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The Growth Employment Paradox and How to Address it

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Abstract
India remains the fastest growing major economy in the world, but open unemployment is also growing rapidly. Besides, India's huge poorly educated, low skilled workforce cannot be transformed overnight. This article first describes some blind spots in the PLFS data which may be underestimating the extent of underemployment but also underestimating the employment of temporarily migrant workers. It then goes on to suggest a three pillar strategy to address India's employment challenge. It consists of incentives to strengthen growth of a select group of large, employment intensive industries and services outside agriculture; incentives to promote irrigation, R&D and high value added production to raise agricultural productivity and a massive skilling program, with employers – who know the skill gaps – in the driver's seat, to produce a high skill, high productivity Indian workforce of the future over the medium-to-long term.

Keywords Growth · Employment · Underemployment · Temporarily migrant workers · Capital-intensity · Employment intensive growth · Labour productivity · Education and skills

JEL Classification E24 · E25 · G10 · H20 · H32 · I 25 · L52 · Q18

It is a great honor and my privilege to deliver this Presidential address at the 59th annual conference of the Indian Econometric Society here in Banaras Hindu University. It is one of our largest and most prestigious central universities, established by Pandit Madan Mohan Malviya in 1916 in this holy city of Varanasi, possibly the

Presidential Address, 59th Annual Conference of The Indian Econometric Society, Varanasi, 3 March, 2025, revised in June 2025. In preparing this address I have greatly benefitted from research collaboration or discussions with several colleagues: Bornali Bhandari, Rudrani Bhattacharya, Suraj Jacob, G.C. Manna, Balwant Mehta, Madhur Mehta, Radhika Pandey, Ajaya Sahu, Alakh Sharma and Ravi Srivastava. However, I alone am responsible for any errors or the views expressed.

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oldest living city in the world. I must thank the Society for having given me this opportunity.

The theme I have chosen for this address is what I call the growth employment paradox. It is one of the most important economic challenges we are facing today in our current phase of development. I had discussed this issue earlier at the 75th Anniversary conference of the Delhi School of Economics in August last year and have continued to pursue it in collaboration with my co-researchers. I would therefore describe my address today as a progress report on our ongoing work.

The Growth Employment Paradox

What do I mean by the growth employment paradox? As has often been pointed out, India remains and has been for some time the fastest growing major economy in the world. In its World Economic Outlook the International Monetary Fund indicated that among major economies India recorded the highest growth in 2024 at 6.5%. China, which recorded the second highest growth, was well behind at 5%. The corresponding projections for 2025 are 6.2% for India and 4% for China (IMF 2025). Table 1 gives the real GDP estimates and compound annual growth rate of GDP for the period 2011-2012 to 2023-24, which works out to 5.9%.

This has been compared in the table with the growth of labour supply (labour force), employment (work force) and unemployment as estimated from the 68th Round NSS Employment-Unemployment survey for 2011-12 and the Periodic Labour Force Survey (PLFS) for 2023-24. As P.C. Mohanan (2024) and others have pointed out, these estimates are sensitive to the reference period of the NSS surveys. Accordingly, I have presented the estimates for Usual Principal Status (UPS), Usual Principal and Subsidiary Status (UPSS) and Current Weekly Status (CWS). Based on these different reference periods, the compound annual growth rate of employment for the period will be in the range of 2.1 to 2.4 percent, i.e., less than half the rate of growth of output or GDP.

This is to be expected and in itself it is not a matter of concern. In a decomposition of the sources of economic growth, a large part of the growth in output is expected to come from the increase in productivity. However, what is concerning is that the growth of employment has not kept pace with the growth rate of the labour force, which has ranged from 2.2% (UPS) to 2.5% (UPSS) for the period 2011-12 to 2023-24.

PE: Provisional Estimates Source: MOSPI.

Source: Employment and Unemployment Survey, and Periodic Labour Force Survey, NSSO.

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As a consequence, depending on the reference period chosen, open unemployment rose from 12 million to 23.3 million (UPS), 10.4 million to 20.1 million (UPSS) or 16.6 million to 29.1 million (CWS), i.e., at a compound annual growth

Table 1 Growth of Employment, Unemployment and GDP

Real gross domestic product (GDP): 2011-12 prices (₹ Crore)			
	2011–12	2023–24	CAGR (%)
GDP	87,36,329	1,73,81,722 (PE)	5.90
Usual principal status (UPS) (15+ years)			
	2011–12	2023–24	CAGR (%)
1.Labour Force (Millions)	440.9	573.7	2.22
2.Work Force (Millions)	428.8	550.4	2.10
3.Unemployment [(1)-(2)] Millions)	12.0	23.3	5.64
Unemployment Rate (%) [(3)/ (1)]	2.7	4.1	–
Usual principal and subsidiary status (UPSS) (15 + years)			
	2011–12	2023–24	CAGR (%)
1.Labour force (Millions)	476.6	639.4	2.48
2.Work force (Millions)	466.2	619.3	2.40
3.Unemployment [(1)-(2)] millions)	10.4	20.1	5.62
Unemployment rate (%) [(3)/ (1)]	2.2	3.2	-
Current weekly status (CWS) (15+ years)			
	2011–12	2023–24	CAGR (%)
1.Labour force (Millions)	457.9	600.2	2.28
2.Work force (Millions)	441.3	571.1	2.17
3.Unemployment [(1)-(2)] millions)	16.6	29.1	4.81
Unemployment rate (%) [(3)/ (1)]	3.6	4.9	–

rate of between 4.8% (CWS) to 5.6% (UPS, UPSS). In other words, India's GDP growth is high yet the growth of unemployment is also high. This is what I have called the growth employment paradox. What accounts for this paradox and how can it be addressed?

Blind Spots in the Employment Unemployment Data

Before turning to these questions, let me briefly digress to discuss two blind spots in our employment unemployment data which constrain our ability to address these questions with robust evidence.

While the absolute number of unemployed has risen very rapidly, the unemployment *rate* has remained quite modest (Table 1). It has often been remarked that in a developing economy like India, with a dominant informal sector - including agriculture- accounting for the bulk of the workforce, what matters is not open unemployment but under-employment or 'disguised unemployment'. In the wake of Arthur Lewis's seminal work on economic development with unlimited supplies of labour

(Lewis 1954), there was a great deal of interest in estimating the extent of surplus labour in India in the 1950s and 1960s. Recently there has been a revival of interest in estimating 'surplus labour' or under-employment (Krishnamurthy & Raveendran 2008, Samaddar 2024, Goldar & Sen 2024). In this context, the first data blind spot relates to the way in which questions are asked and responses recorded regarding employment and unemployment in the annual Periodic Labour Force Surveys (PLFS).

Without getting into the arcane minutiae of the PLFS schedules, which are discussed in the appendix, let me just say this: in the PLFS data all workers are classified as either employed or unemployed. There is no provision for classifying workers as partially employed or underemployed. Thus, in the Current Weekly Status data all those under-employed, even if they had – for instance - just one hour of work for four days in the week, would be classified as employed. Hence, it is not possible to provide any firm estimate of the extent of underemployment. Attempts to generate an estimate of under-employment from the weekly activity particulars of respondent households in the PLFS data indicate that the underemployment rate could range from as little as under 1% of the workforce to over 20%, depending on what assumptions we make in interpreting the PLFS data (see the appendix). Just a small adjustment in the PLFS schedule to add a code for partial employment in the activity status options would largely take care of this problem. But until that is done the extent of under- employment among the employed workforce will remain a blind spot.

The second blind spot relates to temporary or circulatory migration. My colleagues at the Institute of Human development and I have just completed field work for a re-survey of villages in remote corners of Jharkhand which I had first surveyed way back in 1977 for a study of the bonded labour system that then prevailed in the region (Mundle 1979). Forty-eight years is a long time. Even in this remote periphery of the periphery the change that has occurred during this period is breathtaking and the bonded labour system has long gone. One of the key findings that is emerging as we process the survey data is that the change is being driven by the very high incidence of circulatory migration, made possible by the huge improvement in communications and connectivity over the decades. Other village studies in less developed regions of the country have also consistently underlined the importance of circulatory migration in driving change in these rural areas (Rodgers, Mishra & Sharma 2016; Rodgers and Sharma 2015; Das, Dhar, Munjal and Swaminathan 2024). The phenomenon of circulatory migration was first systematically studied by the anthropologist Jan Breman (Breman1985), who continued to write about it (Breman 2013). More recently Prof. Srivastava has published several papers on the subject (Srivasata 2020).

However, as Srivastava points out, neither the censuses nor the NSS surveys are able to capture the incidence of such short-term circulatory migration. This is despite the special surveys on migration in the NSS 55th round (1999-2000) and the 64th round (2007-08). The reason is the way households and members of households are defined in the NSS. A household is eligible for inclusion as an ultimate stage unit in the sample frame provided it has a stable address for at least six months and individuals are eligible for inclusion in a household only if they are resident in the household for at least six months. The temporary migrant workers are typically away

from their rural household for over six months and therefore not recorded as members of the households at the origin. Nor are such workers recorded at the urban destination as they are mostly footloose male workers at construction sites and other activities who are usually not resident in any one fixed address for six months or more. Hence, the temporary migrant workers are largely invisible in the official survey data. Yet, their numbers may not be negligible. Drawing on PLFS 2017-18 and other sources, and based on a set of assumptions, Srivastava suggests that temporary migrant workers could have been as many as 59 million in 2017-18, though he makes clear that this is just an indicator of the broad order of magnitudes and not a robust estimate. The high incidence of temporary migrant workers became poignantly visible only during the Covid 19 pandemic lock down in 202. Millions of them trudged hundreds of miles on foot to get home because trains, buses, trucks or even cycles were scarce at the time.

I have drawn attention to two blind spots in the official data which could be biasing our perception of employment and unemployment in opposite directions. One points to the possibility that the data on employment may be including large numbers of workers who are actually under-employed. The other points to the likelihood that the actual level of employment could be much larger than what is recorded. With these qualifications, let me now return to my main theme, the growth employment paradox.

Rising Capital Intensity, the Wage-Rental Ratio and Schumpeterian Competition

Why is unemployment rising so rapidly despite the high growth of GDP or, to put it differently, why is the demand for labour not keeping pace with the growth in labour supply? As the Economic Survey pointed out last year (Govt. of India 2024), this is mainly due to the increasing technological complexity and rising capital intensity of production. The consequent increase in labour productivity has been reflected in the declining output elasticity of employment. Table 2 presents the data on trends in capital intensity. The KLEMS database from the Reserve Bank of India indicates

Table 2 Capital Intensity

Year	Capital stock at constant prices (base year = 2011–12, and in Rs. crore)	Employment (in thousands numbers)	Capital intensity (capital per 1000 persons employed)
2000–01	11,753,033	409,770	28.68
2005–06	16,441,610	457,649	35.93
2010–11	24,645,170	467,060	52.77
2015–16	34,912,282	472,041	73.96
2020–21	47,618,471	565,601	84.19
2023–24 (provisional)	57,116,415	643,348	88.78

that during the period 2000-01 to 2023-24 the stock of capital in real terms, relative to the total number of workers, increased by over two hundred percent - from less than Rs 28 per 1000 workers to nearly Rs 90 at 2011-12 prices (Table 2).

Why has capital intensity been rising so steadily? A straight forward neoclassical response would be to say that the labour market is not clearing because the wage-rental ratio, the price of labour relative to the cost of capital, is too high or rising. Indeed, it has often been said that for a developing country with scarcity of capital, the cost of capital in India is too low. What is the evidence?

Table 3 presents data on the average rate of interest on the stock of government debt, yields of government bonds and corporate bonds of varying maturities and the return on equity for the period 2000–01 to 2023–24. The average rate of interest on government debt was 7.99 percent. The average yield on the benchmark 10-year Government Security was 7.3% while that on the 91-day Treasury Bill was slightly lower at 6.37%. The yield curve on corporate bonds was almost flat, ranging from 7.75% to 8.25%, reflecting the higher risk of corporate bonds compared to sovereign bonds. With an average headline inflation rate (CPI) of 5.85% during this period, the average real cost of government debt works out to 2.1% and the cost of capital for the private sector, the cost which matters here, works out to 1.3–1.4%. The mean return on equity, the NIFTY 50 index, was much higher at 15.73% or 9.9% in real terms. But this is risk capital, as reflected by the much higher standard deviation of 31.3% compared to only 1–2% for sovereign or corporate bonds. Hence, the risk adjusted return is probably not much higher than on corporate bonds.

As against this, real wages rose by 3.8% per year for casual labour during the period 2011–12 to 2023–24 but only 1.1% for regular workers (Table 4). Thus, there is no unambiguous evidence of a secular rise in the wage-rental ratio.

More important, as Schumpeter pointed out a long time ago, in the capitalist system technical change is not driven by competition for market share through relative price changes at the margin. It is driven instead by the struggle among firms for their very survival, the 'perennial gale of creative destruction' as he called it (Schumpeter 1942). In fact, the relentless rise in capital intensity is not limited to the capitalist system alone as Acemoglu and Johnson (2023) have demonstrated in their recent one thousand years history of technical change. Throughout history technical change has been driven by controlling elites who have attempted to capture for themselves the enormous increases in wealth that the new technologies have generated while marginalizing the role and share of labour. What is new in the current post-industrial technological revolution is that instead of reducing the role of just physical labour by blue collar workers, artificial intelligence is now being deployed to also reduce the role of mental labour by white collar workers.

How Can Growth Be Made More Employment Intensive?

Rising capital intensity and the declining output elasticity of employment is therefore the norm. The question for us here in India is how can growth be made more employment intensive in this challenging context. In my Delhi School of Economics 75th Anniversary conference address I had demonstrated that while

Table 3 Cost of Capital table

Year	Percent						Y–o-Y change (in %)				Interest rates (weighted average across securities, in percent)	
	NIFTY 50: Index returns	10 year residual maturity of government securities	91 days Treasury Bills yield	Yields on corporate bonds: weighted average: AAA rating and by period of residual maturity			Nominal GDP	Real GDP	WPI	CPI	Central government	State government
				1 years	5 years	10 years						
2000–01	− 24.9						7.63	3.84	7.12		10.95	10.99
2005–06	67.1	7.37	6.46				13.99	7.92	4.44		7.34	7.63
2010–11	11.1	7.74	6	8.43	8.45	8.84	19.92	8.50	9.57		7.92	8.39
2015–16	-8.9	7.73	7.37	8.43	8.40	8.39	10.46	8	− 3.65	4.91	7.89	8.28
2020–21	70.9	5.96	3.27	4.92	6.09	6.93	− 1.24	− 5.78	1.29	6.16	5.80	6.55
2023–24	28.6	7.11	6.84	7.73	7.65	7.74	12.02	9.19	− 0.73	5.36	7.24	7.52
Mean (from 2000–01 till 2023–24)	15.73	7.30	6.37	7.75	8.07	8.25	12.08	6.25	4.81	5.85	7.62	7.99
Standard Deviation (from 2000–01 till 2023–24)	31.33	0.78	1.61	1.55	0.97	0.73	4.40	3.15	3.67	2.05	1.15	1.03

Table 4 Real Wage Rates and Earnings per worker (2011–12 prices)

	2011–12	2023–24	CAGR(%)
1. Regular worker	9581	10,922	1.10
2. Casual worker	2931	4606	3.84
3. Selfemployed	NA	6903	-

capital intensity may be rising across the board, there is a large variation in capital intensity – or employment elasticity- across sectors. Policies that nudge profitability in favour of sectors that are the most employment intensive can therefore make growth significantly more employment intensive (Mundle 2024). Agriculture is the most labour intensive sector in the economy, accounting for 46% of the work force but only 16% of GDP and characterized by very low productivity. Hence, I had suggested that the policy goal here should be to draw workers out of agriculture into non-agricultural sectors that are the most labour intensive and which also account for a large share of the work force, indicating that there is large demand for their products or services. In a recent paper Bornali and Sahu (2025) have taken this argument forward, showing that just seven of these employment intensive nonagricultural sectors account for over two-thirds of total non-agricultural employment (Table 5). These sectors include construction, trade, land transport, education and research, wearing apparel manufacture, hotels and restaurants and other services. For every additional Rs 1 crore of output these seven sectors would on average directly generate 19 additional jobs and a total of 24 additional direct plus indirect jobs. Underlying this average picture, there are large variations even within the group of seven. Leaving aside the omnibus group of 'other services', manufacture of wearing apparel generates as many as 68 direct and indirect jobs per Rs 1crore of output. Hotels and restaurants generate over 30 direct and indirect jobs. Trade generates over 20 additional jobs, and so on. Moreover, the skill requirement of jobs in all these sectors, except

Table 5 Non-agricultural employment share, employment intensity & employment multiplier: Selected Sectors

	Non-agriculturual employment share	Employment intensity	Employment multiplier
1. Construction	24.0	12.7	16.2
2. Trade	18.8	16.8	20.5
3. Land transport	6.5	12.4	16.4
4. Education & research	6.2	12.6	14.2
5. Manufacturing of wearing apparel	4.6	55.7	67.6
6. Hotels and restaurants	3.4	15.0	30.3
7. Other services	3.1	50.8	55.5
Total (1 to 7)	66.6	18.8	23.6

Source: Bornali Bhandari & Ajaya Sahu (2024) Notes:

education and research, would be very modest, which matches the skill profile of the bulk of India's work force.

These sectors include construction, trade, land transport, education and research, wearing apparel manufacture, hotels and restaurants and other services. For every additional Rs 1 crore of output these seven sectors would on average directly generate 19 additional jobs and a total of 24 additional direct plus indirect jobs. Underlying this average picture, there are large variations even within the group of seven. Leaving aside the omnibus group of 'other services', manufacture of wearing apparel generates as many as 68 direct and indirect jobs per Rs 1crore of output. Hotels and restaurants generate over 30 direct and indirect jobs. Trade generates over 20 additional jobs, and so on. Moreover, the skill requirement of jobs in all these sectors, except education and research, would be very modest, which matches the skill profile of the bulk of India's work force.

1. 'Manufacturing of wearing apparel' excludes custom tailoring
2. 'Employment intensity' is the number of persons directly employed per Rs. 1 crore of output
3. 'Employment multiplier' is the number of persons directly or indirectly employed per Rs. 1 crore additional output

Given the urgency of generating jobs, industrial policy should target these sectors, some of which are also export oriented and earn foreign exchange. Having mentioned industrial policy, I should add that the concept is now once again respectable, ever since the demise of the Washington Consensus. Indeed, notwithstanding sermons to the developing countries seeking aid, industrial policy was never off the table. It has always been an important feature of economic policy, especially in the advanced countries which were not constrained by any dependence on the multi-lateral aid agencies. In our own context, the Production Linked Incentive policy, PLI, has gained a lot of traction in recent years. In her budget last year, the Finance Minister had also introduced the Employment Linked Incentive schemes (ELI) to increase employment. However, the latter mostly took the form of top-ups of salary or subsidies for apprenticeships in the organized sector for relatively better skilled youth. It will make little difference to the millions of low skilled unemployed or under-employed youth.

Instead of a separate ELI for them, all we need is for the existing PLI scheme to be now extended to the employment intensive sectors, instead of limiting it to only high technology or export-oriented sectors as at present. The challenge here is that most of these labour intensive sectors are populated by very large numbers of medium and small enterprises in the unorganized sector. This is not the occasion to spell out the details of a scheme suitable for these 'hard to reach' enterprises. Suffice it to say that in a country which has successfully rolled out a unique identification scheme for a population of 1.4 billion persons, implemented benefit schemes for millions of farmers and employment guarantee and food subsidy social safety nets for huge numbers of individual households; devising schemes to reach these medium and small enterprises is not an insurmountable

task. This is especially so because accessing the benefits of a PLI scheme will serve as a very strong incentive for the enterprises themselves to get registered and be visible.

It can be pointed out, correctly, that these low skilled jobs in the employment intensive sectors will be poorly paid jobs. However, the skill profile of a huge work force cannot be changed overnight. In the immediate future it is these low-skilled, low-paid jobs which will enable the millions of unemployed or under-employed workers to make a living, however modest. Meanwhile, a massive educational-cum-skilling program can be launched, with a central role for the employers who know what are the skill gaps and who have 'skin in the game', to gradually change the skill profile of the Indian workforce of the future. To illustrate, large corporates in the hotel industry can be subsidized to run largescale training programs as a separate profit-making line of business, leveraging their core business.

Finally, even the transfer of a part of the agricultural work force to the identified employment intensive sectors outside agriculture can happen only gradually over a few years. Moreover, as Goldar and Agarwal (2024) have recently argued, low productivity workers from the agricultural sector are likely to transfer initially to similarly low productivity jobs in the informal, mostly rural, non-agricultural sector. Hence, incentives will be needed to nudge agriculture itself towards higher value-added products to help raise the productivity and earnings of the work force in agriculture.

Thus, to answer the question posed at the outset, addressing the growth-employment paradox will require an employment strategy consisting of three pillars: i. Inclusion of the six or seven employment intensive sectors identified outside agriculture in the PLI scheme to gradually reduce the level of unemployment or underemployment; ii. Incentives to nudge agricultural production towards higher value-added products to raise the earnings of the agricultural work force and iii. A massive education-cum-skilling program, with employers themselves playing a central role, to upgrade the skill profile of the Indian work force of the future.

Appendix

Estimating the extent of underemployment from PLFS schedules

At present the activity status of respondents in the PLFS schedule does not have any provision for recording partial employment. However Block [6] of schedule 10.4[2] records the weekly activity particulars for household members in great detail. Rows (3.1) to (3.7) give the activity particulars of each member of the household for each day of the week. The Column (4) entry of these rows record the activity status of each household member for each day, while entries in columns (7) and (8) record the number of hours actually worked on these days and the number of hours available for additional work. Codes 81 (sought work) and 82 (did not work but was seeking or available for work) are the codes which indicate unemployment. All other codes imply employment in one form or another for at least one hour during the day, including unpaid work, or that the person

was out of the labour force. Row (4) of block [6] also records the total hours actually worked during the week or available for additional work by each household member.

Unfortunately, these rich daily details of time use are lost in row (5) of the block which provides for a single code entry for the weekly status of the person. S/he is classified as either unemployed (Codes 81/82) or employed if they had at least one hour of work on at least four days of the week or out of the labour force. There is no code provided to indicate partial employment or under-employment. Thus, a person who had work for just one hour a day for 4 days in the week would be classified as employed, the same as a person who may have had work for 7 or 8 hours of work for, say, six days in the week. It is this activity status in row (5) which is reflected in the final survey results. Persons are either employed, unemployed or out of the labour force. There is no provision for classifying workers as under-employed. All those under-employed, even if they had just one hour of work for four days in the week, would be classified as employed!

With all workers classified as 'employed' under the activity status of row (5) being treated as fully employed, it is anybody's guess as to what extent these 'employed' workers were either unemployed or only partially employed during some days of the week. However, by going back to the details of daily time use recorded in rows 3.1 to 3.7 and row 4, the possible range of under-employment can be assessed, based on certain assumptions. In ongoing research by Manna, Mehta and Mundle, a range of estimates of underemployment based on alternative assumptions have been generated for the self-employed, regular workers, casual workers and all workers. These are presented in table A1. Row (i) is a very crude estimate of the under- employment rate, which is simply the ratio of number of persons who were available for additional work (Y) as a percentage of the total number of workers (X).

2 Page E-11 of the schedule

Row (ii) is a lower bound estimate of the underemployment rate based on the assumption that underemployment is limited to only the hours of availability for additional work (b) reported by workers who reported such availability on days they had work (Y). Row (iii) is an upper bound estimate of the under-employment rate, based on the assumption that all workers (X) were available for additional work up to 48 hours per week (8 hours x 6 days) less the average hours actually worked (x*) by those workers who reported availability for additional work (Y). Row (iv) presents an intermediate estimate of underemployment based on the assumption that all workers (X) were available for additional work for up to 48 hours less the average number of hours for which all workers (X) actually worked (a).

Based on these hypothetical assumptions, the under-employment rate could be anywhere in a large range from less than 1 % of total labour supply to over 20%, with an intermediate estimate of just over 10%. This data gap could be largely met by simply the provision of an additional code for partial employment in row (5) of Block [6] of the PLFS schedule (current weekly activity particulars). Absent that simple provision, we will remain in the dark on a key aspect of the labour market in India - the extent of under-employment.

Table A1 Alternative Estimates of Under-employment

	Self- employed	Regular employed	Casual worker	Total
X: total no. of workers (including Y workers)	27,26,17,185	10,96,40,598	9,21,43,540	47,44,01,324
Y: no. of workers available for additional work during the week	96,90,395	16,67,905	24,63,227	1,38,21,526
(i) Under-employment: 100.(Y/X)	3.6	1.5	2.7	2.9
a: average no. of hrs. worked during the week by X workers	41.2	49.8	40.5	43.0
b: average no. of hrs. during the week on which Y workers were available for additional work	12.4	12.0	8.3	11.6
(ii) Lower Bound estimate of Underemployment: 100.(b.Y) / (a.X + b.Y)	1.06	0.37	0.54	0.78
a*: average no. of hrs. worked during the week by Y workers	35.9	45.8	43.3	38.4
(iii) Upper Bound estimate of Underemployment (UB): 100.(48-a)/48)]*	25.31	4.59	9.76	20.04
(iv) Medium estimate of Under-employment (ME): 100.(48-a)/48)]	14.17	− 3.75	15.63	10.42

Source: Periodic Labour Force Survey (PLFS), 2023–24

Data availability Not applicable.

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