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Beyond Jobless Growth: Structural Transformation and Labor Market Heterogeneity in India, 1983–2023

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Abstract

Using harmonized microdata from nationally representative labour force surveys for 1983–2023, this paper examines how structural transformation has reshaped the composition and welfare of workers in India. It revisits the widely held view that the post-reform period has been one of "jobless growth", with persistent nonformal employment and limited expansion of regular salaried jobs. Rather than treating "nonformal" employment which includes the self-employed, casual and unpaid workers, as a homogeneous residual sector, we show that welfare outcomes vary substantially across these different employment categories. To examine the sources of this heterogeneity, the paper combines shift-share analysis with Oaxaca-Blinder and recentered influence function (RIF) Oaxaca decompositions to distinguish the contributions of differences in worker characteristics from differences in their associated coefficients (coefficient effects). The analysis reveals substantial heterogeneity within India's "nonformal" workforce. Casual workers experience persistent welfare disadvantages relative to the self-employed, particularly in urban areas, while the welfare position of unpaid household workers varies across rural and urban areas, welfare quantiles, and macroeconomic phases. Some self-employed workers attain welfare levels that are comparable to those of regular salaried workers in certain quantiles and phases. By disentangling differences in observed characteristics from differences in their conditional associations, this paper shows that the conventional jobless-growth narrative hides substantial heterogeneity in the welfare outcomes associated with different forms of employment. The persistence of nonformal employment with substantial differences in worker welfare therefore does not necessarily imply uniformly lower welfare outcomes. The paper provides a more nuanced understanding of India's labour market transformation over the past four decades.

JEL: C21, J21, J46, O15, O17

Keywords: Structural transformation; labour market heterogeneity; nonformal employment; worker welfare; welfare distribution; shift-share decomposition; Oaxaca-Blinder decomposition; RIF-Oaxaca decomposition; India

Introduction

Following the economic reforms of the early 1990s, India's gross domestic product accelerated substantially, but employment growth remained comparatively modest, leading many observers to characterize the period as one of "jobless growth" (Kannan and Raveendran, 2009; Mehrotra et al., 2012; Tejani, 2016; Abraham, 2019). At the same time, the majority of Indian workers continued to be employed in nonformal arrangements. Yet the composition of employment changed considerably over the past four decades with rising educational attainment, increasing urbanization, declining agricultural employment and the expansion of non-agricultural activities. These changes raise an important question: does the persistence of a large nonformal employment sector necessarily imply poor welfare outcomes for its workers?

Conventional dualistic models often view nonformal employment as a residual sector characterized by low productivity, poor earnings and limited job security, comprising workers who are unable to obtain jobs in the formal sector (Fields, 1990; Khamis, 2011). However, nonformal employment includes a wide range of activities and employment arrangements, ranging from casual wage labour and unpaid family work to self-employment and own-account household enterprises. Welfare outcomes associated with these forms of employment can differ substantially across workers, sectors and occupations (Maloney, 1999, 2004; Henley et al., 2006; Chen, 2012; Duval-Hernandez, 2023). Some forms of self-employment may offer opportunities for relatively favourable welfare outcomes, while casual labour and unpaid household work may be associated with greater vulnerability. Treating nonformal employment as a homogeneous, disadvantaged residual sector can therefore overlook important differences in worker welfare that may result in misleading assessments of the labour market transformation and thus result in misdirected policy responses.

The concept of a dual-tiered nonformal economy (Fields, 1990) provides a useful framework for understanding this heterogeneity. The "upper-tier" nonformal segment consists of competitive microenterprises, skilled own-account activities and forms of self-employment associated with welfare outcomes comparable to those of formal salaried employment (Grimm

et al., 2012; Abhinav, 2015). Entry into this tier is not necessarily involuntary and/or survival-driven; for some workers, it can be a deliberate entrepreneurial choice, driven by a preference for autonomy rather than the absence of formal employment opportunities (Abraham and Kesar, 2025; Aronsson and de Soysa, 2025). At the same time, there is a large "lower tier" that comprises a highly vulnerable workforce trapped in precarious casual jobs and unpaid household labour with limited earnings, weak employment security, and restricted opportunities for upward mobility (International Labour Organization and Institute for Human Development (2024)). Workers in this group are typically highly vulnerable to economic shocks because they have limited access to social protection and employment based insurance mechanisms (Bennett, 2011). This framework provides a useful starting point for examining heterogeneity in worker welfare during India's structural transformation.

Although a large literature examines changes in India's employment structure, labour force participation and structural transformation, less attention has been paid to distinguishing long-run changes in aggregate worker welfare arising from shifts in employment composition from changes occurring within employment categories. Aggregate welfare may change as workers move between employment categories, as welfare within each category changes, or through a combination of these processes. Moreover, welfare differences between employment categories may be associated with differences in observed worker characteristics as well as differences in the estimated coefficients linking these characteristics to welfare. Distinguishing these sources of change and difference is essential to understanding both the evolution of worker welfare and the persistence of welfare disparities across employment categories.

This paper addresses these questions by using three complementary methods. Shift-share analysis decomposes changes in average worker welfare into employment composition, within category welfare and their interaction components. The Oaxaca-Blinder decomposition distinguishes differences in mean welfare associated with observed worker characteristics (composition effects) from those associated with differences in estimated coefficients (coefficient effects). The recentered Influence function (RIF) Oaxaca decomposition extends this analysis beyond the mean, examining how the sources of welfare differences vary across the welfare distribution. Together, these methods provide a comprehensive framework for exam-

ining both changes in aggregate worker welfare and differences across employment categories, rural and urban India, and successive phases of the structural transformation in India.

The analysis, as described above, uses harmonized, nationally representative microdata from multiple rounds of the National Sample Survey Employment-Unemployment Schedules (NSS-EUS) and the Periodic Labour Force Survey (PLFS) covering the period 1983-2023. It focuses on prime-age adults aged 15–59 years and distinguishes four employment categories: regular salaried, self-employed, casual and unpaid household workers. Worker welfare is measured by household consumption per worker (HCPW), which is a proxy for household consumption relative to the number of workers in the household and provides a common welfare measure across employment categories. To examine how employment composition and worker welfare have evolved through different economic conditions, we divide the period into six phases: the pre-liberalization agrarian economy (Phase I:1983-1993); early reform and informalization (Phase II: 1994-2004); high-growth structural transition (Phase III: 2005-2012); post high-growth period labour stress (Phase IV: 2013-2019); COVID-19 pandemic shock (Phase V: 2020-2021) and post-pandemic recovery (Phase VI: 2022-2023). These phases capture major episodes of economic and labour-market change, allowing us to examine how employment composition and worker welfare evolved across successive stages of India's structural transformation.

The paper makes three contributions. First, it provides harmonized, four-decade evidence on changes in India's employment composition and worker welfare, extending the analysis beyond individual reform episodes or periods of economic growth. Second, by combining aggregate shift-share analysis with mean and distributional decompositions, it distinguishes changes in employment composition from changes in welfare within employment categories and examines the sources of welfare differences across the distribution. Third, it provides new evidence on the heterogeneity within nonformal employment and its implications for worker welfare. These findings show that casual workers remain persistently disadvantaged relative to the self-employed, particularly in urban areas, while the welfare position of unpaid household workers varies across rural and urban areas, welfare quantiles and macroeconomic phases. Some self-employed workers, particularly those engaged in urban non-agricultural

activities, attain welfare levels comparable to those of regular salaried workers in certain phases and parts of the welfare distribution. These findings challenge a dualistic interpretation of India's labour market as uniformly low-productivity, disadvantaged residual sector and argue that aggregate measures of nonformal employment may conceal important differences in worker welfare.

The remainder of the paper is organized as follows. Section 2 describes the data, explains the harmonization of the NSS-EUS and the PLFS datasets and defines the six macroeconomic phases (reflecting the different phases of the Indian economy) used in the analysis. Section 3 examines long-run trends in employment composition and worker welfare. Section 4 reports the results from the shift-share decomposition. Sections 5 and 6 report the Oaxaca-Blinder and RIF-Oaxaca results respectively. Section 7 concludes.

2 Data and Empirical Strategy

We use unit-level data from multiple rounds of the National Sample Survey Employment-Unemployment Surveys (NSS-EUS) and the Periodic Labour Force Survey (PLFS) for the period 1983-2023. Our analysis focuses on prime-aged adults between 15-59 years.[1]

Macroeconomic phases and temporal segmentation. Rather than treating the four decades from 1983 to 2023 as a uniform period, we divide the analysis into six broad macroeconomic phases that capture major changes in India's policy environment, growth performance, and labour market conditions. The phase boundaries are based on the broader economic developments rather than the timing of individual household surveys. The six phases are (i) the pre-liberalization agrarian economy and reform transition (1983–1993); (ii) early reform period and increasing labour market informalization (1994–2004); (iii) high-growth and structural transition (2005–2012); (iv) employment slowdown and labour market stress

[1]In India, the 15–59 years age group is officially and statistically referenced as the primary working-age or productive population by the Ministry of Statistics and Programme Implementation (MoSPI) and the Census of India.

preceding the pandemic (2013–2019); (v) the COVID-19 pandemic and associated employment restructuring (2020–2021); and (vi) post-pandemic recovery (2022–2023).

The available NSS-EUS and PLFS rounds are mapped to these phases according to their survey years. Table 1 reports the mapping of survey rounds to the macroeconomic phases. Since nationally representative labour force surveys were conducted intermittently before the introduction of the annual PLFS, the available data do not cover every year within each phase. The empirical results should therefore be interpreted as representing employment composition and worker welfare across broad phases of economic change, rather than as year-to-year changes within these periods.

Together, these six phases capture major episodes of India's structural and labour-market transformation. This includes the long-run decline in agricultural employment; changes in public sector employment following economic liberalization; the expansion of non-farm and construction employment activities during the high growth years; the subsequent slowdown and deterioration in labor market conditions with rising unemployment and declining female labour force participation; the pandemic-induced disruption and reverse migration, with expansion of distress driven self-employment; and the subsequent recovery. The following details outlines the principal economic and labour-market developments associated with each phase:

Phase I: Pre-liberalization agrarian economy and reform transition (1983-1993). This phase captures the late pre-reform period and the initial transition following the 1991 balance of payments crisis. Agriculture remained the dominant source of employment, while structural transformation continued within a state-led development framework characterized by industrial licensing, trade protection, and a significant role for public sector enterprises (Ahluwalia, 2002). The economic crisis of 1991 marked a transition towards a more comprehensive and systematic reform of economic liberalization (Rodrik and Subramanian, 2005; Panagariya, 2004). The phase therefore encompasses both the late pre-reform employment structure and the initial years of economic reform.

Phase II: Early reforms and labor market informalization (1994-2004). This phase captures

the consolidation of the post-1991 structural adjustment reforms, including trade liberalization and deregulation, together with an expansion of non-farm employment. Much of the employment growth during this period was associated with to an increase in nonformal employment (Virmani, 2004; Kannan and Raveendran, 2009).

Phase III: High growth and structural transition (2005-2012). This phase was characterized by sustained rapid economic growth, rising private investment and increasing structural transformation. Rural labour markets tightened in some respects, while non-farm employment expanded, with construction emerging as an important source of employment growth during this period(Virmani, 2012; Dasgupta and Basole, 2026).

Phase IV: Employment slowdown and labour market stress (2013-2019). This phase characterizes the subsequent slowdown in economic growth and private investment, accompanied by financial-sector stress and increasingly subdued labour market conditions (Kannan, 2017). During this period, the economy faced major policy shocks like demonetisation in 2016 and the introduction of the Goods and Services Tax (GST) in 2017. These developments occurred against a backdrop of labour market weaknesses that had already started emerging prior to the COVID-19 pandemic. The implications for nonformal employment make this period particularly relevant for examining changes in employment composition and worker welfare (International Monetary Fund, 2018).

Phase V: COVID-19 pandemic and employment restructuring (2020-2021). This phase was characterized by a sharp disruption to economic activity and labour markets due to the pandemic, which led to stringent mobility restrictions, widespread employment losses and reverse migration. These shocks led to substantial changes in employment arrangements and livelihoods (International Monetary Fund, 2021). This disruption was followed by an initial recovery as restrictions were eased and economic activity resumed (World Bank, 2020).

Phase VI: Post pandemic recovery (2022-2023). This phase captures the recovery in economic activity following the pandemic, that was supported partly by strong public capital expenditure. (World Bank, 2023). There was an improvement in labour market indicators, with labour force participation rising and unemployment declining. THE PLFS reported a

labour force participation rate (LFPR) of 54.6% , and an unemployment rate of 5.1% for 2022-23 (International Monetary Fund, 2023).

These six phases provide a framework for examining how employment composition worker welfare evolved differently across successive stages of India's structural transformation. They also allow us to assess whether changes in aggregate welfare differences across employment categories varied across the different macroeconomic environments.

Tables 2R and 2U report the characteristics of rural and urban workers across the phases. The demographic composition in terms of religion and social group remained relatively stable, while the average workers per household declined in both rural and urban areas. The education levels of the workers improved significantly improved over the phases. Between Phases I and VI, the proportion of illiterate workers declined by more than 50 percentage points in both rural and urban sectors, while the proportion of workers with education beyond higher secondary level increased significantly.

Employment definitions, classification and harmonization. We classify employment using the Usual Principal Status (UPS) to ensure comparability across the National Sample Survey (NSS) Employment–Unemployment Surveys and the Periodic Labour Force Survey (PLFS)[2]. Under UPS, an individual's principal activity is determined by the activity pursued for the major part of the 365 days preceding the survey. This measure provides a consistent basis for classifying individuals according to their principal labour market status over the reference year.

The choice of employment-status measure is important because differences in survey design and employment measurement across the NSS-EUS and the PLFS surveys can lead to comparability issues across survey rounds. Chand and Singh Chand and Singh (2022) point out comparability issues between the PLFS employment estimates and earlier EUS-based employment estimates. A partial solution to the above problem, as suggested by Goldar and

[2]Using the UPS rather than the Usual Principal and Subsidiary Status (UPSS) may undercount female labour force participation especially in agriculture and informal household enterprises. This however does not undermine the core analysis of the paper.

Aggarwal (2023) is to use the UPS rather than the UPSS (usual principal and subsidiary status) as one way to resolve the comparability issues. Since the UPS measure is consistently available across both the NSS-EUS and PLFS series, we therefore use it to construct a harmonized employment series spanning 1983–2023. Unlike Current Weekly Status (CWS) and Current Daily Status (CDS) measures, designed to capture shorter-term employment activity and are therefore more sensitive to changes in survey design and reference periods, the UPS provides a measure of of principal activity over a long reference period. This also increases consistency across rounds, though to add a cautionary note, it does not eliminate all potential comparability problems.

We classify workers into four mutually exclusive categories: (i) *Regular salaried/wage workers*: Individuals employed in farm or non-farm enterprises, whether household or non-household, who receive regular salaries or wages, (ii) *Self-employed*: Own-account workers and/or employers in household enterprises, (iii) *Casual wage labourers*: Individuals engaged on temporary, daily, or short-term work contracts and typically paid on a daily or periodic basis. This category also include workers employed under public employment (e.g. drought, famine and flood relief programs) and asset-creation programmes under poverty alleviation programs such as the National Rural Employment Programme (NREP) and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), (iv) *Unpaid household workers*: Household members working in household farm or non-farm enterprises without receiving regular wages or a share of enterprise profits. In the NSS classification, these workers are recorded as self-employed unpaid helpers (activity-status code 21). For the purposes of this paper, they are distinguished from own-account workers and employers in household enterprises and analysed as a separate employment category. This category does not include individuals engaged solely in unpaid domestic and care work within their own households.

These categories distinguish regular salaried workers from three forms of nonformal employment: self-employment, casual wage work, and unpaid household work. This disaggregation is important in our analysis, because the the welfare outcomes associated with nonformal employment need not be uniform across categories.

We do not include unemployed individuals as a separate employment category because unemployment represents a distinct labour-market state rather than a form of employment. The analysis therefore examines the distribution of workers across employment categories (as describe above) and the welfare differences associated with these categories, rather than attempting to characterize the welfare of the entire labour force.

Worker welfare measure and survey compatibility adjustments. Comparing welfare across employment categories described above introduces several empirical challenges. Both the NSS-EUS and PLFS collect information on direct wage earnings for regular salaried and casual workers. However, the economic returns to self-employment are more difficult to measure. Income from self-employment may combine returns to the individual's labour with profits from their enterprises. However, the surveys do not separately identify these components so that a consistent measure of labour earnings can be estimated across all employment categories. Moreover, observed earnings alone may not fully capture the welfare associated with different employment types, particularly when self-employment offers some non-monetary benefits or flexibility Maloney (2004) and Meisenheimer (1998).

To help comparisons across employment categories, we use household consumption per worker (HCPW) as a proxy for long-term worker welfare. HCPW is calculated by dividing total monthly household consumption expenditure by the number of workers in the household and assigning this measure to each worker in that household. HCPW therefore captures household consumption resources relative to the number of workers, rather than individual earnings or individual consumption. It thus helps to provide a common welfare proxy for workers whose earnings are measured differently and cannot be compared directly across employment categories.

This approach follows the broader argument that observed earnings differentials need not necessarily provide a comprehensive measure of welfare associated with different employment types, especially when reported self-employment income combines labour returns and enterprise profits. However, HCPW should be interpreted as a proxy for worker welfare and not as a direct measure of individual labour productivity, job quality or the causal welfare

effect of employment status.

For intertemporal comparability, the nominal HCPW values are converted to real values using Consumer Price Index data from the World Economic Outlook, v9.0.0, with 2023 as the base year (International Monetary Fund, 2026).

The key indicators use in this study are therefore: (i) the distribution of prime-aged workers across the four employment categories; and (ii) differences in worker welfare across these categories as measured using HCPW. All descriptive statistics and decomposition estimates use the relevant survey weights to provide population-representative estimates for the specified age group across the macroeconomic phases.[3]

3 Trends in work status between 1983 and 2023

Statistics reported in Table 3 describe the distribution of workers across employment categories in rural and urban areas of the six macroeconomic phases. In rural areas, the share of regular salaried employment increased from about 6 percent in the pre-liberalization period (Phase 1) to 10 percent in the post-pandemic recovery period (Phase VI). Over the same period, the share of casual labour fell from around 25 percent to 18 percent, suggesting a gradual shift away from casual wage employment as the rural economy underwent structural transformation. Although the rise in regular salaried employment points towards some improvement in employment quality, its relatively modest magnitude suggests that the shift towards regular salaried work remained limited - its growth did not keep pace with the growth of the workforce. In urban areas too, there is a gradual increase in regular salaried employment increasing from 27 percent in the initial phase (1983-93) to 33 percent by the final phase. These changes indicate a stronger shift towards regular salaried employment in urban than in rural areas. However, at the same time, the continued importance of nonformal employment points to the uneven nature of India's labour market transformation.

[3] All nominal HCPW values are converted to real values using Consumer Price Index data from the World Economic Outlook using 2023 as the base year.

Table 4 reports worker welfare, measured by household consumption per worker (HCPW) across employment categories and macroeconomic phases. The results show a cyclical pattern across employment categories. Worker welfare generally declined during the early reform period (Phase II), improved during the high-growth period (Phase III), weakened during the subsequent slowdown (Phase IV), and recovered during the post-pandemic phases (Phase VI). Across all phases, regular salaried workers recorded the highest worker welfare levels in both rural and urban sectors, while the casual workers remained the most disadvantaged. The self-employed were generally in an intermediate position, with worker welfare below that of regular salaried workers but above that of casual workers across the phases. This pattern was particularly pronounced in urban areas. During the post-pandemic recovery period, welfare improved across employment categories, with the largest gains observed for the self-employed workers in rural areas. These differences suggest that changes in aggregate welfare hide heterogeneous worker welfare trajectories across employment categories within the nonformal workforce.

The above descriptive trends indicate a gradual decline in the share of casual employment, though the self-employed continue to be an important category of the workforce in both rural and urban labour markets. Estimates for the urban areas exhibit a stronger expansion of regular salaried employment than in rural areas, which is consistent with the greater concentration of non-agricultural and service-sector activities in urban centres. At the same time however, the persistence of self-employment indicates that the expansion of regular salaried work has not replaced the nonformal workforce to the same extent. The continued prevalence of nonformal employment also raises questions about the welfare implications of the structural transformation. In particular, the persistence of casual and unpaid work may be associated with economic disadvantage, while the welfare outcomes of the self-employed appear more heterogeneous. Aggregate employment share alone cannot, however, establish whether changes in the composition of employment have improved worker welfare or whether welfare has changed within particular employment categories.

Changes in aggregate worker welfare can arise through two distinct processes: the reallocation of workers across employment categories with different levels of worker welfare, and

changes in worker welfare within those categories. Distinguishing between these components is important for assessing how structural transformation has affected workers' welfare in India. To distinguish these processes, we use different decomposition techniques. We start with the shift-share decomposition that decomposes aggregate welfare changes into the contribution from changes in aggregate employment shares and changes in welfare within employment. Following this, we use the Oaxaca-Blinder and the recentered influence function (RIF) Oaxaca decompositions to examine the sources of welfare differences across employment categories. These methods allows us to distinguish the composition effects associated with observed worker characteristics from the coefficient effects associated with their estimated relationships with welfare. The RIF-Oaxaca analysis further examines whether these differences vary across the welfare distribution. Together, these analyses provide a more detailed account of how employment reallocation and changes within employment categories have shaped worker welfare during India's structural transformation.

4 Shift-share decomposition of changes in worker welfare

We use a standard shift-share decomposition following the conventional framework developed by Dunn (1960) to examine changes in worker welfare across the six macroeconomic phases. This phase-based approach is consistent with the motivation underlying dynamic shift-share analysis which emphasizes that beginning-to-end comparisons may obscure important changes occurring within a longer period (Barff and Knight, 1988).

The shift-share decomposition separates changes in average worker welfare into three components: (i) an **employment composition** effect, which captures the contribution of changes in the distribution of workers across employment categories; (ii) a **within category welfare** effect, which captures changes in welfare within each employment category, holding employment shares constant; and (iii) an **interaction** effect, which captures the joint contribution of changes in employment composition and within category welfare. The interaction com-

ponent is quantitatively small across the phase transitions in both rural and urban India, suggesting that the employment composition and within category components account for most of the observed changes in average worker welfare. Accordingly, we focus our discussion on these two components. The decomposition results for rural and urban India are reported in Table 5.

Let s_{jt} denote the share of workers in employment category j in phase t and $HCPW_{jt}$ the monthly household consumption per worker for workers in employment category j. Average worker welfare in phase t is given by $HCPW_t = \sum_j s_{jt} HCPW_{jt}$, where j indexes the four employment categories (self-employed, regular salaried workers, casual labourers and unpaid household workers). The change in average worker welfare between two successive phases is decomposed as:

$\Delta HCPW_t = \sum_j \Delta s_{jt} HCPW_{jt-1} + \sum_j s_{jt-1} \Delta HCPW_{jt} + \sum_j \Delta s_{jt} \Delta HCPW_{jt}$

(Total effect) = (Employment composition effect) + (Within category effect) + (Interaction effect)

The decomposition reveals a consistent pattern across the five phases of transitions: the relative importance of the components varied substantially across the different macroeconomic phases in both rural and urban India (Table 5). During the transition from the **pre-reform period (Phase I) to the early reform period (Phase II)**, average worker welfare declined in both rural and urban India. In rural areas, the within category effect was strongly negative (-1421); the employment composition effect was also negative (-39). A similar pattern is also observed in urban India. These results suggest that the early reform period was characterized by a deterioration in welfare, both within employment categories and on account of a reallocation of labour towards employment categories associated with relatively lower levels of worker welfare. This pattern is consistent with concerns about the expansion of nonformal and casual employment during the initial years of economic liberalization.

The pattern changed noticeably during the transition from the early reform period (Phase II) to the high-growth period (Phase III). In both rural and urban areas, the employment composition and within category effects became positive, indicating that changes in employ-

ment composition and improvements in welfare within employment categories reinforced one another. However, the within category effect was considerably larger, especially in urban areas, where the effect was 1597, compared with 745 in rural areas. This suggests that the welfare gains of the high-growth period were associated primarily with improvements within employment categories rather than from the redistribution of workers across them. This period of rapid economic growth coincided with an expansion of construction activities and non-farm employment, growth in the services sector, and the introduction of the Mahatma Gandhi National Rural Employment Generation Act (MGNREGA). However, the decomposition does not identify the individual contributions of these developments to the observed welfare changes.

A clear turning point occurred during the transition from the high-growth period (Phase III) to the subsequent slowdown in the pre-pandemic (Phase IV). Although the employment composition effect continued to improve substantially in both rural (124) and urban (104) India, the within category effect deteriorated significantly and became negative in both sectors (-358 and -565 in rural and urban areas respectively). Favourable changes in employment composition thus partially offset the deterioration in welfare within employment categories, but were insufficient to prevent an overall fall in the average worker welfare. The larger negative within category effect in urban India also suggests that this could have been a major factor in the deterioration in urban labour markets.

The pandemic period (transition from Phase IV to Phase V) was associated with very different welfare changes in rural and urban India. In rural areas, both the composition effect (9) and the within category effect (289) were positive with the latter accounting for a larger contribution to the change in welfare. In urban areas, by contrast, the composition effect was close to zero and statistically insignificant, while the within category effect was negative (-320). These estimates suggest that urban labour markets were more vulnerable to pandemic-related disruptions. The deterioration in urban worker welfare during the pandemic was driven primarily by changes within employment categories rather than by the redistribution of workers across categories. Rural welfare changes followed a different pattern, with positive contributions from both components.

Finally, during the post-pandemic recovery (Phase V to Phase VI), both the employment composition and the within category welfare effects recovered and became positive in rural and urban India. In rural areas, the within category component (417) was substantially larger than the composition effect (17). A similar trend was observed for the urban areas, where the within category effect (211) was considerably larger than the composition effect (25). These findings indicate that changes in employment composition and improvements in welfare within employment categories once again operated in the same direction, contributing jointly to the recovery in average worker welfare. As in the high-growth period, the larger within category component suggests that improvements within employment categories, rather than labour reallocation alone, accounted for the greater part of the recovery.

Overall, the shift-share decomposition estimates indicate that changes in worker welfare in India between 1983 and 2023 were driven primarily by changes within employment categories rather than by the reallocation of workers across them, although the relative contributions of the two components varied across macroeconomic phases and between rural and urban areas.

5 Oaxaca-Blinder decomposition

The shift-share decomposition identifies the extent to which changes in worker welfare are associated with the reallocation of workers across employment categories and with the changes in welfare within those categories. It does not, however, explain why persistent welfare differences continue to exist across employment groups. To investigate the sources of these differences, we use the standard Oaxaca-Blinder decomposition. This methodology separates observed differences in mean worker welfare into an endowment (composition) component corresponding to differences in observable characteristics and a coefficient component associated with differences in the estimated relationships between these characteristics and welfare. This approach provides a framework for examining mean welfare differences across employment categories (Jann, 2008; Fortin et al., 2011). The results for rural and urban

India across the six macroeconomic phases are reported in Tables 6R and 6U.

Let Y denote worker welfare, measured by household consumption expenditure per worker (HCPW). Worker welfare for employment group g is therefore:

$Y_g = X_g\beta_g + \varepsilon_g, \quad g = A, B$

where X_g is a vector of observable worker and household characteristics (education, age, gender, caste, household size, no of children and state of residence), β_g is the corresponding vector of estimated coefficients and ε_g is a random error term. The mean worker welfare for employment group g is therefore:

$\bar{Y}_g = \bar{X}_g\hat{\beta}_g$

The observed welfare difference between employment group A (for example, regular salaried) and the fixed reference group B (self-employed workers) is

$\Delta = \bar{Y}_A - \bar{Y}_B$

Following Oaxaca (1973), Blinder (1973) and Barff and Knight (1988), this worker welfare gap can therefore be decomposed as

$\Delta = (\bar{X}_A - \bar{X}_B)\hat{\beta}^B + \bar{X}_B(\beta^A - \beta^B) + (\bar{X}_A - \bar{X}_B)(\hat{\beta}^A - \hat{\beta}^B)$

We denote the three terms as $\Delta = E + C + I$, where $E = (\bar{X}_A - \bar{X}_B)\hat{\beta}^B$ is the explained component, measuring the portion of the welfare gap attributable to differences in observable characteristics between the groups; $C = \bar{X}_B(\beta^A - \beta^B)$ is the unexplained component that captures the part of the welfare gap associated with differences in the coefficients, linking workers' observed characteristics to worker welfare across the two employment categories, conditional on the worker characteristics considered in the model. $I = (\bar{X}_A - \bar{X}_B)(\hat{\beta}^A - \hat{\beta}^B)$ is the interaction effect, capturing the joint contribution of differences in characteristics and coefficients. In our application, the interaction term is not discussed separately.

The Oaxaca-Blinder and RIF-Oaxaca decompositions discussed in the following sections use the self-employed workers as the common reference group, for both methodological and substantive reasons. Methodologically, a common reference group provides a consistent benchmark for comparing the explained and unexplained (coefficient) components of worker welfare differences across employment categories and macroeconomic phases. Self-employment is also a large and heterogeneous component of India's nonformal workforce that includes

activities ranging from subsistence own-account work to relatively successful household enterprises. It therefore provides a useful benchmark for comparing the welfare positions of regular salaried, casual, and unpaid family workers over time. Since differences in mean may conceal substantial heterogeneity across the welfare distribution, we subsequently extend the analysis using unconditional quantile regressions based on recentered influence functions (RIFs), following Firpo, Fortin, and Lemieux (2009; 2018).

Employment categories are not randomly assigned. Workers may sort into different forms of employment on the basis of both observed and unobserved characteristics. The Oaxaca-Blinder and RIF-Oaxaca decompositions should therefore be interpreted as descriptive decompositions of observed welfare differences rather than as estimates of the causal effects of employment status. The explained component captures the part of the observed worker welfare gap that is associated with differences in measured characteristics. The unexplained (coefficient) component captures the contribution of differences in their estimated conditional associations with welfare. The latter may also include the influence of unobserved or omitted factors, differences in the economic circumstances associated with employment categories and model specification. The decompositions thus characterize the sources of observed welfare heterogeneity across employment categories rather than the welfare consequences of moving between them.

The Oaxaca-Blinder results show substantial and persistent welfare differences across employment categories, and between rural and urban workers. For regular salaried workers relative to the self-employed, differences in observed characteristics account for a substantial part of the welfare advantage in most phases, with explained components ranging from 252 to 883 in rural India and from 382 to 1317 in urban India. The coefficient component is generally smaller. These estimates suggest that the welfare advantage of regular salaried workers relative to the self-employed is associated primarily with differences in observed characteristics, such as education and other socio-economic characteristics. For casual workers, both the explained and coefficient components contribute to the welfare disadvantage in almost all phases. These findings indicate that welfare differences across employment categories reflect not only differences in the workers' observed characteristics but also differ-

ences in the estimated relationships between these characteristics and welfare. The relative contributions of these components vary across the macroeconomic phases. Nevertheless, the aggregate decomposition does not, by itself, indicate which specific components account for the observed differences.

The above results thus point to substantial differentiation across employment categories during India's structural transformation. The observed welfare advantage of regular salaried workers relative to the self-employed is attributable to a considerable extent to differences in measured characteristics. Given that our results show an increasing contribution of the explained component over time, this suggests that differences in observable characteristics have become increasingly important in explaining the welfare gap. Education, in particular, may contribute to this differentiation, together with other worker and household characteristics included in our analysis. By contrast, casual workers continue to show relatively less favourable observable characteristics, while the coefficient component also contributes to their welfare disadvantage, especially in urban areas. In summary, the results highlight the importance of both differences in worker and household characteristics and differences in their estimated associations with welfare in accounting for welfare heterogeneity across employment categories.

6 Distributional decomposition of employment related welfare

The standard Oaxaca-Blinder decomposition as discussed above, provides a useful framework for decomposing mean differences in worker welfare into components associated with differences in observable worker and household characteristics (endowment component) and differences in the estimated coefficients of these characteristics (the coefficient component). However, because it focuses on mean welfare, it cannot capture how these components vary across the welfare distribution. This aspect is particularly important in the context of India's labour market, where substantial heterogeneity exists both across and within employment

categories.

To address this limitation, we use the recentered influence function (RIF) Oaxaca decomposition proposed by Firpo, Fortin and Lemieux (2009), that extends the Oaxaca-Blinder framework to examine differences at various unconditional quantiles of the welfare distribution. The RIF-Oaxaca decomposition like the Oaxaca-Blinder decomposition, separates these differences into an explained (**composition**) component, associated with differences in observable characteristics; and an unexplained (**conditional association**) component, associated with differences in the estimated coefficients of these characteristics. This method allows us to examine how the relative contributions of worker composition and their conditional associations vary across the welfare distribution, employment categories, and successive phases of India's structural transformation.

We estimate unconditional quantile regressions using the recentered influence function (RIF) following Firpo et al. (2009). Let q_τ denote the τ^{th} unconditional quantile of household consumption expenditure per worker . The RIF for the quantile is given by
$RIF(y; q_\tau) = q_\tau + [\tau - \mathbb{I}\{y \leq q_\tau\}]/f_Y(q_\tau)$

Regressing the RIF on the worker and household characteristics described above yields unconditional quantile regression coefficients that characterize the associations between these characteristics and the unconditional welfare quantile. Differences in unconditional quantiles between employment groups are then decomposed within an Oaxaca-Blinder framework into an explained (**composition**) and unexplained (**conditional association**) components. As in the mean decomposition, self-employed workers are chosen as the common reference group.

Tables 7ER, 7UR, 7EU and 7UU report the explained and unexplained components of the RIF-Oaxaca decompositions at the 10^{th}, 25^{th}, 50^{th}, 75^{th} and 90^{th} quantiles across the six macroeconomic phases as defined in Table 1. The tables compare regular salaried workers, casual labourers, and unpaid household workers with the self-employed workers in rural and urban India, respectively.

The RIF-Oaxaca decomposition results show considerable variation in the sources and distribution of welfare differences across employment categories. Three broad patterns emerge. First, the welfare gap between regular salaried workers and the self-employed is generally positive in both rural and urban sectors, and driven largely by differences in worker composition. The contribution of the conditional association component however, varies between sectors, across phases and welfare percentiles. Second, casual workers experience persistent welfare disadvantages relative to the self-employed, with the explained and unexplained components generally reinforcing each other. This pattern is true for all casual workers in our sample. Third, unpaid household workers exhibit a less uniform pattern, with the two components often moving in opposite directions. These patterns suggest that nonformal employment should not be treated as homogeneous category representing only the disadvantaged workers.

The comparison between regular salaried and the self-employed workers shows both distributional and temporal heterogeneity. In both rural and urban areas, the explained (composition) component is positive and statistically significant across virtually the entire welfare distribution and throughout most phases. This composition effect peaks during Phase III - the high-growth and structural transition period that is characterised by rapid economic expansion and structural transformation in both sectors. The magnitude increases towards the upper quantiles across almost all the phases in both sectors. For example, the explained component rises from 90 at the 10^{th} percentile to 1,000 at the 90^{th} percentile in Phase 1 and from 173 to 1864 during the high-growth and structural transition phase in the rural sector. The corresponding urban differentials are larger, increasing from 155 at the 10^{th} percentile to 2156 at the 90^{th} percentile in Phase 1 and from 193 to 2745 in Phase III. These numbers suggest that the welfare advantage of regular salaried workers relative to the self-employed is attributable to a large extent with differences in observed worker characteristics. Following Phase III, which corresponds to the high growth and structural transition period, there is a marginal fall in the composition effects in both rural and urban sectors but the increasing trend towards towards the higher quantiles higher quantiles remains. The composition-associated advantage of regular salaried workers relative to the self-employed is persistent

but its magnitude is neither constant across the welfare distribution nor stable over time.

While the conditional association component for regular salaried workers is also predominantly positive, it is less uniform across phases and percentiles. In rural areas, it remains positive and statistically significant through much of the distribution in Phases 1-V. The differentials continue to be large at the upper quantiles. In Phase II for example, the unexplained coefficient increases from 155 at the 10^{th} percentile to 1,239 at the 90^{th} percentile. In the post-pandemic phase (and in bottom two percentiles of the pandemic phase), however, the rural conditional association component is statistically insignificant over the distribution. The urban estimates similarly show considerable variation in both magnitude and statistical significance. These patterns suggest that the welfare advantage of regular salaried workers is not explained by worker composition alone: the estimated associations between worker characteristics and welfare also vary across phases and positions in the worker welfare distribution.

The comparison between casual labourers and the self-employed, however, reveals a strikingly different pattern. The explained component is consistently disadvantaged (relative to self-employment) across all phases and throughout the welfare distribution in both rural and urban sectors. In Phase 1, in rural areas, for example, the estimate becomes progressively more negative, from -181 at the lowest percentile to -950 at the 90^{th} percentile. The urban disadvantage is considerably larger: the corresponding numbers for the urban sector in Phase 1 are -379 (lowest percentile) and -2640 (90^{th} percentile) respectively. In both sectors, this pattern is observed in subsequent phases, although the magnitude varies. This pattern is significant because it indicates that the disadvantage is not confined to workers at the bottom of the distribution in both the sectors. There is also substantial temporal variation in the estimates for the explained component: During Phases I-III in rural areas, the negative component is large, especially in the upper percentiles (75^{th} and 90^{th}). In Phase IV, the magnitudes of the negative estimates fall sharply especially in the upper quantiles. However in Phases V and VI, the component becomes larger again relative to Phase IV, although it generally remains below the most extreme values observed in the earlier phases. This break in the trend in Phase IV suggests that the composition related

disadvantage of casual labourers relative to the self-employment narrowed during the post high-growth slowdown. However, the subsequent deterioration indicates that this narrowing was not sustained uniformly through the pandemic and post-pandemic recovery periods. The urban disadvantage is considerably larger: during the high-growth phase, the corresponding values increase in absolute magnitude from 784 at the 10th quantile to $4,535$ at the 90^{th} quantile. Thus, the compositional disadvantage associated with casual labour is not confined to workers at the lower end of the welfare distribution; it becomes substantially larger at higher welfare quantiles.

The unexplained component for casual labour generally reinforces the above negative pattern. Across both rural and urban regions, unexplained effects are predominantly negative and statistically significant, particularly at the median and upper welfare quantiles. In rural areas, the unexplained effect reaches $1,534$ at the 90th quantile during the high-growth phase, while in urban areas it reaches $3,429$ during the post-high-growth labour-stress phase. Casual labour is therefore characterised by both less favourable observed characteristics and less favourable coefficients relative to self-employment. In this case, the composition and conditional association components generally operate in the same direction, contributing to a larger overall welfare differential rather than offsetting one another.

Estimates for the unpaid household workers display a more heterogeneous pattern than those for regular salaried workers and casual labourers. In rural areas, the explained (composition) component is predominantly negative at the lower and middle parts of the welfare distribution, but becomes positive at higher quantiles in several phases. During the high-growth phase (Phase III) for example, the explained differential changes from -100 at the 10^{th} quantile to 631 at the 90^{th} quantile. This change indicates that differences in observed worker characteristics contribute differently to the welfare differential across the distribution. One possible explanation relates to the nature of unpaid work within household enterprises. Although these workers do not receive an explicit wage, they may share in the resources generated by the enterprise. Since welfare is measured as household consumption per worker rather than individual earnings, the absence of a separate wage does not necessarily imply a corresponding disadvantage in access to household consumption. This interpretation is sug-

gestive, however, as the decomposition does not identify the specific mechanisms underlying the positive composition effects. At the remaining rural quantiles and in the other phases, the composition effects are negative, indicating that differences in observed characteristics between the unpaid household worker and the self-employed contribute unfavourably to the relative welfare position of unpaid household workers. The unexplained (coefficient) estimates in rural areas are predominantly negative, especially at the median and upper quantiles. These predominantly negative estimates of the coefficient differences could possibly offset the favourable composition effects noted earlier for the higher quantiles. Therefore, the rural results suggest that relatively favourable observed characteristics do not necessarily translate into correspondingly favourable overall welfare differential relative to the self-employed.

The urban estimates for the unpaid household workers differ in one important respect. The explained component is predominantly negative, particularly at the lower and middle quantiles, while the unexplained (coefficient) component is predominantly positive over a similar part of the distribution. During Phase II for example, the explained differential is -392 at the 10th quantile and -513 at the median, whereas the corresponding unexplained effects are 366 and 580. The two components therefore operate in opposite directions. That is, differences in observed characteristics contribute to welfare disadvantage for unpaid household workers, while differences in estimated coefficients offset part of this disadvantage. At the 90^{th} percentile, the explained component becomes statistically insignificant from Phase III onwards. This indicates that the contribution of observed characteristics is not statistically distinguishable from zero at this part of the urban welfare distribution in the later phases. The unexplained component shows similar patterns at higher quantiles and in later phases.

These results show that nonformal employment cannot be treated as a homogeneous category uniformly associated with low welfare. Self-employment, casual labour and unpaid household work exhibit distinct patterns in the contributions of observed characteristics and estimated coefficients to welfare differentials. These patterns also vary across rural and urban areas, welfare quantiles and macroeconomic phases. Understanding welfare differences in India's labour market therefore requires moving beyond aggregate comparisons between regular

salaried and nonformal employment to examine the heterogeneity within nonformal work.

7 Conclusion

This paper examines how structural transformation in India has changed the composition of employment and the distribution of worker welfare between 1983 and 2023. Using harmonized microdata from successive rounds of the National Sample Survey Employment–Unemployment Surveys (NSS-EUS) and the Periodic Labour Force Survey (PLFS), the paper uses shift-share analysis with the Oaxaca–Blinder and the recentered influence function (RIF) Oaxaca decompositions.

Three main findings emerge from the analysis. First, the results show substantial heterogeneity within the nonformal workforce. Comparing the casual workers to the self-employed, we find a pattern of persistent welfare disadvantage, particularly in urban areas with differences in both observed characteristics and in their associated returns contributing to this disadvantage. By contrast, some groups of self-employed workers achieve welfare levels that are comparable to those of the regular salaried workers. The results for unpaid household workers are less uniform. These findings caution against treating nonformal employment as a homogeneous group in which all workers experience the same poor outcomes.

Second, the shift-share decomposition shows that changes in worker welfare within employment categories account for a larger share of changes in the aggregate worker welfare than the reallocation of workers across categories in most phase transitions. The results therefore suggest that understanding changes in worker welfare requires attention not only to shifts in the distribution of employment across categories but also to changes in welfare within each category.

Third, the RIF-Oaxaca decompositions reveal substantial heterogeneity in welfare differentials across employment categories, rural and urban areas, welfare quantiles and macroeconomic phases. The contributions of observed characteristics and estimated coefficients vary

both across the welfare distribution and over time. These findings demonstrate that comparisons based on mean welfare alone can conceal important differences in the distribution and sources of welfare differentials across employment categories.

Our findings therefore suggest that the relationship between structural transformation and labour-market welfare is more nuanced than conventional dualistic models imply. The persistence of nonformal employment does not, in itself, imply uniformly poor welfare outcomes. Rather, the evolution of worker welfare reflects both changes in the allocation of workers across employment categories and differences in welfare within and across these categories. The findings also argue against a simple interpretation of the jobless-growth hypothesis: changes in employment composition alone cannot explain the evolution of worker welfare, although the generation of employment opportunities and improvements in job quality remain important policy concerns.

Policies to improve employment quality should move beyond a uniform formalisation agenda and recognise the heterogeneity of the nonformal workforce. While vulnerable groups, like the casual workers, require greater social protection, self-employed workers may benefit from better access to infrastructure, finance, markets and skills. Such a differentiated policy approach would therefore recognise the varying needs of nonformal workers across employment categories and locations.

References

Abhinav, N. (2015). Informal employment in india: Involuntary choice or a result of labor market segmentation? *Indian Journal of Labour Economics*, 58(1):119–167.

Abraham, R. and Kesar, S. (2025). Trajectories of labor market transitions in the indian economy. *World Development*, 195:107029.

Abraham, V. (2019). Jobless growth through the lens of structural transformation. *Indian Growth and Development Review*, 12(2):182–201.

Ahluwalia, M. S. (2002). Economic reforms in india since 1991: Has gradualism worked? *Journal of Economic Perspectives*, 16(3):67–88.

Aronsson, A. E. and de Soysa, I. (2025). Informal employment, population health, and welfare policies: A global empirical analysis between 2011–2021. *PLoS ONE*, 20(6):1–16.

Barff, R. A. and Knight, P. L. (1988). Dynamic shift-share analysis. *Growth and Change*, 19(2):1–10.

Bennett, J. (2011). Informal production and labor market segmentation. *Journal of Institutional and Theoretical Economics*, 167(4):686–707.

Blinder, A. S. (1973). Wage discrimination: Reduced form and structural estimates. *The Journal of Human Resources*, 8(4):436–455.

Chand, R. and Singh, J. (2022). Workforce changes and employment: Some findings from plfs data series. Discussion Paper 1/2022, NITI Aayog, Government of India, New Delhi.

Chen, M. A. (2012). The informal economy: Definitions, theories and policies. Technical Report Working Paper No. 1, Women in Informal Employment: Globalizing and Organizing (WIEGO).

Dasgupta, Z. and Basole, A. (2026). Jobless growth and structural transformation: Some theoretical considerations and empirical evidence from india. In Jayadev, A., Noman, A., and Stiglitz, J. E., editors, *The Future of Work in Developing Countries*. Columbia University Press.

Dunn, E. S. (1960). A statistical and analytical technique for regional analysis. *Papers in Regional Science*, 6(1):97–112.

Duval-Hernandez, R. (2023). Choices and constraints: The nature of informal employment in urban mexico. *The Journal of Development Studies*, 58(7):1347–1365.

Fields, G. S. (1990). The informal sector: A new look at an old problem. In Quibria, M. G. and Hussain, S., editors, *Labor and Employment in the Developing World*, pages 33–52. Oxford University Press.

Firpo, S., Fortin, N. M., and Lemieux, T. (2009). Unconditional quantile regressions. *Econometrica*, 77(3):953–973.

Firpo, S. P., Fortin, N. M., and Lemieux, T. (2018). Decomposing wage distributions using recentered influence function regressions. *Econometrics*, 6(2).

Fortin, N., Lemieux, T., and Firpo, S. (2011). Chapter 1 - decomposition methods in economics. In Ashenfelter, O. and Card, D., editors, *Handbook of Labor Economics*, volume 4, pages 1–102. Elsevier.

Goldar, B. and Aggarwal, S. C. (2023). Incomparability between eus and plfs and possible solutions.

Grimm, M., Knorringa, P., and Lay, J. (2012). Constrained gazelles: High potentials in west africa's informal economy. *World Development*, 40(7):1352–1368.

Henley, A., Arabsheibani, G. R., and Carneiro, F. G. (2006). On defining and measuring the informal sector. Technical Report Policy Research Working Paper No. 3866, The World Bank.

International Labour Organization and Institute for Human Development (2024). India employment report 2024: Youth employment, education and skills. Technical report, International Labour Organization, New Delhi.

International Monetary Fund (2018). *India: 2018 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for India*. IMF Staff Country Reports 2018, 254 (2018). International Monetary Fund (IMF).

International Monetary Fund (2021). *India: 2021 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for India*. IMF Staff Country Reports 2021, 230 (2021). International Monetary Fund (IMF).

International Monetary Fund (2023). *India: 2023 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for India*. IMF Staff Country Reports 2023, 426 (2023). International Monetary Fund (IMF).

International Monetary Fund (2026). *World Economic Outlook Database*. International Monetary Fund, Research Department, version 9.0.0 edition.

Jann, B. (2008). The blinder–oaxaca decomposition for linear regression models. *The Stata Journal*, 8(4):453–479.

Kannan, K. P. (2017). *Interrogating inclusive growth*. Routledge India.

Kannan, K. P. and Raveendran, G. (2009). Growth sans employment: A quarter century of jobless growth in india's organised manufacturing. *Economic and Political Weekly*, 44(10):80–91.

Khamis, M. (2011). A note on informality in the labor market. *Journal of International Development*, 24(7):894–908.

Maloney, W. F. (1999). Does informality imply segmentation in urban labor markets? evidence from sectoral transitions in mexico. *The World Bank Economic Review*, 13(2):275–302.

Maloney, W. F. (2004). Informality revisited. *World Development*, 32(7):1159–1178.

Mehrotra, S., Gandhi, A., Saha, P., and Sahoo, B. (2012). Joblessness and informalization: Challenges to inclusive growth in india. Technical Report 9/2012, Institute of Applied Manpower Research.

Meisenheimer, J. R. (1998). The services industry in the "good" versus "bad" jobs debate. *Monthly Labor Review*, 121(2):3–14.

Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International Economic Review*, 14(3):693–709.

Panagariya, A. (2004). India in the 1980's and 1990's. *IMF Working Papers*, 2004(043):1.

Rodrik, D. and Subramanian, A. (2005). From "hindu growth" to productivity surge: The mystery of the indian growth transition. *IMF Staff Papers*, 52(2):193–228.

Tejani, S. (2016). Jobless growth in india: an investigation. *Cambridge Journal of Economics*, 40(3):843–870.

Virmani, A. (2004). India's economic growth: From socialist rate of growth to bharatiya rate of growth. Indian Council for Research on International Economic Relations, New Delhi Working Papers 122, Indian Council for Research on International Economic Relations, New Delhi, India.

Virmani, A. (2012). Accelerating And Sustaining Growth. *IMF Working Papers*, 2012(185):1.

World Bank (2020). *India Development Update, July 2020*. World Bank, Washington, DC.

World Bank (2023). *India's growth to remain resilient despite global challenges*. World Bank, Washington, DC.

Tables

Table 1: **Classification of Macroeconomic Phases across NSS and PLFS Survey Rounds and Their Associated Labour Market Characteristics, 1983–2023**

Phase	**Years**	**Main Data Sources**	**Labour-Market Characteristics**
I. Pre-Liberalization Agrarian Economy	1983–1993	NSS rounds: 38, 43, 50	High agricultural dependence, slow structural transformation, low female measured participation
II. Early Reform & Informalization	1994–2004	NSS rounds: 55, 61	Economic liberalization, rise of informal/non-farm work, slower employment growth
III. High-Growth Structural Transition	2005–2012	NSS rounds: 66, 68	Rapid GDP growth, construction boom, rising education, declining agriculture
IV. Post-High-Growth Labour Stress	2013–2019	PLFS rounds: 2017–18, 2018–19, 2019-20	Employment slowdown, youth unemployment rise, declining female LFPR,methodological transition to PLFS
V. Pandemic Shock	2020–2021	PLFS rounds: 2020–21, 2021–22	COVID disruption, reverse migration, self-employment surge
VI. Post-Pandemic Recovery	2022–2023	PLFS rounds: 2022–23, 2023–24	Recovery with concerns over job quality, informal self-employment persistence, rising rural female LFPR

Note: Authors calculations mapping macroeconomic events to data rounds.

In the subsequent tables, all nominal values have been converted to real values using Consumer Price Index data from the World Economic Outlook v9.0.0 (International Monetary Fund [2026]) using 2023 as the base year.

Table 2R: **Sample characteristics of workers (Rural)**

Macroeconomic Phase	Average workers per household	Religion (Percent)			Social Group (Percent)			Education (Percent)			
		Hindu	Muslim	Others	ST	SC	OBC & General	Illiterate	Below Secondary	Secondary and Higher Secondary	Above Higher Secondary
Phase I: Pre-liberalization	2.60 (0.00) [184546]	85.39 (0.09) [146954]	9.10 (0.08) [17896]	5.51 (0.06) [19696]	10.47 (0.08) [25109]	19.02 (0.10) [31297]	70.51 (0.12) [128140]	60.17 (0.07) [275036]	32.61 (0.07) [174762]	5.96 (0.03) [35471]	1.27 (0.02) [8466]
Phase II: Early Reform and Informalization	2.60 (0.00) [143811]	84.73 (0.10) [111939]	10.07 (0.09) [15374]	5.20 (0.07) [16498]	10.93 (0.10) [22049]	21.42 (0.12) [25819]	67.65 (0.14) [95943]	50.50 (0.08) [157765]	37.16 (0.08) [159860]	10.02 (0.05) [50264]	2.32 (0.02) [15671]
Phase III: High growth and structural transition	2.47 (0.00) [92533]	83.71 (0.14) [70226]	10.96 (0.12) [10071]	5.33 (0.08) [12236]	11.02 (0.12) [15623]	21.27 (0.15) [15950]	67.71 (0.17) [60960]	35.90 (0.10) [61531]	43.79 (0.10) [104253]	16.01 (0.08) [50272]	4.30 (0.04) [17680]
Phase IV: Post high-growth labour stress	2.36 (0.00) [146754]	84.31 (0.11) [113241]	10.16 (0.09) [15732]	5.53 (0.07) [17781]	12.08 (0.10) [25761]	22.27 (0.12) [28849]	65.64 (0.14) [92144]	29.52 (0.08) [82337]	43.48 (0.08) [157336]	19.71 (0.07) [83081]	7.29 (0.04) [25452]
Phase V: Pandemic shock	2.39 (0.00) [88276]	84.54 (0.13) [68478]	10.66 (0.11) [9655]	4.80 (0.08) [10143]	12.45 (0.12) [15844]	22.27 (0.15) [17666]	65.28 (0.17) [54766]	26.09 (0.10) [44694]	43.96 (0.11) [97197]	21.10 (0.09) [50909]	8.86 (0.06) [17409]
Phase VI: Post-pandemic recovery	2.40 (0.00) [94197]	80.54 (0.14) [71790]	14.74 (0.13) [11083]	4.73 (0.08) [11324]	12.12 (0.12) [16993]	20.40 (0.14) [17993]	67.47 (0.17) [59211]	24.58 (0.09) [43915]	44.79 (0.10) [107041]	21.52 (0.09) [55188]	9.11 (0.06) [19832]

Bootstrapped standard error in parenthesis and number of observations in square braces.

Table 2U: **Sample characteristics of workers (Urban)**

Macroeconomic Phase	Average workers per household	Religion (Percent)			Social Group (Percent)			Education (Percent)			
		Hindu	Muslim	Others	ST	SC	OBC & General	Illiterate	Below Secondary	Secondary and Higher Secondary	Above Higher Secondary
Phase I:	2.43	78.72	14.82	6.46	3.19	11.91	84.90	29.21	42.02	18.85	9.92
Pre-liberalization	(0.00)	(0.14)	(0.12)	(0.08)	(0.06)	(0.11)	(0.12)	(0.08)	(0.10)	(0.07)	(0.06)
	[108506]	[83236]	[14770]	[10500]	[6219]	[11327]	[90960]	[70969]	[111172]	[52211]	[29328]
Phase II:	2.44	78.11	15.56	6.33	3.52	14.43	82.05	22.92	39.11	23.21	14.75
Early Reform and	(0.00)	(0.17)	(0.15)	(0.09)	(0.07)	(0.13)	(0.15)	(0.09)	(0.11)	(0.09)	(0.07)
Informalization	[89011]	[67122]	[12772]	[9117]	[6397]	[11922]	[70692]	[45352]	[87902]	[50967]	[33063]
Phase III:	2.35	78.35	15.50	6.15	3.06	14.23	82.71	15.75	35.95	27.09	21.21
High growth and	(0.00)	(0.19)	(0.17)	(0.10)	(0.08)	(0.15)	(0.17)	(0.09)	(0.12)	(0.11)	(0.11)
structural transition	[64618]	[48276]	[8872]	[7470]	[5655]	[8558]	[50405]	[22578]	[55699]	[42255]	[31172]
Phase IV:	2.26	78.65	15.40	5.96	3.32	14.59	82.08	13.39	35.82	25.33	25.46
Post high-growth	(0.00)	(0.14)	(0.13)	(0.07)	(0.06)	(0.12)	(0.13)	(0.06)	(0.10)	(0.08)	(0.09)
labour stress	[114976]	[85636]	[16328]	[13012]	[9951]	[15297]	[89728]	[30727]	[95140]	[74098]	[62339]
Phase V:	2.22	80.83	13.78	5.39	3.74	15.77	80.50	12.12	34.57	26.10	27.20
Pandemic shock	(0.00)	(0.17)	(0.15)	(0.09)	(0.08)	(0.15)	(0.17)	(0.08)	(0.12)	(0.11)	(0.11)
	[69191]	[52590]	[9136]	[7465]	[6202]	[9771]	[53218]	[16486]	[54524]	[43964]	[39027]
Phase VI:	2.21	79.49	15.05	5.46	3.47	16.32	80.21	10.90	34.89	25.75	28.46
Post-pandemic	(0.00)	(0.17)	(0.15)	(0.09)	(0.07)	(0.15)	(0.16)	(0.07)	(0.11)	(0.11)	(0.11)
recovery	[72906]	[54409]	[10253]	[8244]	[6759]	[10684]	[55463]	[15681]	[58154]	[45963]	[43190]

Bootstrapped standard error in parenthesis and number of observations in square braces.
Columns 1–7 are based on household data, columns 8–11 are based on individual data.

Table 3: **Percentage composition of employed labour force across the different macroeconomic phases**

Macroeconomic Phase	Rural				Urban			
	Regular salaried	Self employed	Casual labour	Unpaid household worker	Regular salaried	Self employed	Casual labour	Unpaid household worker
Phase I: Pre-liberalization	6.06 (0.03) [33655]	25.11 (0.06) [136891]	25.27 (0.06) [99266]	43.56 (0.07) [224214]	26.97 (0.08) [71690]	18.49 (0.07) [50861]	10.51 (0.06) [24484]	44.02 (0.10) [116815]
Phase II: Early Reform and Informalization	5.64 (0.04) [29532]	20.84 (0.07) [92503]	27.43 (0.07) [72951]	46.09 (0.08) [188806]	25.93 (0.09) [54230]	18.66 (0.08) [43306]	10.63 (0.07) [21627]	44.77 (0.10) [98256]
Phase III: High growth and structural transition	6.44 (0.05) [25336]	20.94 (0.08) [56102]	25.39 (0.09) [38621]	47.24 (0.10) [113698]	27.41 (0.11) [38646]	18.85 (0.10) [29965]	9.89 (0.08) [15027]	43.85 (0.13) [68079]
Phase IV: Post high-growth labour stress	9.31 (0.05) [40044]	24.53 (0.07) [90489]	18.41 (0.07) [54226]	47.75 (0.08) [163516]	30.95 (0.09) [79178]	18.68 (0.08) [51647]	8.33 (0.06) [19964]	42.04 (0.10) [111538]
Phase V: Pandemic shock	9.82 (0.06) [24068]	26.14 (0.10) [58405]	18.58 (0.09) [34833]	45.47 (0.11) [92903]	31.16 (0.12) [46392]	19.42 (0.10) [32010]	8.48 (0.07) [12328]	40.94 (0.12) [63271]
Phase VI: Post-pandemic recovery	10.44 (0.06) [27965]	27.92 (0.10) [67938]	17.94 (0.08) [36835]	43.70 (0.10) [93238]	32.80 (0.12) [51780]	19.81 (0.10) [35369]	8.20 (0.06) [12351]	39.19 (0.13) [63488]

Standard error in parenthesis and number of observations in square braces. The unemployed are not reported.

Table 4: **Welfare levels (monthly real household consumption expenditure per worker) across worker types**

Macroeconomic Phase	Rural					Urban				
	Regular salaried	Self employed	Casual labour	Unpaid household worker	Overall	Regular salaried	Self employed	Casual labour	Unpaid household worker	Overall
Phase I: Pre-liberalization	8803.85 (1259.45) [33288]	4998.65 (332.40) [135945]	3546.21 (319.98) [98501]	5319.71 (296.75) [222386]	5001.65 (188.49) [490120]	9091.39 (618.37) [70812]	7820.31 (773.36) [50342]	3397.81 (15.55) [24209]	7147.67 (397.41) [115648]	7402.83 (273.57) [261011]
Phase II: Early Reform and Informalization	4958.75 (28.80) [29532]	3873.49 (9.05) [92503]	2772.72 (4.29) [72951]	3688.76 (6.61) [188806]	3547.51 (4.28) [383792]	7300.44 (580.00) [54230]	5905.11 (23.19) [43306]	3519.87 (11.29) [21627]	6087.85 (292.43) [98256]	6095.13 (199.55) [217419]
Phase III: High growth and structural transition	5896.45 (38.63) [25336]	4801.26 (15.42) [56099]	3438.16 (8.31) [38621]	4374.89 (11.32) [113698]	4324.24 (7.15) [233754]	9105.76 (42.94) [38646]	7716.77 (41.93) [29965]	4255.76 (20.02) [15027]	7678.15 (26.83) [68079]	7738.42 (18.17) [151717]
Phase IV: Post high-growth labour stress	5313.10 (20.53) [40044]	4193.92 (9.08) [90489]	3404.78 (7.05) [54226]	3983.89 (6.63) [163516]	4052.53 (4.59) [348275]	8269.53 (22.87) [79178]	7232.62 (26.70) [51647]	4512.44 (17.30) [19964]	7063.74 (17.15) [111538]	7256.13 (11.46) [262327]
Phase V: Pandemic shock	5301.20 (24.47) [24068]	4624.50 (11.11) [58405]	3680.65 (9.50) [34833]	4264.89 (8.94) [92903]	4352.13 (6.00) [210209]	7828.83 (66.38) [46392]	6971.97 (165.29) [32010]	4490.69 (20.38) [12328]	6747.56 (20.34) [63271]	6936.67 (38.80) [154001]
Phase VI: Post-pandemic recovery	5563.76 (21.46) [27965]	5119.99 (11.98) [67938]	4037.44 (9.97) [36835]	4695.09 (9.07) [93238]	4786.41 (6.00) [225976]	7978.14 (24.21) [51780]	7131.50 (25.70) [35369]	4699.44 (20.68) [12351]	7031.53 (19.02) [63488]	7170.70 (12.38) [162988]

Bootstrapped standard error in parenthesis and number of observations in square braces.

Table 5: **Shift-share Decomposition over the Phases**

	Rural			Urban		
Macroeconomic Phase	ΔEC	ΔST	INT	ΔEC	ΔST	INT
Phase - I → Phase - II	-39.03**	-1421.04***	5.93	-24.35***	-1291.17***	7.83
	(18.83)	(184.79)	(18.71)	(8.50)	(349.42)	(10.05)
Phase - II → Phase - III	29.07***	744.98***	2.68***	36.78***	1596.50***	10.00*
	(1.47)	(7.82)	(0.55)	(8.83)	(184.07)	(8.26)
Phase - III → Phase - IV	124.41***	-357.87***	-38.25***	103.92***	-564.54***	-21.68***
	(2.26)	(8.17)	(1.72)	(4.60)	(22.42)	(2.17)
Phase - IV → Phase - V	9.23***	289.47***	0.90*	-0.23	-319.85***	0.61
	(1.40)	(7.00)	(0.53)	(3.23)	(40.19)	(1.35)
Phase - V → Phase - VI	16.52***	417.16***	0.59	25.06***	211.46***	-2.49*
	(1.33)	(8.44)	(0.48)	(3.48)	(38.35)	(1.42)

Bootstrapped standard error in parenthesis. "***" indicates p-value $\leq 1\%$, "**" indicates $1\% <$ p-value $\leq 5\%$ and "*" indicates $5\% <$ p-value $\leq 10\%$.

Note: Employment composition effect (ΔEC) is defined as $\sum_j (s_{jt} - s_{jt-1}) HCPW_{jt-1}$ where s is employment share belonging to the j^{th} occupation group where $j \in$ Regular salaried, Self employed, Casual labourers and Unpaid labourers in family enterprise and those who attended domestic duties and/or engaged in other household activities. Structural change (ΔST) is defined as $\sum_j (HCPW_{jt} - HCPW_{jt-1}) s_{jt-1}$ and Interaction effect (INT) is $\sum_j (s_{jt} - s_{jt-1})(HCPW_{jt} - HCPW_{jt-1})$.

Table 6R: **Oaxaca-Blinder decomposition of welfare levels (monthly real household consumption expenditure per worker) across worker types and phases (Rural)**

	Regular salaried v/s Self employed			Casual labour v/s Self employed			Unpaid household worker v/s Self employed		
Macroeconomic Phase	Endowment	Coefficient	Interaction	Endowment	Coefficient	Interaction	Endowment	Coefficient	Interaction
Phase I: Pre-liberalization	252.34 (221.23)	3582.25* (2106.44)	-22.57 (1209.47)	-456.50 (354.50)	507.47 (1781.99)	-1504.27 (1458.63)	3.85 (400.70)	686.44 (647.15)	-369.62 (610.33)
Phase II: Early Reform and Informalization	467.67*** (26.21)	409.86*** (42.48)	208.48*** (39.38)	-496.48*** (16.84)	-842.62*** (17.43)	238.01*** (18.38)	105.22*** (33.13)	-199.27*** (21.17)	-90.83** (35.63)
Phase III: High growth and structural transition	882.69*** (45.95)	250.44*** (61.49)	-38.42 (60.09)	-504.14*** (28.93)	-1121.28*** (34.93)	262.25*** (32.91)	202.27*** (76.11)	-365.21*** (43.17)	-263.72*** (81.75)
Phase IV: Post high-growth labour stress	677.05*** (24.32)	520.32*** (39.66)	-78.43* (41.36)	-221.81*** (17.13)	-707.25*** (20.40)	139.74*** (18.68)	256.03*** (37.99)	-163.43*** (31.05)	-302.89*** (45.11)
Phase V: Pandemic shock	519.59*** (28.04)	212.99*** (44.29)	-55.44 (38.38)	-311.36*** (21.10)	-856.89*** (25.82)	224.84*** (23.56)	77.72** (36.61)	-226.21*** (31.76)	-211.01*** (43.26)
Phase VI: Post-pandemic recovery	338.43** (133.62)	-66.52 (168.05)	171.87 (149.88)	-309.31** (155.55)	-1032.81*** (129.65)	259.57*** (69.84)	-239.36 (160.05)	-352.50** (143.46)	166.96 (107.42)

Standard error in parenthesis. "***" indicates p-value $\leq 1\%$, "**" indicates $1\% <$ p-value $\leq 5\%$ and "*" indicates $5\% <$ p-value $\leq 10\%$.

Table 6U: **Oaxaca-Blinder decomposition of welfare levels (monthly real household consumption expenditure per worker) across worker types and phases (Urban)**

	Regular salaried v/s Self employed			Casual labour v/s Self employed			Unpaid household worker v/s Self employed		
Macroeconomic Phase	Endowment	Coefficient	Interaction	Endowment	Coefficient	Interaction	Endowment	Coefficient	Interaction
Phase I: Pre-liberalization	382.21 (442.02)	724.87 (1348.10)	164.13 (739.73)	-1095.75 (891.80)	-3844.09*** (869.87)	516.43 (893.57)	587.21 (1802.60)	-2321.64** (1073.54)	1062.10 (1992.73)
Phase II: Early Reform and Informalization	838.19*** (40.69)	447.34*** (155.90)	110.35 (75.88)	-1705.75*** (49.49)	-1913.12*** (56.39)	1235.55*** (57.53)	-612.58*** (77.90)	262.52*** (73.09)	534.23*** (93.79)
Phase III: High growth and structural transition	1316.68*** (84.43)	161.38* (83.97)	-88.70 (85.61)	-2315.82*** (82.32)	-2945.67*** (90.52)	1798.81*** (91.55)	-137.12 (178.75)	179.44 (127.75)	-81.19 (201.26)
Phase IV: Post high-growth labour stress	867.61*** (40.19)	262.86*** (50.14)	-93.91** (39.28)	-1726.92*** (52.04)	-2330.43*** (82.50)	1336.54*** (81.01)	-57.72 (109.48)	132.05 (84.94)	-243.37* (129.59)
Phase V: Pandemic shock	802.04*** (96.62)	32.56 (137.70)	22.57 (135.00)	-1301.68*** (56.57)	-2302.42*** (139.92)	1122.78*** (64.05)	-276.97 (177.96)	-118.53 (153.98)	171.46 (191.92)
Phase VI: Post-pandemic recovery	666.60*** (38.47)	159.56*** (52.46)	20.48 (40.42)	-1442.53*** (51.61)	-2240.00*** (57.30)	1250.45*** (60.04)	-80.97 (80.81)	154.03 (102.56)	-173.05 (119.01)

Standard error in parenthesis. "***" indicates p-value $\leq 1\%$, "**" indicates $1\% <$ p-value $\leq 5\%$ and "*" indicates $5\% <$ p-value $\leq 10\%$.

Table 7ER: **RIF decomposition of welfare levels (monthly real household consumption expenditure per worker) across phases and quantiles: explained (composition) (Rural)**

Employment Type	Percentile	Phase I: Pre-liberalization	Phase II: Early Reform and Informalization	Phase III: High growth and structural transition	Phase IV: Post high-growth labour stress	Phase V: Pandemic shock	Phase VI: Post-pandemic recovery
Regular Salaried v/s Self employed	10	89.89***	74.01***	172.52***	167.86***	154.88***	156.31***
		(5.63)	(9.55)	(20.80)	(11.88)	(17.18)	(20.57)
	25	150.04***	121.10***	284.66***	272.89***	205.29***	218.91***
		(7.05)	(11.99)	(22.60)	(13.32)	(18.19)	(28.35)
	50	277.03***	246.82***	451.21***	432.15***	330.40***	321.48***
		(10.74)	(17.24)	(31.36)	(17.09)	(22.98)	(51.76)
	75	540.89***	490.87***	893.36***	739.72***	589.14***	430.72***
		(20.31)	(30.37)	(51.95)	(27.12)	(35.48)	(129.92)
	90	1000.06***	943.78***	1863.58***	1098.44***	1034.51***	392.15
		(49.09)	(70.65)	(108.53)	(45.43)	(71.92)	(469.40)
Casual labour v/s Self employed	10	-181.26***	-229.38***	-214.63***	-93.30***	-123.47***	-171.56***
		(5.92)	(14.94)	(19.12)	(10.94)	(15.39)	(32.97)
	25	-267.15***	-321.44***	-291.74***	-142.43***	-184.02***	-209.32***
		(6.36)	(12.71)	(19.37)	(11.51)	(16.45)	(40.91)
	50	-407.60***	-480.62***	-465.65***	-215.35***	-278.16***	-292.71***
		(8.52)	(14.90)	(25.58)	(16.60)	(19.75)	(64.88)
	75	-611.03***	-614.01***	-657.37***	-256.07***	-396.28***	-381.35**
		(13.99)	(21.52)	(39.40)	(21.50)	(29.36)	(154.16)
	90	-950.71***	-724.66***	-913.93***	-258.01***	-565.18***	-537.32
		(28.72)	(40.57)	(73.11)	(30.11)	(54.74)	(521.70)
Unpaid household worker v/s Self employed	10	-29.73***	-82.16**	-99.53***	-57.89***	-86.60***	-134.03***
		(10.08)	(36.56)	(34.71)	(21.29)	(27.76)	(31.30)
	25	-42.66***	-129.09***	-129.98***	-33.53	-122.91***	-165.86***
		(10.72)	(27.75)	(37.92)	(22.07)	(27.43)	(39.40)
	50	-45.42***	-85.38***	-86.46*	53.64*	-90.83***	-196.51***
		(14.52)	(28.08)	(50.92)	(32.59)	(34.00)	(66.67)
	75	34.01	84.42**	105.54	168.52***	38.60	-230.61
		(25.37)	(39.24)	(83.05)	(45.97)	(52.06)	(161.02)
	90	200.53***	590.80***	630.55***	501.36***	457.21***	-551.31
		(52.87)	(78.38)	(163.69)	(76.01)	(104.40)	(550.84)

Scale:	≤ -854	$(-854,\ -174]$	$(-174,\ 505]$	$(505,\ 1185]$	$(1185,\ 1864]$

Standard error in parenthesis. "***" indicates p-value $\leq 1\%$, "**" indicates $1\% <$ p-value $\leq 5\%$ and "*" indicates $5\% <$ p-value $\leq 10\%$.

Table 7UR: **RIF decomposition of welfare levels (monthly real household consumption expenditure per worker) across phases and quantiles: unexplained (conditional association) (Rural)**

Employment Type	Percentile	Phase I: Pre-liberalization	Phase II: Early Reform and Informalization	Phase III: High growth and structural transition	Phase IV: Post high-growth labour stress	Phase V: Pandemic shock	Phase VI: Post-pandemic recovery
Regular Salaried v/s Self employed	10	26.09*	154.91***	85.28**	61.43***	-29.92	23.45
		(15.23)	(23.18)	(37.06)	(23.46)	(29.15)	(25.99)
	25	117.72***	295.96***	99.36***	113.86***	-4.60	-8.97
		(16.04)	(25.30)	(38.28)	(23.59)	(29.48)	(28.72)
	50	334.50***	480.01***	282.61***	324.71***	112.80***	-0.72
		(22.71)	(34.03)	(51.99)	(32.51)	(38.64)	(39.52)
	75	689.94***	903.35***	449.49***	540.25***	167.03***	103.57
		(41.47)	(62.61)	(86.54)	(44.33)	(61.33)	(74.58)
	90	1057.28***	1239.22***	397.86**	1358.61***	496.59***	292.05
		(88.78)	(136.78)	(178.60)	(95.29)	(130.62)	(189.99)
Casual labour v/s Self employed	10	-187.27***	-125.64***	-231.72***	-190.61***	-277.25***	-236.32***
		(9.25)	(21.15)	(27.99)	(17.63)	(24.89)	(29.09)
	25	-284.07***	-192.60***	-379.05***	-315.02***	-364.40***	-318.36***
		(9.32)	(17.68)	(27.88)	(18.64)	(25.21)	(32.02)
	50	-489.49***	-359.67***	-566.96***	-344.39***	-471.93***	-490.84***
		(11.71)	(19.26)	(34.19)	(23.94)	(28.14)	(60.67)
	75	-862.81***	-736.59***	-947.31***	-702.18***	-697.12***	-777.60***
		(18.26)	(25.72)	(50.16)	(29.80)	(39.11)	(162.05)
	90	-1417.23***	-1323.81***	-1533.82***	-1229.31***	-1140.01***	-1106.54**
		(34.76)	(46.08)	(87.63)	(42.17)	(65.79)	(536.30)
Unpaid household worker v/s Self employed	10	-36.27***	-22.29	-121.58***	-127.41***	-147.60***	-118.39***
		(11.75)	(41.11)	(38.42)	(23.56)	(32.10)	(30.03)
	25	-58.74***	-15.16	-191.82***	-261.56***	-182.15***	-163.64***
		(12.39)	(31.20)	(41.38)	(24.50)	(31.47)	(31.22)
	50	-118.23***	-134.94***	-368.47***	-337.62***	-299.66***	-249.39***
		(16.68)	(30.82)	(54.73)	(35.26)	(38.46)	(46.12)
	75	-240.59***	-341.81***	-664.65***	-462.56***	-518.41***	-241.11**
		(29.35)	(42.79)	(89.59)	(51.01)	(58.52)	(105.25)
	90	-397.13***	-845.11***	-1182.60***	-747.70***	-972.95***	-272.14
		(61.52)	(87.01)	(179.50)	(83.21)	(118.55)	(401.34)

Scale:	≤ -854	$(-854,\ -174]$	$(-174,\ 505]$	$(505,\ 1185]$	$(1185,\ 1864]$

Standard error in parenthesis. "***" indicates p-value $\leq 1\%$, "**" indicates $1\% <$ p-value $\leq 5\%$ and "*" indicates $5\% <$ p-value $\leq 10\%$.

Table 7EU: **RIF decomposition of welfare levels (monthly real household consumption expenditure per worker) across phases and quantiles: explained (composition) (Urban)**

Employment Type	Percentile	Phase I: Pre-liberalization	Phase II: Early Reform and Informalization	Phase III: High growth and structural transition	Phase IV: Post high-growth labour stress	Phase V: Pandemic shock	Phase VI: Post-pandemic recovery
Regular Salaried v/s Self employed	10	155.04***	134.45***	193.13***	125.32***	139.53***	155.16***
		(8.14)	(12.76)	(26.50)	(16.28)	(22.40)	(21.64)
	25	277.42***	213.81***	341.08***	240.37***	217.25***	250.30***
		(9.69)	(17.05)	(33.57)	(19.24)	(24.50)	(23.55)
	50	533.74***	457.72***	691.46***	521.36***	422.11***	388.77***
		(15.16)	(25.53)	(44.76)	(28.88)	(31.56)	(28.68)
	75	1089.93***	1099.82***	1444.30***	1279.69***	885.08***	686.74***
		(30.75)	(52.17)	(83.88)	(59.19)	(55.33)	(44.02)
	90	2156.14***	1945.70***	2745.14***	1431.00***	1415.19***	1480.28***
		(70.56)	(99.69)	(179.94)	(71.99)	(92.34)	(97.09)
Casual labour v/s Self employed	10	-378.77***	-505.43***	-783.87***	-503.47***	-455.90***	-475.84***
		(14.17)	(22.95)	(37.78)	(24.08)	(31.62)	(31.92)
	25	-536.54***	-813.07***	-1286.22***	-752.23***	-639.70***	-715.10***
		(14.79)	(26.28)	(45.31)	(28.76)	(32.25)	(35.06)
	50	-913.12***	-1293.99***	-1701.61***	-1533.51***	-1028.02***	-1045.95***
		(20.42)	(33.76)	(51.94)	(45.45)	(41.56)	(40.98)
	75	-1601.61***	-2380.54***	-2827.90***	-3079.19***	-1830.22***	-1695.69***
		(35.55)	(68.81)	(95.90)	(90.18)	(75.20)	(59.95)
	90	-2639.87***	-3203.85***	-4534.64***	-2461.36***	-2321.77***	-3245.67***
		(79.59)	(123.94)	(211.11)	(93.16)	(110.46)	(143.69)
Unpaid household worker v/s Self employed	10	-180.15***	-392.15***	-421.69***	-255.06***	-189.55***	-234.26***
		(30.96)	(47.33)	(69.89)	(41.47)	(47.19)	(45.27)
	25	-205.51***	-456.85***	-570.26***	-365.56***	-251.24***	-278.68***
		(31.52)	(49.69)	(76.44)	(49.27)	(53.18)	(48.17)
	50	-306.75***	-512.75***	-348.06***	-417.46***	-302.94***	-328.73***
		(41.77)	(61.40)	(101.63)	(76.50)	(67.60)	(59.39)
	75	-395.60***	-828.30***	-312.84	-394.35**	-250.69**	-280.36***
		(72.18)	(116.83)	(207.07)	(165.86)	(118.58)	(92.23)
	90	-453.86***	-941.69***	151.62	-75.87	52.71	5.65
		(153.96)	(216.28)	(453.05)	(180.58)	(198.08)	(223.04)

Scale: ≤ -3078 | $(-3078, -1622]$ | $(-1622, -166]$ | $(-166, 1290]$ | $(1290, 2746]$

Standard error in parenthesis. "***" indicates p-value $\leq 1\%$, "**" indicates $1\% <$ p-value $\leq 5\%$ and "*" indicates $5\% <$ p-value $\leq 10\%$.

Table 7UU: **RIF decomposition of welfare levels (monthly real household consumption expenditure per worker) across phases and quantiles: unexplained (conditional association) (Urban)**

Employment Type	Percentile	Phase I: Pre-liberalization	Phase II: Early Reform and Informalization	Phase III: High growth and structural transition	Phase IV: Post high-growth labour stress	Phase V: Pandemic shock	Phase VI: Post-pandemic recovery
Regular Salaried v/s Self employed	10	285.93***	240.07***	271.04***	221.69***	132.54***	50.79
		(16.86)	(23.50)	(37.35)	(24.93)	(33.92)	(32.44)
	25	438.77***	350.03***	268.55***	54.62*	154.36***	-25.75
		(18.53)	(28.40)	(47.75)	(31.80)	(36.36)	(34.75)
	50	674.18***	505.70***	131.44**	267.13***	111.44**	98.32**
		(27.49)	(41.16)	(66.88)	(43.87)	(48.52)	(45.70)
	75	766.48***	680.92***	125.57	12.31	158.38*	265.04***
		(53.39)	(87.90)	(144.96)	(89.31)	(91.56)	(81.55)
	90	491.56***	459.92**	-181.93	1174.07***	785.71***	526.11***
		(125.96)	(196.44)	(325.26)	(157.89)	(195.82)	(188.88)
Casual labour v/s Self employed	10	-116.96***	-79.79**	15.28	-208.45***	-240.80***	-351.38***
		(22.27)	(34.11)	(53.65)	(37.65)	(47.82)	(46.54)
	25	-244.11***	-97.83***	-27.04	-426.91***	-415.67***	-602.34***
		(22.34)	(36.58)	(59.81)	(43.09)	(45.55)	(46.41)
	50	-387.26***	-215.91***	-656.32***	-202.80***	-620.60***	-710.71***
		(28.45)	(42.19)	(64.82)	(58.97)	(53.97)	(53.62)
	75	-655.97***	-407.31***	-1232.84***	-258.73***	-991.48***	-1155.96***
		(43.51)	(64.38)	(104.15)	(95.81)	(85.98)	(73.47)
	90	-1331.14***	-1792.98***	-2471.54***	-3428.54***	-2377.59***	-1148.21***
		(81.03)	(100.33)	(167.72)	(110.67)	(115.58)	(145.27)
Unpaid household worker v/s Self employed	10	231.96***	366.47***	290.43***	129.53***	33.10	-8.69
		(34.13)	(52.43)	(78.08)	(46.65)	(54.37)	(52.97)
	25	300.02***	458.43***	403.99***	146.84***	77.01	-11.93
		(34.45)	(53.45)	(83.00)	(52.45)	(59.32)	(54.07)
	50	554.71***	579.64***	227.20**	177.50**	93.93	54.66
		(45.31)	(65.85)	(108.61)	(82.48)	(74.14)	(65.65)
	75	877.76***	1109.52***	394.64*	114.57	166.02	170.20*
		(78.01)	(121.89)	(221.70)	(180.93)	(129.62)	(103.11)
	90	1223.28***	1298.18***	43.80	127.69	100.08	289.41
		(166.85)	(225.23)	(502.41)	(197.78)	(222.32)	(258.99)

Scale: ≤ -3078 | $(-3078, -1622]$ | $(-1622, -166]$ | $(-166, 1290]$ | $(1290, 2746]$

Standard error in parenthesis. "***" indicates p-value $\leq 1\%$, "**" indicates $1\% <$ p-value $\leq 5\%$ and "*" indicates $5\% <$ p-value $\leq 10\%$.