education: This indicates the proportion of youths who are educated above the secondary level but are unemployed. States with a low educated youth unemployment rate receive a better ranking.

Youth not in employment, education or training. This proportion addresses a broad array of vulnerabilities among youths, touching on issues of unemployment, early school leaving and labour market discouragement. States with a smaller proportion of youths not in employment, education or training receive a better ranking.

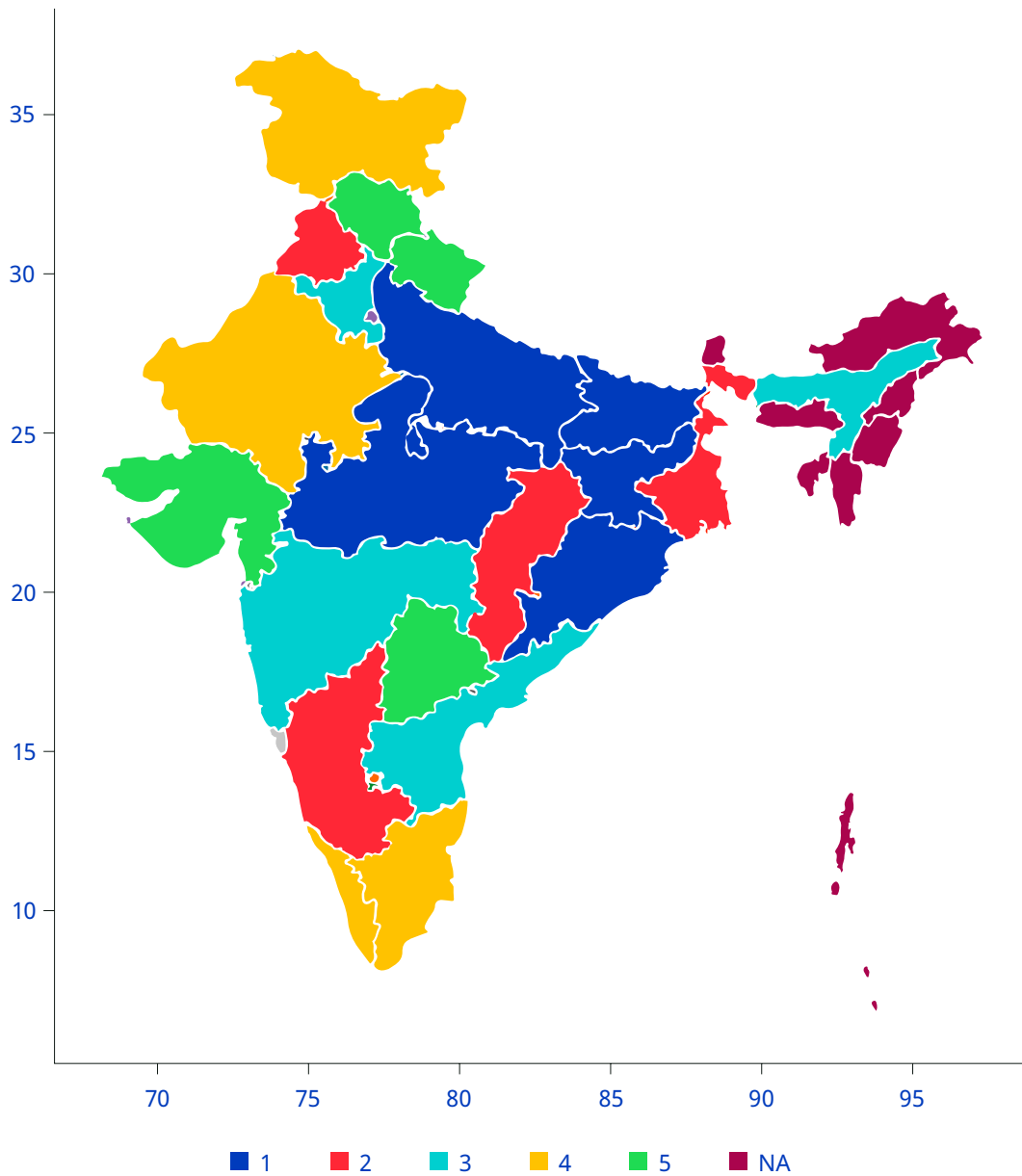
The employment condition index calculation employs the maximum–minimum range method, wherein the range is determined by the difference between the maximum and minimum values of each indicator. The maximum and minimum values, referred to as the goalposts, are assumed at 20 per cent higher and 20 per cent lower than the actual maximum and minimum values. The employment condition index values range between 0 and 1, with 1 denoting the highest possible score. The composite index value is derived by averaging the values of all seven indicators.

Note: A similar index, the employment situation index, was constructed for the India Labour and Employment Report 2014. Variables used in the 2014 index (except unionization of informal workers) were kept in the 2024 index but an additional variable – youths not in employment, education or training – was added. For details, see IHD 2014: 86–89.

Table 2.15 shows the employment condition index ranking for the 22 states for 2005, 2012, 2019 and 2022. Figure 2.17 depicts the index ranking for quintile of the 22 states in 2022, from the lowest quintile (1) to the highest quintile (5). The overall employment condition index value suggests a gradual but consistent improvement in employment conditions for all of India over the past 17 years, which increased from 0.40

in to 0.65 in 2022. Additionally, all 22 states showed improvement in their employment condition index value, albeit to varying extent.

► **Figure 2.17. Overall employment condition index**



Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

Himachal Pradesh, Uttarakhand, Delhi, Telangana and Jammu and Kashmir in the northern regions consistently ranked in the top positions in the employment condition index, reflecting their robust economic and employment conditions. Specifically, the consistent top position of Himachal Pradesh, Delhi, Jammu and Kashmir and Uttarakhand in the index can be primarily attributed to the improvement in employment conditions among women (see appendix table A2.12b).

The economically underdeveloped states of Bihar, Odisha, Jharkhand and West Bengal in the eastern region, along with Uttar Pradesh in the northern region, consistently ranked lower in the employment condition index. In particular, Haryana in the northern region ranked among the top ten states until 2019, and then experienced a significant decline in its rank in 2022. This decline was attributed to a decrease in the worker population ratio, an increase in the proportion of casual and self-employed workers living below the poverty line and a rise in the share of youths not in employment, education or training. Punjab in the north-western region, despite showing improvements between 2005 and 2012, fell into a consistent decline in its index rank thereafter. This decline was linked to a decrease in the share of regular formal employment and an increase in the proportion of casual workers and self-employed workers living below the poverty line. The decline in the index ranking in Haryana and Punjab is credited to a deterioration of employment conditions, particularly among men in these states (see appendix table A2.12a).

► **Table 2.15. Employment condition index, 2005, 2012, 2019 and 2022**

State	2005		2012		2019		2022	
	Score	Ranking	Score	Ranking	Score	Ranking	Score	Ranking
Delhi	0.60	1	0.70	1	0.61	1	0.79	1
Himachal Pradesh	0.56	2	0.65	2	0.57	2	0.67	2
Uttarakhand	0.55	3	0.54	6	0.49	9	0.59	4
Jammu & Kashmir	0.53	4	0.53	9	0.52	4	0.55	8
Telangana	0.51	5	0.55	4	0.42	16	0.60	3
Rajasthan	0.49	6	0.51	11	0.43	15	0.55	9
Gujarat	0.49	7	0.52	10	0.51	6	0.57	5
Haryana	0.48	8	0.56	3	0.53	3	0.54	12
Tamil Nadu	0.48	9	0.50	12	0.52	5	0.56	7
Maharashtra	0.47	10	0.54	5	0.48	10	0.55	10
Karnataka	0.46	11	0.53	8	0.49	8	0.54	14
Madhya Pradesh	0.45	12	0.45	15	0.41	18	0.49	18
Punjab	0.45	13	0.54	7	0.48	11	0.53	16
Chhattisgarh	0.44	14	0.44	16	0.46	12	0.54	15
Andhra Pradesh	0.43	15	0.48	13	0.44	14	0.54	11
Jharkhand	0.42	16	0.39	20	0.36	20	0.49	20
Uttar Pradesh	0.40	17	0.41	17	0.38	19	0.49	19
Assam	0.39	18	0.40	19	0.44	13	0.54	13
West Bengal	0.35	19	0.41	18	0.42	17	0.51	17
Kerala	0.34	20	0.46	14	0.50	7	0.56	6
Bihar	0.32	21	0.33	22	0.29	22	0.41	22
Odisha	0.26	22	0.39	21	0.32	21	0.41	21
India	0.40		0.52		0.50		0.65	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

The economically advanced Kerala State in the southern region demonstrated consistent improvement in its employment condition index ranking over time, landing among the top ten states in 2022. This transformation was attributed to a reduction in the share of youths not in employment, education or training and an increase in the proportion of formal regular workers, particularly among women (see appendix table A2.13c). Similarly, both Tamil Nadu in the southern region and Gujarat in the western region consistently improved their index ranking. Tamil Nadu achieved this by increasing its worker population ratio and decreasing its share of casual workers and youth unemployment mainly among men over time (see appendix tables A2.15b and A2.18b). Gujarat's improvement was credited to an increase in the share of regular formal employment and a decrease in the proportion of self-employed workers living below the poverty line, a trend that was particularly pronounced among men in the state.

Some other states, such as Madhya Pradesh in the central region, experienced a decline in their employment condition index ranking due to a decrease in the share of regular formal employment and an increase in the share of youths not in employment, education or training. Rajasthan in the western region improved its index ranking, primarily due to a decrease in the share of casual workers and the proportion of youths not in employment, education or training. And Maharashtra's index ranking remained stable throughout the study period.

► 2.10 Summing up

The analysis of main trends and patterns in the Indian labour market covering the past two decades (2000–22) in this chapter revealed interesting findings.

Since 2018, there has been an upturn in the key labour market indicators, which include labour force participation, workforce participation and the unemployment rate. This upturn constitutes a structural shift from the previous two decades. This trend continued during the COVID-19 pandemic and is all the more marked for women workers. However, analysis of this seemingly positive feature must be tempered by the nature of employment that was largely created during the recent period.

The basic long-term feature of the employment situation in India continues to be insufficient growth of the non-farm sectors and the ability of these sectors to absorb workers from agriculture. This is notwithstanding the fact that non-farm employment grew at a higher rate than farm employment over the different periods prior to 2018. After 2018, there was a structural break in several labour market indicators and it accelerated during the pandemic. These structural features were retained even during the recovery from the pandemic in 2022. The shift was accompanied by other important changes in the labour market. Contrary to the earlier period when there was a gradual shift from agriculture to non-agriculture, agriculture employment significantly increased between 2019 and 2022, with the bulk of the employment accounted for by an increase in women's self-employment in unpaid family work, which is essentially a subsistence activity. This increase may be seen as mainly a response to crises and implies a reversal of the Kuznets–Lewis process of structural change over the most recent period (2019–22) analysed in this report.

The LFPR declined between 2000 and 2019 mainly due to the decline in the female LFPR. But this, too, was completely reversed during the pandemic years due to the significant increase in women's workforce participation. This also was mainly due to the huge rise in women's self-employment activities. In a way, however, it shows that a large number of women are ready to work due to economic compulsion and if offered some remunerative opportunities. This increase in the female LFPR is an important indicator of change regarding gender equality and improving livelihoods.

Before the pandemic, the aggregate employment slowly increased mainly due to a fall in agriculture employment. Labour from agriculture was mainly absorbed by the construction and services sectors

and not manufacturing, unlike the historical pattern as experienced in the now-developed countries. This led to a slow and rather stunted structural transformation in India, which is discussed in greater detail in Chapter 3.

Employment conditions remain poor, with around 90 per cent of workers being informal. However, over the years, there was overall improvement in employment conditions, as manifested by the growth in regular and organized sector workers. This is also shown by the consistent decline in the incidence of poverty among the various categories of households. The overall improvement in the quality of employment over time is also manifested in the increase in the employment quality index. At the same time, the economic slowdown that started in the second half of the past decade, followed by the pandemic, resulted in a rise in the poor quality of employment, with declining real earnings among self-employed and regular workers and that particularly affected the earnings of women, which remains a huge concern.

There are widespread livelihood insecurities, with only a small percentage being covered with social protection measures, precisely in the non-agriculture sector, but even in the organized sector. Worse, there has been a rise in contractualization, with only a small percentage of regular workers covered by long-term contracts.

The segmentation and inequalities in the labour market in terms of social groups, location (rural–urban), gender and geographical regions remain rather high. Some of these inequalities somewhat narrowed over time, but they require policy attention for generating greater employment opportunities for the relatively disadvantaged populations.

New technologies are slowly changing the labour market structure, with increases in capital intensity in various sectors. Skill composition has been gradually changing with the increase in jobs requiring high skills and the decrease in jobs requiring limited skills. This has implications for the supply and demand for skilled work, which is analysed in greater detail in the chapters that follow, but is worrisome for a country like India and its large stock of workers lacking job-related skills.

In sum, the positive trends observed in the labour market will result in positive outcomes overall if the pace and quality of jobs generated in the non-farm sectors can pick up considerably and if there is a greater match between the demand and supply of skills in the context of technological change.



▶ 3

Growth and employment

▶ 3.1 Introduction

The relationship between economic growth and employment holds special significance as a key outcome in the process of structural transformation for developing economies, such as India. Drawing from the historical development experiences of today's developed world, structural transformation typically entails shifting the underemployed labour force from low-productivity sectors, notably within agriculture, to high-productivity sectors within modern manufacturing and services (as outlined by Lewis in 1954 and later by Kuznets and Murphy in 1966).¹²

¹² For discussion on various theories and a sustainable framework for India, see Ghose 2021.

In this context, a central challenge in fostering a sustainable and equitable growth process in India revolves around ensuring structural changes that not only contribute to higher growth rates but also lead to a more productive utilization of the country's underutilized labour force and an equitable distribution of income. Successful structural transformation must address the dual objectives of achieving higher growth and creating more productive and better-paying employment opportunities. This necessitates a deeper exploration of the processes of structural transformation at the sectoral level within an economy. This chapter extends the discussion initiated in Chapter 2, which comprehensively examined employment trends and the quality of employment. It delves into the growth patterns and structural transformation of the Indian economy over the past two decades, with particular focus on the nature and scope of the sectoral and productive employment growth.

This chapter's analysis draws from multiple data sources, including the Employment and Unemployment Surveys and the Periodic Labour Force Surveys, the National Accounts Statistics, the Reserve Bank of India-KLEMS and the Annual Survey of Industries database (see box 8). To highlight the broad trends, the chapter provides estimates of growth rates in output, and employment at overall as well as broad sectoral levels by using annual average compound growth rates for most purposes. It's important to note that, unless otherwise specified, all employment figures from Employment and Unemployment Surveys and Periodic Labour Force Survey are based on UPSS criteria and encompass the entire working-age population (15 years and older). The analysis in this chapter is conducted using four specific time points: 1999–2000 (2000), 2011–12 (2012), 2018–19 (2019) and 2021–22 (2022).

► **Box 8. Reserve Bank of India-KLEMS and the Annual Survey of Industries databases**

The Reserve Bank of India-KLEMS is an economic database designed to provide comprehensive information on the productivity and performance of various sectors of the Indian economy. "KLEMS" is short for capital (K), labour (L), energy (E), materials (M) and services (S), which are key inputs to the production process in different industries. The database was developed by the Reserve Bank of India and is a valuable resource for researchers, policymakers and analysts interested in understanding the sources of economic growth, productivity trends and economic performance at the sector level. The RBI-KLEMS database includes data on various economic variables,

such as output, employment, capital, energy, materials and services, that can be used to analyse the contributions of these factors to economic growth and productivity in different industries.

The Annual Survey of Industries is the principal source of industrial statistics, covering manufacturing units in the organized sector. It provides comprehensive information relating to input, output, value added, employment and assets of registered factories. It is conducted annually by the Ministry of Statistics and Programme Implementation through its subordinate office, the Central Statistics Office. It covers all factories using electricity and employing ten or more workers and those employing 20 or more workers but do not use electricity.

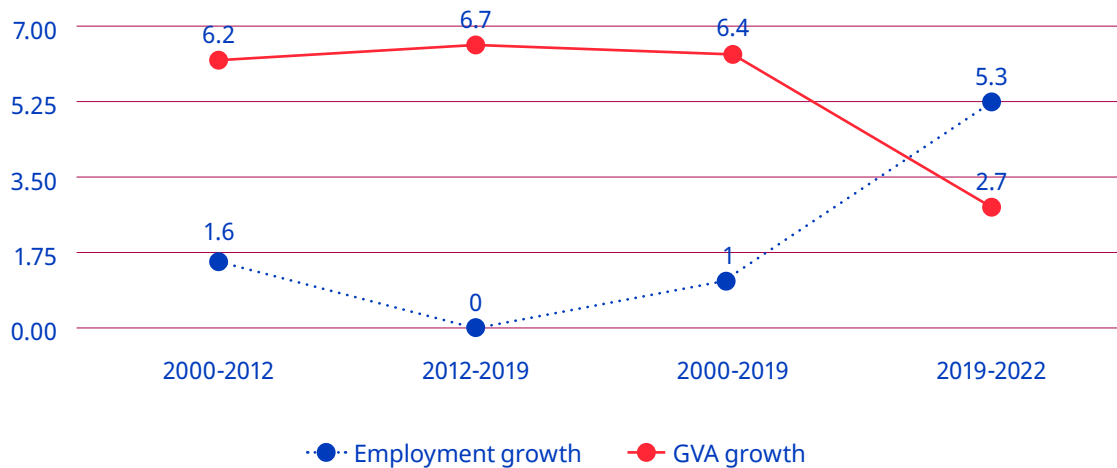
This chapter is organized into seven sections. Following the introductory first section, the second section delves into the relationship between GVA and employment growth. The third section looks at the relationship between growth, productivity and employment. The fourth section examines the connection between sectoral GVA and employment of youth, and then the fifth section highlights the interplay of sectoral growth, productivity and employment. The sixth section centres on important employment-generating sectors. The seventh section explains the use of the employment structure index before the eighth section concludes by summarizing the main points.

▶ 3.2 Relationship between gross value added and employment growth

It is important to evaluate how the growth process affects the surplus labour pool within an economy like India. If economic growth fails to create a sufficient number of employment opportunities that align with the basic needs, qualifications and aspirations of the labour force, a growing problem of unemployment is likely, leading to a gradual exodus of workers from the labour force due to a discouraged worker effect.¹³ Equally, without robust social safety nets in place, an economic crisis or a decline in the availability of decent and well-paying jobs can lead to an increase in underemployment or engagement in work with earnings that are below subsistence level. This, in turn, contributes to the expansion of the working-poor population, ultimately exacerbating inequalities and causing further impoverishment for persons trapped in such circumstances. It also adversely affects the rate and pace of growth (Ghose 2016; IHD 2014). In this context, the examination of links between India’s growth and employment is important.

As discussed in Chapter 2, employment grew by 1.6 per cent between 2000 and 2012, while GVA grew at a much faster rate of 6.2 per cent (figure 3.1). In contrast, from 2012 to 2019, GVA continued to grow at a relatively consistent rate of 6.7 per cent, but employment growth remained nearly stagnant, at just 0.01 per cent. This trend is further reflected in the employment elasticity to GVA, which declined from 0.26 between 2000 and 2012 to a mere 0.001 by 2019.¹⁴ The COVID-19 pandemic and the post-pandemic periods (2020–22) are characterized by a distinct picture: Employment growth outpaced GVA growth, resulting in a significant increase in the employment elasticity, which reached 1.95.

▶ Figure 3.1. Growth of employment (UPSS) and gross value added, 2000–22 (%)



Note: GVA=gross value added.

Source: Estimates based on National Statistical Office (January 2023), Employment and Unemployment Survey data and Periodic Labour Force Survey unit-level data.

13 Discouraged workers are those who drop out from the labour force due to their inability to find suitable work opportunities, which leads them to give up job searching.

14 The effectiveness of output growth in generating employment can be broadly measured by the elasticity of employment, which is the ratio of employment growth to the growth of GVA, or output. But employment elasticity should be seen at disaggregated levels for a better understanding of growth and employment.

► 3.3 Growth, productivity and employment relationship

To get a broader picture of structural change in the growth and employment that accompanied the country's growth trajectory between 2000 and 2022, a simple decomposition exercise was undertaken. Per capita growth was decomposed into its components by using the Shapley decomposition method.¹⁵ This exercise breaks down per capita output growth into the contributions of four components – productivity growth, employment growth, labour force growth and change in working-age population.¹⁶

This exercise revealed broad aspects of the growth process between 2000 and 2019 (table 3.1). **Changes in productivity growth constituted the largest component of growth in per capita GVA over the entire period (2000–22) and in two shorter periods (2000–12, 2012–19).** Changes in the employment rate were negligible in the first period and turned negative in the second period. Additionally, the decline in LFPR overwhelmed the additions to the total working-age population in both shorter periods, thereby negating a large part of the impact of demographic shifts in working-age population on the workforce. This is in keeping with the trend analysis in Chapter 2, which pointed out the substantive withdrawal of a large section of the working-age population from the labour force over the past two decades. This decline also underlines the danger of bypassing the demographic dividend of a rise in youth population in India.

► **Table 3.1. Decomposition of growth in per capita value added, 2019–22**

	2000-12	2012-19	2019-22
Annual growth per capita value added	3.89	4.50	1.54
Change in labour productivity*	4.75	6.66	-2.45
Change in employment rate	0.01	-0.54	0.64
Change in LFPR	-0.83	-1.48	3.42
Change in share of working-age population	0.73	0.86	0.12

Note: *=The productivity in this chapter generally refers to GDP per worker, which has a certain limitation, as explained in ILO(2023), which offers a detailed discussion of different productivity measures, their respective interpretations and their limitations.

Source: National Statistical Office (January 2023), Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

A widely noted feature of growth in the Indian economy over the two decades is the rising labour productivity accompanied by capital deepening at the economy level over time (table 3.2) (see also Kapoor 2015; Sen and Das 2014; Goldar 2011; Kannan and Raveendran 2009).

¹⁵ The Shapely decomposition involves decomposing change in per capita GDP into its components by using an additive method. It is the sum total of the growth that can be assigned to each of its components, presenting a consolidated way of looking at all the components. This methodology is used extensively in job diagnostics analysis (Azevedo, Sanfelice and Nguyen 2012).

¹⁶ Or equivalently, $y=w \cdot e \cdot p \cdot a$ (y =value added per capita, w =labour productivity, e =employment rate, p =labour force participation rate, a =population aged 15–64 and total population).

► **Table 3.2. Compound annual growth rate in economywide labour productivity^a and capital intensity,^b 2000–12, 2012–19 and 2000–19**

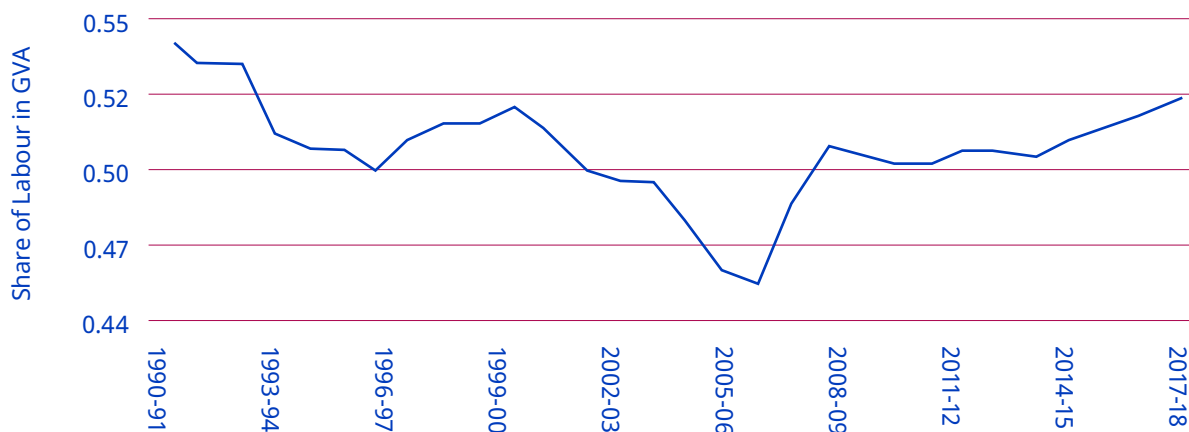
	Labour productivity growth	Capital intensity growth
2000 to 2012	4.80	6.12
2012 to 2019	6.54	6.74
2000 to 2019	5.44	6.35

Note: a=Labour productivity throughout this chapter was measured by dividing total GVA per 10 million rupees per 1,000 employees. b=Capital intensity was measured throughout this chapter by dividing the total value of capital stock per 10 million rupees per 1,000 employees.

Source: National Statistical Office data (January 2023), Employment and Unemployment Survey data, Periodic Labour Force Survey unit-level data and the Reserve Bank of India-KLEMS database.

The rise in capital intensity in the economy when accompanied by growth in labour productivity is also likely to be linked increasingly to growth in labour-saving capital-biased technological progress. Several studies estimating total factor productivity growth in the Indian economy between 1999 and 2019 also found a rise in total factor productivity estimates, which is seen as an indicator of rising technological progress.¹⁷ Accordingly, some demand-side explanations link inadequate employment growth to growth in productivity due to the process of technological change over time: that the opening up of the economy led to rising international competition, which led firms to adopt labour-saving technologies developed in advanced economies, not merely to meet international demand, but also to keep up with expanding import penetration in the domestic economy.¹⁸ For instance, where exports are concerned, standardized production technologies make it easier to meet standards and quality constraints for international markets. This often leads to rising labour productivity brought about by technological diffusion, which could be at the cost of employment growth when in the face of an insufficiently high expansion in demand.

► **Figure 3.2. Share of Labour in GVA**



Note: GVA=gross value added.

Source: Reserve Bank of India-KLEMS database.

17 In a growth accounting framework, total factor productivity is measured as a residual (Jorgenson 1995), after adjusting for growth in labour and capital (and if appropriate, intermediate inputs). Growth in total factor productivity is specifically attributed to growth in technical progress in mainstream analysis. Recent studies, like those by Saha (2014) and Gulati et al. (2020), found a trend rise in total factor productivity growth in the post-reform period in India. Gulati et al. (2020) noted that except for a brief deceleration between 2008 and 2014, India's total factor productivity estimates showed consistent growth over time.

18 See, for instance, Dasgupta and Singh 2005. The argument in Patnaik (2009) also re-asserted this as resulting from both the external and internal demand regimes that came into play after the opening up of the Chinese and Indian economies.

It has also been argued that increasing economic inequalities over time contributed to a shift in the composition of aggregate demand and towards more technologically advanced capital-intensive goods and services via a demonstration effect. This also led to an increase in the production of goods and services, which involves greater use of labour-saving technology. In various studies, this was seen to be a consequence of an absence of a broad-based growth in consumption demand due to growing economic inequalities in the post-reform era and is corroborated by the trend rise in the already rather substantial inequalities in income over the post-reform period (see, for example, Chancel and Piketty 2019).

As figure 3.2 illustrates, there was a trend fall in the share of labour income over the entire post-reform period using the Reserve Bank of India-KLEMS¹⁹ database. The economywide share of labour incomes (ratio of labour income to GVA) initially fell, then recovered somewhat between 2011 and 2019 but remained substantially below its levels in the beginning of the post-reform period. On the supply side, it has also been argued that the existence of capital subsidies of various kinds (including tax relief, interest subvention and an overvalued exchange rate) led to a lowering of the relative cost of capital with respect to labour, thereby encouraging increasing substitution of labour by capital (Sen and Das 2015). These trends reversed completely between 2021 and 2022. An unprecedented rise in employment with a lower overall GVA growth rate led to negative growth in labour productivity, a change in the employment rate that was higher than what it was for the previous two decades as a whole and a rise in the LFPR far in excess of growth of the working-age population. Given the fluctuations from the trend in a period of just three years, essentially impacted by the pandemic, this warrants a closer look at the nature of this recent transformation in the labour market. It also requires further mapping of this process at the sector level to analyse where the employment rose and the quality of that rise in employment.

► 3.4 Sectoral gross value added and employment growth relationship

As discussed in Chapter 2, the share of the agriculture sector in GVA exhibited continuous decline between 2000 and 2019, while the manufacturing sector's share experienced only modest growth, remaining relatively stagnant in the decades following economic reform. In contrast, the services sector enjoyed a significant rise in its GVA share. Simultaneously, the proportion of employment in agriculture as a share of total employment consistently decreased, albeit at a slower rate than the decline in its share of GVA. Most of the decline in agriculture was offset by a nearly equal and corresponding increase in the share of construction and services in total employment. This imbalance in GVA and employment shares is reflective of the disparities in productivity across the economic sectors, as detailed in table 3.3. In particular, the non-farm sectors expanded between 2000 and 2019, with a shift of workers away from agriculture, although there was some reversal between 2019 and 2022. Further elaboration of these sectoral trends is discussed in the following sections, divided into three broad periods.

Period I (2000–12): The construction sector, with the services sector having a somewhat lesser role, mainly absorbed the reduction in the agricultural workforce. The expansion in the construction sector was marked by an average annual growth rate of 9.4 per cent in GVA and 9.2 per cent in employment.

¹⁹ For productivity estimates, the chapter uses the Reserve Bank of India-KLEMS database because it is geared towards developing productivity estimates. The database version from 2021 covering 1980 to 2019 was constructed on the basis of data compiled from the Central Statistical Office, the National Sample Survey Office, the Annual Survey of Industries and the Input-Output tables. See the data manual at <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs>. The output, capital stock, income shares and employment estimates for the disaggregated analysis for services and manufacturing as well as the broad sectoral analysis at different points up to 2019 were used because it provides a consistent series of value measures at constant 2012 prices.

Likewise, the services sector's GVA experienced an average annual growth rate of approximately 7.2 per cent, but its employment growth rate was slow, at around 3 per cent (table 3.3).

► **Table 3.3. Growth of employment and gross value added, by broad economic sectors, 2000–22 (%)**

	Employment growth				GVA growth			
	2000–12	2012–19	2000–19	2019–22	2000–12	2012–19	2000–19	2019–22
Agriculture, forestry and fishing	-0.38	-2.19	-1.05	8.93	2.90	3.25	3.03	4.59
Manufacturing	2.92	-0.28	1.73	3.00	7.49	7.43	7.47	3.50
Construction	9.18	1.87	6.43	6.37	9.44	4.06	7.43	3.22
Services	2.96	2.72	2.87	1.09	7.17	8.17	7.54	2.05

Note: GVA=gross value added.

Source: National Statistical Office data (January 2023), Employment and Unemployment Survey data and Periodic Labour Force Survey unit-level data.

Period II (2012–19): Previous trends continued, with a substantial decline in employment in agriculture, a marginal reduction in manufacturing, a smaller increase in construction and almost a stable services sector. The annual average employment growth in manufacturing turned negative, at nearly -0.3 per cent, despite maintaining a high GVA growth rate of approximately 7.5 per cent. Both the GVA and employment growth in the construction sector experienced a significant slowdown, with an annual average growth rate of about 4.1 per cent and 1.9 per cent, respectively. In contrast, the services sector stood as an exception, with both GVA and employment showing relatively stable growth (table 3.3).

The trends from these two periods (2000–12 and 2010–19) suggest that without considerable expansion of employment opportunities in the non-agriculture sectors, the movement of labour from agriculture to the non-agriculture sectors decelerated over the years. The shift in labour primarily occurred in the construction sector, albeit at a slower pace during the second period, and in the services sector.

Period III (2019–22): A departure from the earlier trends over the two decades occurred. This transformation can be predominantly attributed to a substantial surge in employment within the agriculture sector (at 8.9 per cent) and the construction sector (at 6.4 per cent), a recovery in the growth of manufacturing employment (of 3 per cent) and modest employment growth within the services sector (at 1 per cent). In terms of GVA, agriculture exhibited an average annual growth of approximately 4.6 per cent, while the services, manufacturing and construction sectors experienced a deceleration, compared to the prior two periods. As discussed in Chapter 2 and reiterated within this chapter, employment growth during this period exhibited a considerable upturn from the two preceding periods. The average sectoral employment growth rates in other sectors were akin to the employment growth observed from 2000 to 2012, with lower growth in services and higher growth in manufacturing. Nevertheless, the substantial deviation in employment was a consequence of the high average annual growth in agriculture (table 3.3). These fluctuations in employment and output growth appear to be closely linked to the crisis induced by the COVID-19 pandemic, as elaborated in Chapter 2.

► 3.5 Sectoral growth, productivity and employment relationship

The asymmetry in the rate of change in employment and output across various sectors of the economy bears significant implications on labour productivity (GVA per worker), as explained in section 3.3. Growth in productivity is a pivotal factor contributing to the overall growth of the economy. Ideally, a robust economy aims to increase employment alongside steady or rising productivity within a given sector. In particular, the agriculture and construction sectors exhibited the lowest levels of productivity over the past two decades, whereas manufacturing and services recorded substantially higher productivity levels. The growth rates of the manufacturing and services sector experienced a substantial upswing between 2000 and 2019. Conversely, the productivity of the construction sector not only remained low but had much lower growth. Intriguingly, both the agriculture and construction sectors recorded negative growth rates in productivity between 2019 and 2022. This signifies that the growth in employment, particularly in the long term within the construction sector and more recently in agriculture, primarily consisted of low-productivity and low-paying jobs, as discussed in Chapter 2. The subsequent sections here further discuss the broad sectoral trends.

► **Table 3.4. Sector productivity, 2000–22 (rupees thousands, 2012 prices)**

	Value				Growth (%)			
	2000	2012	2019	2022	2000 to 2012	2012 to 2019	2000 to 2019	2019 to 2022
Agriculture, forestry and fishing	46	67	99	87	3.3	5.6	4.1	-4.0
Manufacturing	142	239	403	409	4.4	7.7	5.6	0.5
Construction	152	157	182	166	0.2	2.1	0.9	-3.0
Services	189	305	438	451	4.1	5.3	4.5	1.0

Source: National Statistical Office data (January 2023), Employment and Unemployment Survey data and Periodic Labour Force Survey unit-level data.

3.5.1 Agriculture

The agrarian transition involves the transfer of labour from low-productivity, subsistence employment in agriculture to high-productivity, better-quality employment in the modern manufacturing and services sectors, especially when growth is led by the non-farm sectors. Except during 2019–22, there was a slow but steady transfer of labour from agriculture to non-agriculture in India, although the sector still accounts for about 45 per cent of the workforce and contributes only about 14 per cent of total GDP, as explained in Chapter 2. Both the extent of the sectoral imbalance and the shift out of agriculture depend on productivity and incomes in agriculture as well as shifts in relative income-sharing opportunities in agriculture and non-agriculture. For instance, in the event of a slowdown in agricultural growth and resultant non-expansion of employment opportunities, a small increase in formal sector employment may result in large rural–urban migration and an exodus of labour from the sector over time (Roy 2009; Harris and Todaro 1970).

Similarly, in times of a persisting crisis of employment growth and non-expansion of employment opportunities in the non-farm sectors, there could be a return to more traditional forms of subsistence employment within agriculture, which is what occurred during the pandemic. These rises in subsistence farm-related activities in times of economic distress tend to fall in times of relative economic growth, as

experienced during the economic slowdown earlier, in the mid-2000s (Papola and Sahu 2012b; Abraham 2009; Reddy and Mishra 2008).

In the broader context, the long-term structural issues that plagued the agriculture sector in the post-reform period are widely analysed in literature.²⁰ They include the falling public investment in agriculture and rural infrastructure, rising vulnerability of Indian farmers to the fluctuations in terms of the trade in global primary commodities after India's entry to the World Trade Organization, the input price deregulation and the rising costs of cultivation along with declines in access to credit facilities. The impact on rural communities was exacerbated by the rising trend in mechanization, with the interlinking of the national agricultural markets to the global commodity markets, which also underlines the tendency towards labour-saving technological (cum structural) change (in a country with substantial pools of surplus labour in the rural economy) and which has become more widespread over time.²¹

3.5.2 Construction

Construction is the only sector in the economy that showed high employment elasticities throughout the post-reform period, with output and employment growth mostly moving together, as discussed in section 3.4. This sector is a catch-all sector that acts as a pool of surplus labour during crisis conditions and amplifies employment growth during boom conditions by raising demand for infrastructure-related growth. It is important to underline here that employment in this sector remains overwhelmingly casual and informal in nature, with almost a negligible share of regular or formal employment (see appendix tables A3.1–A3.3). The low wages, no job security and complete absence of any social protection networks in these sectors with such casual employment are also well documented (Srivastava 2020; Tiwary et al. 2012). Wages and productivity remain only higher than agriculture and, hence, for workers without job-related skills it remains an important source of employment and a route to (partial) structural transformation in India in the coming years.

3.5.3 Manufacturing

As discussed in Chapter 2 and in section 3.4, the relative share of manufacturing in GVA and employment remained stagnant over the past two decades. Growth in manufacturing employment was recorded between 2019 and 2022, along with a recovery of manufacturing GVA after an initial fall during the pandemic years. While growth rates in manufacturing GVA were relatively high during 2000–19, employment growth fell over time. In particular, the share of regular formal employment rose and the shares of casual and self-employment fell in overall manufacturing over the two decades (see appendix tables A3.1–A3.4). This indicates expansion of high-productivity employment in manufacturing when compared to construction, agriculture and some services, such as trade, hotel and restaurant work and transport (see appendix table A3.4). Formal employment and the formal and organized sector employment, however, continued to be less in total manufacturing employment. According to the Reserve Bank of India-KLEMS data, the share of organized manufacturing sector GVA constituted more than half of total manufacturing GVA in 2019, though its share in total manufacturing employment was just about one third of total manufacturing employment (table 3.5). This indicates an output and employment imbalance in the organized manufacturing sector similar to the agriculture and some non-agriculture sectors. However, there was some correction in this imbalance over time, with a consistent rise in labour productivity.

²⁰ See among others Banerjee 2017, Himanshu, Jha and Rodgers 2016, Nagaraj et al. 2014, Vaidyanathan 2010, Bhalla and Singh 2009, Patnaik 2009 and Bhalla 2005.

²¹ A range of studies have highlighted an increase in farm mechanization practices, mostly in the southern and western regions of the country in the production of both food grain (wheat, paddy, sugarcane) and non-food grain crops. It has also been responsible for the declining labour force and workforce participation of women in agriculture after 2005 as well as the rising rural–urban migration (Mehrotra and Parida 2017; Rawal 2006).

► **Table 3.5. Percentage organized manufacturing GVA to total GVA, and employment to total employment**

	2008	2019
Organized sector GVA and total GVA	65.09	54.68
Organized sector employment and total employment	21.18	30.45

Note: GVA=gross value added.

Source: Estimated using Reserve Bank of India-KLEMS.

The organized sector is defined in a slightly different manner for manufacturing, as compared to the manner in which the terms formal and informal sector are used in the rest of the report. As mentioned in the introductory section, organized sector firms include all those firms covered in the Annual Survey of Industries data. It covers all factories registered under sections 2m(i) and 2m(ii) of the Factories Act, 1948 – those factories that use electricity and employ ten or more workers; and those not using electricity and employing 20 or more workers. The survey also covered bidi and cigar manufacturing establishments registered under the Bidi & Cigar Workers (Conditions of Employment) Act, 1966. Certain servicing units and activities, like water supply, cold storage, repairing of motor vehicles and other consumer durables like watches, are also covered by the survey. The Reserve Bank of India-KLEMS data cover all industrial units. Hence, use of the two datasets gives an estimate of the organized and unorganized sectors for the relevant indicators. Here, the unorganized sector includes all units not covered by the Annual Survey of Industries data. We accordingly used the terms “organized” and “unorganized” sectors instead of “formal” and “informal” sectors in this section.

The Annual Survey of Industries data showed that organized factory sector employment grew at about 3.7 per cent annually from 2008 to 2019, which also contributed to the expansion of the organized sector employment share in total employment. A large part of this growth, however, was in contractual employment (nearly 5.6 per cent) (table 3.6). Some recent studies also found that the rise in organized sector employment may be attributable to a shift in employment from the unorganized manufacturing segment to in-house production within organized manufacturing through greater use of contractual employment, given the substantive growth in contractual employment within the organized sector (Goldar 2023; Mehrotra 2021). Goldar also attributed a part (about 10 per cent) of this growth in organized employment to the formalization of informal manufacturing enterprises.

► **Table 3.6. Growth in manufacturing, 2008-2019 (%)**

	CAGR
Growth in total manufacturing GVA	7.40
Growth in organized manufacturing GVA	5.17
Growth in total manufacturing employment	0.15
Growth in organized manufacturing employment	3.69
Growth in contractual employment in organized manufacturing	5.57
Growth in total emoluments (organized sector)	1.37

Note: CAGR=compound annual growth rate.

Source: Estimates based on the Annual Survey of Industries data.

The manufacturing GVA fell during the COVID-19 lockdown year of 2020, then recovered over 2021 and grew at a rate of about 3.6 per cent in 2022. Employment growth accelerated over this period, to grow at 1.6 per cent in 2021 and 7 per cent in 2022. Some studies and surveys conducted in different parts of the country during this period also pointed to several adverse impacts of the pandemic on the micro, small and medium-sized enterprises sector in manufacturing, with significant job and income losses, especially for workers in the unorganized manufacturing sector (ILO 2021b; Ramaswamy 2020). Goldar (2023) estimated that employment in India's unorganized, or informal, manufacturing fell by 2.5–7.5 per cent as of 2021, while the nominal GVA fell by 14.5–23.5 per cent. Some studies also found an expansion in the organized and formal sector employment within manufacturing, especially from 2019 to 2022.

3.5.4 Services

India's economic growth over most of the post-reform period (2000 onwards) is widely acknowledged to be services-led. It was characterized by the relatively higher and stable growth in services GDP and its share in overall GDP. The spectacular performance of services exports, especially in IT and IT-enabled services, is often remarked upon in this context. It also generated much debate in the literature on the sustainability of the process and its implications for employment. Services GVA rose steadily, with an annual average growth rate of 7–8 per cent and an employment elasticity of about 0.3–0.4, which was the highest after construction in the economy. Where the quality of employment is concerned, the regular (52 per cent in 2019) and formal employment (35 per cent in 2019) always constituted a significant proportion of services employment. However, similar to the manufacturing sector, the informal employment and organized and informal sector employment constituted about 77 per cent and 65 per cent, respectively, of total services employment by 2019 (see appendix tables A3.1–A3.4).

The disaggregated subsector²² analysis using Employment and Unemployment Survey data, Periodic Labour Force Survey data and the Reserve Bank of India-KLEMS data found that trade, hotels and restaurants, transport, storage and other services consisted of a relatively large proportion of informal employment and a large share of the unorganized and informal sector in their total employment (more than 80 per cent in 2019). The business and financial services and a large portion of the information and communication services, also referred to as modern services, that emerged in the Indian economy and were spurred by growth in IT-enabled services, had a large share of formal employment in their total employment (more than 60 per cent in 2019). Public administration, defence, compulsory social security, education, health and social work constituted the social sector. In almost all the new services and social sectors, the share of regular formal sector employment was more than 80 per cent and 70 per cent, respectively, in 2019 (see appendix tables A3.1–A3.4).

As table 3.7 shows, all the services subsectors experienced a GVA growth rate of roughly 7 per cent or higher between 2000 and 2019 (except public administration and other services, where it was around 4–6 per cent). The growth was led by the modern business services sector (12.7 per cent), the post and telecommunications sector (10.4 per cent), followed by the social sectors, such as health and education (approximately 9 per cent) and trade, transport and hotels (7–8 per cent). At the same time, employment growth was relatively high in business and financial services (9.5 per cent and 5 per cent) followed by health and education (around 4.5 per cent), and hotels and restaurants (nearly 4 per cent). However, public administration and trade, which constitute a large proportion of total services employment, had relatively lower employment growth (with an absolute decline in public administration-related employment).

Although growth rates in output were higher between 2000 and 2012, they fell slightly over the ensuing seven years, except for trade and business services. The growth rates of employment fell more between 2012 and 2019, leading to lower employment elasticities of growth across most sectors in this period.

²² Unless otherwise specified, the broad services subsectors are trade, hotels and restaurants; transport and storage, post and telecommunications; financial services, business services, public administration and defence; compulsory social security, education, health and social work; and other services.

Overall employment elasticities were highest in the financial and business services (at nearly 0.8 per cent), followed by other services (0.6 per cent) and then hotels and restaurants as well as education and health services (0.5 per cent). Thus, across the board, new services, such as finance, business and communications, social sectors like health and education and sectors like hotels and restaurants and transport and storage all showed growth in both output and employment (albeit much lower than the growth in output in most subsectors). In addition, most of these sectors experienced growth in labour productivity and capital intensity. Growth in capital intensity was expectedly higher in the more physical infrastructure-intensive industries, like trade, transport, information and communications (tables 3.7 and 3.8).

► **Table 3.7. Growth of value added, employment and employment elasticities in services, 2000–19 (%)**

	CAGR in value added			CAGR in employment			Average employment elasticity		
	2000-12	2012-19	2000-19	2000-12	2012-19	2000-19	2000-12	2012-19	2000-19
Trade	7.6	10.2	8.5	2.4	1.8	2.2	0.3	0.2	0.3
Hotels and restaurants	7.8	7.0	7.5	4.9	2.0	3.8	0.6	0.3	0.5
Transport and storage	8.4	6.7	7.8	3.4	2.8	3.2	0.4	0.4	0.4
Post and telecommunications	12.7	6.6	10.4	2.9	0.1	1.9	0.2	0.0	0.2
Financial services	7.0	6.8	6.9	6.0	3.8	5.2	0.9	0.6	0.8
Business services	11.9	14.1	12.7	10.2	8.4	9.5	0.9	0.6	0.8
Public administration	5.6	5.7	5.6	-1.8	-0.3	-1.3	-0.3	-0.1	-0.2
Education	9.2	8.5	8.9	4.6	3.8	4.3	0.5	0.5	0.5
Health and social work	10.0	8.1	9.3	4.4	4.7	4.5	0.4	0.6	0.5
Other services	4.3	5.0	4.5	0.8	2.1	2.5	0.7	0.4	0.6

Note: CAGR=compound annual growth rate.

Source: Estimated based on Reserve Bank of India-KLEMS data.

► **Table 3.8. Growth of labour productivity, capital intensity, value added and employment status in select services, 2000–19 (%)**

	CAGR in labour productivity			CAGR in capital intensity			Value added share	Employment share
	2000-12	2012-19	2000-19	2000-12	2012-19	2000-19	2019	2019
Trade	5.1	8.2	6.2	10.1	18.4	13.1	22.7	32.5
Hotels and restaurants	2.8	4.9	3.6	7.3	9.1	8.0	2.1	5.6
Transport and storage	4.9	3.7	4.5	2.8	3.6	3.1	9.2	14.3
Post and telecommunications	9.5	6.5	8.4	5.4	17.2	9.6	2.9	1.1
Financial services	0.9	2.9	1.6	-0.5	-0.1	-0.7	11.1	3.5
Business services	1.6	5.2	2.9	7.9	2.1	5.7	16.4	8.1
Public administration	7.6	5.9	7.0	8.6	7.4	8.2	10.5	4.9
Education	4.4	4.5	4.4	8.6	10.1	9.2	6.9	11.1
Health and social work	5.4	3.3	4.6	9.9	7.9	9.2	2.8	3.9
Other services	1.5	2.8	2.0	3.9	1.8	3.1	15.5	15.0

Note: CAGR=compound annual growth rate.

Source: Estimated Based on Reserve Bank of India-KLEMS data.

The overall growth of the services employment fell from 2.7 per cent between 2012 and 2019 to 1.1 per cent during 2019–22, while the GVA growth rate also fell, from 7.5 per cent to nearly 2.1 during the same period (see table 3.3 and section 3.5). This trend reversal in output and employment growth within services over 2019 to 2022, as a whole, was largely driven by the economic upheaval brought about by the pandemic.

► 3.6. Important employment-generating sectors

There are several subsectors in construction, manufacturing and services that have expanded and generated employment over the past two decades. These important growth subsectors were identified based on their share in total employment, growth and additional employment generated over time, while the quality aspect was considered by their employment status, as discussed in the following sections.

3.6.1 Construction

Over 2000–19, the most-important employment-generating subsectors in construction from highest to lowest order (three-digit level) were building of complete construction or parts, followed by building completion, building installation and site preparation (table 3.9 and appendix table A3.5a). The significant employment growth in the construction sector during 2019–22 can be attributed to construction of

buildings, construction of roads and railways, construction of utility projects and building completion and finishing (see appendix table A3.5b). However, **the bulk of employment generated in construction is of poor quality – casual and irregular types**. It is also evident by the low earnings or wages in casual work, as discussed in Chapter 2.

► **Table 3.9. Important employment-generating sectors in construction, 2000–19 (%)**

	Share in total (%) 2019	Net addition in employment (millions) (2000–19)	Growth (CAGR) (2000–19)
Site preparation (construction)	0.32	0.8	17.58
Building of complete construction or parts thereof; civil engineering	18.13	34.63	8.79
Building installation	0.74	1.43	9.01
Building completion	1.28	2.32	7.98

Note: CAGR=compound annual growth rate.

Source: Employment and Unemployment Survey and Periodic Labour Force Survey unit-level data.

3.6.2 Manufacturing

The most-important manufacturing subsectors based on the Employment and Unemployment Survey data and the Periodic Labour Force Survey data at the three-digit level, which were identified in terms of additional employment generated between 2000 and 2019 (highest to lowest) were: manufacture of wearing apparel; manufacture of structural metal products, tanks, reservoirs and generators; manufacture of furniture; and manufacture of basic iron and steel (table 3.10). The manufacturing subsectors, which generated additional employment in 2019–22, include the manufacture of wearing apparel; the manufacturing of jewellery, bijouterie and related articles; and the repair of fabricated metal products, machinery and equipment. **These subsectors generated largely regular and self-employment types of employment, which are generally of better quality than construction sector jobs.**

► **Table 3.10. Important employment-generating sectors in manufacturing, 2000–19**

	Share in total (%) 2019	Net addition in employment (millions) (2000–19)	Growth (CAGR) (2000–19)
Manufacture of wearing apparel, except fur apparel	3.77	7.92	10.75
Manufacture of basic iron and steel	0.51	0.73	5.38
Manufacture of structural metal products, tanks, reservoirs and steam generators	1.23	2.40	9.21
Manufacture of furniture	0.96	1.90	9.42

Note: CAGR=compound annual growth rate.

Source: Employment and Unemployment Survey data and Periodic Labour Force Survey unit-level data.

Employment in some manufacturing subsectors, however, declined substantially: spinning, weaving and finishing of textiles; manufacture of grain mill products, starches, starch products and prepared animal feed; manufacture of wood, cork and straw products and plaiting materials; and the repair of personal and household goods (footwear, electrical appliances, TVs and VCRs, radios, watches and bicycles). **This**

indicates that the employment-generating capacity of traditional manufacturing subsectors that largely relied on manual labour may have declined over the years, possibly due to the technological changes or a reduction in demand for such goods – a dynamic that needs to be explored further (see appendix table A3.5a).

The six important employment-generating²³ subsectors in organized factory employment at the three-digit level between 2009 and 2019 were (highest to lowest): the manufacture of parts and accessories of motor vehicles; the manufacturing of plastic products; the manufacturing of knitted and crocheted apparel; and the manufacturing of pharmaceuticals and medicinal chemical and botanical products (table 3.11). They not only recorded a high growth rate each but also generated substantial additional employment. The processing and preserving of fish, crustaceans and molluscs and the manufacturing of refined petroleum products also recorded high growth, but with a smaller number of additional employment generated and a smaller share in total organized manufacturing employment. These important sectors constituted nearly 17 per cent of the total employment share and 29 per cent of the total additional employment generated in the decade between 2009 and 2019.

► **Table 3.11. Important employment-generating sectors in organized manufacturing, 2009, 2019**

	Share in total (%) 2019	Net addition in employment (2000-19)	Employment growth (CAGR) (2009-19)
Manufacture of plastics products	3.4	279 093	7.1
Manufacture of knitted and crocheted apparel	2.3	209 335	8.3
Manufacture of parts and accessories for motor vehicles	4.9	438 001	8.3
Manufacture of pharmaceuticals, medicinal chemical and botanical products	4.7	379 269	7.2
Manufacture of refined petroleum products	0.9	64 906	6.6
Processing and preserving of fish, crustaceans and molluscs	0.6	63 669	11.3

Note: CAGR=compound annual growth rate.

Source: Annual Survey of Industries, 2009 and 2019.

3.6.3 Services

Most of the employment growth in the tertiary sectors occurred in business, finance, real estate, health, education, communications and hotels and restaurants between 2000 and 2019, which also had relatively higher employment elasticities (see appendix table A3.5a). However, there were some changes in employment across the different services subsectors afterward, between 2019 and 2022. Specifically, employment in trade, hotels and restaurants as well as in transport, storage and communications services increased, while employment in financial, real estate and business services as well as in public administration, education, health and other services declined (table 3.12).

²³ Employment here is measured in terms of total employees in any given industry and based on the Annual Survey of Industries data.

► Table 3.12. Important employment-generating sectors in services, 2009–19

	Share in total (%)	Net addition in employment (millions)	Employment growth (CAGR %) (2009–19)
Wholesale and retail trade			
Sale, maintenance and repair of motorcycles and related parts and accessories	0.43	0.63	5.54
Wholesale of household goods	0.48	0.67	5.06
Wholesale of non-agricultural intermediate products, waste and scrap	0.5	0.87	7.23
Wholesale of machinery, equipment and supplies	0.23	0.52	12.49
Non-specialized retail trade in stores	2.21	3.98	7.82
Hotels and restaurants			
Hotels, camping sites and other provision of short-stay accommodation	0.33	0.52	6.33
Restaurants, bars and canteens	2.92	7.96	36
Transport, storage and communications			
Supporting and auxiliary transport activities; activities of travel agencies	0.63	1.2	8.87
Financial intermediation			
Other financial intermediation	0.59	1.37	14.38
Insurance and pension funding, except compulsory social security	0.3	0.53	7.84
Real estate, renting and business activities	1.01	2.64	22.68
Software publishing, consultancy and supply	0.91	1.69	8.32
Legal, accounting, bookkeeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy	1.97	4.69	15.15
Business activities n.e.c.			
Education			
Secondary and senior secondary education	2.38	6.57	6
Higher education	0.67	0.95	5.3
Other education (correspondence, coaching centre and tuitions, etc.)	0.56	1.56	100
Health and social work			
Human health activities	1.94	2.9	5.74
Social work activities with accommodation	0.33	0.76	13.42
Other services			
Motion picture, radio, television and other entertainment activities	0.55	0.8	5.52
Activities of private households as employers of domestic staff	2.16	4.39	9.98

Note: CAGR=compound annual growth rate.

Source: Employment and Unemployment Survey data and Periodic Labour Force Survey unit-level data.

At a more detailed level, the most notable services subsectors in terms of employment generation between 2000 and 2019 (highest to lowest) were: restaurants, bars and canteens; secondary and senior secondary education; activities of private households that employ domestic staff; business activities not elsewhere classified, such as labour recruitment, investigation and security activities, building cleaning and packaging; non-specialized retail trade in stores; human health activities; software publishing, consultancy and supply; legal accounting, bookkeeping and auditing activities; other educational activities, such as correspondence education, coaching centres and tuitions; other financial intermediation; and supporting transport activities and activities of travel agencies and others (see appendix table A3.5a). The most important subsectors in terms of additional employment generation from 2019 to 2022 were: maintenance and repair of motor vehicles; other land transport; other specialized wholesale and retail sale of food, beverages and tobacco in specialized stores; retail sale of other household equipment in specialized stores; retail sale of other goods in specialized stores; restaurants and mobile food services activities; beverage-serving activities; computer programming; consultancy and related activities; and monetary intermediation (see appendix table A3.5b).

These services subsectors largely generated regular and self-employment types of employment and mostly in the urban areas. Regular employment was predominant in software publishing, consultancy and supply and business activities and other financial intermediation, while self-employment was more common in restaurants, bars and canteens and educational activities.

► 3.7 Employment structure index

Based on six employment categories, an employment structure index (Ghose 2016) was constructed for this report. The six employment categories, in terms of best to worst, are: regular formal, regular and informal employment in the organized sector, regular and informal employment in the unorganized sector, self-employment, casual wage employment in the organized sector and casual wage employment in the unorganized sector. These classifications capture the quality of employment in the index over the 22 years covered in the analysis (divided into four points of time) between 2000 and 2022.

The employment structure index was constructed using the quality ranking of the different types of employment (box 9). A higher value on the index indicates an improved employment structure resulting from a favourable shift in distribution across categories. The estimated index values revealed that between 2012 and 2019, the organized sector experienced improvement, followed by a deterioration between 2019 and 2022. Conversely, the unorganized sector consistently improved. The overall employment structure index for the economy improved during 2012–19 but marginally deteriorated during 2019–22 (figure 3.3 and table 3.13).

► **Box 9. Construction of the employment structure index**

To indicate the quality ranking of the different types of employment in the employment structure index, values were given as follows: regular formal employment=6; regular and informal employment in the organized sector=5; regular and informal employment in the unorganized sector=4; self-employment=3; casual wage employment in the organized sector=2; and casual wage employment in the unorganized sector=1. The larger numbers indicate better quality.

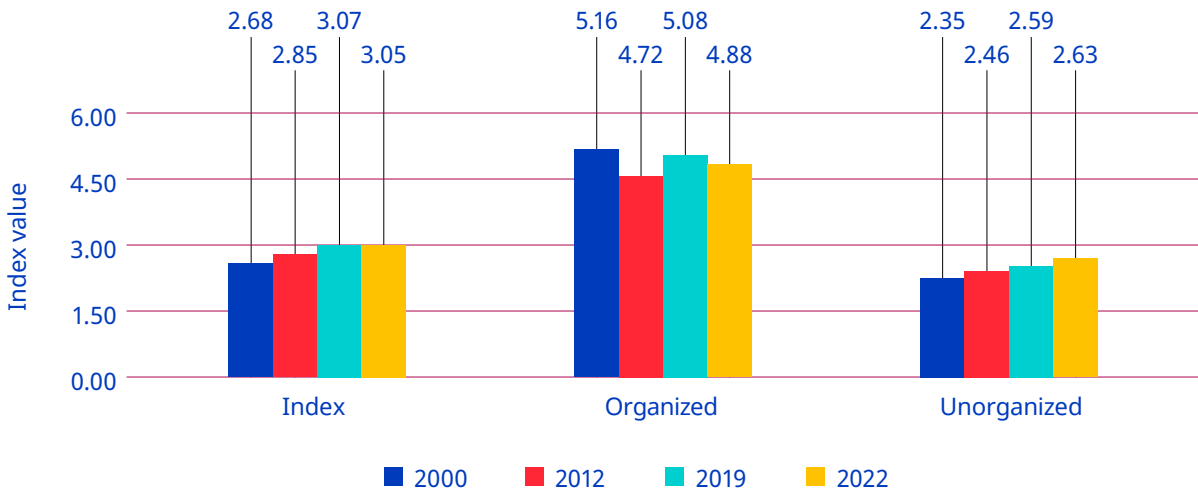
Suppose a 6 is the percentage share of regular formal employment in total employment, a 5 is the percentage share of regular informal employment in the organized sector in total employment and so on. Thus, the employment structure index, or ESI, would be determined as follows:

- ESI for the organized sector (ESI-O) = $\{a(6).6 + a(5).5 + a(2).2\}$ and $\{a(6) + a(5) + a(2)\}$
- ESI for the unorganized sector (ESI-U) = $\{a(4).4 + a(1).1 + a(3).3\}$ and $\{a(4) + a(1) + a(3)\}$
- ESI for the economy (ESI-E) = $\{a(6).6 + a(5).5 + a(2).2 + a(4).4 + a(1).1 + a(3).3\}$ and 100 or, equivalently, $\{(ESI-O). a(O) + (ESI-U). a(U)\}$ and 100 [where $a(O) = a(6) + a(5) + a(2)$ and $a(U) = a(4) + a(1) + a(3)$]

The value of ESI-O would be somewhere between 2 and 6, the value of ESI-U would be somewhere between 1 and 4, and the value of ESI-E would be somewhere between 1 and 6.

Note: ILER 2016: 30-32.

► **Figure 3.3. Estimates of the employment structure index, 2000, 2012, 2019 and 2022**



Source: Employment and Unemployment Survey data and Periodic Labour Force Survey data.

► **Table 3.13. Distribution of employment structure, 2000, 2012, 2019 and 2022 (% and number)**

Employment status	2000	2012	2019	2022	2000	2012	2019	2022
	%				Millions			
Regular formal (6)	7.6	7.5	10.2	9.5	29.3	35.2	47.5	51.5
Regular-informal employment in the organized sector (5)	2.3	5.6	6.5	5.0	9.0	26.2	30.2	27.2
Regular-informal employment in the unorganized sector(4)	5.0	5.4	8.1	7.2	19.2	25.0	37.9	39.4
Self-employed (3)	52.3	52.2	51.7	55.9	202.3	243.4	241.0	304.1
Casual wage employment in organized sector (2)	1.9	4.1	2.8	3.9	7.2	19.2	13.2	21.1
Casual wage employment in unorganized sector (1)	31.0	25.1	20.7	18.6	120.0	117.2	96.6	101.2
Total	100	100	100	100	387.1	466.3	466.5	544.5

Source: Employment and Unemployment Survey data and Periodic Labour Force Survey data.

It is important to stress that the employment structure in the organized sector remains significantly better than what it is in the unorganized sector. Thus, transitions of workers from the unorganized to the organized sector enhance overall employment quality in the economy. This transition occurred only during 2012–19 but not during 2019–22. In the latter period, regular formal employment declined in the organized sector while regular informal employment in the unorganized sector consistently increased. This reinforces the points made in Chapter 2 and this chapter.

► 3.8 Summing up

The analysis found notable shifts and structural transformations in employment conditions, particularly in the form of growth in productive and decent work within the services sector between 2000 and 2019. On a positive note, there was an increase in regular formal sector employment in modern manufacturing and services (as discussed in Chapter 2). This coincided with an economy-wide increase in labour productivity and capital intensity, primarily within modern manufacturing and services. It resulted in the expansion of the share of the formal sector in total services employment, encompassing the modern services sectors (business and financial services, information and communication services) and social sectors (education and health). However, there was also a relatively higher rise in informal employment within the formal services sectors, indicating a growing trend of informalization in these sectors. Moreover, there was a slowdown in employment growth and employment elasticities across most services sectors, including in the modern services like finance, insurance, professional services and information and communications, which were considered responsible for much of the dynamism in India’s services-led growth trajectory.

Simultaneously, there was an increase in formal and regular employment and the expansion of the organized sector within manufacturing industries. However, this shift was accompanied by an increase in informalization of employment within the organized sector, as evident in the rise of contractual and

informal employment. Organized employment grew in various segments, such as pharmaceuticals, transport equipment, electrical and optical instruments, and metals, machinery and related industries. Conversely, industries that were among the largest employers in manufacturing, like wearing apparel, leather, footwear, food products and beverages, experienced a formalization in employment conditions and growth in organized employment. But, they also experienced an overall decline in employment growth and, in some cases, an active shedding of labour. Consequently, there was a stagnation in the shares of manufacturing in GVA and employment growth.

There was a resurgence in employment after the initial shock of the COVID-19 pandemic, leading to a reversal in many long-term structural trends in employment growth between 2019 and 2022. The most significant aspect of this structural reversal was the substantial increase in agricultural employment. Within a span of just three to four years, the rise in agricultural employment surpassed the entire decline in employment in the sector from 2000 to 2019. A significant portion of this increase involved rural women workers, with the majority of them engaging in unpaid work, along with a substantial portion involved in own-account work and casual work (also discussed in Chapter 2). This substantial rise in agricultural employment might be attributed to return to subsistence activities in agriculture that resulted from a shrinking of work opportunities outside agriculture and were exacerbated by the employment crisis brought about by the pandemic.

A shedding of labour in agriculture, a relative slowdown in construction employment, a recovery in employment growth in services and a significant rise in employment growth in manufacturing occurred in the most recent year, 2022. While there was only partial recovery of regular employment growth in services, the regular and organized sector employment grew in manufacturing. This could signify a return to a growth trajectory marked by a slowdown in employment growth in services, particularly in the IT and IT-enabled services sector, and an expansion of organized manufacturing employment growth. The future trajectory of this development remains to be seen. But there is significant cause for concern, given the massive increase in subsistence agriculture employment from 2019 to 2022, especially in light of the slowdown in GVA growth in that sector during the recovery year of 2022. This points to the persistent issue of expanding decent and productive work opportunities outside of agriculture, given the persistently low levels of formal, regular and organized sector employment in the economy.

With Indian GVA growth rates returning to pre-pandemic levels that are expected to be sustained in the future, it becomes imperative to steer the growth process towards generating decent employment. As convincingly argued by experts, including Ghose (2021 and 2016), there is no alternative but to engage in some form of structural transformation, where manufacturing would have a crucial role, as seen in other countries. While manufacturing may not be as employment-intensive as in the past due to technological advancements, the employment-intensity of services is also decreasing due to technological progress. Given the changing landscape, both manufacturing and services should take a leading role, at least in the medium term, to accommodate the significant number of unskilled labourers in the country. This, however, should be accompanied by better employment conditions. In these circumstances, services should link to manufacturing through the supply chains within the growth process.



▶ 4

Youth employment

▶ 4.1 Introduction

The discussions in the previous two chapters indicate overall positive trends of employment generation in India, but they also emphasize concerns over the lack of quality and productive jobs. This challenge of decent employment generation has been accentuated by the economic slowdown, the advancement of digital technologies and the disruptions caused by the COVID-19 pandemic. Additionally, a series of overlapping crises – the conflict in Ukraine, the energy crisis and rising inflation – have slowed the pace of the post-pandemic recovery in the labour market, particularly in developing countries (ILO 2022b). Young people (aged 15–29)²⁴ are particularly vulnerable to these economic disruptions due to their lack of experience and limited resources, at least when compared with adults (aged 30 and older) (ILO 2023; Verick 2023; ILO 2022b). These challenges have been even greater in India, which has the world’s largest youth population (Sharma 2022; Mitra and Verick 2013). To manage these challenges, it is crucial to identify the difficulties that Indian youths are experiencing in accessing decent employment.

²⁴ Youth in India (as per the National Youth Policy 2014 and 2021) refers to people aged 15–29.

This chapter thus examines labour market outcomes for young people in India. The second section starts with the changes in India's demographic structure. The third section looks at the labour market participation of youths, including activity status, the labour force participation rate, the worker population ratio and the association between education and participation in economic activities. The fourth section delves into the quality and conditions of employment and structural shift. The fifth section highlights unemployment and labour utilization, including underemployment and youths not in employment, education or training. The sixth section examines the impact of the COVID-19 pandemic, followed by the impact of technological changes and digitalization on youth employment in the seventh section. The eighth section, and the ninth section describes the regional differences in the youth employment situation. The final section sums up the main issues.

The analysis in this chapter is based on secondary data from the Employment and Unemployment Surveys and the Annual Periodic Labour Force Surveys. Household- and individual-level survey data from 2000, 2012, 2019, 2021 and 2022 were used, with a focus on the usual principal and subsidiary (UPSS) status. To provide a comparative perspective, the labour market characteristics of young people (aged 15–29) were analysed in comparison with those of adults (aged 30 and older). Additionally, to better understand the heterogeneity among the youth population, it was divided into three age cohorts (15–19 years, 20–24 years and 25–29 years). The impact of the COVID-19 pandemic on the labour market was examined using the Periodic Labour Force Survey data for 2019, 2020, 2021 and 2022. Qualitative information from available published reports, journal papers, newspaper articles and other sources was used to complement the quantitative analysis.

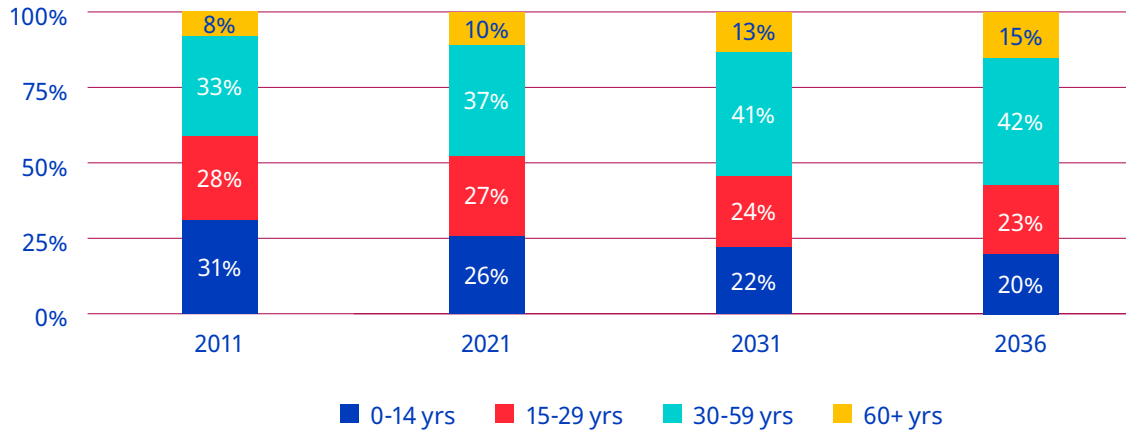
► 4.2 Demographic structure

This section looks at the demographic structure of India from 2011 to 2036, based on projections, for insight on the current and future working-age population. It also examines the changing trends and patterns among the child, youth, adult and older person populations to better understand how India's labour force and dependency ratio are expected to evolve in the coming decades.

A large proportion of India's population is of working age and is expected to remain in this potential demographic dividend zone for at least another decade. This advantage enables more people to participate in productive work and contribute to national income (Sharma 2022; Sasikumar 2019). India's population is projected to increase from 1.36 billion in 2021 to 1.48 billion in 2031 and then to 1.52 billion by 2036.

Over the past two decades, India experienced continuous decline in its crude birth and death rates, resulting in its population growth rate reaching the lowest level since Independence. Between 2011 and 2021, the decadal growth rate was 12.5 per cent, with a projected decline to 8.4 per cent in the 2021–31 decade. Despite the decline, **the proportion of India's working-age population (aged 15–59) increased from 61 per cent in 2011 to 64 per cent in 2021 and is projected to reach 65 per cent in 2036, with projected stability thereafter** (figure 4.1).

► **Figure 4.1. Broad age group distribution of the population, 2011, 2021, 2031 and 2036 (%)**



Source: MFW 2020.

Although the proportion of youths in India’s total population has started to decline, at 371 million persons, it still accounts for a considerably large population size when compared with most other countries and will remain significant for at least the next decade. India is at an inflexion point in its demographic transition, where the proportion of youths, who constituted 27 per cent of the population in 2021, is projected to decline to 25 per cent in 2031 and to 23 per cent in 2036. Unlike China, Japan and the United States, which are today grappling with the challenges of an ageing population, India has the advantage of a sizable youth and working-age population. But it also is experiencing significant regional variations (NYP 2021).

Each year, around 12 million persons are added to the working-age population, representing a vast pool of an available labour force, whose productive utilization could lead to India reaping a demographic dividend. This large number, in the context of its impact on the worker population ratio and the dependency ratio, has been called a “window of opportunity” for India’s growth and development – an opportunity that must be seized before it closes (MSPI 2022). Because the youth population has started declining, India has a final opportunity in the next few decades (with 2021 as the starting point) to exploit this potential demographic advantage.

The demographic advantage in India varies across states, with three distinct phases: In the first phase, states begin moving towards gaining the dividend; in the second phase, the window of opportunity opens and widens; and in the third phase, the dividend is still being realized but gradually falling, eventually closing (Srivastava et al. 2020; Kulkarni 2017). Most states are considered to be in phases II and III and are expected to remain in these stages for the next two to three decades, which presents a tremendous advantage. Yet, it is also argued that the working-age population’s proportion merely provides a window of opportunity, which can only be turned into a dividend if labour supply rates and employment can be maintained and if the productivity of the employed workforce is sufficiently high (this is discussed in more detail in section 4.8.2).

► 4.3 Youth participation in the labour market

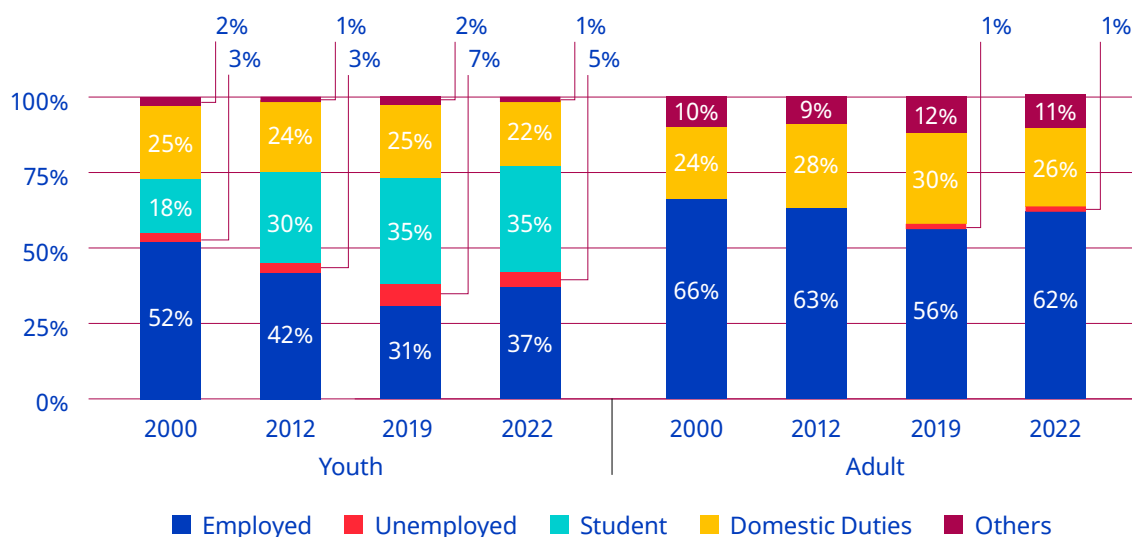
This section examines the activity status of youths, including their participation in both economic and non-economic activities. It draws on the LFPR and the worker population ratio of youths to understand their willingness to participate in the labour market and the extent to which they are currently

participating. Long-term trends in youth participation in the labour market are dominated by their rising participation in education, which is examined in Chapter 5, whereas recent trends appear to be mainly a response to the livelihood crisis posed by the economic slowdown and the COVID-19 pandemic. Gender and age group disparities are evident throughout the period of analysis.

4.3.1 Activity status

Among youths, the students and unemployed persons dominate, while adults engage more in economic activities and domestic duties. Notably, the number of young people pursuing education has increased steadily over time, while their participation in economic activities has declined. The proportion of youths pursuing education has more than doubled, from 18 per cent in 2000 to 35 per cent in 2022 (figure 4.2). In contrast, the percentage of youths involved in economic activities decreased from 52 per cent to 37 per cent during the same period, although there was a bit of a reversal in the trend between 2019 and 2022.

► **Figure 4.2. Activity status (UPSS) of youth (aged 15–29) and adults (aged 30–59), by economic and non-economic activities, 2000, 2012, 2019 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

Among the youth population, a considerable proportion of individuals aged 15–19 were pursuing education, whereas those aged 25–29 were significantly more engaged in economic activities. In 2022, for instance, approximately 72.4 per cent of youths aged 15–19 were pursuing education, while only 23.5 per cent in the age group of 20–24 and a mere 2.3 per cent in the age group of 25–29 were doing so. Conversely, only around 15.2 per cent of youths aged 15–19 engaged in economic activities, compared with 40.2 per cent of youths aged 20–24 and 58.6 per cent of those aged 25–29 (see appendix table A4.1a).

Young women mainly engaged in domestic duties, whereas male youths were more involved in economic activities and also pursuing education. In 2022, about 45.1 per cent of female youths engaged in domestic duties, whereas only 0.5 per cent of male youths were involved in domestic duties. In numbers, 79.1 million young women engaged in domestic duties, compared with only 1 million men. This phenomenon was more typical among youths living in rural areas than those in urban areas. And 53.5 per cent of young men were involved in economic activities, compared with only 19.1 per cent of young women (see appendix tables A4.1b and A4.1c). Dedicated gender analysis and a breakdown of

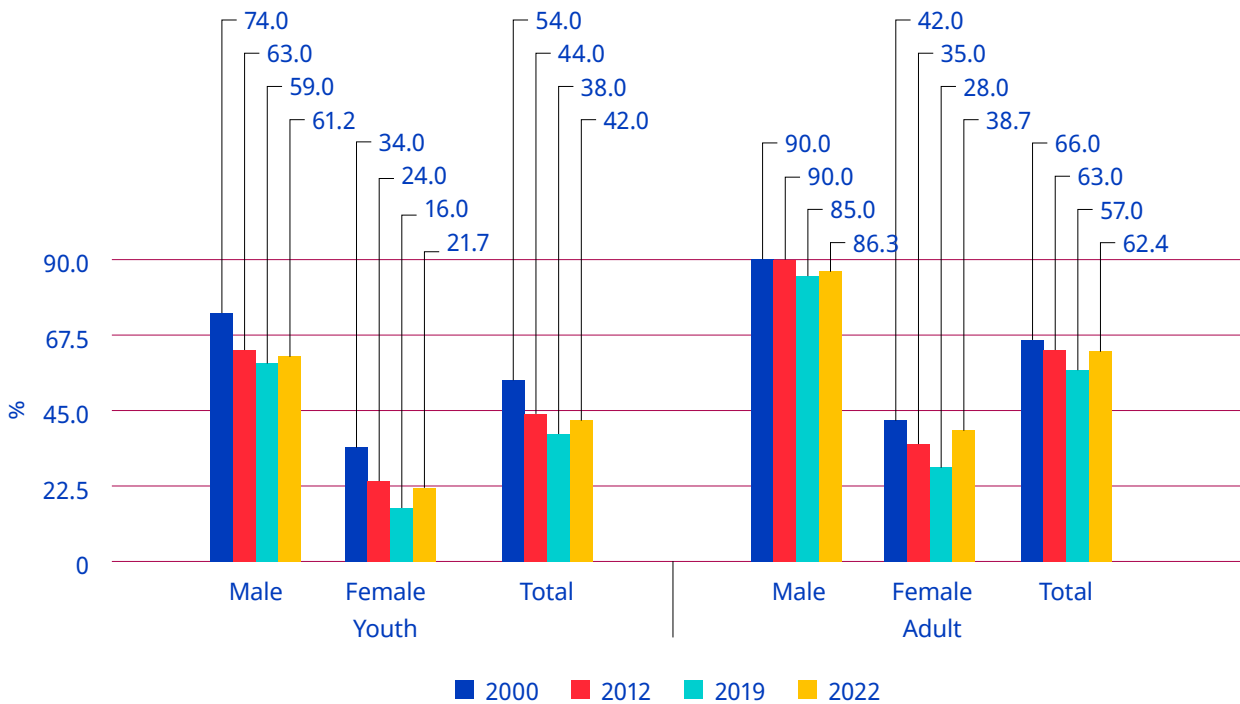
youths not in employment, education or training is covered in section 4.5.4 to better comprehend the non-participation of young women in economic activities.

There was a reversal of youth participation in economic activities between 2019 and 2022, with a corresponding reduction in their unemployment and their involvement in education and domestic duties. The proportion of young women’s engagement in domestic duties decreased from 51.5 per cent in 2019 to 45.1 per cent in 2022, while the proportion of men in education reduced from 38.8 per cent to 36.9 per cent (see appendix tables A4.1b and A4.1c). These trends were more pronounced in rural areas than in urban areas (and discussed in detail in the next section).

4.3.2 Labour force participation rate

The LFPR is lower among young people than adults, especially for youths aged 15–19 than those aged 20–24 and 25–29. In 2022, the LFPR for youths was 42 per cent and 62.4 per cent for adults (figure 4.3). Among the youths, the LFPR was only 17.5 per cent for those aged 15–19, but 48.4 per cent for those aged 20–24 and 64 per cent for the 25–29 age group.

► **Figure 4.3. Labour force participation rate (UPSS) of youths and adults, by gender, 2000, 2012, 2019 and 2022**



Source: Computed from unit-level data of various Employment and Unemployment Surveys, and Periodic Labour Force Survey data.

The LFPR among youths declined over time, with a sharper reduction among the 15–19 age group than the other two age groups. The youth LFPR dropped by 12 percentage points between 2000 and 2022, from 54 per cent to 42 per cent. Broken down by age group, the decline was 23 percentage points among youths aged 15–19, then 15 percentage points for youths aged 20–24 and 10 percentage points for those aged 25–29 (see appendix table A4.2a). This indicates that not only is the participation of younger youths in the labour market lower but it has declined over time. However, when considering only non-student youths, the LFPR was higher and relatively stable over the past two decades, with a marginal decline of just 2.1 percentage points, from 66.8 per cent in 2000 to 64.7 per cent in 2022 (see Chapter 5).

This further indicates that the lower LFPR among young people, particularly younger male youths, is primarily driven by their pursuit of education, which can enhance their prospects of achieving better labour market outcomes in the future (ILO 2022a).

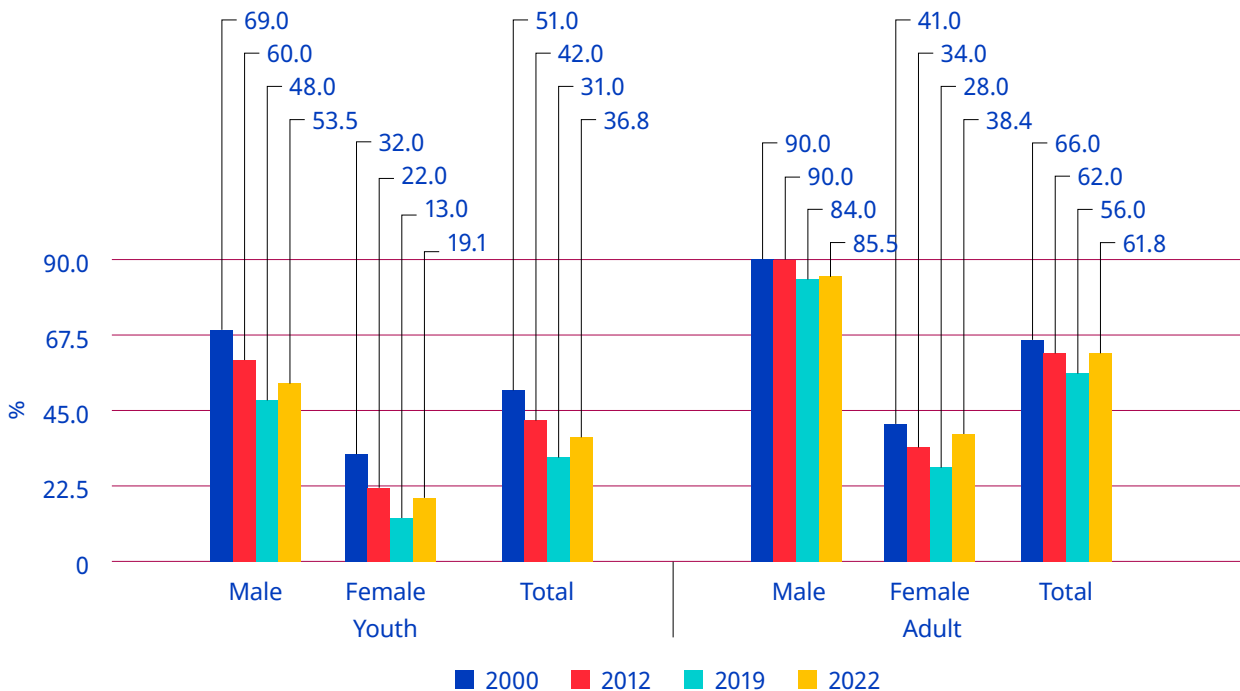
The declining trend in youth LFPR reversed between 2019 and 2022, with a greater increase among women than men, particularly in rural areas. But the gender gap in the LFPR remained substantial, even after the pandemic recovery, and was still lower than the 2000 level. The youth LFPR dropped from 54 per cent in 2000 to 38 per cent in 2019, which reversed and increased to 42 per cent in 2022. The female LFPR declined more sharply in the earlier period (by 14 percentage points) than the male rate (by 5 percentage points), but it increased to much higher among women (by 7 percentage points) than men (by 2 percentage points) between 2019 and 2022. This fluctuation was much more pronounced in rural areas than in urban areas (see appendix tables A4.2b and A4.2c).

There was a substantial gender gap in the youth LFPR that remained nearly consistent over the past two decades, with the female LFPR much lower than the male rate. In 2022, the LFPR of young men (61.2 per cent) was almost three times higher than that of their female counterparts (21.7 per cent), and the gender gap was similar in the rural and urban areas (see appendix tables A4.2b and A4.2c). The LFPR among non-student youths was significantly higher for men (97 per cent) and women (32 per cent), highlighting a persistent gender disparity. In numbers, the young male labour force amounted to 116.5 million, compared with 37.9 million women. As noted in Chapter 2, various demand- and supply-side factors tend to suppress the LFPR for youths and adults, but especially for women.

4.3.3 Worker population ratio

Similar to the LFPR, the worker population ratio of young people was considerably lower than for adults and much less among youths aged 15–19 than the other two age groups. In 2022, the worker population ratio was 36.8 per cent for youths and 61.8 per cent for adults (figure 4.4). This was 15.2 per cent for the 15–19 age group, 40.2 per cent for the 20–24 age group, and 58.6 per cent for the 25–29 age group (see appendix table A4.2a).

► **Figure 4.4. Worker population ratio (UPSS) among youths and adults, by gender, 2022 (%)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

The worker population ratio for young people showed a declining trend in the preceding decades between 2000 and 2019, before the COVID-19 pandemic, and was much sharper among the age group of 15–19 than the age group of 20–24 and 25–29. Between 2000 and 2019, the worker population ratio among youths fell by 20 percentage points, from 51 per cent in 2000 to 31 per cent in 2019, with a decline of 24 percentage points among the 15–19 age group, and 21 percentage points among the 20–24 age group but 14 percentage points among the 25–29 age group (see appendix tables A4.2a and A4.3a). As discussed above in the case of the LFPR, the increasing enrolment, especially among younger youths, was the principal driver of this declining youth worker population ratio, along with rising standards of living and other reasons (ILO 2022a; Sharma 2022; Sharma and Mehta 2017; Mitra and Verick 2013).

The decline in the worker population ratio among young people reversed between 2019 and 2022, and this trend was almost similar among all categories of youths. The worker population ratio among youths increased by almost 6 percentage points, from 31 per cent in 2019 to 36.8 per cent in 2022, on par with the increase observed among adults, and by approximately 5 percentage points across all three age groups of youths (see appendix tables A4.2a and A4.3a). The COVID-19 pandemic crisis may have forced many young people to work to support their family's income (ILO and UNICEF 2020).

Young women exhibited a much lower worker population ratio than their male counterparts, and the gender gap reduced only marginally over the past two decades (see appendix table A4.3a). As discussed in Chapter 2, women in India face significant supply and demand constraints, including a lack of non-farm jobs, especially in rural areas, which hinders their participation in economic activities when compared with their male counterparts. In 2022, only 19.1 per cent of young women were estimated to be employed, compared to 53.5 per cent of young men. This means that young men (102 million) were estimated to be employed around three times more than young women (33.4 million).

The difference in the worker population ratios between young people living in rural and urban areas decreased over the years. This was primarily due to a significant drop in the worker population ratio among rural youths, particularly among women. The worker population ratio among rural youths decreased by approximately 19 percentage points, from 56.8 per cent in 2000 to 38 per cent in 2022, while it decreased by about 5 percentage points among urban youths, from 38.4 per cent to 33.6 per cent during the same period. And the worker population ratio among rural young women dropped by 19 percentage points, from 39.5 per cent in 2000 to 20.4 per cent in 2022, while the ratio for urban young women remained almost stable around 15 per cent during the same period (see appendix table A4.3b). This trend suggests that young people, especially young women in rural areas, are experiencing declining employment opportunities and increasing participation in education.

The rising participation of youths in higher education is a positive development. However, the gaps in the LFPR and the worker population ratio between youths and adults are substantial and have widened over time. The gender gap in the LFPR and the worker population ratio among youths remains significantly higher than that of adults, underscoring their vulnerability in the labour market. Even educated youths who are employed may find themselves in a job of low quality and poor working conditions (see Chapter 5).

► 4.4 Quality and conditions of youth employment

This section dissects the quality and conditions of employment through various indicators, including employment status, formal versus informal employment, organized or formal versus unorganized or informal sector employment, earnings or wages and sectoral shifts in employment. Certain patterns

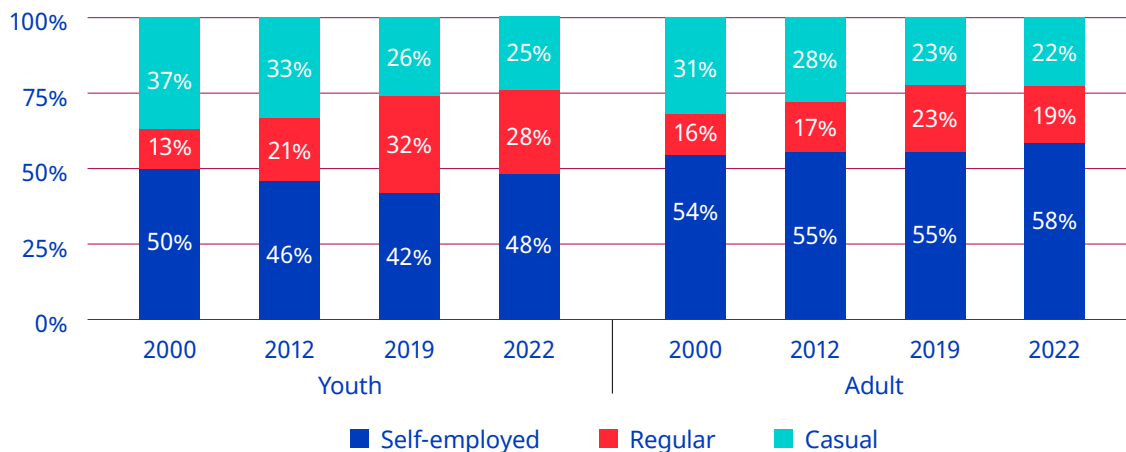
emerged from this analysis: Youths are now less likely to be in self-employment but more likely to be in unpaid employment. They are more likely to be employed in industry and services than adults, but also more likely to be informally employed and employed in the informal sector. Regular earnings increase with age group, although there are distinct differences based on age, gender and sector of origin.

As with overall employment, the trends in employment reversed during the pandemic period (up through 2022), with rising participation in self-employment, unpaid employment and in agriculture. The extent of this retrogression, however, was more or less similar to what adults experienced.

4.4.1 Status of employment

Self-employed is the largest category of employment for both youths and adults. Young people were more likely to be in unpaid family work in the self-employment category than adults, which is considered an inferior form of work because it doesn't lead to independent income or increase women's participation in the public sphere (Mehrotra et al. 2014). They were also less likely to be an own-account worker or an employer than adults under the self-employment category. Interestingly, the engagement of youths and adults in self-employment showed a contrary trend, which declined for the former and increased for the latter over the past two decades. In 2022, 47.5 per cent of young people were self-employed, compared with 58.5 per cent of adults. Of them, 59.6 per cent of youths were unpaid family workers, while only 23.6 per cent of adults were (figure 4.5 and appendix table A4.4a). Conversely, 38.7 per cent of self-employed young people were own-account workers, compared with 71 per cent of adults. Between 2000 and 2022, the portion of young people in self-employment decreased, from 50 per cent to 47.5 per cent, while the portion of adults in self-employment increased, from 53.5 per cent to 58.5 per cent. Notably, there was a reversal in this trend of youths in self-employment between 2019 and 2022, with a sharp increase in unpaid family work. This type of work, which includes "bottom-of-the-rung, survivalist livelihood activities", is typically undertaken by female workers (Deshpande 2020).

► **Figure 4.5. Status of employment (UPSS) of youths and adults, 2000, 2012, 2019 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

Among youths, the 15–19 age group had a higher likelihood of being self-employed than the other two age groups, and they also were more likely to work as unpaid family workers. Conversely, the 25–29 age group was more likely to have regular employment than their younger age cohorts. In 2022, 54.1 per cent of youths aged 15–19, 47 per cent of those aged 20–24 and 45.9 per cent of youths aged 25–29 were self-employed. In contrast, 16.5 per cent of youths aged 15–19, 28.5 per cent of youths aged 20–24 and 30.7 per cent of those aged 25–29 were in regular salaried employment. Young women aged

15–19 were more likely to be in unpaid household work (at 61 per cent) than their male counterparts (at 40.6 per cent) (see appendix table A4.4b).

Youths were more involved in regular salaried employment and casual wage work than adults. The incidence of youths in regular salaried employment increased significantly more than what it did among adults over the past two decades. In 2022, 27.8 per cent of young people were in regular salaried work, compared with the 19.5 per cent of adults. And 24.7 per cent of youths were in casual wage work, compared with the 22 per cent of adults. Between 2000 and 2022, the involvement of youths in regular salaried employment increased by around 15 percentage points, compared with the 3.6 percentage-point increase among adults (see appendix table A4.4a). Conversely, the involvement of youths in casual wage work declined by around 12 percentage points between 2000 and 2022. However, this positive trend of increasing participation in regular employment for youths reversed in recent years, with a decline by 3.8 percentage points, from 31.6 per cent in 2019 to 27.8 per cent in 2022.

There were noticeable gender gaps and rural–urban differences in the employment status of young people. While the quality of employment improved over time, there was some deterioration between 2019 and 2022, especially among women in rural areas. In 2022, young people were more involved in self-employment activities in rural areas (at 53.9 per cent) than their urban counterparts (at 28.9 per cent). Conversely, they were more engaged in regular work in urban areas (at 57.7 per cent) than in rural areas (at 17.5 per cent) (see appendix table A4.4c). Young women were more involved in self-employment activities, especially unpaid family work, with 61.1 per cent of them compared with 42.9 per cent of men. Conversely, young men were more involved in regular salaried employment and casual wage work, with 29.8 per cent of them compared with 22 per cent of women. And 27.3 per cent of men engaged in casual wage work, compared with 16.8 per cent of women.

The proportion of young men and women in regular employment improved equally, by 15 percentage points, between 2000 and 2019, but it declined sharply between 2019 and 2022, especially among the women, who experienced an 8.6 percentage point decrease in the more recent period. While young women in self-employment declined by 5 percentage points between 2000 and 2019, the decline was 11 percentage points between 2019 and 2022, especially among unpaid family workers in rural areas (see appendix tables A4.4a, A4.4c and A4.4d). This suggests that the quality of youth employment in terms of status improved in the long term but declined more among young women than men between 2019 and 2022.

4.4.2 Formal and informal employment and the organized and unorganized sectors

Young people were more likely to engage in the unorganized sector and informal work. While there was a rise in young people working in the formal or organized sector over the past two decades, the trend reversed during the pandemic. In 2022, 79.1 per cent of young workers engaged in the formal or organized sector, compared with 81.8 per cent of adults (table 4.1). And 89.9 per cent of young workers were informally employed, compared with 90.4 per cent of adults. The proportion of youths informally employed and those engaged in the unorganized sector declined considerably between 2000 and 2019, by 6.6 percentage points and 14 percentage points, respectively. But then this trend reversed with a marginal rise in both the share of informally employed youths (by 0.5 percentage points) and those engaged in the unorganized sector (by 1.5 percentage points) between 2019 and 2022.

Although there was a rise in youths in regular employment over the past two decades, this does not necessarily indicate improvement in employment quality: A large portion of them lacked a written contract, a long-term (three or more years) contract and social security benefits. In 2022, only 30.7 per cent of young regular workers had a written contract, and only 10.2 per cent were in regular formal employment or receiving social security benefits. Additionally, only 15 per cent of the young regular workers had a long-term written contract. Notably, the share of regular workers with a written contract and a long-term written contract was much smaller among youths than adults. But there was

an upward trend in the proportion of all regular workers with written contracts and long-term contracts between 2019 and 2022 (table 4.1).

► **Table 4.1. Employment quality and conditions (UPSS) among youths and adults, 2000, 2012, 2019 and 2022 (%)**

	Youths				Adults			
	2000	2012	2019	2022	2000	2012	2019	2022
Informal employment (% of total employment)	96.0	94.7	89.4	89.9	89.1	91.2	89.5	90.4
Informal sector (% of total employment)	91.8	82.0	77.6	79.1	87.6	82.7	81.3	81.8
Regular formal employment (% of total employment)	3.0	5.1	10.4	10.2	10.0	8.6	10.1	9.2
Informal within formal sector (% of total formal sector employment)	70.0	55.5	72.8	53.6	31.1	45.7	51.3	49.5
Written contract (% of total Regular employed)	12.2*	23.1	21.7	30.7	34.2*	41.9	34	41.6
3+ years contract (% of total regular employed)	8.0*	13.9	11.3	15.0	31.8*	36.8	26.2	31.7

Note: *=This data pertain to 2004-05.

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

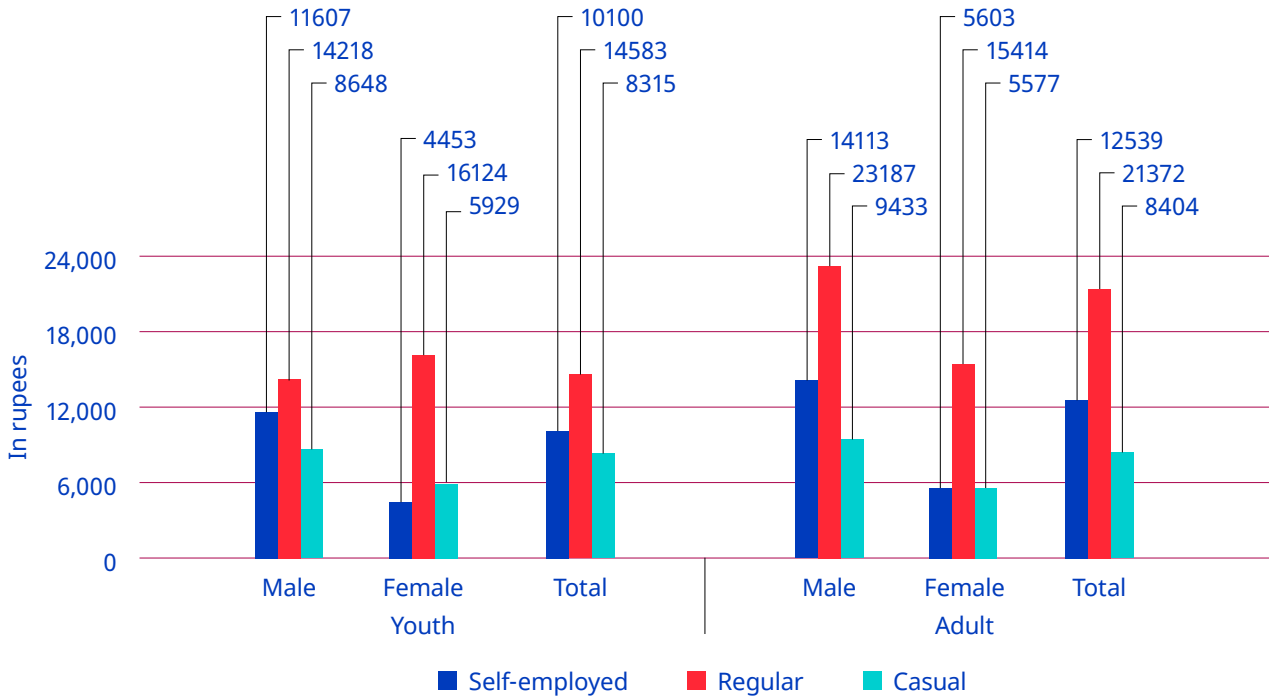
The share of young informal workers within the formal sector increased between 2000 and 2019 but declined sharply between 2019 and 2022 (along with the declining share of formal sector employment among youths). Among the young workers, the proportion of those informally employed within the formal sector increased by around 3 percentage points during the first 19 years of the century but decreased by around 16 percentage points between 2019 and 2022. This may be due to a decrease in temporary workers or those without any contract or short-term contract who lost their job during the COVID-19 crisis. Although the proportion of regular workers, formal workers and formal sector workers among the youths was relatively larger than among the adults, they had a lower incidence of written contract or long-term (three years or more) written contract, which implies higher vulnerability in employment. This vulnerability makes them more susceptible to being easily fired during times of crisis, such as the COVID-19 pandemic.

4.4.3 Average earnings and wages

The average monthly earnings from self-employment and average monthly wages from casual wage work for youths had only a marginal gap, indicating poor-quality self-employment work and low earnings among youths, with considerable variation between women and men. In 2022, the average monthly earnings or wages for youths in regular salaried work was the highest, at 14,583 rupees, followed by self-employment, at 10,100 rupees, and then casual work, at 8,315 rupees. For adults, the average monthly earnings or wages was much higher than those of youths, at 21,372 rupees for regular salaried work and 12,539 rupees for self-employment, while casual wage work was almost similar with youths, at 8,404 rupees (figure 4.6). The gender gap in monthly earnings among youths was much greater in self-employment (2.6 times) and casual wage work (1.5 times), while monthly earnings in regular salaried employment was more than 1.1 times larger for women than men. The gender gap in wages

and earnings among adults was larger in casual work, but it differed in regular salaried work, where the monthly earnings of men was 1.5 times greater than what it was among their female counterparts. This indicates that the participation of young individuals in the labour market is low but that they are also less engaged in earning activities than adults

► **Figure 4.6. Average monthly earnings and wages among youths and adults, 2022 (nominal values in rupees)**

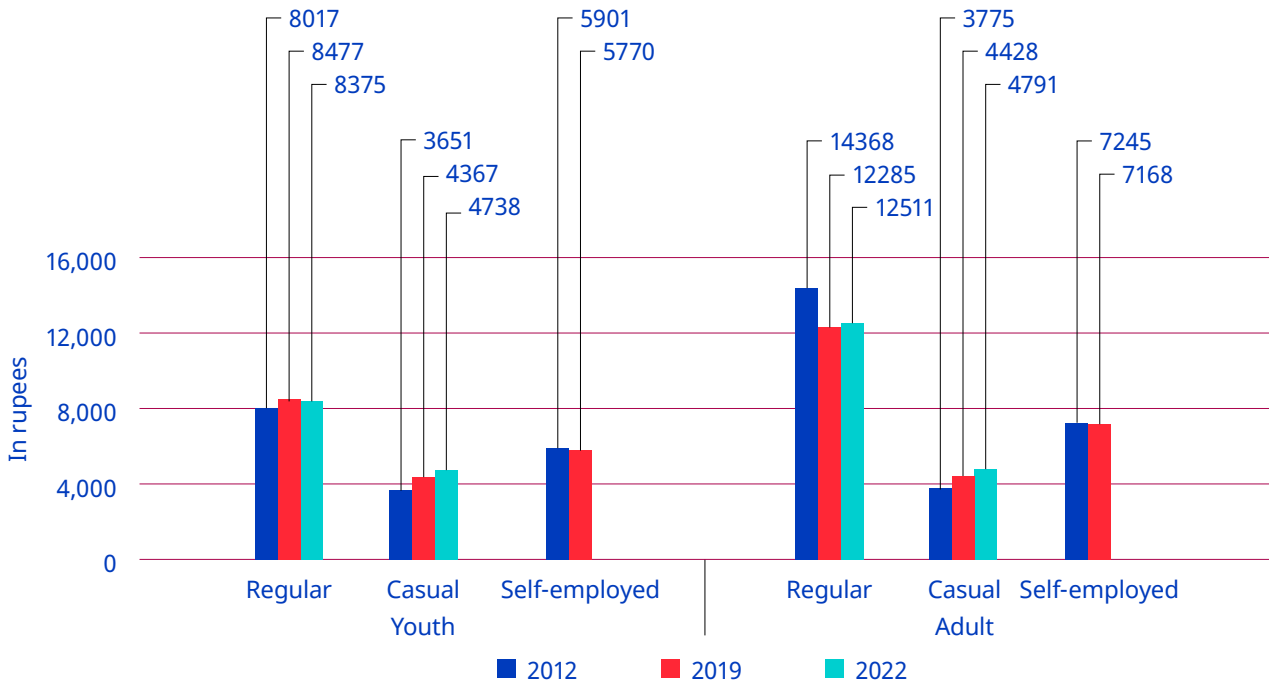


Source: Computed from unit-level data of various Employment and Unemployment Surveys, and Periodic Labour Force Survey data.

The average real monthly earnings for both youths and adults engaged in regular salaried work and self-employment remained nearly stable or declined between 2012 and 2022, whereas the average real wages of those involved in casual work had a small increase. There also was a narrowing of the gender gap among youths (figure 4.7). This trend underscores a high incidence of low earnings and low-paying employment among youths in the labour market.

There was annual growth in real monthly earnings for youths in regular employment, of 0.4 per cent, between 2012 and 2022, while average earnings for adults experienced a negative annual growth, at -1.6 per cent, over the same period (figure 4.7 and appendix table A4.5). Likewise, average real earnings in self-employment for both youths and adults showed negative growth, at -0.7 per cent and -0.4 per cent annually. But monthly earnings in casual work grew at an annual rate of 2.6 per cent for youths and 2.4 per cent for adults over the same period. There was a gender gap in real earnings for youths in casual work, but it narrowed over the years. Interestingly, young women’s real earnings in regular employment grew much faster than those of their male counterparts and even surpassed them over the years (see appendix table A4.5).

► **Figure 4.7. Average monthly real earnings and wages among youths and adults, 2012, 2019 and 2022 (rupees, at 2012=100 constant prices)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

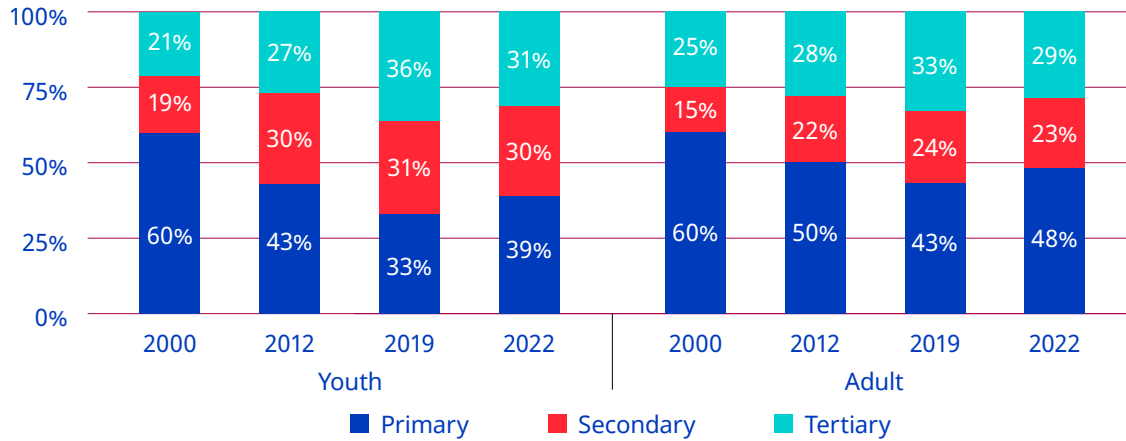
4.4.4 Industrial structure

Young workers were relatively less engaged in the primary or agriculture sector than adults and were more involved in the non-farm secondary or industrial sectors than adults. Both youths and adult workers had almost similar presence in the tertiary or services sectors. In 2022, 38.6 per cent of total young workers were in the primary sector, compared with 47.6 per cent of adult workers. Among the youth workers, 30.3 per cent were in the secondary sector and 31 per cent were in the tertiary sector, while among adults, 23.1 per cent were in the secondary sector and 29.2 per cent were in the tertiary sector (figure 4.8 and appendix table A4.6a).

Among working youths,²⁵ those aged 15–19 were more involved in the agriculture sector than the older two age groups, whereas those aged 20–24 and 25–29 were more engaged in the services sector. But an almost equal proportion of all age groups of youths were working in the industrial sector (see secondary sector in figure 4.8). In 2022, 51.4 per cent of youths aged 5–19 were in agriculture, compared with 38 per cent of youths aged 20–24 and 35.3 per cent of youths aged 25–29. But 34.8 per cent of youths aged 25–29 were in services, compared with 31.1 per cent of the 20–24 age group and 18.6 per cent of the 15–19 age group (see appendix tables A4.6b and A4.6g). The share of youths in the industrial sector was 30 per cent for all age groups. The larger share of the older young people (aged 25–29) in the services sector does not necessarily mean that young people tend to switch careers. Jobs in the modern services sector generally require a high level of education, and young people tend to enter the services sector at a later stage or as older youths. In contrast, agriculture does not require a high level of education in most cases and allows for easy entry for younger youths, such as those aged 15–19 (ILO 2022a; Mitra and Verick 2013).

²⁵ Those involved in economic activities only.

► Figure 4.8. Industrial structure (UPSS) for youths and adults, 2000, 2012, 2019 and 2022 (%)



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

There was a significant gender gap in youth employment across the sectors. In the primary sector, young women engaged more than their male counterparts in agriculture, especially in rural areas. In 2022, 56.7 per cent of young women were in agriculture, compared with 32.6 per cent of young men, with a much larger proportion in rural areas, where 70 per cent of young women were in agriculture, compared with 46.4 per cent of men. **But working youths were slightly more engaged in construction than in manufacturing, with a significant gender gap in the former in the secondary sector.** In 2022, 15.1 per cent of youths were in construction and 14.3 per cent in manufacturing. Young men were more than five times likely to be in the construction sector (at 19 per cent) than young women (at 3.6 per cent), while both the male (14.1 per cent) and female (14.9 per cent) proportions were almost equal in the manufacturing sector (see appendix tables A4.6c, A4.6d and A4.6e).

In the tertiary sector, working youths were relatively more engaged in trade, hotels, restaurants, public administration, health, education, transport, storage and communications, with significant gender gaps in these sectors. In 2022, 12.9 per cent of youths worked in trade, hotels and restaurants, while 7.8 per cent of them were in public administration, education and health, and only 6.9 per cent of them were in transport, storage and communications services. **Young men were almost three times as likely to be in trade, hotel and restaurant services (15.5 per cent) as young women (5.2 per cent), while more than twice as many men (8 per cent) as women (3.5 per cent) were in transport, storage or communications services. But young women were more than twice as likely to be in public administration, education and health-related activities (13.1 per cent) as young men (6 per cent)** (see appendix tables A4.6d and A4.6e).

Between 2000 and 2019, youths shifted out of agriculture and into the industrial and services sectors much more than adults did. The share of youths in agriculture declined by 27 percentage points while it increased by 14.2 percentage points in the services sector and 12.8 percentage points in the industrial sector. Young people worked in construction and manufacturing in the secondary sector as well as transport, storage and communications and public administration, health and education-related activities in the services sector to a greater extent than adults (see appendix tables A4.6c, A4.6d and A4.6e).

The COVID-19 crisis reversed the long-term trend of expanding youth employment in the non-farm industrial and services sectors and declining employment in the agriculture sector. Between 2019 and 2022, there was an increase in the proportion of young workers in the agriculture sector and a decline in the industrial and services sectors. Between 2019 and 2022, the share of young people in agriculture increased by 5.6 percentage points but declined by 4.6 percentage points in the services sector and 1.1 percentage points in the industrial sector. The proportion of working youths

declined between 2019 and 2022 in the trade, hotel and restaurant sector (by 1.5 percentage points) as well as public administration, education and health services (by 2 percentage points). These sectors have traditionally been the main entry points into the labour market for young people. However, youth employment did not diminish but instead expanded in the construction (by 0.4 percentage points) and agriculture (by 5.6 percentage points) sectors, which emerged as a last-resort employer during the pandemic (see appendix tables A4.6d and A4.6e and ILO 2022a).

Structural changes in the economy have the potential to create employment opportunities for young people, particularly in the growing non-farm sectors, such as machinery and equipment manufacturing, computer programming and information and communications technology and specialized retail sales. To take advantage of these opportunities, young people must acquire the necessary skills. The subsector analysis for this report revealed²⁶ that the repair of fabricated metal products, machinery and equipment in the manufacturing sector as well as construction of buildings and electrical, plumbing and other construction installation activities in the construction sector hold potential for creating new employment opportunities for youths. However, jobs generated in the manufacturing subsectors tend to be of higher quality (mostly regular type) than those in the construction subsectors (mostly casual type) (see appendix table A4.6f).

In the services sector, computer programming, land transport, secondary education, hospital activities, retail sales of household and information and communication equipment and retail sales of other goods in specialized stores are likely to generate new employment for young people. These sectors are expected to offer good-quality jobs, particularly in urban areas. And the non-farm sectors are likely to be in modern sectors with high levels of regular employment and located in urban areas (see appendix table A4.6f).

► 4.5 Youth unemployment and underemployment

This section discusses critical issues that youths are facing, including unemployment, unemployment among educated young people, underemployment and youths not in employment, education or training. Unemployment rates among youths were substantially higher than the overall population, but among educated youths they were much higher. The rising trend in youth unemployment was partially reversed between 2019 and 2022 as more youths, especially women, took up work, particularly in rural areas. In 2022, the trends in gender unemployment were reversed in rural India, with female youth unemployment rates becoming lower than the male rates.

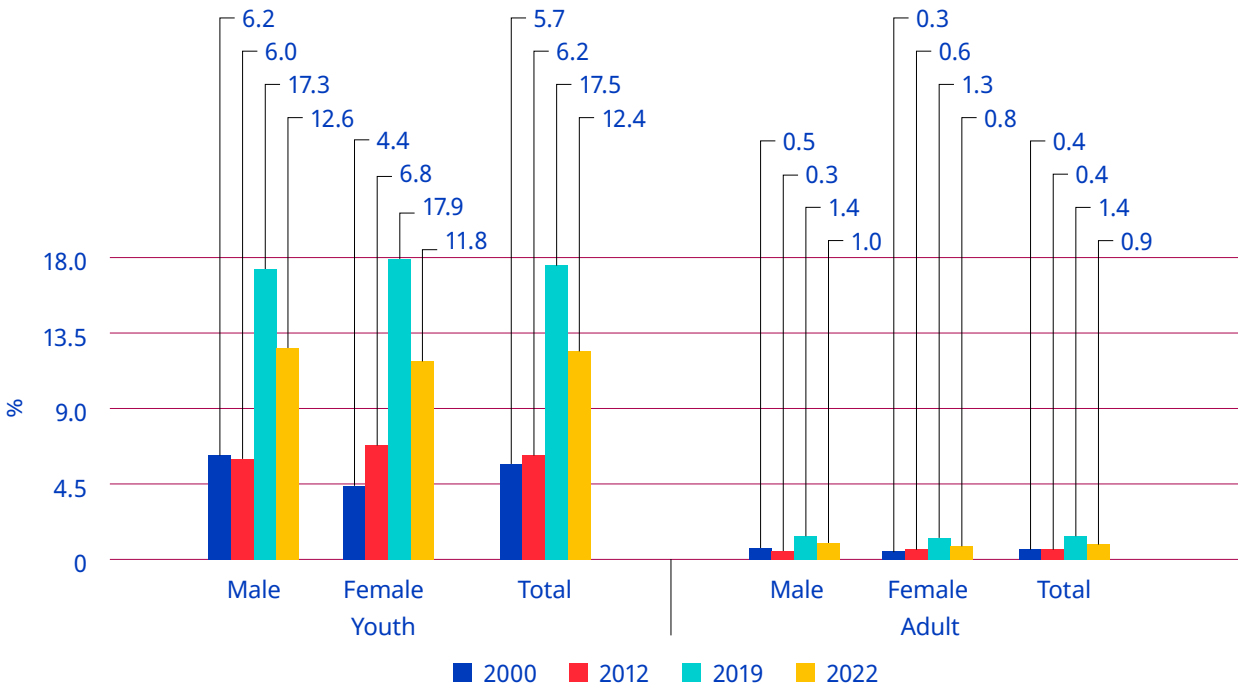
4.5.1 Youth unemployment rate

The youth unemployment rate was significantly higher than the adult unemployment rate, which increased over time. According to the ILO's *Global Employment Trends for Youth, 2022* report (2022b), the worldwide youth unemployment rate was 15.6 per cent in 2021, which was three times higher than the adult rate. In India, the youth unemployment rate (usual status) was an estimated 12.4 per cent in 2022, which was more than 12 times higher than the adult rate. In terms of numbers, 14.5 million young men were unemployed, compared with 4.4 million women in 2022.

The youth unemployment rate increased more than twofold between 2000 and 2019, from 5.7 per cent to 17.5 per cent, but then decreased to 12.4 per cent in 2022 (figure 4.9). This decline was attributed to a considerable increase in the female workforce participation rate, as discussed earlier, which resulted in a lower unemployment rate for women (at 11.8 per cent) when compared with men (at 12.6 per cent) in 2022. This was a reversal from previous years, when the female unemployment rate was higher than the male unemployment rate.

²⁶ Sectors at the three-digit National Industrial Classification codes generated around 0.10 million net additions in employment, with an annual growth rate of more than 6 per cent between 2000 and 2019.

► **Figure 4.9. Unemployment rate (UPSS) among youths and adults, 2000, 2012, 2019 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

The incidence of unemployment was much greater among young people in urban areas than in rural areas and among younger youths than older ones. In 2022, the unemployment rate was 13.2 per cent for the 15–19 age group, compared with 8.6 per cent for the 25–29 age group (see appendix table A4.2a). This disparity could be attributed to several factors, including differences in the level of education, work experience and relevant skills. The unemployment rate among youths in urban areas was 17.2 per cent, compared with 10.6 per cent in rural areas. Notably, even after a sharp decline between 2019 and 2022, the female youth unemployment rate in urban areas (at 21.6 per cent) remained higher than their male counterparts (at 15.8 per cent) (see appendix tables A4.7a and A4.7b).

4.5.2 Unemployment rate among educated youths

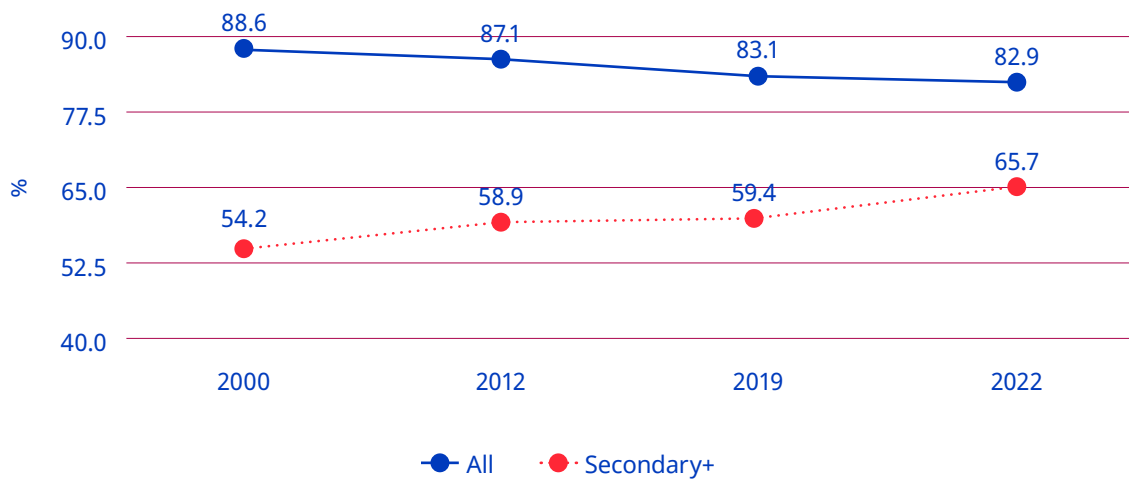
The youth unemployment rate increased with the level of education, with the highest among graduates and higher among women than men. The educated unemployment rate increased over the past 22 years, but with a sharp decline between 2019 and 2022. In 2022, the unemployment rate among youths was six times greater for those who had completed secondary education or higher (18.4 per cent) and nine times higher for graduates²⁷ (29.1 per cent) than for persons who could not read or write (3.4 per cent). This was relatively higher among educated young women (21.4 per cent) than men (17.5 per cent), especially among female graduates (34.5 per cent), compared to men (26.4 per cent) with

27 The National Sample Survey Office’s annual Periodic Labour Force Survey categorizes general education attainment levels in India into the following: “not literate, literate without formal schooling or below literate, primary, middle, secondary, higher-secondary, diploma/certificate course, graduate, post-graduate and above”. Persons with a technical education are also listed as having a technical degree in: agriculture, engineering/technology, medicine, crafts, other subjects; or having a diploma or certificate in those streams, which is further categorized as “below graduate level” or “graduate and above level”. **“Graduate” throughout the report refers to university graduates (with a bachelor’s degree) or persons with an equivalent recognized diploma or certificate.**

similar qualifications. The unemployment rate among educated youths grew from 23.9 per cent in 2000 to 30.8 per cent in 2019 but fell sharply to 18.4 per cent in 2022 (see appendix table A4.7c).

Unemployment in India was predominantly a problem among youths, especially youths with a secondary level of education or higher, and it intensified over time. In 2022, the share of unemployed youths in the total unemployed population was 82.9 per cent (figure 4.10). The share of educated youths among all unemployed people also increased, from 54.2 per cent in 2000 to 65.7 per cent in 2022. Among the educated (secondary level or higher) unemployed youths, women accounted for a larger share (76.7 per cent) than men (62.2 per cent). This indicates that the problem of unemployment in India has become increasingly concentrated among the youth, especially educated youths and women in urban areas (see Chapter 5 for detailed analysis of the link between education and skill levels and youth employment).

► **Figure 4.10. Share of unemployed educated youths (secondary or higher) in total unemployed persons (UPSS), 2000, 2012, 2019 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

4.5.3 Underemployment or labour utilization

A more comprehensive approach to capturing the lack of employment in India is to look beyond the unemployment rate and consider other indicators, such as underemployment and the number of youths not in employment, education or training (Mitra and Verick 2013).²⁸

The rate of time-related underemployment in India decreased over the years, although it remained relatively higher among women and workers in rural areas. In 2022, the underemployment rate was significantly high, at 16.8 per cent. The underemployment rate was slightly higher among women (17.3 per cent) than men (16.7 per cent) and more prevalent in urban areas (19.2 per cent) than in rural areas (15.8 per cent) (see appendix table A4.8). Over time, there was a substantial rise in the underemployment rate, from 13.9 per cent in 2012 to 20.8 per cent in 2019, which declined between 2019 and 2022, from 20.8 per cent to 16.8 per cent. This fluctuation was much higher among young women. These trends prompt a question about the type of economic activities that youths increasingly participated in during the slowdown period.

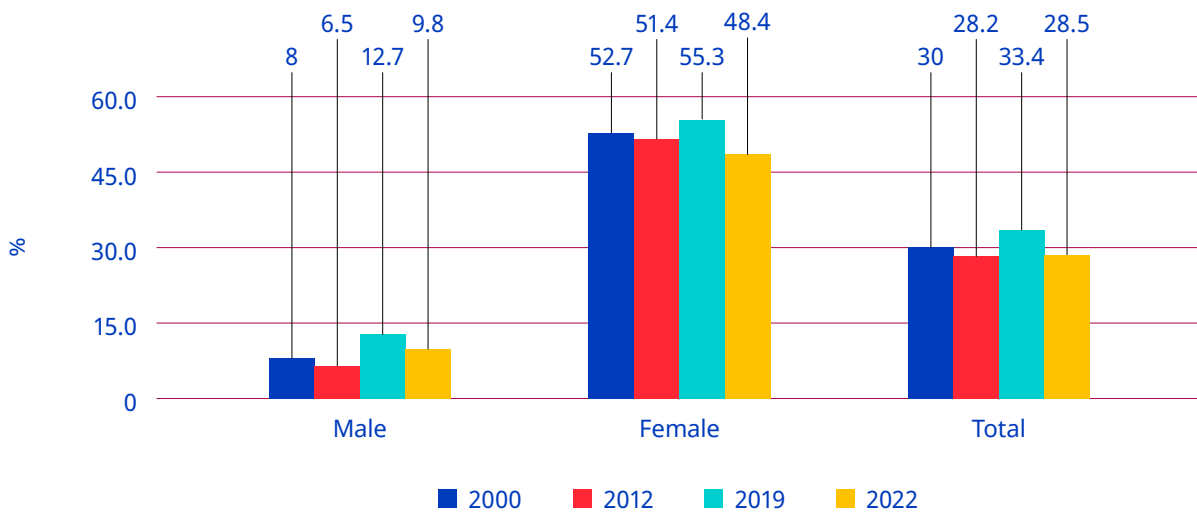
²⁸ See also the International Labour Conference Resolution concerning statistics of work, employment and labour underutilization.

4.5.4 Youth not in employment, education or training

As enrolment rates for youths in higher education in India continue to rise, it is expected that more young people will choose to stay in education before entering the job market. As a result, education and employment accounted for a significant portion of the youth population. However, as previously noted, there is a growing number of unemployed young people as well as those who are inactive. Therefore, the share of young people not in employment, education or training becomes increasingly important for understanding labour utilization in the labour market. In India, this category also includes youths who are inactive by choice and those who have been preparing for public sector or white-collar jobs for several years. It still helps to identify those who are at risk of not successfully transitioning to work because they are not actively engaged in or preparing for employment. Youths not in employment, education or training tend to experience varying degrees of social and economic marginalization and are more likely to be left behind in mainstream policies (ILO 2021a).

The proportion of youths globally who are not in education, employment or training has been consistently highest in South Asia, at an average of 29.2 per cent between 2010 and 2019 (ILO 2022a). **One in three young people was not in employment, education or training in India, which was almost equal in rural and urban areas and increased over the years.** In 2022, the proportion of youths with such status remained high, at 28.5 per cent, with almost equal proportions in rural (28.7 per cent) and urban areas (29.7 per cent) (figure 4.11). This proportion of youths increased from 29.9 per cent in 2000 to 33.4 per cent in 2019 but decreased to 28.5 per cent in 2022 (see appendix table A4.9a). This indicates that many young people missed out on a crucial early stage of their personal development and risk facing severe disadvantages in the labour market in the future (ILO 2022a).

► **Figure 4.11. Youth not in employment, education or training, by gender, 2000, 2012, 2019 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

Young women were much more likely to not be in employment, education or training than young men, and this was especially pronounced among the older youths (aged 20–24 and 25–29) than the younger ones (aged 15–19) in 2022. The women not in employment, education or training represented almost five times more than their male counterparts (at 48.4 per cent versus 9.8 per cent) and accounted for around 95 per cent of the total in 2022. There were 84.9 million young women not in employment, education or training, compared with 18.5 million young men. Among all young people, youths not in employment, education or training were 12.1 per cent for the 15–19 age group, compared with 36.3 per cent for the 20–24 age group and 39.1 per cent for the 25–29 age group (see appendix table A4.9b).

This could be attributed to greater participation of youths aged 15–19 years in education or training, as discussed previously.

The not in employment, education or training category encompasses a small group of unemployed youths who are better educated and a much larger group of youths who are out of the labour force and less educated. Notably, the out-of-the-labour force group was dominated by women, with most of them engaged in domestic duties. In 2022, 17.9 per cent of youths not in employment, education or training were unemployed, and 82.1 per cent were outside the labour force. Women accounted for 95.1 per cent of the total youth population out of the labour force and not in employment, education or training, with most (93 per cent) of them engaged in domestic duties (see appendix table A4.9c). These trends appear to be a consequence of gender disparities in participation in labour market (Kapoor 2022), as discussed in Chapter 2.

► 4.6 Impact of the COVID-19 pandemic on youth employment

This section examines the impact of the COVID-19 crisis on youth employment by comparing labour market characteristics during the pandemic with those of the pre-pandemic period. The COVID-19 crisis peaked during the second half of 2020 and persisted through 2021, with some amelioration in 2022.

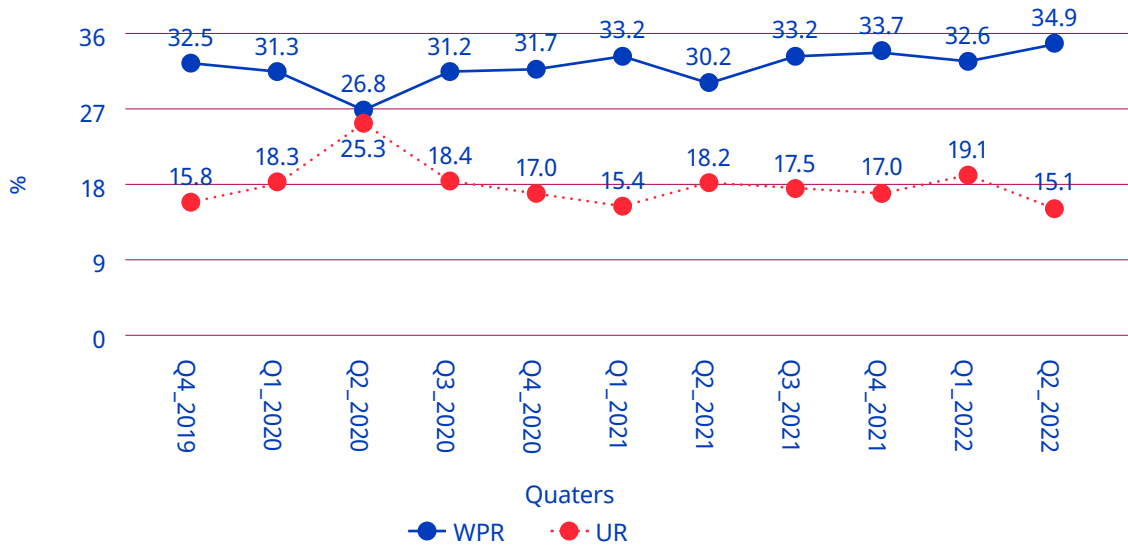
Young people in India are particularly susceptible to marginalization in the labour market due to their limited work experience, inadequate job search skills, insufficient financial resources and lack of necessary skills. As a result, they are more likely to experience higher unemployment rates and employment in less secure or informal jobs. The COVID-19 pandemic exacerbated their already vulnerable position, leading to job and income losses. According to the ILO (2022c), the pandemic resulted in the loss of jobs and earnings for millions of young people worldwide and hindered their efforts to establish a career in the labour market.

4.6.1 Pandemic impact on employment and unemployment

During the COVID-19 pandemic period, youth participation in the labour market in India declined, and an estimated 6.3 million young people lost their job during the lockdown periods. But youth participation in the labour market swiftly increased once lockdowns were lifted, and consistently expanded – except in the second quarter of 2021 when the second phase of the pandemic peaked – and the unemployment rate continued to decline (see figure 4.12 and appendix table A4.10a). The quarterly data for urban India reflect a decline in the worker population ratio for youths, from 32.5 per cent in the pre-pandemic fourth quarter of 2019 (October–December) to 26.8 per cent in the second quarter of 2020 (April–June), which coincided with the nationwide lockdown period.

There was a swift recovery, with the worker population ratio for youths reaching 31.2 per cent in the third quarter of 2020 (July–Sept) and expanding further, with fluctuations to 34.9 per cent in the second quarter of 2022. The unemployment rate among youths also increased, from nearly 16 per cent in the fourth quarter of 2019 to 25.3 per cent in the second quarter of 2020, but it decreased to 15.4 per cent in the first quarter of 2021 and to 15.1 per cent in the second quarter of 2022. As noted previously, the participation of female youths in the labour market increased in this period, particularly in rural areas, while their participation remained relatively stable in urban areas (see appendix table A4.10b).

► Figure 4.12. Quarterly worker population ratio and unemployment rate for youth (urban), 2019Q4 (October–December) to 2022Q2 (April–June)



Note: Nationwide lockdown period: 25 March 2020 to 17 May 2020 (2020Q1: January–March and 2020Q2: April–June). The urban data were used to assess the COVID-19 lockdown impact. WPR=worker participation ratio; UR=unemployment rate.

Source: Computed from Periodic Labour Force Survey data for 2019 and 2021.

4.6.2 Pandemic impact on quality and condition of employment

The number of youths in self-employment expanded much more than in other categories of employment during the pandemic and was mostly in household unpaid work, especially among rural women. The annual Periodic Labour Force Survey data revealed that youth employment increased by 19.9 million, from 114 million in 2019 to 133.9 million in 2021. More than three fourths (83 per cent) of the additional youths were in self-employment. In numbers, around 16.5 million additional youths became self-employed (see table 4.2). The additional young people who joined the workforce in self-employment were mainly in the household unpaid category (13.3 million). **The household unpaid category dominated among women in this time period, while own-account work was more common among men.** Nearly 85 per cent of the additional self-employed individuals joined the workforce in rural areas, and the majority were women in unpaid household jobs (see appendix table A4.11).

The number of young workers in regular salaried jobs declined during the pandemic period. The number of youths engaged in regular work declined by 800,000 between 2019 and 2021, but their number plummeted by 2.4 million in the pandemic years of 2020–21. Other studies have confirmed that youth workers who previously had regular salaried jobs engaged in more precarious arrangements later (CEDA and CMIE 2022; Dev and Sengupta 2022; Abraham et al. 2021). The number of youths engaged in casual work also increased during the pandemic period, by 4.2 million between 2019 and 2021. This indicates an increase in less remunerative employment among youths, as with adults (discussed in Chapter 2). A partial recovery began in the post-pandemic period with a rise in regular employment, but the number of youths in casual and self-employment were nearly stable.

► **Table 4.2. Changes in employment by activity status (UPSS) for youths pre- and post- COVID-19 pandemic, 2019-22 (millions)**

	Employment (Millions)				Change in employment (millions)		
	2019	2020	2021	2022	2019-20	2020-21	2021-22
Regular	36.0	37.6	35.2	37.9	1.6	-2.4	2.7
Casual	29.9	31.4	34.1	33.1	1.5	2.7	-1.0
Self-employed	48.1	55.5	64.6	64.5	7.4	9.1	-0.1
Own-account work	22.7	23.7	26.0	24.9	1.0	2.3	-1.1
Employer	0.8	0.7	0.7	1.0	-0.1	0.0	0.3
Household unpaid worker	24.6	31.1	37.8	38.5	6.5	6.8	0.7
Total employment	114.0	124.5	133.9	135.4	10.5	9.5	1.5

Note: Own account workers, employer and household unpaid workers are the subgroups of self-employed category.

Source: Computed from Periodic Labour Force Survey data for 2019 and 2021.

4.6.3 Pandemic impact on sectors of employment

The participation of young people in employment expanded in the subsistence agriculture and low-productivity and low-wage construction sectors during the pandemic and remained more or less stable in the industrial and services sectors. The annual Periodic Labour Force Survey data revealed that approximately 79 per cent of additional young people joined the agriculture sector between 2019 and 2021 (table 4.3). In the agriculture sector, youth employment increased by 7 percentage points, while youths' participation declined in the industrial (by 2 percentage points) and in the services sector (by 5 percentage points). This sectoral trend suggests an increase in less remunerative employment during the COVID-19 period, which tended to be largely informal, unpaid or low-paid work, especially in farming (for women) and in the construction sector. Similar increasing numbers of young people working in agriculture from rural and impoverished households, especially in unpaid household work, were also reported by the Young Lives study in 2021.²⁹

²⁹ See www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/presentation/wcms_835436.pdf.

Table 4.3. Changes in sectoral youth employment (UPSS), pre- and post-COVID-19 pandemic 2019–22 (millions)

Sector	2019	2020	2021	2022	2019-2020	2020-2021	2021-2022
Agriculture, forestry and fishing	37.6	45.2	53.4	52.2	7.6	8.2	-1.2
Mining and quarrying	0.5	0.3	0.3	0.5	-0.2	0.0	0.2
Manufacturing	17.8	17.9	17.7	19.4	0.1	-0.2	1.7
Electricity, gas, water supply and other utility services	0.7	0.8	0.9	0.7	0.1	0.1	-0.2
Construction	16.8	18.3	20.2	20.5	1.5	1.9	0.3
Trade	13.9	15.4	15.7	15.0	1.5	0.3	-0.7
Hotels and restaurants	2.6	2.7	2.4	2.7	0.1	-0.3	0.3
Transport and storage	6	6.4	5.8	5.6	0.4	-0.6	-0.2
Postal and courier activities	0.2	0.2	0.3	0.3	0	0.1	0.0
Information and communications services	2.3	2.1	2.5	3.4	-0.2	0.4	0.9
Financial services	1.7	1.8	1.7	1.9	0.1	-0.1	0.2
Business services	1.2	1.2	2.6	1.0	0	1.4	-1.6
Public administration and defence	1.4	1.7	1.5	1.5	0.3	-0.2	0.0
Education and health	5.4	5.1	5.1	4.9	-0.3	0.0	-0.2
Other services	5.9	5.1	4.0	6.0	-0.8	-1.1	2.0
Total	114.0	124.5	133.9	135.4	10.5	9.4	1.5

Source: Computed from Periodic Labour Force Survey data for 2019 and 2021.

► 4.7 Impact of technological changes and digitalization

The fast-paced and ever-evolving demand for skills resulting from rapid technological advancement and digitalization and the gig and platform economy are critical emerging issues affecting overall employment, including for youths, as discussed in Chapter 2. This section zooms in on the emerging impact of technological advancement and digitalization of work on youth employment in India.

4.7.1 Technological changes and youth employment

As discussed in Chapter 2, there is a gradual adoption of new technologies, such as Industry 4.0 technologies, across the medium-sized and large industries in India. These new technologies are likely to displace routine, low- and medium-skill jobs while increasing the demand for high-skill jobs (FICCI, NASSCOM and EY 2017). In this process, the adoption of these technologies will also generate a substantial number of new jobs for skilled young people in the future (Ghose and Mehta 2023; Kapoor 2022; Mehta and Awasthi 2019). For this analysis, labour tasks were classified into routine and non-routine, cognitive and manual tasks and skilled and unskilled categories based on the NCO codes, which were further divided into four skill types: no skill, low skill, medium skill and high skill (discussed in

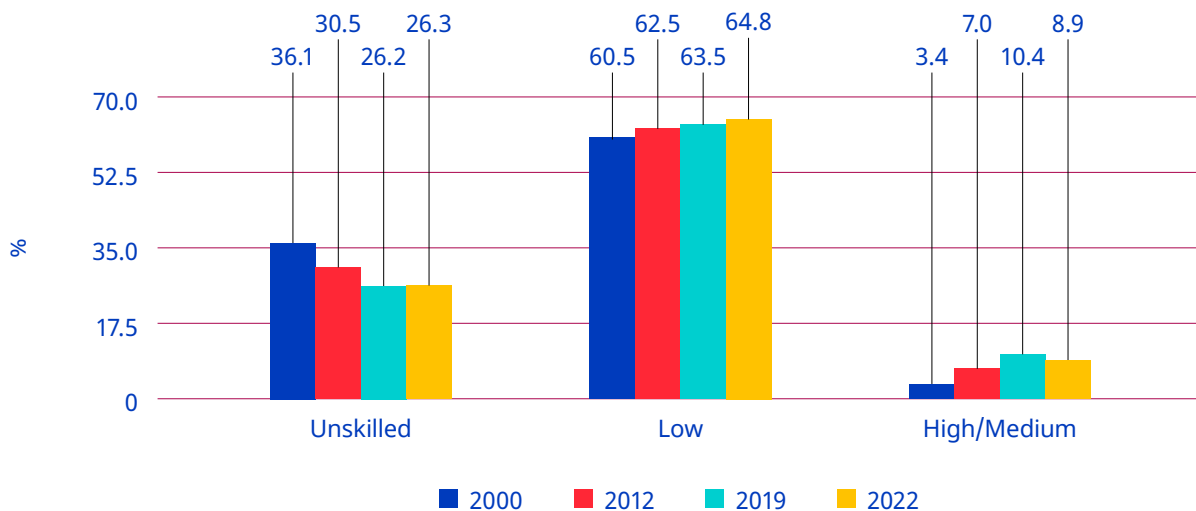
Chapter 2 and box 5 on definitions). The NCO-1968 was converted to the NCO-2004 for 2000 and the NCO-2012 for 2022.

Low-skill and no-skill jobs dominated with a marginally larger proportion among adults than youths. Conversely, the proportion of high- and medium-skill jobs among youths was marginally larger than what it was for adults. In 2022, 89.4 per cent of adults were in low-skill or no-skill jobs, compared to 88.9 per cent of youths, while 11.1 per cent of youths were in high- or medium-skill jobs, compared with 10.6 per cent of adults.

Between 2000 and 2019 (before the pandemic), youths in high-, medium- and low-skill jobs increased at a consistent rate, while their involvement in no-skill jobs declined. But this trend reversed between 2019 and 2022 for high-skill jobs, with a consistent increase in the low-skill job category.

Empirical evidence shows that young people often struggle in their initial attempts to find employment and may end up in positions that are not aligned with their educational or skill background, particularly during an economic slowdown or crisis period (Verick 2023; Kahn 2010; see also chapter 5). The proportion of youths in high- and medium-skill jobs in 2022 had increased by approximately 7 percentage points, rising from 3.4 per cent in 2000 to 10.4 per cent in 2019, although it decreased to 8.9 per cent in 2022 (figure 4.13). In contrast, the proportion of youths in no-skill jobs consistently declined by 10 percentage points, falling from 36.1 per cent in 2000 to approximately 26 per cent in 2022. But it increased in low-skill jobs by 4.3 percentage points, rising from 60.5 per cent to 64.8 per cent during the same period. This consistent increase in low-skill jobs may indicate economic compulsion and a lack of sufficient high-skill, high-paying job opportunities, which leads young people to increasingly participate in low-paying, low-skill positions. These findings align with the discussion in the previous sections, where it was highlighted that the real earnings of youths either remained stable or declined over time.

► **Figure 4.13. Distribution of jobs by level of skill (UPSS) among youths, 2000, 2012, 2019 and 2022 (%)**



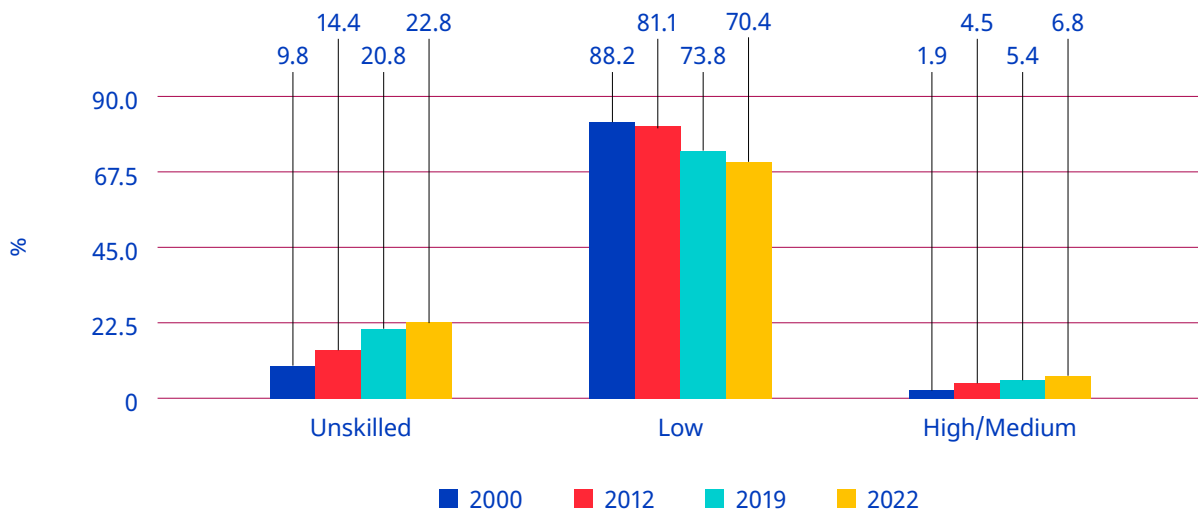
Note: The high and medium categories are combined due to the small proportion in the medium category.

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

The likely demand for medium- or high-skill jobs in the agriculture and construction sectors was expected to be very small., considering that most workers were engaged in no-skill and low-skill jobs in 2022. The manufacturing and some services sectors were seen as high skill-demanding.

In 2022, almost all of the youth workers in agriculture (99.9 per cent) and construction (97.9 per cent) were in no-skill or low-skill jobs. In the manufacturing sector, the proportion of young people in medium- and high-skill jobs also remained low, although much higher than in agriculture and construction. Approximately 6.8 per cent of young workers were involved in medium- and high-skill jobs in manufacturing, compared with 2.1 per cent in construction and a mere 0.1 per cent in agriculture in 2022. And 70.4 per cent were in low-skill jobs while 22.8 per cent were in jobs requiring no skill (figure 4.14). Over the years between 2000 and 2019, the proportion of youths in medium to high-skill and no-skill jobs in manufacturing consistently increased, by 4.9 percentage points and 13 percentage points, respectively, but decreased in low-skill jobs by 17.8 percentage points. The consistent increase in the share of medium- and high-skill jobs, albeit at a slow pace, and the no-skill jobs in manufacturing explains the growing demand for both low-end and high-end skills, also referred to as job polarization for youths in manufacturing.

► **Figure 4.14. Distribution of jobs by level of skill (UPSS) in the manufacturing sector, 2000, 2012, 2019 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

In the services sector, a substantial portion of young individuals worked in high- and medium-skill jobs, particularly in transport, storage and communications; financial, business and real estate; and public administration, health and education. Their numbers were growing, especially in the modern transport, storage and communication services and in financial, business and real estate services, which demand highly skilled individuals. This trend was evident in various sectors, including also public administration, health and education (table 4.4). In 2022, nearly half of the workers in public administration, health, and education (47.9 per cent) were engaged in high- and medium-skill jobs, followed by the financial, business and real estate sector (42.6 per cent) and almost one third (31.7 per cent) in transport, storage and communications. However, only 2.9 per cent of youths in trade, hotels and restaurants held high- and medium-skill jobs. Between 2000 and 2022, the proportion of youths in high- and medium-skill jobs consistently increased in transport, storage and communications and financial, business and real estate and public administration, health and education. Notably, modern services, such as information and communication services, software and financial activities (included in transport, storage and communications and financial, business and real estate) experienced substantial growth in India during this period, resulting in increased demand for highly skilled human resources.

► **Table 4.4. Distribution of jobs, by level of skill (UPSS) in the services sector for youth, 2000, 2012, 2019 and 2022 (%)**

	Trade, hotels and restaurants				Transport, storage and communications			
	2000	2012	2019	2022	2000	2012	2019	2022
No skill	10.3	12.9	9.4	9.9	43.1	17.6	9.8	6.9
Low skill	88.0	81.7	83.8	87.2	55.3	66.3	67.7	61.4
High and medium skill	1.7	5.5	6.8	2.9	1.5	16.1	22.5	31.7
Medium skill	1.4	1.4	2.4	1.3	1.2	4.5	8.8	4.9
High skill	0.3	4.0	4.4	1.6	0.3	11.7	13.7	26.8
Total	100	100	100	100	100	100	100	100
	Financial, business and real estate				Public administration, health and education			
	2000	2012	2019	2022	2000	2012	2019	2022
No skill	11.4	13.3	7.5	7.5	30.4	17.2	9.8	10.5
Low skill	54.8	46.7	51.5	49.9	27.7	34.3	38.1	41.6
High and medium skill	33.8	40.1	40.9	42.6	41.9	48.6	52.1	47.9
Medium skill	20.1	25.3	27.5	19.7	24.6	24.0	26.6	10.4
High skill	13.7	14.8	13.4	22.9	17.3	24.6	25.5	37.4
Total	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

These trends indicate an increasing demand for high-skilled youths in modern services, such as communications, software and financial services. However, the availability of cheap labour in bulk and the higher cost of automation, especially for the majority of micro and small informal enterprises, is preventing or delaying technological change or the use of automotive machines in India (Kapoor 2020; Mehta and Awasthi 2019). And the overall growth of medium- and high-skill jobs over time has been much slower than the growth rate of highly educated or skilled youths. This link is discussed in greater detail in Chapter 5.

4.7.2 Platform and gig work and youth employment

The rise of platform and gig work as a form of digitalization is creating new employment opportunities for a large number of skilled and unskilled unemployed youths and women in many developing countries, including India. The platform economy has had a significant impact on Indian youths by creating more job opportunities. According to an ILO study (2021b), the majority of platform workers in developing countries, including India, were younger than 35 in 2021. In these countries, a considerable number of young individuals are motivated to engage in online platform work due to their preference for flexible work arrangements, autonomy or the necessity of working from home. This particularly benefits individuals with limited qualifications and experience as well as those who are starting their career. This inclination was particularly notable among women, with 40 per cent of them in 2021 opting for platform work, compared with 31 per cent of men. Moreover, around 21 per cent of women with children younger than 6 years (in the 2021 ILO study) encountered challenges related to expensive childcare and limited access to care facilities, which often restricts their ability to pursue conventional employment opportunities in the labour market (Rani and Gobel 2022; ILO 2021b).

In this context, platform work provides women with the opportunity to earn income while simultaneously fulfilling their caregiving responsibilities, effectively addressing their need for paid work (Rani, Berg and Furrer 2018). Some available estimates in India put the number of gig workers in the country in a range of 7.7 million to 18 million, and these numbers are expected to increase multiple times in the near future (NITI Aayog 2022). Otherwise, there isn't much information on the age-group profile (as discussed in Chapter 2). Several studies highlighted the job creation potential of this sector for youths and women, given the rising urbanization, widespread access to the internet and the availability of smartphones in India (Nathan, Kelkar and Mehta 2023; NITI Aayog 2022; ILO 2021b).

Autonomy and flexibility in the platform and gig economy is non-existent due to algorithmic management and control. Many recent studies showed that workers in the platform economy lack autonomy and flexibility (see, for example, Rani and Furrer 2019 and Wood et al. 2019). The subjective and unfair nature of ratings used through the algorithmic management in these platforms also creates difficulties. Workers face penalties and a decline in incentives based on ratings given by customers, which limits their freedom and flexibility. The lack of transparency in the nature of artificial intelligence-powered algorithmic decision-making processes poses a serious challenge in protecting working conditions and the rights of the workers.

The non-transparent algorithmic control system in the platform and gig economy leads to high work intensity, which determines workers' performance, income and incentives. The absence of regulations on working hours and conditions forces many platform workers to work longer hours under precarious circumstances. The long working hours have negative implications for workers' health and work-life balance. At the entry point, the platform provides several incentives to both customers and workers. However, once the market stabilizes, the focus shifts more towards profit margins, resulting in reduced incentives. As a result, the burden is felt partly by consumers but mostly by the services providers. In this case, consumers have other options, but the providers suffer because their income drastically decreases. In recent years, the income of most service providers in the platform economy has reduced multiple times, and they not only have had to work additional hours but ultimately went on strike. The ILO study (2021b) found a high intensity of work in 2021, especially among workers in ride hailing and delivery service: They worked an average of 65 hours per week, with the duration going as high as 82 hours a week in countries like India. Delivery workers for an e-commerce company in India called Blinkit went on strike due to the reduced payment of wages and poor working conditions.³⁰

Multiple estimates are available on the population of gig workers in India. But most of the data consist of rough estimates only and lack a systematic robust estimation on the size of gig and platform workers. This lack of a comprehensive database on the number of workers in the platform economy and their primary income source poses a huge challenge for policymakers (Nathan et al. 2023; NITI Aayog 2022; BCG 2021). Additionally, there is a lack of national statistics based on the annual Periodic Labour Force Survey or a database that provides reliable estimates of the number of workers in the platform economy, the rate at which it is growing and whether it serves as the workers' primary source of income. Addressing these questions should be a priority for future research and data collection efforts.

The distinction between employees and the self-employed has become blurred in the platform and gig economy, with the algorithmic management practices redefining the hiring, monitoring, evaluation and payment processes. These control mechanisms resemble employee relationships, sparking debates about worker classification. Platform work is often considered non-standard work and an extension of informal employment, raising pressing issues regarding social protection for platform workers. Efforts are ongoing to create a level playing field and establish a dedicated fund to address this issue. Challenges also persist in differentiating between international and national platforms, managing multiple employers and determining the principles and operations of the dedicated fund (BCG 2021; ASSOCHAM 2020; Mehta 2020). The Indian Government has taken steps to classify gig workers as unorganized workers, making them eligible for social security benefits, health insurance and old-age

30 See www.financialexpress.com/industry/explainer-the-blinkit-gig-workers-strike/3053085/.

benefits. There is a need to contextualize the legal confusion surrounding the employment status of platform workers, allowing them to avail the benefits of all relevant national labour laws. Currently, only the Social Security Code of 2020 is applicable to gig or platform workers in India. It is essential to implement these measures quickly and effectively. The recent initiative by the government of Rajasthan (box 10) is a welcome step.³¹

► **Box 10. Welfare fund for gig workers**

The government of Rajasthan State adopted the Gig Workers Welfare Act and allocated 20 million rupees in funds for a gig workers' Welfare and Development Board in 2023. The Board ensures that a levy is

collected from the companies that employ gig workers. The levy is an additional charge on each trip or delivery that is set aside for gig workers. This money is to be used to provide a provident fund, pension, health and accident insurance benefits for gig workers and their families.

► 4.8 Regional analysis: Youth population and employment situation

This section highlights the regional differences in the youth population and the employment and unemployment situation in India.

4.8.1 Regional demographic changes

There is significant regional disparity in the youth employment and unemployment trends as well as the success in creating decent jobs and optimal realization of the demographic dividend. Although India is a young country, the status and pace of population ageing varies across regions and states, reflecting differences in age structure and in the level of employment and economic development.

Uttar Pradesh and Bihar have the largest share of youths in the population, both of which are expected to increase by 2036. These two states, along with Maharashtra, Madhya Pradesh and Rajasthan, are expected to have the bulk of India's youth population, which will increase from 49.2 per cent in 2021 to around 51.5 per cent in 2036 (table 4.5 and appendix table A4.12). However, the shares of the youth population in the total population in these states have started to decline and are expected to decline further by 2036, indicating the likely closing of the "youth bulge" advantage in the coming decades.

The major states from the **eastern, central and northern regions of India** – Bihar, Jharkhand, Chhattisgarh, Rajasthan, Madhya Pradesh and Uttar Pradesh – have substantial **numbers of youths and working-age population**. In contrast, the youth population in most **southern states**, such as Tamil Nadu, Kerala, Andhra Pradesh and Karnataka, is **small and expected to decline further** (table 4.5 and appendix table A4.12). The older-age population is expected to increase in these southern states, resulting in a demand for a youth workforce that will not be available in sufficient numbers in the future (IHD and UNDP 2021; Srivastava et al. 2020).

³¹ See Sonal Matharu, "India's Gig Workers Score a Big Win Rajasthan First to Budget Rs 200 CR for Protection", ThePrint, 10 February 2023.

► **Table 4.5. Projected youth population (aged 15–29) and their share in total population, by state, 2021, 2031 and 2036 (%)**

State	% in total state population			% in total India's population		
	2021	2031	2036	2021	2031	2036
Uttar Pradesh	29.9	26.3	25.1	18.6	18.5	18.8
Bihar	28.8	27.7	25.5	9.5	10.9	11.0
Maharashtra	26.1	22.5	21.0	8.7	8.4	8.3
Madhya Pradesh	27.7	25.3	24.7	6.3	6.7	7.0
Rajasthan	28.7	25.8	24.6	6.1	6.3	6.4
West Bengal	26.2	21.6	19.6	6.9	6.2	5.8
Gujarat	26.4	23.4	22.6	5.0	5.1	5.3
Karnataka	25.3	22.2	20.8	4.6	4.4	4.3
Tamil Nadu	23.2	20.4	19.1	4.8	4.5	4.3
Jharkhand	29.1	26.5	24.5	3.0	3.2	3.2
Andhra Pradesh	25.1	21.0	19.6	3.6	3.2	3.1
Odisha	26.1	22.8	21.2	3.2	3.1	3.0
Assam	27.8	24.8	22.9	2.6	2.7	2.6
Chhattisgarh	27.7	25.2	24.2	2.2	2.3	2.4
Haryana	27.8	24.4	23.4	2.2	2.3	2.3
Telangana	26.4	21.7	20.2	2.7	2.4	2.3
Kerala	22.1	20.0	19.2	2.1	2.1	2.0
Punjab	26.2	21.5	19.9	2.1	1.9	1.9
Delhi	28.2	24.3	22.8	1.6	1.7	1.8
Jammu & Kashmir	29.3	25.4	21.0	1.1	1.0	0.9
Uttarakhand	29.2	23.9	21.9	0.9	0.8	0.8
Himachal Pradesh	25.1	21.4	19.5	0.5	0.5	0.4

Source: MHFW 2020.

4.8.2 Regional employment situation

To understand the regional differences in youth employment and unemployment situations in India, a composite index was created for this reports analysis using four broad parameters that link to labour market access. These parameters were carefully assessed and drawn from available literature (IHD and UNDP 2021; PWC and YFF 2022; Rajiv Gandhi National Institute of Youth Development 2015). The parameters are: (a) a measure of labour market access: unemployment among educated youths (secondary level and higher); (b) a measure of work quality: regular formal employment; (c) a measure of inactivity: youths not in employment, education or training; and (d) a measure of skill acquisition: educated youths (secondary level and higher).

Based on the composite score, the states were divided into two groups: Group I – states with a composite score lower than the all-India average; and Group II – states with a composite score higher than the all-India average. The composition and characteristics of these states and regions are discussed in detail.

Group I consists of Bihar, Jharkhand, Uttar Pradesh, Rajasthan, Madhya Pradesh, Assam, Odisha and West Bengal. As noted previously, these states are characterized by a youth bulge (table 4.5). They are also relatively underdeveloped: with low per capita income; a small share of highly educated youths; a significant prevalence of unemployment among the highly educated population; a small share of regular employment; a large proportion of the population not in employment, education or training; and a degree of informal employment higher than the all-India average, with an exception of Punjab in this group (table 4.6). The situation is compounded by the relatively low rates of economic development in these states, which makes it difficult to create enough local jobs for their youths, leading to high outmigration of the workforce. The states with little employment opportunities will see a relatively higher addition to their youth labour force in the future, leading to the challenge of generating new jobs.

► **Table 4.6. Regional differences in youth employment, 2022 (%)**

State	Highly educated	Educated employed*	Regular formal	Not in NEET**	Composite score
Delhi	68.3	90.0	34.5	75.6	67.1
Himachal Pradesh	81.3	84.7	10.2	85.3	65.4
Tamil Nadu	80.8	76.1	29.6	70.5	64.2
Maharashtra	70.2	86.1	19.6	75.0	62.7
Kerala	88.1	66.8	22.9	72.9	62.7
Telangana	77.7	82.2	14.4	73.8	62.0
Karnataka	70.7	85.3	21.6	70.3	62.0
Andhra Pradesh	74.2	78.0	12.4	72.9	59.4
Uttarakhand	68.2	72.3	17.5	73.2	57.8
Chhattisgarh	56.4	88.0	3.9	79.8	57.0
Gujarat	51.2	90.6	11.5	73.0	56.6
Haryana	65.9	73.9	18.1	67.3	56.3
Jammu & Kashmir	58.7	79.0	6.3	80.8	56.2
India	58.2	81.6	10.0	71.5	55.3
Jharkhand	45.6	92.8	4.1	77.9	55.1
Punjab	64.6	74.2	5.6	69.6	53.5
Uttar Pradesh	52.8	87.2	2.9	69.9	53.2
Rajasthan	54.9	76.2	4.6	75.1	52.7
West Bengal	49.3	84.4	6.8	68.9	52.3
Madhya Pradesh	43.0	88.4	3.3	73.8	52.1
Assam	35.4	78.8	9.2	69.3	48.2
Odisha	51.8	67.0	7.2	63.6	47.4
Bihar	50.4	71.2	2.1	65.2	47.2

Note: *=The average composite score of the indicators was calculated after making all the indicators positive or unidirectional, such as educated youth unemployment rate and the youth rate for not in employment, education or training reversed because educated employed youth and youths not in employment, education or training (**NEET).

Source: Periodic Labour Force Survey data for 2022.

Group II comprises most of the southern states: Tamil Nadu, Kerala, Andhra Pradesh, Karnataka and Gujarat, along with Himachal Pradesh, Maharashtra, Delhi, Haryana, Jammu and Kashmir, Uttarakhand and Telangana. These states experienced a decline in the proportion of their child and young populations and a rise in the proportion of the older persons (see appendix table A4.6). They achieved a relatively high level of economic development, as reflected in their high per capita incomes (IHD and UNDP 2021). In most of the states, the share of youths with regular or formal employment and highly educated youths was larger than the all-India average (table 4.5). However, the educated unemployment rate was highest among youths in some states, such as Kerala, Himachal Pradesh, Telangana and Tamil Nadu, where the share of the relatively more educated was also larger.

This suggests that most of the states in Group II have a highly educated young population and can provide local employment opportunities. But these states are likely to face a shortage of less-skilled or unskilled workers in the future as dependency on these categories of workers increases. The majority of states in Group I have less-educated youths and are not able to generate enough employment opportunities for the increasing youth population. The states in Group I require urgent attention to create new job opportunities while states in Group II have been successful in generating new jobs but struggle to provide decent employment opportunities for their highly educated population.

► 4.9 Summing up

More young people are pursuing higher education, which has led to a smaller proportion of youths in the labour force compared to their share in the total population. But this is not the sole reason for the decline in the labour force prior to the COVID-19 crisis. Younger youths (aged 15–19 years) are predominantly engaged in education while older youths (aged 20–29 years) are relatively more engaged in economic activities. It is important to develop targeted policies that cater to the needs of each youth cohort.

Although youths are more likely to be employed in industry or services and more likely to be in regular wage employment and in high-skill jobs, the quality and condition of employment among them are poorer when compared to adults. They are more likely to be engaged in self-employed unpaid family work and casual wage work. They are more likely to be involved in informal work in the unorganized sector, which typically offers lower wages or earnings. The increasing prevalence of informality and temporary jobs in regular salaried employment raises serious concerns about the country's trajectory of youth employment.

The lack of quality employment opportunities is reflected in the high level of joblessness among young people, especially among those who have achieved higher education. Many highly educated young people are unwilling to take on low-paying, insecure jobs that are currently available and would rather wait in the hopes of securing better employment in the future. It is crucial to focus on generating suitable quality employment opportunities for the expanding population of educated youths.

India is facing the challenge of a substantial gender gap in the labour market, with low rates of female labour force participation, although this gap is closing in certain segments of the labour market. The unemployment challenge among young women, especially those who are highly educated, is enormous. It is ironic that although India has one of the lowest LFPRs in the world, the unemployment rate among educated young women entering the labour force is extremely high. However, the interpretation of this high rate should be done with caution because the size of the young female labour force in the country is very small.

Before the pandemic, young people were increasingly joining the non-farm sectors in greater numbers than adults, such as construction, manufacturing, transport, storage, communications, public administration, health and education activities. This shift away from agriculture is largely due

to farming activities not offering remunerative jobs for young entrants to the labour market who have better education than their predecessors. This young and increasingly educated labour force seeks more remunerative or productive jobs outside of agriculture. The Indian economy has so far failed to create enough remunerative or productive jobs in the non-farm sector for these educated youths.

Technological changes are making labour markets increasingly complex. New employment patterns, labour market issues and job opportunities are constantly evolving. The demand for highly skilled youths has been increasing, particularly in modern services, such as communications, software, consultancy, financial and business, administration, health and education services. These sectors have great potential for generating new productive employment opportunities for young people and need further encouragement through tax benefits and other incentives.

The demand for low-skilled youths is increasing in various low-wage services sectors, including trade (including retail), hotels, restaurants, transportation services and gig and platform work. Additionally, there is growing demand for young workers in micro and small manufacturing enterprises. Particularly after the COVID-19 pandemic, the demand for youths in these job categories has risen rapidly. One significant change brought about by digital platforms is the blurring of the traditional distinction between employees and self-employed individuals. This transformation has created new challenges regarding the well-being and working conditions of workers. The employment opportunities in the gig and platform economy primarily offer low-paying and non-standard work, which can be seen as an extension of informal work. This type of work often fails to meet the high aspirations of educated youths. The Government has started to address some of these concerns by including gig and platform workers in the Social Security Code of 2020, although they are not mentioned in the other three important labour codes. It is necessary to classify the employment status of gig and platform workers in accordance with the national labour laws to ensure their rights and protection.

Digital platforms are also revolutionizing the world of work through the implementation of algorithmic management practices. These practices are transforming the hiring, monitoring, evaluation and compensation processes for workers. Performance assessments are now conducted through ratings, which serves as a new method of exerting control over workers. If their ratings are low, workers are automatically removed from the platform without any explanation. Algorithms are not neutral; they follow specific objectives and instructions. If biased inputs are introduced into the system, it can result in discriminatory practices. It is crucial to ensure transparency and accountability in the management of algorithms for gig and platform workers. Achieving this will require collaboration between the Government, platform operators and stakeholders to safeguard the well-being and rights of workers in the digital economy.

India faces significant challenge of a high rate of youths not in employment, education or training, which is much greater among young women than young men. The majority of those women are also out of the labour force, while the young men who are not in employment, education or training are unemployed. These two heterogenous groups require different targeted strategies to address the challenge of not in employment, education or training.

The COVID-19 pandemic brought about a reversing of the youth labour market trends, with a rise in the LFPR and the worker population ratio and a fall in the unemployment and underemployment rates between 2019 and 2022. However, this addition in employment is largely of poor-quality unpaid household work in self-employment, informal low-paying or low-earning in regular salaried work and casual wage work, which is much more pronounced among women in rural areas and in subsistence agriculture. Many young people who engaged in regular salaried work in the pre-pandemic years are now employed in more precarious employment arrangements. This indicates a partial recovery of the job market in India, in contrast to more advanced economies, where massive economic stimulus packages and specific targeted measures were introduced to sustain business and retain jobs for the workers.

There is considerable regional disparity in the youth employment situation. Many large states in the eastern and central regions of India are characterized by a youth bulge, relative underdevelopment and

low per capita income. Additionally, these states have a small proportion of highly educated youths, a low incidence of formal regular employment and a large proportion of youth not in employment, education or training. This emphasizes the necessity of regional policies that reflect the regional differences in the employment situation for the youths and thus promote more balanced opportunities.



▶ 5

Education and links with employment

▶ 5.1 Introduction

The education and skill levels among young individuals prepare the way for their transition to the labour market. Education and skills are also essential for economic growth and structural transformation because workers who are more educated and skilled are more likely to make the transition from the relatively less-productive agriculture sector to the more-productive manufacturing and services sectors. The window of demographic advantage in India, discussed in Chapter 4, can only be fully utilized if India maximizes this young pool of human resources by providing good education, skills training and productive employment opportunities.

The importance of education in improving employability outcomes for young individuals has been highlighted in research studies (see for example, Bisht and Patnaik 2021). The studies emphasized that educational attainment among youths not only enhances knowledge acquisition but also nurtures essential skills, such as critical thinking and problem-solving abilities, which are highly sought after by employers. By acquiring the relevant knowledge and skills, young people become better equipped to meet the demands of the labour market, particularly when their knowledge and skill set aligns with the needs of employers. Several other scholars also argue that the acquisition of specific technical and vocational training is instrumental in securing decent employment (Endow and Mehta 2022; Datta, Endow and Mehta 2020; Srivastava and Jain 2017; Agrawal and Gaskov 2013). They suggest that young individuals who possess a relevant skill set and align their capabilities with the demands of the labour market are more likely to find suitable job opportunities. In this context, it is important to strike a balance between the supply side (education and vocational training) and the demand side (employability) of the labour market. This chapter thus explores the link between education and employability in the Indian labour market. The analysis carried out was attentive to the distinctions that exist between different segments of youths across gender, social groups, location and economic background.

This chapter is divided into eight sections: The second section delves into the supply-side factors pertaining to young individuals, namely general education, technical education and vocational training. The third section focuses on labour market outcomes of education through Mincerian function-type analysis and examines the returns to different levels of education. The fourth section focuses on demand-side factors and establishes connections between education and labour market characteristics, such as employment and unemployment rates among young individuals. It then examines interactions between social group and income class and levels of education and various other factors that determine the employability of youths in the labour market. The fifth section brings attention to the quality and conditions of work, such as status of employment, formal and informal employment and industrial distribution, and how they relate to the level of education. The sixth section summarizes the results of a survey of youths in low-income urban localities in two cities to analyse their pathways to employment. The seventh section asks whether the mismatch between education level and jobs for education youths has increased over time. And the eighth section summarizes the chapter's main points.

For the macroanalysis, the unit-level data from the past two decades of the Employment and Unemployment Surveys and the annual Periodic Labour Force Surveys (conducted by the National Statistical Office) were used. The data refer to 1999–2000 (2000), 2004–05 (2005), 2011–12 (2012), 2019–20 (2020) and 2021–22 (2022). Other relevant literature was reviewed to supplement the quantitative analysis.

► 5.2 Changing profile of education and skills among the youth

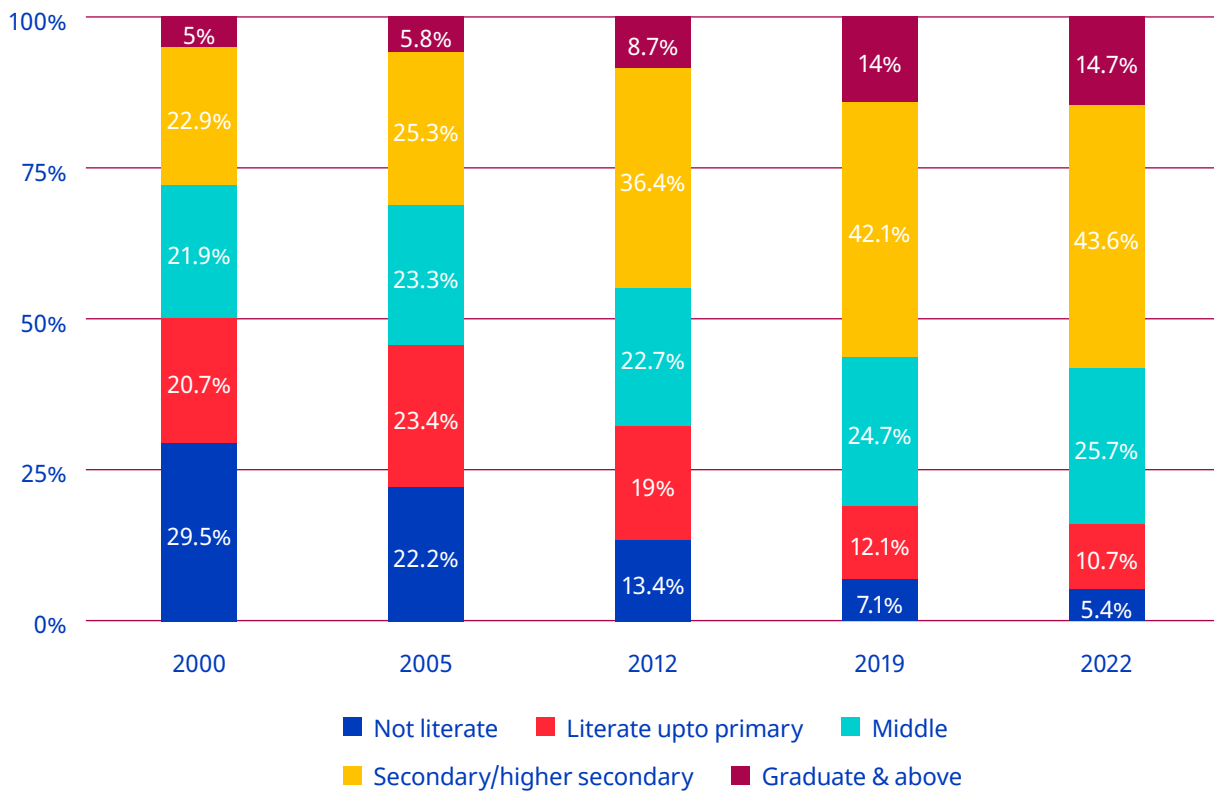
5.2.1 General education

Over the years, there has been a remarkable expansion in the proportion of young individuals with high educational attainment, particularly those who have completed secondary or higher levels of education. However, a substantial portion of the youth population – at four in every ten individuals – still possesses a low level of educational qualifications, including those who are illiterate or have received no formal education, even below the primary level. The proportion of young people with a secondary or higher levels of education more than doubled in the past two decades, from 27.9 per cent in 2000 to 58.3 per cent in 2022 (figure 5.1). The percentage of young individuals with a graduate-level of education or higher also experienced great growth, rising from 5 per cent to 14.7 per cent between

2000 and 2022. But the share of youths who are not literate plummeted, from 29.5 per cent in 2000 to 5.4 per cent in 2022, and those with only a primary level of education also declined, from 20.7 per cent to 10.7 per cent.

Although this progress is remarkable, at least in quantitative terms, still, 41.8 per cent of young individuals in 2022 had only completed elementary education or had no formal education at all. This highlights the persistent educational disparities within the youth population, indicating a need for targeted efforts to improve educational access and quality for those still lacking proper qualifications.

► **Figure 5.1. Changing education profile of youths (aged 15–29), 2000–2022**



Note: “Literate up to primary” includes literate due to attending non-formal education. “Secondary and higher secondary” and “Graduate or above” include general as well as technical and professional education.

Source: Computed from Employment and Unemployment Survey data for 2000, 2005 and 2012 and Periodic Labour Force Survey data for 2019 and 2022.

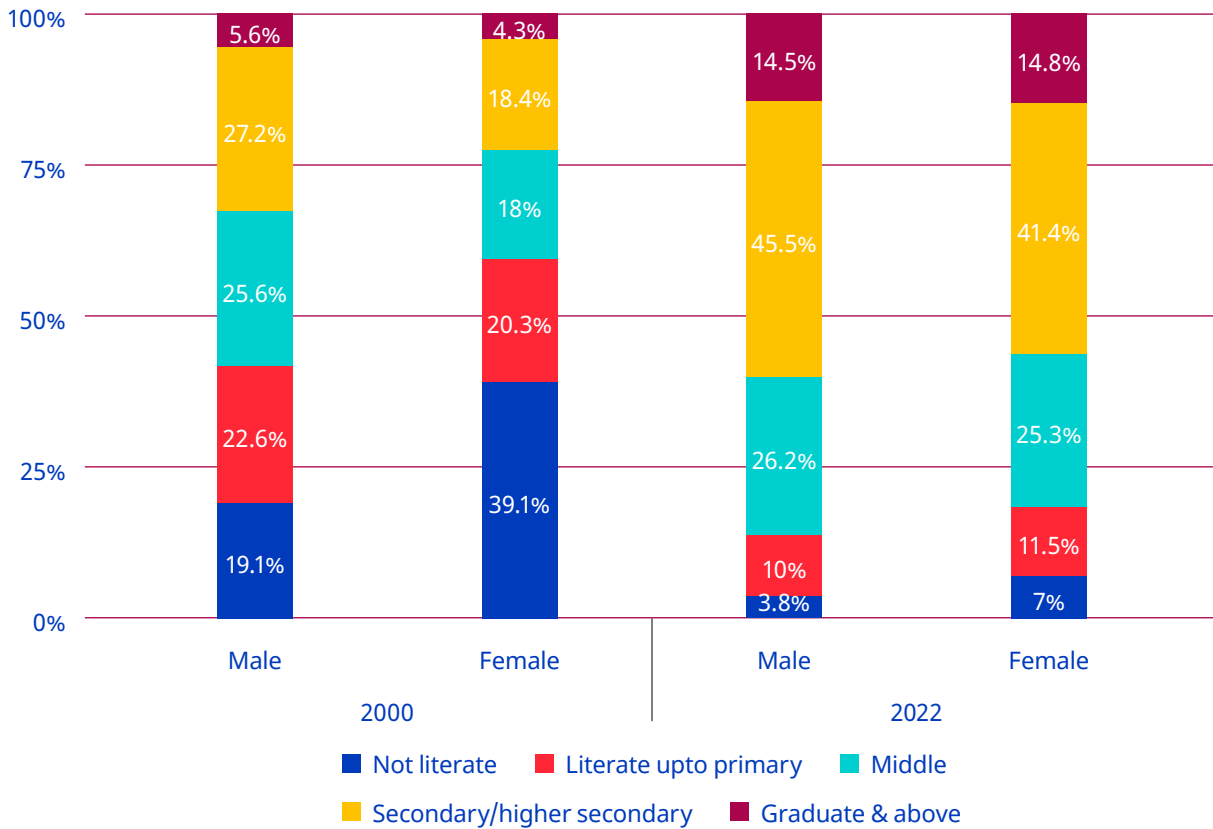
The rising overall levels of education, along with rising participation of youths in education, has had profound implications and interactions for the labour market. The trend of educational attainment is examined in the next section on the basis of age categories, gender, location, monthly per capita expenditure quintiles and social groups.

Education attainment by gender

Figure 5.2 shows how the education of men and women progressed over the past two decades. For various levels of education, the gender gap closed over time, although men continued to have a small advantage. But from 2019 onwards, it reversed for graduate and higher levels of education, with women gaining a small edge over men. In 2022, the percentage of women with graduate or higher qualifications exceeded that of men by 0.3 per cent. A larger proportion women made the transition from higher

secondary education to graduate and post-graduate education than men, who may be entering the labour force at earlier stages.

► **Figure 5.2. Share of youths (aged 15-29), by educational attainment and gender, 2000 and 2022 (% share of total)**

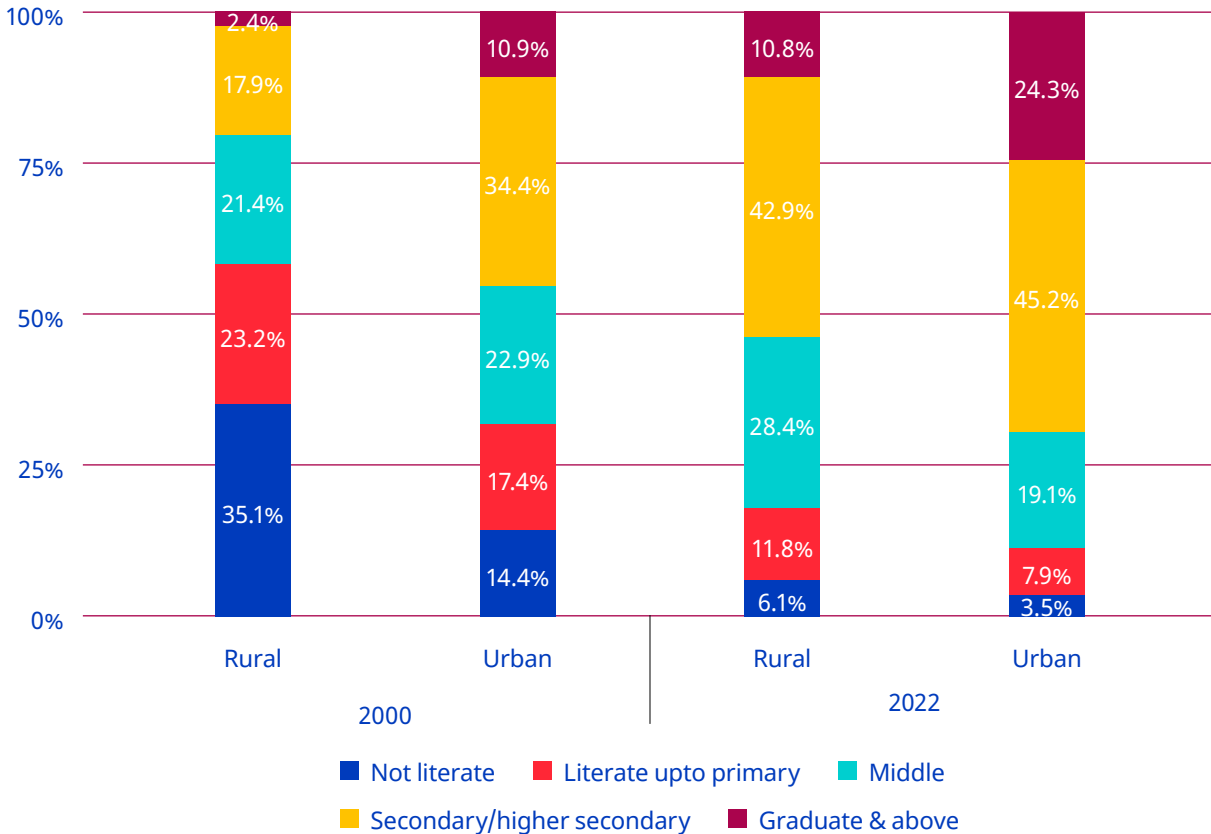


Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

Education attainment by rural or urban location

There remains a rural disadvantage in terms of educational attainment for the youths, but with the improvement in education at all levels in both rural and urban areas, the rural disadvantage has declined up to the secondary and higher-secondary levels of education (figure 5.3).

► **Figure 5.3. Share of youths (aged 15–29), by educational attainment and location, 2000 and 2022 (% share of total)**



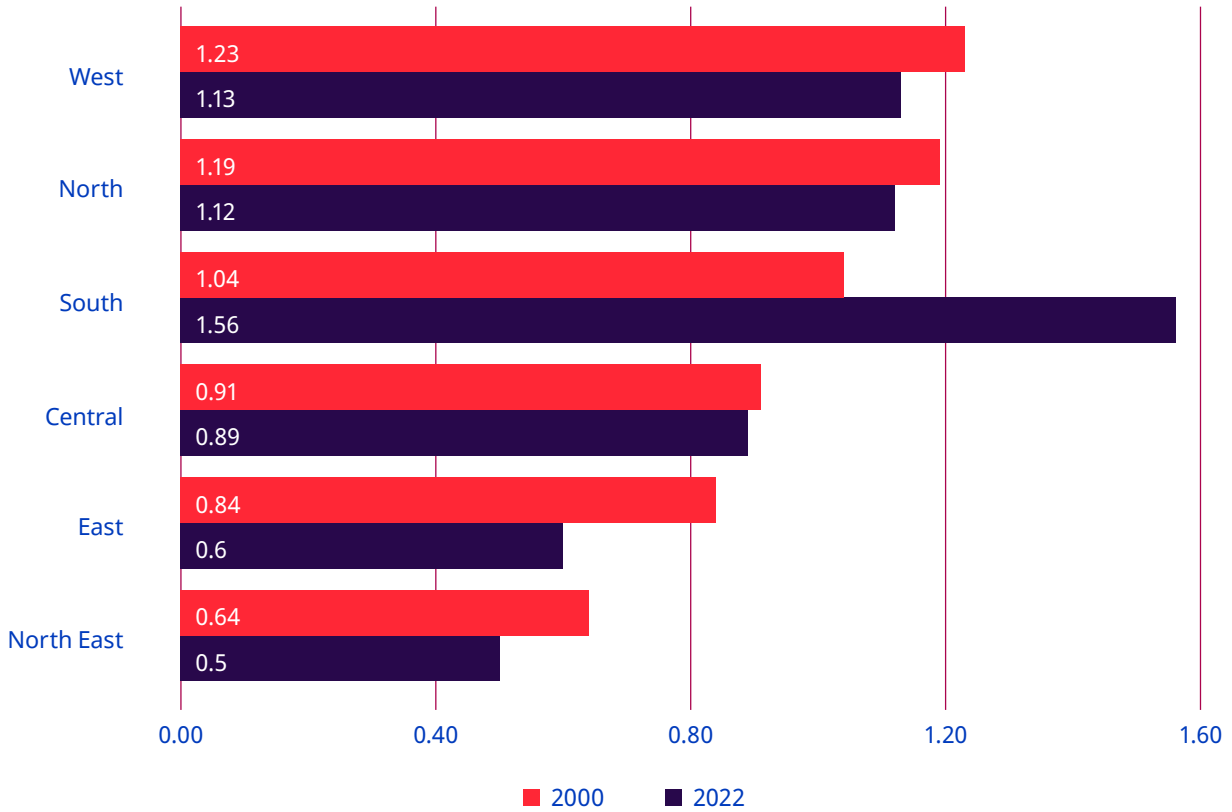
Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

The improvements and the narrowing of the gender gap occurred at the primary, middle and secondary and higher-secondary levels. But the gap widened with an urban advantage for graduate or higher levels of education (at 8.5 per cent in 2000 to 13.8 per cent in 2022).

Education attainment by region

The educational attainment analysis used six regions: Central, East, North, North-East, South and West. All regions have progressed in terms of education achievement among youths. But disparities exist and even grew for youths with a graduate or higher degree. Figure 5.4 presents the share of the graduate youth population as a share of the total youth population. Regions where this share is above 1 had a higher-than-average performance. In 2000, this held for the western, northern and southern regions. By 2022, each of these regions had edged further ahead of the national average, with the South moving far ahead of the other regions. The central, eastern and north-eastern regions slipped further, relative to the national level.

► **Figure 5.4. Share of youth with a graduate degree across regions as ratio to national average, 2000 and 2022**

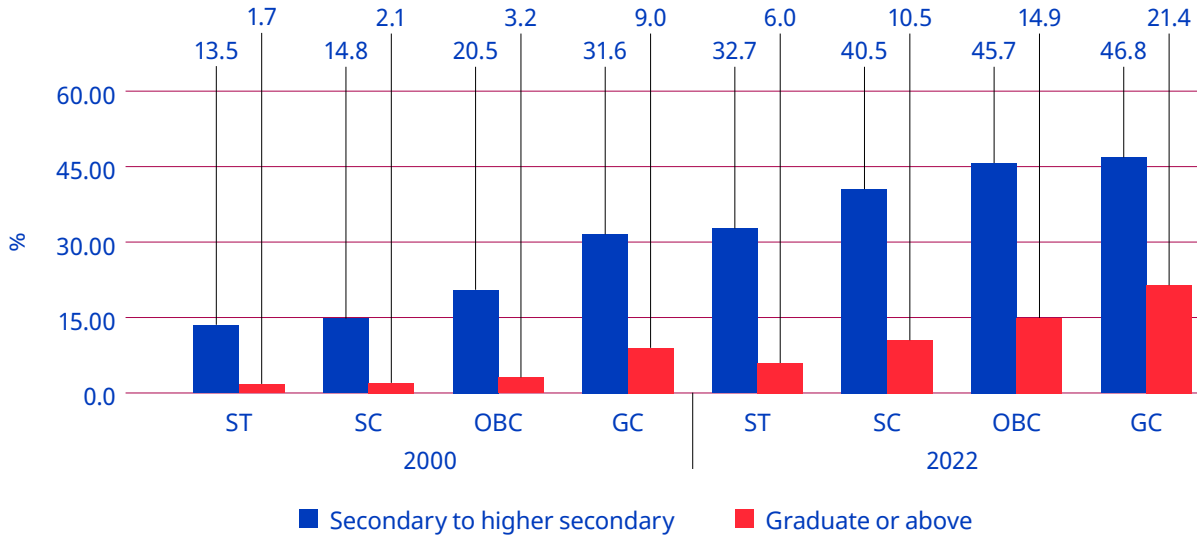


Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey for 2022.

Education attainment by social group

Despite improvement in educational attainment among all groups, the hierarchy within social groups persists. Although the Scheduled Tribes youth were the most advantaged, they were followed by the Scheduled Castes and Other Backward Classes, while the most advantaged in terms of educational attainment were General Category caste youths. As with the rural-urban differences, a closing of the gap occurred up to the secondary and higher-secondary levels, but the gap between General Category castes and other groups experienced a widening at the graduate or higher levels between 2000 and 2022 (figure 5.5).

► **Figure 5.5. Education attainment among youths (aged 15–29), by social group, 2000 and 2022**
(% share of total)

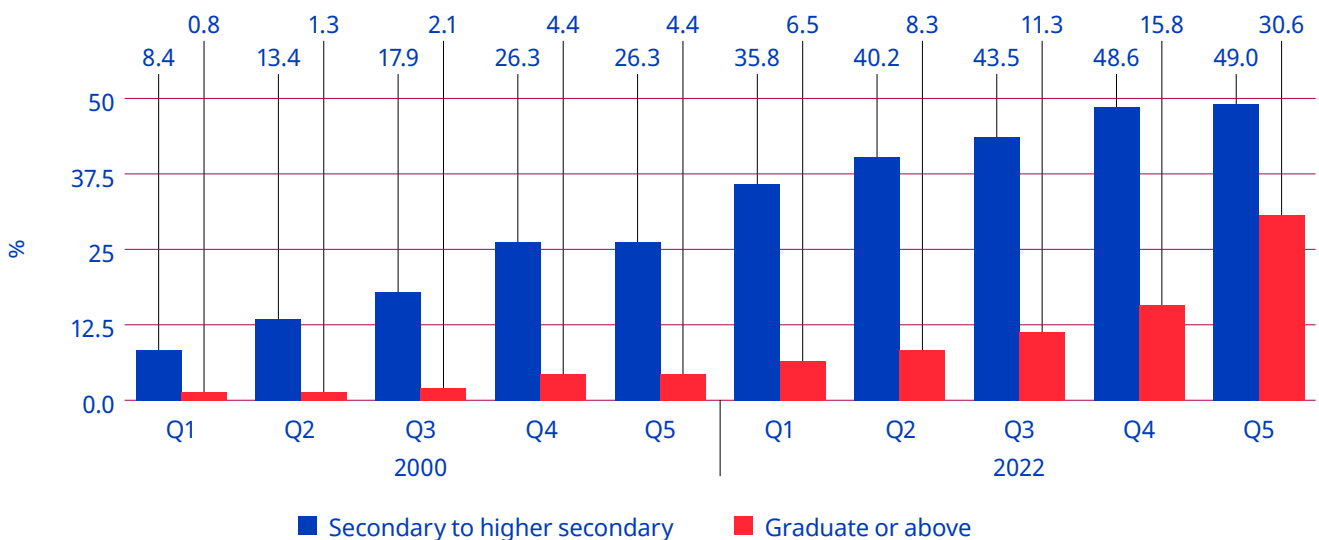


Note: ST: Scheduled Tribes; SC: Scheduled Castes; OBC: Other Backward Classes; GC: General Category castes.
Source: Computed from Employment and Unemployment Surveys 2000 and Periodic Labour Force Survey 2022.

Education attainment by expenditure quintile³²

Figure 5.6 shows educational attainment across the monthly per capita consumption expenditure quintiles at the secondary and higher levels in 2000 and 2022. A clear pattern is evident, with poorer households having much less educational attainment than the upper quintiles. Youths in the highest expenditure quintile (Q5) had much greater educational attainment than other youths. Again, while the gap was closing at all levels of education up to the secondary and higher-secondary levels, it widened among youths at the graduate or higher levels.

► **Figure 5.6. Education attainment among youths (aged 15–29), by quintile, 2000 and 2022,**
(% share of total)



Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

³² The expenditure quintiles derived from the data on per capita monthly household expenditure.

These results indicate that the general education level of youths improved steadily over the past two decades. Yet, even though education access expanded, the quality deficit in education continues to be a concern. As reflected in the high unemployment rates (ILO 2021a), the increasing educational attainment of youths is accompanied by problems related to employability of the educated youths (Bhandari 2021). School completion and the quality deficit of education have remained thorny issues, leading to a debate on whether there has been a quantity-quality trade-off (Kingdon 2015; UNICEF 2014) (box 11).

► **Box 11. Quality concerns for education in India**

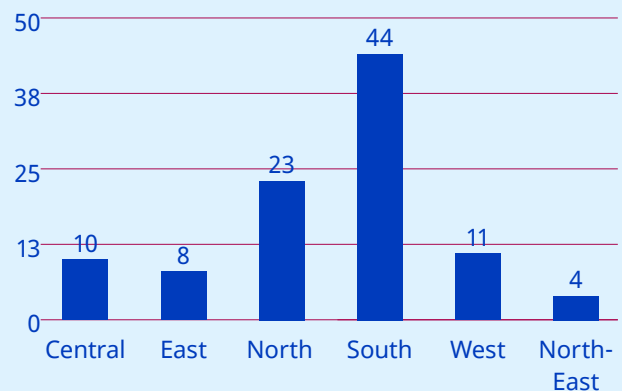
India’s school enrolment has expanded, but quality-of-education issues remain. The Annual Status of Education Reports, which are based on surveys in rural areas, have shown that children have learning achievement commensurate with the learning of a few grades below the class in which they are enrolled.

Learning achievement levels are not only low but have been declining over time. At the national level, the percentage of children in Standard III in government or private schools who can read at the Standard II level declined from 27.3 per cent in 2018 to 20.5 per cent in 2022. Nationally, the proportion of children enrolled in Standard V in government or private schools who can at least read a Standard II-level text declined from 50.5 per cent in 2018 to 42.8 per cent in 2022. At Standard VIII, too, there was a decline between 2018 and 2022 in the proportion of students who can read at least basic text. Children’s basic arithmetic levels, also declined from the 2018 levels for most grades.

The 2023 *Annual Status of Education Report: Beyond Basics* explores the activity of youths aged 14–18 and their ability to do basic and applied tasks. The survey found that about 25 per cent of this age group could not read a Standard II-level text fluently in their regional language, while only 43.3 per cent could do division (three-digit by one-digit) problems. The latter skill was expected in Standards III and IV. The report also showed that while 86.8 per cent of youths at this age were enrolled in an educational institution, only 5.6 per cent were taking vocational training or other related courses.

The quality of higher education is also a matter of concern. Indian universities rank poorly in international comparisons and need to raise the standards of provision and quality assurance. The top-ranked Indian university (IIT Bombay) falls below 150th in the world rankings. Within India, the ranking of the top ten universities by region following the National Institute Ranking Framework shows a dominance of the southern states. The same is reflected in the distribution of the top 100 universities in the country (see the following figure 5.7).

Figure 5.7. Distribution of the top 100 universities in India, by region



Source: National Institute Ranking Framework, Ministry of Education, <https://www.nirfindia.org/2023/Ranking.html>, <https://asercentre.org/about-aser-2023> accessed 23 December 2023.

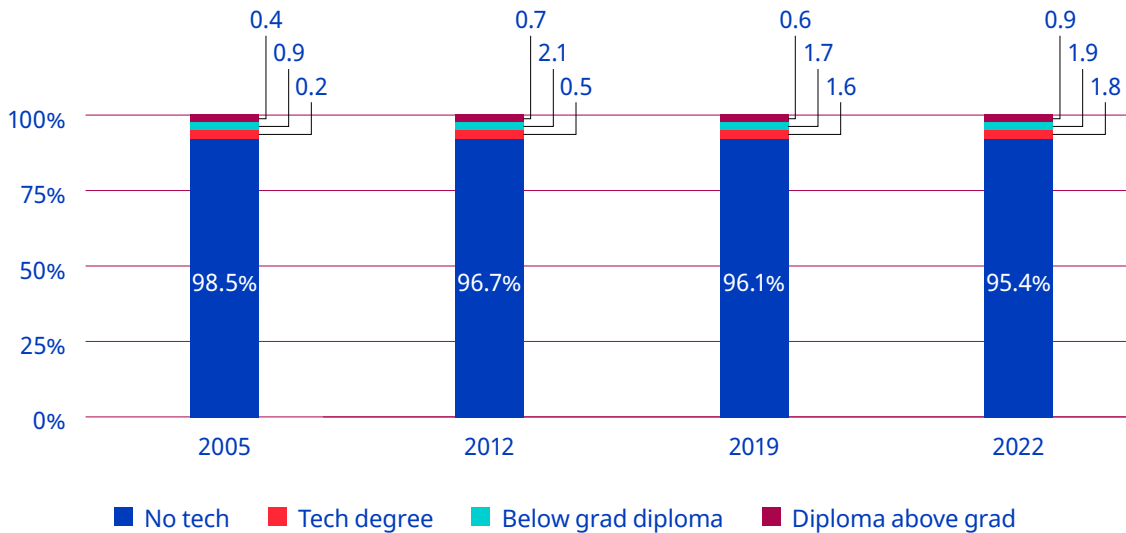
The bulk of youths in India today have a secondary or higher level of education. This has had a profound impact on their labour market participation. The educational hierarchy across groups largely continues, with some differences across segments. While gaps in educational attainment continue across location, social groups and income quintiles, in general, they have narrowed with the expansion of education at all levels, except at the graduate or higher level, where they have increased. Education attainment across gender is an exception to this: While a narrow male advantage persists at all levels of education up to the higher-secondary level, it has reversed at the graduate or higher levels. And while the northern, southern and western regions have edged further ahead, the southern region has moved much more ahead.

5.2.2 Technical education and youths

Technical education comprises degree, diploma and certificate courses in agriculture, engineering, technology, medicine, crafts and other professional and technical subjects. Because these subjects centre on specific practice-oriented knowledge in fields directly related to technical and professional areas that are in demand due to the structural transformation, they are expected to create greater employability among youths.

Despite the increase in the proportion of youths with technical education over time, the level of technical qualification among young people remains relatively low in India. In 2005,³³ 2.8 per cent of youths had earned a technical degree, diploma or certificate (0.3 per cent for a degree, 1.7 per cent for a graduate-level (below or above) diploma and 0.8 per cent for a certificate). By 2022, that proportion of youths with a technical qualification had nearly doubled, to 4.6 per cent (1.9 per cent with a technical degree, 0.8 per cent with a diploma and 1.9 per cent with a certificate) (figure 5.8).

► **Figure 5.8. Technical degree or diploma among youths, 2005, 2012, 2019 and 2022 (% share of total)**



Note: No tech=without technical education; Tech degree=has a technical degree; Below grad diploma=has a diploma or certificate below graduate level; Diploma above grad=has a diploma or certificate above graduate level.

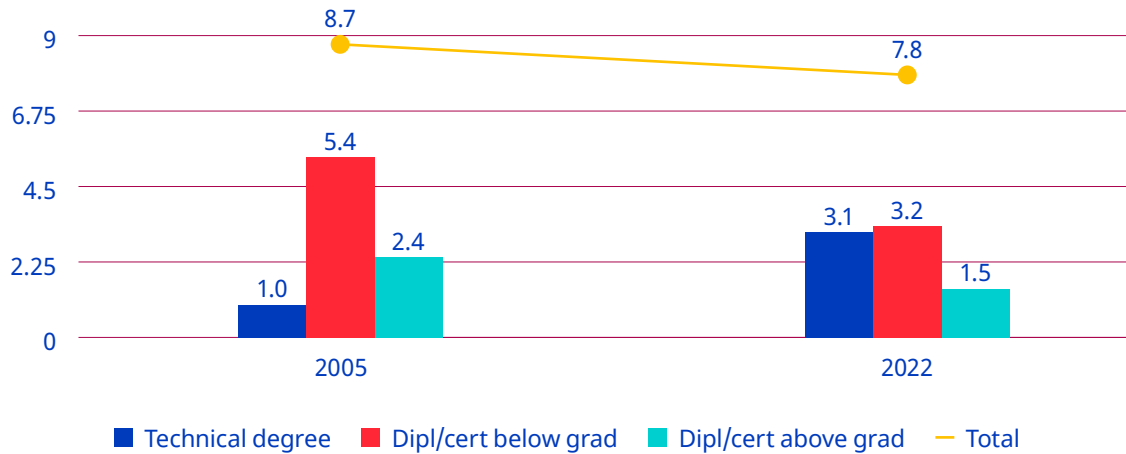
Source: Computed from Employment and Unemployment Survey data for 2005 and 2012 and Periodic Labour Force Survey data for 2019 and 2022.

Technical and professional education is available to youths who completed their post-secondary education. But figure 5.9 indicates that although the proportion of such youths with a technical degree increased significantly between 2005 and 2022, the proportion of youths with a technical degree, diploma or certificate has not increased. While the percentage of post-secondary youths with a technical degree increased from 0.98 per cent to 4.1 per cent, the proportion of all such youths with a technical degree, diploma or certificate declined, from 8.7 per cent to 7.8 per cent, mainly due to a significant drop in below-graduate-level diplomas and certificates. **A greater orientation of education towards technical and professional education occurred at the graduate or higher level but not overall among youths who completed their post-secondary education.**³⁴

33 Due to definitional changes, trends in technical education and skills training were analysed from 2004–05 onwards.

34 Technical education is dominated by engineering and technology education, which comprised 67.2 per cent of all technical degrees (76.7 per cent for men and 51.9 per cent for women), followed by crafts and others (23.6 per cent), medicine (7.2 per cent) and agriculture (1.9 per cent) in 2022. With degrees, diplomas and certificates taken together, 55.1 per cent of all technically educated youth had engineering and technology education (64.2 per cent among men and 37.9 per cent among women), 35.3 per cent had taken up crafts and other education, 8.4 per cent had taken up medicine and 1.3 per cent had taken up agriculture-related subjects.

► **Figure 5.9. Technical qualification holders as a percentage of youths with post-secondary education, 2005 and 2022**



Note: Technica degree=has a technical degree; Dipl/cert below grad diploma=has a diploma or certificate below graduate level; Dipl/cert above grad=has a diploma or certificate above graduate level.

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Technical education across segments of youths

Table 5.1 shows the changes in the percentage of youths with technical education across gender and location between 2005 and 2022. Although technical education progressed among both male and female youths, a gender gap persisted, and the absolute gap increased over the 17-year period. Across rural and urban areas as well, the proportion of youths with a technical education increased but rural areas lagged far behind, with the urban advantage increasing over the years.

► **Table 5.1. Share of youths (aged 15–29) with a technical education, by gender and location, 2005 and 2022 (% of total)**

	Gender		Location	
	Male	Female	Rural	Urban
2005	3.39	2.08	1.40	5.66
2022	5.71	3.30	3.01	8.43

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Table 5.2 shows some progress in the proportion of youths with a technical education across all social groups. But Scheduled Tribes youths, who had the smallest portion of such youths, also had the slowest relative progress. The hierarchy among social groups remained the same, with the absolute gap between them widening in the analysed time frame.

► **Table 5.2. Share of youths (aged 15–29) with a technical degree, diploma or certificate, by social groups, 2005 and 2022 (% of total)**

Social group				
	Scheduled Tribes	Scheduled Castes	Other Backward Classes	General Category castes
2005	0.85	1.48	1.98	3.50
2022	1.51	3.42	4.63	6.72

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Among all the regions, the South had the largest share of youths accessing technical education in 2005, followed by the West. But by 2022, the South had moved ahead of all the other regions, including the West (table 5.3). This was reflected in a gap of nearly 7 percentage points with the all-India average and was higher compared with the other regions. While the West and North exceeded the all-India average in 2022, the Central, East and North-East regions continued to show a significant lag.

► **Table 5.3. Share of youths (aged 15–29) with a technical degree, diploma or certificate, by region, 2005 and 2022 (% of total)**

Social group							
	Central	East	North	North-East	South	West	India
2005	1.33	1.06	1.98	0.91	5.11	4.95	2.76
2022	2.30	1.73	4.57	1.00	11.31	5.71	4.55

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

There was improvement in the proportion of youths with a technical education across all monthly per capita expenditure quintiles (table 5.4). But again, the absolute inter-quartile gaps widened: The largest quintile group (Q5) accounted for the major share of technically educated youths, although this share declined from 90.8 per cent to 66 per cent for technical degrees and from 68.2 per cent to 55.1 per cent for youths with a technical degree, diploma or certificate.

► **Table 5.4. Share of youths (aged 15–29) with technical degree or technical diploma or certificate, by monthly per capita expenditure quintile, 2005 and 2022 (% of total)**

Quintile					
	Q1	Q2	Q3	Q4	Q5
2005	0.36	0.64	0.94	2.33	8.26
2022	0.88	1.58	2.85	4.80	12.30

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Unlike access to general education, for which the absolute gap on the basis of gender, location, social groups and monthly expenditure quintile narrowed over time for certain levels of attainment, the gaps in access to technical education increased, although the share of technically educated youths in the well-performing youth segments declined somewhat Despite much

emphasis on expanding basic education and its increasing affordability, the same has not been true for technical education due to costs and entry barriers.

5.2.3 Vocational training

Vocational and technical training, as defined in the Employment and Unemployment Survey, focuses on the development of skills in a specific vocation or trade. Formal vocational training follows a structured training programme that leads to a recognized degree, diploma or certificate. Informal training does not follow the same criteria and is acquired in jobs that pass from one generation of worker to another within a family (hereditary jobs), on the job, through self-learning or through other means. Informal training is generally acquired while working in full-time or part-time capacity and has implications for upward job mobility and workers' earnings. Skills training statistics, based on the National Statistical Office surveys, primarily capture formal skill acquisition and may not fully capture the wide range of skills that are informally acquired (Srivastava 2016b and 2008). Government policy has promoted skilling in a mission mode since 2007, with the objective of expanding skills training and increasing the marketability of skills through standardization and certification (ILO 2018a; NCEUS 2009). Chapter 6 provides more detailed analysis of government skills training initiatives.

Despite the Government's promotion of skills development since 2007–08, the data indicate that uptake has been low. And the rates are considerably lower compared with most developed economies, where an average of 60–70 per cent of young people have received formal vocational or technical training (ILO 2018a). This is possibly due to the lack of a clear-cut link between vocational and skills training and employment and earnings for the youths who opt for this route.

► **Table 5.5. Share of youths (aged 15–29) accessing vocational training, 2005, 2012, 2019, 2022 (% share of total)**

Year	Formal training	Non-formal hereditary jobs	Non-formal other*	Total non-formal	Total vocational training
2005	3.86	3.91	3.84	7.75	11.61
2012	3.80	2.18	5.06	7.24	11.04
2019	2.86	1.27	5.10	6.37	9.23
2022	4.09	3.02	8.51	11.52	15.62

Note: *—includes self-learning, learning on the job and other non-formal training. Hereditary jobs are those dependent on family background.

Source: Computed from Employment and Unemployment Survey data for 2005 and 2012 and Periodic Labour Force Survey data for 2019 and 2022.

Among the youth population (aged 15–29), the share of formally trained youths had little increase (table 5.5) over the 17-year time frame. The total non-formal training rate jumped in 2022 from previous years, mainly as a result of self-learning, learning on the job and other non-formal training). This could be due to better probing and reporting or to an increase in the significance of on-the-job learning and unstructured training in some labour market segments.

Vocational training across segments of youths

Access to vocational training among the youth population (aged 15–29) by gender indicates that women had a disadvantage in comparison to men in terms of accessing vocational training (table 5.6). The gender gap almost closed between the two sexes between 2005 and 2022 for formal training. But the gap widened for informal training, with relatively more men than women accessing informal training in 2022 than in 2005.

Across urban–rural areas, the large urban advantage for formal skills training persisted across the years, although it slightly lessened in 2022. But the informal training levels were similar across location, although slightly higher in rural areas.

► **Table 5.6. Vocationally trained youths (aged 15–29), by gender and location, 2005 and 2022 (%)**

Year			Formal training	Informal training
2005	Sex	Male	4.55	9.48
		Female	3.19	5.86
2022		Male	4.28	15.95
		Female	3.90	6.71
2005	Location	Rural	2.16	7.95
		Urban	7.58	7.28
2022		Rural	2.93	11.62
		Urban	7.03	11.29

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Table 5.7 shows the proportion of youths with skills training across the social groups. Access to formal skills training was an advantage among the General Category castes, followed by Other Backward Classes, Scheduled Castes and Scheduled Tribes. This hierarchy was maintained in 2022, with little change in the gaps across groups. Informal training, however, was more evenly distributed, with a slightly larger proportion of informally trained youths among the Other Backward Classes.

► **Table 5.7. Vocational training among youths (aged 15–29), by social group, 2005 and 2022 (%)**

Year		Social groups			
		Scheduled Tribes	Scheduled Castes	Other Backward Classes	General Category castes
2005	Formal training	1.40	2.83	3.59	5.55
	Informal training	7.95	7.15	8.66	6.89
2022	Formal training	1.79	3.66	3.60	6.43
	Informal training	13.40	10.83	11.95	10.49

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

The uptake of vocational training among the youth population across regions was relatively greater in the West and the South for formal vocational training in 2005, but by 2022, only the West maintained a larger share of youths accessing such training than the other regions (table 5.8). The distribution of informal vocational training and its change over the time period was very different across regions, with the Central and northern areas having the larger proportions of informally trained youths in 2022.

► **Table 5.8. Vocational training among youths (aged 15–29 years), by region, 2005 and 2022 (%)**

Year	Type of vocational training	Region					
		Central	East	North	North-East	South	West
2005	Formal	2.08	2.00	3.22	1.36	6.05	7.20
	Informal	9.45	5.70	4.69	2.72	9.66	8.69
2022	Formal	2.42	3.75	3.83	1.16	4.36	8.59
	Informal	17.90	8.73	11.03	6.63	8.91	8.33

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Skills training among the youth population by education level followed an interesting pattern: Formal skills training was highly concentrated among youths with higher education levels in 2005 and in 2022 (table 5.9). The proportion of youths with a graduate or higher level of education with formal training was as large as 28 per cent in 2005 but came down to 14 per cent in 2022. Among youths with a secondary or higher-secondary education, the proportion of formally trained youths was 5.7 per cent in 2005 and nearly 4.3 per cent in 2022. For youths with less than a secondary education, access to formal skills training was negligible across the years. The proportion of informally trained youths was greater among the less-educated youths in 2005. This dynamic continued into 2022, but the proportion of youths with informal skills training significantly increased among youths with a graduate or higher level of education. It could be that unstructured and on-the-job training became more important in jobs taken up by this segment of youths.

► **Table 5.9. Vocational training for youths (aged 15–29), by general education levels, 2005 and 2022 (% of youths)**

	2005		2022	
	Formal	Non-formal	Formal	Non-formal
Less than primary	0.25	8.18	0.08	14.98
Primary or middle school	1.05	9.26	0.52	14.03
Secondary or higher secondary	5.71	6.04	4.27	8.95
Graduate or higher	27.98	3.56	13.99	11.55
Total	3.89	7.74	4.09	11.52

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Table 5.10 shows the extent and distribution of vocational training by monthly per capita expenditure quintile groups. While the distribution of informal training was relatively even across the years and the quintile groups, the incidence as well as distribution of formal vocational training was highly concentrated in the higher quintiles, both in 2005 and in 2022. In 2005, the top 40 per cent of households accounted for 84.6 per cent of the formally trained youths, but that level declined to 68.7 per cent in 2022.

► **Table 5.10. Proportion of vocationally trained youths, by household monthly per capita expenditure and quintile, 2005 and 2022 (%)**

MPCE quintile	% of youth with vocational training				Distribution of trained youth across quintiles			
	2005		2022		2005		2022	
	Formal	Informal	Formal	Informal	Formal	Informal	Formal	Informal
Q1	0.5	8.5	1.2	10.0	1.9	18.0	5.3	16.3
Q2	1.0	7.9	1.8	11.3	5.0	19.0	8.8	19.5
Q3	1.6	8.2	3.4	12.6	8.5	21.9	17.2	22.5
Q4	3.8	7.7	4.8	11.4	21.2	21.6	23.8	20.2
Q5	10.8	6.6	9.0	12.1	63.4	19.5	44.9	21.5
Total	3.9	7.7	4.1	11.5	100	100	100	100

Note: MPCE=monthly per capita expenditure.

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

Thus, the analysis of formal vocationally training found that it remained concentrated in more privileged groups of youths, although there was a slight amelioration in the gaps between groups between 2005 and 2022. Given the policy emphasis of designing vocational training so that more vulnerable persons can access opportunities, the current picture indicates that a renewed focus on providing vocational training to less socio-economically and educationally privileged youths is required.

5.2.4 Youth with ICT skills

ICT skills provide crucial advantage to youths in the labour market due to the increasing digitalization of the economy. The Multiple Indicator Survey report of the 78th round of the National Sample Survey (2021) provides detailed information on ICT skills among the youth population in India. But the picture for ICT skills is only full when seen in conjunction with the situation for access to computers as well as internet connectivity. The information for these indicators was captured in the 75th round of the National Sample Survey on education (July 2017–June 2018).

Access to computers and the internet

The findings from the 75th round of the National Sample Survey on education highlighted the rural-urban gap in access to computers. While 23 per cent of urban households possessed a computer, only 4 per cent of rural households had a computer. On average, nearly 24 per cent of all households had internet access³⁵ in 2017–18: 15 per cent among the rural households and 42 per cent among the urban households.

Only around one third (35 per cent) of the youth population in 2018 reported using the internet during the 30 days prior to the survey interview (table 5.11). This broke down to 25 per cent of youths in rural areas and, at more than double, nearly 58 per cent among urban youths. Additionally, the access amounted to a gender gap and a gap among the social groups. Overall, use of the internet was reported least from rural women (at 16.5 per cent) and most from urban men (at 64.7 per cent), which reflects a huge gap of 48 percentage points.

35 “The Internet ...provides access to a number of communication services...irrespective of the device used (not assumed to be only via a computer – it may also be by mobile telephone, tablet, personal digital assistant, games machine, digital TV, etc.). Access can be via a fixed or mobile network.” See www.mospi.gov.in/sites/default/files/NSS75252E/KI_Education_75th_Final.pdf.

► **Table 5.11. Proportion of youths (aged 15–29) who used internet during the 30 days prior to the survey interview, by location, gender and social group (% of total)**

	% of youth
Location	
Rural	25.30
Urban	57.53
Gender	
Male	43.03
Female	26.45
Social group	
Scheduled Tribes	20.39
Scheduled Castes	24.96
Other Backward Classes	34.28
General Category castes	50.15
Total	35.13

Source: Computed from the 75th National Sample Survey's education round in 2017–18.

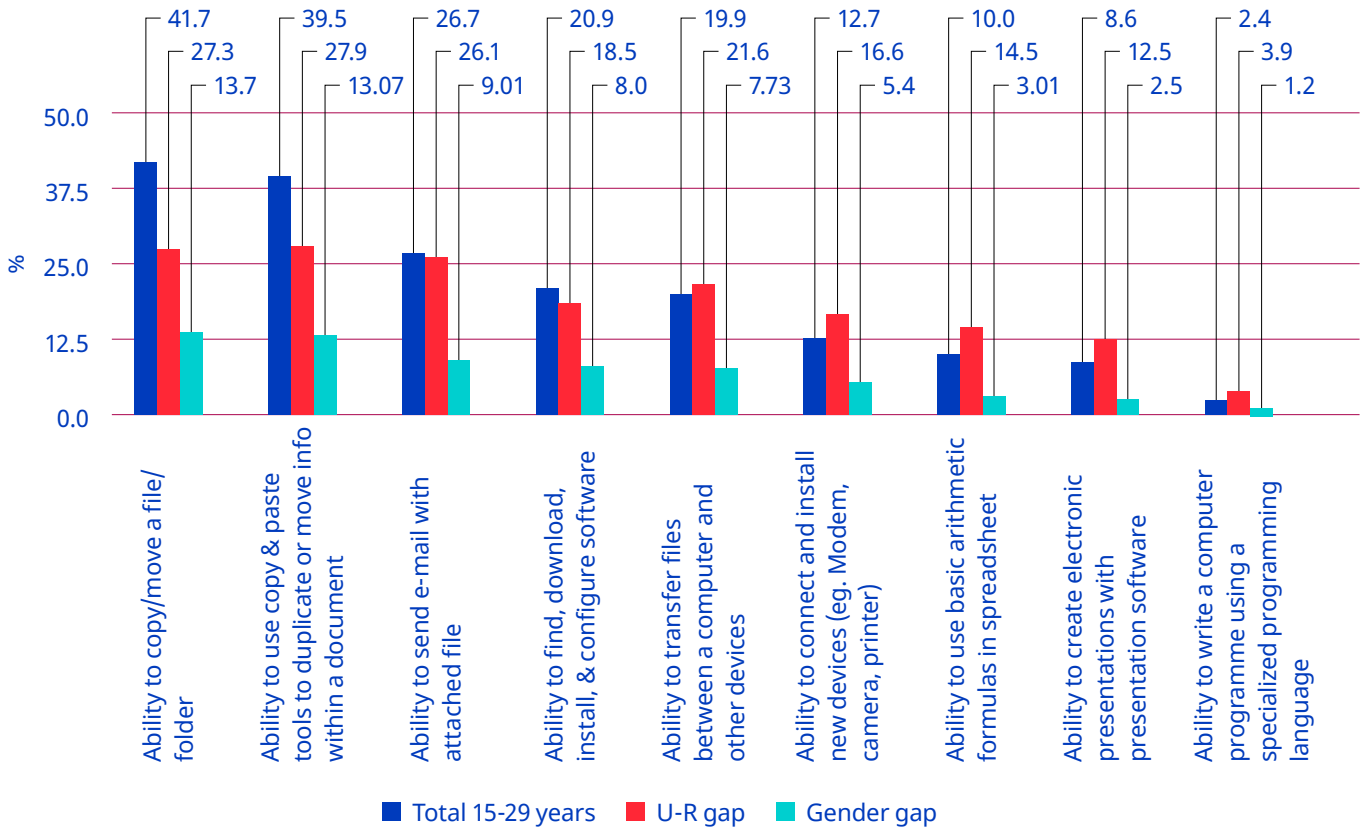
ICT skills among youth in 2021

As of 2021, the Indian youth population could be described as possessing low ICT skills (figure 5.10). Just around two fifths could copy and move a file or folder or use the copy-and-paste tool to duplicate or move information within a document. Nearly three fourths of the youths were unable to send an email with attached file, whereas more than 90 per cent of youths could not use arithmetic formulae in spreadsheets, make PowerPoint presentations with presentation software or write a computer program using specialized programming language.

The rural–urban disadvantage far outstripped the disadvantage for women in relation to men in terms of ICT skills. For instance, 61 per cent of urban youths had capability of copying or moving a file and folder while only 34 per cent of rural youths had similar skill. And one fourth of urban youths could connect and install new devices (camera, modem, printer, etc.), while only 8 per cent of rural youths could do so.

Among the social groups, the Scheduled Tribes youth had the least computer-related abilities, followed by Scheduled Caste and Other Backward Classes. The other youths (General Category castes) had the most skill level in this area. For instance, around one fourth of the Scheduled Castes youth could copy and move a file and folder or use the copy-and-paste tool to duplicate or move information within a document. For youths in the General Category castes, the corresponding share was 53–55 per cent.

► Figure 5.10. Computer skills among the youth population (aged 15–29), by urban–rural gap and gender gap, 2021 (%)



Note: U-R=urban-rural gap.
 Source: Computed from the 78th Multiple Indicator Survey data for 2021.

The sharp disparity in ICT skills among the youth population is evident in the comparison of skills across expenditure quintiles (table 5.12). For most of the common ICT skills presented, there was a 38–53 percentage point gap between Q5 and Q1. Ability to prepare a presentation was low across all the expenditure quintiles.

► **Table 5.12. ICT skills of the youth population (aged 15–29), by monthly per capita expenditure quintile, 2021 (%)**

ICT skills	Q1	Q2	Q3	Q4	Q5	Gap (Q1–Q5)
Ability to copy and move a file or folder	20.40	27.89	37.54	52.06	72.57	52.17
Ability to use copy-and-paste tool to duplicate or move info within a document	18.15	25.46	35.09	49.63	70.91	52.76
Ability to send e-mail with attached file	9.58	14.35	21.70	33.18	56.75	47.18
Ability to transfer files between a computer and other devices	6.58	10.35	14.88	24.46	44.95	38.37
Ability to create electronic presentations with presentation software	2.04	3.08	5.54	10.09	23.16	21.12

Source: Computed from the 78th Multiple Indicator Survey data for 2021.

ICT skills of youths across regions

There was wide variation in ICT skills among youths across the regions in India (table 5.13). The South led all regions in terms of ICT skills among youths, followed by the West and the North. The North-East and the East lagged, while the Central region had the lowest incidence of ICT skills.

► **Table 5.13. ICT skills of youths (aged 15–29), by region, 2021 (%)**

ICT skills	Central	East	North	North-East	South	West
Ability to copy and move a file or folder	26.41	33.13	47.28	30.76	64.50	53.14
Ability to use copy-and-paste tool to duplicate or move information within a document	24.79	30.95	43.72	29.79	61.92	50.85
Ability to send email with attached file	15.32	17.42	28.51	18.91	49.85	33.64
Ability to find, download, install and configure software	12.46	16.10	22.18	16.35	34.92	26.66
Ability to transfer files between a computer and other devices	12.24	11.73	21.24	13.69	35.57	27.79
Ability to connect and install new devices (modem, camera, printer)	6.13	6.81	11.50	9.39	27.09	17.95
Ability to use basic arithmetic formulae in a spreadsheet	4.21	5.55	10.68	5.28	21.09	14.03
Ability to create electronic presentations with presentation software	2.88	4.28	6.75	4.80	22.02	11.55
Ability to write a computer program using specialized programming language	0.96	1.06	1.88	1.49	6.21	3.26

Source: Computed from the 78th Multiple Indicator Survey data for 2021.

Appendix figures A5.1–A5.4 depict the state variation for some commonly used ICT skills. It is evident that the southern states of Kerala and Tamil Nadu are far ahead of other states in terms of all skills. Karnataka is better off than the other states in most of the skills except for the ability to transfer files between a computer and other devices, where it is equivalent to the northern states, like Punjab and Haryana. Telangana and Maharashtra also show good ICT skills among youths, comparable to Punjab and Haryana, but the same cannot be said for Gujarat. With the exception of West Bengal, youths in the eastern states, along with the northern states of Uttar Pradesh and Bihar and the central states of Madhya Pradesh and Chhattisgarh have the largest deficits in ICT skills.

5.2.5 Changing education and skills profile of youths – Implications for the labour market

As this section explains, there has been substantial overall progress in educational attainment, with the majority of youths now having a secondary or higher level of education. The numbers of technically educated youths more than doubled between 2005 and 2022, and the proportion of youths with technical education at the graduate or higher level increased as a share of all youths with a graduate or higher degree. **Although this quantitative expansion of education is not adjusted for quality, the youth population appears to be better equipped for a labour market undergoing technological change.** Access to computers, the internet and digital skills has also picked up among the youth population, although the level remains inadequate. **Unfortunately, the expansion of formal skills training has been slow.**

On the flip side to this expansion, inequalities in access to general and technical education and acquisition for formal and digital skills remain large across location, gender, social groups, regions and monthly per capita expenditure quintiles, with the absolute gaps closing only in a few cases. **Thus, youths from socio-economically deprived groups and less-dynamic regions are much less likely to take advantage of emerging labour market opportunities.**

► 5.3 Returns to education among the youth

Human capital, comprising both education and training, can explain wage and earnings differentials in an economy (Srivastava 2008; Mincer, 1974; Becker 1962). The Mincer equation explains earnings as a function of schooling and labour market experience and provides an estimate of the average monetary returns of one additional year of schooling (Patrinos 2016). The earnings premium associated with level of education suggests that an individual with a higher level of education has higher productivity, but an alternate view suggests that the reason for higher earnings is the credentials attained such that education merely sorts workers or that employers select workers with higher qualifications.

Many studies have involved estimating the returns to education and have shown that individuals with a high level of education, better skills and greater experience have higher incomes after correcting for individual, household and other differences (Chen, Kanjilal-Bhaduri and Pastore 2022; Sianesi and Van Reenen, 2000; Mankiw, Romer and Weil 1992; Psacharopoulos 1985). Although many older studies, notably Psacharopoulos, found the returns to be highest at the primary education level, somewhat recent studies indicated that this result no longer holds. Kingdon (1998) found in her review of other empirical work on the returns to education in India that the rates of return tend to rise with education level; Duraisamy (2000) found it to be the highest for secondary education, while Agrawal (2011) and Dutta (2006) found it to be highest among graduates (Singhari and Madheswaran 2016). Substantial gender and rural–urban differences in the returns were found in the study by Duraisamy (2000). This

study also found that the returns to women's education for the primary and middle school levels declined while those for secondary and college levels increased between 1983 and 1994.

5.3.1 Model specification and main findings

The rates of return to education were estimated for youths engaged in regular employment, based on average weekly estimated earnings. To analyse the return to education, the Mincerian log-linear earnings function were estimated for three rounds of employment surveys: 2005, 2019 and 2022. This analysis aimed to determine how educational qualifications impact the earnings of an employee while controlling for various factors, such as years of experience, gender, sector, social group, general education, technical education, vocational education and geographical differences. Average weekly earnings (log) was used as outcome variable, while years of experience (age minus 15 years as a proxy), gender, sector, general education, technical education, vocational training, geographical region and social group were explanatory variables in the Mincerian log-linear earnings function. All the explanatory variables in the earnings function were statistically significant, at 1 per cent, except for youths with less than a secondary level of education (see appendix table A5.1).

A substantial difference emerged in the return among youths with a secondary level of education or higher, even after controlling various background factors, such as years of experience, gender, sector, social group, general education, technical education, vocational education and region. The return to education among youths with a graduate degree was 5.6 times higher than that of youths with a secondary or higher-secondary level of education. Similarly, the return to education among persons with a post-graduate qualification was 9.2 times higher than that of youths with a secondary or higher-secondary education. Over time, the returns to education among youths, categorized by their education level (secondary or higher-secondary, graduate and post-graduate) declined between 2005 and 2022. However, the relative difference in the returns between the educational levels of young individuals – between secondary and higher secondary and between graduate and post-graduate – widened over time (see appendix table A5.1). This indicates the increasing importance of higher levels of educational qualification among youths in accessing higher-paying jobs in the labour market.

Among technically qualified youths, there was a significant difference in returns to education based on their level of technical qualification, even after controlling for various background factors, as discussed previously. The returns to education among youths with a technical degree was 3.4 times higher than that of youths with a diploma or certificate below the graduate level and 1.2 times higher than that of youths with a diploma or certificate above the graduate level. Over time, the returns among youths categorized by their level of technical education (diploma or certificate below graduate level and technical degree) declined. However, the relative difference in returns to education between youths with a diploma or certificate below the graduate level and a technical degree widened between 2005 and 2022 (see appendix table A5.1). This reflects the rising importance of higher technical qualification among youths in terms of returns or earnings.

Additionally, the return to vocational training also showed interesting patterns, especially in 2022. For the earlier years, the returns were insignificant, but in 2022, the returns among youths with informal vocational training and formal vocational training were estimated as 5.4 per cent and 9.3 per cent higher, respectively, than for youths with no vocational training (see appendix table A5.1). This indicates that the Government's intensive efforts to expand skills training might have led to better returns for youths with vocational training in the labour market.

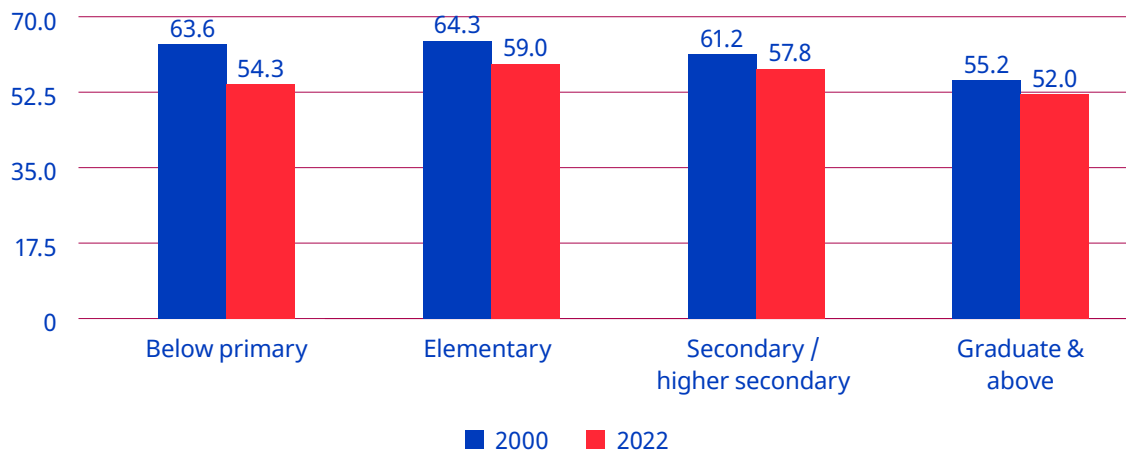
► 5.4 Education, training and employment

This section reflects on the worker population ratio and the unemployment rate in relation to different levels of education and vocational training, thus providing insights into the demand side and the interconnections between education, skills training and employment. Because education participation has been increasing over the years, the analysis considered only the non-student youth population in the search for a deeper understanding of any link. By focusing on the non-student youth population, the analysis better captured the dynamics and patterns of employment and unemployment among individuals who had completed their formal education. This approach allowed for more targeted analysis of the relationships between education, skills training and employment outcomes (Eurostat 2020; OECD 2020, ILO 2019a).

5.4.1 General education and employment

Over time, there was considerable expansion in the general education level among non-student youths in India. The proportion of youths with a secondary or higher-secondary education nearly doubled, and there was more than fourfold increase in the graduate or higher attainment between 2000 and 2022. However, the worker population ratio declined across all education levels, with a more significant decline among youths without any education or only a low level of education (figure 5.11). The worker population ratio among youths with less than a primary level of education experienced a sharper decline from 2000 to 2022, at 9.3 percentage points, than among youths with a primary or middle school level (elementary henceforth) of education (at 5.3 percentage points), a secondary or higher-secondary level of education (at 23.4 percentage points) or a graduate degree (at 3.2 percentage points). **These findings highlight a decrease in employment opportunities for youths, with a disproportionate impact on youths with a low level of education.**

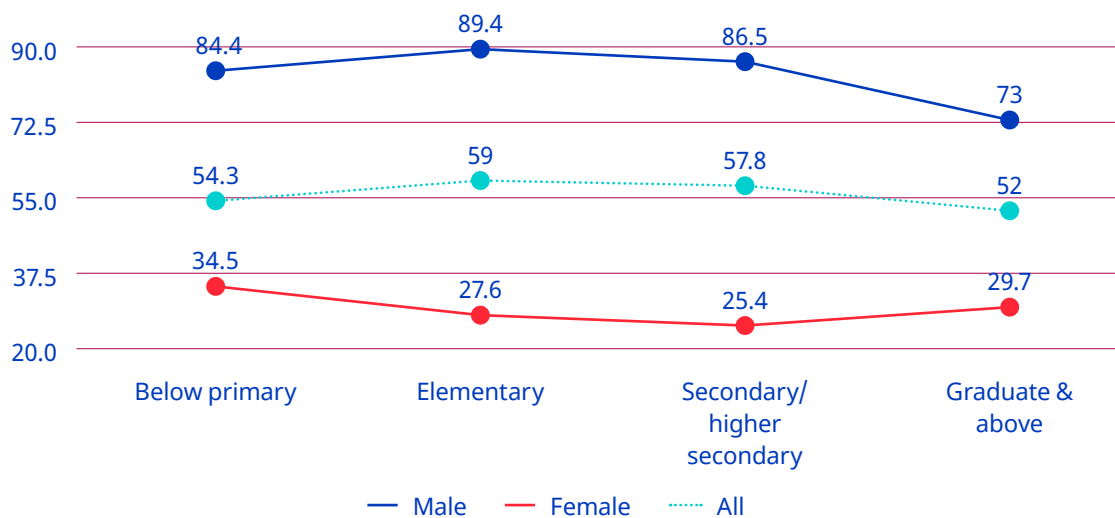
► **Figure 5.11. Workforce participation rate for non-student youths, by level of general education (UPSS), 2000 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

The relationship between levels of education and the worker population ratio among non-student male youths and all youths exhibits an inverted U-shaped curve, indicating that youths with low and high levels of education tend to participate less in the labour market. This finding is consistent with previous studies (UNESO 2019; World Bank 2018). In 2022, the worker population ratio for youths with an elementary or a secondary or higher-secondary level of education was 59 per cent and 57.8 per cent, respectively, indicating relatively greater participation rates (figure 5.12). Youths with less than a primary education and youths with a graduate degree had a lower worker population ratio, at 54.3 per cent and 52 per cent, respectively (figure 5.11). Interestingly, when analysing the worker population ratio by education level among young women, a slightly U-shaped curve emerged, reflecting a different pattern than that of the men and aligning with the findings from several previous studies (see for example, ILO 2020a). The previous studies also showed that as the level of education increases, the likelihood of women finding better-quality employment increases, particularly after obtaining a graduate degree. Women with a graduate degree have a 20–30 per cent greater chance of obtaining a decent job than other women (Mehta and Awasthi, 2019; Kapos, Silberman and Bourmpoula 2016; Chaudhary and Verick 2014).

► **Figure 5.12. U-shaped curve of the workforce participation rate for non-student youths, by level of general education, 2022 (%)**



Source: Computed from Periodic Labour Force Survey data for 2022.

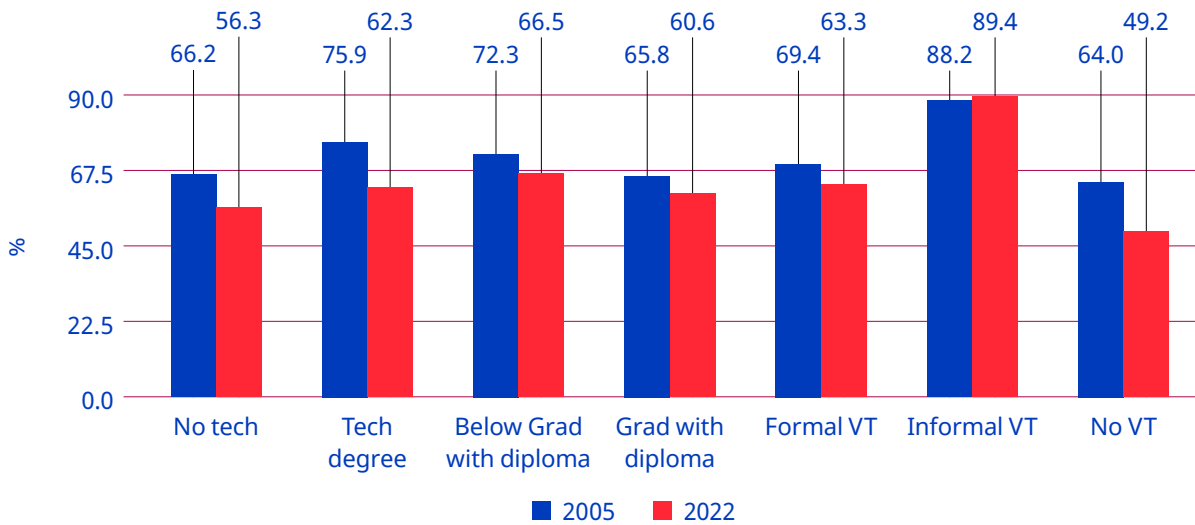
5.4.2 Technical education, vocational training and employment

The share of technically qualified individuals among non-student youths expanded over time, although it remained relatively low. However, the worker population ratio among youths with technical degrees experienced a more substantial decline than youths with a technical training diploma. In 2022, the worker population ratio among youths with a technical degree (62.3 per cent) or a below-graduate-level diploma (66.5 per cent) was relatively higher than youths without any technical qualification (56.3 per cent) or graduates with a diploma (60.6 per cent) (figure 5.13). However, the worker population ratio among youths with a technical degree and those without any technical qualification declined more sharply than among diploma holders between 2005 and 2022 (ILO 2022a).

These findings suggest two important factors: First, there has been an increase in the supply of youths with technical degrees, indicating expansion in technical education (ILO 2022a). However, the declining worker population ratio among technical degree holders suggests challenges, such as a lack of suitable job opportunities or a mismatch between their skills and the demands of the labour market (ILO 2022).

Second, the declining opportunities for non-technically trained individuals in the labour market further contribute to the complexities of the employment landscape (ILO 2022). These observations underscore the need to address skill mismatches, enhance job creation and ensure the relevance of technical education to improve the labour market outcomes for both technically qualified and non-technically trained youths.

► **Figure 5.13. Worker population ratio for non-student youths, by level of technical education and vocational training (UPSS), 2005 and 2022 (%)**



Note: No tech=without technical education; Tech degree=has a technical degree; Below grad diploma=has a diploma or certificate below graduate level; Grad with Diploma=has a diploma or certificate equivalent to graduate or higher level; Formal VT=has formal vocational training; Informal VT=has informal vocational training; No VT=has no vocational training.

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022. **Source:** Computed from Employment and Unemployment Surveys 2000 and Periodic Labour Force Survey 2022.

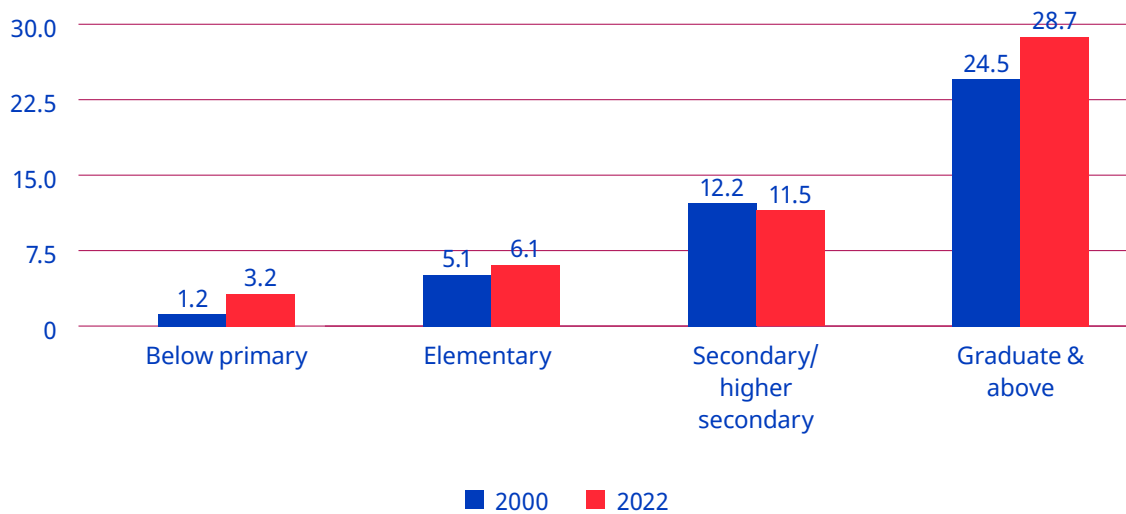
The worker population ratio was higher among youths with vocational training than youths without vocational training. Additionally, the worker population ratio was higher among informally trained youths than among those who had had formal training (figure 5.13). Most workers (67 per cent) who had had informal vocational training acquired their skills either through on-the-job training (43 per cent) or self-learning (24 per cent) in 2022. This indicates that informal vocational training was predominantly acquired by young individuals while working. However, there was a decline in the worker population ratio among youths with formal vocational training, with a decrease of 6.1 percentage points between 2005 and 2022, while the worker population ratio among youths with informal vocational training had a slight increase, of 1.1 percentage points. These findings highlight the need to reassess and adapt formal vocational training strategies to better align with the changing demands of the labour market and to ensure that formal training programmes effectively equip young individuals with the skills required for employment (see chapter 6).

5.4.3 General education and unemployment

The unemployment rate increased among youths with a high level of education and was highest among youths with a graduate degree or higher in 2022. This trend was consistent with the patterns observed in the overall youth population, as discussed in chapter 4. In 2022, the unemployment rate among youths with a graduate degree was significantly higher, at 28.7 per cent, than among youths with less than a primary education, at 3.2 per cent – almost nine times greater (figure 5.14). The share and number of unemployed graduate degree holders increased substantially between 2000 and 2022,

while the share of unemployed youths with a low level of education declined. This indicates a problem of unemployment for highly educated youths, who accounted for nearly half of the total unemployed non-student youths in 2022. **These and other findings in this section need to be considered with the caveat that they do not cover underemployment, which was higher among less-educated and poor youths.**

► **Figure 5.14. Unemployment rate for youths, by level of general education (UPSS), 2000 and 2022 (%)**



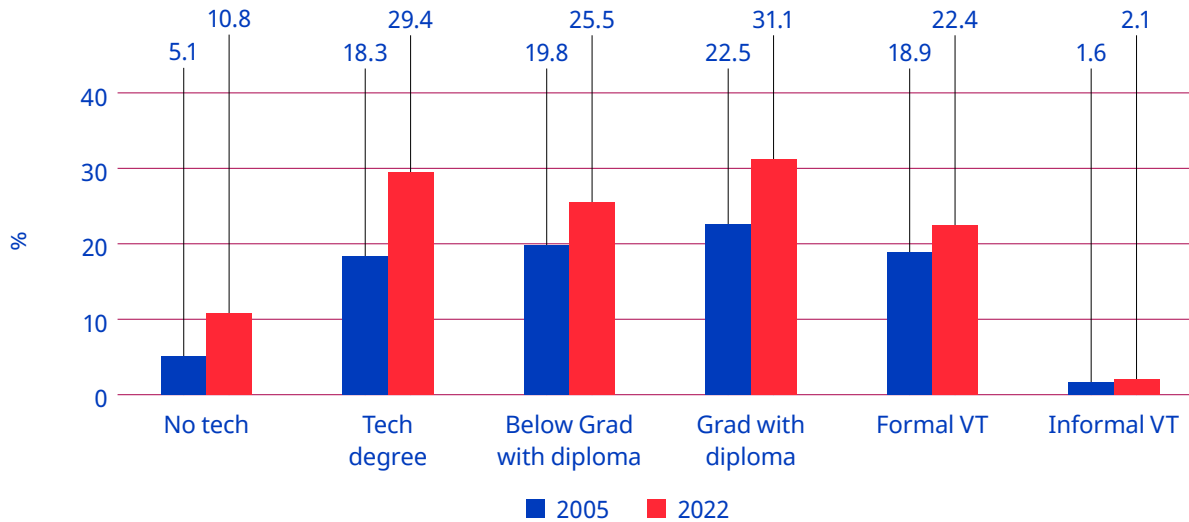
Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

5.4.4 Technical education, vocational training and unemployment

The unemployment rate among youths with a technical training degree or a graduate diploma was even higher than among general graduates³⁶ and had increased over time. In 2022, the unemployment rate among youths with a graduate diploma was the highest, at 31.1 per cent, closely followed by those with technical training degree, at 29.4 per cent (figure 5.15). This indicates the challenges faced by youths with technical qualifications in finding suitable employment opportunities. The unemployment rate among technical degree holders increased more sharply than it did for graduate diploma holders and among youths with less than a graduate diploma over time. This suggests a growing issue of unemployment among youths with higher technical qualifications.

³⁶ A general graduate is a university graduate who does not have a professional or technical degree or equivalent qualification.

► **Figure 5.15. Unemployment rate for youths, by level of technical education and vocational training (UPSS), 2005 and 2022 (%)**



Note: No tech=without technical education; Tech degree=has a technical degree; Below grad diploma=has a diploma or certificate below graduate level; Grad with Diploma=has a diploma or certificate equivalent to graduate or higher level; Formal VT=has formal vocational training; Informal VT=has informal vocational training; No VT=has no vocational training.

Source: Computed from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

The unemployment rate among youths with formal vocational training was significantly higher than among youths with informal vocational training, again underscoring that informal training is acquired on the job. The unemployment rate among youths with formal vocational training increased by 3.5 percentage points over time. The unemployment rate among youths with formal vocational training could be attributed to various factors, such as lack of alignment between the skills acquired through formal training and the demands of the labour market, inadequate job placement support or a mismatch between the skills acquired and the available job opportunities (Singh and Siddiqui 2020).

5.4.5 Factors affecting youth participation in the labour market

There are several supply-side factors that considerably influence the employment of young people, either as a wage earner or self-employed, in the labour market. These factors include age, gender, sector of employment, the monthly per capita expenditure quintile (a measure of income), social group and geographic region (Bist and Patnaik 2021; Brooks 1997), which were used in this analysis to proxy the underlying social, cultural and economic factors, the latter of which included economic necessity and ownership of assets.

To examine the factors that affect the likelihood of young individuals being employed in the labour market, a probit regression analysis was conducted for 2005 and 2022 to make a comparison over time. The dependent variable in this analysis was the employment status of youths, coded as 1 for “employed” and 0 for “out of the labour force and unemployed”, while the explanatory variables included age, gender, sector of employment, income class (represented by the monthly per capita expenditure quintile as a proxy), social group and geographic region. The results of the probit regression analysis showed that all the explanatory variables were statistically significant (see appendix table A5.2). The multivariate model allows for a more comprehensive analysis by capturing the joint effects of multiple factors on the dependent variables. Therefore, it is important to interpret the multivariable probit regression results in light of the controlling effect and consider the influence of other variables included in the model.

The probability of youth employment tended to increase with age, particularly in the 25–29 age group, which experienced an increase from 8 per cent in 2005 to 9 per cent in 2022. This indicates an upward trend in employability as youths enter their late twenties, likely influenced by their highest level of education completion (Kroupova, Havranek and Irsova 2021). However, a substantial gender gap was apparent, with men having 2.2 times higher probability of employment than women in 2022. This gap clearly widened over time, from 1.2 times in 2005. Across sectors, rural youths had 1.1 times higher probability of employment than their urban counterparts in 2022. This difference in probability declined over time, likely due to limited non-farm job opportunities and rural youths' disinterest in farming (ILER 2014; Papola and Sahu 2012b).

For general education, the probability of youth employment decreased with the level of education (see appendix table A5.2). In a comparison with youths having less than a primary education over the analysed period, the probability declined by 1 percentage point for youths with only an elementary education, 3 percentage points for those with a secondary or higher-secondary education and 10 percentage points for individuals with a graduate degree or higher. In a comparison with youths having no technical qualifications, the probability of youth employment improved slightly – by only 0.3 percentage points – for those with a technical degree and by 1.1 per cent for those with a graduate degree or diploma. The probabilities of employment for both technical degree holders and graduates with diplomas in comparison with youths having no technical qualifications increased over time.

With vocational training, the probability of employment among youths with formal and informal training was 1.2 times and 1.5 times higher, respectively, than those without any vocational training. This highlights the importance of formal skills training despite the high unemployment rates among trained youths. However, the probability of employment was higher for youths informally trained than formally trained. Social group also had a role, with the Scheduled Tribe and Scheduled Caste youths having greater probabilities of employment compared with other categories. Scheduled Tribe youth, for instance, showed a 14–15 percentage point higher probability than other social groups. Over time, employment probabilities for youths from a General Category declined marginally.

In terms of income classes, the probability of youth employment remained stable or marginally decreased among the higher monthly per capita expenditure quintiles, indicating greater challenges for youths in the lower quintiles in accessing employment. Over time, the probability of employment among youths in the highest quintile increased in a comparison with youths in the other quintiles. And across the geographical region, youths residing in the southern and western regions, which have higher levels of industrialization and urbanization, exhibited relatively greater probability of employment when compared with youths residing in the eastern, north-eastern, central and northern regions. Importantly, regional differences in employability gradually decreased over time, likely influenced by increased mobility and youth migration in search of employment opportunities.

5.4.6 Educated youth unemployment and the intersection of income classes and social groups

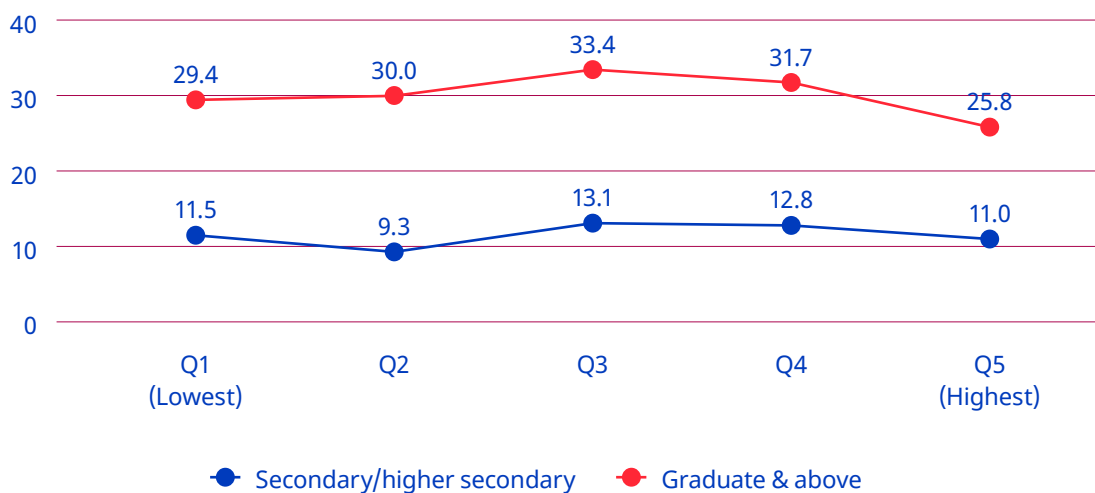
Research suggests that lower-income and disadvantaged social groups face specific challenges when it comes to finding suitable employment. The limited availability of job opportunities and economic constraints force youths from lower-income backgrounds and from the Scheduled Caste and Scheduled Tribe groups to accept any type of available work in the job market (Sharma 2022; ILER 2014). Contrary to previous findings, recent studies indicated that highly educated youths, regardless of their social or economic background, aspire for decent or white-collar jobs that align with their educational qualifications and provide better socio-economic prospects. These aspirations are driven by personal ambition, career expectations and the desire for upward social mobility (Ghose and Kumar 2021; section 5.6 in Srivastava 2016). Understanding the interplay between these factors is crucial for developing inclusive policies that address the specific needs and aspirations of educated youths from diverse

backgrounds. This section explores the intersectionality of income classes and social groups in relation to the employment prospects of educated youths.

The unemployment rate for highly educated youths from lower-income families was either equal to or higher than what it was for youths from higher-income families. In 2022, the unemployment rate among youths with a graduate degree or higher in the lowest monthly per capita expenditure quintile was almost equal to that of similar youths in the highest quintile (at 11.5 per cent and 11 per cent, respectively) (figure 5.16). The unemployment rate among youths with a secondary or higher-secondary education in the lowest monthly per capita expenditure quintile (at 29.4 per cent) was higher than what it was for similar youths in the highest quintile (at 25.8 per cent).

The upshot is that the high unemployment rate among youths may be partly due to aspirations for white-collar jobs, which are not available in sufficient quantity. The poorer youths who lack a quality education, resources and social capital are bigger sufferers (see section 5.6 in Srivastava 2016). As discussed in Chapter 2, the economy is not generating enough suitable employment for the increasing number of highly educated youths who aspire to secure well-paid public sector or white-collar jobs.

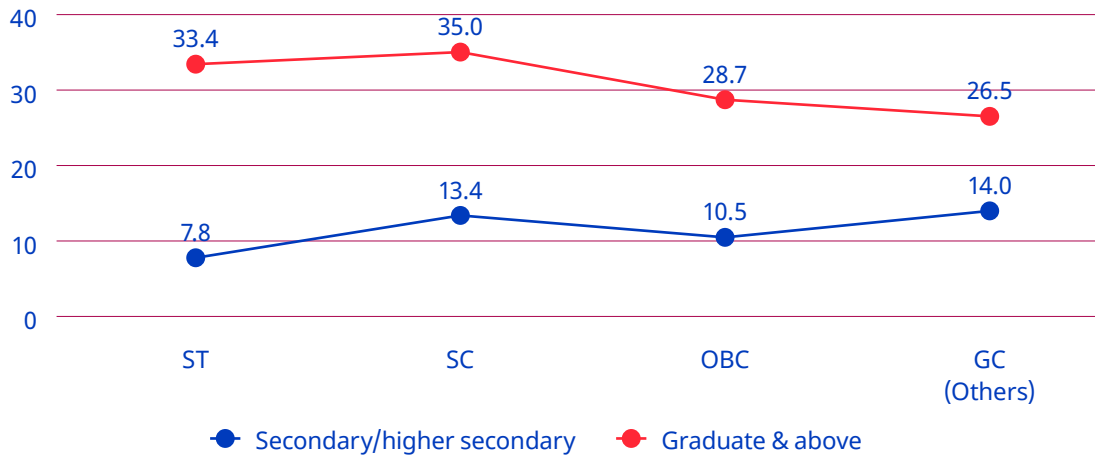
► **Figure 5.16. Youth unemployment rate, by monthly per capita expenditure quintile and level of education, 2022 (%)**



Source: Computed from Periodic Labour Force Survey data for 2022.

The unemployment rate among highly educated youths from a marginalized Scheduled Caste or Scheduled Tribe group was higher when compared with similar youths from Other Backward Class or General Category. Among youths who had completed secondary or higher-secondary education in 2022, the unemployment rate for those from a Scheduled Caste (13.4 per cent) was higher than for those from an Other Backward Class (10.5 per cent) and almost equal to those from a General Category caste (14 per cent) (figure 5.17). Among youths with a graduate degree or higher, the unemployment rate for those from a Scheduled Caste (35 per cent) or Scheduled Tribe (33.4 per cent) was higher when compared with youths from an Other Backward Class (28.7 per cent) or a General Category caste (26.5 per cent). The high unemployment rates among socially marginalized youths indicate the challenges they face in translating their aspirations into suitable employment opportunities. This trend perpetuates social disparities and hampers upward social mobility.

► Figure 5.17. Youth unemployment rate, by social group and level of education, 2022 (%)



Note: ST=Scheduled Tribes; SC=Scheduled Castes; OBC=Other Backward Classes; GC=General Category.

Source: Computed from Periodic Labour Force Survey data for 2022.

► 5.5 Education and type of employment

This section examines the quality and conditions of employment for youths in comparison with their educational profiles. It examines the status of employment, formal–informal employment and the sectoral distribution of employment to provide insights into the overall quality of youth employment.

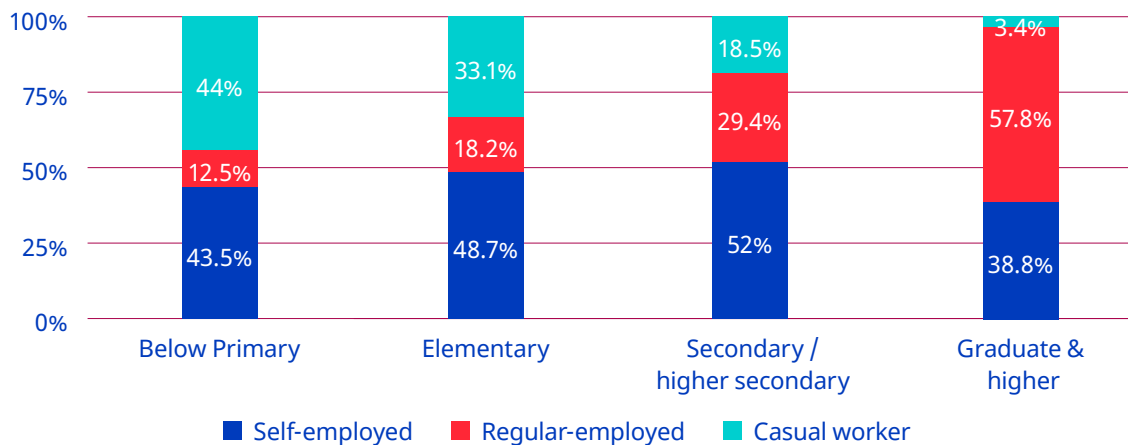
5.5.1 Employment status and general education

Youths with a secondary or higher-secondary education and those with a graduate degree were engaged more in regular salaried jobs, while youths with less education (less than a primary or elementary level) were involved more in casual work. It is well documented that individuals with higher levels of educational qualification associate with a higher likelihood of obtaining a regular salaried job (ILO 2020a). And in this analysis, indeed, the share of youths in regular employment increased with higher levels of education. In 2022, the largest share of youths in regular employment was among youths with a graduate degree or higher, reaching 57.8 per cent (figure 5.18). Conversely, the smallest share of youths in regular employment was found among youths having less than a primary education, accounting for only 12.5 per cent of the youth population. The distribution of youths in casual work exhibited an inverse pattern when compared to regular employment. The largest share of youths engaged in casual work was found among those with less than a primary education, comprising 43.6 per cent of the youth population. The smallest share of youths in casual work was among those with a graduate degree or higher, with only 3.4 per cent involved in such employment. The share of youths in self-employment had a mixed trend based on education level: The proportion of youths in self-employment increased from the primary to secondary education level, but among those with a graduate or higher, it declined by around 10 percentage points.

Over the years between 2005 and 2022, the share of youths in regular employment increased more significantly for those with a graduate degree or higher than youths with other education levels. This suggests a relatively greater improvement among more educated youths in accessing regular employment opportunities. There also was a notable decline in the share of casual workers among

youths with less than a primary education and among those with a graduate degree or higher in self-employment (see appendix table A5.9). The distribution of the youth employment across different education levels highlights the disparities in employment types. Higher education levels are associated with a higher likelihood of regular employment, which offers stability and better job security. Conversely, lower education levels more closely associate with casual work, which often lacks job security and social protection. The decline in self-employment among youths with a graduate degree or higher may indicate a preference for formal employment options.

► **Figure 5.18. Employment status of youths, by level of general education (UPSS), 2022 (%)**

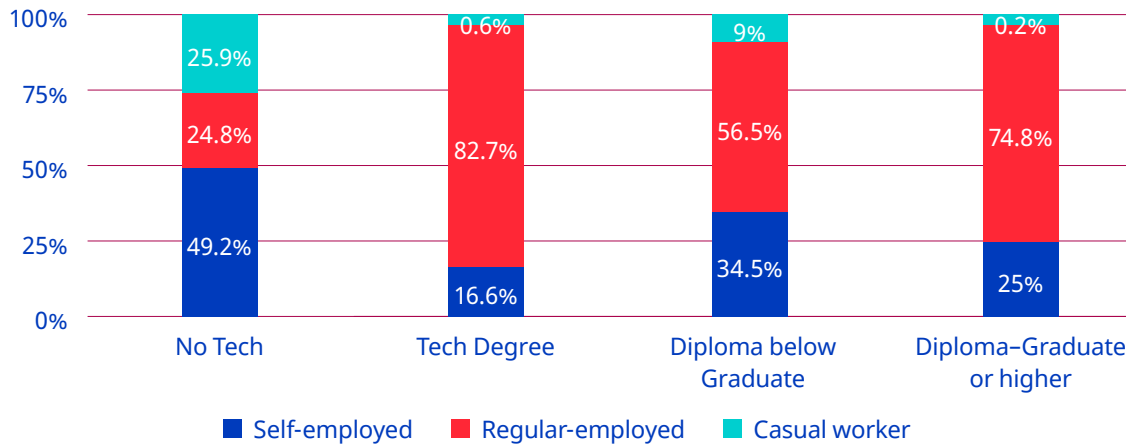


Source: Computed from Periodic Labour Force Survey data for 2022.

5.5.2 Employment status with technical education and vocational training

The youths with a technical training degree or a graduate diploma had a significantly larger share of regular employment compared with those without a technical qualification. Technical training degree holders and youths with a graduate diploma had a larger proportion of regular employment opportunities due to their specialized skills and knowledge (figure 5.19). This trend indicates the value of technical education in accessing stable and regular employment. Conversely, youths without any technical qualification tended to have a larger share of self-employment and casual work. Self-employment may provide an alternative avenue for income-generation, while casual work often represents less stable and less secure employment.

Over the years, there were notable changes in the distribution of employment types among the technical education categories. The share of regular employment increased considerably for youths with a technical training degree or a graduate diplomas while the share of self-employment this declined among them.

► **Figure 5.19. Employment status of youths, by level of technical education (UPSS), 2022 (%)**

Source: Computed from Periodic Labour Force Survey data for 2022.

Over time, the share of formally trained persons among regular youth workers increased slightly, to around 12 per cent in 2022 (see appendix table A5.11). But the youths with informal vocational training were more involved in regular employment than youths with formal vocational training. The share of informally trained regular workers increased by 9 percentage points, indicating that on-the-job training had a greater role in the training of workers than other channels. The other categories of workers had large shares of informally trained youths and small shares of formally trained youths. It is interesting that among the unemployed youths, a large share, at 10.5 per cent, had formal training in 2012, which increased to 11.5 per cent in 2022. As with general and technical education, many of the youths with formal skills training remained unemployed.

5.5.3 Education and other factors affecting youth participation in regular employment

Another probit regression analysis was carried out to examine the probability of youths being in regular employment versus casual work, using 2005 and 2022 to make a comparison over time. The dependent variable in this analysis was the regular-casual status of youths, where “regular salaried employment” was coded as 1 and “casual work status” was coded as 0. The independent variables were the same as discussed in section 5.4.5.

The regression results showed that age (experience) had an influential role in youth employment, with older-age groups having a greater probability of being in regular employment: Individuals in the 20–24 and 25–29 age groups had a 1.2 percentage-point and 2.2 percentage-point, respectively, greater probability than the 15–19 age group (see appendix table A5.3). Over time, this probability marginally declined for the 25–29 age group. Men and women had almost equal probability of being in regular employment. Over time, the probability for women increased, indicating their rising participation in regular employment. Across sectors, youths from urban areas had 1.5 times greater probability of being in regular employment than rural youths. This can be attributed to factors like the availability of more non-farm employment opportunities in the industrial and services sectors in urban areas. Over time, the probability of youths being in regular employment declined by 4 percentage points in urban areas compared with rural areas.

Educational hierarchy impacted the probability of youths being in regular employment, with those having a graduate degree or higher having 2.4 times greater probability than those with less than a primary education. Similarly, the probability of youths who had an elementary or secondary or higher-secondary

education increased by 1.3 times and 1.6 times, respectively. Over time, there was a decline in the probability of educated youths being in regular employment, with the decline being sharper among youths having a graduate degree. Technical qualification was also important for youths in accessing regular employment in the labour market. Youths with a technical degree or a graduate diploma had 1.4 times and 1.5 times greater probability of being in regular employment than individuals with no technical qualification. Additionally, formal vocational training also impacted the probability of youths being in a regular job, which was 1.2 times greater for those with formal training and 1.1 times greater for those with informal training when compared with youths without any vocational training. Over time, the probability of youths being in regular employment increased for all technically and vocationally trained individuals than for youths with no technical training.

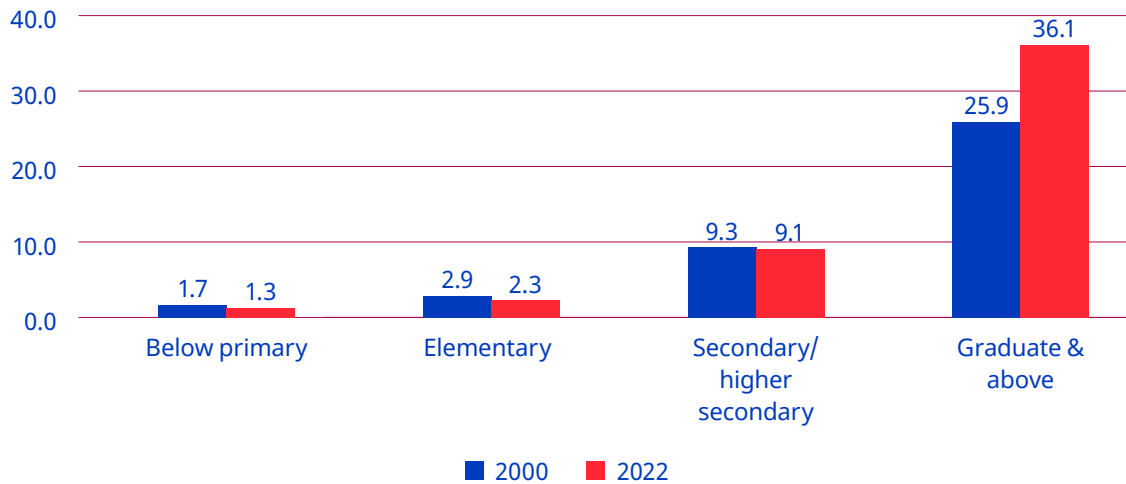
Income levels (monthly per capita expenditure quintiles) also affected the probability of youths being in regular jobs, with the probability rising with income level. Youths in the highest quintile had a 1.6 times higher probability of being in regular employment than those in the lowest quintile, but this probability declined over time. Across social groups, the probabilities of youths being in regular employment for youths from Other Backward Class or General Category were 1.2 times and 1.3 times, respectively, higher than for someone from a Scheduled Caste or Scheduled Tribe. Over time, this probability remained relatively stable. Across regions, the western and central areas had greater probability of youths being in regular employment when compared with other regions, but this gap also declined over time.

5.5.4 Formal and informal employment status and general education

The share of youths in formal employment in 2022 was notably larger among those with a graduate degree or higher (36.1 per cent) when compared with youths having a secondary (9.1 per cent), elementary (2.3 per cent) and less than primary (1.3 per cent) level of education (figure 5.20). This disparity underscores the educational advantage enjoyed by individuals with a higher level of education in accessing formal employment opportunities.

There were changes over the years in the distribution of the formal employment shares among different education levels. The share of youths in formal employment for those with a graduate degree or higher, at 36.2 per cent, increased by 10.2 percentage points, indicating a positive trend in accessing formal employment opportunities for highly educated youths (see appendix table A5.12). In contrast, the shares of youths in formal employment for other education levels – secondary, elementary and less than primary – declined during the same period. This suggests a relative disadvantage for individuals with low educational attainment in securing formal employment.

► **Figure 5.20. Formal employment status of youths, by level of general education (UPSS), 2000 and 2022 (%)**



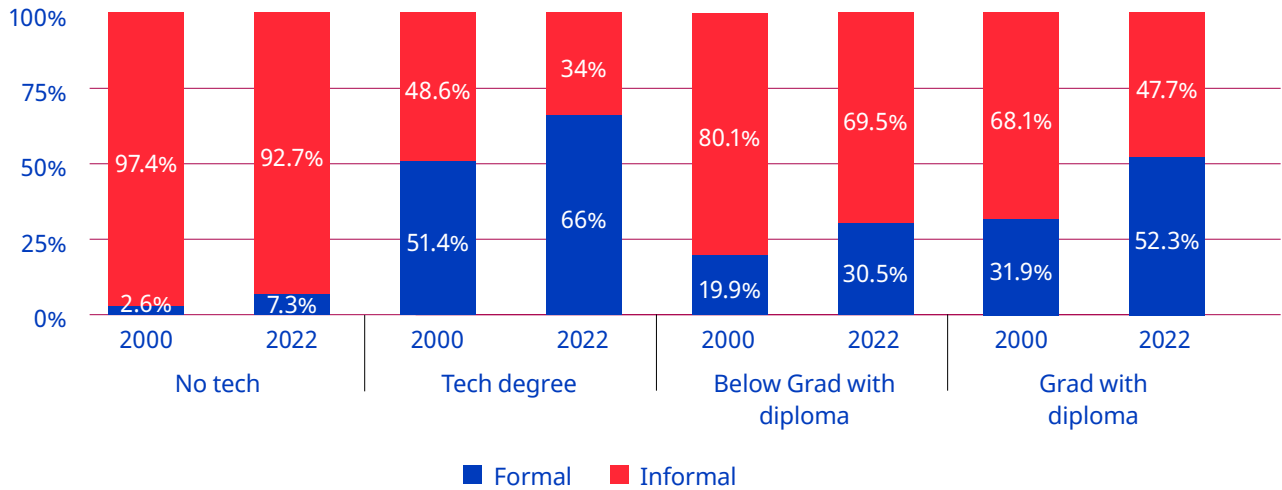
Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

5.5.5. Formal and informal employment status and technical education

It is argued that youths with technical education, such as a technical degree or graduate diploma, have a higher likelihood of securing formal employment when compared to those without a technical qualification (Kumar, Singh and Gupta 2020). In this analysis, the share of youths in formal employment was 66 per cent for technical degree holders and 52.3 per cent for those with a graduate diploma in 2022 (figure 5.21). In contrast, the share of formal employment among youths with less than a graduate diploma was smaller, at 30.5 per cent, and only 7.3 per cent for those without any technical qualification. These findings highlight the significant advantage that technical education provides for accessing formal employment.

The share of formal employment among youths with a technical degree or graduate diploma increased between 2000 and 2022. This indicates a positive trend in the availability of formal employment opportunities for individuals with technical qualifications (see appendix table A5.13). The increase in the share of formal employment among youths with a graduate diploma or technical degree was comparatively larger than the increase observed for those with less than a graduate diploma or no technical qualification. This suggests that technical education has a crucial role in enhancing the prospects for formal employment for youths.

► **Figure 5.21. Formal and informal employment status of youths, by level of technical education (UPSS), 2000 and 2022 (%)**



Source: Computed from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

5.5.6 Education, training and other determinants of youth participation in formal employment

Probit regression analysis was also used to examine the probability of youths being in formal or informal employment for 2005 and 2022 to make a comparison over time. The dependent variable in the regression model was the formal–informal status of youths, coded as 1 for “formal” and 0 for “informal”. The independent variables were similar to what was discussed in section 5.4.5.

The regression analysis examined various factors affecting youth employment in India and revealed several trends (see appendix table A5.4): The probability of youths being in formal employment increased with age (experience). Youths aged 20–24 and 25–29 had 1.4 times and 1.7 times, respectively, greater probability of being in formal employment when compared with those aged 15–19. Importantly, the probability of youths being in formal employment increased only for the two older age groups over time. The probability of being in formal employment was nearly equal for men and women. Across sectors, the probability of youths from urban areas being in formal employment was 1.8 times greater than for their rural counterparts, with the rural–urban difference declining over time.

The level of education also had a crucial role in accessing formal employment because the probability of youths being in formal employment increased with the level of education: Youth with an elementary, secondary or higher-secondary level of education or a graduate degree or higher had 1.3 times, 2.8 times and 6.3 times, respectively, greater probability of being in formal employment when compared with youths having less than a primary education. However, over time, the probability of youths being in formal employment declined. Similarly, the probability of youths with technical training education being in formal employment was greater than that of young individuals with no technical training. Additionally, the probability of youths with formal or informal vocational training was 1.5 times and 1.2 times higher, respectively, than for those without any vocational training. Over time, the relative difference in probability across categories of technical and vocational training decreased.

Across income levels (monthly per capita expenditure quintiles), the probability of youths being in formal employment increased in the higher quintiles. Youths in the highest quintile had 2.3 times greater

probability when compared with youths in the lowest quintile. However, over time, the probability of youths being in formal employment across the quintiles declined.

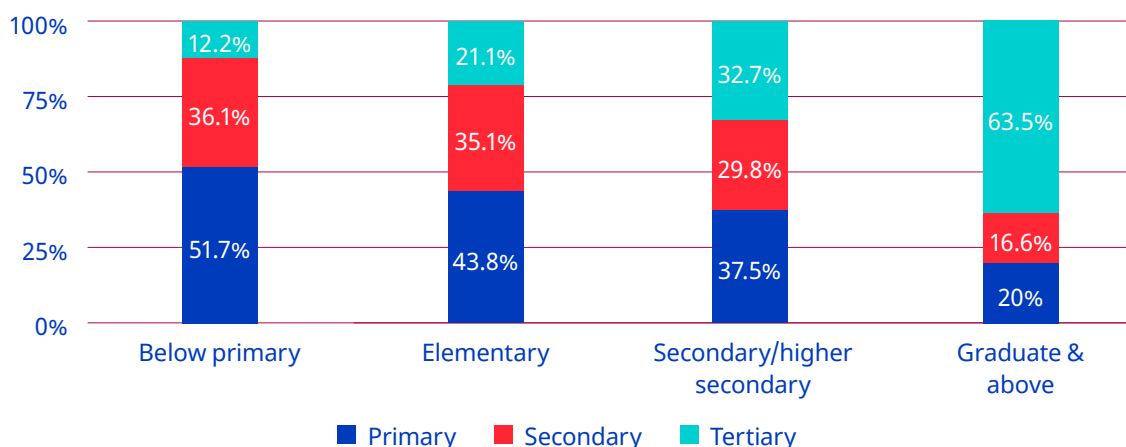
Social group also influenced the probability of youths being in formal employment, with youths from a Scheduled Caste, Other Backward Class or a General Category group having marginally greater probability than someone belonging to a Scheduled Tribe. Regional disparities were evident in the probability of youths being in formal employment: Youths residing in the southern, western and north-eastern regions had greater probabilities of being in formal employment than those from the northern, eastern and central regions. Over time, the regional differences in probability of being in formal employment decreased.

5.5.7 Industrial structure of employment and general education

It is well documented that **highly educated youths tend to be more involved in the tertiary sector, which includes industries such as services, finance and information technology. On the other hand, less-educated youths are more likely to be employed in the primary and secondary sectors, which encompass industries like agriculture, manufacturing and construction** (Rani and Nair 2017). In 2022, 63.5 per cent of youths with a graduate or higher education were engaged in the tertiary sector. This reflects the preference for white-collar jobs and the demand for skilled professionals in services-based industries. In contrast, the involvement of highly educated youths in primary and secondary sectors was relatively low, with 12.2 per cent of youths having less than a primary education and 32.7 per cent at the secondary level (figure 5.22). Among less-educated youths, a larger proportion was found to be engaged in the primary or agriculture sector. In 2022, 51.7 per cent of youths with less than a primary education and 43.8 per cent of elementary-educated youths were employed in the primary sector. This highlights their reliance on agricultural activities for livelihood. The involvement of less-educated youths in the secondary sector, including construction, was also notable, with 37.5 per cent at the secondary level.

From 2005 to 2022, the share of less-educated youths employed in the secondary sector increased, particularly in construction. This could be attributed to the growing demand for labour-intensive construction activities and infrastructure development projects. In contrast, the share of highly educated youths in all sectors remained relatively stagnant over time. This suggests that despite their higher educational qualifications, the employment opportunities for highly educated youths did not grow much across sectors.

► **Figure 5.22. Industrial distribution of youth workers, by level of general education (UPSS), 2022 (%)**

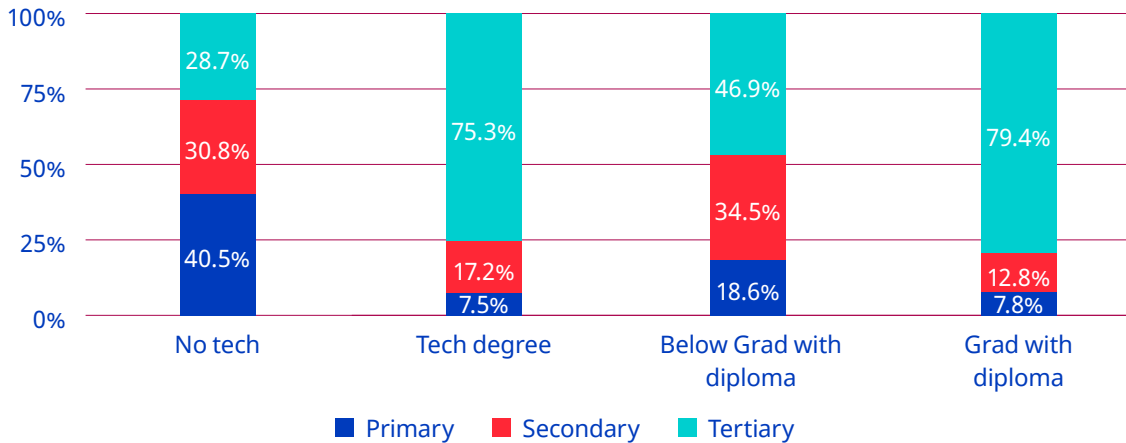


Source: Computed from Periodic Labour Force Survey data for 2022.

5.5.8 Industrial structure of employment and technical education

Youths with technical degrees and graduate diplomas had relatively greater involvement in the tertiary sector. In 2022, a significant percentage of technical degree holders (75.3 per cent) and youths with a graduate diploma (46.9 per cent) were employed in the tertiary sector (figure 5.23). This trend indicates their preference for professions requiring specialized knowledge and skills. Over the years, there was an increasing share of technical degree holders and youths with a graduate diploma in the tertiary sector, suggesting a growing demand for skilled professionals in services-oriented industries (see appendix table A5.15).

► Figure 5.23. Industrial distribution of youth workers, by level of technical education (UPSS), 2022 (%)



Source: Computed from Periodic Labour Force Survey data for 2022.

► 5.6 Education, employment and job search among youths in low-income localities: Findings from a 2020 survey

Chapter 4 and the previous sections highlighted patterns of education, training and employment among different segments of youths, including youths from social groups and poor households and women. Although educational levels have improved for all segments of the youth population, unemployment and the rate for not in employment, education or training among educated youths were very high among the disadvantaged sections of youths. Little is known about the demand among youths for further education, skills or training to improve their prospects in the labour market. As well, little is known about their job aspirations or job search processes, waiting periods or why a large proportion of educated young women opt out of the labour force.

This section summarizes the conclusions of a survey (IHD 2021) carried out among youths in low-income localities in two cities: the urban agglomeration of Delhi and Ranchi city in Jharkhand State (which has

an estimated population of about 1.5 million). The survey aimed to analyse the following questions. What kind of jobs do youths aspire for?

- ▶ How do the unemployed as well as other categories of youths engaged in a job search go about trying to find a job?
- ▶ How do youths look at additional training and education? What are the kinds of education and training that young people are looking at and why?
- ▶ How long does it take before youths take up their first employment?
- ▶ Does the employment of currently employed youths match their initial job expectations? If not, how do youths go about further job search, education or training, or do they simply adjust their expectations?
- ▶ Who are the young women and men who are not prepared to seek a job, even after they have completed their education or training?
- ▶ What restrains youths from joining the labour force or, alternatively, if they have been in employment, why did they opt to drop out?
- ▶ What are the steps that can bring the job leavers back into the labour force?

The survey was carried out by the Institute for Human Development in 2019 and 2020. A total of 1,920 youths (1,245 from Delhi and 675 from Ranchi) were interviewed – 53.1 per cent of them men and thus 46.9 per cent of them women. And 31 per cent of the female youths and 16.6 per cent of the male youths (aged 15–29) were married. Among all the respondents, 28.2 per cent were from a Scheduled Caste, 14.2 per cent from a Scheduled Tribe, 34.1 per cent from an Other Backward Class, 21.7 per cent from a General Category caste and 1.8 per cent from other groups. The proportion of Scheduled Caste youths was larger in Delhi while it was larger among Scheduled Tribe youths in Ranchi. And 78.6 per cent of the surveyed youth respondents were Hindu and 15.1 per cent were Muslim, with the remaining respondents from other religions.

5.6.1 Education and skills training survey findings

Of the total respondents, 6.2 per cent had less than a primary level of education, 9.1 per cent had a primary education and 18.2 per cent had a middle school-level of education. But 22.2 per cent were educated up to the secondary level and 25.1 per cent had studied up to the higher-secondary level. And 14.5 per cent of them had a graduate degree, 2.2 per cent had a post-graduate degree, 1.5 per cent had a technical or professional degree and 0.6 per cent had a technical or professional diploma. There were more women with a general graduate or higher degree (17.8 per cent) than men (15.9 per cent), but 3.4 per cent of the men had a technical or professional degree or diploma, compared with 1.2 per cent of the women.³⁷

While 78.9 per cent of the youths had studied in the Hindi medium, 17 per cent had studied in English-medium institutions. Among those who had opted for specific education streams at the higher-secondary level, 71.9 per cent had studied arts and humanities, 13.2 per cent in natural sciences and mathematics; 5.1 per cent in engineering, technology or management, 1 per cent in medical sciences and 10.5 per cent in commerce or law.

Across both cities (Delhi and Ranchi), 84.9 per cent of the respondents were enrolled in government or public educational institutions, followed by 13.4 per cent in private aided and 1.4 per cent in private

³⁷ For further details for this and the next section, see IHD 2021 and www.ihdindia.org/pdf/Book-EDUCATION-SKILL-AND-JOBS-IN-URBAN-INDIA.pdf.

unaided institutions.³⁸ In addition, women in both cities were enrolled in greater numbers than men in government education institutions.

Many of the youth respondents (60.2 per cent) were not studying at the time of the survey. Among the others, 39.4 per cent of them were studying in general or tech-based courses and only 0.3 per cent were in vocational training. A small number of them (0.1 per cent) were pursuing both general courses along with vocational training. Only a tiny percentage of all respondents had undertaken formal training (1.5 per cent). Around 90.3 per cent of the student respondents were financing their education through household resources, while 8.9 per cent of them relied on a scholarship and 0.3 per cent had a loan.

5.6.2 Activity status of surveyed youths

Many of the female respondents were in higher education, while the number of working men was more than four times that of working women. Most women reported either being a student (42.8 per cent) or in domestic duties (44.1 per cent), and only 1.2 per cent reported being unemployed (table 5.14).

► **Table 5.14. Activity status during the year prior to the survey (primary economic activity), in Delhi and Ranchi, 2020 (%)**

Activity status	Male	Female	Total
Worker	45.0	10.3	28.8
Unemployed	5.8	1.2	3.6
Student	41.3	42.8	42.0
Only domestic duties	1.8	44.1	21.6
Other	6.1	1.5	4.0
Total	100	100	100

Source: IHD 2021.

Among the youths who were working, slightly more than half of them, at 56 per cent, were regular salaried or wage workers, 14.8 per cent were casual wage workers and 29.2 per cent were self-employed, including 4.7 per cent unpaid family workers.

5.6.3 Aspirations of the surveyed students

About 85 per cent of the student respondents expected to continue their studies. And around 44 per cent of the respondents wanted to pursue a non-technical or professional graduate or post-graduate course (bachelor’s or master’s degrees), followed by graduate teacher training (11.7 per cent), professional or technical degree (9 per cent), secondary or higher-secondary education (8.9 per cent), other short-term courses (7.6 per cent) and professional and technical diploma (4.4 per cent). Nearly a fifth of the women wanted to pursue teacher training, while 12 per cent of the male youths wanted to pursue a technical or professional course. This suggests a high demand for professional and employment-oriented courses among youths.

As many as 91 per cent of the student respondents, both men and women, said they were interested in seeking employment and joining the labour market after completing their education.

³⁸ Private aided institutions are privately managed but receive regular government financial support, whereas private unaided institutions do not receive any government financial aid.

More of the female respondents (10.6 per cent) than male respondents (0.5 per cent) indicated wanting to marry and raise a family after their education.

More than one fourth of the student respondents planned to eventually take up a government job (26.9 per cent), followed by a teaching job (15 per cent), a high-end professional or technical job (10.2 per cent), a private salaried job (8.7 per cent), a low-end professional or technical job (7.8 per cent), a banking job (5.9 per cent), a computer-related job (3.5 per cent) or a job in the army or police (2.6 per cent) or with the railway (1.8 per cent) (table 5.15). **This shows that the demand for white-collar jobs, particularly government jobs, was high among the respondents and particularly in banking, police or army and railways in smaller town and cities, such as Ranchi. The preference for teaching and banking jobs was high among female respondents, while men preferred professional and technical jobs.**

► **Table 5.15. Type of employment aspiration among surveyed students after completion of their education, 2020 (%)**

	Male	Female	Total
Any government job	28.3	25.4	26.9
Teacher	8.7	22.0	15.0
Professional and technical (high end)	11.8	8.4	10.2
Any private job	11.6	5.5	8.7
Professional and technical (low end)	8.2	7.2	7.8
Bank	4.4	7.5	5.9
Computer operators	3.9	3.2	3.5
Army and police	3.1	2.0	2.6
Railway	2.6	0.9	1.8
No response	17.5	17.9	17.7
Total	100	100	100

Note: The data do not apply to all 1,920 respondents but only to 806 student respondents.

Source: IHD 2021.

About half (51.9 per cent) of the respondents indicated that a good salary was the main reason behind them choosing a certain vocation, followed by better career growth opportunity (15.5 per cent), stability offered by the job (11 per cent), convenient location (5.8 per cent) or other reason (5 per cent), such as the job being challenging or the brand name of a company (table 5.16).

► **Table 5.16. Reasons for choice of employment, 2020 (%)**

	Male	Female	Total
Good salary	52.9	50.7	51.9
Better career growth opportunities	15.7	15.3	15.5
Stable job	13.7	8.1	11.0
Convenient location	3.0	8.9	5.8
Other reasons	5.3	4.4	5.0
No response	9.4	12.5	10.9
Total	100	100	100

Source: IHD 2021.

5.6.4 Job search, waiting period and reasons for not finding employment among surveyed jobseekers

Among the surveyed youths who were unemployed or actively seeking employment, around 80 per cent had been looking for a job for more than a year. Only about 4 per cent of the respondents said they were looking at a job that differed from their first job.

Almost half of the youth respondents reported searching for a job through the internet or other online application, followed by newspaper advertisement and applications (17.8 per cent), then word of mouth and personal contacts (14 per cent). Social networking sites, registration with employment exchanges and online placement agencies were not popular avenues of job search for these youths.

Only around 7 per cent of the youths surveyed had turned down a job offer in the past. The major reasons for doing so was either non-availability of job near their residence (43.8 per cent) or the low salary offered (25 per cent).

The major constraints reported in finding a jobs were non-availability of jobs matching with education, skills or experience (35 per cent), high competition (14.6 per cent), unavailability in local area (12.7 per cent) and lack of regular employment (10.2 per cent). In addition, some of them also reported lack of communication skills (4.5 per cent), lack of information on new jobs (1.9 per cent) or inability to adapt to new or changing technology and skills.

Women in both cities experienced more hurdles in accessing a job than men due to non-availability of jobs matching with their education, skills or experiences and the high competition.

Around 18 per cent of these youths said that further education would have been helpful in accessing the right job, which was a response relatively more common among the female respondents (at 21.4 per cent) than the male respondents (at 16.7 per cent). About 18 per cent of all respondents reported that formal vocational training would have been most helpful in accessing jobs (IHD 2020a).

5.6.5 Currently employed youths: Job search and satisfaction survey findings

The survey respondents included youths who were employed but looking for another job. **Contrary to the job aspirations of youths who were studying, the youths who were employed engaged in a variety of jobs in low-paying no-skill categories**, such as delivery boy, helper, sweeper, tea stall owner, vegetable seller, small shop owner. Some of them were in jobs requiring certain skill, such as driver, computer operator, data entry operator, auto mechanic, accountant, salesperson or bank clerk. And some were in high-skill jobs, such as engineering, manager and teaching. Nearly all of them (96.3 per cent) were in a full-time position. Around 4 per cent of the youth respondents who were employed reported that they had had some structured training provided by their employer.

Only 8.4 per cent of the respondents reported that they were looking for another job, while the others wanted to retain their then current job. About half of those looking for another job cited no upward mobility or financial growth in their job (48.8 per cent), one fourth (26.8 per cent) said they had a contractual job that would end, followed by termination of the job contract (7.3 per cent) or they had been laid off (4.9 per cent). The main avenues of job search among them were internet searches and online applications (55.3 per cent), followed by newspaper advertisement (13.2 per cent) and word of mouth or personal contacts (31.6 per cent).

The constraints faced in finding a better jobs were the non-availability of jobs matching with their education, skills or experience, followed by the unavailability of a job in the local area, as well as lacking communications skill, lack of regular employment, lack of information about new jobs and the non-availability of adequate remuneration.

5.6.6 Surveyed youths not in education, employment or training

One fourth of the total youths surveyed were not in education, employment or training. Women dominated among them (at 44.5 per cent), compared with 7.5 per cent of the young men. Just 1.2 per cent of the youth respondents not in employment, education or training were ever in employment.

Only 8.9 per cent of these youths ever wanted to be in employment (20.7 per cent of men and 6.7 per cent of women). While 90 per cent of them preferred a full-time job, 10 per cent (all women) said they would prefer a part-time job.

The two main reasons for opting out of employment that respondents reported were family or childcare responsibilities and the family or spouse did not want them to work or participate in the labour market (table 5.17). These reasons were more pronounced among the female respondents than the men in both cities. Other reasons were non-availability of jobs near their residence, unsuitable work or environment, the company had gone out of business, the non-availability of transport and they were financially well-off with no need to earn money. Among the female respondents, family views and responsibilities kept them out of the job market in 74.8 per cent of cases, while lack of suitable opportunity applied in 2.8 per cent of cases.

► **Table 5.17. Reasons for surveyed respondents not being in the labour force, 2020**

	Male	Female	Total
Family or spouse did not want me to work	4.9	35.4	30.9
Family and childcare responsibilities	9.8	39.4	35.0
Unsuitable work and work environment	6.6	2.8	3.4
Non-availability of jobs near to residence	6.6	6.2	6.3
Non-availability of transport facility to the workplace	0.0	0.6	0.5
Financially well-off and no felt need for earning money	6.6	0.6	1.4
Laid off and company closure and expiry of job contract	3.3	0.3	0.2
Other (specify)	62.3	14.7	21.7
Total	100	100	100

Source: IHD 2021.

When the women who were not in employment, education or training were asked about other constraints and what could be done to support their entry into the labour force, 33.3 per cent of them mentioned safety concerns outside the workplace; 25.9 per cent cited the need for a creche facility; 11.1 per cent mentioned security concerns inside the workplace; and 14.8 per cent mentioned better and more adequate transport arrangements.

Overall, the youths surveyed in the low-income localities of Delhi and Ranchi showed a high propensity for education but mostly in lower-quality institutions. Formal skills training was very low. Among the youths in education, more than 90 per cent aimed to join the labour force after completing their studies and mainly aspired for public sector white-collar jobs, with some differences in job preferences between the men and women. The main reasons cited for their job preferences were higher income, career growth opportunity and job stability.

Among those currently working, the actual profile differed from the aspirations expressed by the cohort of students: 56 per cent were regular salaried or wage workers, 30.2 per cent were self-employed, 14.8 per cent were casual wage labourers, 7.3 per cent were employers and 4.7 per cent were unpaid family workers.

Among the jobseekers, 80 per cent had been waiting for more than a year to find employment. Among the major groups of reasons cited for not getting a job were non-availability of jobs matching with their education, skills or experience, high competition and lack of appropriate skills or education. Nearly 18 per cent said that more education and training would have helped them secure a decent job.

Among the youth respondents not in employment, education or training, women predominated and family attitudes and domestic work were cited as the main reasons for their remaining out of the labour force. The women not in employment education or training reported that, apart from more equitable sharing of domestic responsibilities and an encouraging family attitude, a safe and secure environment, creche childcare support and better transport options to work could be conducive to their joining the labour force.

► 5.7 Has the mismatch between education level and jobs for highly educated youths increased over time?

There is increasing focus on qualification mismatch and skills mismatch in labour markets due to their impact on productivity, growth and workers' income (ILO 2018b). Qualification mismatch comprises the mismatch between the level of educational attainment and the field of study or job. Mismatched workers may either be overqualified or underqualified. Skills mismatch is the discrepancy between the skills possessed by a worker and the skills required by their job (ILO 2019b and 2018b; Quintini 2011). Skills can be acquired both formally and informally. A distinction is further made between job-specific or technical skills, basic skills and transferable skills. As a result of such mismatches, there can be over-skilling, described as a situation in which a worker's skills are greater than what is required by their job. Under-skilling is a situation in which a worker's skills are insufficient for what is required by their job. Skills mismatch is considered one of the factors causing unemployment and underemployment among highly educated youths (ILER 2014). Skills mismatch is further discussed in the context of vocational education and training in Chapter 6.

With the increase in educational attainment among youths, a disturbing feature of the labour market that emerged in recent years is the large imbalance between the demand for jobs by youths and their supply, leading not only to higher levels of unemployment and longer waiting periods but also the educated youths with a graduate degree or higher have readjusted their expectations to take up jobs for which they would otherwise be treated as overqualified. This is most manifested in low-grade public sector jobs, where the eligibility qualifications are a primary level or, at the most, secondary level of education. As noted in box 1, job advertisements can attract up to several hundred thousand applicants, many of whom have a graduate or post-graduate degree, an engineering graduate degree and even PhD holders. The explosive gap between qualifications and aspirations and jobs has also been leading to discontent and massive protests. While these examples are common in somewhat less-dynamic states, they have also been reported from the more economically dynamic states.

Because of the explosive nature of this problem, even though underqualification is considered more problematic than overqualification in developing countries (ILO 2019b), the analysis focused on overqualification in terms of education level. This section thus looks at the nature of the imbalance that

is resulting in a larger proportion of youths with high educational qualifications (graduate degree or higher) accepting poorer-quality jobs and whether this trend has increased over time, with more youths acquiring higher education degrees.

5.7.1 Occupation levels and education

The International Standard Classification of Occupations (ISCO-08) defines *occupation* as a “set of jobs whose main tasks and duties are characterized by a high degree of similarity”. *Skill* is defined as the ability to carry out the tasks and duties of a given job. For the purposes of the ISCO-08, two dimensions of skill are used to arrange occupations into groups: *skill level* and *skill specialization*.

Skill level is defined as a function of the complexity and range of tasks and duties to be performed in an occupation. Skill level is measured operationally by considering one or more of the following:

- ▶ nature of the work performed in an occupation in relation to the characteristic tasks and duties defined for each ISCO-08 skill level;
- ▶ level of formal education defined in terms of the International Standard Classification of Education (ISCED-97) (UNESCO 1997) required for competent performance of the tasks and duties involved; and
- ▶ amount of informal on-the-job training and/or previous experience in a related occupation required for competent performance of these tasks and duties.

As per ISCO classification, jobs based on task and occupations and educational qualification are divided into four broad levels of skills: no skill (I), low skill (II), medium skill (III) and high skill (IV). ISCO-08 mapped major occupation groups to skill and education levels (ISCED- 97). The classification recognizes that countries may need to customize the skill and education levels according to their specific characteristics. The Indian Standard Classification of Occupation (2015) provides the following correspondence between occupation groups, skill levels and education.

► **Table 5.18. Definition of levels of skill and corresponding educational requirements**

Skill level	Skill definition	Educational requirements	NCO (single digit)	NCO code (1-digit)
I	Typically involves the performance of simple and routine physical or manual tasks	Primary education	Elementary workers	9
II	Typically involves the performance of such tasks as operating machinery and electronic equipment, driving vehicles, maintenance and repair of electrical and mechanical equipment, and manipulation, ordering, and storage information	Secondary education	Plant and machine operators Craft and related trade workers Skilled agricultural workers Service workers and shop and market sales workers Clerks	4, 5, 6, 7, 8
III	Typically involves performance of complex technical and practical tasks that require an extensive body of factual, technical and procedural knowledge in a specialized field	First university degree	Associate professionals	3
IV	Typically involves the performance of tasks that require complex problem-solving, decision-making and creativity based on an extensive body of theoretical and factual knowledge in a specialized field	Post-graduate university degree	Professionals	2

Source: National Classification of Occupations Volume I, 2015.

In this section, the assessment of the mismatch between education level and occupation is based on educational qualification using a normative approach. **The general minimum eligibility requirements for many jobs in occupational group 4 would be a graduate degree or equivalent. The analysis treated occupation groups 3 and 4 as on par and, for simplicity due to interest in the occupation profile of highly educated individuals, occupation groups 5–8 were combined with group 9.**³⁹

Apart from formal education, a job and occupation may also require skills acquired through experience or training that enhances a candidate’s employability, which a large proportion of the youth population has lacked in the past (Teamlease 2007). Quintini (2011) argued that education is only a rough proxy for skills due to the following factors: **“i. at each qualification level, student performance varies significantly and so does field of study, particularly for tertiary graduates; ii. qualifications only reflect skills learnt in formal education and certified training; iii. skills learnt on the job through labour market experience are not measured; and iv. some of the skills reflected in qualifications may deteriorate over time if they are not used or kept up to date”.**

The analysis carried out here focused on whether highly educated youths (with a graduate degree or higher qualification) had taken up jobs for which they were overqualified and whether this was happening on a larger scale over time. This issue was examined for 2005 (based on National Sample Survey data), 2019 and 2022 (based on Periodic Labour Force Survey data). Table 5.19 gives the percentage of youths with a graduate or post-graduate degree according to occupation category covered in the analysis.

³⁹ The skill-based classification followed in this chapter differs from what was followed in section 2.7, where NCO group 4 is treated as low-skilled. Both in Chapter 2 and here, elementary workers are grouped with other low-skilled workers, leaving three skill levels: low, medium and high.

► **Table 5.19. Distribution of youths with high educational qualification across skill and occupation categories, 2005, 2019 and 2022 (%)**

Year	Skill and occupation category	Male		Female		Person	
		Graduate	Post-graduate	Graduate	Post-graduate	Graduate	Post-graduate
2005	High skill and occupation	10.6	22.4	11.4	29.3	10.7	23.4
	Medium skill and occupation	43.7	40.6	51.4	35.0	44.8	39.8
	Low skill and occupation	45.8	37.0	37.2	35.7	44.5	36.8
	Total	100	100	100	100	100	100
2019	High skill and occupation	19.6	39.9	26.9	41.7	21.4	40.5
	Medium skill and occupation	27.9	28.1	49.3	45.5	33.0	34.4
	Low skill and occupation	52.4	32.0	23.8	12.8	45.6	25.1
	Total	100	100	100	100	100	100
2022	High skill and occupation	22.5	42.8	41.4	65.0	27.5	52.6
	Medium skill and occupation	19.1	24.1	21.7	15.2	19.7	20.2
	Low skill and occupation	58.4	33.1	36.8	19.7	52.8	27.2
	Total	100	100	100	100	100	100

Source: Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2019, 2022.

Men: There was a rapid sliding down of male youths with graduate degrees. Already in 2005, 45.8 per cent youths were in occupation groups 5–9. This increased to 52.4 per cent in 2019 and 58.4 per cent in 2022. Occupational polarization among graduate degree holders increased, with an increase in the percentage of youths in the high-skill category increasing from 10.6 per cent in 2005 to 22.5 per cent in 2022.

Male youths with a post-graduate degree increased their proportion in the high-skill occupation NCO group over time, with a more rapid fall in the medium-skill category (from 40.6 per cent in 2005 to 24.1 per cent in 2022) and a smaller decline in the proportion of such youths in the lowest category. Even in 2022, 33.1 per cent of such students were in blue-collar occupations while 24.1 per cent were in occupations for which they were overqualified.

Women: Employed female youths with a graduate degree were better matched in their job than their male counterparts in 2005. But a similar sharp deterioration was apparent in the occupational distribution of female youths with a graduate degree between 2019 and 2022. Compared to 37.2 per cent of female youths with a graduate degree (a smaller portion than among male youths) in low-skill occupational categories in 2005, the respective percentages fell to 22 per cent in 2019 and increased very sharply to 36.8 per cent in 2022. Due to the small sample size in the initial years, the occupational distribution of female youths with a post-graduate degree was subject to less definitive analysis, but broadly, their proportion in occupation groups 5–9 increased. But there also was a polarization in occupations, with

a decline in the percentage of female youths with a graduate degree in a medium-skill job. Among the female youths with a post-graduate degree, the pattern was different, with jobs in the high-skill occupation category gaining at the expense of both the medium- and low-skill category occupations.

Overall, the occupational distribution of male and female youths reflected the same pattern. Among graduate degree holders, an increasing occupational polarization was evident; but among youths with a post-graduate degree, those in high-skill category occupations gained at the expense of youths in the middle- and low-skill categories.

5.7.2 Technical education

This section looks at the extent to which youth workers (aged 15–29) with a graduate or higher technical degree or diploma were overqualified for their job and whether this trend increased after 2005. Table 5.20 shows the skill and occupational distribution of these youths.

► **Table 5.20. Distribution of youths (aged 15–29) with technical education, by skill and occupation categories, 2005, 2019 and 2022 (%)**

		Technical degree	Diploma or certificate above graduate	Total
2005	High skill and occupation	32.11	18.21	21.31
	Medium skill and occupation	42.03	42.60	42.47
	Low skill and occupation	25.86	39.19	36.22
2019	High skill and occupation	52.96	35.30	47.53
	Medium skill and occupation	27.89	48.53	34.24
	Low skill and occupation	19.15	16.17	18.23
2022	High skill and occupation	59.99	65.43	61.54
	Medium skill and occupation	20.84	15.57	19.34
	Low skill and occupation	19.17	19.00	19.12

Source: Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2019 and 2022.

Among the youth workers with a technical degree or a graduate or higher diploma or certificate, there was an increase in the high-skill occupation categories. Among degree holders, 32.1 per cent were in the high-skill occupation category in 2005, and this increased to nearly 60 per cent in 2022. Among diploma holders, 18.2 per cent were in the high-skill occupation category in 2005, and their portion increased significantly, to 65.4 per cent in 2022. Jobs in NCO 3 and 4 do not require a technical degree, which suggests a still greater degree of overqualified technical graduates in the labour market.

Although this trend is encouraging, nearly two fifths of the technically qualified students were still in those occupations in 2022, for which they were overqualified.

Overall, the expansion of technical education has not contributed to more technically educated students joining the workforce at the lower end of the occupational pyramid. But the sizeable proportion of overqualified technical training graduates in lower NCO levels remains a concerning issue.

Although youths with high levels of education aspire for suitable and decent jobs, the labour market pushes many of them into low-skill and blue-collar occupations, where the eligibility requirements are much lower. The analysis revealed this to be true for youths with a graduate or post-graduate degree as well as holders of a technical training degree or diploma. With the expansion of higher education, a greater proportion of youths with a graduate degree took up such jobs.

► 5.8 Summing up

This chapter explores the intricate link between education and the labour market. It shows that educational attainment among youths improved significantly over the past two decades and that all sections of youths experienced improvement. The proportion of technically educated youths among those with a graduate or higher degree also increased. This indicates that youths are generally better equipped to deal with technological change and emerging labour market opportunities. The analysis also points out that although all segments of youths experienced improvement in educational attainment, in most cases, gaps persist and have even grown across social groups, monthly per capita expenditure quintiles, location and region. **This demonstrates that the different segments are placed very differently in terms of the emerging labour market opportunities.**

The analysis of returns to different levels of education found that improvements at the lower levels of education brought little incremental returns. **The highest jump occurred for employed youths who had a graduate degree or higher or technical training.** Of course, returns to education were also influenced by the gender of the youths, their location, social origin and economic background.

Due to youth participation in education having nearly doubled in the two decades covered by the analysis, this chapter examined the worker population ratio among non-student youths. There was a declining trend in that ratio that is now more marked among youths having a low level of education. The worker population ratio among all as well as male non-student youths exhibited a weak inverted U-shaped pattern in relation to their educational attainment (the female worker population ratio continued to exhibit the familiar U-shaped curve), highlighting the dual challenges faced by individuals with low and high levels of education in terms of their participation in the labour market.

The worker population ratio among technically qualified non-student youths experienced a steep decline, raising concerns about the quality of technical education in the country. Formal vocational training among young individuals in India continued to associate with a low worker population ratio.

Unemployment rates among youths showed a disturbing trend, increasing as the level of education rises, with the highest rates among youths with a graduate or technical training degree. In particular, the concern is the disproportionately higher unemployment rate among youths with a technical degree or diploma, which has surpassed even the rate among youths with a general graduate degree. What is even more alarming is that these rates consistently have been on the rise.

Unemployment rates among highly educated youths from lower-income families are a particular cause for concern because they face equal or even higher unemployment rates than their counterparts from higher-income families. Among other issues, this trend reflects the growing aspirations of youths for white-collar jobs regardless of their income class, which the survey results featured in this chapter brought out. Additionally, unemployment rates are disproportionately higher for youths from marginalized social groups, such as Scheduled Castes and Scheduled Tribes, in comparison with Other Backward Classes and the General Category castes. This disparity sheds light on the intersection of social group and unemployment, where individuals from historically marginalized communities face even greater hurdles in securing employment, even when they possess a high level of education.

The analysis found that the highly educated youths with a secondary or higher-secondary or graduate level of education were predominantly employed in regular salaried jobs. Youths with less than a primary or elementary level of education were more likely to be in casual or informal work. Youths with a technical degree and a graduate-level diploma were more likely in regular or formal employment than those without a technical qualification. Although there was a rise in the unemployment rate among highly educated and technically qualified youths in the time frame covered, it is widely acknowledged that education has a vital role in accessing quality employment opportunities. As individuals attain higher levels of education, they are more likely to have access to more secure and formal employment options, leading to higher average returns.

Highly educated youths tend to be more actively engaged in high-productivity sectors, primarily the tertiary sector. This sector encompasses a range of services, such as business, telecommunications, finance and information technology. The skills and knowledge acquired through higher education equip these individuals with the expertise required to excel in these sectors, which contribute significantly to economic growth and development. Less-educated youths are more likely to find employment in the primary and secondary sectors. The primary sector includes activities related to agriculture while the secondary sector comprises manufacturing and construction. These sectors often require manual labour and may have lower levels of productivity than the tertiary sector. Youths with technical degrees and graduate diplomas are involved more in the tertiary sector. This can be attributed to the specialized skills and technical knowledge they acquire through their education, which aligns with the demands of industries within the tertiary sector.

The probit regression analysis provided further insights into the factors influencing youth employment and thus complemented the descriptive findings. After controlling for several factors, the analysis revealed that the probability of being employed rose with age and that it was higher for men and in rural areas and for socially deprived groups. It also increased for youths in the higher expenditure quintiles. It was lower as the education level rose but higher for youths with a technical education. And it was higher for the more economically dynamic regions – the North, West and South. Additionally, regression analysis also revealed that the likelihood of highly educated youths being engaged in regular formal employment increased with the level of education and technical qualifications.

The results of a field survey carried out by the Institute for Human Development among youths in low-income localities in Delhi and Ranchi cities supplemented the analysis of secondary data. This study found that the student participation rate in these localities was close to the national average. The student respondents in the survey largely studied in government institutions and the Hindi medium, and more than 90 per cent of them reported an aspiration for employment after studies. Their employment preferences were largely white-collar public sector jobs, and this preference was dictated by their aspiration for a high income and job stability, with some gender differences among those findings. But these aspirations differed considerably from the actual labour market outcomes of other respondents, in which only 56 per cent of youths were in regular salaried or wage jobs.

Among the active jobseekers, most had waited more than year to find a job. The major constraints reported in finding employment were non-availability of jobs matching with their education, skills and experience, the dearth of regular jobs, the high competition and unavailability of a job in the local area. In addition, some of them also reported lack of communication skills, lack of information on new job opportunities and inability to adapt to new or changing technology and skills. Nearly a fifth of these respondents reported that further formal education would have improved their prospects in the labour market, and an equal percentage said that formal training would have helped them.

Women dominated among youths not in employment, education or training in these survey findings. The female respondents reported that the main two reasons for opting out of employment were either family or childcare responsibilities or their family or husband did not want them to work or participate in the labour market. Supportive measures that would help the women join the labour force were led by safety inside and outside the workplace, a creche facility for childcare and affordable transport.

Given the large number of widely reported instances in which highly educated youths had applied for blue-collar public sector jobs, the analysis examined the extent to which highly educated youths (graduate degree or higher) had actually taken up such jobs (defined as those in the NCO groups 5–9). The actual percentage of youths with a graduate, post-graduate or technical training degree or diploma who had taken up such jobs was quite high, even in 2005. Between 2005 and 2022, the proportion of youths with a graduate degree with a low-skill category job went up considerably, whereas youths with a post-graduate or technical training degree or diploma retained their proportion of jobs in the high-skill occupation categories.

These findings further underscore the multifaceted nature of youth employment, influenced by age, gender, location, education, vocational training, regional disparities, social group background and economic status. Although educational attainment increased overall in the 17 years analysed, there appeared to be sharp constraints on the demand side that pulled down the employment rates (for youths with high and low levels of education), pushed up the unemployment rates and required even highly educated youths to take up blue-collar jobs. Understanding these dynamics will aid in the formulation of policies and interventions that more succinctly address the complex challenges surrounding youth employment and promote inclusive and equitable opportunities for all.



▶ 6

Skills and active labour market policies

▶ 6.1 Introduction

India has the significant advantage of a young population offering huge potential for a demographic dividend (Chapter 2). However, the high unemployment rate and the low LFPRs among non-student youths demonstrate that the process of economic growth has not been able to efficiently absorb an expanding share of youths into the labour force. This calls for short-term as well as long-term reform measures, both on the supply and demand side.

This chapter begins by discussing the current skills development scenario. Skills development aims at addressing the *skill shortages* and the *skills mismatches* through short-term training. It also aims at the strengthening of a long-term skills ecosystem that increases the *employability* of youths, in line with changing requirements. Over the past quarter century, deficiencies in the vocational education and training ecosystem have been acknowledged, and Indian policy has actively sought to build up a dynamic ecosystem for technical and vocational education and training (TVET), which is integrated by standard setting and certification, is inclusive and market-oriented, is predicated on public-private partnerships and caters to a rapidly changing employment scenario. More recent attention has included the mainstreaming of skills training into all levels of education.

Although short-term skills training to bridge the mismatch between supply and demand for a skilled workforce in the current labour market scenario is an important active labour market policy, this chapter looks at other active labour market policies that have been adopted in India. This includes the recent policy thrust on the demand side, particularly for the development of entrepreneurship and expanding self-employment. Digital databases are being developed and deployed to reduce job search and recruitment costs. The effectiveness of the active labour market policies in India is assessed through macro-level analysis and evaluation studies.

Decades ago, social protection systems were typically implemented in developing economies in the form of passive labour market policies or short-term interventions (Sabates-Wheeler and Devereux 2011), such as unemployment insurance and welfare benefits paid to unemployed persons. These aimed to provide replacement income during periods of crisis. However, rising unemployment and poverty stressed the need for strong and stable labour market interventions concerned with employment promotion and poverty reduction (Malo 2018). Such interventions, termed as active labour market policies (ALMPs), sought to improve employment conditions and income-earning capabilities and thus break the poverty cycle. Their aim encompassed the labour market integration of youths (Pignatti and Van Belle 2018; Meager 2009). Thus, ALMPs now include vocational training, public works programmes, employment subsidies and job matching.

ALMPs can be divided into three main categories (McKenzie, 2017; Meager 2009): (a) policies operating on the supply side of the labour market that seek to increase the employability of youths through training and skills development schemes; (b) policies to increase the demand for a young labour force through employment-generation schemes and the provision of subsidies to employers; and (c) job search assistance schemes to match jobseekers with employers (see box 12 for recognition of how ALMPs have helped improve labour market outcomes for youths globally).

► Box 12. Role of active labour market policies

Several studies of active labour market policies (ALMPs) have demonstrated their positive impacts.

Card, Kluge and Weber (2010), for instance, carried out meta-analysis of micro-econometric evaluations of ALMPs in 26 countries that had been conducted between 1995 and 2007. They concluded that job search assistance programmes yield relatively favourable impacts, whereas public sector employment programmes are less effective. Training programmes in their study were associated only with positive medium-term impacts.

Kluge et al. (2017) reviewed impact evaluation studies conducted worldwide between 1990 and 2014 to examine the effectiveness of ALMPs towards improving labour market outcomes of youths. They found that the impact of active labour market measures, on average, was higher in low- and middle-income countries than in high-income countries. This was true for the employment and earnings outcomes and after controlling for the regional differences across interventions. In other words, due to the presence of large cohorts of disadvantaged youths, marginal investment in skills and employment opportunities led to large positive outcomes in the low-income countries. This study also found merit in combining both

supply- and demand-side labour market interventions to support youths.

Escudero et al. (2019) assessed impact evaluations of active labour market programmes in Latin America and the Caribbean and thus compiled a novel meta database based on the review of 51 studies. Those results indicated that training programmes are slightly more effective than other types of interventions in raising participants' employment prospects. The evidence in those studies revealed that ALMPs in Latin America and the Caribbean were more effective for youths than for prime-age workers and that the intensity and quality of services provided should be prioritized to increase their effectiveness.

And in their survey of 106 studies of ALMPs in low- and middle-income countries across different regions, Niño-Zarazúa and Torm (2022) found that the combination of two or more components of active labour market programmes tends to increase their effectiveness. In other words, youths who completed a comprehensive package of active labour market programmes (vocational training, employment subsidy, job matching) were twice as likely to be formally employed when compared with youths who had only public works participation. Training is generally associated with positive labour market outcomes, but it is important to consider separate categories of training programmes based on provider types, programme duration and target group (gender, youths, etc.).

The remaining chapter is structured as follows: The next three sections cover the context of skills development in India, its evolution, progress and challenges. The fifth section overviews entrepreneurship development programmes, and the sixth section discusses schemes for job matching. In summing up the main issues, the final section also examines future priorities and policy actions. Public employment programmes, such as the Mahatma Gandhi National Rural Employment Guarantee Programme, form an important component of public employment programmes in India, but they are not discussed here because they do not specifically target youths.

► 6.2 Current context of skills development in India

The term *skills* covers a range of attributes in the literature – but there is no clear definition of a skilled worker. According to the *World Employment Report* (ILO 1998), *skill* refers to an acquired and practised ability or to a qualification needed to perform a job or certain task competently. The term has now evolved and refers to the ability to perform a task or a job, including the knowledge, competence and experience needed (ILO 2021c). The term *marketable skill* is commonly understood as any skill, expertise

or ability that has market value or the potential of being utilized for generating income and employment, irrespective of whether it is acquired formally or not.

India has a large informal sector employing about 82 per cent of its workforce, and the rationale for skills and skill creation must be viewed differently for this sector (NCEUS 2009). Youth in India acquire skills mostly through informal channels (see Chapter 5). However, when reference is made to levels of availability of skilled labour in the context of economic development, it is viewed from the prism of the formal sector, and the processes of formal skill acquisition and training for employment become important. These processes fill the general education system, which provides foundational and cognitive skills, and the TVET systems that link to more specific trades and occupations. TVET includes both vocational education and initial vocational training undertaken by young people prior to entering the labour market as well as continuing vocational training by adults while in work or during periods when they are economically inactive. Thus, it encompasses both initial skills development and various forms of reskilling and upskilling.

In contemporary production systems, increased global competition, labour market flexibility and technological change, embedded in new knowledge systems, have changed the nature of the demand for specific skills while giving greater importance to basic, soft, foundational and transferrable skills.

Several countries in East Asia demonstrate the necessity as well as possibilities in the area of skills development for developing economies. A vast volume of literature on the sources of sustained high growth in these economies have located this growth in endogenous processes that enable a highly skilled workforce to adapt technology to country requirements, innovate at the level of the enterprise and meet ambitious targets in a short period of time (NCEUS 2009). For example, the Republic of Korea implemented a Comprehensive Plan for Lifelong Education and Learning, which allows communities in provinces to enter and exit the learning and training process, in line with the requirements of the economy and with their own need for improvement. Similarly, Singapore made major changes in its skills strategy through the introduction of a National Continuing Education and Training Framework and a Lifelong Learning Endowment Fund (NCEUS 2009).

In comparison to several developing countries and developed countries, India is lagging in the provision of formal vocational skills to youths (NPSDE 2015; NCEUS 2009). This is all the more telling in the context of the supply–demand gap that emerged over the past few decades. Several earlier studies and policy documents highlighted the acute mismatch between the workforce skill characteristics and the availability of skilled workers to sustain the economy’s growth rates. In India’s post-liberalization growth trajectory, the need for large numbers of skilled people is felt more acutely in the context of the country’s need to compete internationally in manufacturing as well as in services and to emerge as a formidable player in the knowledge economy. From the demand side, although the economy experienced rapid growth as of the 1990s, skill shortages emerged across the board, drawing urgent attention to the problem of skills development. A Confederation of Indian Industry and McKinsey & Company report (2004) indicated the need for an increase of an estimated 20 million skilled workers by 2015, or incremental skilling of 1.5 million people every year.

The technological changes associated with Industry 4.0 that are unfolding are likely to lead to a substantial restructuring of the workforce. At the global level, Chadha and Chapman (2020) and the World Economic Forum (2020) shed light on the impact of technology on workforce demand. The World Economic Forum (2020) estimated that, by 2025, 85 million jobs may be displaced by a shift in the division of labour between humans and machines, while 97 million new roles may emerge from the new division of labour. It is expected that in the coming years, technological change may lead to net job creation – not job loss. The whole focus is expected to be on automation of repetitive tasks, time optimization, maximizing productivity, creation of digital platforms for online access to job opportunities and formalizing informal operations. It is critical for the workforce to keep themselves updated with the technological changes in their sphere of work. Digital skills are becoming an essential component for employees to perform their jobs proficiently. The COVID-19 pandemic has accelerated this digitalization journey for businesses as well as individuals. Harnessing the potential generated due to the digital

revolution may be the key to reducing the skills gaps and increasing the growth and productivity of India. Currently, vocational training is associated with the subsequent employment in jobs more liable to automation. Thus, modernization of TVET programmes is important so that young people are better able to meet the demands of the digital economy (ILO 2020a).

In the coming few years, according to an Observer Research Foundation report (2020), technology design, accounting and auditing, IT, digital privacy and security and business analysis and strategy will be the technical skills in demand by companies in India (Chadha and Chapman 2020). But in addressing the demand and supply gaps in technical skills, only 22 per cent of companies surveyed by the Observer Research Foundation in their report indicated their willingness to train workers on the job, and just 6 per cent of companies were willing to work with vocational education centres to fulfil their skills requirements. A McKinsey Global Institute report (Kaka et al. 2019) examined the opportunities for India's future digital growth and estimated that, by 2025, the digital economy may create 60 million to 65 million jobs, many of which will require functional digital skills. The jobs of 40 million to 45 million workers may be displaced or transformed, necessitating retraining and redeployment efforts.

In contemporary analyses of systems for skills development in developing countries, the commonly raised issues entail developing effective skills training systems in the interest of enhancing productivity (leading to higher incomes for individuals) and sustaining high rates of growth; changing skill requirements of economies that are experiencing fast changes in the nature of economic activity and work; matching skills to markets; and the role of different agents (firms, private actors and the government) in delivering skills training efficiently and effectively.

Skills development is an area in which markets typically might not deliver optimum volumes of skills that economies need due to externalities in training provision. Youths may not be prepared or able to invest in training due to the financial costs and perceived low returns, at least in the short run. Although this may make the role of public or collective institutions necessary, training systems must be flexible to cater to changes in market demand. The issue of matching skills to markets has led to a call for dismantling existing systems of skills provisioning or an overhaul of the TVET systems in many countries, including India.

► 6.3 Evolution of skills training and development

Skills development for youths features prominently in the 2030 Agenda for Sustainable Development. For example, Sustainable Development Goal target 4.4 calls for a significant increase in the number of youths and adults with relevant skills and target 8.6 urges a significant decrease in the percentage of youths who are not in employment, education or training. India's draft National Youth Policy 2021, underscores the importance of providing new skills and life skills to the youth population (box 13).

▶ Box 13. National Youth Policy 2021

The draft National Youth Policy 2021 seeks to replace the 2014 National Youth Policy, aligning it with the Sustainable Development Goals to “unlock the potential of the youth to advance India”. It articulates a ten-year vision for youth development that India seeks to achieve by 2030:

The National Youth Policy envisages an education system that will ultimately “enable all youths to take charge of their futures through equitable access to quality education”.

It recognizes that future jobs in the twenty-first century will require new skill sets and that the youths of the country will need to reskill and upskill regularly. It envisages an education system in sync with the National Education Policy 2020, with its promises of career opportunities and life skills to all young people. Skills required for a future work scenario will be integrated as a core part of the curricula for secondary and higher education. Vocational education will be scaled up in Classes 6–12 education to increase

employability and reduce the mismatch between skills supply and demand.

The National Youth Policy also envisages measures that will support youths not in employment, education or training and that will enable their reintegration into the education system and the labour market.

The National Youth Policy recognizes the enormous potential of youths to transform the economy but notes that nearly half of the world’s unemployed persons are youths and that India is no exception to the global trend. While recognizing youth employment as a major priority, it further notes that technology and globalization are changing the employment landscape in India. The policy seeks to ensure that youths have access to sustainable livelihood opportunities through multiple routes, including the generation of employment via microregion-specific strategies, fostering entrepreneurship and social entrepreneurship and supporting the informal and gig economies.

Source: See <https://static.pib.gov.in/WriteReadData/specificdocs/documents/2022/may/doc20225>.

Vocational education and training comprises programmes that prepare youths for jobs based in manual or practical activities and are totally related to specific trades or occupations. Skills in India have largely been imparted through informal learning in hereditary occupations (dependent on family background), informal apprenticeships and on-the-job learning. The general education and the vocational education and training systems in India largely operate as separate verticals, with little interaction between them. This is reflected in the findings analysed in Chapter 5 that indicated that although the general education level of youths had improved steadily over the years, the proportion of youths with TVET had not undergone much improvement over the past two decades and that the proportion of formally trained youths in the labour force was very small when compared with developed countries and even several developing countries (NCEUS 2009).

Various past reports reviewed the system of vocational education and skills training in India, which is largely available through vocational schools or a vocational stream at the post-secondary level in some schools, the Industrial Training Institutes or centres, apprenticeship schemes or smaller schemes run by different ministries (see for example, Planning Commission 2007; World Bank 2006; ILO 2003). Some of the common findings included low efficiency and poor outcomes, low cultural acceptability and a disjuncture between supply and demand. Recommendations associated with those findings included industry participation and market linkage, standardization, modular training and building of pathways between education, employment and training. More recent studies echoed these findings: Tara, Kumar and Pilz (2016) reported multiple problems with training, including lack of adequate infrastructure, equipment and qualified teaching staff in the Industrial Training Institutes and inadequate industry links to impart high-quality and relevant vocational skills. Singh, Parida and Awasthi (2020) found a decline in workforce participation of vocationally and technically trained youths in India, with a considerable proportion of them employed in either agriculture and allied sectors or in the low-paying and informal services sector.

The increase in India's GDP growth rate after the 1980s over previous decades led to a substantial expansion in the demand for both unskilled and skilled labour. A simultaneous increase in the share of working-age population in total population resulted in a rise in the supply of workers in the labour market. However, the vocational education and training system of the country lagged in terms of the supply of both quality and quantity of workforce with requisite skills (Mehrotra and Saxena 2014).

The economic liberalization of the 1990s led to an increase in the demand for skilled workers that led to a major gap with the supply. Several important steps were taken to revamp skills training from 2007 onwards. The Eleventh Five-Year Plan (2007–2012) marked the beginning of a systematic, focused and coordinated approach towards skills development in India. The plan emphasized the need for public-private partnerships in skills development. Several institutions were set up or redesigned in view of the new goals. A National Policy on Skill Development was formulated in 2009 that helped to strengthen the skilling of institutional infrastructure and funding mechanisms to some extent. The institutions set up after 2007 were further re-engineered after 2014, when, under the rapidly changing scenario, the Ministry of Skill Development and Entrepreneurship was created with the underlying aim of coordinating the efforts of all stakeholders in the field of skills development and to give stimulus to entrepreneurship development. It provided a unifying force to the sector. Soon, the Directorate General of Employment Training, the National Skill Development Agency and the National Skill Development Corporation were brought under its purview.

Subsequently, in 2015, a National Skill Development Mission was launched. Organizations like the National Skill Development Corporation, the National Skill Development Fund, the National Skill Development Agency and the Directorate General of Training launched now work towards implementing the Mission. The Skill India programme was launched to provide adequate training in market-relevant skills to more than 400 million youths by 2022. Initiatives under it include the National Skill Development Mission, the Skill Loan Scheme and the National Policy on Skill Development and Entrepreneurship (box 14).

► Box 14. National Skill Development Mission

The National Skill Development Mission was launched in 2015 on World Youth Skills Day to provide a strong institutional framework at the national and state levels for skilling activities. The Mission has a three-tiered, high-powered decision-making structure. At its apex is the Governing Council, chaired by the Prime Minister, which provides overall guidance and policy direction. The Steering Committee, chaired by Minister in Charge of Skill Development, reviews the Mission's activities in line with the direction set by the Governing Council. The Mission Directorate, with the Secretary of Skill Development as Mission Director, ensures implementation, coordination and convergence of skilling activities across ministries, departments and state governments.

The Mission has seven sub-missions, proposed initially to act as building blocks for achieving its objectives: (a) institutional training, (b) infrastructure, (c) convergence, (d) trainers, (e) overseas employment, (f) sustainable livelihoods and (g) leveraging public infrastructure.

The Mission Directorate is supported by three other institutions: (a) the National Skill Development Agency (now merged with the National Council for Vocational Training), (b) the National Skill Development Corporation and (c) the Directorate General of Training. States have created State Skill Development Missions along the lines of the National Skill Development Mission with a Steering Committee and Mission Directorate. In turn, states are supported by District Committees at the functional tier.

Source: MSDE 2015a.

The National Policy on Skill Development and Entrepreneurship 2015 superseded the policy of 2009. It marked an important step in enriching the skills ecosystem of India. Its core objectives include aligning skills development with required competencies, connecting the supply of skilled resources with the national and global demands and fostering entrepreneurship, particularly women's entrepreneurship. It provides an umbrella framework to all skilling activities carried out within the country and aligns them with common standards (box 15).

► Box 15. National Policy for Skill Development and Entrepreneurship 2015

The National Policy for Skill Development and Entrepreneurship acknowledges the need for an effective road map for promoting entrepreneurship as the key to a successful skills strategy. The vision of the policy is “to create an ecosystem of empowerment by skilling on a large scale at speed with high standards and to promote a culture of innovation-based entrepreneurship which can generate wealth and employment so as to ensure sustainable livelihoods for all citizens in the country”. It provides an umbrella framework to all skilling activities carried out within the country, aligning them to common standards and linking skilling with demand centres.

To achieve this vision, the policy has four thrust areas: (a) It addresses obstacles to skilling, including low aspirational value, lack of integration with formal education, lack of focus on outcomes and the low quality of training infrastructure and trainers. (b) The policy seeks to align supply and demand for skills by bridging the skill gaps, promoting industry

engagement, operationalizing a quality assurance framework, leverage technology and promoting greater opportunities for apprenticeship training.

(c) The focus on equity targets skilling opportunities for socially and geographically marginalized and disadvantaged groups. (d) Skills development and entrepreneurship programmes for women are a specific focus of the policy. In the entrepreneurship domain, the policy seeks to educate and equip potential entrepreneurs, both within and outside the formal education system. It also seeks to connect entrepreneurs to mentors, incubators and credit markets to foster innovation and an entrepreneurial culture, to improve the ease of doing business and to promote social entrepreneurship.

The policy states that “one nation one standard” should be implemented to ensure that a uniform set of nationally accepted standards can be aligned globally and that Indian youths can find jobs and career progression opportunities at the local, national and international levels.

Source: MSDE 2015b.

The Ministry of Skill Development and Entrepreneurship functions through several institutions and bodies highlighted here.

The Director General of Training was brought under the Ministry in 2015. The Industrial Training Institutes and Industrial Training Centres are affiliated to it. Short- and long-term courses are implemented under its aegis. It has responsibility for the framing of policies, carrying out skills gap analysis, training, accreditation, assessment and evaluation, particularly for the courses run by the institutions under its affiliation.

The National Council for Vocational Education and Training was established in 2018 as an overarching regulatory body for regulating the functioning of entities engaged in vocational education and training, both long- and short-term, and for establishing minimum standards for the functioning of such entities. It subsumed the functions of the erstwhile National Skill Development Agency and the National Council for Vocational Training and became fully operational in August 2020. Its primary functions are recognition, ensuring discipline, de-recognizing and regulation of awarding bodies, assessment agencies and skill-related information providers. The National Council is responsible for implementing the National Skills Qualification Framework, maintaining the National Qualification Register and approving the Qualifications and National Occupational Standards in each qualification. The National Council is also responsible for monitoring, evaluating and supervising entities and the grievance redressal of stakeholders. Since 2020, the National Skills Qualification Committee has been anchored in the National Council.

The National Skills Qualifications Framework, notified in December 2013, is a competency-based framework that organizes all qualifications according to levels of knowledge, skills and aptitude. These levels, graded on a scale of 1 to 10, are defined in terms of learning outcomes that learners must possess regardless of whether they are obtained through formal, non-formal or informal learning. The Framework is implemented through the National Skills Qualifications Committee, which approves the

qualifications submitted by various submitting bodies, such as the Sector Skills Council, the Directorate General of Training, ministries and state governments. As of December 2021, the National Skills Qualifications Committee had aligned 4,922 qualifications to the Framework. A National Qualifications Register is housed at the National Council and is a repository of all Framework-aligned qualifications, with their corresponding Framework levels.

The National Council is also working on the adoption of a unified credit framework to facilitate migration between the vocational and academic streams.

National Skill Development Corporation

The National Skill Development Corporation was established in 2008 as a not-for-profit company but in the public-private partnership mode. It has an equity base of 100 million rupees, with a private sector contribution of 51 per cent. The Corporation works closely with the Ministry of Skill Development and Entrepreneurship and an investment management agreement with the National Skill Development Fund.

It provides viability gap funding to build scalable, for-profit vocational training initiatives. Its mandate is to enable support systems, such as quality assurance, information systems and train-the-trainer academies either directly or through partnerships. Its objective is to contribute towards meeting the overall target of skilling and upskilling, mainly by creating large-scale private sector partnerships and fostering private sector initiatives in skills development programmes. The Corporation operationalized 37 Sector Skill Councils for this purpose. These Councils are tasked with bridging the gap between industry demand and the supply of skilled workers, assessing industrial trends and managing current and future skill needs in various sectors. The Corporation works closely with private agencies and organizations, such as the National Association of Software and Service Companies, to develop skills training in advanced Industry 4.0 technologies.

Sector Skill Councils

As noted, the National Policy for Skill Development and Entrepreneurship of 2015 envisaged the creation of Sector Skill Councils. They were set up as autonomous bodies and not-for-profit organizations by the National Skill Development Corporation and are led by industry leaders in respective sectors. They create occupational standards, develop competency frameworks, conduct training-of-trainers programmes, affiliate vocational training institutes, conduct sector-specific skill gap studies, maintain the labour market information system and, most importantly, assess and certify trainees on the curriculum aligned with the National Occupational Standards, which they developed. The Sector Skill Councils are also expected to support placements and apprenticeships as well as activities to increase industry connections, such as demand aggregation and industry membership.

Centres of Excellence

More than half a dozen Centres of Excellence in the skilling ecosystem, envisioned to be one-stop resource centres, have been established and work in partnership with industry to raise training standards, boost productivity, address emerging skill gaps and align training and research with industry needs. The Centres provide leadership, best practices, research, support, training of trainers and skills training for specific sectors.

Links with formal education

To make the acquisition of skills aspirational and thus increase the employability of youths, the National Policy for Skill Development and Entrepreneurship aims to introduce skills training in 25 per cent of schools within the next five years. It also aims to set up national skills universities and institutes in

partnership with states for skills development and training of trainers. Polytechnics and 25 per cent of higher educational institutions will offer skill development courses that comply with the National Skills Qualifications Framework and the credit frameworks to offer horizontal and vertical mobility.

Common norms

Although several ministries run skills development schemes, the Ministry of Skill Development and Entrepreneurship has notified common norms for bringing about uniformity and standardization among them.

6.3.1 Pradhan Mantri Kaushal Vikas Yojana

Under the Skill Development Mission, the Ministry of Skill Development and Entrepreneurship is implementing the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) scheme; the Jan Shikshan Sansthan scheme; the National Apprenticeship Promotion Scheme (for short-term skills development training; and the Craftsman Training Scheme for long-term training of youths. Several ministries also conduct training programmes developed by the Sector Skill Councils that are based on National Occupational Standards and the Qualifications Packs.

The Ministry of Skill Development and Entrepreneurship, through its various agencies, oversee the functions of standard setting and quality assurance, accreditation, affiliation, assessment and certification. Otherwise, state governments rely on their own systems and processes for implementing skills development schemes, particularly the PMKVY, with the National Skill Development Corporation having an enabling and facilitating role.

The PMKVY is a prominent central scheme for formal skills training of youths. It was initially framed with the objective of enabling youths who are either unemployed or school drop-outs to take up industry-relevant skills training that would help them secure better employment. Under the central component of PMKVY, 85.9 billion rupees was disbursed between its inception in 2015 and December 2021 to its implementing agency, the National Skill Development Corporation. Under the state component, 12.24 billion rupees was disbursed to the State Skill Development Missions for implementing the scheme.

The scheme has been implemented in four phases. **PMKVY 1.0 (2015-16)** was launched as a pilot activity in 2015 and was designed as a skill certification and reward scheme. The National Skill Development Corporation also established training partners for implementing training projects. The training partners constitute private companies, not-for-profit companies and universities. Between 2015 and 2016, nearly 2 million candidates were trained under the scheme. After the successful implementation of PMKVY 1.0 and based on its learnings, the scheme was approved for another four years (**2016-20**), as **PMKY 2.0**, with an outlay of 120 billion rupees. PMKVY 2.0 was launched to augment the scope of the scheme to numerous sectors and geographies and align it with other government missions, such as Make in India, Digital India and Swachh Bharat Mission. The scheme was implemented through two components – central and state managed, with an allocation of 75 per cent and 25 per cent of funds, respectively. Under PMKVY 2.0, nearly 9 million candidates were certified from 2016 to 2020.

PMKVY 3.0 (2020-23) was launched to energize the skilling ecosystem by shifting the focus from a supply-based approach to a demand-based approach. In the wake of damage caused by the COVID-19 pandemic response, the scheme had a major focus on upskilling and reskilling and future skills (Industry 4.0) courses to increase productivity of the workforce and provide online and a digital mode of training for wider coverage. The scheme was implemented in a more decentralized structure with greater responsibilities and support from states, union territories and districts. District Skill Committees are under the guidance of the State Skill Development Missions. In this phase, “skill hubs” were established with a focus on integration of vocational education with general education, as envisioned in the National Education Policy 2020 and as an expansion of skilling programmes in the education ecosystem, in consultation with the Ministry of Education and other ministries and departments.

PMKY 4.0 (2023) was launched in February 2023 (with no fixed time frame) to make the scheme more relevant to the economic landscape. Several new elements have been embedded into the scheme, including on-the-job training, inclusion of new-age Industry 4.0 courses and expansion of the delivery network for skilling.

The PMKY has both long-term and short-term components. The long-term components include the Craftsmen Training Scheme provided through the Industrial Training Institutes and the Industrial Training Centres and the Craftsmen Instructors' Training Scheme, provided through the National Skill Training Institutes. The short-term components include short-term training, recognition of prior learning, special projects, Kaushal and Rozgar Melas (skill and employment fairs) and placement assistance.

- **Short-term training** is the main pillar of the short-term component of the PMKY. Short-term training (two to six months) at the National Skills Qualifications Framework's national level 2 or 3 is available at the PMKVY Training Centres. It is primarily expected to benefit candidates who are school or college drop-outs or unemployed. A fixed subsidy after successful completion of the course is offered. Placement assistance is provided through the training partners. The Training Centres also offer training in soft skills, entrepreneurship and financial and digital literacy.
- **Recognition of prior learning** is a platform to assess and certify an individual already skilled in a particular job role and trade. This skill may have been acquired by the individual via formal and informal or non-formal training and experience in the past.

State Skill Development Missions and District Skill Committees

The National Policy for Skill Development and Entrepreneurship of 2015 proposed the creation of Skill Development Missions to implement the state component of the central scheme. Since 2020, there has been a further thrust to decentralize the implementation of the scheme to the district level through a district committee. The district committee is set up under the aegis of the district administration, with public and private sector participation, a role in the administration of the schemes, identification of skill demand within districts, mobilization and counselling of candidates, post-training support, monitoring and addressing grievances.

The State Development Missions in several states have also taken on additional skilling responsibilities. The Uttar Pradesh Skill Development Mission runs five central government and one state government skills development schemes in an integrated and standardized way. Priority is given to candidates aged 15–35 from socio-economically deprived groups, with minimum quotas for women and minorities. A State Skill Development Fund (a top-up fund) was created to cover additional expenses needed to ensure integration. Following the common minimum norms adopted by the Mission, 70 per cent of the successfully certified candidates will be the minimum target for placement, of which wage employment should be no less than 50 per cent in any case.

The Bihar Skill Development Mission launched the Kushal Yuva programme to increase the employability skills of youths who have passed at least Class 10. Under the programme, the state government will set up a skill development centre in each Development Block to offer soft skills and basic computer literacy training for a course duration of 240 hours and develop a strong pool of certified trainers through a mandatory Trainers Online Certification Programme.

By mid-June 2023, a total of 14.26 million candidates had enrolled under all the PMKY schemes; 12.45 million of them had been assessed, and 11.03 million had been certified. However, only 2.42 million candidates (21.9 per cent) had been placed in jobs or as self-employed workers.⁴⁰

⁴⁰ See the National Skill Development Corporation website and www.pmkvyofficial.org (accessed 5 July 2023).

The skilling programmes under the Ministry of Skill Development and Entrepreneurship have been subject to internal reviews and critiques. In 2016, a committee set up by the Ministry of Skill Development and Entrepreneurship (MSDE 2016) recommended ways to improve the effectiveness of the Skill India Mission. It suggested broadening the training to everyone, not only those who are unable to complete formal education or those from disadvantaged communities. It also suggested having a separate stream for vocational education (in secondary education), creating vocational schools and vocational colleges for upward mobility and having a central university award degrees and diplomas.

The committee observed that the skilling ecosystem in India was marred with overlaps in roles and responsibilities. It suggested that the problem of duplication be addressed and that the number of Sector Skill Councils be reduced. The committee also recommended that sector-specific data be collected on a regular basis to assess skill gaps and guide evidence-based policymaking. Information should be collected from stakeholders on the actual value addition by the skilling initiative. Given the low participation of the private sector in skills training, the committee recommended a reimbursable industry contribution model for the organized sector. This would ensure reimbursements for those companies undertaking training.

The committee also noted that various constraints had been reported by industry partners and stakeholders to increasing the uptake of the trained candidates in job roles. The training course and curriculum under PMKVY have not been aligned with the actual industry requirements, and the practical skills imparted under PMKVY training are not in sync with industry needs. The committee expressed the need for a more rapid roll-out of the decentralization of the PMKVY scheme to the District Skill Committees.

A report of the National Skill Development Corporation (2019) found that 30 per cent of the people trained under a short-term training programme were interested in pursuing education further rather than taking up employment. The report noted the continuing mismatch between the demand and supply of skills at the sector and spatial levels and recommended allocating sector- and job role-specific training targets in each geography, which would require coordination between different skill development programmes and multiple training providers operating in the same geographies. The report also advised that skills development cannot happen without developing a credible, sound and aspirational national system that is quality assured and internationally compatible.

The Ministry of Skill Development and Entrepreneurship (2022b) made some important observations on the implementation of PMKY 1.0, 2.0 and 3.0: About 20 per cent of the total enrolled candidates dropped out of the training programme due to distance, the short duration of training and the perception regarding job placements.

6.3.2 Skills development efforts by ministries

As mentioned earlier, nearly 20 ministries are involved in skill creation, often at highly subsidized rates. The **Deen Dayal Upadhyaya Grameen Kaushalya Yojana** (DDU-GKY) is a demand-driven placement-linked skills training initiative launched by the Ministry of Rural Development in 2014. It is part of the National Rural Livelihoods Mission, offering placements to rural youths aged 15–35 from poor households. It aims to increase the coverage of skills development programmes in remote rural areas and build up the capacity of rural poor youths to ultimately address the needs of domestic and global skill requirements.

The scheme ensures social inclusion through the provision of mandatory coverage of stipulated percentages of disadvantaged groups (Scheduled Castes and Scheduled Tribes, other minorities, women and persons with different abilities). It seeks to fill the skills gap by offering a specific set of modular employable skills needed to access full-time jobs in the formal sector. It has benchmarks for minimum standards and quality benchmarks in service delivery through its framework of guidelines and standard operating procedures. The DDU-GKY approves training programmes with a curriculum as recommended by the National Council for Vocational Training or as identified by the Sector Skills Council or National

Skill Development Council based on the national occupational standards. Under the programme, training partners are mandated to ensure placement of at least 75 per cent of the successful candidates in jobs that offer a minimum salary of 6,000 rupees per month. After its initial year (2014–15), the programme trained about 250,000 persons annually between 2016 and 2020; but these numbers fell drastically during the pandemic years, when placements were available to about half the trainees, including self-employed persons.⁴¹

6.3.3 Green skills development programme

Green skills contribute to preserving or restoring environmental quality and include jobs that protect ecosystems and biodiversity, reduce energy and minimize waste and pollution. The 2018 ILO report on *Skills for Green Jobs in India* makes recommendations towards generating a green jobs environment in India. To begin with, it is important that academic institutions design courses and curricula that are aligned with emerging green technologies and the demand for green skills. There is a need to create new skills development centres for renewable and green technologies. On the demand side, it is important to create attractive employment opportunities for green technology experts. Focus is required on increasing female participation in the green sector. Given the considerable size of the youth population in India, it will be beneficial to attract youths into green jobs by generating awareness and concern among them towards a green environment and the need for green innovation.

In line with the Skill India Mission, the Ministry of Environment, Forest and Climate Change has taken up an initiative to skill youths in the environment, forestry, wildlife and climate change sectors. The programme aims to enable India's youths to find gainful employment and/or self-employment.

6.3.4 Apprenticeship training

Apprenticeship training is one of the steps towards creating skilled human resources and contribute towards making India the "skill capital of the world". It is one of the most efficient ways of fulfilling the skilled human resource requirements of the industry by utilizing the training facilities available in establishments without incurring extra expenditure on separate training infrastructure. This helps to address the demand and supply skills mismatch by imparting on-the-job vocational training to youths, thereby increasing their employability.

The Apprenticeship Act 1961 was framed to provide practical training to technically qualified persons in various trades and promote newly skilled human resources. Currently, two apprenticeship schemes are being implemented in the country: (a) The National Apprenticeship Promotion Scheme was launched in 2016 to provide financial support to establishments undertaking apprenticeship training. It is implemented by the Ministry of Skill Development and Entrepreneurship. (b) The National Apprenticeship Training Scheme is implemented by the Department of Higher Education (in the Ministry of Education) and offers apprenticeship training for engineering graduates, diploma holders and general stream graduate degree holders.

The National Apprenticeship Promotion Scheme covers the rest of the categories of apprenticeships. According to the year-end review of the Ministry of Skill Development and Entrepreneurship, a total of 223,000 apprentices were trained between 2021 and the end of 2022. The top five sectors engaging apprentices were retail, automotive, electronics, IT and IT-enabled services and in the banking, financial services and insurance sectors. And the top five states engaging apprentices were Maharashtra, Gujarat, Tamil Nadu, Karnataka and Haryana.

The number of apprentices in the country increased over the past decade, from 290,000 in 2021 to 580,000 in 2022, and government expenditure went from 1.2 billion rupees to 2.17 billion rupees. Additionally, the

⁴¹ See see <https://kaushalpragati.nic.in>.

Government organized 250 apprenticeship awareness workshops and monthly apprenticeship *melas* throughout the country to create awareness of apprenticeship opportunities among students.

The implementation of the two apprenticeship schemes was evaluated by the Ministry of Skill Development and Entrepreneurship (2022a)). According to the evaluation report,⁴² low apprentice enrolment against the stated targets was a concerning issue. Of the 119,168 establishments registered on the National Apprenticeship Promotion Scheme portal, only 24,603 establishments had engaged apprentices. As of 30 September 2023, nearly 2.7 million apprentices had been engaged under the National Apprenticeship Promotion Scheme.⁴³ This implies that concrete efforts are required for generating public awareness about apprenticeship programmes and to counsel and orient students and establishments on the usefulness of such skill-based training. Similar suggestions regarding the necessity to incentivize the industry to participate in the apprenticeship scheme, appropriate steps for motivating youths to undertake such training and a mechanism for regular monitoring of the scheme were made by Gayithri, Tantri and Rajasekhar (2019).

6.3.5 National Education Policy and technical and vocational education and training

It is important to recognize the complementary relationship between the different levels of general education and varied types of skills and to provide pathways between education and training. Employability of educated youths has remained a challenge for India's education system. At the centre of the debate on education policy is the missing link between higher education and employment (Khare 2014). According to the *India Skills Report 2022* (Wheebox 2022), only 48.7 per cent of educated youths were employable, reflecting a severe apprehension towards existing policies. The National Education Policy 2020 provides a framework for closing this gap through its aim to provide multidisciplinary skill-based education to generate employment.

In the National Education Policy 2020, the schemes of internship and vocational education were introduced from Class 6 onwards. This empowers students to gain clarity and experience regarding the work environment and helps them to improve their social skills as well as practical knowledge.

The policy aims to integrate vocational education into all school and higher education institutions in a phased manner over the next decade. Initiatives and targets underlined in the policy include: by 2025, at least 50 per cent of school learners gain exposure to vocational education; collaboration between secondary schools and Industrial Training Institutes, polytechnics and local industry; setting up of skill labs and creating a hub-and-spoke model in schools to allow other schools to use the facility; offer vocational education by higher education institutions or in partnership with industry and non-government organizations; offer vocational courses to students enrolled in all other bachelor's degree programmes, including the four-year multidisciplinary bachelor's programmes; and higher educational institutions to conduct short-term certificate courses in various skills, including soft skills.

For integration of vocational education into the higher education system, guidelines are issued to enable such institutions to offer an apprenticeship and internship-embedded degree programme. Also, the scope of the National Apprenticeship Training Scheme was broadened to give apprenticeships to students from humanities, commerce and science course streams in addition to engineering students.

The policy focuses on the development of twenty-first century skills. These skills include enabling creativity, stimulating intellectual curiosity and encouraging deep thinking in students. This requires investment in providing quality higher education to students. The National Education Policy seeks to integrate humanities and arts with science, technology, engineering and math. Consequently, it will help students by enabling innovation, critical thinking and well-rounded thinking capacity. The policy also

⁴² According to 33rd Report of the Standing Committee, 2022.

⁴³ Ibid.

allows collaboration with the top 100 foreign universities to each set up a campus in India. It thus aims to transform the education system in India to make it at par with international standards.

Most importantly, the policy aims at the inclusion of socio-economically disadvantaged groups, broadly categorized as girls, transgender persons, children with special needs, children from rural areas, Dalits and victims of trafficking. Additionally, it recommends measures for ensuring that teachers are adequately trained and equipped to address the learning needs of children with disabilities.

Given the enormity of India's education system as well as the country's regional, cultural and linguistic diversity, universal implementation of the policy remains a challenge. Kumar, Prakash and Singh (2021) noted that the restructuring of the education system into what the policy envisions will require concrete steps towards: (a) governance of many higher education institutions (government, private and foreign) and (b) availability of a well-trained workforce capable of fulfilling the innovative and multidimensional teaching requirements. Adequate budgetary allocations and infrastructural facilities are other areas of concern.

► 6.4 Challenges to skills development

As pointed out in the previous section, over the past few decades, particularly since 2008 and on an accelerated pace since 2016, decisive steps have been taken to meet the goals of the National Skills Policy and to overcome the structural, institutional and other challenges in skills creation and entrepreneurship. These have included greater focus on short-term training and apprenticeships; improvement of the ecosystem of skills training for the youth population by linking skills creation to market demand and changes in the labour market; increasing private sector participation in the design of course curricula; provision and assessment of training and post-training placements; standardizing the course content for specific occupations; financing skills creation; linking TVET with secondary school and higher education; entrepreneurship development; creating a new governance structure at the national, state and district levels; and fostering new institutions and centres of excellence for trainees and trainers.

Some weaknesses of the skills development programmes were noted in the previous section. This section assesses and discusses some of the major persisting challenges despite the progress that has been achieved. It includes references from a few independent evaluations of the impacts of the policies and programmes, although some of this research is recent and represents work in progress.

Limited uptake of training

Results from the annual Periodic Labour Force Surveys, also cited in the National Policy on Skill Development and Entrepreneurship and other documents, continues to show that the training capacity has not expanded commensurate with the targets in the policy and the mission objectives. The policy objective was to provide skills training to 104.62 million fresh entrants to the workforce between 2015 and 2022 (about 14.9 million per year). In addition, the policy acknowledged that an estimated 298.25 million farm and non-farm sector workers will need to be skilled, reskilled or upskilled.

Under the Government's flagship PMKVY initiative, a total of 10.8 million youths were trained and certified between 2015 and December 2021 (or about 2.5 million per year). The Employment and Unemployment Survey and the Periodic Labour Force Survey results showed that in 2005, 3.84 million youths were receiving training. In 2019 and 2022, 2.9 million and 3.5 million youths, respectively, had completed training in the previous one year. The total number of vocationally trained youths was estimated at 7.14 million in 2005, 10.39 million in 2019 and 14.97 million in 2022. This achievement is much below the

target. According to the most recent Periodic Labour Force Survey, only about 4 per cent of youths were vocationally trained (Chapter 5).

Apart from the supply-side reasons identified by the Ministry of Skill Development and Entrepreneurship, such as shortage of trainers, poor training infrastructure and insufficient participation by industry (MSDE 2022), poor placements, a low demand for skills training, a low premium on skills training by employers and low returns are the main reasons for the limited uptake.

Rigorous research on the impact of skilling on employment is scant, and little is known about the determinants of skills training take-up in the Indian context (Afridi 2023). Most previous studies found limited impact of training on employment and/or returns.

In an intervention study, the impact of providing vocational counselling and training to girls (aged 14–19) and assistance with opening savings accounts was examined in slum communities of Allahabad, Uttar Pradesh. It was found that the impact of the short-term livelihoods programme was limited because it could not reduce deeply entrenched gender disparities and alter the structure of opportunities available for women (Mensch et al. 2004).

A macro-level study by the World Bank (Meky 2015) involved reviewing the organization, system and processes of five national skills development programmes for skilling youths in India. The study covered the five states of Andhra Pradesh, Assam, Madhya Pradesh, Odisha and Rajasthan. It found that although the programmes increased the employability of the trainees and helped them enter the labour market, it did not ensure good-quality jobs for them. This was reflected in the subsequent quitting of jobs by the employed trainees. The qualitative findings detected lags in the quality assurance mechanisms, the monitoring and evaluation and the placement and post-placement support. The effectiveness of the programmes varied across the five states, with Andhra Pradesh standing out in terms of performance. The reasons for the Andhra Pradesh performance lay in factors like: (a) a clear demarcation of roles and responsibilities for better harmonization and coordination among stakeholders as well as avoiding duplication in terms of targeting beneficiaries; (b) linking the reimbursement of 75 per cent of the training cost to successful placement and post-placement support to beneficiaries; (c) an effective e-governance system that facilitates monitoring, reporting and evaluation of the programme; and (d) the hiring of qualified trainers.

Elsewhere, the provisioning of a subsidized vocational education programme in stitching and tailoring had a highly positive impact on women who lived in certain disadvantaged areas of Delhi. The evaluation study (Maitra and Mani 2017) found that the women who were randomly selected for the training programme were almost 5 percentage points more likely to be employed afterward and 6 percentage points more likely to search for employment than those who did not receive the training.

Chakrabarty and Bedi (2019) analysed the effect of a training programme sponsored by the Deen Dayal Upadhyaya Grameen Kaushal Yojana youth employment scheme in rural Bihar on employment and earnings. They found that although the training programme was well-targeted towards rural youths from poor households, the initial impact of a 29-percentage point increase in the employment rate among those who had graduated from the programme was subsequently lost. Around two to six months after the training, a third of the placed graduates left their jobs due to caste-based discrimination, and another third left due to a mismatch between the salary offered and their living costs.

As described in Chapter 5, unemployment rates were higher among youths with formal skills training than those with informal training or no training. Although the worker population ratio was higher among the former, it had fallen over time. The quality of jobs among youths with formal skills tended to be better – such youths were 27 per cent more likely to be in regular wage and salaried jobs, and 45 per cent were more likely to be in formal jobs than those without any vocational training. However, the Mincerian earning functions, which were controlled for several background variables, showed that in two of the three years for which results were analysed (2005 and 2019), vocational training had an insignificant impact on outcomes, but more recently (2022), formal training contributed to an additional return of 9 per cent.

As pointed out by the Planning Commission (2007), the National Skill Development Corporation (2020) and the Ministry of Skill Development and Entrepreneurship (2022), the weak social perception of TVET and employers' tendency to give a low premium to workers with formal vocational training also contribute to the low demand for such training among youths.

Persisting gap between supply and demand for skilled youths

Paradoxically, along with the low uptake of skills training, the problem of the supply–demand gap and the mismatches in training persist and are likely to grow in sectors where there is an increased demand for skills due to technological change.

Despite the plethora of recent changes, the present system of education, training and skills development is still not sufficiently equipped and responsive to the pattern of demand for various kinds of skills arising in the process of globalization and technology-induced growth of the economy. The supply–demand skills mismatch is not only due to the difference between the skills acquired by the educated and trained labour force and what employers are asking for but also because of the poor quality of education, training and skilling of workers (Mehrotra et al. 2013).

In the *India Skills Report 2022*, Wheebox (2022) estimated that the unemployability rate of Indian youths (status of employment readiness among young graduates) had decreased to 53.8 per cent in 2021 from 54.1 per cent in 2020. The researchers suggested that the explanation had to do with the widening skills gap in the Indian ecosystem of higher education. Despite abundant job opportunities, the report emphasized a dearth of graduates with industry-relevant skills. Of the 150 corporations surveyed, 75 per cent expressly reported a skills gap in their workforce. This indicates a lack of awareness among new workers of current job requirements. In the IT and tech industry, 80 per cent of employers cited the skills deficit as a problem, and among engineering and manufacturing employers, 80 per cent agreed there was indeed a skills gap. The least deficit was found in the pharmaceutical and health care sector, where only 50 per cent of employers voiced concern about the skills gap. In the retail sector, 100 per cent of the surveyed employers recognized a skills gap.

Demographic regimes and spatial imbalances in training

As previously noted, India can take advantage of a potential demographic dividend because the proportion of its working-age population is expected to grow until 2040. The potential can only be realized if the youths entering the labour market are employable and can be provided with productive and decent jobs. This puts pressure on education and training. However, due to differences in demographic regimes, the potential demographic advantage varies across states (Srivastava and Bhaskar 2020; DEA 2019; NCEUS 2009). According to the Economic Survey, between 2031 and 2041, the proportion of the working-age population will decline in 11 of 22 major states. Given this scenario, there is an urgent need to focus training in the states where there is a youth bulge. The National Skills Mission emphasizes regional inclusiveness in skills development through policy instruments, such as special projects. Yet, despite some positive changes in this direction, the percentage of trained youths continues to be low in these states (Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh and Rajasthan, which account for a projected youth population of 46.7 per cent in 2021). According to the National Statistical Office and the Periodic Labour Force Survey data, the share of youths with formal skills training in these states increased somewhat between 2012 and 2022, from 20.4 per cent to 26.7 per cent. But in the Government's flagship PMKVY initiative, these states accounted for only 38.8 per cent of trained and certified youths. Overall placements in these states were also lower, at 13.7 per cent, compared with 19.5 per cent in the states that are in a more advanced stage of demographic transition. These differentials persist partly because, being less economically dynamic states, the market-linked demand for skills training as well as the training capacity continues to be low.

Low levels of socio-economic inclusion

Socio-economic inclusion is a major objective of the National Skill Policy of 2015 and the National Skills Mission. The analysis of formal skills training (discussed in Chapter 5) along the axes of education, gender, social groups and monthly per capita expenditure quintiles shows the limited progress in achieving greater inclusiveness in skills training. These results indicate that formal training continues to highly correlate with educational attainment and economic status. Youths with a graduate degree or higher level of education were several times more likely to be vocationally trained than youths with less than a secondary level of education. And nearly two thirds of trained youths were in the top three monthly per capita expenditure quintiles. Gaps between social groups have remained large, and the gender gaps in formal training have persisted, although they have narrowed somewhat in recent years.

These results fall far short of the objective of the National Policy on Skill Development and Entrepreneurship to achieve socio-economic inclusion in and through skills training.

Overarching context of informality

A report of the National Commission for Enterprises in the Unorganised Sector (2009) pointed out that the predominance of the informal sector in India led to a situation of market failure in formal skills training because workers in that sector did not see investment in formal skills as leading to a higher income for them, even though skills could lead to higher productivity. Similarly, the persistence of large-scale informal employment even in the formal sector resulted in a situation in which the private sector was unwilling to invest in skilling their informal workforce and workers reaped little return from formal skills training.

There are considerable concerns regarding the high level of informal employment in India (ILO 2022a). The youth workforce faces more risks of exposure to non-standard, informal and less secure forms of employment than workers from other age cohorts. The poor quality of jobs manifests in income instability, precarious working conditions, job insecurity, lack of legal and social protection and limited opportunities for training and career progression. These challenges are also now being experienced by workers in newly emerging forms of non-standard work, such as gig and platform work (NITI Aayog 2022). These conditions impede skills training among youths – both as workers and pre-entrants to the labour market – and reduce the incentive for employers to invest in training.

Overall, although the skill ecosystem in India has made enormous strides in providing marketable skills in India and in bridging the supply–demand gap in the emerging sectors, tremendous challenges remain in terms of low penetration due to poor placements and returns, insufficient industry participation, low levels of socio-economic and regional inclusion and, above all, high and growing informality in the youth labour market.

► 6.5 Entrepreneurship development and employment-generation programmes

Employment generation through public employment programmes and self-employment, supported by hand-holding support (entrepreneurships and skills training, credit and financial support) has been a feature of government policy and programmes. The creation of the Ministry of Skill Development and Entrepreneurship in 2014 and the National Policy on Skill Development and Entrepreneurship in 2015 emphasized entrepreneurship training and development as an important policy tool in dealing with unemployment and accelerating growth. The National Policy cited five pillars of an ideal environment for entrepreneurship: access to funding, entrepreneurial culture, supportive regulatory and tax regimes, educational systems that support entrepreneurial mindsets; and a coordinated approach that links the public, private and voluntary sectors. The policy notes that, globally, a sizeable proportion of young people are turning to entrepreneurship (NITI Aayog 2022: 9) and cites three types of entrepreneurship – factor driven, efficiency driven and innovation driven. India has a large proportion of the first two due to necessity and based primarily on self-employment initiatives.

The policy promotes entrepreneurship among all sections of society and seeks to stimulate aspirational and innovation-based entrepreneurship. It articulates a nine-part strategy that includes educating and equipping early-stage entrepreneurs; connecting them with peers and supporting them through e-hubs; promoting entrepreneurship among underrepresented groups of society; improving the ease of doing business; improving access to finance; and promoting social entrepreneurship. It has proposed several steps as part of this strategy.

The Ministry of Skill Development and Entrepreneurship has undertaken consistent and strategically planned efforts to promote entrepreneurship and provide necessary support to skilled youths interested in starting an enterprise. As a first step, Common Norms for Skill Development 2015 recognizes self-employment at par with placement as an outcome benchmark of skills training. Additionally, a 20-hour mandatory module on entrepreneurial training has been included in short-term skills training programmes. And the Pradhan Mantri Kaushal Kendras have been converted to Entrepreneurship Hubs to facilitate entrepreneurship in districts by providing interested trainees with mentoring and hand-holding support. The National Institute for Entrepreneurship and Small Business Development and the Indian Institute of Entrepreneurship under the Ministry provide innovative training programmes to entrepreneurs, trainers and other interested individuals. A programme for strengthening women-led enterprises and start-ups was initiated in 2018. A system of rewards and competitions has been set up to promote a culture of entrepreneurship. The Ministry has also collaborated with the Department of Financial Services, the Small Industries Development Bank of India, the Rural Self-Employment Training Institutes and civil society organizations to provide information and know-how on enterprise start-ups, mentorship and hand-holding and to facilitate credit linkages.

During the 2022-23 financial year, a total of 1,419 programmes were conducted by the National Institute for Entrepreneurship and Small Business Development across different programme categories, focused on areas of stimulation, support and sustenance of entrepreneurship development. A total of 44,557 participants attended these programmes, which included entrepreneurship awareness programmes, entrepreneurship development programmes and entrepreneurship cum skill development programmes (MSDE 2023).

As mentioned previously, several ministries initiated programmes for employment generation and the promotion of self-employment, with components of training and credit support. These include the Ministry of Micro, Small and Medium Enterprises, the Ministry of Rural Development, the Ministry of Finance and the Ministry of Housing and Urban Development. Some of the major programmes are the Mahatma Gandhi Rural Employment Guarantee Programme, the National Livelihood Mission, the Pradhan Mantri Mudra Yojana scheme, the Prime Minister's Employment Guarantee Programme and

the Entrepreneurship and Skill Development Programme. Not all of these programmes focus only or primarily on youths. Hence, only a few are reviewed here.

There are many employment-generation programmes in India, but the next sections examine the ones that have targeted youths.

6.5.1 Entrepreneurship and Skill Development Programme

The Entrepreneurship and Skill Development Programme is an initiative of the Ministry of Micro, Small and Medium Enterprises, launched in 2018. The objective of the programme is to motivate youths, particularly those belonging to the disadvantaged sections of society (such as Scheduled Castes, Scheduled Tribes, women, differently abled and former servicemen), to consider entrepreneurship or self-employment as a career option. The ultimate objective is to promote new enterprises, build up the capacity of micro, small and medium-sized enterprises and inculcate an entrepreneurial culture in the country.

Short-term schemes (two days to six weeks) are conducted under the programme. These include industrial motivation campaigns, entrepreneurship awareness courses, a two-week entrepreneurship-cum-skills development course and a one-week management development course. All these activities are organized in the Industrial Training Institutes, the polytechnics and other technical institutions, business schools and the Enterprise Facilitation Centres to motivate youths towards self-employment.

Although the programme has contributed to the skills development ecosystem of the country, it seems to lag in fulfilling its objectives: Only 10 per cent of its beneficiaries are from a Scheduled Caste, Scheduled Tribe or Other Backward Class groups while women entrepreneurs are few and their businesses are restricted to microenterprises.

6.5.2 Prime Minister's Employment Guarantee Programme

The Government launched the Prime Minister's Employment Guarantee Programme in 2008 by subsuming two schemes: the Prime Minister's Rozgar Yojana and the Rural Employment Generation Fund for generating self-employment opportunities for unemployed youths in both rural and urban areas. The programme is implemented by the Khadi and Village Industries Commission under the Ministry of Micro, Small and Medium Enterprises. It is a major credit-linked subsidy programme to facilitate youths in establishing a microenterprise in the non-farm sector. The programme assists unemployed beneficiaries to set up economic projects costing up to 2.5 million rupees in the manufacturing sector and 1 million rupees in the services sector. Margin money subsidy is provided to the beneficiaries, which is a higher percentage of the project cost in rural areas and for those belonging to special categories, such as Scheduled Castes, Scheduled Tribes, Other Backward Castes, women, ex-servicemen and people who are physically challenged.

Between 2008 and December 2021, more than 738,000 new micro units were assisted, generating employment opportunity for an estimated 6.07 million persons. The available data indicate an increase in that time period in the number of projects assisted and employment generated under the programme. In 2021, more than 74,415 projects were assisted and estimated employment generated engaged more than 595,000 persons, the peak year since the programme's inception (MSME 2021).

According to the Ministry of Micro, Small and Medium Enterprises' 2021 annual report (MMSME 2021), the performance was constrained by several structural gaps in the programme: Procedural delays by banks as well as the administrative machinery, absence of monitoring and evaluation of the quality of employment generated and sustainability of the jobs generated were some of the issues. It is important to assess the impact of the Prime Minister's Employment Guarantee Programme on a regular basis and make provisions for changes and improving the results, help the units performing and provide support to distressed units. The 31st Report of the Public Accounts Committee recommended setting up help desks and call centres to assist potential entrepreneurs.

6.5.3 Pradhan Mantri Mudra Yojana

The Pradhan Mantri Mudra Yojana launched in 2015 to provide credit of up to 10 million rupees to small entrepreneurs. Mudra targets young educated or skilled workers and entrepreneurs, including women entrepreneurs, with assistance for their working capital as well as investment requirements. The loans are accessible in three categories: Shishu, Kishore and Tarun to signify the stage of growth and development and funding needs of each beneficiary micro unit or entrepreneur and also provide a reference point for the next phase of graduation or growth.

The Micro Units Development and Refinance Agency Bank was set up under the scheme as a wholly owned subsidiary of the Small Industries Development Bank of India. It offers a refinancing facility to microfinance institutions and non-bank financial companies that are outside the regular banking sector to assist their loans to micro and small enterprises. A Credit Guarantee Fund was set up to reduce credit risk to the financial institutions providing loans under this scheme.

From the launch of the scheme to March 2023, about 23.2 trillion rupees were sanctioned in 40.82 billion loan accounts. About 68 per cent of accounts under the scheme belong to women entrepreneurs and 51 per cent of accounts belong to entrepreneurs from a Scheduled Caste, Scheduled Tribe or Other Backward Class. And 82 per cent of the loan accounts are small, at less than 50,000 rupees (Shishu category) (PIB 2023).

▶ 6.6 Job search assistance programmes

With training and skills distribution spread across geographies and distinct from the pattern of growth and demand for skilled workers, it is important to have instruments that can guide workers and other stakeholders and reduce the search costs for both employers and workers. The National Policy on Skill Development and Entrepreneurship proposed the creation of an ambitious national labour market information system as an integrated database, with data on the supply and demand of labour and focus on skills and occupational shortages. It was proposed that the labour market information system use a business intelligence tool to generate analysis and reports that will determine policy interventions by different government entities and the industry at large. In the past few years, the following policy instruments and databases emerged with this aim.

6.6.1 National Employment Service

The National Employment Service began operating in India in 1945 through a network of employment exchanges. Its primary objective is employment for jobseekers, either through regular jobs or through self-employment. Over the years, the functioning of the employment exchanges has weakened due to structural infirmities, alternative agencies for meeting the intermediation needs, the declining role of government as a key employer and the changing nature of the labour market (Abraham and Sasikumar 2018). These issues necessitated restructuring the employment service. In 2015, the Government launched the National Career Service as a Mission Mode Project for transformation of the National Employment Service. It is a one-stop solution that provides a wide array of employment and career-related services, such as career counselling, vocational guidance, information on skills development courses, apprenticeships and internships. The project consists of three components: (a) National Career Service Portal;⁴⁴ (b) model career centres; and (c) interlinking employment exchanges.

44 See www.ncs.gov.in.

With the launch of the online job portal, the share of posted entry-level vacancies increased consistently, from 43 per cent in 2015–16 to 67 per cent in 2019, thus indicating a shift towards entry-level vacancies by employers using a public portal (ILO 2020a). Between 2015–16 and 2019, more than 10 million jobseekers registered with the National Career Service portal. Among them, nearly 64 per cent were men and 83 per cent were youths aged 15–34. According to the monthly e-newsletter of the National Career Service, as of end February 2023, around 935,170 employers had registered on the portal and the active vacancies stood at 469,540. Despite several advantages, a drawback of the portal is that it doesn't provide profile information for people who found employment after registering on the portal (Sasikumar 2019).

6.6.2 Aatmanirbhar Skilled Employees Employer Mapping portal

The Ministry of Skill Development and Entrepreneurship launched the Aatmanirbhar Skilled Employees Employer Mapping portal as a directory of skilled workers. It serves as a platform for matching the supply of skilled workers with the market demand for them. This helps jobseekers access suitable employment opportunities and helps employers find skilled human resources. The candidate and jobseeker interface helps them to create their profile, look for better livelihood opportunities and connect with people of similar interests as well as with the alumni network for quick guidance and support. It also acts as a document repository that manages work history, current job details, location and other relevant information. This interface also identifies skill gaps and suggests to candidates to upskill or reskill based on market trends and their requirements. The employer and industry interface assists in aggregating demand by industry, location, skill sets, etc. It also helps in auto-matching with relevant candidate profiles.

Policy interventions designed to facilitate matches between jobseekers and potential employers have been found to have a modest effect on youth employment due to the mismatch between their expectations and job offers received through the online job search platforms (Kelley, Ksoll and Magruder 2022).

6.6.3 Rozgar Mela (job fair)

A Rozgar Mela is a half-day event, aimed at bringing together employers from high-growth sectors and jobseekers in an area or state for fast-tracking applications and recruitment. It is organized by the National Skill Development Corporation with the help of the Sector Skill Councils and the Pradhan Mantri Kaushal Kendras. The *melas* cater to youths aged 18–35 with at least a middle-school education and include trained and certified youths, including those with a diploma or graduate degree. Jobseekers are mobilized through various channels.

The Rozgar Melas also include counselling sessions, registration of youths under fresh skill development training (PMKK and PMKVY), Mudra Loan Facilitation Counters and skill exhibitions, where the Sector Skill Councils demonstrate training models, equipment and job roles. According to its website, around 563,000 youths registered in the 1,524 *melas* in different parts of the country between 2018 and 2020, and about 249,000 youths were either shortlisted or selected for jobs.⁴⁵

The 36th Report of Standing Committee (2022) assessed the Aatmanirbhar Skilled Employees Employer Mapping portal and the Rozgar Melas. The Committee thought that the functioning of the portal was not up to the mark due to the large gap in the number of candidates registered and those who actually secured employment. The Committee suggested corrective action to boost the number of employers across all sectors registered on the portal and to encourage them to make use of the portal for the purpose of hiring and employing more skilled candidates. The Committee observed that only 257,767 candidates had been shortlisted (as of its review) by the participating employers in the 1,577 Rozgar Melas that were organized. That translated into only 163 candidates shortlisted for every Rozgar Mela

⁴⁵ See <https://nsdcindia.org/rozgarmela>.

organized. The Committee was of the view that the number of candidates finding employment through the Rozgar Melas could be substantially increased by encouraging greater participation of industries and establishments and other employers to participate and to offer employment opportunities.

► 6.7 Summing up

India's potential demographic dividend, which began in the early 1970s, may be available only until around 2040 (DEA 2019; Mehrotra, Gandhi and Sahoo 2013; see also Chapter 2 of this report). Unemployment and the rate of youths not in employment, education or training are high, and working conditions among a majority of employed youths are poor, although the economy has been growing at a high rate. This severely constrains the realization of this potential. Rapid technological changes and high growth have increased the gap between skill supply and demand. It is therefore essential for Indian policymakers to take adequate and timely steps for ensuring rapid integration of youths into the labour market through well-targeted supply and demand measures.

The supply-side measures should focus on improving both the quantity and quality of the youth labour force. Improving the quality of training programmes requires a careful strategy for the selection of training providers as well as applicants within the target group of youths, with a focus on social and economic inclusion. Thus, selection of qualified trainers and motivated trainees will ensure efficient utilization of resources and positive outcomes in the form of a higher employment rate. In addition to unemployed youths, providing reskilling opportunities to employed youths may facilitate adjustment of the labour force to the changing needs of industry. To achieve stable employment and reduce the duration of unemployment between jobs, effective post-placement tracking and support are required.

The demand-side interventions should aim to not only raise the demand for labour but also enable access to decent working conditions. Sector policies for promoting investment in key sectors, wage subsidies and incentives for fostering innovation through research and development in new areas may spur demand for young entrants into the labour market. An integrated strategy is required to generate a sufficient number of decent jobs for young people and ensure appropriate wages, suitable working conditions and a social protection framework, together with collective bargaining power and representation in tripartite dialogue.

There is a need for concerted action to ensure that skills formation takes place in a demand-driven manner. The presence of a labour market information system operating at the state level may help in customizing training courses to local needs. An increase in the use of apprenticeships may be helpful to ensure that the training programmes are responsive to the needs of the labour market. It is essential to update educational and skills development curricula so that they take into account the changes, such as the growing importance of digital and soft skills. In other words, curricula for skills development must be reoriented on a continuing basis to meet the demand of industry and to align it with the available employment opportunities. Skills development centres can be established in educational institutions. Also, any skills training programme that does not result in a substantial improvement in the employability and bargaining power of its trainees needs to be evaluated and the training curriculum must be revised.

At present, industry involvement in training is still low. Only 36 per cent of companies conduct in-house enterprise-based training programmes. Thus, skills training in India is still largely government driven, with inadequate industry participation. In comparison, as much as 86 per cent of companies in Germany, 85 per cent in China, 52 per cent in the Russian Federation and 51 per cent in Brazil and Mexico train their workers themselves (NSDC 2020). Being major job creators in the country, the private sector's involvement is required in the form of expansion in on-the-job training, internships and apprenticeships

for youths. The private sector can take on a game-changing role in overcoming the challenges of market failures, information asymmetry and gender exclusion.

Given the barriers faced by youths in finding formal employment, direct or indirect wage subsidies – the latter in the form of employer–employee social security contributions – could also take on a significant role in formalizing production and providing avenues for youths to formal employment. This was tried during the pandemic period to incentivize the retention of workers and could be implemented on a regular basis.

Digital technologies present an excellent opportunity to strengthen the job matching services provided by the public employment services, particularly for youths. The development of these services, however, remains at an early stage. It is important that these services are built up from the local level, especially because women are less prone to move a long distance from their home. In the provisioning of such services, it is essential to ensure that digitally illiterate persons are not excluded or left behind. Face-to-face contact with career advisers is equally essential. Public employment services institutions should combine digital services delivery with traditional counselling activities that involve regular meetings between jobseekers and employers and career counsellors. Effective career counselling initiatives may help youths identify their strengths and skill gap and make a realistic assessment of the available jobs in the market.

During the pandemic, both passive (unemployment benefits) and active labour market policies had an important role in sustaining and expanding employment. This was primarily the promotion of self-employment through special schemes, such as the expansion of the Pradhan Mantri Mudra Yojana scheme and the Prime Minister’s Employment Guarantee Programme, which provided a collateral-free loan for working capital to street vendors during the pandemic. The thrust on innovation-based entrepreneurship has also brought rich dividends through the expansion and growth of start-ups.

In the post-pandemic economic environment, the ILO (2022b) believes the future of work will be influenced by technological innovations, demographic shifts, environmental threats, climate change and globalization. Investment in green economies, care economies and digital economies thus can create sustainable pathways of opportunity for youths. With growing concerns around green technology and a sustainable environment, dedicated policies and investments aimed at improving energy efficiency in buildings and appliances, decarbonizing electrical power generation through a shift to renewable energy and expanding electric vehicles and associated infrastructure may help generate an additional 8.4 million jobs globally in the green sector for youths by 2030.

The digital economy is expected to add an estimated 6.4 million jobs by 2030 for youths (ILO 2022c). However, such jobs are more likely to be concentrated in urban areas and require high levels of technical proficiency among youths.

The care economy is largely characterized by informal work arrangements. In the years to come, it will be a major source of employment for young women. Hence, policies need to ensure access to decent work opportunities in the sector, including adequate monetary benefits to make the sector attractive for female employment.

Constituting more than a quarter of India’s population, youths are a part of a demographic dividend. Tapping this demographic advantage depends on the country’s ability to realize the aspirations of youths, harness their productive potential and help them build successful economic trajectories.



▶ 7

The future of jobs for youths and pointers for the way ahead

The youth employment problem is central to national policy agendas around the world, including India. Addressing the problem is necessary to meet the Sustainable Development Goals, including the specific targets for (a) increasing the number of youths and adults who have relevant skills for employment, decent jobs and entrepreneurship; (b) achieving full and productive employment and decent work for all women and men, including youths with disabilities, and equal pay for work of equal value; and (c) substantially reducing the proportion of youths not in employment, education or training. The progress towards these targets not only stopped but regressed during the COVID-19 pandemic and, hence, requires extra efforts now to put it back on track.

This chapter summarizes the analysis and suggests policy pointers for the future of jobs for youths in India. The country's youth employment is influenced by the pattern and growth of the youth labour supply, the quality of education and training imparted, the emerging nature of employment due to technological advancement and the changing aspirations of the youths. The labour market behaviour of young women is also influenced by various socio-cultural factors as well as state policy. On the demand side, the nature of job growth is influenced by the nature of economic growth, regional developments and state policy.

► 7.1 Major employment developments

The following describes the major employment developments over the past two decades that emerged from the analysis for this report.

Last-window of opportunity remains to exploit the demographic advantage.

Notwithstanding the significant decline in the rate of population growth, India is still a young country with a large share of a youth population (371 million persons aged 15–29 years in 2021) and the large labour force. Demographically, the Indian economy has entered the stage of demographic transition, which is unevenly sequenced across its states, and provides only a last-window opportunity (a little more than a decade) to exploit the potential demographic advantage through the implementation of appropriate policies.

Despite improvements in employment conditions, they remain poor.

Over the years, slow but consistent improvements in employment conditions – until onset of the COVID-19 pandemic. This is reflected in the steady growth of regular and organized sector jobs, non-farm jobs and regular formal jobs, albeit very slowly, until 2019. An employment condition index based on seven labour market outcome indicators that capture the employment conditions and quality showed that the overall employment quality score has improved, from 0.40 in 2005 to 0.65 in 2022. However, there was a reversal in this overall trend after 2019, mainly due to the adverse impacts of the pandemic. Otherwise, the employment conditions remain poor. During the past decade, there was only a small increase in the real wages of casual workers and a decline in the real earnings of regular salaried workers and self-employed persons. Although the proportion decreased over the years, a large percentage of workers still do not receive the prescribed daily minimum wages. The proportion of such unskilled casual workers in agriculture at the all-India level was around 62 per cent in 2022 and as high as 70 per cent in the construction sector. Despite improvements in employment and the labour market conditions, they remain poor in India.

Participation of women is low and gender inequality is high in the labour market.

There is a low and declining LFPR and worker population ratio among women, especially in rural areas, which experienced reversals in the pandemic years. India has one of the lowest LFPRs for women in the world while the unemployment rate among educated young women is very high.

Low generation of new jobs persists.

India's employment growth has been falling across most sectors despite relatively high output growth, reflected in the rising labour productivity and capital intensity across the board. The expansion of the working-age population was much greater than the growth in the labour force and workforce during the past two decades, reflected in the increase in open unemployment until 2019.

Slow process of structural transformation, with the manufacturing sector lagging.

India has experienced a stunted process of structural transformation, which undermined its desired sectoral distribution in output, employment, productivity and resultant increase in productive employment. Although there has been a slow transfer of labour from the agriculture to the non-agriculture sectors, the broad sectoral output and employment imbalances persist. A large section of the workforce is still trapped in low-productivity agriculture and the transfer of surplus labour to higher-wage and more productive non-agricultural employment has been slow and even reversed after 2019 due to the pandemic. As much as 45 per cent of the workforce was engaged in agriculture and related activities in 2022, contributing only 15.5 per cent to gross value added. The share of the manufacturing sector stagnated at around 12 per cent of total employment.

While the manufacturing sector lagged, job creation over the past few decades was driven largely by the construction and services sectors. The contours of growth in output (and productivity) and the changing structure of employment show a weak relationship – manifested in the low creation of jobs, particularly good jobs. Since 2019 and due to the shocks generated by the pandemic, even this slow transition has been reversed. An employment structure index comprising various employment categories in the organized and unorganized sectors as well as the economy showed that between 2000 and 2019, values as a whole rose, reflecting a slow but steady structural transformation. After 2019, however, there was a break in the progress. A substantial portion of the relatively low-skilled non-working population that has withdrawn from the labour force, and which is amply reflected in the large proportion of people not in employment, education or training due to the discouraged worker effect, needs to be productively employed while the country also manages the agrarian transition.

Structural labour market constraints include increasing informalization, contractualization and flexible jobs.

Over the years, there has been a rise in the share of regular and organized employment and a decline in unorganized employment, self-employment and casual employment. However, India's labour market continues to be predominantly characterized by informal employment (approximately 90 per cent of adult and youth workers) and informal sector employment. A very large proportion of workers who are in regular and salaried employment are without any written contract, and only a small proportion has a long-term written contract. There has been increasing informalization of the regular workforce. Informalization in the labour market is not restricted to the informal sector but has also spread within the formal manufacturing and services sectors. The high informality and temporary nature of jobs reflect a high level of uncertainty in livelihoods and pose serious questions about the nature of the employment challenge in the country.

The open unemployment rate is high, especially among educated youths and young women.

Open unemployment is rising, with a very high unemployment rate among educated youths, especially since 2011–12. Youth unemployment rates in India are now higher than the global levels. The Indian

economy has not been able to create enough remunerative jobs in the non-farm sectors for new educated youth labour force entrants, which is reflected in the high and increasing unemployment rate. The employment opportunities for the less-educated youths and those from poor households are declining, while highly educated youths are waiting for suitable jobs. The unemployment rate among youths with a graduate degree is nearly nine times higher (at 29.1 per cent) than that among illiterate youths (at 3.4 per cent). Young women with a graduate degree (at 34.5 per cent) experience a comparatively higher unemployment rate than young men (at 26.4 per cent) with similar qualifications.

A huge category of youths, especially women and older youths, are not in employment, education or training.

Nearly one third of all youths are not in employment, education or training, with a significantly larger proportion among the women (48.4 per cent) than the men (9.8 per cent). The majority of women in this status fall into the out-of-labour force category while their male counterparts fall into the unemployed category. Among young individuals, the rate for not in employment, education or training was much higher among youths aged 25–29 (39.1 per cent) and 20–24 (26.3 per cent) when compared to the younger cohort, aged 15–19 (12.1 per cent).

Education, skills and jobs mismatch among all workers is considerable.

Over time, the educational profile of the working-age population has risen. At the same time, around 42 per cent of youths have less than a secondary level of education. Thus, a large proportion of the Indian workforce has remained poorly educated and consequently ill-prepared for new jobs that require new skills. In addition, less than 5 per cent of youths possess formal vocational training. Although the gender gap and the gap between social groups have declined, large disparities persist across consumption quintiles and rural–urban locations, particularly at high levels of education (without adjustment for quality differences).

These disparities are also very high for youths with technical education and for formal skills training. With higher education levels (and to some extent, a greater professionalization of education), educated youths aspire for well-paying jobs, job security and social security. But there has not been commensurate growth in formal, decent and high-skill jobs, leading to a growth in educated unemployed youths. The job market for youths also places a high premium on a small proportion of high-skill jobs, leading to high wage and income inequality among those youths who enter the labour market.

Apart from the lower level of education, the quality of education remains relatively poor in India. Although there is a dearth of reliable data, the limited evidence indicated huge learning deficits at school as well as college and university levels in the country, with considerable differences across regions and rural and urban areas. According to the recent ASER survey (ASER Centre, 2024), a large proportion of youths aged 14–18 cannot perform even basic and applied tasks. Indian universities rank poorly in international comparisons. There are huge regional disparities, with few institutions from the eastern and central regions in the top 100 universities, leading to migration of youths from these regions to others, particularly the southern and northern areas. The poor quality of education is an important reason behind the lack of “employability” of educated youths.

Returns on education among the youth are declining.

Returns on education among wage and salary-employed youths are higher among urban youths than rural-residing youths; among men than women; and among youths from a General Category caste than youths from a Scheduled Tribe. Interestingly, the returns from education show a decline from 1999–2000 to 2018–19 at all levels of education, although they were still high at the diploma, certificate and graduate

degree or higher level of education. This also reflects the rising oversupply of youths in various segments of the labour market in relation to the aggregate employment opportunities.

Skills mismatch among youths is worrying.

There is a mismatch between the numbers of youths with specific education and skill attainments and the jobs being created in the economy. This has two dimensions: From a demand-side perspective, employers perceive a shortage of youths with specific skills, which is seen as a crisis of *employability*. From the perspective of the jobseeking youths, there are not enough jobs of requisite quality and characteristics. In recent decades, this has led to a high demand for scarce public sector jobs, especially in slow-growing regions, thus leading to tension and unrest, sometimes even violence.

Labour market segmentation and regional differences in employment and unemployment remain concerns.

Along with labour market segmentation across social groups and gender, which relegate the disadvantaged groups to poor-quality jobs with limited upward mobility and access to higher education, differences in demographic regimes and the historical growth performance have resulted in disparities in decent employment opportunities and average earnings and wages across geographical regions. There are huge regional differences in youth employment and unemployment, wherein the underdeveloped states in the eastern, northern and central regions are lagging behind the southern and western states in terms of decent employment conditions for youth workers. These differences also create the basis for the mobility of many youths – at different ends of the spectrum – from one area to another in search of livelihood and better job opportunities.

The COVID-19 crisis increased less remunerative employment.

Responses to the pandemic triggered a reverse movement of a large number of migrant workers and their families, back to their community of origin. The total workforce increased during the pandemic years, mainly as a result of marginal workers joining the workforce in agriculture and self-employment. Youth were also hit hard during the COVID-19 crisis due to their vulnerable situation in the labour market. Many people were pushed into self-employment, unpaid household and own-account type jobs, mainly in the agriculture sector (at 66 per cent of the total additional jobs) during the crisis, when youths were more involved in the former and adults in the latter. This indicates an increase in employment, whereby many youths were compelled to engage in unpaid household work after returning to their native rural community. While jobs requiring personal contact and face-to-face interaction were hit hard, remote working was encouraged and received incentives. The pandemic also accelerated the technological shift towards high-skill and automated jobs.

Employment in emerging sectors is expanding.

The skill composition of the total workforce has been improving slowly over the years, and youths are more likely to take advantage of the newly emerging sectors. While some of these sectors (such as security services and jobs in households) are at the low end of the skill spectrum, the newly emerging sectors cited in the analysis of this report are at the higher end of this spectrum – in manufacturing and in services.

New technologies have great potential for employment.

Like elsewhere in the world, the new technologies have immense implications for labour markets and employment. Even before the advent of new technologies, the employment generation was becoming

increasingly labour-saving and capital-intensive as a result of technology use. There has been a consistent rise in demand for high-skill jobs, especially in modern communication, software and financial services, as well as for low-skilled and unskilled workers in e-commerce, delivery services and the food industry, which have grown at a much faster rate since the pandemic. Industry 4.0 technologies are more prevalent in capital-intensive manufacturing units and among large and medium-sized service enterprises, although it is still limited. Some smaller and medium-sized enterprises are slowly moving to more affordable automotive machines and so-called cobots and chatbots.

The availability of cheap labour in bulk and the higher cost of automation, especially for the majority of micro and small informal enterprises, is preventing or delaying automation in India. The youth involvement in no-skill or low-paying jobs has increased considerably, from 19 per cent in 2019 to 25.7 per cent in 2022, possibly to supplement or even provide family income during the COVID-19 crisis. The impacts of new technologies on employment have not been systematically studied, but certainly they are going to have immense implications. Artificial intelligence is a new and unknown factor that will certainly have huge impact on employment, both its quality and quantity. Despite the rapid technological growth of digital infrastructure, India is still much less prepared than the other G-20 countries to meet the challenge posed by artificial intelligence.⁴⁶

The outsourcing industry in India could be disrupted because some back-office tasks would be taken over by artificial intelligence. But given that India has a lot of vibrant start-ups, tech developers and a reasonably good digital infrastructure, it is fully possible to create new jobs. Artificial intelligence stands to transform lives in the emerging world, too. It offers immense opportunities to increase the productivity of labour, even unskilled and semi-skilled workers, which is urgently required in India. Artificial intelligence could help the income levels significantly, thus bridging the gap with rich countries).

Digitalization and new forms of work is creating opportunities and concerns.

The emerging platform or gig economy is creating new economic opportunities for youths who are entering the labour market. Although it is expanding in various activities of the services sectors, there is hardly any systematic study measuring the magnitude of gig and platform work. Various surveys and estimates indicated that such employment increased at a rapid rate in the past few years, especially since the pandemic. But there is significant disparity in ICT access and digital skills among youths: Rural youths exhibit lower ICT access and proficiency compared with their urban counterparts, and women lag behind men. Additionally, youths from a Scheduled Caste or Scheduled Tribe face greater challenges compared with other social segments. Addressing these disparities will be pivotal for promoting inclusive digital literacy and ensuring that youths from all socio-economic backgrounds have equal opportunity to engage with and contribute to the digital landscape. However, the gig economy, to a large extent, is an extension of informal work and creates largely temporary and non-standard work, based on a short-term relationship between workers and companies. This new form of work lacks access to formal social protection mechanisms.

The labour process at the centre of the platform economy is largely controlled through non-transparent, artificial intelligence-powered algorithms. This poses a substantial challenge in upholding the working conditions and the rights of platform workers. And it further blurs the distinction between being an employee and engaging in self-employment, thus complicating employment status. This disparity between perception and actuality underlines the complexity of issues within the realm of platform and gig work.

⁴⁶ "AI for All", *Economist*, 27 January 2024.

Employment challenge remains an issue for youths.

Around 7–8 million persons will be joining the labour force annually in the next decade or so, a large proportion of whom will be educated (nearly half of them). Providing suitable jobs to the existing unemployed and underemployed youths as well future entrants to the labour force is indeed a huge challenge before India, more so in the context of the increasing uncertainties in the labour market due to the fast-changing technologies, including artificial intelligence. The transition to a low-carbon economy to which India is committed needs also to be taken into account because it will have immense implications for the nature of employment creation. The employment generation is becoming more and more capital-intensive as well as skill-intensive.

Technologies need to be adopted to enhance labour productivity, especially of the low production sectors. But given the abundance of surplus labour in the country, there is no alternative other than to have a growth process led by labour-intensive manufacturing, at least for next one decade, to absorb the abundant skilled labour in the country. Because the nature of manufacturing has considerably changed and now services have become important in employment generation, services need to be given due emphasis in the growth strategy.

The rates of urbanization and migration are also expected to accelerate in the future. India is likely to have an urbanization rate of around 40 per cent in 2030 and will have an urban population of around 607 million, which is a substantial increase from the 461 million in 2018 (United Nations 2019). A substantial part of this increase in urban population will be from increasing migration because India's total fertility rate is now almost equal to its population replacement level.

Regional differentials in the labour market lead to unequal labour market outcomes.

India has considerable differences in the labour markets across its regions and states. This is reflected in its labour market outcomes. Various labour market outcomes indicated that states of eastern and central India perform poorly when compared to outcomes in the southern and northern regions. The employment condition index prepared for this report showed that although quality of employment in all states has been improving, the differences between states remain large. Bihar, Odisha, Jharkhand, Madhya Pradesh and Uttar Pradesh were at the bottom of the employment condition index in 2005 and remained there in 2022. These states also have a much larger proportion of youth not in employment, education or training than what the relatively more prosperous states have. In terms of digital infrastructure as well as access to digital skills, youth from the north-eastern, eastern and central regions have much less access than their counterparts in other regions.

► 7.2. Emerging policy agenda

The policy agenda emerging from the analysis for this report and the challenges discussed in the previous section are highlighted next. These pointers of a necessary way forward are concerned with meeting the needs of decent work, particularly for youths, and require policy action by the government at all levels and other stakeholders. The recommended policy agenda is grouped into the following five policy missions.

Mission 1: Make production and growth more employment-intensive.

Integrate the employment-creation agenda with macro and other economic policies to boost productive non-farm employment, especially in the manufacturing sector and emerging services sectors. Different ministries need to incorporate the task of job creation in all their programmes and policies. Even the period of high economic growth did not create enough high-quality jobs in the country.

The employment benefits of service-led growth alone are likely to be inadequate in meeting the current employment challenge. Industry and manufacturing absorb the relatively low-skilled labour moving out of agriculture at a productivity premium. In addition, a great merit of manufacturing-led growth is that it can be sustained by synchronous increases in domestic demand for manufactured goods (through the growth of employment and income) and in domestic production of manufactured goods (under increasing returns to scale).

The nature of manufacturing employment has considerably shifted due to higher levels of automation and technological changes, including recent developments related to the so-called Industry 4.0 technologies, and is increasingly becoming more capital-intensive. But it still needs to be recognized as a driver of growth for India, at least for the next decade or so (Ghose 2016). Manufacturing has stronger links with other sectors and also has multiplier effects. Rapid growth of organized manufacturing will require rapid expansion of the domestic market for manufacturers.

This does not mean that the agriculture and services sectors should be neglected. Modernization and prosperity in agriculture will significantly contribute to the growth of both manufacturing and services. Similarly, there are some modern services, such as information technology and business services, that are mainly export-driven and also generate new employment opportunities. Given the changed context, India needs manufacturing-led growth for at least one decade more to absorb the abundant unskilled labour in the labour-intensive manufacturing sector. At the same time, the services sector needs to create decent jobs and be integrated into the growth process.

Encourage important emerging employment-generating sectors in the modern manufacturing and service sectors through appropriate policies and other benefits. The emerging services and manufacturing subsectors generating additional quality employment include information technologies, communications services, business and financial services, real estate, activities of households as employers of domestic personnel, private security activities, pharmaceuticals, electrical and optical instruments, machinery and related industries. The Government's umbrella scheme, Make in India, and its flagship scheme, Production Linked Incentive, aim to make the country a manufacturing hub, thus inserting India into global value chains and fostering industrial growth (see box 16). The Production Linked Incentive is based on creating industry leaders with large-scale investment who can benefit from economies of scale and become globally competitive. Although positive outcomes and the focus on new technologies, automation and digitalization are noted, with obvious implications for the youth skill demand, these strategies are of recent origin and will need to be carefully assessed in terms of longer-term parameters. And although there is twin focus on emerging small and medium-sized enterprises, high capital intensity is likely to be less favourable to large-scale employment growth. Hence, emerging sectors that are labour-intensive should be encouraged through appropriate policies, such as subsidized loans, employment subsidies, rebates in taxes (goods and services) and infrastructure and other support to help them to grow further.

► Box 16. Boosting industrial growth through Make in India

With the heightened risk of supply chain shocks, India has a unique opportunity to become a global manufacturing hub this decade. The Make in India initiative was launched in 2014 to turn the country into a hub for manufacturing, design and innovation. Since then, the Government has facilitated investment, fostered innovation and built world-class infrastructure. To further enhance India's integration into the global value chain, Make in India 2.0 now entails 27 sectors, which include 15 manufacturing sectors and 12 service sectors. Among them, 24 subsectors have been chosen while keeping in mind the Indian industries' strengths and competitive edge, the need for import substitution, the potential for export and increased employability.

The Production Linked Incentive scheme offers an incentive to domestic and global manufacturers to expand production through higher investment in selected sectors covered by the Make in India scheme. The scheme was initiated in 2020, initially in three sectors, and has expanded to 14, which include mobile telephones, medical devices, telecom and networking products, automobiles and auto components, pharmaceuticals, white goods, specialty steel, electric products, solar PV modules, advanced chemistry cell battery and drones and drone components. An incentive is offered as a percentage of incremental sales over benchmarked base values. Eligible manufacturers are defined in terms of threshold (minimum) levels of investment. The objective of the scheme is to encourage domestic production, boost exports, reduce imports and create manufacturing jobs. As of March 2023, the scheme has an allocation of 1.97 trillion rupees, had seen approval of 733 applicants (of whom

100 were small or medium-sized enterprises), with an expected investment of 3.65 trillion rupees. The actual investment so far has been 625 billion rupees, resulting in incremental production of 6.75 trillion rupees and reported employment generation of 325,000 jobs. Incentive claims of 34.2 billion rupees have been received from eight sectors.

As part of the multipronged effort to boost industry and to eliminate the disadvantage to Indian manufacturing, steps have been taken to improve logistics and physical infrastructure and well as the business-friendly environment. The Government has also taken steps to foster innovation through incubation, hand-holding, funding, industry-academia partnerships and mentorships. The Government has also strengthened and modernized its intellectual property rights regime and has taken steps to facilitate intellectual property filing for start-ups, women entrepreneurs, small industries and others, leading to a growth in the filing of patents. A National Research Foundation is being set up with seed money of 500 billion rupees for the 2023-28 period. Reforms have been made to enhance the ease of doing business and facilitate investment inflows. With the advent of Industry 4.0, the Government is setting up Smart Advanced Manufacturing and Rapid Transformation Hubs. India has already created about 900,000 direct jobs by the ministry-recognized start-ups (self-reported), with a notable 64 per cent increase in 2022 over the average number of new jobs created in the past three years. About 48 per cent of the start-ups are from tier II and III cities. The Government has provided targeted incentives to start-ups that include tax benefits, easier compliance, intellectual property rights fast-tracking and a fund for financing.

Source: DEA 2023.

Focus more on micro, small and medium-sized enterprises. Enhancement of the Credit Guarantee Fund, schemes such as the Pradhan Mantri Mudra Yojana and the downstream impact of the Production Linked Incentive scheme have no doubt increased the credit flow to the micro, small and medium-sized enterprise sector and enhanced its growth prospects. Nevertheless, given the importance of this sector in sustaining non-farm employment and promoting exports and the adverse impact of demonetization and the goods and services tax on the informal segment within the micro, small and medium-sized enterprise sector, there is urgent need to prioritize the growth of these enterprises through a more supportive decentralized approach. This requires a close examination of local policies and the regulatory environment, support for marketing, technology enhancement (including digitalization) and a cluster-based approach in manufacturing.

Increase agriculture productivity, create more non-farm jobs and promote entrepreneurship.

Employment within the agriculture sector is characterized by low productivity and subsistence-level conditions. These pre-existing challenges of underemployment were further exacerbated by the pandemic. This situation accentuates the prevailing issue of underemployment in agriculture and underlines the lack of job opportunities in non-farm sectors in rural areas. To address this concern, efforts should encompass greater focus on promoting entrepreneurship, particularly in agroprocessing, by facilitating access to finance and cutting-edge technology. Investment in the development of rural infrastructure and establishment of an integrated market would also contribute significantly to the revival of employment in the farm and non-farm sectors in rural areas.

Expand and invest in the green and blue economies. These economies have huge potential for youth employment. A report from the World Economic Forum underscores that India's transition to the green and blue economies could contribute more than 1 trillion dollars to its general economy and generate around 50 million jobs by 2030. The Indian Government has been showing a keen interest in the growth of the green and blue economies. Through strategic investments, capacity-building initiatives and conducive policy frameworks, the potential of these sectors can be harnessed to their fullest.

Adopt effective policies and measures to take advantage from the new technologies. Fast-changing technological advancements, particularly artificial intelligence, are going to be important disruptive factors in the labour market, with positive and negative consequences. Although on a good footing, India still needs to do more to prepare itself for the challenges posed by new technologies. Artificial intelligence offers immense opportunity to enhance labour productivity and incomes of even unskilled and semi-skilled workers. The disadvantaged states are less prepared for this, and active policies and programmes need to be formulated and implemented for training youths in these states. Marginalized social groups and women should be important components of such policies.

Mission 2: Improve the quality of jobs.

Invest in and regulate the emerging care and digital economies, which could be an important source of productive employment for youths. Digital platforms and the gig economy are creating many new jobs, but these jobs are largely temporary, informal and non-standard work. Additionally, the ongoing demographic transition is poised to increase the demand for childcare and elderly care services. As highlighted by the simulation exercise conducted by the ILO and the Institute for Human Development (forthcoming), targeted investments, especially in early childhood care and education and in long-term health care services, could potentially generate approximately 16 million new jobs for youths in India by 2030. It is imperative that these employment opportunities are accompanied by a commitment to promoting decent working conditions, with necessary investment in infrastructure and other areas.

Make urbanization and migration policy inclusive. Migration today constitutes a little over one fifth of the urban expansion in India, but a large number of migrants – mostly youths – are circular migrants and are not counted in these figures. In the aftermath of the reverse migration that took place during the pandemic in 2020, the country has been grappling with elements of a comprehensive migration policy that aims at providing civic citizenship, proper living and working conditions and social protection to vulnerable migrants. India is likely to experience a higher rate of urbanization and migration in the future as more and more youths seek decent employment, which would be available mostly in urban areas. An inclusive urban policy is required to address the needs of migrants, women and workers from poor households, especially considering that migration flows are dominated by young people. Urban planning and migration policies have been neglected in the country. These issues should form an important part of the agenda for generating jobs for youths in the future. The development of small and medium-sized towns with better infrastructure should also be an important component of this agenda, which will help in preventing youths from migrating to larger cities for work.

Give labour policy and labour regulation a supportive role. Labour policy and labour regulation should ensure that a minimum quality of employment is maintained and that the basic rights of workers are

respected. An integrated approach needs to be pursued to increase the level of formalization of the economy. Informal sector enterprises need to be incentivized to grow and formalize. Steps that have been taken to formalize job contracts by incentivizing and facilitating access to social security provisions and introducing regulated fixed-term contracts must be strengthened to provide a basic degree of job security and career trajectory to workers. These steps were initially aimed at the organized sector, which should also be encouraged to share gains of higher productivity with workers.

As India aspires to become a middle-income country and the third-largest economy globally, the Government has rightly declared its intent, through the Code on Social Security, to provide universal social protection to all workers. The goal of universal social protection should be achieved within a specified time frame. The Code on Wages promises a floor wage below which no minimum wage can be set in the country. These steps constitute important movement towards what the National Commission of Enterprises called the creation of a social floor for all workers (NCEUS 2007). The institution of a social floor with decent working conditions will act as an effective measure towards enhancing the quality of employment and alleviation of poverty in the country and provide youths with more suitable job avenues.

Mission 3: Overcome labour market inequalities.

Use policy to boost women's participation in the labour market with quality work. There is a need to follow a comprehensive approach to expand women's participation in the labour force. More and more educated young women from all socio-economic strata will be seeking good jobs in the future. The survey of young women and men in Delhi and Ranchi (reported on in Chapter 5) found that most of the female respondents still studying had job aspirations, but most educated young women eventually did not remain in the job market. And many women were concentrated in low-visibility self-employment or low-quality jobs.

Although employment opportunities for young urban highly educated women are opening up, the overall environment is still not friendly to women. This is mainly due to the patriarchal social values, gender stereotyping and the double burden of work on women. Policies must thus be formulated to cater to the needs of future female workers. These policies should include larger provision for institutional care facilities, adaptable work arrangements, improved public transport, improved amenities and enhanced workplace safety. These policy measures should be seamlessly integrated into the urban planning and development agenda. Moreover, the Government's proactive role in job creation for women must extend beyond the public sector to encompass outsourced services, activities and supply chains. Facilitating the growth of women as entrepreneurs is equally vital. Women are engaged more in self-employment activities, especially in rural areas, often leading to low earnings and inadequate social security safeguards. To counter this, the Government should focus on creating more opportunities for women in regular salaried employment, and it should devise skills training programmes for young women that are tailored to their requirements.

Adopt different strategies to tackle the problem of youths not in employment, education or training. The high percentage of young people, particularly women, is a waste of human and economic potential. India needs different strategies for two components of youths: those not in employment, education or training, who comprise a minority of the unemployed group who are now largely better educated, mainly better-off and male-dominated; and those not in employment, education or training and out of the labour force, which is predominantly female. For the first category, both demand- and supply-side interventions discussed in this chapter should be embraced. The second category includes women who are interested but are unable to find full-time employment near their place of residence. As mentioned earlier, addressing care responsibilities through institutional and social interventions and creating more suitable job opportunities to encourage more women to participate in the labour market needs to become a priority.

Adopt active policies to enhance quality of education. India has immense potential to become an education hub. Active policies and programmes need to be formulated and implemented to enhance the quality of education at the school and higher educational levels. For disadvantaged states of the eastern and central regions, there should be a special package to improve the quality of education. In such a scheme, the training of teachers at all levels should be the most important component.

Impart quality training and mainstream skills training into the education system to improve employability. The quality of education needs to be augmented at all levels, with equitable access to all sections of society and in all regions. A minimum level of good-quality education (at the least, secondary or higher-secondary education) will lay the foundation for youths to acquire necessary skills as well as to compete in the changing labour market in which cognitive skills are at a premium. The National Education Policy is attempting an overhaul of education at all levels and mainstreaming skills training into the education system with the aim of fulfilling Sustainable Development Goal 4, unleashing the creative and employment potential of individuals and meeting the developmental challenges confronting India. This will require, as the policy recognizes, critical changes in educational governance and substantial human and financial resources, with a focus on implementation and outcomes.

Improve ICT access and bridge the digital divide. Initiatives to improve access to computers and internet connectivity, particularly for youths in rural and remote areas and especially those from poor households or marginalized groups, need to be put in place. There is also a need to invest even more to extend broadband access into remote areas and give ICT access to people from marginalized groups by providing them digital literacy and ICT training programmes, especially targeting rural youths and women. To reap the possible benefits from artificial intelligence, active policies need to be formulated, and youths from disadvantaged states as well as marginalized groups must be targeted.

Create a non-discriminatory labour market. Concrete measures are required to address labour market discrimination against women and deprived social groups. Even after controlling for education and other characteristics, differences persist in labour market outcomes for woman and deprived social groups. Part of the reason for these differences lies in labour market segmentation and the assignment of women and certain social groups to poorly paying jobs. But labour market discrimination exists even within the same occupations and job roles. This can be curbed only if there is conscious effort by public and private employers to build a more diversified and equitable workplace, following the example of peers and selected sectors. But public policy can also take on a role by identifying sectors and firms and incentivizing affirmative action and employment diversification across the board.

Adopt regional policy approaches to reduce the labour market inequalities. The states differ in terms of demographic transition, economic potential and performance, infrastructure and educational attainment. The growing regional disparities have created significantly different outcomes for young women and men that need to be resolved. Given the differences in labour market conditions and development trajectories among the various states, there is a need for a differentiated policy approach.

Mission 4: Make systems for skills training and active labour market policies more effective.

Use skill development and active labour market policies to bridge the supply–demand gap in jobs and in making labour markets more inclusive. According to a World Economic Forum report (2023), more than half of the Indian workforce will require reskilling to meet the changing skills demand. Skills training has been a major priority of governments, both at the central and state levels, for the past 15 years. The central Government introduced several short-term skills development training programmes, with private sector inputs, that have been revamped periodically in response to reviews and evaluations. But the uptake to the skills training programmes has been inadequate in relation to the ambitious goals. This seems mainly due to the poor returns to skills training, poor placement support and poor quality of jobs on offer. There are large disparities in skills training across socio-economic groups, gender and regions. Accelerating skills training (while upgrading the traditional skill base) will require a larger and

more concerted effort by governments, taking into account the changing requirements and demands for skills locally, nationally and globally.

The global market for skilled Indian workers has large potential for youths. Growth in skills training will need the active participation of all stakeholders, including corporations, education and training institutions, non-profit organizations and the Government. The private sector is a major non-farm job creator in the country, and its involvement is required in the form of expansion in on-the-job training, internships and apprenticeships for youths. An initiative whereby the Government encourages or makes it mandatory for the private sector and industry to participate in providing training and employment opportunities for youths will benefit not only them but industry as well. The private sector can contribute through its corporate social responsibility initiatives by providing required skills and employment opportunities, particularly for young women and youths from rural and disadvantaged groups.

Unemployment among highly educated youths (with a graduate degree or higher) from disadvantaged groups (Scheduled Castes, Scheduled Tribes and poor households), who are also aspiring for well-paid white-collar jobs is even higher than for other groups. They suffer the most from the lack of quality education or relevant training, resources and social capital. The skills training environment must become even more sensitive to the requirements of youths, including budding entrepreneurs from socio-economically deprived sections. Women generally prefer jobs locally. Therefore, after skills training, emphasis should be directed towards ensuring placements closer to their communities or in relevant industries, with a focus on promoting local entrepreneurship.

Expand job search information and career counselling. Efforts should be made to help youths connect with work opportunities through labour market and job search information. This assistance would be especially beneficial for youths from marginalized segments so that their job search process is facilitated. In these times of increased digitalization, technology can act as a great enabler in job searching. Private sector participation can help in this regard so that youths not conversant with the increasingly digitized processes can benefit. Such an instrument for job search should link to the National Career Services platform. In addition, face-to-face contact with career advisers is equally essential. Thus, public employment service institutions should work with education and training institutions to organize regular meetings between jobseekers and employers. Effective career counselling initiatives may help youths identify their strengths and skill gaps and make realistic assessments of available jobs in the market.

Streamline recruitment processes for jobs in the public sector. The Government should address the issue of unfilled vacancies in the government-run sectors, such as the railways, by streamlining recruitment processes. Simplifying and expediting the hiring process will help fill the vacancies in a timely manner, ensuring the smooth functioning of essential services and infrastructure. This can be achieved by leveraging technology, conducting efficient assessments, and implementing transparent and merit-based selection procedures.

Mission 5: Bridge the deficits in knowledge on labour market patterns and youth employment.

Provide reliable labour market statistics on emerging new forms of jobs to draft more effective policies. Rapid technological developments are making labour markets increasingly complex and uncertain. Implementation of effective policy thus entails effective mapping and documentation of the labour market and employment trends. New employment patterns and labour market issues, as well as new income opportunities and new institutions, are constantly emerging, such as gig or platform work. The diverse and complex character of work and employment in India needs to be analysed more comprehensively. Despite concerted efforts, credible labour market statistics are still far from satisfactory. In-depth studies of new developments in the labour market and access to high-quality and intuitive data will help in better addressing the problem of employment in general and of youth employment in particular.

Use implementation and monitoring data more effectively for estimates of youth and formal jobs.

Social security registration data are now dynamically collected and released. This is a significant positive step. However, there are diverse assessments on how the data, specifically Employees' Provident Fund Organisation data, can be used to assess formal youth employment in the organized sector because there is also a compelling argument that the data do not adequately capture formal job creation and turnover in the organized sector. It is possible to address this issue through incorporation of more comprehensive indicators as well as this report's analysis of data collected, as the analysis did with the Periodic Labour Force Survey data. This will lead to more realistic and comprehensive analysis of the formal employment of youths in the organized sector as well as the creation and destruction of formal jobs in that sector.

► 7.3 Summing up

India's youth employment challenge has entered a qualitatively new phase with the expansion of education while the growth of aggregate employment opportunities is thinning. This has led to a sharp increase in youth unemployment, particularly among educated youths. The challenge is much bigger for women and for socio-economically deprived groups among the young and for youths from comparatively low-income regions. The situation can be converted into an advantage by shaping macroeconomic, industrial and sectoral investment and trade policies to expand jobs in labour-intensive sectors, including manufacturing and the social sector. In many of the emerging sectors, both in services and manufacturing, capital intensity is high. Labour policy and social policy need to support this macroeconomic agenda by instituting a social floor and by facilitating an environment in which gender and social inclusion are mainstreamed. This will make a much wider category of jobs acceptable to youths and will provide a basis for sustainable and equitable growth, building on both domestic and international demand. All elements of policy will need to be regionally contextualized. The expansion of education and skills, in partnership with the private sector and other stakeholders, needs to be cognizant not only of the changing technological environment domestically and the need to be build a more sustainable future but also of global demand, which is being shaped by demographic and economic factors.



▶ 8

Postscript: Highlights of the Periodic Labour Force Survey for 2023

This postscript highlights insights from the recently released annual report of the sixth Periodic Labour Force Survey for 2023. This report and data were released after the *India Employment Report 2024* had been prepared. Its main conclusions, which reflect a continuation of the trends analysed in the report, are summarized here. The analysis focuses on adults (aged 15 years and older) and youths (aged 15–29 years) as per their usual status (UPSS) of employment.⁴⁷

⁴⁷ All results presented in this postscript are based on analysis of unit-level data from the Periodic Labour Force Survey, adjusted for census-based projected population estimates.

► 8.1 Labour market indicators

8.1.1 Labour force participation rate

Adults: The LFPR among adults exhibited a consistent upward trend, increasing by 2.7 percentage points, from 55.2 per cent in 2022 to 57.9 per cent in 2023 (table 8.1). This increase was evident in both rural and urban areas, with a substantial rise in the former (3.3 percentage points), compared to the latter (0.7 percentage points). This increase can largely be attributed to women, whose LFPR experienced a 4.2 percentage point increase, much greater than the 1.3 percentage-point increase observed among men. The female LFPR demonstrated a higher increase in rural areas (at 4.9 percentage points) than in urban areas (at 1.6 percentage points).

Youths: The LFPR among youths also went up by 2.5 percentage points, from 42 per cent in 2022 to 44.5 per cent in 2023 (table 8.1). This positive shift was particularly significant among rural youths, with an increase of 3.3 percentage points, and occurred among both sexes, with women showing a 3.5 percentage-point increase and men with a 3.4 percentage-point increase. These findings suggest a sustained trend of greater inclusion of adult women and youths, in the labour force, especially in rural areas, over recent years.

► **Table 8.1. Labour force participation rate among adults and youths, by rural or urban location and gender, 2022 and 2023 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Adults									
2022	78.2	36.6	57.5	74.7	23.8	49.7	77.2	32.8	55.2
2023	80.2	41.5	60.8	74.5	25.4	50.4	78.5	37.0	57.9
Youths									
2022	62.1	22.3	42.6	58.9	20.2	40.6	61.2	21.7	42.0
2023	65.5	25.8	45.9	58.4	20.8	40.7	63.5	24.5	44.5

Source: Periodic Labour Force Survey data for 2022 and 2023.

8.1.2 Worker population ratio

Adults: The worker population ratio among adults exhibited a sharper increase compared with the LFPR, increasing by 3.1 percentage points, from 52.9 per cent in 2022 to 56 per cent in 2023 (table 8.2). This acceleration was more pronounced in rural areas, registering a 3.8 percentage-point increase, compared to a 1.1 percentage-point increase in urban areas. This increase in the worker population ratio was evident among both men and women, with women experiencing a much higher rise (at 4.2 percentage point) than men (at 2.2 percentage points). The female worker population ratio in rural areas increased significantly more (at 4.9 percentage points) than their urban counterparts (at 1.6 percentage points).

Youths: Similar to the LFPR, the worker population ratio among youths also demonstrated improvement, increasing by 3.3 percentage points, from 36.8 per cent in 2022 to 40.1 per cent in 2023 (table 8.2). This increase was relatively greater among youths than adults. This change was particularly attributed to youths in rural areas, with a substantial increase of 4.3 percentage points, as opposed to the modest 0.7 percentage points in urban areas. Young men in rural areas experienced a higher increase (5.1

percentage points) than their female counterparts (3.5 percentage points), which is opposite to the trend observed among adults.

► **Table 8.2. Worker population ratio among adults and youths, by rural or urban location and gender, 2022 and 2023 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Adults									
2022	75.3	35.8	55.6	70.4	21.9	46.6	73.8	31.7	52.9
2023	78.0	40.7	59.4	71.0	23.5	47.7	76.0	35.9	56.0
Youths									
2022	55.0	20.4	38.0	49.6	15.9	33.6	53.5	19.1	36.8
2023	60.1	23.9	42.3	50.3	16.3	34.3	57.3	21.9	40.1

Source: Periodic Labour Force Survey, 2022 and 2023.

8.1.3 Unemployment rate

Adults: The increasing trends in the LFPR and the worker population ratio among adults over recent years has resulted in a consistent reduction in the unemployment rate among adults. It reached a six-year low, decreasing by 0.9 percentage points, from 4.1 per cent in 2022 to 3.2 per cent in 2023 (table 8.3). This decline was evident across both rural (by 0.8 percentage points) and urban areas (by 0.9 percentage points), with a relatively higher reduction among men (at 1.1 percentage points) than women (at 0.4 percentage points). The declining trends in the unemployment rate can be attributed to the increasing and converging LFPR and worker population ratio trends, particularly in rural areas.

Youths: The unemployment rate among youths experienced a more significant decline than for adults, yet the unemployment rate among the former (at 10 per cent) remains three times what it was for the latter (3.2 per cent). The unemployment rate for youths decreased by 2.4 percentage points, dropping from 12.4 per cent in 2022 to 10 per cent in 2023 (table 8.3). The reduction in the unemployment rate was more pronounced among young men (at 2.9 percentage points) than women (at 1.2 percentage points), with the decrease almost doubling in rural areas (by 2.6 percentage points) when compared with urban areas (by 1.5 percentage points). The youth unemployment rate was more stubborn among youths with higher levels of education. The unemployment among youths with a secondary or higher-secondary education was 18.4 per cent in 2022 and 19.7 per cent in 2023. Among youths with a graduate degree or higher, the unemployment rate was 29.1 per cent in 2022 and 28.4 per cent in 2023, with female youths having a graduate or higher degree experiencing an unemployment rate of 34.8 per cent in 2023.

► **Table 8.3. Unemployment rate, by adults and youths, rural or urban location, gender and education level, 2022 and 2023 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Adults									
2022	3.8	2.1	3.2	5.8	7.9	6.3	4.4	3.3	4.1
2023	2.7	1.8	2.4	4.7	7.5	5.4	3.3	2.9	3.2
Youths									
2022	11.4	8.5	10.6	15.8	21.6	17.2	12.6	11.8	12.4
2023	8.3	7.4	8.0	13.8	21.7	15.7	9.7	10.6	10.0
Youths with secondary education or higher level of education									
2022	16.2	18.1	16.6	20.0	26.7	21.9	17.5	21.4	18.4
2023	16.3	22.5	17.9	20.5	29.0	23.0	17.8	25.1	19.7
Youths with graduate degree or higher level of education									
2022	27.0	37.3	29.7	26.3	32.2	28.4	26.7	34.5	29.1
2023	25.1	36.9	28.4	25.9	32.9	28.4	25.4	34.8	28.4

Source: Periodic Labour Force Survey, 2022 and 2023.

► 8.2 Sector of employment

Adults: There was marginal increase in the employment share of adult workers in agriculture (0.3 percentage points) and industry (0.4 percentage points) between 2022 and 2023, while the share in services declined by 0.7 percentage points (table 8.4). In the manufacturing sector, there was a decrease of 0.2 percentage points, contrasting with a 0.6 percentage-point increase in the construction sector. Noteworthy changes in rural areas included a rise of 0.3 percentage points in the share of women in agriculture and a 2.3 percentage-point increase in men's share in construction, with marginal increases of 0.3 percentage points for both men and women in manufacturing (table 8.5).

Youths: Conversely, youths' share in agriculture decreased by 1.8 percentage points while their share in industry increased by 3.3 percentage points and declined in services by 1.5 percentage points. In the industrial sector, youths' share in manufacturing declined by 0.5 percentage points, while significantly increasing by 3.8 percentage points in the construction sector (table 8.4). The decline in employment in services and the increase in the industrial sector, especially in construction, were more pronounced among youths than adults. In rural areas, there was a notable decline in the share of young men in agriculture (by 5.1 percentage points) and sharp increase in their share in construction (by 7.2 percentage points), while the share of young women increased in manufacturing by 1.9 percentage points (table 8.6).

► **Table 8.4. Industrial distribution of employment (UPSS) among youths and adults, by gender, 2022 and 2023 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2022						
Agriculture	32.6	56.7	38.6	38.1	62.8	45.4
Composition of industry sector	34.2	18.8	30.3	28.5	16.5	24.9
Industry						
Manufacturing	14.1	14.9	14.3	11.8	11.2	11.6
Construction	19.0	3.6	15.1	15.6	5.0	12.4
Service	33.2	24.5	31.0	33.5	20.7	29.7
2023						
Agriculture	29.2	57.7	36.8	37.1	64.3	45.7
Industry	39.0	18.9	33.6	30.0	15.3	25.3
Manufacturing	13.1	15.8	13.8	11.5	11.1	11.4
Construction	24.8	2.9	18.9	17.3	4.0	13.0
Service	31.8	23.4	29.5	32.9	20.4	29.0

Source: Periodic Labour Force Survey data for 2022 and 2023.

► **Table 8.5. Industrial distribution of employment (UPSS) among all adults (aged 15+), rural or urban location, 2022 and 2023**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2022									
Agriculture	51.0	75.9	59.0	5.4	11.1	6.7	38.1	62.8	45.4
Industry	25.4	13.4	21.6	36.2	28.8	34.5	28.5	16.5	24.9
Manufacturing	7.9	7.9	7.9	21.5	24.3	22.2	11.8	11.2	11.6
Construction	16.7	5.3	13.0	12.9	3.9	10.8	15.6	5.0	12.4
Service	23.6	10.8	19.5	58.3	60.2	58.8	33.5	20.7	29.7
All	100	100	100	100	100	100	100	100	100
2023									
Agriculture	49.1	76.2	58.4	4.7	11.7	6.4	37.1	64.3	45.7
Industry	28.1	12.6	22.8	34.9	27.5	33.1	30.0	15.3	25.3
Manufacturing	8.2	8.2	8.2	20.5	23.9	21.3	11.5	11.1	11.4
Construction	19.0	4.2	13.9	12.6	3.1	10.3	17.3	4.0	13.0
Service	22.8	11.3	18.8	60.4	60.8	60.5	32.9	20.4	29.0
All	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► **Table 8.6. Industrial distribution of employment (UPSS) among youths (aged 15–29), 2022 and 2023**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2022									
Agriculture	43.0	71.5	50.5	3.7	6.2	4.3	32.6	56.7	38.6
Industry	32.3	16.1	28.1	39.3	28.0	36.8	34.2	18.8	30.3
Manufacturing	10.3	11.9	10.7	24.8	25.0	24.8	14.1	14.9	14.3
Construction	21.2	3.9	16.7	13.1	2.7	10.8	19.0	3.6	15.1
Service	24.7	12.4	21.5	56.9	65.8	58.9	33.2	24.5	31.0
All	100	100	100	100	100	100	100	100	100
2023									
Agriculture	37.9	70.3	47.0	2.8	6.3	3.6	29.2	57.7	36.8
Industry	39.2	17.0	33.0	38.3	26.6	35.7	39.0	18.9	33.6
Manufacturing	9.8	13.8	10.9	23.0	23.8	23.2	13.1	15.8	13.8
Construction	28.4	3.1	21.3	13.7	2.1	11.1	24.8	2.9	18.9
Service	22.9	12.7	20.0	58.9	67.1	60.7	31.8	23.4	29.5
All	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► 8.3 Quality of employment

8.3.1 Status of employment

Adults: The proportion of self-employed workers saw a 1.5 percentage-point increase, rising from 55.8 per cent in 2022 to 57.3 per cent in 2023 (table 8.7). Conversely, the share of regular salaried workers declined marginally, by 0.6 percentage points, from 21.5 per cent to 20.9 per cent, and casual employment decreased by 0.9 percentage points, from 22.7 per cent to 21.8 per cent during the same period. The increase in the share of unpaid family labour (by 0.5 percentage points) and employers (by 0.6 percentage points) in rural areas was the driver behind the overall rise in self-employment (table 8.8). Specifically, there was an increase in the share of women in own-account work and men in unpaid family labour categories of self-employment in rural areas (table 8.8).

► **Table 8.7. Employment status (UPSS) among youths and adults, by gender, 2022 and 2023 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2022						
Self-employed	42.9	61.1	47.5	53.1	62.0	55.8
Own-account worker	18.5	18.1	18.4	40.5	24.8	35.8
Unpaid family labour	0.9	0.3	0.8	3.4	0.7	2.6
Employer	23.5	42.6	28.3	9.3	36.5	17.4
Regular employee	29.8	22.0	27.8	23.6	16.6	21.5
Casual worker	27.3	16.8	24.7	23.2	21.4	22.7
2023						
Self-employed	41.8	65.7	48.2	53.5	65.3	57.3
Own-account worker	17.3	21.6	18.4	40.0	27.3	35.9
Unpaid family labour	1.2	0.2	1.0	4.3	0.6	3.1
Employer	23.3	44.0	28.8	9.2	37.4	18.2
Regular employee	27.5	19.8	25.4	23.2	15.9	20.9
Casual worker	30.7	14.5	26.4	23.3	18.8	21.8

Source: Periodic Labour Force Survey data for 2022 and 2023.

► **Table 8.8. Employment status (UPSS) among all adults (aged 15+), rural or urban location 2022 and 2023**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2022									
Self-employed	58.5	67.7	61.5	39.5	39.3	39.5	53.1	62.0	55.8
Own-account worker	44.6	24.5	38.2	30.0	25.9	29.1	40.5	24.8	35.8
Employer	11.2	42.6	21.3	4.5	12.6	6.4	9.3	36.5	17.4
Unpaid family labour	2.7	0.6	2.0	5.0	0.8	4.0	3.4	0.7	2.6
Regular employee	14.7	8.1	12.6	46.2	50.3	47.1	23.6	16.6	21.5
Casual worker	26.8	24.2	26.0	14.3	10.3	13.4	23.2	21.4	22.7
All	100	100	100	100	100	100	100	100	100
2023									
Self-employed	58.8	71.0	63.0	39.3	40.3	39.6	53.5	65.3	57.3
Own-account worker	44.3	27.5	38.6	28.3	26.2	27.8	40.0	27.3	35.9
Employer	10.9	43.0	21.9	4.6	12.7	6.6	9.2	37.4	18.2
Unpaid family labour	3.5	0.4	2.5	6.5	1.4	5.2	4.3	0.6	3.1
Regular employee	14.4	8.0	12.2	47.1	50.8	48.0	23.2	15.9	20.9
Casual worker	26.8	21.0	24.9	13.6	8.9	12.4	23.3	18.8	21.8
All	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

Youths: The increase in the share of self-employed individuals was less pronounced than among adults, rising by only 0.7 percentage points, from 47.5 per cent in 2022 to 48.2 per cent in 2023. In contrast, the share of regular workers declined relatively more than among adults, dropping by 2.4 percentage points, from 27.8 per cent to 25.4 per cent. Conversely, the share of casual workers among youths exhibited a contrasting trend when compared with adults, increasing by 1.7 percentage points, from 24.7 per cent to 26.4 per cent. Notably, the share of female employers (by 0.3 percentage points) and female own-account workers (by 4.4 percentage points) categories, especially in rural areas, increased between 2022 and 2023 (table 8.9). The trend of a relatively higher increase in the share of employer and own-account worker categories of self-employment, compared to the unpaid category, among youths as well as a rise in the share of casual workers differed from the earlier trend.

► **Table 8.9. Status of employment (UPSS) among all youths (aged 15–29), rural or urban location 2022 and 2023**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2022									
Self-employed	48.5	69.3	53.9	27.6	33.2	28.9	42.9	61.1	47.5
Own-account worker	19.5	17.6	19.0	15.8	19.9	16.7	18.5	18.1	18.4
Employer	28.2	51.4	34.3	10.5	13.0	11.0	23.5	42.6	28.3
Unpaid family labour	0.8	0.4	0.6	1.4	0.3	1.1	0.9	0.3	0.8
Regular employee	20.0	10.4	17.5	56.6	61.7	57.7	29.8	22.0	27.8
Casual worker	31.5	20.3	28.6	15.8	5.1	13.4	27.3	16.8	24.7
All	100	100	100	100	100	100	100	100	100
2023									
Self-employed	46.2	73.8	53.9	28.4	32.9	29.4	41.8	65.7	48.2
Own-account worker	17.8	22.0	19.0	15.5	19.8	16.5	17.3	21.6	18.4
Employer	27.4	51.7	34.2	10.9	12.4	11.2	23.3	44.0	28.8
Unpaid family labour	1.0	0.0	0.7	2.1	0.7	1.8	1.2	0.2	1.0
Regular employee	18.1	9.3	15.6	56.1	62.6	57.6	27.5	19.8	25.4
Casual worker	35.7	16.9	30.4	15.5	4.5	13.0	30.7	14.5	26.4
All	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► 8.4 Wages and earnings

Adults: Among adults, the average monthly real wages and earnings either stagnated or continued a consistent decline over the past two years (table 8.10). For regular salaried workers, there was a decline from 10,925 rupees in 2022 to 10,790 rupees in 2023, while real wages for casual workers experienced a marginal drop, from 4,712 rupees to 4,671 rupees. In contrast, the real earnings for self-employed individuals increased, from 6,843 rupees in 2022 to 7,060 rupees in 2023. In particular, female youths' real earnings and wages in self-employment and casual work declined, 'while male youths' real earnings in self-employment increased marginally and real wages in casual work remained stable. The real earnings for regular salaried workers declined for both men and women between 2022 and 2023.

Youths: The real earnings and wages for youths consistently lagged those of adults. The real earnings for youths experienced a marginal increase in self-employment, inching up from 5,770 rupees in 2022 to 5,781 rupees in 2023, while youths' real wages in casual work increased from 4,738 rupees to 5,094 rupees. Conversely, real earnings for youths in regular salaried jobs declined from 8,375 rupees in 2022 to 7,971 rupees in 2023. Real wages by gender in casual work exhibited an opposing trend, with an increase for men and a decrease for women. Similarly, real earnings in self-employment for young men experienced a rise while it decreased for women between 2022 and 2023. In contrast, the real earnings for both young men and women in regular salaried work declined. There was a substantial decline in real earnings in regular salaried jobs among women, with casual wages rising among men between 2022 and 2023, which was much higher than among adults.

► **Table 8.10. Average real monthly wage and earnings among adults and youths, by status of employment, 2022 and 2023 (rupees)**

	Casual workers			Regular workers			Self-employed		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Adults									
2022	5 180	3 158	4 712	11 510	8 861	10 925	7 651	3 098	6 843
2023	5 179	3 077	4 671	11 390	8 806	10 790	8 169	2 991	7 060
Youths									
2022	4 928	3 374	4 738	8 161	9 281	8 375	6 630	2 546	5 770
2023	5 345	3 017	5 094	7 913	8 193	7 971	7 082	2 363	5 781

Source: Periodic Labour Force Survey data for 2022 and 2023.

► 8.5 Summing up

The Periodic Labour Force Survey 2023 findings revealed a continuation of the recent past trends of increasing participation in the labour market, with a rising LFPR and worker population ratio and a declining unemployment rate between 2022 and 2023. Adult women experienced a relatively higher increase in the LFPR and worker population ratio when compared with men, particularly in rural areas. Among youths, there was a noticeable rise in men when compared with women, indicating a widening gender disparity over the years. However, there was a persistently high and increasing unemployment rate observed among highly educated young individuals.

There was an increase in the employment share of adults in agriculture and industry and a decline in services, with rural areas experiencing relatively greater changes. But there was a decline in the employment share of youths in agriculture and services while their presence increased in industry. Specifically, the employment share of young men increased in agriculture and construction while the numbers of young women increased in manufacturing. The employment status reveals an increase in self-employment among adults, primarily attributed to unpaid family labour and employers in rural areas, and a decline in regular salaried and casual employment. Among youths, the share of self-employed also increased but relatively less so than among adults, while their share in regular salaried jobs declined and increased in casual work. In particular, the share of young women showed an increase in the employer and own-account worker categories in self-employment, differing from the earlier trend of a substantial rise in unpaid family labour.

In addition, the average monthly real wages and earnings among adults and youths continued to either stagnate or decline. For adults, the real earnings for regular salaried workers declined, with a marginal increase among the self-employed individuals. However, the real earnings and wages of women in self-employment and casual work declined, while a marginal increase was observed in the real earnings of men in self-employment. In comparison, youths' real wages and earnings were consistently lower than those of adults, with marginal increases in real earnings and wages from self-employment and casual work and a decline in real earnings from regular salaried jobs. The gender disparities in real wages and earnings widened among youths in casual work and self-employment, with men experiencing an increase while there was a decline among women.

This increase in labour market participation, especially in rural areas, in self-employment and in casual work, especially among youths in agriculture and the construction sector, in informal employment and in the informal sector, with stagnant or marginally rising real wages and earnings between 2022 and 2023, only highlights the continuation of the past four to five years of trends in the Indian labour market. It is also interesting to see the recent rise in the participation of adults and young individuals as employers and own-account workers in self-employment, as well as in the manufacturing sector. This and the rise in real earnings and wages from self-employment and casual work, especially among men, indicates some improvement in the labour market – which needs further exploration.

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► Appendix

Additional statistical tables

Appendix Chapter 2

► Table A2.1. Labour force participation rate (UPSS, aged 15+), 2000, 2005, 2012 and 2018–22 (%)

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2000	85.4	45.4	65.6	78.8	20.9	51.0	83.6	38.9	61.6
2005	85.9	49.4	67.7	79.2	24.4	53.0	84.0	42.7	63.7
2012	81.3	35.8	58.7	76.4	20.5	49.3	79.8	31.2	55.9
2018	76.4	24.6	50.7	74.5	20.4	47.6	75.8	23.3	49.8
2019	76.4	26.4	51.5	73.7	20.4	47.5	75.5	24.5	50.2
2020	77.9	33.1	55.5	74.6	23.3	49.3	76.8	30.0	53.5
2021	78.1	36.5	57.4	74.6	23.2	49.1	77.0	32.5	54.9
2022	78.2	36.6	57.5	74.7	23.8	49.7	77.2	32.8	55.2

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► Table A2.2. Workforce participation rate (UPSS, aged 15+), 2000, 2005, 2012 and 2018–22 (%)

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2000	83.9	44.9	64.6	75.2	19.7	48.6	81.5	38.3	60.2
2005	84.6	48.5	66.6	76.3	22.7	50.6	82.2	41.6	62.2
2012	80.0	35.2	57.8	74.1	19.5	47.6	78.1	30.5	54.7
2018	72.0	23.7	48.1	69.3	18.2	43.9	71.2	22.0	46.8
2019	72.2	25.5	48.9	68.6	18.4	43.8	71.0	23.3	47.3
2020	74.4	32.2	53.3	69.9	21.3	45.8	73.0	28.7	50.9
2021	75.1	35.8	55.5	70.0	21.2	45.8	73.6	31.4	52.6
2022	75.3	35.8	55.6	70.4	21.9	46.6	73.8	31.7	52.9

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► **Table A2.3. Unemployment rate (UPSS, aged 15+), 2000, 2005, 2012 and 2018–22 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2000	1.8	1.1	1.5	4.6	5.7	4.8	2.5	1.7	2.3
2005	1.6	1.8	1.7	3.7	6.9	4.4	2.1	2.6	2.3
2012	1.7	1.6	1.7	3.0	5.3	3.4	2.1	2.3	2.1
2018	5.7	3.8	5.3	6.9	10.8	7.7	6.1	5.6	6.0
2019	5.5	3.5	5.0	7.0	9.8	7.6	6.0	5.2	5.8
2020	4.5	2.6	3.9	6.4	8.9	6.9	5.1	4.2	4.8
2021	3.8	2.1	3.3	6.1	8.6	6.7	4.5	3.5	4.2
2022	3.8	2.1	3.2	5.8	7.9	6.3	4.4	3.3	4.1

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► **Table A2.4. Underemployment or labour underutilization, 2018, 2019 and 2022 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
LU1									
2022	2.2	2.5	2.3	0.8	1.9	1.0	1.8	2.4	1.9
2019	2.2	2.6	2.3	0.7	2.5	1.0	1.7	2.5	1.9
2018	3.9	5.0	4.1	1.4	5.5	2.2	3.0	5.1	3.5
LU2									
2022	7.6	6.0	7.2	7.7	10.6	8.4	7.7	7.1	7.5
2019	9.3	8.3	9.0	8.5	12.8	9.4	9.0	9.6	9.1
2018	10.8	10.5	10.7	8.8	16.2	10.3	10.1	12.3	10.6

Note: LU1=The ratio between the number of persons in time-related underemployment and the total number of employed persons. LU2=A composite rate of time-related underemployment and unemployment, referred to as LU2.

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► Table A2.5. Changing structure of the India's economy, 2000, 2012, 2019, 2021 and 2022 (%)

	Employment share					GVA share				
	2000	2012	2019	2021	2022	2000	2012	2019	2021	2022
Agriculture, etc.	61.5	48.8	42.4	46.4	45.4	27.1	18.5	14.8	16.3	15.6
Mining & quarrying	0.6	0.5	0.4	0.3	0.3	4.7	3.2	2.6	2.3	2.2
Manufacturing	10.5	12.5	12.0	10.9	11.6	15.1	17.4	18.3	17.9	18.7
Electricity, gas & water supply	0.3	0.5	0.6	0.6	0.6	2.4	2.3	2.3	2.3	2.3
Construction	4.4	10.6	12.1	12.1	12.4	6.7	9.6	8.1	7.7	8.2
Trade, hotel & restaurants	9.9	11	12.6	12.2	12.1	9.4	10.9	13.4	11.3	11.4
Transport, storage & communications	3.6	4.9	5.9	5.4	5.6	4.8	6.5	6.5	5.8	6.4
Finance, business, real estate	1.2	2.3	3.4	2.9	3.0	18.7	18.9	21.3	23.5	22.5
Public administration, health, education	8.2	8.8	10.5	9.2	9.0	11.1	12.7	12.8	13.0	12.7
Total	100	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

► **Table A2.6. Status of employment (UPSS, aged 15+), 2000, 2005, 2012 and 2018–22 (%)**

		Rural			Urban			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
2000	Self-employed	54.6	57.0	55.5	41.3	44.8	42.0	51.2	55.4	52.5
	Regular employee	9.0	3.2	7.0	41.7	33.8	40.2	17.3	7.4	14.2
	Casual worker	36.4	39.8	37.6	17.0	21.4	17.8	31.4	37.3	33.3
	Total	100	100	100	100	100	100	100	100	100
2005	Self-employed	58.0	63.6	60.0	44.8	47.2	45.3	54.6	61.2	56.8
	Regular employee	9.1	3.8	7.1	40.7	36.0	39.7	17.3	8.4	14.4
	Casual worker	32.9	32.7	32.8	14.5	16.8	15.0	28.1	30.4	28.9
	Total	100	100	100	100	100	100	100	100	100
2012	Self-employed	54.4	59.1	55.8	41.8	42.7	42.0	50.7	56.0	52.2
	Regular employee	10.1	5.7	8.7	43.5	43.0	43.4	19.9	12.8	17.9
	Casual worker	35.5	35.2	35.4	14.7	14.3	14.7	29.4	31.2	29.9
	Total	100	100	100	100	100	100	100	100	100
2018	Self-employed	57.8	57.7	57.8	39.2	34.7	38.3	52.3	51.9	52.2
	Regular employee	14.0	10.5	13.1	45.7	52.2	47.0	23.4	21.1	22.9
	Casual worker	28.2	31.8	29.1	15.1	13.1	14.7	24.3	27.1	24.9
	Total	100	100	100	100	100	100	100	100	100
2019	Self-employed	57.4	59.6	58.0	38.7	34.5	37.8	51.6	53.3	52.0
	Regular employee	14.3	11.0	13.4	47.2	54.7	48.7	24.4	21.9	23.8
	Casual worker	28.3	29.4	28.6	14.1	10.8	13.5	24.0	24.7	24.2
	Total	100	100	100	100	100	100	100	100	100
2020	Self-employed	58.2	60.2	58.7	38.6	32.4	37.2	52.1	53.2	52.4
	Regular employee	13.9	11.0	13.1	47.3	56.9	49.4	24.2	22.6	23.8
	Casual worker	27.9	28.9	28.2	14.1	10.7	13.4	23.7	24.3	23.8
	Total	100	100	100	100	100	100	100	100	100
2021	Self-employed	59.6	64.7	61.3	39.8	38.4	39.5	53.9	59.3	55.5
	Regular employee	13.6	9.1	12.1	45.3	50.2	46.4	22.8	17.5	21.2
	Casual worker	26.8	26.2	26.6	14.9	11.5	14.1	23.3	23.2	23.3
	Total	100	100	100	100	100	100	100	100	100
2022	Self-employed	58.5	67.7	61.5	39.5	39.3	39.5	53.1	62.0	55.8
	Regular employee	14.7	8.1	12.6	46.2	50.3	47.1	23.6	16.6	21.5
	Casual worker	26.8	24.2	26.0	14.3	10.3	13.4	23.2	21.4	22.7
	Total	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey and Periodic Labour Force Survey data.

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2022									
Self-employed	58.5	67.7	61.5	39.5	39.3	39.5	53.1	62.0	55.8
Own-account worker	44.6	24.5	38.2	30.0	25.9	29.1	40.5	24.8	35.8
Employer	2.7	0.6	2.0	5.0	0.8	4.0	3.4	0.7	2.6
Unpaid family worker	11.2	42.6	21.3	4.5	12.6	6.4	9.3	36.5	17.4
Regular employee	14.7	8.1	12.6	46.2	50.3	47.1	23.6	16.6	21.5
Casual worker	26.8	24.2	26.0	14.3	10.3	13.4	23.2	21.4	22.7
Total	100	100	100	100	100	100	100	100	100

Note: M=male; F=female; P=persons.

Source: Estimates based on various rounds of the National Sample Surveys data on employment and unemployment.

► **Table A2.8a. Modification of formal versus informal sector**

Enterprise type	Number of workers	
	Fewer than 10 workers	10 or more workers
Proprietary: male and female	Informal	Formal
Partnership: with members from same household	Informal	Formal
Partnership: with members from different households	Informal	Formal
Government or local bodies	Formal	
Public sector enterprises	Formal	
Public or private limited companies	Formal	
Autonomous bodies	Formal	
Cooperative societies	Formal	
Trust and other non-profit institutions	Formal	
Household sector: employer's households (private households employing maid, security guard, cook, etc.) (In 2000 data NIC 95 and Ent type code 7 to be taken as informal sector)"	Informal	
Enterprise type	No. of workers not known	
	No social security	Social security
Others	Informal	Formal

Source: National Commission for Enterprises in the Unorganised Sector and 21st International Conference of Labour Statisticians.

► **Table A2.8b. Modification of formal versus informal employment**

Status of work	Formal sector	Informal sector	Household sector
Self-employed: own-account worker	Informal employment		Informal employment
Self-employed: employer	Formal employment	Informal employment	
Unpaid family worker	Informal employment		
Regular salaried or wage employee	Informal employment , if not eligible for at least one social security benefit among Provident Fund, pension, gratuity, health care benefit or maternity benefit.		
Casual wage worker in public works			
Casual wage worker in other types of work	Formal employment , if eligible for at least one social security benefit		

Source: National Commission for Enterprises in the Unorganised Sector and 21st International Conference of Labour Statisticians.

► **Table A2.9. Average monthly earnings of regular, casual and self-employed workers, by sector and gender, 2012, 2019 and 2022 (base 2012=100) (rupees)**

		Rural			Urban			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Regular	2012	9 675	5 933	8 966	14 218	11 172	13 616	12 726	9 513	12 100
	2019	9 322	6 193	8 721	13 423	10 994	12 953	11 679	8 962	11 155
	2022	9 272	6004	8 623	13 236	10 621	12 616	11 510	8 861	10 925
CAGR	2012-19	-0.5	0.6	-0.4	-0.8	-0.2	-0.7	-1.2	-0.8	-1.2
	2019-22	-0.2	-1.0	-0.4	-0.5	-1.1	-0.9	-0.5	-0.4	-0.7
	2011-22	-0.4	0.1	-0.4	-0.7	-0.5	-0.8	-1.0	-0.7	-1.0
Casual	2012	3 933	2 485	3 554	4 903	2 730	4 516	4 096	2 512	3 701
	2019	4 536	2 752	4 117	5 762	3 485	5 426	4 789	2 846	4 364
	2022	5 018	3 097	4 544	5 969	3 718	5 635	5 180	3 158	4 712
CAGR	2012-19	2.1	1.5	2.1	2.3	3.5	2.7	2.3	1.8	2.4
	2019-22	3.4	4.0	3.3	1.2	2.2	1.3	2.7	3.5	2.6
	2011-22	2.5	2.2	2.5	2.0	3.1	2.2	2.4	2.3	2.4
Self-employed	2019	6 277	3 233	5 883	11 925	5 393	11 136	7 506	3 674	7 017
	2022	6 476	2 735	5 796	11 556	4 470	10 400	7 651	3 098	6 843
CAGR	2019-22	1.0	-5.4	-0.5	-1.0	-6.1	-2.3	0.6	-5.5	-0.8

Note: Casual wages also include wages in public works, such as Mahatma Gandhi National Rural Employment Guarantee. Wages adjusted using consumer price index-R and consumer price index-U by taking 2012 as the base year; CAGR = compound annual growth rate.

► **Table A2.10a. Employment characteristics (UPSS, aged 15+), by social group, 2022 (%)**

	Scheduled Tribes	Scheduled Castes	Other Backward Classes	General Category
Worker population ratio	66.8	54.2	52.5	47.6
Unemployment rate	2.3	4.4	3.9	4.9
Self-employed	58.6	42.0	59.9	58.2
Regular	12.4	19.8	20.1	30.6
Casual	29.0	38.2	20.1	11.2
Organized	14.5	18.7	17.0	25.1
Unorganized	85.5	81.3	83.0	74.9
Formal	5.1	7.3	8.7	16.2
Informal	94.9	92.7	91.3	83.8
High- and medium-skill jobs	4.0	6.6	9.7	19.9
Low-skill jobs	65.5	53.1	69.3	66.7
No-skill jobs	30.5	40.4	20.9	13.4
Education (secondary) +	24.4	31.0	38.9	51.2
Population (%)	9.4	19.4	45.5	25.7

Source: Computed from the Periodic Labour Force Survey data for 2022.

► **Table A2.10b. Employment characteristics (UPSS, aged 15+), by income class (monthly per capita expenditure quintiles), 2022 (%)**

	Q1	Q2	Q3	Q4	Q5
Worker population ratio	52.4	53.9	53.7	53.9	50.8
Unemployment rate	3.3	3.0	4.0	4.4	5.5
Self-employed	56.0	59.0	59.8	57.1	46.4
Regular	12.9	17.9	24.3	44.2	21.5
Casual	34.6	28.1	22.3	18.6	9.4
Organized	9.7	11.6	15.0	20.1	39.0
Unorganized	90.3	88.4	85.0	79.9	61.0
Formal	2.2	3.8	6.0	9.8	27.7
Informal	97.8	96.2	94.0	90.2	72.3
High- and medium-skill jobs	3.9	5.0	7.2	10.7	28.6
Low-skill jobs	61.1	66.6	68.8	69.0	58.6
No-skill jobs	35.0	28.4	24.0	20.3	12.8
Education (secondary) +	25.7	30.1	35.6	42.3	62.1
Population (%)	20.0	20.0	20.0	20.0	20.0

Source: Computed from the Periodic Labour Force Survey data for 2022.

► **Table A2.10c. Employment characteristics (UPSS, aged 15+), by gender, 2022 (%)**

	Male	Female
Worker population ratio	73.8	31.7
Unemployment rate	4.4	3.3
Self-employed	53.1	62.0
Regular	23.6	16.6
Casual	23.2	21.4
Organized	19.5	17.5
Unorganized	80.5	82.5
Formal	10.8	7.1
Informal	89.2	92.9
High- and medium-skill jobs	11.3	9.4
Low-skill jobs	64.9	65.2
No-skill jobs	23.9	25.5
Education (secondary) +	44.6	33.6
Population (%)	50.4	49.6

Source: Computed from the Periodic Labour Force Survey data for 2022.

► **Table A2.10d. Employment characteristics (UPSS, aged 15+), by geographical regions, 2022 (%)**

	North	East	Central	North-East	South	West
Worker population ratio	51.6	48.6	54.1	52.1	54.9	56.1
Unemployment rate	5.6	4.4	2.8	4.3	4.8	3.0
Self-employed	58.3	56.6	68.0	60.0	44.8	48.8
Regular	15.8	13.5	20.9	26.7	30.6	21.5
Casual	15.9	27.5	18.6	19.1	28.5	20.7
Organized	19.5	14.4	10.7	21.5	26.2	25.6
Unorganized	80.5	85.6	89.3	78.5	73.8	74.4
Formal	10.2	6.6	4.9	13.1	14.0	13.9
Informal	89.8	93.4	95.1	86.9	86.0	86.1
High- and medium-skill jobs	11.8	8.1	7.4	10.4	14.3	13.5
Low-skill jobs	68.3	64.1	72.0	70.1	57.6	61.1
No-skill jobs	19.9	27.8	20.6	19.5	28.1	25.4
Education (secondary) +	42.7	31.9	36.0	28.7	46.1	44.3
Population (%)	12.9	22.3	23.8	3.9	22.1	15.1

Note: The major 22 states included in the analysis were divided into five regions: Central – Uttarakhand, Uttar Pradesh, Chhattisgarh, Madhya Pradesh; East – Bihar, West Bengal, Jharkhand, Odisha; North – Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Delhi, Rajasthan; North-East – Assam; South – Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana; and West – Gujarat, Maharashtra.

Source: Computed from the Periodic Labour Force Survey data for 2022.

► **Table A2.11. Changes in self-employment (UPSS, aged 15+), by gender and sector pre- and post-COVID-19 pandemic, 2019 and 2021 (millions)**

	Male	Female	Rural	Urban	Total
2019					
Own-account worker	146.0	24.1	125.9	44.2	170.1
Employer	9.9	0.8	4.8	5.9	10.7
Unpaid family worker	26.6	33.7	52.3	8.0	60.3
Self-employed	182.5	58.1	183.0	58.1	241.1
2021					
Own-account worker	158.9	34.6	142.0	51.5	193.5
Employer	10.6	0.7	5.8	5.5	11.3
Unpaid family worker	33.6	54.9	78.0	10.5	88.5
Self-employed	203.1	90.2	225.8	67.5	293.3
Addition or loss in jobs					
Own-account worker	12.9	10.5	16.1	7.3	23.4
Employer	0.7	-0.1	1.0	-0.4	0.6
Unpaid family worker	7.0	21.2	25.7	2.5	28.2
Self-employed	20.6	32.1	42.8	9.4	52.2

Source: Computed from the Periodic Labour Force Survey data for 2019, and 2021.

► Table A 2.12a. Male employment condition index, 2005, 2012, 2019 and 2022

State	2005		2012		2019		2022	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Delhi	0.60	1	0.71	1	0.59	1	0.78	1
Jammu & Kashmir	0.58	2	0.56	10	0.55	3	0.54	7
Gujarat	0.56	3	0.61	2	0.58	2	0.61	3
Uttarakhand	0.54	4	0.57	8	0.52	7	0.52	15
Haryana	0.54	5	0.61	4	0.52	8	0.53	12
Rajasthan	0.53	6	0.55	11	0.43	17	0.50	17
Punjab	0.52	7	0.60	6	0.49	11	0.50	18
Himachal Pradesh	0.52	8	0.61	3	0.53	5	0.53	10
Tamil Nadu	0.51	9	0.54	12	0.51	9	0.54	8
Karnataka	0.51	10	0.58	7	0.54	4	0.56	5
Telangana	0.51	11	0.56	9	0.43	18	0.63	2
Maharashtra	0.50	12	0.60	5	0.52	6	0.57	4
Madhya Pradesh	0.50	13	0.51	14	0.45	16	0.53	11
Uttar Pradesh	0.48	14	0.47	18	0.40	19	0.51	16
Andhra Pradesh	0.46	15	0.53	13	0.46	15	0.53	9
Chhattisgarh	0.44	16	0.44	21	0.48	12	0.53	14
Jharkhand	0.44	17	0.48	16	0.38	20	0.49	19
Assam	0.43	18	0.45	20	0.47	13	0.56	6
West Bengal	0.41	19	0.45	19	0.46	14	0.53	13
Bihar	0.40	20	0.39	22	0.28	22	0.40	21
Kerala	0.36	21	0.51	15	0.49	10	0.47	20
Odisha	0.32	22	0.47	17	0.35	21	0.39	22
India	0.47		0.58		0.48		0.57	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.12b. Female employment condition index, 2005, 2012, 2019 and 2022

State	2005		2012		2019		2022	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Himachal Pradesh	0.59	1	0.67	1	0.61	1	0.75	1
Uttarakhand	0.56	2	0.51	5	0.48	9	0.61	3
Delhi	0.54	3	0.63	2	0.58	2	0.64	2
Telangana	0.52	4	0.53	3	0.44	18	0.58	7
Rajasthan	0.48	5	0.50	7	0.47	13	0.59	4
Tamil Nadu	0.47	6	0.48	10	0.53	6	0.54	10
Jammu & Kashmir	0.46	7	0.50	8	0.55	3	0.58	6
Maharashtra	0.45	8	0.48	11	0.46	16	0.51	16
Chhattisgarh	0.44	9	0.47	12	0.50	7	0.55	9
Andhra Pradesh	0.44	10	0.47	13	0.46	15	0.54	11
Jharkhand	0.44	11	0.33	21	0.42	19	0.52	14
Karnataka	0.43	12	0.49	9	0.47	12	0.50	17
Madhya Pradesh	0.43	13	0.41	16	0.45	17	0.45	20
Gujarat	0.42	14	0.45	15	0.47	11	0.53	13
Haryana	0.42	15	0.50	6	0.53	5	0.48	19
Punjab	0.41	16	0.51	4	0.48	10	0.54	12
Kerala	0.38	17	0.46	14	0.54	4	0.58	5
Assam	0.36	18	0.39	19	0.49	8	0.56	8
Uttar Pradesh	0.34	19	0.39	18	0.42	20	0.50	18
West Bengal	0.31	20	0.40	17	0.47	14	0.51	15
Bihar	0.27	21	0.21	22	0.33	22	0.41	22
Odisha	0.24	22	0.34	20	0.37	21	0.43	21
India	0.32		0.48		0.51		0.68	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.13a. Percentage of regular formal workers aged 15+, 2005, 2012, 2019 and 2022

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Delhi	23.33	0.65	1	27.73	0.78	1	20.93	0.58	1	29.10	0.82	1
Jammu & Kashmir	13.32	0.35	2	15.14	0.40	2	19.40	0.53	2	15.05	0.40	8
Haryana	11.20	0.29	3	14.42	0.38	3	16.48	0.44	6	15.70	0.42	5
Punjab	10.81	0.27	4	9.73	0.24	9	10.04	0.25	12	7.83	0.18	16
Himachal Pradesh	10.67	0.27	5	9.25	0.23	10	12.57	0.33	9	12.76	0.33	10
Maharashtra	10.35	0.26	6	11.84	0.31	5	15.59	0.42	7	15.48	0.41	6
Kerala	9.58	0.24	7	11.39	0.29	6	14.88	0.40	8	17.75	0.48	2
Uttarakhand	9.39	0.23	8	10.87	0.28	8	17.06	0.46	4	15.75	0.42	4
Tamil Nadu	9.34	0.23	9	11.38	0.29	7	18.27	0.50	3	16.95	0.46	3
Gujarat	8.96	0.22	10	8.01	0.19	12	12.24	0.32	11	10.44	0.26	12
West Bengal	7.87	0.19	11	7.88	0.19	13	8.28	0.20	14	9.37	0.23	13
Karnataka	7.43	0.17	12	12.20	0.32	4	16.76	0.45	5	15.36	0.41	7
Assam	6.89	0.16	13	7.22	0.17	14	12.40	0.32	10	12.88	0.34	9
Telangana	6.88	0.16	14	9.05	0.22	11	9.42	0.23	13	10.97	0.28	11
Jharkhand	5.78	0.12	15	7.19	0.17	15	7.15	0.16	17	7.15	0.16	17
Odisha	5.55	0.12	16	5.82	0.12	17	7.22	0.17	16	8.11	0.19	15
Rajasthan	5.22	0.11	17	5.26	0.11	18	5.99	0.13	19	6.37	0.14	19
Madhya Pradesh	4.94	0.10	18	6.11	0.13	16	5.38	0.11	20	5.99	0.13	20
Andhra Pradesh	4.73	0.09	19	5.02	0.10	19	8.11	0.19	15	8.95	0.22	14
Chhattisgarh	4.62	0.09	20	3.44	0.05	21	6.89	0.16	18	6.62	0.15	18
Uttar Pradesh	4.51	0.08	21	4.13	0.07	20	5.29	0.11	21	4.21	0.08	21
Bihar	2.13	0.01	22	2.62	0.03	22	3.66	0.06	22	3.23	0.05	22
India	7.23	0.21		8.17	0.35		10.47	0.69		10.18	0.65	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.13b. Regular formal male workers aged 15+, 2005, 2012, 2019 and 2022 (%)

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Delhi	21.52	0.66	1	25.41	0.79	1	18.90	0.57	2	26.34	0.82	1
Himachal Pradesh	14.56	0.43	2	13.66	0.40	4	17.52	0.53	5	18.26	0.55	4
Jammu & Kashmir	13.46	0.39	3	14.49	0.42	2	18.29	0.55	3	15.48	0.46	8
Maharashtra	12.88	0.37	4	13.58	0.39	5	17.27	0.52	6	17.44	0.52	5
Uttarakhand	12.13	0.35	5	12.64	0.36	6	17.67	0.53	4	18.83	0.57	2
Haryana	11.96	0.34	6	13.67	0.40	3	16.69	0.50	8	17.11	0.51	6
Tamil Nadu	11.67	0.33	7	12.23	0.35	9	19.76	0.60	1	18.70	0.57	3
Gujarat	11.02	0.31	8	8.56	0.23	12	12.24	0.35	9	11.76	0.33	11
Punjab	9.64	0.26	9	8.83	0.23	11	10.12	0.28	13	7.48	0.19	19
Karnataka	8.88	0.24	10	12.63	0.36	7	16.97	0.51	7	16.37	0.49	7
Telangana	8.23	0.21	11	12.24	0.35	8	11.89	0.34	12	13.98	0.41	9
West Bengal	8.08	0.21	12	7.65	0.19	13	8.25	0.21	16	9.26	0.25	14
Kerala	7.86	0.20	13	9.45	0.26	10	11.98	0.34	10	13.59	0.39	10
Jharkhand	7.14	0.18	14	7.42	0.19	14	7.57	0.19	17	7.99	0.21	18
Assam	7.08	0.18	15	7.00	0.17	15	11.92	0.34	11	11.48	0.32	12
Chhattisgarh	6.58	0.16	16	4.43	0.09	20	9.01	0.24	15	8.37	0.22	16
Rajasthan	6.47	0.16	17	6.01	0.14	19	6.48	0.16	19	8.04	0.21	17
Odisha	6.35	0.15	18	6.07	0.14	18	7.36	0.19	18	8.46	0.22	15
Madhya Pradesh	6.28	0.15	19	6.87	0.17	16	5.98	0.14	20	6.38	0.15	20
Andhra Pradesh	5.91	0.14	20	6.37	0.15	17	9.89	0.27	14	10.17	0.28	13
Uttar Pradesh	5.01	0.11	21	4.32	0.08	21	5.14	0.11	21	4.47	0.09	21
Bihar	2.31	0.02	22	2.41	0.02	22	3.09	0.04	22	2.85	0.03	22
India	8.29	0.30		8.55	0.34		10.61	0.67		7.98	0.25	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.13c. Regular female workers aged 15+, 2005, 2012, 2019 and 2022 (%)

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Delhi	39.37	0.67	1	41.70	0.71	1	31.19	0.53	1	48.69	0.83	1
Punjab	23.05	0.39	2	18.42	0.31	4	9.69	0.15	12	9.27	0.15	10
Kerala	14.55	0.24	3	17.40	0.29	5	23.01	0.39	3	28.22	0.48	2
Jammu & Kashmir	12.11	0.20	4	22.48	0.38	2	28.59	0.48	2	11.16	0.18	6
Haryana	6.89	0.11	5	20.62	0.34	3	15.52	0.26	6	9.76	0.16	9
West Bengal	6.59	0.10	6	9.18	0.15	8	8.56	0.13	13	9.84	0.16	8
Assam	5.79	0.09	7	8.69	0.14	9	15.57	0.26	5	18.17	0.30	3
Maharashtra	5.35	0.08	8	7.35	0.11	10	11.27	0.18	11	11.15	0.18	7
Tamil Nadu	5.33	0.08	9	9.34	0.15	7	15.08	0.25	7	13.48	0.22	4
Himachal Pradesh	5.00	0.07	10	3.66	0.05	16	5.71	0.09	16	5.67	0.08	17
Telangana	5.00	0.07	11	3.38	0.05	17	4.64	0.07	19	5.92	0.09	16
Karnataka	4.61	0.07	12	11.06	0.18	6	16.17	0.27	4	12.70	0.21	5
Uttarakhand	3.91	0.05	13	5.77	0.09	13	14.48	0.24	8	8.65	0.14	11
Gujarat	3.32	0.04	14	5.89	0.09	12	12.25	0.20	10	6.41	0.10	15
Odisha	3.25	0.04	15	4.72	0.07	15	6.73	0.10	14	6.94	0.11	12
Andhra Pradesh	2.67	0.03	16	2.47	0.03	21	4.86	0.07	18	6.66	0.10	13
Rajasthan	2.22	0.02	17	3.27	0.04	19	4.40	0.06	20	2.76	0.03	22
Jharkhand	2.18	0.02	18	5.71	0.09	14	5.28	0.08	17	4.60	0.07	19
Uttar Pradesh	2.12	0.02	19	2.88	0.04	20	6.52	0.10	15	3.04	0.04	21
Madhya Pradesh	1.86	0.02	20	3.36	0.04	18	3.61	0.05	21	4.73	0.07	18
Chhattisgarh	1.55	0.01	21	1.78	0.02	22	3.38	0.05	22	3.70	0.05	20
Bihar	0.98	0.00	22	6.19	0.09	11	13.25	0.22	9	6.53	0.10	14
India	4.58	0.11		6.83	0.38		9.98	0.76		8.77	0.61	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.14a. Workforce participation rate, aged 15+, 2005, 2012, 2019 and 2022

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Telangana	69.40	0.78	1	59.17	0.62	4	39.40	0.32	5	56.31	0.58	3
Chhattisgarh	69.23	0.78	2	62.87	0.68	2	42.55	0.36	2	62.05	0.67	2
Andhra Pradesh	65.08	0.72	3	60.58	0.65	3	42.52	0.36	3	56.23	0.58	4
Karnataka	64.61	0.71	4	55.17	0.56	5	37.79	0.29	7	52.09	0.51	9
Himachal Pradesh	64.01	0.70	5	64.64	0.71	1	47.19	0.44	1	66.10	0.73	1
Tamil Nadu	63.75	0.70	6	54.60	0.55	6	40.42	0.33	4	53.92	0.54	6
Madhya Pradesh	63.45	0.69	7	52.78	0.52	9	37.03	0.28	9	52.63	0.52	8
Maharashtra	61.09	0.65	8	53.68	0.54	8	39.15	0.31	6	54.88	0.56	5
Gujarat	60.31	0.64	9	53.87	0.54	7	37.18	0.28	8	53.66	0.54	7
Rajasthan	58.31	0.61	10	51.52	0.50	10	32.19	0.20	15	51.51	0.50	10
Jharkhand	57.76	0.60	11	45.83	0.42	13	29.79	0.17	20	48.81	0.46	11
Uttarakhand	56.79	0.59	12	45.68	0.41	15	30.92	0.18	19	45.32	0.41	16
Odisha	54.89	0.56	13	50.21	0.48	11	33.43	0.22	13	46.23	0.42	15
Assam	51.62	0.51	14	44.49	0.39	18	31.41	0.19	17	48.20	0.45	12
Uttar Pradesh	50.51	0.49	15	45.75	0.41	14	27.51	0.13	21	44.80	0.40	17
Bihar	49.27	0.47	16	40.63	0.33	22	24.01	0.07	22	38.63	0.30	22
West Bengal	48.59	0.46	17	47.00	0.43	12	36.12	0.26	10	47.22	0.44	14
Haryana	47.71	0.44	18	42.11	0.36	20	31.46	0.19	16	42.37	0.36	20
Delhi	45.59	0.41	19	44.67	0.40	16	32.82	0.21	14	42.25	0.36	21
Punjab	45.51	0.41	20	44.08	0.39	19	34.01	0.23	12	47.32	0.44	13
Kerala	45.47	0.41	21	44.65	0.40	17	34.18	0.23	11	42.63	0.37	19
Jammu & Kashmir	44.57	0.40	22	41.45	0.35	21	31.17	0.19	18	43.97	0.39	18
India	56.39	0.64		49.97	0.43		45.46	0.29		49.25	0.41	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.14b. Male workforce participation rate, aged 15+, 2005, 2012, 2019 and 2022

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Gujarat	84.50	0.67	1	82.18	0.62	1	76.24	0.51	2	77.58	0.53	3
Madhya Pradesh	83.97	0.66	2	79.54	0.57	4	74.24	0.47	3	77.63	0.53	2
Karnataka	83.37	0.65	3	79.08	0.56	6	73.46	0.45	4	73.68	0.46	7
Bihar	82.99	0.64	4	73.97	0.46	17	65.62	0.30	22	67.46	0.33	19
Andhra Pradesh	82.90	0.64	5	80.50	0.59	3	71.87	0.42	8	73.61	0.45	8
Assam	82.41	0.63	6	78.12	0.54	9	72.05	0.42	7	76.30	0.51	4
Chhattisgarh	82.28	0.62	7	79.18	0.56	5	73.24	0.45	5	78.33	0.55	1
Odisha	81.85	0.62	8	81.91	0.62	2	72.77	0.44	6	71.86	0.42	14
Telangana	81.14	0.60	9	74.96	0.48	14	65.99	0.30	21	71.90	0.42	13
Jharkhand	81.07	0.60	10	79.01	0.56	7	70.09	0.39	9	73.06	0.44	9
Tamil Nadu	81.04	0.60	11	77.60	0.53	10	69.37	0.37	13	72.48	0.43	12
Uttar Pradesh	80.98	0.60	12	77.09	0.52	11	67.66	0.34	16	71.72	0.42	15
Rajasthan	80.51	0.59	13	74.26	0.47	15	68.09	0.35	15	68.86	0.36	17
West Bengal	80.06	0.58	14	78.22	0.55	8	76.49	0.51	1	76.22	0.51	5
Punjab	79.67	0.57	15	76.53	0.51	12	68.89	0.36	14	72.73	0.44	11
Maharashtra	77.90	0.54	16	75.71	0.50	13	69.75	0.38	12	72.74	0.44	10
Himachal Pradesh	76.38	0.51	17	74.20	0.47	16	69.81	0.38	11	74.19	0.47	6
Haryana	75.90	0.50	18	72.11	0.42	19	67.25	0.33	17	64.96	0.28	20
Jammu & Kashmir	75.37	0.49	19	71.47	0.41	21	70.07	0.38	10	70.41	0.39	16
Uttarakhand	75.23	0.49	20	69.08	0.37	22	66.29	0.31	19	63.07	0.25	22
Delhi	72.58	0.43	21	73.05	0.44	18	66.35	0.31	18	68.58	0.36	18
Kerala	71.46	0.41	22	71.77	0.42	20	66.15	0.31	20	64.23	0.27	21
India	80.56	0.60		77.01	0.51		70.22	0.35		72.38	0.40	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.14c. Female workforce participation rate, aged 15+, 2005, 2012, 2019 and 2022

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Telangana	57.84	0.82	1	43.03	0.60	3	33.59	0.46	4	41.26	0.57	3
Chhattisgarh	55.53	0.79	2	46.78	0.66	2	43.33	0.60	2	46.06	0.65	2
Himachal Pradesh	51.81	0.73	3	55.56	0.79	1	50.53	0.71	1	57.96	0.82	1
Andhra Pradesh	47.31	0.66	4	41.37	0.57	4	37.07	0.51	3	38.92	0.54	4
Tamil Nadu	46.61	0.65	5	31.96	0.43	5	31.95	0.43	5	35.83	0.49	5
Karnataka	44.95	0.63	6	30.46	0.41	7	23.54	0.30	8	29.41	0.39	8
Maharashtra	42.82	0.60	7	30.69	0.41	6	28.68	0.38	6	35.59	0.49	6
Madhya Pradesh	40.63	0.56	8	23.85	0.31	9	25.45	0.33	7	25.68	0.34	11
Uttarakhand	38.13	0.53	9	23.10	0.30	11	15.51	0.18	17	27.46	0.36	10
Rajasthan	35.11	0.48	10	28.43	0.38	8	21.37	0.27	10	33.39	0.45	7
Gujarat	33.83	0.46	11	23.13	0.30	10	18.21	0.22	12	27.65	0.37	9
Jharkhand	32.77	0.44	12	12.40	0.14	17	15.71	0.19	15	24.29	0.32	12
Odisha	28.13	0.37	13	18.64	0.23	13	18.69	0.23	11	20.81	0.26	14
Kerala	22.16	0.28	14	20.54	0.26	12	21.39	0.27	9	23.10	0.30	13
Uttar Pradesh	18.06	0.22	15	12.83	0.14	16	9.50	0.09	20	16.48	0.20	19
Assam	16.66	0.20	16	11.22	0.12	18	11.41	0.12	19	20.17	0.25	15
Haryana	15.32	0.18	17	9.45	0.09	19	14.44	0.17	18	17.21	0.21	18
West Bengal	14.28	0.16	18	14.78	0.17	14	15.74	0.19	14	17.67	0.22	17
Bihar	13.84	0.16	19	4.82	0.02	22	4.21	0.01	22	8.12	0.07	22
Delhi	10.60	0.11	20	13.37	0.15	15	16.11	0.19	13	11.35	0.12	21
Jammu & Kashmir	9.38	0.09	21	7.19	0.06	21	9.32	0.09	21	15.21	0.18	20
Punjab	8.31	0.07	22	8.66	0.08	20	15.51	0.18	16	19.55	0.24	16
India	30.62	0.70		22.06	0.29		19.99	0.19		25.22	0.44	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.15a. Casual workers aged 15+, 2005, 2012, 2019 and 2022 (%)*

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Delhi	4.39	0.96	1	3.27	0.98	1	3.89	0.97	1	3.12	0.99	1
Uttarakhand	12.42	0.79	2	13.92	0.76	2	13.05	0.78	3	11.35	0.82	2
Jammu & Kashmir	12.73	0.79	3	24.27	0.55	9	14.89	0.74	6	20.54	0.62	10
Himachal Pradesh	14.83	0.74	4	14.56	0.75	3	12.81	0.79	2	11.49	0.81	3
Rajasthan	16.57	0.71	5	23.26	0.57	7	13.95	0.76	4	13.33	0.77	4
Haryana	16.82	0.70	6	20.39	0.63	5	18.68	0.66	9	20.26	0.63	9
Uttar Pradesh	18.62	0.66	7	26.84	0.49	11	20.35	0.63	10	18.27	0.67	8
Assam	21.02	0.61	8	18.01	0.68	4	17.75	0.68	8	20.61	0.62	11
Punjab	23.77	0.56	9	22.82	0.58	6	22.29	0.59	11	25.26	0.53	15
Jharkhand	25.37	0.52	10	28.10	0.47	12	26.65	0.50	16	25.25	0.53	14
Madhya Pradesh	30.08	0.43	11	30.25	0.42	16	28.71	0.45	17	24.42	0.54	12
Maharashtra	31.90	0.39	12	26.65	0.50	10	23.42	0.56	12	24.87	0.53	13
Gujarat	32.32	0.38	13	23.56	0.56	8	14.49	0.75	5	14.24	0.76	5
West Bengal	32.69	0.37	14	37.42	0.27	18	30.10	0.43	20	29.97	0.43	18
Bihar	35.07	0.32	15	41.60	0.19	22	32.57	0.37	21	31.39	0.40	20
Telangana	35.24	0.32	16	29.65	0.43	15	26.29	0.50	13	15.06	0.74	6
Tamil Nadu	35.82	0.31	17	39.28	0.23	20	29.67	0.43	19	31.68	0.39	22
Odisha	36.17	0.30	18	29.30	0.44	14	26.63	0.50	14	25.91	0.51	16
Kerala	38.68	0.25	19	36.60	0.29	17	28.78	0.45	18	30.12	0.42	19
Karnataka	39.53	0.23	20	29.23	0.44	13	26.64	0.50	15	26.51	0.50	17
Chhattisgarh	40.37	0.21	21	37.52	0.27	19	16.33	0.71	7	16.76	0.70	7
Andhra Pradesh	42.11	0.18	22	41.18	0.19	21	34.05	0.34	22	31.65	0.39	21
India	29.67	0.35		29.76	0.34		23.80	0.69		22.96	0.74	

Note: *= Includes both public as well as other works.

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.15b. Casual male workers aged 15+, 2005, 2012, 2019 and 2022 (%)

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Delhi	4.23	0.97	1	3.67	0.98	1	4.57	0.96	1	3.56	0.98	1
Jammu & Kashmir	13.27	0.78	2	25.06	0.52	10	16.47	0.71	6	24.10	0.55	14
Uttarakhand	14.97	0.74	3	17.62	0.68	3	15.19	0.74	3	14.44	0.75	4
Haryana	17.65	0.68	4	20.27	0.63	4	19.29	0.65	9	19.38	0.65	8
Uttar Pradesh	18.77	0.66	5	28.27	0.46	13	21.52	0.60	12	20.72	0.62	9
Assam	18.84	0.66	6	17.33	0.69	2	17.95	0.68	7	22.33	0.58	11
Rajasthan	19.10	0.65	7	25.33	0.52	11	15.87	0.72	5	16.52	0.71	5
Himachal Pradesh	22.81	0.57	8	21.99	0.59	6	18.57	0.66	8	17.70	0.68	7
Punjab	24.35	0.54	9	23.95	0.55	8	23.70	0.55	13	27.16	0.48	16
Jharkhand	25.91	0.51	10	29.10	0.44	16	28.88	0.44	17	29.91	0.42	18
Maharashtra	26.82	0.49	11	22.46	0.58	7	20.37	0.63	11	22.25	0.59	10
Madhya Pradesh	27.63	0.47	12	28.84	0.44	15	28.07	0.46	16	23.23	0.56	12
Gujarat	29.17	0.44	13	20.79	0.62	5	12.93	0.78	2	13.14	0.78	3
Telangana	29.91	0.42	14	24.01	0.55	9	19.73	0.64	10	10.60	0.83	2
West Bengal	32.88	0.36	15	38.85	0.23	20	32.25	0.37	20	31.45	0.39	21
Bihar	33.25	0.35	16	40.82	0.19	22	32.31	0.37	21	31.02	0.40	20
Tamil Nadu	33.84	0.34	17	38.21	0.24	19	28.93	0.44	18	30.76	0.40	19
Odisha	33.93	0.34	18	28.32	0.46	14	25.62	0.51	15	26.51	0.49	15
Karnataka	35.83	0.29	19	26.70	0.49	12	24.55	0.54	14	24.10	0.55	13
Chhattisgarh	36.92	0.27	20	34.66	0.32	17	15.39	0.73	4	17.34	0.69	6
Andhra Pradesh	38.81	0.23	21	37.24	0.26	18	30.07	0.42	19	28.06	0.46	17
Kerala	41.34	0.18	22	39.03	0.23	21	32.59	0.36	22	33.14	0.35	22
India	27.64	0.44		28.96	0.36		23.49	0.70		23.22	0.71	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.15c. Casual female workers aged 15+, 2005, 2012, 2019 and 2022 (%)

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Himachal Pradesh	3.24	0.95	1	5.14	0.92	3	4.82	0.93	4	3.50	0.95	3
Delhi	5.87	0.91	2	0.86	0.99	1	0.73	0.99	1	0.00	1.00	1
Uttarakhand	7.31	0.89	3	3.26	0.95	2	3.88	0.94	3	4.21	0.94	4
Jammu & Kashmir	7.81	0.88	4	15.33	0.77	5	2.06	0.97	2	2.18	0.97	2
Rajasthan	10.51	0.84	5	17.75	0.73	6	7.75	0.88	5	6.44	0.90	5
Haryana	12.10	0.81	6	21.37	0.67	8	15.64	0.76	8	23.98	0.63	16
Punjab	17.67	0.73	7	11.94	0.82	4	15.48	0.76	7	17.54	0.73	10
Uttar Pradesh	17.90	0.73	8	17.81	0.73	7	11.80	0.82	6	7.08	0.89	6
Jharkhand	23.94	0.63	9	21.71	0.67	9	16.15	0.75	9	11.09	0.83	7
Kerala	30.99	0.53	10	29.04	0.56	11	18.13	0.72	12	22.53	0.65	12
West Bengal	31.58	0.52	11	29.56	0.55	12	18.80	0.71	13	23.45	0.64	14
Assam	33.23	0.49	12	22.66	0.65	10	16.52	0.75	10	14.10	0.78	8
Madhya Pradesh	35.71	0.45	13	35.31	0.46	15	30.68	0.53	16	28.33	0.57	17
Tamil Nadu	39.23	0.40	14	41.82	0.36	19	31.26	0.52	18	33.48	0.49	20
Gujarat	40.95	0.37	15	34.21	0.48	14	21.45	0.67	14	17.60	0.73	11
Maharashtra	41.95	0.36	16	37.44	0.43	17	31.25	0.52	17	30.64	0.53	18
Telangana	42.61	0.35	17	39.70	0.39	18	38.93	0.40	21	22.54	0.65	13
Odisha	42.65	0.35	18	33.57	0.49	13	30.30	0.54	15	23.85	0.63	15
Chhattisgarh	45.73	0.30	19	42.29	0.35	20	17.90	0.73	11	15.79	0.76	9
Bihar	46.55	0.29	20	54.38	0.17	22	36.64	0.44	20	34.59	0.47	21
Karnataka	46.74	0.28	21	36.01	0.45	16	32.97	0.49	19	32.87	0.50	19
Andhra Pradesh	47.88	0.27	22	48.59	0.26	21	41.36	0.37	22	38.42	0.41	22
India	34.94	0.29		32.62	0.38		24.90	0.70		22.19	0.82	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.16a. Self-employed workers aged 15+ living below the poverty line, 2005, 2012, 2019 and 2022 (%)***

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Punjab	12.41	0.86	1	7.25	0.93	2	8.57	0.91	3	9.26	0.90	7
Delhi	14.69	0.82	2	10.17	0.89	5	9.72	0.89	4	2.68	0.99	1
Kerala	15.34	0.81	3	8.24	0.91	3	5.01	0.96	1	4.67	0.96	2
Jammu & Kashmir	16.26	0.80	4	14.28	0.83	8	25.18	0.67	10	15.74	0.81	10
Haryana	18.90	0.76	5	6.83	0.93	1	15.03	0.82	6	16.67	0.79	11
Uttarakhand	19.22	0.76	6	16.75	0.79	11	29.57	0.61	13	15.38	0.81	9
Himachal Pradesh	24.37	0.69	7	13.60	0.84	7	20.25	0.74	8	11.83	0.86	8
Tamil Nadu	24.86	0.68	8	10.67	0.88	6	7.92	0.92	2	8.31	0.91	5
Gujarat	26.12	0.66	9	24.75	0.68	15	29.06	0.62	12	24.80	0.68	16
Telangana	26.64	0.65	10	8.38	0.91	4	27.11	0.65	11	8.38	0.91	6
Andhra Pradesh	29.08	0.62	11	15.56	0.81	9	10.91	0.88	5	5.49	0.95	3
Assam	30.58	0.60	12	27.52	0.64	16	22.43	0.71	9	22.15	0.72	14
West Bengal	31.10	0.59	13	15.89	0.81	10	16.81	0.79	7	6.63	0.94	4
Rajasthan	31.24	0.59	14	17.75	0.78	12	34.96	0.54	16	21.74	0.72	13
Karnataka	31.75	0.58	15	21.68	0.72	14	31.29	0.59	15	29.80	0.61	18
Maharashtra	35.70	0.53	16	21.52	0.73	13	36.12	0.52	17	38.05	0.49	21
Madhya Pradesh	41.24	0.45	17	32.55	0.57	19	30.29	0.60	14	23.20	0.70	15
Bihar	41.68	0.44	18	34.31	0.55	20	42.91	0.42	20	31.44	0.59	19
Jharkhand	41.69	0.44	19	37.46	0.50	21	48.84	0.34	21	33.99	0.55	20
Chhattisgarh	45.57	0.39	20	38.34	0.49	22	51.35	0.31	22	46.63	0.37	22
Uttar Pradesh	52.65	0.29	21	32.22	0.58	18	37.77	0.50	19	26.45	0.66	17
Odisha	60.79	0.17	22	31.94	0.58	17	37.11	0.51	18	17.60	0.78	12
India	36.21	0.29		23.70	0.78		30.13	0.53		22.80	0.82	

Note: *Based on Tendulkar Committee poverty lines adjusted by using national-level Consumer Price Index for rural and urban for 2019 and 2022.

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.16b. Self-employed male workers aged 15+ living below the poverty line, 2005, 2012, 2019 and 2022 (%)**

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Punjab	12.34	0.84	1	6.71	0.93	1	7.59	0.92	3	10.08	0.88	7
Delhi	14.43	0.81	2	9.99	0.88	6	7.67	0.92	4	2.64	0.99	1
Kerala	14.87	0.81	3	8.10	0.91	4	5.25	0.95	1	4.74	0.96	2
Jammu & Kashmir	16.49	0.78	4	14.69	0.81	9	23.87	0.67	10	17.89	0.76	12
Haryana	17.56	0.76	5	7.19	0.92	2	15.08	0.80	6	16.56	0.78	10
Uttarakhand	18.90	0.74	6	15.67	0.79	11	28.97	0.59	13	15.09	0.80	9
Himachal Pradesh	21.17	0.71	7	12.00	0.85	7	17.81	0.76	8	10.81	0.87	8
Tamil Nadu	22.17	0.69	8	9.84	0.88	5	7.15	0.92	2	7.50	0.92	5
Gujarat	24.18	0.66	9	21.97	0.70	14	28.21	0.60	12	24.32	0.66	15
Telangana	24.88	0.65	10	7.29	0.92	3	24.88	0.65	11	8.64	0.90	6
Andhra Pradesh	26.42	0.63	11	14.12	0.82	8	11.11	0.86	5	5.39	0.95	3
West Bengal	29.78	0.58	12	14.86	0.81	10	16.29	0.78	7	6.26	0.94	4
Karnataka	30.07	0.57	13	22.10	0.70	15	30.03	0.57	14	29.41	0.58	18
Rajasthan	30.08	0.57	14	16.41	0.78	12	33.92	0.52	16	23.43	0.68	14
Assam	32.24	0.54	15	28.48	0.60	16	23.46	0.67	9	24.67	0.66	16
Maharashtra	33.87	0.52	16	20.48	0.72	13	35.08	0.50	17	36.39	0.48	21
Madhya Pradesh	38.03	0.45	17	31.22	0.56	18	30.10	0.57	15	20.97	0.71	13
Jharkhand	40.90	0.41	18	36.55	0.48	22	47.66	0.31	22	30.95	0.56	19
Bihar	41.70	0.40	19	33.76	0.52	20	42.14	0.39	20	31.38	0.55	20
Chhattisgarh	43.15	0.38	20	35.75	0.49	21	46.01	0.33	21	44.85	0.35	22
Uttar Pradesh	49.93	0.27	21	31.39	0.55	19	37.09	0.47	19	26.38	0.63	17
Odisha	56.48	0.17	22	29.29	0.59	17	36.91	0.47	18	16.74	0.78	11
India	34.79	0.29		23.18	0.78		29.59	0.51		22.39	0.81	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.16c. Self-employed female workers aged 15+ living below the poverty line, 2005, 2012, 2019 and 2022 (%)**

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Punjab	13.60	0.87	1	14.89	0.85	8	13.42	0.87	5	5.75	0.96	4
Jammu & Kashmir	14.29	0.86	2	7.64	0.94	2	35.77	0.61	14	9.65	0.91	7
Kerala	16.79	0.83	3	8.81	0.92	3	4.12	0.98	2	4.41	0.98	2
Assam	17.09	0.83	4	18.07	0.82	9	2.81	0.99	1	12.55	0.88	9
Uttarakhand	19.71	0.80	5	18.83	0.81	11	31.41	0.66	11	15.82	0.84	11
Delhi	20.48	0.79	6	11.85	0.89	5	24.79	0.74	9	3.24	0.99	1
Haryana	24.72	0.74	7	2.88	0.99	1	14.70	0.86	6	17.11	0.83	12
Himachal Pradesh	27.26	0.71	8	14.81	0.86	7	22.34	0.77	8	12.67	0.88	10
Tamil Nadu	28.96	0.69	9	12.49	0.88	6	9.41	0.92	3	9.73	0.91	8
Telangana	29.14	0.69	10	10.15	0.91	4	31.90	0.66	12	7.93	0.93	5
Gujarat	31.10	0.67	11	35.47	0.62	16	32.78	0.65	13	25.96	0.73	15
Rajasthan	33.39	0.64	12	20.48	0.79	13	37.56	0.59	16	19.14	0.81	13
Andhra Pradesh	33.81	0.64	13	18.28	0.82	10	10.58	0.90	4	5.68	0.96	3
Karnataka	35.24	0.62	14	20.42	0.79	12	36.05	0.61	15	30.96	0.67	18
Maharashtra	39.31	0.57	15	24.36	0.75	15	39.01	0.58	18	41.63	0.55	21
West Bengal	40.32	0.56	16	21.98	0.77	14	19.27	0.80	7	8.30	0.93	6
Bihar	41.55	0.55	17	49.86	0.45	22	61.22	0.32	22	32.03	0.66	19
Jharkhand	43.55	0.52	18	42.67	0.53	19	53.24	0.41	20	40.18	0.56	20
Madhya Pradesh	48.84	0.46	19	37.58	0.59	18	30.91	0.67	10	30.53	0.67	17
Chhattisgarh	49.31	0.46	20	42.91	0.53	20	59.17	0.34	21	49.21	0.46	22
Uttar Pradesh	64.39	0.28	21	36.63	0.60	17	42.04	0.54	19	26.70	0.72	16
Odisha	74.19	0.17	22	43.94	0.52	21	37.62	0.59	17	20.38	0.79	14
India	40.10	0.28		25.60	0.78		32.16	0.55		23.93	0.83	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.17a. Average monthly wage among casual workers (aged 15+), 2005, 2012, 2019 and 2022 (Rs.)

State	2005			2012			2019			2022		
	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank
Jammu & Kashmir	2 689	0.12	1	5 662	0.31	4	9 085	0.52	4	11 162	0.64	5
Kerala	2 453	0.11	2	6 972	0.39	2	10 493	0.60	2	13 761	0.80	2
Himachal Pradesh	2 191	0.09	3	5 133	0.27	6	8 612	0.49	5	11 267	0.65	3
Delhi	1 998	0.08	4	7 390	0.41	1	11 701	0.68	1	14 115	0.83	1
Haryana	1 877	0.07	5	5 749	0.31	3	9 117	0.52	3	9 651	0.55	8
Punjab	1 816	0.07	6	5 375	0.29	5	7 207	0.40	12	9 447	0.54	9
Uttarakhand	1 758	0.06	7	4 226	0.22	9	7 976	0.45	8	11 174	0.64	4
Rajasthan	1 656	0.06	8	4 491	0.23	7	7 890	0.44	9	9 232	0.53	10
Assam	1 542	0.05	9	3 951	0.20	11	8 363	0.47	7	10 299	0.59	6
Uttar Pradesh	1 294	0.04	10	3 500	0.17	16	6 031	0.33	15	8 279	0.47	14
Gujarat	1 280	0.04	11	3 118	0.15	19	5 607	0.30	17	7 354	0.41	19
Tamil Nadu	1 221	0.03	12	4 334	0.22	8	7 286	0.41	11	9 193	0.52	11
Jharkhand	1 219	0.03	13	3 782	0.19	13	5 823	0.32	16	7 528	0.42	17
West Bengal	1 177	0.03	14	3 197	0.15	17	5 494	0.30	18	7 616	0.43	16
Bihar	1 098	0.02	15	3 664	0.18	15	8 474	0.48	6	10 255	0.59	7
Karnataka	1 096	0.02	16	3 787	0.19	12	6 783	0.37	13	8 370	0.47	13
Maharashtra	1 044	0.02	17	3 157	0.15	18	5 445	0.29	19	7 437	0.41	18
Andhra Pradesh	1 038	0.02	18	3 749	0.19	14	6 484	0.36	14	8 520	0.48	12
Odisha	978	0.02	19	2 949	0.14	20	5 173	0.28	20	6 581	0.36	20
Telangana	971	0.02	20	4 043	0.21	10	7 409	0.41	10	8 201	0.46	15
Madhya Pradesh	911	0.01	21	2 872	0.13	21	4 873	0.26	21	5 491	0.29	22
Chhattisgarh	879	0.01	22	2 309	0.10	22	4 509	0.23	22	6 317	0.35	21
India	1 224	0.03		3 744	0.30		6 584	0.61		8 421	0.82	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.17b. Average monthly wage among casual male workers (aged 15+), 2005, 2012, 2019 and 2022 (Rs.)**

State	2005			2012			2019			2022		
	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank
Jammu & Kashmir	2 771	0.12	1	5 735	0.30	4	9 057	0.50	4	11 143	0.63	5
Kerala	2 742	0.12	2	7 629	0.41	2	11 047	0.62	2	14 427	0.83	1
Himachal Pradesh	2 252	0.09	3	5 245	0.27	6	8 890	0.49	5	11 283	0.64	4
Delhi	2 116	0.08	4	7 912	0.43	1	11 852	0.67	1	14 115	0.81	2
Haryana	2 000	0.07	5	5 972	0.31	3	9 434	0.52	3	10 168	0.57	11
Punjab	1 872	0.07	6	5 596	0.29	5	7 395	0.40	14	9 555	0.53	13
Uttarakhand	1 846	0.06	7	4 455	0.22	10	8 111	0.44	10	11 382	0.64	3
Rajasthan	1 744	0.06	8	4 797	0.24	8	8 035	0.44	11	9 311	0.52	14
Assam	1 618	0.05	9	4 189	0.21	13	8 679	0.48	7	10 598	0.59	7
Tamil Nadu	1 536	0.05	10	5 057	0.26	7	8 294	0.45	9	10 659	0.60	6
Gujarat	1 447	0.04	11	3 400	0.16	18	6 089	0.32	17	8 185	0.45	17
Uttar Pradesh	1 388	0.04	12	3 652	0.17	17	6 144	0.32	16	8 439	0.46	16
Maharashtra	1 333	0.03	13	3 762	0.18	16	6 502	0.35	15	8 604	0.47	15
Karnataka	1 330	0.03	14	4 408	0.22	12	7 899	0.43	12	9 789	0.54	12
Jharkhand	1 307	0.03	15	3 970	0.19	14	6 020	0.32	18	7 725	0.42	19
Telangana	1 263	0.03	16	4 741	0.24	9	8 795	0.48	6	10 175	0.57	10
West Bengal	1 241	0.03	17	3 349	0.15	19	5 671	0.30	19	7 906	0.43	18
Andhra Pradesh	1 240	0.03	18	4 454	0.22	11	7 809	0.42	13	10 321	0.58	9
Bihar	1 174	0.02	19	3 815	0.18	15	8 641	0.48	8	10 597	0.59	8
Odisha	1 096	0.02	20	3 177	0.14	20	5 557	0.29	20	7 119	0.38	20
Madhya Pradesh	1 021	0.01	21	3 059	0.14	21	5 128	0.26	21	5 957	0.31	22
Chhattisgarh	988	0.01	22	2 481	0.10	22	5 122	0.26	22	6 900	0.37	21
India	1 422	0.03		4 096	0.30		7 088	0.61		9 086	0.81	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.17c. Average monthly wage among casual female workers (aged 15+), 2005, 2012, 2019 and 2022 (Rs.)

State	2005			2012			2019			2022		
	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank	Avg wage	Score	Indicator rank
Jammu & Kashmir	1 669	0.12	1	4 273	0.32	1	10 766	0.80	1	11 197	0.83	5
Himachal Pradesh	1 614	0.12	2	3 572	0.27	4	5 815	0.43	8	11 055	0.82	1
Haryana	1 371	0.10	3	3 912	0.29	2	6 493	0.48	4	6 992	0.52	4
Kerala	1 331	0.10	4	3 687	0.27	3	6 050	0.45	6	8 314	0.62	2
Assam	1 321	0.10	5	2 787	0.21	8	6 235	0.46	5	8 210	0.61	11
Uttarakhand	1 294	0.10	6	2 181	0.16	19	5 656	0.42	9	9 015	0.67	13
Punjab	1 279	0.10	7	3 304	0.25	5	5 206	0.39	11	7 960	0.59	3
Rajasthan	1 252	0.09	8	3 031	0.23	7	6 512	0.48	3	8 585	0.64	14
Delhi	1 250	0.09	9	2 532	0.19	11	7 484	0.56	2	0	0.00	7
Gujarat	965	0.07	10	2 449	0.18	13	4 309	0.32	15	5 326	0.40	6
Jharkhand	949	0.07	11	2 100	0.16	20	4 321	0.32	14	5 745	0.43	17
West Bengal	838	0.06	12	2 277	0.17	16	3 801	0.28	20	5 434	0.40	16
Uttar Pradesh	829	0.06	13	2 183	0.16	18	4 461	0.33	12	6 277	0.47	15
Bihar	811	0.06	14	2 220	0.17	17	5 473	0.41	10	7 138	0.53	12
Tamil Nadu	740	0.06	15	2 558	0.19	10	4 351	0.32	13	5 434	0.40	19
Karnataka	727	0.05	16	2 485	0.18	12	4 156	0.31	17	5 287	0.39	10
Chhattisgarh	715	0.05	17	2 045	0.15	21	3 283	0.24	22	4 448	0.33	18
Odisha	713	0.05	18	1 977	0.15	22	3 831	0.29	19	4 438	0.33	9
Madhya Pradesh	711	0.05	19	2 286	0.17	14	4 050	0.30	18	4 000	0.30	8
Andhra Pradesh	707	0.05	20	2 684	0.20	9	4 181	0.31	16	5 734	0.43	20
Maharashtra	664	0.05	21	2 282	0.17	15	3 498	0.26	21	5 431	0.40	22
Telangana	663	0.05	22	3 232	0.24	6	5 864	0.44	7	6 642	0.49	21
India	796	0.03		2 512	0.31		4223	0.60		5 548	0.82	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.18a. Unemployment rate of educated youths (aged 15–29), 2005, 2012, 2019 and 2022 (%)**

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Gujarat	7.02	0.91	1	2.56	0.99	1	12.24	0.82	1	10.66	0.85	1
Uttar Pradesh	8.09	0.89	2	15.03	0.77	14	24.81	0.60	8	18.80	0.70	8
Madhya Pradesh	9.10	0.88	3	10.93	0.84	6	20.13	0.68	5	15.90	0.76	6
Rajasthan	10.11	0.86	4	11.95	0.83	7	31.70	0.48	14	26.41	0.57	15
Karnataka	11.76	0.83	5	8.37	0.89	3	16.14	0.75	2	17.24	0.73	7
Maharashtra	11.89	0.83	6	6.27	0.93	2	18.94	0.70	4	14.99	0.77	5
Chhattisgarh	13.38	0.80	7	13.28	0.80	10	17.85	0.72	3	14.53	0.78	4
Telangana	14.19	0.79	8	14.94	0.77	13	34.90	0.42	18	21.71	0.65	10
Uttarakhand	14.87	0.77	9	22.40	0.64	18	33.95	0.44	16	33.04	0.45	19
Tamil Nadu	15.26	0.77	10	14.09	0.79	12	30.75	0.49	13	26.85	0.56	16
Andhra Pradesh	15.39	0.77	11	13.45	0.80	11	33.27	0.45	15	24.45	0.61	12
Bihar	17.11	0.73	12	17.92	0.72	15	37.70	0.37	21	29.62	0.51	17
Haryana	17.14	0.73	13	12.08	0.82	8	24.85	0.60	9	26.26	0.57	13
Jharkhand	17.55	0.73	14	22.15	0.65	17	21.36	0.66	6	14.24	0.79	3
Delhi	18.39	0.71	15	13.21	0.80	9	28.85	0.53	11	11.19	0.84	2
Himachal Pradesh	21.47	0.66	16	10.16	0.86	5	30.66	0.50	12	29.74	0.51	18
Jammu & Kashmir	21.80	0.65	17	23.99	0.61	20	35.10	0.42	19	34.81	0.42	20
Punjab	22.95	0.63	18	9.31	0.87	4	27.78	0.55	10	26.33	0.57	14
West Bengal	27.90	0.54	19	23.51	0.62	19	22.96	0.63	7	20.21	0.68	9
Assam	35.06	0.42	20	30.43	0.50	21	34.52	0.43	17	23.66	0.62	11
Odisha	35.93	0.40	21	20.33	0.68	16	37.22	0.38	20	39.95	0.33	22
Kerala	49.00	0.17	22	32.39	0.47	22	39.57	0.34	22	38.98	0.35	21
India	17.37	0.71		14.39	0.86		26.25	0.26		21.84	0.48	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.18b. Unemployment rate of male youths (aged 15–29) with secondary or higher education, 2005, 2012, 2019 and 2022 (%)**

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Gujarat	6.01	0.91	1	2.91	0.99	1	11.53	0.79	1	10.77	0.80	1
Uttar Pradesh	6.87	0.89	2	14.06	0.73	13	24.02	0.49	9	17.63	0.64	8
Karnataka	8.18	0.86	3	6.66	0.90	3	15.86	0.68	2	17.03	0.66	7
Madhya Pradesh	9.05	0.84	4	9.85	0.82	5	20.20	0.58	5	15.06	0.70	6
Rajasthan	9.44	0.83	5	10.32	0.81	6	29.54	0.36	17	25.63	0.46	15
Tamil Nadu	11.92	0.78	6	12.07	0.77	10	28.40	0.39	16	26.03	0.45	17
Chhattisgarh	11.97	0.77	7	14.22	0.72	14	17.90	0.64	4	13.89	0.73	4
Maharashtra	12.08	0.77	8	4.61	0.95	2	17.31	0.65	3	13.65	0.74	3
Telangana	12.96	0.75	9	15.19	0.70	16	31.95	0.31	20	18.34	0.63	9
Punjab	13.95	0.73	10	8.62	0.85	4	23.29	0.51	8	22.63	0.53	12
Haryana	14.84	0.71	11	10.47	0.81	7	24.37	0.49	10	22.78	0.52	13
Andhra Pradesh	15.34	0.70	12	11.96	0.78	9	29.72	0.36	18	23.26	0.51	14
Uttarakhand	15.41	0.69	13	16.71	0.66	18	25.99	0.45	12	35.42	0.23	21
Bihar	16.66	0.67	14	13.44	0.74	11	37.64	0.18	22	29.09	0.38	18
Delhi	17.29	0.65	15	14.50	0.72	15	26.82	0.43	13	11.06	0.80	2
Jammu & Kashmir	17.60	0.64	16	16.40	0.67	17	25.49	0.46	11	25.86	0.45	16
Himachal Pradesh	17.98	0.63	17	10.48	0.81	8	28.02	0.40	15	33.70	0.27	20
Jharkhand	18.37	0.63	18	13.69	0.73	12	20.86	0.57	6	14.66	0.71	5
West Bengal	22.49	0.53	19	19.92	0.59	21	23.04	0.52	7	19.67	0.60	11
Odisha	27.31	0.42	20	17.78	0.64	20	32.87	0.29	21	37.36	0.18	22
Kerala	28.06	0.40	21	17.48	0.65	19	27.01	0.42	14	31.29	0.32	19
Assam	31.45	0.32	22	26.96	0.42	22	31.81	0.31	19	18.98	0.61	10
India	13.70	0.79		11.94	0.88		24.19	0.25		20.28	0.45	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.18c. Unemployment rate of female youths (aged 15–29) with a secondary or higher education, 2005, 2012, 2019 and 2022 (%)**

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Madhya Pradesh	9.46	0.89	1	18.79	0.78	10	19.72	0.77	4	21.92	0.75	7
Maharashtra	11.27	0.87	2	11.80	0.87	5	24.46	0.72	6	19.00	0.78	6
Jharkhand	11.65	0.87	3	57.79	0.33	21	25.18	0.71	7	12.50	0.86	3
Gujarat	12.69	0.85	4	0.33	1.00	1	15.59	0.82	1	10.24	0.88	1
Uttarakhand	13.60	0.84	5	37.10	0.57	17	53.69	0.38	20	25.99	0.70	10
Andhra Pradesh	15.56	0.82	6	18.21	0.79	9	42.42	0.51	14	27.64	0.68	12
Telangana	17.65	0.80	7	14.17	0.84	8	43.40	0.50	17	30.35	0.65	15
Rajasthan	17.95	0.79	8	19.96	0.77	12	43.27	0.50	16	29.80	0.66	14
Uttar Pradesh	22.76	0.74	9	26.20	0.70	14	33.04	0.62	9	26.67	0.69	11
Chhattisgarh	22.92	0.74	10	10.14	0.88	4	17.73	0.80	3	16.01	0.82	4
Tamil Nadu	23.01	0.73	11	19.81	0.77	11	36.39	0.58	11	28.94	0.67	13
Karnataka	23.53	0.73	12	13.69	0.84	7	17.44	0.80	2	18.05	0.79	5
Himachal Pradesh	26.02	0.70	13	9.73	0.89	3	35.50	0.59	10	23.18	0.73	9
Delhi	26.49	0.69	14	9.29	0.89	2	37.13	0.57	12	11.76	0.87	2
Bihar	30.49	0.65	15	60.73	0.29	22	39.26	0.54	13	37.18	0.57	17
Haryana	32.62	0.62	16	25.48	0.71	13	27.52	0.68	8	44.43	0.48	19
Jammu & Kashmir	40.32	0.53	17	52.44	0.39	19	62.05	0.28	22	57.41	0.33	22
West Bengal	50.90	0.41	18	35.82	0.58	15	22.57	0.74	5	22.31	0.74	8
Assam	51.21	0.41	19	49.40	0.43	18	46.60	0.46	18	36.30	0.58	16
Punjab	52.94	0.38	20	12.19	0.86	6	43.08	0.50	15	39.00	0.55	18
Odisha	61.67	0.28	21	36.72	0.57	16	51.68	0.40	19	48.71	0.43	20
Kerala	71.60	0.17	22	54.73	0.36	20	60.67	0.29	21	55.83	0.35	21
India	31.83	0.43		24.03	0.78		34.60	0.31		27.58	0.63	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.19a. Youths (aged 15–29) not in employment, education or training, 2005, 2012, 2019 and 2022 (%)

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Telangana	17.91	0.83	1	25.44	0.65	5	34.04	0.43	15	27.54	0.59	7
Himachal Pradesh	19.00	0.81	2	14.08	0.93	1	23.25	0.70	2	20.85	0.76	1
Chhattisgarh	20.08	0.78	3	24.44	0.67	3	23.17	0.70	1	21.81	0.74	2
Karnataka	24.08	0.68	4	27.96	0.58	9	32.04	0.48	8	30.66	0.52	12
Uttarakhand	25.15	0.65	5	24.14	0.68	2	31.10	0.51	7	29.32	0.55	9
Maharashtra	25.60	0.64	6	25.02	0.66	4	28.92	0.56	4	25.48	0.65	4
Tamil Nadu	25.89	0.64	7	29.11	0.55	12	29.59	0.54	5	30.92	0.51	15
Andhra Pradesh	26.68	0.62	8	27.63	0.59	8	32.48	0.47	9	28.11	0.58	8
Madhya Pradesh	27.37	0.60	9	29.10	0.56	11	32.94	0.46	10	31.31	0.50	16
Jammu & Kashmir	27.57	0.59	10	25.71	0.64	6	28.61	0.57	3	27.47	0.60	6
Gujarat	28.68	0.57	11	29.12	0.55	13	33.22	0.45	11	30.15	0.53	11
Delhi	29.87	0.54	12	27.22	0.60	7	33.75	0.44	13	24.58	0.67	3
Rajasthan	30.58	0.52	13	28.44	0.57	10	33.99	0.43	14	26.90	0.61	5
Jharkhand	32.58	0.47	14	37.16	0.35	19	36.06	0.38	17	30.80	0.51	14
Haryana	35.63	0.39	15	32.46	0.47	15	33.44	0.45	12	32.71	0.47	18
Kerala	36.74	0.36	16	32.12	0.48	14	30.04	0.53	6	29.71	0.54	10
Assam	36.81	0.36	17	41.30	0.25	22	39.36	0.30	20	33.73	0.44	19
Punjab	37.35	0.35	18	32.60	0.47	16	34.16	0.43	16	30.68	0.52	13
Uttar Pradesh	38.49	0.32	19	35.57	0.39	17	37.58	0.34	19	32.41	0.47	17
West Bengal	39.40	0.30	20	36.49	0.37	18	37.30	0.35	18	34.40	0.42	20
Odisha	40.68	0.27	21	40.06	0.28	21	42.46	0.22	22	41.62	0.24	22
Bihar	42.79	0.21	22	39.91	0.29	20	40.26	0.28	21	34.93	0.41	21
India	31.93	0.56		31.69	0.58		34.39	0.41		30.77	0.63	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► **Table A2.19b. Male youths (aged 15–29) not in employment, education or training, 2005, 2012, 2019 and 2022 (%)**

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Karnataka	4.08	0.93	1	5.64	0.85	8	10.31	0.62	5	9.28	0.67	8
Madhya Pradesh	5.04	0.88	2	4.95	0.88	5	9.88	0.64	3	8.03	0.73	2
Gujarat	5.05	0.88	3	3.21	0.97	1	8.09	0.73	1	8.48	0.71	5
Chhattisgarh	5.14	0.87	4	7.18	0.78	10	9.16	0.68	2	7.21	0.77	1
Telangana	5.16	0.87	5	8.88	0.69	18	17.50	0.27	20	9.43	0.67	9
Rajasthan	5.26	0.87	6	5.63	0.85	7	13.05	0.49	10	11.00	0.59	12
Jammu & Kashmir	5.67	0.85	7	7.58	0.76	12	10.61	0.61	6	11.72	0.55	13
Andhra Pradesh	6.09	0.83	8	4.56	0.90	2	13.92	0.45	12	12.61	0.51	15
Tamil Nadu	6.84	0.79	9	7.92	0.74	16	15.05	0.39	16	14.58	0.42	17
Uttar Pradesh	7.25	0.77	10	7.65	0.75	14	13.05	0.49	9	8.42	0.72	4
Maharashtra	7.54	0.76	11	4.57	0.90	3	10.12	0.63	4	8.27	0.72	3
Uttarakhand	7.95	0.74	12	5.13	0.88	6	11.36	0.57	7	15.32	0.38	19
Haryana	8.00	0.74	13	7.79	0.75	15	16.36	0.33	18	14.97	0.40	18
Bihar	8.15	0.73	14	9.98	0.64	21	18.50	0.22	22	12.17	0.53	14
Jharkhand	8.19	0.73	15	7.63	0.75	13	13.94	0.45	13	8.78	0.70	7
Himachal Pradesh	8.48	0.71	16	4.95	0.88	4	13.59	0.46	11	17.59	0.27	20
Punjab	9.58	0.66	17	6.31	0.82	9	14.55	0.42	15	13.99	0.44	16
Assam	9.76	0.65	18	13.17	0.48	22	15.29	0.38	17	10.05	0.64	10
West Bengal	10.45	0.62	19	9.95	0.64	20	11.72	0.55	8	10.76	0.60	11
Delhi	10.74	0.60	20	7.53	0.76	11	17.45	0.28	19	8.50	0.71	6
Odisha	12.93	0.50	21	8.64	0.70	17	17.86	0.26	21	18.38	0.23	21
Kerala	15.06	0.39	22	9.09	0.68	19	14.31	0.43	14	19.26	0.19	22
India	7.58	0.82		7.17	0.86		13.17	0.26		10.59	0.52	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

► Table A2.19c. Female youths (aged 15–29) not in employment, education or training, 2005, 2012, 2019 and 2022 (%)

State	2005			2012			2019			2022		
	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank	%	Score	Indicator rank
Himachal Pradesh	29.71	0.86	1	23.15	0.94	1	34.81	0.79	1	24.30	0.93	1
Telangana	29.91	0.85	2	42.52	0.69	3	50.60	0.58	6	45.79	0.65	9
Chhattisgarh	36.73	0.76	3	41.54	0.70	2	36.80	0.76	2	35.69	0.78	2
Uttarakhand	43.27	0.68	4	43.54	0.68	4	52.18	0.56	9	45.48	0.65	8
Tamil Nadu	44.78	0.66	5	49.11	0.60	7	44.54	0.66	3	47.81	0.62	11
Karnataka	45.78	0.65	6	52.80	0.56	10	55.30	0.52	10	53.49	0.55	14
Maharashtra	46.93	0.63	7	49.16	0.60	8	50.82	0.58	7	46.13	0.64	10
Andhra Pradesh	47.80	0.62	8	49.03	0.61	6	51.02	0.58	8	43.72	0.67	4
Madhya Pradesh	53.25	0.55	9	56.45	0.51	13	58.91	0.48	16	57.86	0.49	18
Jammu & Kashmir	54.91	0.53	10	47.57	0.62	5	48.92	0.61	5	44.47	0.66	5
Kerala	57.21	0.50	11	52.94	0.55	11	45.46	0.65	4	40.80	0.71	3
Gujarat	57.25	0.50	12	60.45	0.46	14	62.03	0.44	17	55.36	0.52	16
Rajasthan	58.07	0.49	13	53.21	0.55	12	56.08	0.51	12	44.57	0.66	6
Jharkhand	58.37	0.48	14	65.43	0.39	18	56.86	0.50	14	52.56	0.56	13
Delhi	58.39	0.48	15	49.96	0.59	9	56.16	0.51	13	44.76	0.66	7
Assam	66.05	0.39	16	66.27	0.38	19	63.26	0.42	19	56.21	0.51	17
Odisha	66.16	0.38	17	69.50	0.34	21	63.56	0.42	21	63.34	0.42	22
Haryana	68.53	0.35	18	62.15	0.44	16	55.68	0.52	11	54.89	0.53	15
Punjab	68.99	0.35	19	61.85	0.44	15	58.61	0.48	15	51.97	0.57	12
West Bengal	70.44	0.33	20	63.03	0.42	17	62.10	0.44	18	58.01	0.49	19
Uttar Pradesh	72.67	0.30	21	66.47	0.38	20	63.46	0.42	20	58.69	0.48	20
Bihar	79.85	0.21	22	73.42	0.29	22	65.16	0.40	22	59.73	0.47	21
India	58.46	0.42		57.92	0.44		57.10	0.47		52.70	0.62	

Source: Computed from various years of the Employment and Unemployment Survey data and the Periodic Labour Force Survey unit-level data.

Appendix Chapter 3

► **Table A3.1 Share of different categories of employment in total employment, by sector, 2000 (%)**

	Self-employed	Regular worker	Casual worker	Informal employment	Informal sector employment	Formal sector employment	Informal employment in formal sector	Formal employment in formal sector
Agriculture, livestock, forestry and fishing	57.6	1.4	40.9	100	100	0.0	0.0	0.0
Mining and quarrying	8.8	31.6	59.6	74.3	49.6	50.4	30.2	20.2
Manufacturing	50.3	31.5	18.2	86.3	70.6	29.4	17.0	12.5
Electricity, gas, water supply and other utility services	1.9	91.0	7.1	21.0	15.3	84.7	13.4	71.3
Construction	18.0	5.3	76.7	97.9	80.7	19.3	17.5	1.7
Trade	75.8	16.4	7.8	97.8	94.4	5.6	3.8	1.8
Hotels and restaurants	63.3	24.2	12.5	96.1	89.4	10.6	7.4	3.2
Transport and storage	38.3	39.7	22.0	82.9	77.3	22.7	7.4	15.2
Communications and services related to broadcasting	19.2	77.2	3.6	45.9	36.5	63.5	12.6	51.0
Financial services	15.4	83.5	1.1	33.5	25.1	74.9	13.3	61.5
Real estate	71.2	21.9	6.9	99.2	94.3	5.7	5.5	0.3
Ownership of dwellings and professional services	50.6	43.3	6.0	86.0	74.7	25.3	12.8	12.5
Public administration and defence	0.4	97.1	2.5	17.5	12.7	87.3	12.8	74.5
Education	12.9	86.0	1.1	42.3	32.0	68.0	18.7	49.2
Health and social work	28.8	68.7	2.5	55.3	46.8	53.2	13.5	39.7
Other services	50.1	22.9	27.0	97.4	88.4	11.6	9.5	2.1
Total	52.5	14.3	33.2	91.5	89.1	10.9	4.7	6.3

Source: Computed from unit-level data of various Employment and Unemployment Surveys.

► **Table A3.2. Share of different categories of employment in total employment, by sector, 2012 (%)**

	Self-employed	Regular worker	Casual worker	Informal employment	Informal sector employment	Formal sector employment	Informal employment in formal sector	Formal employment in formal sector
Agriculture, livestock, forestry and fishing	65.1	0.8	34.1	99.9	99.6	0.4	0.3	0.1
Mining and quarrying	5.6	36.2	58.2	70.5	32.0	68.0	39.2	28.8
Manufacturing	49.1	34.5	16.4	88.8	66.2	33.8	23.1	10.7
Electricity, gas, water supply and other utility services	10.3	83.9	5.8	50.8	17.8	82.2	33.8	48.4
Construction	10.6	4.6	84.9	97.9	68.9	31.1	29.4	1.8
Trade	76.2	18.6	5.2	97.7	93.6	6.4	4.4	2.0
Hotels and restaurants	60.1	29.2	10.6	95.6	85.2	14.8	11.4	3.4
Transport and storage	43.5	41.5	15.0	86.8	78.6	21.4	8.9	12.5
Communications and services related to broadcasting	10.9	86.7	2.5	45.1	25.1	74.9	22.0	52.8
Financial services	25.2	73.8	1.0	49.8	29.0	71.0	22.0	49.1
Real estate	77.2	20.8	2.0	93.3	84.4	15.6	9.4	6.2
Ownership of dwellings and professional services	37.2	56.1	6.7	76.3	58.9	41.1	19.4	21.6
Public administration and defence	0.0	99.2	0.8	16.6	0.0	100	16.6	83.4
Education	11.1	88.2	0.7	46.9	21.9	78.1	27.2	51.0
Health and social work	27.5	70.0	2.5	63.7	39.4	60.6	25.5	35.1
Other services	51.5	35.5	13.0	97.9	94.0	6.0	4.4	1.6
Total	52.2	17.9	29.9	92.2	82.5	17.5	9.6	7.2

Source: Computed from unit-level data of Employment Unemployment Survey 2011-12.

► **Table A3.3. Share of different categories of employment in total employment, by sector, 2019 (%)**

	Self-employed	Regular worker	Casual worker	Informal employment	Informal sector employment	Formal sector employment	Informal employment in formal sector	Formal employment in formal sector
Agriculture, livestock, forestry and fishing	74.1	1.2	24.7	99.9	99.6	0.4	0.3	0.1
Mining and quarrying	9.3	52.2	38.5	71.1	29.6	70.4	41.6	28.7
Manufacturing	42.9	43.7	13.4	82.6	63.6	36.4	19.5	16.9
Electricity, gas, water supply and other utility services	19.4	76.8	3.8	53.9	29.2	70.8	25.1	45.7
Construction	10.8	5.5	83.7	97.4	79.1	20.9	18.8	2.1
Trade	70.3	26.1	3.6	95.4	90.2	9.8	5.8	4.0
Hotels and restaurants	52.9	36.9	10.2	93.3	81.5	18.5	12.7	5.8
Transport and storage	43.3	43.2	13.5	88.0	78.6	21.4	9.8	11.6
Communications and services related to broadcasting	14.0	84.5	1.5	35.5	22.2	77.8	14.5	63.3
Financial services	17.3	82.5	0.2	39.3	18.6	81.4	21.9	59.6
Real estate	77.6	22.3	0.0	93.6	87.4	12.6	6.2	6.4
Ownership of dwellings and professional services	32.8	64.2	3.0	65.8	50.1	49.9	17.1	32.8
Public administration and defence	0.0	99.4	0.6	24.5	0.0	100	24.5	75.5
Education	9.1	90.7	0.2	49.9	19.2	80.8	33.0	47.8
Health and social work	13.7	85.3	1.0	56.9	27.3	72.7	31.8	41.0
Other services	43.6	45.6	10.8	97.8	91.3	8.7	6.6	2.1
Total	52.0	23.8	24.2	89.5	80.4	19.6	9.5	9.5

Source: Computed from unit-level data of Periodic Labour Force Survey for 2019.

► **Table A3.4. Share of different categories of employment in total employment, by sector, 2022 (%)**

	Self-employed	Regular worker	Casual worker	Informal employment	Informal sector employment	Formal sector employment	Informal employment in formal sector	Formal employment in formal sector
Agriculture, livestock, forestry and fishing	78.1	0.9	21.0	99.4	96.6	3.4	2.8	0.6
Mining and quarrying	8.7	44.0	47.3	75.9	27.3	72.7	48.6	24.1
Manufacturing	45.0	43.8	11.3	81.5	61.9	38.1	20.0	18.1
Electricity, gas, water supply and other utility services	16.7	78.6	4.8	53.1	30.6	69.4	24.6	44.8
Construction	12.6	5.1	82.3	97.9	78.2	21.8	19.9	1.9
Trade	70.8	25.8	3.3	95.2	91.7	8.3	4.1	4.1
Hotels and restaurants	57.3	31.4	11.2	94.7	85.4	14.6	10.0	4.6
Transport and storage	48.5	40.1	11.4	87.8	81.3	18.7	7.2	11.5
Communications and services related to broadcasting	11.2	87.5	1.3	22.8	16.6	83.4	7.2	76.2
Financial services	17.5	82.3	0.2	35.8	21.5	78.5	16.0	62.4
Real estate	82.6	17.1	0.3	97.7	90.5	9.5	7.5	2.0
Ownership of dwellings and professional services	33.5	58.9	7.7	66.8	52.8	47.2	16.0	31.2
Public administration and defence	0.0	99.8	0.2	23.3	0.0	100	23.3	76.7
Education	10.8	89.2	0.1	47.0	20.1	79.9	29.1	50.7
Health and social work	14.4	84.8	0.8	54.1	28.2	71.8	27.8	44.1
Other services	42.9	49.7	7.4	97.9	93.7	6.3	4.3	2.0
Total	55.8	21.5	22.7	90.3	81.1	18.9	9.5	9.4

Source: Computed from unit-level data of Periodic Labour Force Survey for 2022.

► Table A3.5a. Important high-growth and additional employment-generating (UPSS, aged 15+) subsectors, 2000–19

	Net addition (millions)	Growth (CAGR)	Share (%) 2019	Employment status (2019)			Sector (2019)	
				SE	RE	CW	R	U
Manufacturing								
Manufacture of wearing apparel, except fur apparel	7.92	10.75	3.77	66	26	7	41	59
Manufacture of basic iron and steel	0.73	5.38	0.51	8	81	11	31	69
Manufacture of structural metal products, tanks, reservoirs and steam generators	2.40	9.21	1.23	44	41	15	38	62
Manufacture of furniture	1.90	9.42	0.96	49	27	24	49	51
Construction								
Site preparation(construction)	0.80	17.58	0.32	3	9	89	65	35
Building of complete constructions or parts thereof; civil engineering	34.63	8.79	18.13	10	5	86	75	25
Building installation	1.43	9.01	0.74	41	22	37	41	59
Building completion	2.32	7.98	1.28	18	8	74	48	52
Wholesale and retail trade								
Sale, maintenance and repair of motorcycles and related parts and accessories	0.63	5.54	0.43	47	46	7	29	71
Wholesale of household goods	0.67	5.06	0.48	35	63	3	17	83
Wholesale of non-agricultural intermediate products, waste and scrap	0.87	7.23	0.50	60	26	13	31	69
Wholesale of machinery, equipment and supplies	0.52	12.49	0.23	36	64	0	17	83
Non-specialized retail trade in stores	3.98	7.82	2.21	84	15	1	56	44
Hotels and restaurants								
Hotels; camping sites and other provision of short-stay accommodation	0.52	6.33	0.33	15	82	3	31	69
Restaurants, bars and canteens	7.96	36.00	2.92	57	32	11	41	59
Transport, storage and communications								
Supporting and auxiliary transport activities; activities of travel agencies	1.20	8.87	0.63	22	60	17	35	65
Financial intermediation								
Other financial intermediation	1.37	14.38	0.59	20	80	0	24	76
Insurance and pension funding, except compulsory social security	0.53	7.84	0.30	36	64	0	22	78

	Net addition (millions)	Growth (CAGR)	Share (%) 2019	Employment status (2019)			Sector (2019)	
				SE	RE	CW	R	U
Real estate, renting and business activities								
Software publishing, consultancy and supply	2.64	22.68	1.01	7	92	0	5	95
Legal, accounting, bookkeeping and auditing activities; tax consultancy; market research and public opinion polling; business and management consultancy	1.69	8.32	0.91	41	58	0	16	84
Business activities n.e.c.	4.69	15.15	1.97	25	71	3	28	72
Education								
Secondary and senior secondary education	6.57	6.00	2.38	6	93	0	47	53
Higher education	0.95	5.30	0.67	1	99	0	28	72
Other education (correspondence, coaching centre and tuitions, etc.)	1.56	1000	0.56	54	46	1	33	67
Health and social work								
Human health activities	2.90	5.74	1.94	15	85	1	31	69
Social work activities with accommodation	0.76	13.42	0.33	11	87	2	52	48
Other services								
Motion picture, radio, television and other entertainment activities	0.80	5.52	0.55	41	26	33	29	71
Activities of private households as employers of domestic staff	4.39	9.98	2.16	0	87	13	24	76

Note: Emerging sectors are identified as generated more than 0.50 million additional employment and with CAGR of 5 per cent and higher. CAGR=compound annual growth rate; SE=self-employed; RE=regular employed; CW=casual work; R=rural and U=urban.

Source: Estimates based on various rounds of the National Sample Surveys data on employment and unemployment, adjusted by projected population.

► **Table A3.5b. Important emerging sectors (additional employment-generating subsectors) (UPSS, aged 15+), 2019–22**

	Net addition (millions) (2019–22)	Employment status (2022)			Sector (2022)	
		SE	RE	CW	R	U
Agriculture						
Growing of non-perennial crops	29.5	75	0	25	97	3
Growing of perennial crops	2.7	49	14	37	91	9
Animal production	12.3	97	2	1	87	13
Mixed farming	10.2	93	1	6	96	4
Manufacturing						
Manufacture of wearing apparel, except fur apparel	1.2	75	22	3	52	48
Manufacture of jewellery, bijouterie and related articles	2.7	33	65	2	36	64
Repair of fabricated metal products, machinery and equipment	2.3	58	31	11	56	44
Construction						
Construction of buildings	51.2	10	3	87	80	20
Construction of roads and railways	1.9	9	17	74	78	22
Construction of utility projects	2.2	2	7	91	92	8
Building completion and finishing	2.7	31	9	60	48	52
Services						
Maintenance and repair of motor vehicles	1.8	46	45	10	47	53
Other specialized wholesale	1.6	63	26	11	39	61
Retail sale of food, beverages and tobacco in specialized stores	19.9	87	11	2	59	41
Retail sale of other household equipment in specialized stores	4.3	60	37	3	41	59
Retail sale of other goods in specialized stores	9.5	62	37	1	46	54
Other land transport	19.8	55	34	11	63	37
Restaurants and mobile food services activities	4.0	60	33	6	48	52
Beverage serving activities	1.7	82	16	2	58	42
Computer programming, consultancy and related activities	4.2	4	96	0	17	83
Monetary intermediation	2.5	6	94	0	34	66

Note: SE=self-employed; RE=regular employed; CW=casual work; R=rural and U=urban.

Source: Estimates based on National Sample Survey data on employment and unemployment, adjusted by projected population.

Appendix Chapter 4

► Table A4.1a. Activity status among youths, 2000, 2012, 2019 and 2022 (%)

	Younger (15–19 years)				Middle (20–24 years)				Older (25–29 years)			
	2000	2012	2019	2022	2000	2012	2019	2022	2000	2012	2019	2022
Employed	35.4	21.4	11.1	15.2	55.8	46.9	34.9	40.2	66.6	61.7	52.7	58.6
Unemployed	2.5	2.1	4	2.3	4.2	3.9	9.9	8.2	2.5	2.2	6.3	5.5
Student	40.4	62.4	71.6	72.4	9.6	18.9	23.4	23.5	0.9	2	2.6	2.3
Domestic duties	12.2	6.9	9	8.8	20.2	17.2	23.4	27.0	20.2	18	27.4	32.6
Others	9.5	7.2	4.3	1.3	10.2	13.1	8.4	1.0	9.8	16.1	11.0	1.0
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► Table A4.1b. Activity status, by gender, 2000, 2012 and 2019–22 (%)

	Youths						Adults					
	2000	2012	2019	2020	2021	2022	2000	2012	2019	2020	2021	2022
Male												
Employed	69.6	59.8	48.6	50.9	52.3	53.5	89.8	89.9	84.4	85.8	86.2	85.5
Unemployed	4.5	3.8	10.2	9.1	7.8	7.7	0.4	0.3	1.2	0.9	0.9	0.9
Student	22.5	34.3	38.8	37.1	37.5	36.9	0.1	0.0	0.1	0.1	0.1	0.0
Domestic duties	0.5	0.5	0.6	1.2	0.9	0.5	0.3	0.4	0.9	0.9	0.8	1.0
Others	2.8	1.6	1.9	1.7	1.4	1.4	9.4	9.4	13.4	12.3	12.1	12.6
Total	100	100	100	100	100	100	100	100	100	100	100	100
Female												
Employed	32.8	22.8	13.3	17.5	18.5	19.1	42.0	35.2	28.8	34.8	38.2	38.4
Unemployed	1.5	1.6	2.9	3.0	2.6	2.6	0.1	0.2	0.4	0.3	0.3	0.3
Student	13.8	25.4	31.1	30.8	32.6	32.4	0.1	0.1	0.2	0.2	0.1	0.0
Domestic duties	50.1	49.3	51.5	47.5	45.3	45.1	47.8	55.7	59.6	53.8	50.9	50.8
Others	1.8	0.9	1.3	1.1	1.0	0.8	10.0	8.9	11.1	10.9	10.4	10.4
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.1c. Activity status, by rural or urban location, 2000, 2012 and 2019–22 (%)**

	Youths						Adults					
	2000	2012	2019	2020	2021	2022	2000	2012	2019	2020	2021	2022
Rural												
Employed	56.8	44.1	31.7	35.9	37.5	38.0	69.9	66.1	58.9	63.4	65.9	65.6
Unemployed	2.2	2.3	6.1	5.3	4.5	4.5	0.1	0.2	0.5	0.4	0.4	0.4
Student	14.9	27.9	33.8	32.6	34.0	33.3	0.1	0.0	0.1	0.1	0.1	0.0
Domestic duties	23.9	24.4	26.9	24.7	22.8	23.0	20.7	25.4	28.8	25.2	23.4	23.2
Others	2.3	1.3	1.5	1.5	1.2	1.1	9.1	8.3	11.6	10.9	10.3	10.8
Total	100	100	100	100	100	100	100	100	100	100	100	100
Urban												
Employed	38.3	36.8	30.9	32.1	32.6	33.6	56.1	54.5	51.2	53.2	52.8	53.2
Unemployed	5.0	3.7	7.8	7.9	7.4	7.0	0.6	0.4	1.2	1.0	1.1	1.1
Student	27.2	34.8	37.6	37.4	37.9	38.5	0.1	0.1	0.2	0.2	0.1	0.1
Domestic duties	27.1	23.5	22.0	21.5	20.9	19.9	32.0	33.9	33.8	32.6	32.7	32.5
Others	2.4	1.2	1.7	1.1	1.2	1.0	11.2	11.2	13.6	13.0	13.3	13.1
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.2a. Labour force participation rate, worker population ratio and unemployment rate among youths, 2000, 2012, 2019 and 2022 (%)**

	Younger (15–19 years)				Middle (20–24 years)				Older (25–29 years)			
	2000	2012	2019	2022	2000	2012	2019	2022	2000	2012	2019	2022
LFPR	37.9	23.5	15.1	17.5	60.0	50.9	44.8	48.4	69.0	63.9	59.0	64.0
WPR	35.4	21.4	11.1	15.2	55.8	46.9	34.9	40.2	66.6	61.7	52.7	58.6
UR	6.5	8.9	26.4	13.2	6.9	7.8	22.0	16.9	3.6	3.5	10.7	8.6

Note: LFPR=labour force participation rate; WPR=worker population ratio; UR=unemployment rate.

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► Table A4.2b. Labour force participation rate, by youths and adults, 2000, 2012 and 2019–22 (%)

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2000	74.0	34.0	54.0	90.0	42.0	66.0
2012	63.0	24.0	44.0	90.0	35.0	63.0
2019	59.0	16.0	38.0	85.0	28.0	57.0
2020	60.0	20.6	40.9	86.7	35.1	60.6
2021	60.1	21.1	41.4	87.1	38.6	62.4
2022	61.2	21.7	42.0	86.3	38.7	62.4

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► Table A4.2c. Labour force participation rate, by youths, adults, gender and rural or urban location, 2000, 2012 and 2019–22 (%)

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
Rural						
2000	77.1	40.5	59.1	91.1	48.8	70.2
2012	64.8	26.9	46.3	91.8	40.8	66.4
2019	58.7	15.4	37.6	87.0	31.9	59.4
2020	60.8	20.7	41.2	88.1	39.9	63.7
2021	60.6	22.0	42.0	88.8	44.5	66.3
2022	62.1	22.3	42.6	87.7	44.5	65.9
Urban						
2000	66.7	17.3	43.4	87.8	23.4	56.8
2012	60.5	18.1	40.4	86.6	22.0	54.7
2019	58.3	17.1	38.8	82.7	22.1	52.7
2020	58.3	20.3	40.0	83.7	24.9	54.2
2021	59.0	19.0	39.9	83.2	25.3	53.9
2022	58.9	20.2	40.6	83.3	25.5	54.4

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.3a. Worker population ratio, by youths, adults and gender, 2000, 2012 and 2019–22 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2000	69.0	32.0	51.0	90.0	41.0	66.0
2012	60.0	22.0	42.0	90.0	34.0	62.0
2019	48.0	13.0	31.0	84.0	28.0	56.0
2020	50.9	17.5	34.7	85.8	34.8	60.0
2021	52.3	18.5	36.1	86.2	38.2	61.8
2022	53.5	19.1	36.8	85.5	38.4	61.8

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.3b. Worker population ratio, by youths, adults, gender and rural or urban location, 2000, 2012 and 2019–22 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
Rural						
2000	73.8	39.4	56.8	90.9	48.7	70.0
2012	61.6	25.7	44.1	91.6	40.7	66.2
2019	49.0	13.4	31.6	86.1	31.7	58.9
2020	52.4	18.6	35.9	87.6	39.7	63.4
2021	53.6	20.2	37.5	88.3	44.3	65.9
2022	55.0	20.4	38.0	87.1	44.3	65.6
Urban						
2000	59.4	14.9	38.4	86.9	23.1	56.2
2012	55.6	15.6	36.5	86.1	21.7	54.2
2019	47.4	12.6	30.9	80.9	21.4	51.4
2020	47.6	15.2	32.1	82.2	24.3	53.2
2021	49.2	14.3	32.6	81.5	24.7	52.8
2022	49.6	15.9	33.6	81.6	24.8	53.2

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.4a. Status of employment, by youths, adults and gender, 2000, 2012 and 2019–22 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2000						
Self-employed	48.2	53.9	50.0	52.5	55.9	53.5
Regular employee	15.3	7.4	12.9	19.5	7.9	15.9
Casual worker	36.5	38.7	37.1	28.1	36.1	30.6
2012						
Self-employed	42.6	55.6	46.0	54.1	56.5	54.8
Regular employee	22.9	16.6	21.3	19.4	12.2	17.4
Casual worker	34.5	27.8	32.7	26.5	31.4	27.8
2019						
Self-employed	40.4	49.3	42.2	55.0	53.9	54.7
Regular employee	31.9	30.6	31.6	23.0	21.2	22.6
Casual worker	27.7	20.1	26.2	22.0	24.9	22.7
2021						
Self-employed	44.2	57.3	47.3	56.4	59.5	57.4
Regular employee	29.3	23.6	27.9	22.6	17.7	21.1
Casual worker	26.5	19.2	24.8	21.0	22.8	21.5
2022						
Self-employed	42.9	61.1	47.5	56.8	62.3	58.5
Regular employee	29.8	22.0	27.8	21.4	15.1	19.5
Casual worker	27.3	16.8	24.7	21.8	22.6	22.0

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.4b. Employment status of youths, 2000, 2012, 2019 and 2022 (%)**

	Younger (15–19 years)				Middle (20–24 years)				Older (25–29 years)			
	2000	2012	2019	2022	2000	2012	2019	2022	2000	2012	2019	2022
Self-employed	50.1	46.9	45.5	54.1	51.2	46.1	41.5	47.0	45.5	49.4	42.8	45.9
Regular employed	8.9	12.9	22	16.5	12.4	20.9	31.1	28.5	24.1	14.5	32.5	30.7
Casual worker	41.1	40.2	32.5	29.4	36.4	33	27.4	24.5	30.4	36.1	24.7	23.4
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.4c. Status of employment, by rural or urban location, youths and adults, 2000, 2012, 2019 and 2022 (%)**

	Rural						Urban					
	Youths			Adults			Youths			Adults		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2000												
Self-employed	51.3	55.5	52.7	56.5	57.9	57.0	39.7	43.8	40.5	42.1	45.3	42.8
Regular employee	7.6	3.3	6.1	9.7	3.2	7.5	36.8	34.2	36.3	44.2	33.6	42.1
Casual worker	41.1	41.2	41.2	33.8	38.9	35.5	23.5	22.0	23.2	13.7	21.1	15.1
2012												
Self-employed	47.3	60.7	51.1	58.0	59.6	58.5	32.5	38.5	33.7	45.8	44.5	45.6
Regular employee	11.4	6.6	10.0	9.2	5.0	7.9	47.6	50.3	48.2	41.2	39.9	40.9
Casual worker	41.2	32.7	38.8	32.8	35.5	33.6	19.9	11.2	18.1	13.0	15.6	13.5
2019												
Self-employed	47.9	59.7	50.3	61.2	60.4	61.0	26.2	27.9	26.5	43.1	36.3	41.7
Regular employee	18.4	13.9	17.5	12.4	9.9	11.7	57.3	64.7	58.8	43.3	51.7	45.1
Casual worker	33.7	26.4	32.2	26.4	29.7	27.3	16.5	7.3	14.7	13.6	12.0	13.2
2021												
Self-employed	51.4	66.3	55.2	63.6	65.6	64.3	29.6	32.4	30.2	43.4	40.2	42.7
Regular employee	17.4	9.6	15.4	11.6	8.5	10.6	53.7	62.1	55.4	42.4	46.9	43.4
Casual worker	31.3	24.1	29.5	24.8	25.9	25.2	16.7	5.5	14.4	14.1	13.0	13.9
2022												
Self-employed	48.5	69.3	53.9	62.2	67.3	64.0	27.6	33.2	28.9	43.4	41.2	42.9
Regular employee	20.0	10.4	17.5	12.7	7.5	10.9	56.6	61.7	57.7	42.8	46.8	43.7
Casual worker	31.5	20.3	28.6	25.0	25.2	25.1	15.8	5.1	13.4	13.8	12.0	13.4

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.4d. Employment status of self-employment, by rural or urban location, youths, adults and gender, 2022 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Youths									
Own-account worker	40.2	25.4	35.2	57.1	60.0	57.8	43.1	29.7	38.7
Employer	1.6	0.5	1.2	5.0	0.9	3.9	2.1	0.6	1.6
Unpaid family worker	58.3	74.1	63.6	37.9	39.1	38.2	54.8	69.8	59.6
Total	100	100	100	100	100	100	100	100	100
Adults									
Own-account worker	86.6	39.1	69.6	79.8	67.3	77.0	85.1	42.7	71.0
Employer	5.5	1.1	3.9	14.2	2.4	11.6	7.4	1.2	5.4
Unpaid family worker	7.9	59.9	26.5	6.0	30.2	11.4	7.5	56.1	23.6
Total	100	100	100	100	100	100	100	100	100

Source: Periodic Labour Force Survey data for 2022.

► **Table A4.5. Real average monthly wage and earnings, by youths, adults, gender and rural or urban location, 2012–22 (2012=100)**

		Rural			Urban			Total			
		Male	Female	Total	Male	Female	Total	Male	Female	Total	
Regular	2012	Youths	6 119	4 722	5 862	9 042	9 256	9 087	8 050	7 885	8 017
		Adults	11 706	6 756	10 768	16 956	12 387	16 083	15 260	10 581	14 368
	2019	Youths	6 614	6 210	6 550	9 785	10 327	9 892	8 408	8 790	8 477
		Adults	10 717	6 385	9 833	15 184	11 670	14 516	13 291	9 316	12 511
	2022	Youths	6 869	6 406	6 801	9 376	10 843	9 712	8 161	9 281	8 375
		Adults	10 774	5 973	9 697	15 119	10 738	14 069	13 326	8 869	12 285
CAGR	2012–19	Youths	1.1	4.0	1.6	1.1	1.6	1.2	0.6	1.6	0.8
		Adults	-1.3	-0.8	-1.3	-1.6	-0.8	-1.5	-2.0	-1.8	-2.0
	2019–22	Youths	1.3	1.0	1.3	-1.4	1.6	-0.6	-1.0	1.8	-0.4
		Adults	0.2	-2.2	-0.5	-0.1	-2.7	-1.0	0.1	-1.6	-0.6
	2012–22	Youths	1.2	3.1	1.5	0.4	1.6	0.7	0.1	1.6	0.4
		Adults	-0.8	-1.2	-1.0	-1.1	-1.4	-1.3	-1.3	-1.7	-1.6
Casual	2012	Youths	3 813	2 526	3 547	4 370	2 574	4 148	3 917	2 531	3 651
		Adults	4 036	2 498	3 594	5 353	2 839	4 830	4 247	2 535	3 775
	2019	Youths	4 377	2 957	4 164	5 367	3 605	5 211	4 580	3 037	4 367
		Adults	4 670	2 732	4 164	5 974	3 571	5 573	4 938	2 840	4 428
	2022	Youths	4 803	3 321	4 610	5 636	3 971	5 518	4 928	3 374	4 738
		Adults	5 202	3 111	4 605	6 168	3 744	5 759	5 379	3 175	4 791
CAGR	2012–19	Youths	2.0	2.3	2.3	3.0	4.9	3.3	2.3	2.6	2.6
		Adults	2.1	1.3	2.1	1.6	3.3	2.1	2.2	1.6	2.3
	2019–22	Youths	3.1	3.9	3.4	1.6	3.3	1.9	2.5	3.6	2.8
		Adults	3.7	4.4	3.4	1.1	1.6	1.1	2.9	3.8	2.7
	2012–22	Youths	2.3	2.8	2.7	2.6	4.4	2.9	2.3	2.9	2.6
		Adults	2.6	2.2	2.5	1.4	2.8	1.8	2.4	2.3	2.4
Self-employed	2019	Youths	5 742	2 618	5 251	9 186	4 432	8 329	6 454	3 044	5 901
		Adults	6 530	3 406	6 114	11 889	5 683	11 177	7 747	3 858	7 245
	2022	Youths	5 975	2 162	5 185	8 701	3 656	7 582	6 630	2 546	5 770
		Adults	6 784	2 827	6 022	12 096	4 658	10 904	8 069	3 200	7 168
CAGR	2019–22	Youths	1.3	-6.2	-0.4	-1.8	-6.2	-3.1	0.9	-5.8	-0.7
		Adults	1.3	-6.0	-0.5	0.6	-6.4	-0.8	1.4	-6.0	-0.4

Note: CAGR=compound annual growth rate.

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.6a. Broad industry of employment, by youths, adults and gender, 2000, 2012 and 2019–22 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2000						
Primary	53.1	75.8	60.0	53.3	76.0	60.3
Secondary	20.6	13.9	18.6	17.0	9.8	14.8
Tertiary	26.3	10.3	21.4	29.7	14.2	24.9
2012						
Primary	38.5	56.6	43.2	44.2	64.1	49.6
Secondary	32.2	24.6	30.2	23.4	17.9	21.9
Tertiary	29.3	18.9	26.6	32.4	18.0	28.4
2019						
Primary	29.9	45.4	33.0	39.2	56.2	43.4
Secondary	33.5	22.8	31.4	25.6	17.7	23.6
Tertiary	36.6	31.9	35.6	35.3	26.1	33.0
2021						
Primary	32.8	53.3	37.6	38.8	61.7	45.7
Secondary	32.7	19.7	29.6	25.9	15.8	22.9
Tertiary	34.5	27.1	32.7	35.3	22.5	31.4
2022						
Primary	32.6	56.7	38.6	40.0	64.4	47.6
Secondary	34.2	18.8	30.3	26.4	15.9	23.1
Tertiary	33.2	24.5	31.0	33.5	19.7	29.2

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.6b. Industrial distribution of youths, 2000, 2012, 2019 and 2022 (%)**

	Younger (15–19 years)				Middle (20–24 years)				Older (25–29 years)			
	2000	2012	2019	2022	2000	2012	2019	2022	2000	2012	2019	2022
Primary	65.4	50.3	41.1	51.4	61	43.7	33.8	37.959	59	41.6	32.6	35.3
Secondary	18.8	33.1	35.7	30.0	18.1	31.2	32.7	30.927	17.8	27.9	28.8	29.9
Tertiary	15.8	16.6	23.2	18.6	21	25.2	33.5	31.114	23.3	30.5	38.6	34.8
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► Table A4.6c. Broad industry of employment, by rural or location, youths, adults and gender, 2000, 2012 and 2019–22 (%)

	Rural						Urban					
	Youths			Adults			Youths			Adults		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2000												
Primary	70.1	85.0	75.2	71.6	86.6	76.8	5.7	16.9	7.7	6.9	18.8	9.3
Secondary	14.8	10.4	13.3	11.5	7.0	10.0	36.8	36.5	36.7	31.0	24.7	29.7
Tertiary	15.1	4.7	11.5	16.9	6.3	13.3	57.5	46.6	55.5	62.1	56.4	61.0
2012												
Primary	54.4	71.4	59.2	61.9	77.5	66.6	4.3	6.6	4.8	6.3	12.7	7.5
Secondary	27.9	20.9	25.9	19.4	14.3	17.8	41.5	37.0	40.6	32.1	31.9	32.1
Tertiary	17.7	7.7	14.9	18.8	8.2	15.5	54.2	56.4	54.6	61.6	55.4	60.4
2019												
Primary	44.1	65.8	48.5	56.7	73.4	61.2	2.9	3.5	3.0	5.7	9.2	6.5
Secondary	30.5	19.2	28.2	21.2	13.7	19.2	39.3	30.0	37.5	33.8	28.6	32.7
Tertiary	25.4	15.0	23.3	22.1	12.9	19.6	57.8	66.5	59.4	60.4	62.2	60.8
2020												
Primary	45.3	69.3	51.3	59.1	77.4	64.9	2.7	3.3	2.9	5.7	9.8	6.6
Secondary	30.6	17.4	27.3	20.3	12.0	17.5	37.1	30.3	35.6	33.2	27.2	31.8
Tertiary	24.1	13.3	21.4	20.6	10.6	17.6	60.2	66.4	61.5	61.1	63.0	61.6
2021												
Primary	46.4	70.0	52.5	56.5	76.7	63.4	3.5	5.1	3.9	5.9	11.9	7.3
Secondary	29.7	17.1	26.6	22.0	12.4	18.7	38.9	26.7	36.4	33.1	28.5	31.9
Tertiary	23.9	12.9	20.9	21.5	10.9	17.9	57.6	68.2	59.7	61.0	59.6	60.8
2022												
Primary	43.0	71.5	50.5	53.9	77.0	61.8	3.7	6.2	4.3	6.0	12.6	7.5
Secondary	32.3	16.1	28.1	22.9	12.7	19.4	39.3	28.0	36.8	35.2	29.0	33.7
Tertiary	24.7	12.4	21.5	23.2	10.3	18.8	56.9	65.8	58.9	58.8	58.4	58.7

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2021						
Agriculture, forestry and fishing	34.6	55.6	39.8	41.6	63.8	48.5
Mining and quarrying	0.3	0.0	0.3	0.5	0.1	0.3
Manufacturing	12.9	14.0	13.1	10.4	9.6	10.2
Electricity	0.9	0.1	0.7	0.7	0.2	0.6
Construction	18.3	5.2	15.1	13.6	5.7	11.1
Trade, hotels and restaurants	15.8	6.0	13.4	14.4	6.2	11.9
Transport, storage and communications	7.7	2.5	6.5	7.1	0.5	5.1
Finance, real estate and business	3.5	2.5	3.2	3.5	1.2	2.7
Public administration, education, health and others	6.0	14.1	8.0	8.1	12.8	9.6
Total	100	100	100	100	100	100
2022						
Agriculture, forestry and fishing	32.6	56.7	38.6	40.0	64.4	47.6
Mining and quarrying	0.4	0.2	0.4	0.4	0.1	0.3
Manufacturing	14.1	14.9	14.3	10.9	10.2	10.7
Electricity	0.6	0.1	0.5	0.8	0.2	0.6
Construction	19.0	3.6	15.1	14.4	5.4	11.6
Trade, hotels and restaurants	15.5	5.2	12.9	14.4	6.1	11.8
Transport, storage and communications	8.0	3.5	6.9	7.4	0.5	5.2
Finance, real estate and business	3.7	2.7	3.5	3.5	1.2	2.8
Public administration, education, health and others	6.0	13.1	7.8	8.2	11.9	9.4
Total	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

	Rural						Urban					
	Youths			Adults			Youths			Adults		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2021												
Agriculture, forestry and fishing	46.4	70.0	52.5	56.5	76.7	63.4	3.5	5.1	3.9	5.9	11.9	7.3
Mining and quarrying	0.3	0.0	0.3	0.4	0.1	0.3	0.3	0.1	0.2	0.6	0.1	0.5
Manufacturing	9.3	11.5	9.9	7.0	6.2	6.8	22.2	22.7	22.3	18.6	23.1	19.6
Electricity	0.6	0.0	0.5	0.5	0.1	0.3	1.4	0.2	1.2	1.4	0.7	1.2
Construction	19.5	5.6	15.9	14.1	6.0	11.3	15.0	3.7	12.7	12.5	4.6	10.6
Trade, hotels and restaurants	10.8	3.4	8.9	9.3	3.6	7.3	29.1	15.0	26.1	26.8	16.6	24.4
Transport, storage and communications	6.2	0.7	4.7	5.0	0.1	3.3	11.9	8.9	11.3	12.2	2.2	9.9
Finance, real estate and business	2.0	0.7	1.7	1.5	0.3	1.1	7.4	8.8	7.7	8.1	4.6	7.3
Public administration, education, health and others	4.8	8.0	5.6	5.6	6.9	6.1	9.1	35.4	14.6	14.0	36.3	19.2
Total	100	100	100	100	100	100	100	100	100	100	100	100
2022												
Agriculture, forestry and fishing	43.0	71.5	50.5	53.9	77.0	61.8	3.7	6.2	4.3	6.0	12.6	7.5
Mining and quarrying	0.4	0.2	0.4	0.4	0.1	0.3	0.4	0.0	0.3	0.4	0.1	0.4
Manufacturing	10.3	11.9	10.7	7.0	6.8	6.9	24.8	25.0	24.8	20.5	24.0	21.3
Electricity	0.5	0.1	0.4	0.5	0.1	0.3	1.1	0.3	0.9	1.5	0.6	1.3
Construction	21.2	3.9	16.7	15.0	5.7	11.8	13.1	2.7	10.8	12.8	4.2	10.8
Trade, hotels and restaurants	11.4	3.3	9.3	10.3	3.8	8.0	26.9	11.6	23.4	24.6	15.8	22.5
Transport, storage and communications	6.1	1.0	4.8	5.4	0.1	3.6	13.1	12.2	12.9	12.3	2.3	10.0
Finance, real estate and business	2.2	0.6	1.8	1.7	0.4	1.3	7.8	9.9	8.3	7.9	4.5	7.1
Public administration, education, health and others	4.9	7.5	5.6	5.9	6.1	5.9	9.1	32.1	14.3	14.0	35.9	19.1
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.6f. Important sectors for additional employment generation (UPSS) (millions) for youths, 2012–19**

	Additional job (millions)* (2012–19)	Share (% in 2019)	CAGR (2012–19)	Status (% in 2019)			Sector (% in 2019)	
				Self-employed	Regular employee	Casual worker	Rural	Urban
Computer programming, consultancy and related activities	0.47	1.7	6.6	4	96	0	19	81
Repair of fabricated metal products, machinery and equipment	0.43	0.9	14.8	27	58	15	46	54
Land transport	0.43	7.1	1.2	41	44	15	62	38
Secondary education	0.41	1.8	5.0	15	84	1	61	39
Construction of buildings	0.40	17.9	0.4	6	4	89	78	22
Hospital activities	0.39	1.3	7.6	2	98	0	34	66
Electrical, plumbing and other construction installation activities	0.31	0.9	8.8	32	24	44	56	44
Retail sale of other household equipment in specialized stores	0.22	1.8	2.6	33	63	4	36	64
Retail sale of information and communications equipment in specialized stores	0.14	0.7	4.8	48	49	3	47	53
Retail sale of other goods in specialized stores	0.13	3.5	0.7	38	59	3	37	63

Note: Only sectors with additional jobs of 100,000 or more were considered. *=Sorted in descending order of additional jobs. CAGR=compound annual growth rate.

Source: Computed from Employment and Unemployment Survey data for 2012 and Periodic Labour Force Survey data for 2019.

► **Table A4.6g. Industrial distribution of youths, by age group and broad industry, 2000, 2012 and 2019 (%)**

	2000			2012			2019		
	Younger (15-19 years)	Middle (20-24 years)	Older (25-29 years)	Younger (15-19 years)	Middle (20-24 years)	Older (25-29 years)	Younger (15-19 years)	Middle (20-24 years)	Older (25-29 years)
Agriculture, forestry and fishing	65.4	61.0	59.0	50.3	43.7	41.6	41.1	33.8	32.6
Mining and quarrying	0.4	0.4	0.6	0.7	0.5	0.6	0.4	0.7	0.4
Manufacturing	13.1	12.2	11.7	17.7	16.9	14.7	19.1	17.1	13.0
Electricity	0.0	0.1	0.2	0.3	0.4	0.7	0.2	0.5	0.8
Construction	5.2	5.3	5.3	14.4	13.4	11.9	15.9	14.5	14.7
Trade, hotels and restaurants	10.2	11.2	10.5	8.8	11.2	11.5	13.6	13.8	14.2
Transport, storage and communications	2.1	3.7	4.2	2.6	5.0	6.7	3.4	7.5	8.2
Finance, real estate and business	0.3	0.9	1.4	0.9	2.2	2.9	1.4	3.2	4.8
Public administration, education, health and others	3.2	5.1	7.2	4.4	6.8	9.4	4.8	9.1	11.4
Total	100	100	100	100	100	100	100	100	100

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.7a. Unemployment rate, by youths, adults and gender, 2000, 2012 and 2019-22 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
2000	6.2	4.4	5.7	0.5	0.3	0.4
2012	6.0	6.8	6.2	0.3	0.6	0.4
2019	17.3	17.9	17.5	1.4	1.3	1.4
2020	15.1	14.7	15.0	1.0	0.8	0.9
2021	13.0	12.5	12.9	1.0	0.8	1.0
2022	12.6	11.8	12.4	1.0	0.8	1.0

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.7b. Unemployment rate, by youths, adults, gender and rural or urban location, 2000, 2012 and 2019–22 (%)**

	Youths			Adults		
	Male	Female	Total	Male	Female	Total
Rural						
2000	4.4	2.7	3.8	0.2	0.1	0.2
2012	4.9	4.4	4.8	0.2	0.3	0.2
2019	16.6	13.2	15.9	1.0	0.6	0.9
2020	13.8	10.3	12.9	0.6	0.4	0.6
2021	11.6	8.2	10.7	0.6	0.4	0.5
2022	11.4	8.5	10.6	0.6	0.4	0.5
Urban						
2000	11.0	14.1	11.6	1.0	1.3	1.0
2012	8.2	14.1	9.5	0.6	1.5	0.8
2019	18.7	26.2	20.3	2.1	3.2	2.3
2020	18.2	24.9	19.9	1.8	2.2	1.9
2021	16.6	24.9	18.5	2.0	2.6	2.1
2022	15.8	21.6	17.2	2.0	2.5	2.1

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.7c. Youth unemployment rate, by level of education and gender, various years (%)**

	2000	2012	2019	2020	2021	2022
All						
Below primary	1.2	2.1	7.6	4.9	4.1	3.2
Primary to middle	5.1	3.9	11.0	7.8	6.2	6.1
Secondary to higher secondary	12.2	8.1	17.9	14.6	12.6	11.5
Graduate or above	24.5	19.9	34.4	33.7	29.9	28.7
Male						
Below primary	1.8	2.8	10.5	6.9	6.1	5.0
Primary to middle	5.3	4.2	12.1	8.9	7.4	7.2
Secondary to higher secondary	10.9	7.0	17.7	15.0	13.3	12.1
Graduate or above	21.0	17.4	31.8	31.9	26.8	26.4
Female						
Below primary	0.4	1.0	0.6	0.9	0.7	0.2
Primary to middle	4.4	3.0	5.4	3.8	2.0	2.0
Secondary to higher secondary	18.8	12.8	19.4	12.9	9.7	8.7
Graduate or above	36.3	25.8	40.8	37.5	37.3	34.2

Note: Computation based on Census based adjustments

Source: Computed from Employment and Unemployment Survey data and Periodic Labour Force Survey data.

► **Table A4.8. Underemployment rate (open unemployment and underemployment, by time criteria), by rural or urban location and gender, 2012, 2019 and 2022 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2012	14.8	12.3	14.2	12.2	17.4	13.3	14.0	13.5	13.9
2019	20.5	19.7	20.3	19.9	28.3	21.6	20.3	23.2	20.8
2022	16.2	14.0	15.8	17.8	24.4	19.2	16.7	17.3	16.8

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.9a. Youths not in employment, education or training, by gender and rural or urban location, 2000, 2012 and 2019–22 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2000	6.9	49.9	28.1	10.9	60.5	34.4	8.0	52.7	29.9
2012	6.0	51.1	28.1	7.5	52.1	28.6	6.5	51.4	28.2
2019	12.2	57.4	34.4	13.5	50.6	31.3	12.7	55.3	33.4
2020	13.3	54.0	33.1	15.0	51.2	32.4	13.8	53.1	32.9
2021	9.6	49.0	28.6	12.4	48.6	29.7	10.5	48.9	28.9
2022	9.2	49.0	28.7	11.2	47.0	28.2	9.8	48.4	28.5

Source: Computed from Employment and Unemployment Survey data, Periodic Labour Force Survey data and Central Statistical Office data.

► **Table A4.9b. Youths not in employment, education or training, by age group, 2000, 2012, 2019 and 2022 (%)**

	Younger (15–19 years)				Middle (20–24 years)				Older (25–29 years)			
	2000	2012	2019	2022	2000	2012	2019	2022	2000	2012	2019	2022
NEET	24.3	16.7	17.1	12.7	34.2	34.3	41.8	36.3	32.1	36.0	44.3	39.1
Not in NEET	75.7	83.3	82.9	87.3	65.8	65.7	58.2	63.7	67.9	64.0	55.7	60.9
Total	100	100	100	100	100	100	100	100	100	100	100	100

Note: NEET=not in employment, education or training.

Source: Computed from Employment and Unemployment Survey data, and Periodic Labour Force Survey data.

► **Table A4.9c. Youths not in employment, education or training who are either unemployed or out of the labour force, by rural or urban location and gender, 2000, 2012, 2019, 2021 and 2022 (%)**

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
NEET unemployed									
2000	94.8	93.0	94.4	95.2	94.3	95.0	95.0	93.6	94.7
2012	95.1	88.9	93.5	96.5	91.4	94.9	95.8	90.1	94.1
2019	97.1	96.0	97.0	96.2	96.6	96.3	96.8	96.3	96.7
2021	97.5	97.0	97.4	97.9	97.6	97.8	97.7	97.3	97.6
2022	98.4	98.4	98.4	97.4	98.3	97.7	98.0	98.4	98.1
NEET out of the labour force									
2000	16.1	82.1	63.4	11.9	70.4	52.2	14.4	77.8	59.2
2012	8.4	68.7	48.4	6.9	60.7	42.1	7.8	65.9	46.1
2019	6.7	66.0	45.9	7.2	55.6	38.3	6.9	62.5	43.3
2021	7.2	61.1	42.1	6.9	54.3	36.9	7.1	58.7	40.3
2022	5.9	60.6	42.2	5.2	53.5	36.0	5.7	58.6	40.4
2022	9.2	49.0	28.7	11.2	47.0	28.2	9.8	48.4	28.5

Note: NEET=not in employment, education or training.

Source: Computed from Employment and Unemployment Survey data, Periodic Labour Force Survey data and Central Statistical Office data.

► **Table A4.10a. Workforce and unemployed persons (CWS; aged 15+), by quarter, youths and adults, 2019–21 (millions)**

		Q4_2019	Q1_2020	Q2_2020	Q3_2020	Q4_2020	Q1_2021	Q2_2021
Workforce	Youths	30.1	27.1	23.8	29.4	29.3	30.8	27.7
	Adults	91.8	89.7	82.3	92.3	94.6	94.8	89.4
Unemployed	Youths	5.7	6.1	8.0	6.6	6.0	5.6	6.2
	Adults	2.2	2.3	6.2	3.2	2.2	2.3	4.1

Note: Q1: January–March; Q2: April–June; Q3: July–September; Q4: October–December.

Source: Computed from Periodic Labour Force Survey data.

► **Table A4.10b. Employment status, (CWS, aged 15+), by youths, adults and quarter, 2019–21 (millions)**

Quarter	Youths			Adults		
	Self-employed	Regular employee	Casual worker	Self-employed	Regular employee	Casual worker
Q4_2019	22.4	9.8	7.7	70.8	20.6	21.1
Q1_2020	20.0	8.8	7.1	67.9	19.7	21.8
Q2_2020	14.6	4.8	9.2	54.1	12.7	28.2
Q3_2020	21.3	8.1	8.1	70.3	17.9	22.0
Q4_2020	21.9	8.9	7.4	73.9	20.2	20.7
Q1_2021	22.5	8.8	8.3	73.6	21.1	21.2
Q2_2021	20.0	7.8	7.8	65.5	17.4	24.0

Note: Q1: January–March; Q2: April–June; Q3: July–September; Q4: October–December.

Source: Computed from Periodic Labour Force Survey data.

► **Table A4.11. Changes in self-employment (UPSS) for youths and adults (millions), pre- and post-COVID-19 pandemic, by gender and rural or urban location, 2019–22 (%)**

	Youths					Adults				
	Male	Female	Rural	Urban	Total	Male	Female	Rural	Urban	Total
2019										
Own-account worker	18.5	4.2	16.4	6.3	22.7	127.5	20.1	109.5	38.1	147.6
Employer	0.8	0.1	0.4	0.4	0.8	9.1	0.7	4.3	5.4	9.7
Household unpaid worker	17.5	7.1	20.9	3.7	24.6	9.0	26.6	31.3	4.3	35.6
Self-employment	36.8	11.3	37.8	10.3	48.1	145.6	47.3	145.1	47.8	192.9
2021										
Own-account worker	20.2	5.6	18.3	7.5	25.8	138.7	29.0	123.7	44.0	167.7
Employer	0.7	0.0	0.4	0.4	0.7	9.9	0.6	5.4	5.1	10.5
Household unpaid worker	23.8	12.5	31.7	4.6	36.3	9.8	42.4	46.3	5.9	52.2
Self-employment	44.8	18.1	50.3	12.6	62.9	158.3	72.0	175.4	54.9	230.4
Addition and loss in jobs 2019–21										
Own-account worker	1.7	1.4	1.9	1.2	3.1	11.2	8.9	14.2	5.9	20.1
Employer	-0.1	-0.1	0.0	0.0	-0.1	0.8	-0.1	1.1	-0.3	0.8
Household unpaid worker	6.3	5.4	10.8	0.9	11.7	0.8	15.8	15.0	1.6	16.6
Self-employment	8.0	6.8	12.5	2.3	14.8	12.7	24.7	30.3	7.1	37.5
2022										
Own-account worker	18.9	6.0	19.1	5.9	24.9	112.7	30.0	111.6	31.0	142.6
Employer	0.9	0.1	0.6	0.4	1.0	9.7	0.8	5.9	4.6	10.5
Household unpaid worker	24.2	14.3	34.6	3.9	38.5	10.8	39.4	45.5	4.6	50.1
Self-employment	44.0	20.5	54.3	10.2	64.5	133.2	70.1	163.0	40.3	203.3
Addition and loss in jobs 2019–22										
Own-account worker	0.4	1.8	2.7	-0.4	2.2	-14.8	9.9	2.1	-7.1	20.1
Employer	0.1	0.0	0.2	0.0	0.2	0.6	0.1	1.6	-0.8	0.8
Household unpaid worker	6.7	7.2	13.7	0.2	13.9	1.8	12.8	14.2	0.3	16.6
Self-employment	7.2	9.2	16.5	-0.1	16.4	-12.4	22.8	17.9	-7.5	37.5

Source: Computed from Periodic Labour Force Survey data for 2019 and 2021.

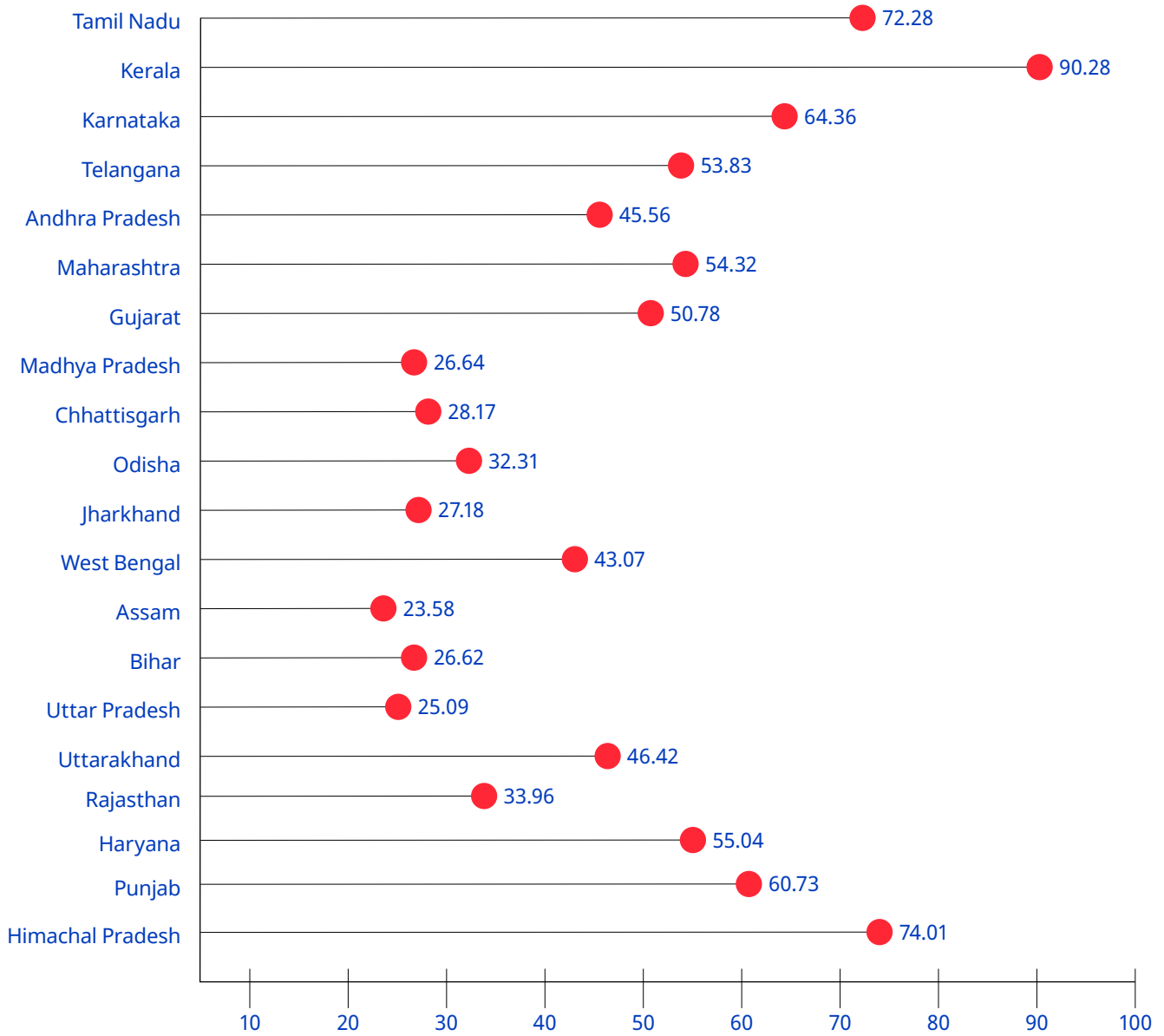
► Table A4.12. Regional differences in youth population, 2021, 2031 and 2036

Major state- and union territories	Youth population (millions)			Share of youth in working popula- tion (%)			Share of youth in total state population (%)			Share of youth in total India's population (%)		
	2021	2031	2036	2021	2031	2036	2021	2031	2036	2021	2031	2036
Uttar Pradesh	68.9	66.1	65.0	48.3	40.5	38.0	29.9	26.2	25.1	18.6	18.5	18.8
Bihar	35.4	39.0	37.9	49.0	45.2	41.6	28.8	27.7	25.5	9.5	10.9	11.0
Madhya Pradesh	23.4	23.9	24.0	44.5	39.8	38.1	27.7	25.4	24.6	6.3	6.7	7.0
Rajasthan	22.7	22.5	22.2	46.1	40.1	37.7	28.7	25.8	24.5	6.1	6.3	6.4
West Bengal	25.8	22.1	20.2	38.8	32.4	30.0	26.3	21.6	19.6	6.9	6.2	5.8
Jharkhand	11.2	11.4	11.1	46.5	41.1	37.9	29.0	26.5	24.5	3.0	3.2	3.2
Andhra Pradesh	13.3	11.3	10.6	37.4	31.5	29.9	25.1	20.9	19.5	3.6	3.2	3.1
Odisha	11.9	11.0	10.4	40.2	35.2	33.1	26.1	22.8	21.2	3.2	3.1	3.0
Assam	9.7	9.5	9.0	42.7	37.8	35.1	27.8	24.8	22.9	2.6	2.7	2.6
Chhattisgarh	8.2	8.2	8.3	43.6	39.0	37.3	27.6	25.2	24.2	2.2	2.3	2.4
Haryana	8.2	8.0	8.0	42.7	36.7	35.0	27.8	24.4	23.3	2.2	2.3	2.3
Punjab	7.9	6.9	6.5	39.0	32.3	30.3	26.1	21.5	20.0	2.1	1.9	1.9
Delhi	5.8	6.0	6.1	40.8	35.5	34.0	28.2	24.3	22.9	1.6	1.7	1.8
Jammu & Kashmir	3.9	3.7	3.1	43.7	37.0	31.5	29.3	25.4	21.0	1.1	1.0	0.9
Uttarakhand	3.3	3.0	2.8	44.5	35.9	32.9	29.2	23.9	21.8	0.9	0.8	0.8
Himachal Pradesh	1.9	1.6	1.5	37.9	32.4	30.3	25.1	21.4	19.6	0.5	0.5	0.4
Karnataka	17.0	15.6	15.0	38.2	33.3	31.8	25.4	22.1	20.9	4.6	4.4	4.3
Kerala	7.8	7.4	7.1	35.0	33.0	32.1	22.1	20.0	19.1	2.1	2.1	2.0
Telangana	9.9	8.5	7.9	39.0	32.1	30.2	26.3	21.7	20.1	2.7	2.4	2.3
Tamil Nadu	17.7	15.9	15.0	34.9	31.2	30.1	23.2	20.3	19.2	4.8	4.5	4.3
Gujarat	18.5	18.3	18.4	40.7	36.2	35.0	26.4	23.5	22.6	5.0	5.1	5.3
Maharashtra	32.5	30.1	28.8	39.1	33.7	31.8	26.1	22.5	21.0	8.7	8.4	8.3
Regions												
Central	103.8	101.2	100.2	46.9	40.1	37.8	29.1	25.9	24.8	28.0	28.4	29.0
East	84.3	83.6	79.5	43.8	39.1	36.3	27.6	25.0	23.0	22.7	23.4	23.0
South	65.7	58.7	55.6	36.8	32.2	30.8	24.4	21.1	19.8	17.7	16.5	16.1
North	50.4	48.7	47.5	43.1	37.1	34.8	27.9	24.5	23.0	13.6	13.7	13.7
West	50.9	48.4	47.2	39.7	34.6	32.9	26.2	22.9	21.6	13.7	13.6	13.6
North-East	9.7	9.5	9.0	42.7	37.8	35.1	27.8	24.8	22.9	2.6	2.7	2.6
India	371.4	356.6	345.5	42.4	37.1	35.0	27.3	24.1	22.7	100	100	100

Source: Ministry of Health and Family Welfare (MHFW), Government of India, 2020.

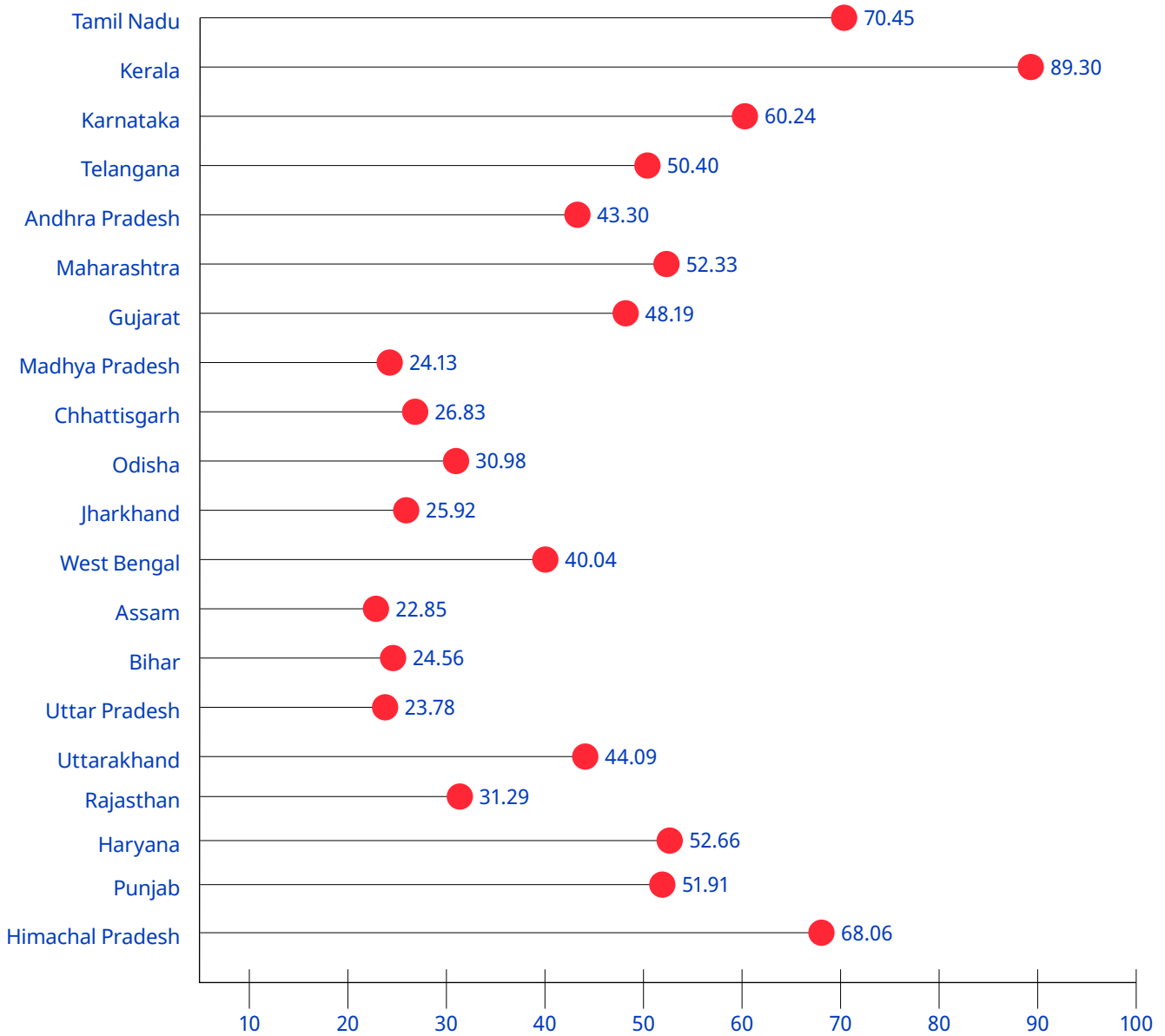
Appendix Chapter 5

► Figure A5.1. Ability to copy or move a file and folder, 2021 (%)



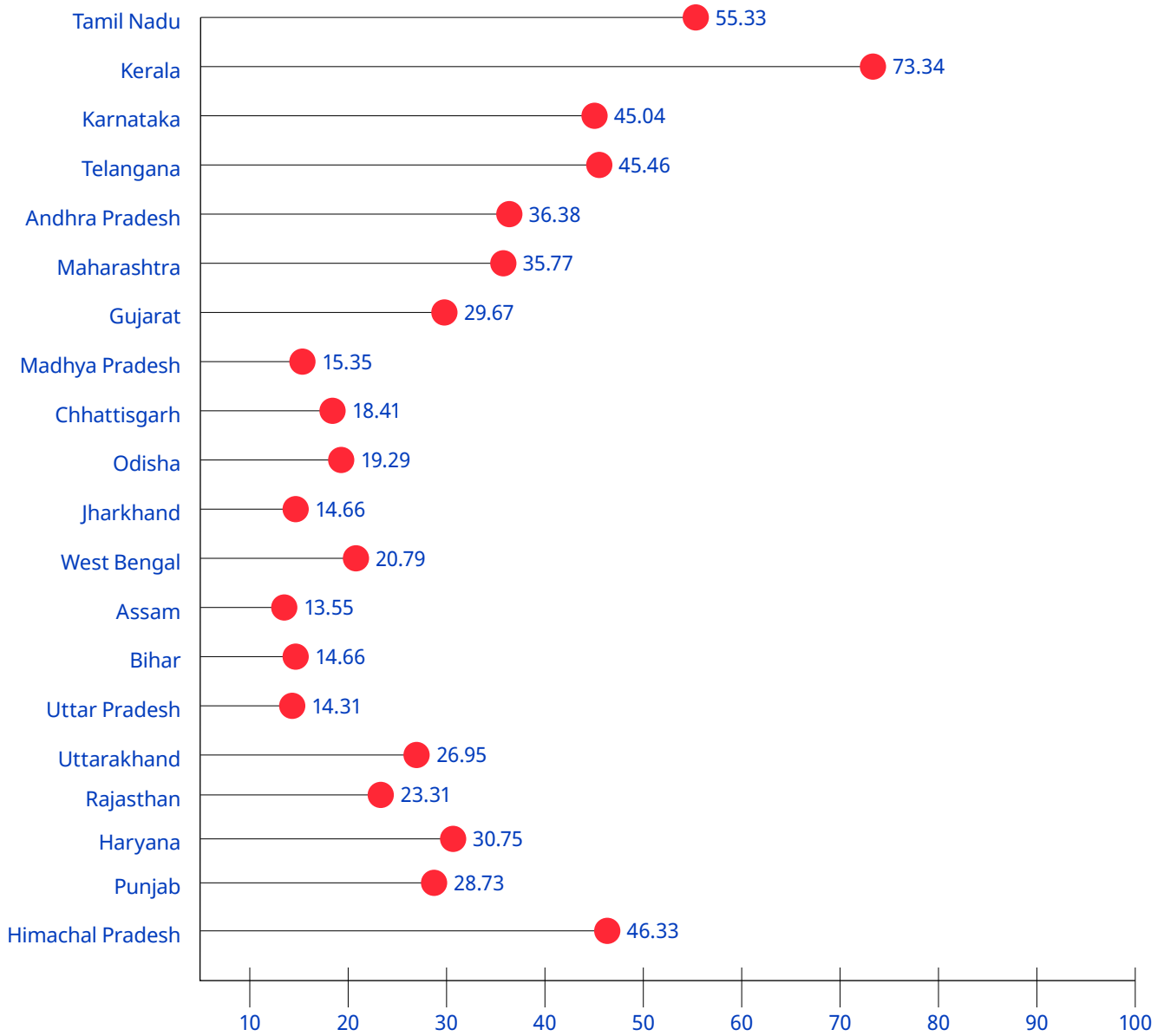
Source: Computed from 78th Multiple Indicator Survey data for 2021.

► **Figure A5.2. Ability to copy and paste tools to duplicate or move information within a document, 2021 (%)**



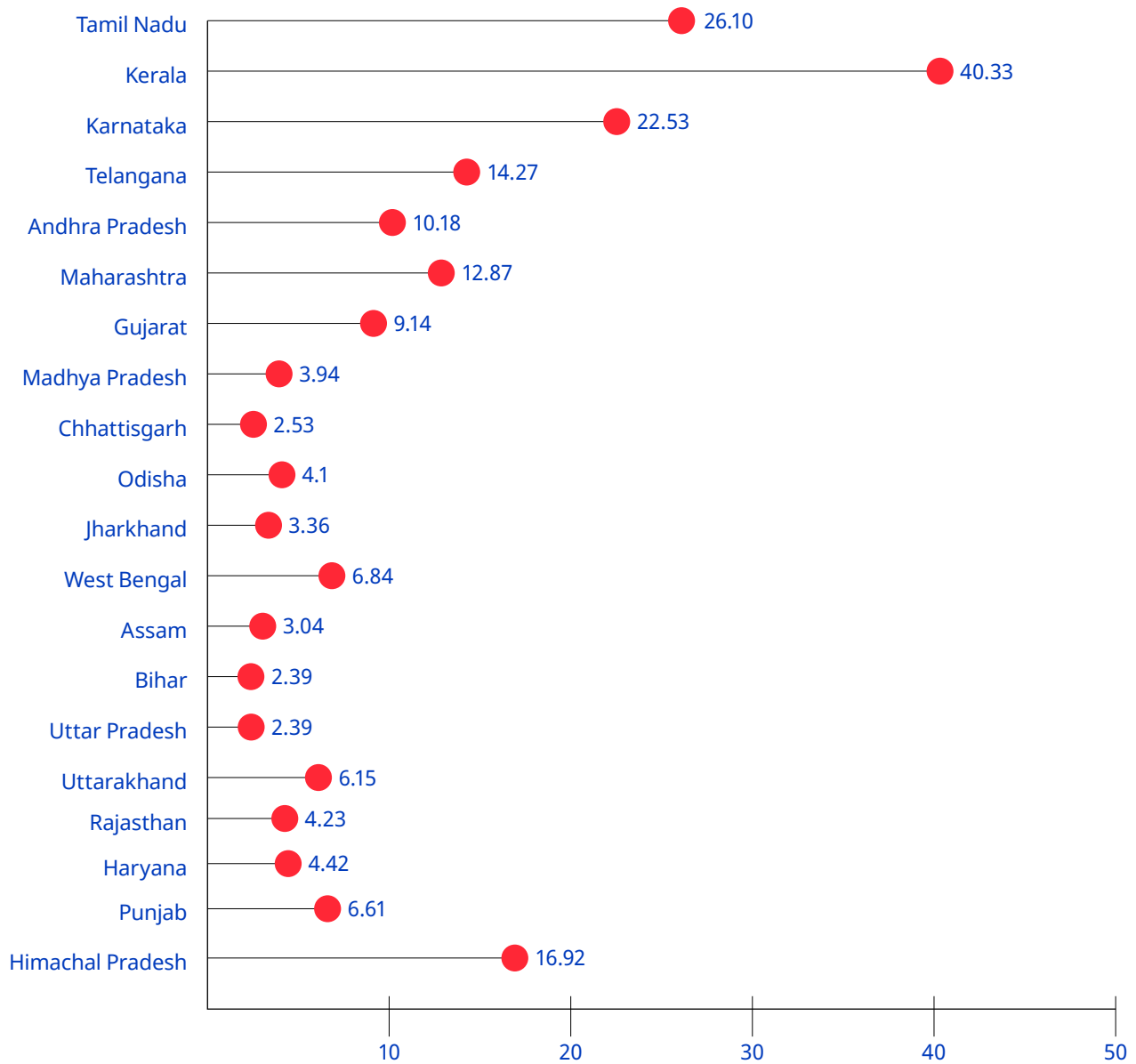
Source: Computed from 78th Multiple Indicator Survey data for 2021.

► Figure A5.3. Ability to send e-mail with attached file, 2021 (%)



Source: Computed from 78th Multiple Indicator Survey data for 2021.

► Figure A5.4. Ability to create electronic presentations with presentation software, 2021 (%)



Source: Computed from 78th Multiple Indicator Survey data for 2021.

► Table A5.1. Regression results for returns to education, 2005, 2019, and 2022

Dependent variable	Log (monthly wage)	2005	2019	2022
Years of experience	Years of experience	0.032***	0.024***	0.030***
		(-0.001)	(-0.002)	(-0.001)
Sector (base: rural)	Urban	0.311***	0.265***	0.171***
		(-0.008)	(-0.012)	(-0.008)
Gender (base: female)	Male	0.481***	0.300***	0.341***
		(-0.009)	(-0.015)	(-0.011)
Social group (base: Scheduled Tribes)	Scheduled Tribes	-0.007	0.121***	0.078***
		(-0.013)	(-0.02)	(-0.014)
	Other Backward Classes	0.041***	0.155***	0.122***
		(-0.013)	(-0.019)	(-0.013)
	General	0.173***	0.259***	0.199***
		(-0.014)	(-0.021)	(-0.014)
General education (base: less than primary)	Primary to middle	0.101***	-0.02	-0.004
		(-0.009)	(-0.016)	(-0.013)
	Secondary higher secondary	0.280***	0.130***	0.070***
		(-0.012)	(-0.018)	(-0.014)
	Graduate	0.819***	0.484***	0.394***
		(-0.021)	(-0.022)	(-0.016)
	Post-graduate	1.056***	0.674***	0.645***
		(-0.031)	(-0.031)	(-0.023)
Technical education (base: no technical education)	Diploma or certificate below graduate	0.436***	0.192***	0.145***
		(-0.028)	(-0.031)	(-0.021)
	Diploma or certificate above graduate	0.259***	0.094**	0.424***
		(-0.039)	(-0.046)	(-0.029)
	Technical degree	0.883***	0.331***	0.498***
		(-0.05)	(-0.033)	(-0.02)
Region (base: East)	Central	0.047***	-0.086***	-0.096***
		(-0.013)	(-0.017)	(-0.012)
	North	0.455***	0.219***	0.207***
		(-0.014)	(-0.019)	(-0.013)
	North-East	0.413***	0.210***	0.220***
	(-0.027)	(-0.033)	(-0.022)	
	South	0.114***	0.147***	0.189***
		(-0.011)	(-0.017)	(-0.012)
	West	0.160***	0.162***	0.154***
		(-0.012)	(-0.017)	(-0.012)

Dependent variable	Log (monthly wage)	2005	2019	2022
Vocational training (base: no vocational training)	Informal training	-0.032*** (-0.012)	0.029* (-0.015)	0.054*** (-0.009)
	Formal training	-0.043* (-0.022)	-0.008 (-0.025)	0.093*** (-0.016)
Intercept	Constant or intercept	6.084*** (-0.017)	7.958*** (-0.029)	8.134*** (-0.021)
-----	-----	-----	-----	-----
Observations		27,539	10,386	19,338
R-squared		0.416	0.362	0.375
Adjusted R-squared		0.415	0.361	0.374
Residual standard error		28.492 (df = 27518)	32.797 (df = 10365)	29.467 (df = 19317)
F statistic		978.177*** (df = 20; 27518)	294.615*** (df = 20; 10365)	579.128*** (df = 20; 19317)

Note: *p<0.1; **p<0.05; ***p<0.01

► **Table A5.2. Probit regression, by employment versus out of the labour force or unemployed (non-student), 2005 and 2022**

		2005		2022	
		Margin	Std. Err.	Margin	Std. Err.
Age group	15-19	0.627***	0.0000	0.521***	0.0001
	20-24	0.648***	0.0000	0.539***	0.0000
	25-29	0.706***	0.0000	0.608***	0.0000
Gender	Male	0.919***	0.0000	0.837***	0.0000
	Female	0.409***	0.0000	0.315***	0.0000
Sector	Rural	0.698***	0.0000	0.582***	0.0000
	Urban	0.576***	0.0001	0.529***	0.0001
General education	Less than primary	0.698***	0.0000	0.600***	0.0001
	Primary and middle	0.662***	0.0000	0.596***	0.0000
	Secondary and higher secondary	0.609***	0.0001	0.566***	0.0000
	Graduate or higher	0.588***	0.0001	0.496***	0.0001
Tech education	No tech	0.664***	0.0000	0.569***	0.0000
	Tech degree	0.684***	0.0005	0.572***	0.0002
	Below grad diploma	0.654***	0.0002	0.507***	0.0002
	Grad with diploma	0.694***	0.0003	0.580***	0.0002
Vocational training	Formal	0.709***	0.0002	0.644***	0.0001
	Informal	0.832***	0.0001	0.817***	0.0001
	No vocational training	0.648***	0.0000	0.521***	0.0000
MPCE quintile	Q1	0.675***	0.0001	0.544***	0.0001
	Q2	0.674***	0.0001	0.562***	0.0001
	Q3	0.658***	0.0001	0.554***	0.0001
	Q4	0.653***	0.0001	0.556***	0.0001
	Q5	0.655***	0.0001	0.580***	0.0001
Region	Central	0.642***	0.0001	0.565***	0.0001
	East	0.564***	0.0001	0.527***	0.0001
	North	0.710***	0.0001	0.565***	0.0000
	North-East	0.569***	0.0001	0.538***	0.0001
	South	0.720***	0.0001	0.591***	0.0001
	West	0.728***	0.0001	0.618***	0.0001
Social Group	Scheduled Tribes	0.797***	0.0001	0.692***	0.0001
	Scheduled Castes	0.656***	0.0001	0.556***	0.0001
	Other Backward Classes	0.659***	0.0000	0.555***	0.0000
	Other	0.639***	0.0000	0.541***	0.0001
Number of Other Backward Classes		229 093 504		238 542 449	
Prob>chi2		0.000		0.000	
Chi2 pseudo R-squared		0.32		0.33	

Note: MPCE=monthly per capita expenditure;

► **Table A5.3. Probit regression, by regular versus casual employment (non-student), 2005 and 2022**

		2005		2022	
		Margin	Std. Err.	Margin	Std. Err.
Age group	15–19	0.313***	0.0001	0.518***	0.0001
	20–24	0.315***	0.0001	0.530***	0.0001
	25–29	0.332***	0.0001	0.540***	0.0001
Gender	M	0.323***	0.0000	0.533***	0.0000
	F	0.311***	0.0001	0.536***	0.0001
Sector	Rural	0.240***	0.0001	0.474***	0.0001
	Urban	0.488***	0.0001	0.682***	0.0001
General education	Less than primary	0.214***	0.0001	0.357***	0.0002
	Primary and middle school	0.309***	0.0001	0.451***	0.0001
	Secondary and higher secondary	0.482***	0.0001	0.588***	0.0001
	Graduate or higher	0.770***	0.0003	0.854***	0.0001
Tech education	No tech	0.320***	0.0000	0.527***	0.0000
	Tech degree	0.417***	0.0019	0.751***	0.0006
	Below graduate diploma	0.367***	0.0004	0.667***	0.0003
	Graduate with diploma	0.287***	0.0007	0.786***	0.0014
Vocational training	Formal	0.401***	0.0003	0.637***	0.0003
	Informal	0.329***	0.0001	0.582***	0.0001
	No vocational training	0.316***	0.0000	0.510***	0.0001
MPCE quintile	Q1	0.217***	0.0001	0.423***	0.0001
	Q2	0.245***	0.0001	0.466***	0.0001
	Q3	0.300***	0.0001	0.542***	0.0001
	Q4	0.355***	0.0001	0.595***	0.0001
	Q5	0.470***	0.0001	0.683***	0.0001
Region	Central	0.354***	0.0001	0.607***	0.0001
	East	0.295***	0.0001	0.503***	0.0001
	North	0.406***	0.0001	0.520***	0.0001
	North-East	0.327***	0.0003	0.533***	0.0002
	South	0.293***	0.0001	0.457***	0.0001
	West	0.304***	0.0001	0.618***	0.0001
Social Group	Scheduled Tribes	0.281***	0.0001	0.469***	0.0001
	Scheduled Castes	0.280***	0.0001	0.485***	0.0001
	Other Backward Classes	0.328***	0.0001	0.557***	0.0001
	Others	0.368***	0.0001	0.604***	0.0001
Number of Other Backward Classes		7,27,03,066		7,09,45,247	
Prob > chi2		0.000		0.000	
Pseudo R-squared		0.3887		0.3583	

Note: MPCE=monthly per capita expenditure; .

► **Table A5.4. Probit regression, by formal versus informal employment (non-student), 2005 and 2022**

		2005		2022	
		Margin	Std. Err.	Margin	Std. Err.
Age group	15-19	0.020***	0.0000	0.065***	0.0001
	20-24	0.025***	0.0000	0.091***	0.0000
	25-29	0.043***	0.0000	0.113***	0.0000
Gender	Male	0.032***	0.0000	0.104***	0.0000
	Female	0.033***	0.0000	0.095***	0.0000
Sector	Rural	0.023***	0.0000	0.077***	0.0000
	Urban	0.045***	0.0000	0.138***	0.0000
General education	Less than primary	0.012***	0.0000	0.032***	0.0001
	Primary and middle school	0.021***	0.0000	0.043***	0.0000
	Secondary and higher secondary	0.040***	0.0000	0.090***	0.0000
	Graduate or higher	0.105***	0.0001	0.204***	0.0001
Tech education	No tech	0.030***	0.0000	0.089***	0.0000
	Tech degree	0.075***	0.0002	0.205***	0.0002
	Below graduate diploma	0.065***	0.0001	0.164***	0.0001
	Graduate with diploma	0.044***	0.0001	0.145***	0.0002
Vocational training	Formal	0.031***	0.0000	0.132***	0.0001
	Informal	0.020***	0.0000	0.112***	0.0000
	No vocational training	0.035***	0.0000	0.091***	0.0000
MPCE quintile	Q1	0.014***	0.0000	0.060***	0.0001
	Q2	0.013***	0.0000	0.078***	0.0001
	Q3	0.021***	0.0000	0.081***	0.0001
	Q4	0.026***	0.0000	0.100***	0.0000
	Q5	0.053***	0.0000	0.139***	0.0001
Region	Central	0.022***	0.0000	0.094***	0.0001
	East	0.026***	0.0000	0.086***	0.0001
	North	0.025***	0.0000	0.060***	0.0000
	North-East	0.033***	0.0001	0.159***	0.0002
	South	0.041***	0.0000	0.123***	0.0001
	West	0.041***	0.0000	0.127***	0.0001
Social groups	Scheduled Tribes	0.040***	0.0001	0.093***	0.0001
	Scheduled Castes	0.045***	0.0000	0.105***	0.0001
	Other Backward Classes	0.030***	0.0000	0.096***	0.0000
	Others	0.031***	0.0000	0.110***	0.0000
Number of Other Backward Classes		152 269 708		135 428 549	
Prob > chi2		0.000		0.000	
Pseudo R-squared		0.285		0.331	

Note: ***p<0.01; **p<0.05; and *p<0.1; MPCE=monthly per capita expenditure;

► **Table A5.5. Work participation rate and share of workers for non-student youths, by level of general education (UPSS), 2000 and 2022 (%)**

	Work participation rate			No. of workers (Millions)			%		
	2000	2022	Change	2000	2022	Change	2000	2022	Change
Less than primary	63.6	54.3	-9.3	62.4	14.7	-47.7	45.8	10.9	-34.9
Primary and middle school	64.3	59.0	-5.3	45.6	53.2	7.7	33.5	39.3	5.8
Secondary and higher secondary	61.2	57.8	-3.4	22.4	44.6	22.1	16.5	32.9	16.4
Graduate or higher	55.2	52.0	-3.2	5.8	22.9	17.1	4.2	16.9	12.7
Total	63.0	56.8	-6.2	136.2	135.4	-0.8	100	100	0.0

Source: Calculated from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

► **Table A5.6. Work participation rate and share of workers for non-student youths, by level of technical education and vocational training (UPSS), 2000 and 2022 (%)**

	Work participation rate			No. of workers (Millions)			%		
	2005	2022	Change	2005	2022	Change	2005	2022	Change
Technical education									
No technical education	66.2	56.3	-9.9	148.9	126.1	-22.8	97.1	93.1	-4.0
Technical degree	75.9	62.3	-13.6	0.5	3.8	3.3	0.3	2.8	2.5
Below graduate with diploma	72.3	66.5	-5.7	2.9	4.0	1.1	1.9	2.9	1.1
Graduate with diploma	65.8	60.6	-5.2	1.1	1.6	0.5	0.7	1.2	0.4
Vocational training									
Formal	69.4	63.3	-6.1	5.4	7.6	2.2	3.5	5.6	2.1
Informal	88.2	89.4	1.1	18.8	36.5	17.7	12.3	26.9	14.6
No vocational training	64.0	49.2	-14.8	128.4	91.4	-37.0	84.2	67.5	-16.7

Source: Calculated from Employment and Unemployment Surveys 2005 and Periodic Labour Force Survey 2022.

► **Table A5.7. Unemployment rate and share of workers among youths, by level of general education (UPSS), 2000 and 2022 (%)**

	Unemployment rate			No. of unemployed (Millions)			%		
	2000	2022	Change	2000	2022	Change	2000	2022	Change
Less than primary	1.2	3.2	2.1	0.7	0.5	-0.2	9.0	2.6	-6.4
Primary and middle school	5.1	6.1	1.0	2.4	3.5	1.0	30.0	18.2	-11.7
Secondary and higher secondary	12.2	11.5	-0.7	3.1	5.8	2.6	38.2	30.4	-7.7
Graduate or higher	24.5	28.7	4.2	1.9	9.2	7.4	22.9	48.8	25.8
Total	5.7	12.3	6.6	8.2	18.9	10.8	100	100	0.0

Source: Calculated from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

► **Table A5.8. Unemployment rate and share of workers among youths, by level of technical education (UPSS), 2000 and 2022 (%)**

	Unemployment rate			No. of unemployed (Millions)			%		
	2005	2022	Change	2005	2022	Change	2005	2022	Change
Technical education									
No technical education	5.1	10.8	5.7	8.0	15.3	7.3	87.5	80.8	-6.7
Technical degree	18.3	29.4	11.1	0.1	1.6	1.5	1.2	8.3	7.1
Technical diploma and certificate (Below graduate)	19.8	25.5	5.6	0.7	1.4	0.7	7.7	7.2	-0.6
Technical diploma and certificate (Above graduate)	22.5	31.1	8.6	0.3	0.7	0.4	3.5	3.7	0.2
Vocational training									
Formal	18.9	22.4	3.5	1.2	2.2	0.9	13.7	11.5	-2.2
Informal	1.6	2.1	0.4	0.3	0.8	0.5	3.5	4.1	0.6
No vocational training	5.5	14.9	9.4	7.5	16.0	8.5	82.8	84.4	1.6

Source: Calculated from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

► Table A5.9. Employment status of youths, by level of general education (UPSS), 2000 and 2022 (%)

	Less than primary	Primary and middle school	Secondary and higher secondary	Graduate or higher	Total
2000					
Self-employed	45.4	52.9	57.3	47.2	50.0
Regular employed	5.2	13.1	24.8	49.1	12.9
Casual worker	49.4	34.0	17.9	3.8	37.1
Total	100	100	100	100	100
2022					
Self-employed	43.5	48.7	52.0	38.8	47.6
Regular employed	12.5	18.2	29.4	57.8	28.0
Casual worker	43.6	33.1	18.5	3.4	24.4
Total	100	100	100	100	100
Change					
Self-employed	-1.5	-4.2	-5.3	-8.3	-2.3
Regular employed	7.3	5.1	4.6	8.7	15.1
Casual worker	-5.9	-0.9	0.7	-0.4	-12.7
Total	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

► **Table A5.10. Employment status of youths, by level of technical education (UPSS), 2005 and 2022 (%)**

	No tech	Tech degree	Diploma below graduate	Diplomagraduate and higher	Total
2005					
Self-employed	52.9	24.1	36.2	33.0	52.3
Regular employed	14.0	74.7	54.0	64.1	15.3
Casual worker	33.1	1.1	9.8	2.9	32.4
Total	100	100	100	100	100
2022					
Self-employed	49.2	16.6	34.5	25.0	47.6
Regular employed	24.8	82.7	56.5	74.8	28.0
Casual worker	25.9	0.6	9.0	0.2	24.4
Total	100	100	100	100	100
Change					
Self-employed	-3.6	-7.5	-1.7	-8.0	-4.7
Regular employed	10.8	8.0	2.4	10.7	12.6
Casual worker	-7.2	-0.5	-0.8	-2.7	-7.9
Total	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Employment and Unemployment Survey data for 2005 and Periodic Labour Force Survey data for 2022.

► **Table A5.11. Youth workers and uptake of vocational training, 2012 and 2022 (% of total)**

	Formal training (total)	Informal training	Total vocational training	No vocational training	Total
2012					
Self-employed	2.92	16.39	19.30	80.70	100
Regular worker	11.04	19.10	30.14	69.86	100
Casual worker	1.41	10.74	12.16	87.84	100
Unemployed	10.54	2.19	12.73	87.27	100
Total	4.55	14.31	18.86	81.14	100
2022					
Self-employed	4.16	29.02	33.17	66.83	100
Regular worker	11.98	28.17	40.14	59.86	100
Casual worker	1.04	21.51	22.55	77.45	100
Unemployed	11.51	4.06	15.57	84.43	100
Total	6.31	24.14	30.45	69.55	100

Source: Calculated from Employment and Unemployment Survey data for 2012 and Periodic Labour Force Survey data for 2022.

► **Table A5.12. Formal and informal employment status of youths, by level of general education (UPSS), 2000 and 2022 (%)**

	Below primary	Primary and middle	Secondary and higher secondary	Graduate or higher	Total
2000					
Formal	1.7	2.9	9.3	25.9	4.4
Unformal	98.3	97.1	90.7	74.1	95.6
Total	100	100	100	100	100
2022					
Formal	1.3	2.3	9.1	36.1	10.1
Unformal	98.7	97.7	90.9	63.9	89.9
Total	100	100	100	100	100
Change					
Formal	-0.5	-0.6	-0.2	10.2	5.7
Unformal	0.5	0.6	0.2	-10.2	-5.7
Total	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

► **Table A5.13. Formal and informal employment status of youths, by level of technical education (UPSS), 2000 and 2022 (%)**

	No tech	Tech degree	Tech diploma or certificate (below graduate)	Tech diploma or certificate (graduate and higher)	Total
2000					
Formal	2.6	51.4	19.9	31.9	3.2
Unformal	97.4	48.6	80.1	68.1	96.8
Total	100	100	100	100	100
2022					
Formal	7.3	66.0	30.5	52.3	10.1
Unformal	92.7	34.0	69.5	47.7	89.9
Total	100	100	100	100	100
Change					
Formal	4.7	14.6	10.6	20.4	6.9
Unformal	-4.7	-14.6	-10.6	-20.4	-6.9
Total	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

► **Table A5.14. Industrial distribution of workers of youths, by level of general education (UPSS), 2000 and 2022 (%)**

	Below primary	Primary and middle	Secondary and higher secondary	Graduate or higher	Total
2000					
Primary	73.7	55.0	42.6	19.9	60.0
Secondary	15.6	21.9	20.9	15.6	18.6
Tertiary	10.8	23.0	36.5	64.4	21.4
Total	100	100	100	100	100
2022					
Primary	51.7	43.8	37.5	20.0	38.6
Secondary	36.1	35.1	29.8	16.6	30.3
Tertiary	12.2	21.1	32.7	63.5	31.1
Total	100	100	100	100	100
Change					
Primary	-21.9	-11.2	-5.1	0.0	-21.5
Secondary	20.5	13.2	8.9	0.9	11.8
Tertiary	1.4	-1.9	-3.9	-1.0	9.7
Total	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

► **Table A5.15. Industrial distribution of workers of youths, by level of technical education (UPSS) (%), 2000 and 2022**

	No tech	Technical degree	Below grad with diploma	Degree with diploma	Total
2000					
Primary	61.1	20.2	10.6	17.9	60.0
Secondary	18.4	27.7	33.4	19.4	18.6
Tertiary	20.5	52.1	56.0	62.7	21.4
Total	100	100	100	100	100
2022					
Primary	40.5	7.5	18.6	7.8	38.6
Secondary	30.8	17.2	34.5	12.8	30.3
Tertiary	28.7	75.3	46.9	79.4	31.1
Total	100	100	100	100	100
Change					
Primary	-20.6	-12.7	8.0	-10.1	-21.5
Secondary	12.4	-10.5	1.1	-6.5	11.8
Tertiary	8.2	23.2	-9.1	16.7	9.7
Total	0.0	0.0	0.0	0.0	0.0

Source: Calculated from Employment and Unemployment Survey data for 2000 and Periodic Labour Force Survey data for 2022.

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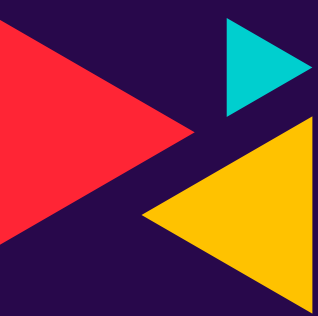
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► Corrections made to the web version uploaded on 26th March 2024.

► All page numbers refer to web copy page numbers as of March 26, 2024

Page No	Figure/Para/Box/Table	Correction Required	Action Carried Out
xxii	Challenge of youth employment section 1st para 4th line	Correction in text	'youths' changed to 'persons'
xxiii	Third para	Correction in text	"employment" changed to "unemployment"
xxiii	Third para 3rd line	Correction in text	Add " and further to 10 per cent in 2023"
xxvi	Mission 1 4th line	Correction in text	'youths' changed to 'persons'
21	2.6	First column figures add up to 101%	Column for 2000: 62 changed to 61
21	Para below 2.6	Wrong reference to Appendix A2.5	Correction made
24	Last Para	Error in writeup	"informal" changed to "formal"
49	Table 2.15	Last column pasted incorrectly	Corrected
54	Box 8	Spelling Error	"Reservice" changed to "Reserve"
56	Table 3.1 Note	Modification of text	Reference to box 8 deleted
57	Fig 3.2	Change in title and legend	Title and Legend changed to "Labour income in GVA (%)"
60	Table 3.4	Updating table subtitle	"Growth" changed to "Growth (%)"
69	Section 3.7 line 2	Change in text	"India Employment Report 2016" changed to "this report"
70	Fig 3.3	Last two columns for "Unorganized" have different heights despite same values	Values in the figures changed to two decimal place
71	Text Below table 3.13	Change in text	Changed sentence "but not during 2012-19" to "but not during 2019-22"
77	Second para below figure 4.1	Correction in text	Changed "around 12 million youths" to "around 12 million persons"
84	Table 4.1 row 2	Correction in text	"Formal" changed to "Informal"
92	Paragraph over section 4.6	Change in text	"work" changed to "duties"
113	Fig 5.5 Note	Correction in Note	"GEN" changed to "GC"
126	Section 5.3.1, line 6	Correction in text	Changed "long" to "log"
126	Section 5.3.1, line 6	Correction in text	Changed "were" to "was"
126	Section 5.3.1, line 7	Correction in text	Changed 'variables' to "variable"

Page No	Figure/Para/Box/Table	Correction Required	Action Carried Out
127	Fig 5.11	Correction in Figure	number for secondary/ higher secondary changed from 37.8 to 57.8
135	5.18	Correction in Figure legends	Legends changed to that of "general education"
146	Table 5.17 first row	Correction in text	"Work" added to text in row 1
189	1st para 1st line	Correction in text	'youths' changed to 'persons'
190	Last paragraph	Several lines of text after "optical" missing till end of para	Lines added back
224	Table A.2.1 Urban Female Column	Incorrect values to be updated	Values for "Urban female" replaced from word file
268	Appendix Table A4.4a	Incorrect pasting in 2022, Self Employed Adult Male column	Correct Value of '56.8' pasted
283	Table A 4.7c	Change table	Table changed
300	Appendix Table A5.9	Correction of figure	43.9 changed to 43.5
Various Pages	Table and Figure Sources in Chapter 4 and Appendix of Chapter 4	Source to be corrected	"Periodic Labour Force Survey data and Central Statistical Office data" to "and Periodic Labour Force Survey data"

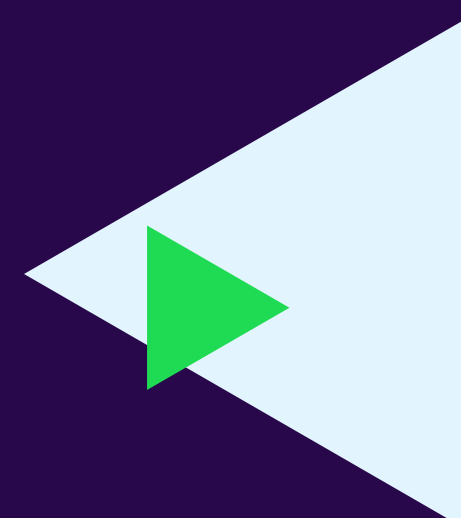


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