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India's Labour Productivity Puzzle

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Abstract

This paper documents that despite relatively robust output growth, India has experienced a marked and puzzling slowdown in labour productivity over the last decade. This we argue, is partly because of a intensification in dualism. While employment rates have risen, across most kinds of occupations, there is a proportionately greater shift toward self-employment and informal activities (especially among women), which are lower productivity sectors. Overall we document a sustained reversal in labour reallocation toward lower-productivity sectors, especially towards agriculture. We show that this pattern is unusual in international perspective. Sectoral, household, and gender-based evidence indicates that rising per capita incomes have been sustained through labour intensification despite stagnant or declining earnings per worker. An additional and puzzling fact is that there has been a decline in labour productivity growth even in larger firms. Taken together, the findings point to an intensification of dualism-with some growth in formal higher value added activity being offset by much larger growth in activity in lower value added sectors.

JEL Classification: O14; O47; J21; J24; O53

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1 Introduction

Sustained economic growth accompanied by structural transformation is a necessary condition for India to achieve its developmental goals over the next few decades. While the Indian economy has consistently been among the fastest growing large economies over the past few decades, this growth has not been accompanied by adequate structural transformation (Basole, 2022; Ghose, 2020; Majid, 2019).

Unlike the East Asian trajectory—characterised by rapid labour absorption into manufacturing along with sustained productivity growth—India's development path has been marked by persistent dualism. A large share of the workforce remains concentrated in agriculture and low-productivity services, alongside a relatively small but highly productive modern sector comprising parts of manufacturing and high-value-added services. Since the 1990s, India's rapid GDP growth has been driven disproportionately by capital-intensive industries and skill-intensive services such as information technology, finance, telecommunications, and business services, which generate substantial value added but absorb only a limited share of labour (Kapur & Subramanian, 2025). This configuration has meant that aggregate output and GDP per capita have grown without a commensurate expansion of productive employment. As a result there have been long-standing concerns about jobless growth, stagnant wages, and persistently low female labour force participation.

This distinctiveness has often been interpreted as a temporary deviation from standard development trajectories, with the modern sector driving aggregate output while broader structural transformation proceeds slowly. However, over the last four decades, since India's growth take-off, dualism has remained a stubborn feature of the economy.

Against this backdrop, recent developments in India are striking. Since 2018, employment levels have increased, female labour force participation has risen, and India has emerged from the Covid-19 pandemic as the fastest-growing large economy in the world, combining robust output growth with relatively low inflation (Ministry of Finance, 2026). In a macroeconomic sense, India's recent performance appears enviable, especially when viewed against a global environment marked by repeated shocks. However, sustained

output growth has been accompanied by a dramatic slowdown in labour productivity growth.

In this paper we argue that this pattern represents a departure even from India's historically distinctive trajectory. Rather than combining output growth with gradual structural transformation, India has experienced what we describe as structural retrogression. By structural retrogression we mean a sustained reversal in the direction of labour reallocation. Employment expansion has coincided with stagnant or declining labour productivity, indicating a growth process increasingly reliant on the extensive margin—more people working, more earners per household, and greater labour mobilisation—rather than improvements in output per worker or firm-level efficiency. While segments of the modern sector have continued to expand impressively, the bulk of employment growth has occurred in surplus labour sectors. In a historically unusual development, agriculture has absorbed more labour in recent years than it did half a decade earlier. This has persisted post Covid.

Our contribution is three fold. First, we document the post-2017 productivity slowdown using multiple data sources—national accounts, India KLEMS, and enterprise level microdata—and show that it is a robust and pervasive phenomenon across sectors. Second, we place India's recent experience in international perspective and show that the decoupling of per capita growth from productivity growth observed is unusual among large and emerging economies, even after accounting for the global disruptions associated with the pandemic. The cross-country analysis shows that while productivity growth slowed almost everywhere after 2018, India stands out in combining robust per capita growth with outright declines in labour productivity and rising agricultural employment shares. This comparative evidence strengthens the claim that India's recent trajectory represents a distinctive and concerning departure from typical convergence dynamics. Third, we use household survey data to offer an explanation for the divergence between productivity growth and output growth- an increase in earners and hours worked rather than an increase in hourly per person earnings have driven the growth in household incomes.

The paper proceeds as follows. Section 2 situates our contribution within the literature on productivity growth, structural change, and labour markets in India and other develop-

ing economies. Section 3 describes the data sources and methods. Section 4 presents the core empirical findings. We document the post-2017 slowdown and subsequent collapse in labour productivity, show the growing divergence between per capita growth and per worker growth, and place India's recent experience in international perspective. We interpret these patterns through the lens of structural retrogression, analysing sectoral labour reallocation, household-level labour mobilisation, gendered employment dynamics, and firm-level productivity differences. The final section, Section 5, discusses the implications of employment-led growth driven by labour intensification, and assesses the risks of weakened structural transformation.

2 Related Literature

Productivity growth occupies a central place in modern theories of economic growth. In the short run, GDP per capita can increase even in the absence of sustained productivity improvements. Factor accumulation—higher investment rates, longer working hours, increased labour force participation, or the mobilisation of underemployed labour—can all raise output. However, these margins are inherently limited. Over time, wages and living standards cannot rise persistently without corresponding gains in labour productivity. This insight, formalised in the canonical Solow growth model, implies that long-run growth in per capita income depends critically on improvements in productivity driven by technological progress and the effective use of human and physical capital (Solow, 1956).

In developing and dual economies, there exists an additional channel by which aggregate productivity growth is achieved, viz. structural transformation. When large shares of the workforce are employed in low-productivity activities, aggregate productivity can rise not only through improvements within sectors but also through the reallocation of labour toward more productive uses. The classic development literature emphasises that sustained growth requires both rising productivity within modern sectors and their capacity to absorb labour from traditional sectors (Kaldor, 1967; Kuznets, 1966; Lewis, 1954). When productivity gains remain concentrated in capital-intensive enclaves with weak employment linkages, output may grow without delivering broad-based improvements in wages, job quality, or living standards.

India experienced significant growth in both labour productivity and total factor productivity post 2003. Goldar et al. (2017) show, using the RBI KLEMS data that value added growth accelerated significantly during 2003–2014 to 7.2%, accompanied by accelerated total factor productivity (TFP) growth. However, the literature on the Indian experience also highlights three persistent issues: (1) India's labour productivity lags international peers and shows limited convergence to the frontier (Alonso & Staff, 2024), (2) structural change has been service- rather than manufacturing-led with many new jobs in low-productivity services (premature deindustrialization) (Centre for Sustainable Employment, 2018; Ghosh, 2014) and (3) large firm-level dispersion and misallocation are important sources of aggregate inefficiency (Alonso & Staff, 2024; Hsieh & Klenow, 2009; Joshi & Voskoboynikov, 2024; Reserve Bank of India (RBI), 2024).

Recent work on post-2017 labour market dynamics emphasizes rising female participation, increased self-employment, and stagnating real earnings (Centre for Sustainable Employment, 2023; Dhamija & Chawla, 2023; Jayadev & Tripathi, 2026). Our contribution differs from this literature by documenting a post-2017 reversal in productivity dynamics using multiple data sources, and by showing that recent growth has been sustained primarily through labour mobilisation rather than productivity growth or structural change.

3 Data and Methods

3.1 Data sources

Our analysis draws on multiple nationally representative datasets that together allow us to examine productivity dynamics from complementary vantage points. Each dataset by itself provides only a partial view, but taken together they paint a consistent picture of productivity decline and its underlying mechanisms. By triangulating across sources that differ in unit of observation, coverage, and conceptual emphasis, we find a directionally similar story.

First, the RBI's KLEMS database[1] and the national income accounts[2] provide consistent

[1] https://rbi.org.in/Scripts/KLEMS.aspx
[2] https://www.mospi.gov.in/publication/national-accounts-statistics-2024

time series on value added, employment, and productivity at the sectoral level over long horizons since 1980-81. These data are central to our measurement of labour productivity trends, both aggregate and sectoral, and to our structural change decompositions. The KLEMS harmonises output and employment measures across industries and allows us to distinguish within-sector productivity growth from between-sector labour reallocation effects. This allows us to identify whether productivity changes arise from technological or organisational improvements within industries or from shifts of labour across industries with different productivity levels.

Second, the nationally representative Periodic Labour Force Survey (PLFS), available annually from 2017–18 onward, provides the main source for our employment and labour-market analysis.[3] We use PLFS microdata to track changes in employment levels, labour force participation, employment type (regular, casual, self-employed, unpaid family work), sector of activity, wages, and hours worked. This is important for understanding how per capita income growth can occur even when productivity and real wages stagnate. Additionally, the microdata permit decompositions of household earnings into earnings per hour, hours worked, and number of earners, making it possible to identify whether income growth reflects productivity improvements or labour intensification. While PLFS is not designed to measure firm-level productivity, it is uniquely suited to analysing employment composition, informality, gender patterns, and household-level coping strategies.

Third, for firm-level analysis we use factory data from the Annual Survey of Industries (ASI) and enterprise data from the Annual Survey of Unincorporated Sector Enterprises (ASUSE).[4] We use this data to study enterprise or factory-level labour productivity, its dispersion across size classes, and changes in the relationship between employment shares and value-added shares. By examining productivity growth by firm size and tracking shifts in employment across size classes we are able to assess whether employment expansion is occurring in productivity-enhancing segments of manufacturing or in surplus-labour absorbing micro-units.

Finally, we use the World Bank's World Development Indicators (WDI) to place India's

[3] PLFS microdata available here

[4] ASI microdata availalbe here and ASUSE microdata available here.

recent experience in international perspective.[5] WDI data on value added per worker, per capita income, sectoral employment shares, and population structure allow us to compare India with a large set of emerging and developing economies before and after the pandemic. The purpose of using WDI is to establish whether the Indian experience is unusual in direction and magnitude.

Taken together, these datasets allow us to cross verify our macroeconomic outcomes with the plausible sectoral shifts, firm-level dynamics, and household labour supply decisions that led to these changes. National accounts and KLEMS identify the productivity slowdown and structural reversal; PLFS reveals the labour-market and household mechanisms that sustain per capita growth; ASI and ASUSE documents misallocation and polarisation within manufacturing; and WDI situates India's experience in global context.

3.2 Structural change decompostion

We perform a 3-way structural change decomposition following de Vries, Timmer, and de Vries (2015). Labour productivity is defined as value-added per worker:

$$y = \frac{Y}{E} \tag{1}$$

where Y = value added and E is employment. The decomposition is given by:

$$\Delta y_t = \sum_i \Delta y_{i,t}\, e_{i,t-1} + \sum_i \Delta e_{i,t}\, y_{i,t-1} + \sum_i \Delta e_{i,t}\, \Delta y_{i,t} \tag{2}$$

where:

- Δy_t = change in aggregate labour productivity in time period t
- $\Delta y_{i,t}$ = change in labour productivity in industry i in time period t
- $e_{i,t-1}$ = share of employment in industry i in the previous time period $t-1$
- $e_{i,t}$ = share of employment in industry i in time period t
- $\Delta e_{i,t}$ = change in share of employment in industry i in time period t

[5] https://databank.worldbank.org/source/world-development-indicators

- $y_{i,t-1}$ = level of labour productivity in industry i in the previous time period $t-1$

The three components of the decomposition are interpreted as follows:

$$\sum_i \Delta y_{i,t}\, e_{i,t-1} \quad \text{Within-industry improvement in labour productivity,} \tag{3}$$

$$\sum_i \Delta e_{i,t}\, y_{i,t-1} \quad \text{Static reallocation effect on labour productivity,} \tag{4}$$

$$\sum_i \Delta e_{i,t}\, \Delta y_{i,t} \quad \text{Dynamic reallocation effect on labour productivity.} \tag{5}$$

The static reallocation effect measures whether labour was reallocated to sectors with above-average productivity levels during the period in question. The dynamic reallocation effect represents the joint effect of changes in employment and productivity levels. It is positive (negative) if labour reallocation occurs towards industries or sectors that are experiencing positive (negative) productivity growth.

4 Results

This section presents the empirical results in four steps. We first document the post-2017 collapse in labour productivity in long-run and international perspective. We then show that this collapse coincides with an unusual divergence between per capita and per worker growth. Next, we trace this divergence to sectoral labour reallocation and structural reversal. Finally, we examine household-, gender-, and firm-level mechanisms that sustain growth through labour mobilisation.

4.1 The recent collapse in productivity growth

The principal focus of our study is the period from the onset of the pre-Covid growth slowdown in the Indian economy (2018-19) to the most recent year for which national income as well as employment data are available (2023-24). This encompasses the growth slowdown as described by Felman and Subramanian (2019), the Covid-19 pandemic and the recovery. For most of the analysis we focus on this period or on a comparison with the immediately preceding six year period between 2011-12 and 2017-18.

We begin with a longer-run comparison to place the recent period in perspective. Figure 1 shows the performance of the Indian economy in terms of labour productivity growth, since 2003. It is generally acknowledged that the Indian economy entered a new rapid growth phase after 2002, which lasted until the Global Financial Crisis of 2008 (the "dream run", Nagaraj (2013)). But it is noteworthy that productivity growth remained relatively strong until 2017. Between 2003 and 2017, labour productivity growth exceeded 5% in 12 of the 15 years, with average growth being 6.2% per year.

[FIGURE 1 HERE]

[FIGURE 2 HERE]

The post-2002 acceleration in labour productivity was thus not a short-lived fluctuation but a broad-based sustained phase lasting nearly fifteen years. This period coincided with accelerated capital accumulation, rapid expansion of modern services, and a sharp decline in agricultural employment. Comparable sustained productivity episodes are typically associated with structural transformation in East Asia and parts of Latin America (McMillan, Rodrik, & Verduzco-Gallo, 2014; Rodrik, 2024).

Since 2017, productivity has grown faster than 5% only in the Covid-bounce back year when a strong base effect was at work (Alonso & Staff, 2024; Reserve Bank of India (RBI), 2024). Overall, the recent period stands out for a significant slowdown in productivity growth and represents not merely a cyclical slowdown but a deviation from a well-established growth regime. Alonso and Staff (2024) explicitly notes that India's post-pandemic growth has been "employment-rich but productivity-poor", a pattern inconsistent with historical convergence dynamics.[6].

We quantify the extent of the shock by showing indexed trend of productivity (blue) against a counter-factual trend assuming that the growth rate in the post-2018 period was the same at the medium-run average mentioned earlier (6.2%) (Figure 1). We find that, under this assumption, labour productivity would have been 41% higher. This is thus a very large and unprecedented negative shock. Also shown are the annual growth rates in this period (gray dots). Note that the drop in productivity growth starts in 2018, though as

[6]Similarly, the India KLEMS documentation shows that total factor productivity growth turned negative in several sectors after 2017, even before the pandemic shock. https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/INDIAKLEMS2024.pdf

expected the pandemic made the situation much worse. Thus it is clear that the pandemic shock came on top of earlier problems some of which have been analysed in Felman and Subramanian (2019).

Figure 2 shows real labour productivity trends for the major sectors of the economy. Notice that the major surplus labour sectors, agriculture and construction have showed low levels as well as growth of labour producitvity in general. But the noteworthy aspect of the post-2017 period is that productivity growth slowed down in manufacturing and services as well. Thus it is clear that the post-2017 slowdown is cross-sectoral in nature.

How unique is the Indian experience? The pandemic was a global phenomenon and it is possible that developing countries and emerging markets experienced larger negative productivity growth during the pandemic. We address whether the Indian case was different by examining the World Development Indicators (WDI) database using data on GVA per worker available for roughly 100 countries in this period. Figure 3 shows the results. We plot the ratio of labour productivity between the final and initial year for each period against the initial level. In period 1 (Figure 3a) India not only performed better than the cross-country average for its level of per capita income, but posted the strongest performance among the countries for which data are available. Period 2 provides a striking contrast (Figure 3b). Overall, almost all countries experienced a negative shock in this period as compared to the earlier one, as can be expected. However, India stands out as one of only three large emerging economies (along with Mexico and Argentina) that lies well below the line of best fit and below the line of unity (i.e. a decline in productivity).

[FIGURE 3 HERE]

To summarize, the Indian economy experienced a significant slowdown in labour productivity growth starting before the pandemic and had not recovered as of 2023-24 (the most recent year for which data are available). This was a broad-based slowdown in sectoral terms and is an outlier among peer economies. Strikingly, this performance is at odds with strong growth in per capita output that we refered to in the Introduction.

4.2 The divergence between per capita and per worker growth

When we compare the GVA per worker numbers to per capita growth numbers, an interesting puzzle presents itself. The collapse of productivity growth does not show up in the growth rate of GVA per capita. Figure 4 compares the two growth rates (GVA per capita and GVA per worker) since the 1980s for India. As expected, the two are tightly correlated most of the time. But the recent period stands out, showing an unusual combination of high per capita growth and much lower productivity growth. For e.g. in 2023-24, GVA per capita grew at 6.2% while labour productivity actually showed de-growth (-0.5%). That this divergence had started prior to the pandemic is clear from the fact that in 2018-19, per capita growth was 4.6% while in per worker terms GVA grew at a much slower rate of 2.02%.

[FIGURE 4 HERE]

[FIGURE 5 HERE]

Figure 5 documents that this divergence between GVA per worker and GVA per capita in India is an usual phenomenon in international perspective. India is the only large economy that lies far below the line of best fit.[7] To illustrate the implication of this divergence more directly, we plot the trend in GVA per worker and GVA per capita for India and Vietnam (Figure 6). Notice that, productivity levels (blue and red) diverge dramatically in this period, but the per capita output gap remains more or less constant (green and yellow). Moreover, for Vietnam, as is usually the case, GVA per worker exceeds GVA per capita in level terms. For India the reverse is true by a comfortable margin.

[FIGURE 6 HERE]

Since output growth is, by accounting identity, the sum of productivity growth and employment growth, it follows that the collapse in productivity must have been offset by rising employment in the recent period. In the following sections, we explore this possibility by first analysing the nature of the productivity shock at the sectoral level and then taking a direct look at employment at the household and firm level.

[7] The only other economy to show a comparable divergence if Saudi Arabia, which is a special case of a small, oil-exporting country.

4.3 Analysing the productivity collapse

4.3.1 Sectoral analysis

A first order cause of the fall in productivity appears to be a rise in employment in surplus labour sectors- most importantly, in agriculture (Figure 7). The steady decline in both the share and the absolute level of agricultural employment, which had started in the early 2000s, reversed itself since 2018 and has not returned to pre-Covid levels. While men have moved back to the non-farm sectors since the pandemic, women have increased their share of employment in agriculture (data not shown). As a result, by 2023, the fraction of the workforce employed in agriculture was higher than in 2018 and in absolute terms more workers were engaged in agriculture in 2023-24 than in 2011.

[FIGURE 7 HERE]

The WDI data also show that India's experience in terms of the persistent increase in agricultural employment in recent years is a rare phenomenon. Figure 8a shows the change in share of employment accounted for by agriculture between 2018 and 2023 across developing and emerging market economies for whom data are available for this period[8].

[FIGURE 8 HERE]

Note that peer economies in Asia as well as Latin America, such as Vietnam, Indonesia, Mexico and Brazil have registered a decline in the share of agriculture in employment in this period. The Indian case stands out as the only large economy with an increase. Moreover, when juxtaposed with growth in output experienced during the same period (Figure 8b), the Indian case stands out even more as one of very few economies where robust growth has been accompanied by a rise in agricultural employment.

Agriculture is the classic labor sink. It is to be expected that employment may rise faster than output in such a sector if there is a weakness in labour demand elsewhere in the economy, giving rise to a fall in labour productivity. But in fact, National Income Accounts data show that several other industries such as retail trade, construction and some manufacturing industries have also increased their absorption of labour faster than the rise in output.

[8]Only countries with more than 10 million population are shown and log GDP per capita less than 10 are shown.

Basole and Kapoor (2026) document this fact via the following accounting identity between output growth, employment growth and labour productivity growth: for any industry or sector i, output growth is the sum of labour productivity growth and employment growth.

$\hat{y}_i = \hat{\theta}_i + \hat{l}_i$

Where θ is labour productivity, y is output or value-added and l is employment. This accounting identity means that a given rate of output growth can be achieved with high productivity growth and low employment growth (low employment elasticity) or with low productivity growth and high employment growth (high employment elasticity). Another way of looking at this is that if labour productivity growth exceeds output growth, employment growth has been negative, i.e. "job-loss growth". If employment growth exceeds output growth, this implies that labour productivity growth has been negative. In a dual economy, this can result from crowding into the surplus sector.

Figure 9 (reproduced from Basole and Kapoor (2026)) shows employment growth and labour productivity growth at the KLEMS industry level. In this figure, if an industry is located in the top right quadrant, this means that is experienced both employment growth as well as productivity growth. The bubble size represents initial level of employment. The blue circles represent the 2011-2017 period and the red circles represent the 2018-2023 period. Starting at the aggregate level, we see that nearly all the sector registered productivity growth in Period 1 and a few of them shed labour (some such as agriculture were expected to shed workers). In contrast, in Period 2, several sectors show near zero or negative productivity growth. Especially large surplus labour sectors such as agriculture, trade, food-beverages-tobacco and textiles are in this category.

[FIGURE 9 HERE]

When we disaggregate each sector into its organised (formal) and unorganised (informal) parts, we find that the informal segment registered a larger drop in productivity. This is in keeping with the hypothesis that labour flowed into this segment due to ease of entry after it was displaced from other more productive industries. Unexpectedly, however, several industries also registered negative productivity growth in their organised segments. These include manufacturing as a whole as well as telecommunications and information technology. The surprising conclusion is that labour absorption has been more rapid than

output growth even in the organised (and hence profit-seeking) segments in the modern sector of the Indian economy.

4.3.2 Structural change decomposition

We now analyse the nature of the productivity stagnation and potential structural reversal via the 3-way decomposition as describe in Section 3. Table 1 shows the results. While numbers are presented for the entire period since 1983, we discuss mainly the contrast between the 2011-17 and 2017-22 periods.[9] Note, firstly, that over the entire period of four decades, labour productivity growth in India was driven mainly with within-sector growth and structural change has played a weak role in the story. For example, the period 2011-17 saw a CAGR of 6.7% of which 75% was accounted for by within-sector growth.

The 2017-22 period presents a striking contrast to all the preceding periods. Firstly, as we have noted earlier, labour productivity fell in this period (-0.42% CAGR). Strikingly, nearly 90% of this fall was accounted for by a structural reversal and 10% due to productivity decreases within sector. This means that labour reallocation away from higher productivity towards lower productivity sectors mainly caused the decline. It is this phenomenon that we are calling a structural retrogression of the economy.

[TABLE 1 HERE]

Thus far we have seen that the Indian economy experienced a large decrease in labour productivity and a resulting structural reversal or retrogression between 2018 and 2024. Moreover, this decline appears to be sectorally widely distributed. Despite this, the economy has posted a strong and positive rate of growth of GDP in per capita terms. How has stagnant or declining labour productivity growth gone together with strong per capita GDP growth? We provide an explanation for this below.

[9] The analysis ends in the year 2022-23 since sector-level data is available in KLEMS only till then.

4.4 A closer look at the divergence between output growth and productivity growth

4.4.1 Decomposing per capita growth

We decompose per capita GVA growth in the manner of Jayadev and Tripathi (2026) as follows

$$\frac{Y}{N} \equiv \frac{Y}{L} \times \frac{L}{W} \times \frac{W}{N},$$

where Y is output, L employment, W working-age population, and N total population. Growth in per-capita output decomposes into output per worker (productivity), employment rate, and the share of the working-age population.

That is, we decompose growth in GVA per capita into growth in GVA per worker, growth in workers as a share of the working age population and growth in the working age population as a share of overall population.

We place this decomposition for India in comparison with a small set of peer economies (Figure 10). During the first period (2012-2018), with the exception of Brazil and Mexico, the other countries showed strong growth in output per worker. In fact per capita growth (black dot) was driven almost entirely by productivity gains for all except Turkey, while changes in the employment rate contributed negatively in the case of India and Egypt. The contraction in the share of the working-age population that was employed has been well-documented in the Indian case. Growth during this period therefore conformed to the familiar pattern of "jobless growth," in which productivity advances outpaced employment expansion.

The second period (2018–2023) exhibits greater heterogeneity across countries. In Indonesia, Turkey, and Vietnam, output per worker remained a central driver of per capita growth. By contrast, in India and Mexico, the contribution of output per worker turned negative. In Mexico's case, the rise in the employment rate was not enough to overcome the fall in productivity and overall growth was zero. For India, though, a relatively high rate of per capita growth was sustained despite falling labour productivity through rising employment rate.

The contrast between the two periods is especially sharp for India. Whereas productivity growth was the sole positive contributor to per capita growth in the earlier period, it became a drag in the later period, with employment expansion reversing its role from a constraint on growth to its primary support.

[FIGURE 10 HERE]

Microdata from the Periodic Labour Force Survey (PLFS) for the period (2017-18 to 2023-24) present a complementary picture. Jayadev, Tripathi, and Shravan (2025) find that while median real wages—especially in rural areas—have been flat or have fallen for lower deciles, household per-capita incomes *rose* roughly 3% annually. Some part of the reconciliation lies in the number of earners per household. An increase in earners per household. accounts for a substantial part of the divergence between flat individual wages and rising household incomes. Moreover, the expansion is concentrated in self-employment and informal activities: casual labour shares fell while self-employment rose across most deciles.

We buttress that analysis by decomposing the annual growth in household earnings over this period into three components: (i) growth in earnings per person per hour, (ii) changes in the number of persons earning within the household, and (iii) changes in hours worked (Figure 11). This decomposition makes explicit the margin through which household incomes have adjusted in the post-2017 period.

With the exception of the first transition year (2017-18 to 2018-19), growth in the number of earners per household emerges as the dominant and often the sole positive contributor to household earnings growth. In contrast, earnings per person per hour contribute negatively in four of the five sub-periods, indicating persistent stagnation or decline in labour productivity and real wages at the individual level. Changes in hours worked play a relatively minor and unstable role, contributing little on average to overall earnings growth.

This pattern implies that rising household incomes have not been driven by individuals earning more for each hour of work, but rather by households deploying additional labour. In practice, this has meant more household members—particularly women and secondary earners—entering paid work, often in low-productivity and informal activities. Household income growth, therefore, reflects labour intensification at the household level rather than productivity improvements at the worker level.

[FIGURE 11 HERE]

4.4.2 Women's employment

The increase in surplus sector employment that lies behind the productivity slowdown has been largely driven by rising female workforce participation rates (WPR) (Figure 12). This rise in participation coincides temporally with the productivity slowdown documented earlier, raising the question of whether increased female employment reflects expanding opportunity or household-level adjustment to economic stress (Centre for Sustainable Employment, 2023; Dhamija & Chawla, 2023; Singh & Ankita, 2026).

Basole (2024) shows that the increase in female WPR is broad-based across education levels, age groups, and consumption deciles, suggesting that it is not driven by a narrow cohort of highly educated or high-income women. However, the sectoral and occupational composition of this expansion is highly skewed. Employment gains for women are concentrated in low-productivity activities, especially agriculture, traditional services, and construction-related self-employment. Moreover, a large fraction of the increase reflects self-employment and unpaid work in household enterprises rather than regular wage employment.

[FIGURE 12 HERE]

Figure 13 shows that, in both rural and urban areas, there is a clear reallocation away from regular and casual wage work toward own-account work and unpaid family labour. This pattern constitutes a reversal of the gradual movement toward wage employment observed in the 2000s and early 2010s. In this sense, the recent rise in women's employment represents not an acceleration of structural transformation but a form of labour absorption into surplus sectors.

[FIGURE 13 HERE]

Table 2 makes this compositional shift explicit by combining employment type with sector. We estimate the absolute change in employment between 2018 and 2024 for each combination. The table shows the contribution of each cell in the total change in employment in this period for men and women (i.e. in both tables the numbers sum to 100). Starting with

women, note the large increase in both own account and unpaid workers in agriculture as well as own account workers in manufacturing. The fact that only two sector-employment combination show very modest declines indicates the large overall increase in women's workforce participation described earlier in this section. The other noteworthy aspect is the increase in regular salaried employment in services (traditional as well as modern). However, this increase was swamped by a much larger rise in surplus sector employment.

For men, while there has been a welcome increase in regular wage employment in manufacturing and modern services, this has been accompanied by increases in unpaid worker in agriculture, own-account worker in traditional services and casual work in construction. Since increases in regular salaried work are registered on a much smaller base than own account work in agriculture or traditional services, it is likely that there has been a net movement of male workers towards lower productivity sectors.

[TABLE 2 HERE]

The coexistence of rising female labour supply with declining or stagnant earnings per hour indicates that the increase in women's work has not been matched by a corresponding expansion in labour demand in productive sectors. Instead, women appear to be entering work primarily as a household coping strategy in response to economic stress. The most plausible mechanism is a distress-driven rise in participation, or a "reverse income effect," whereby declining or uncertain male earnings induce additional household members—especially women—to seek work in order to stabilise household income.[10]

Taken together, the evidence suggests that the recent rise in female employment, while quantitatively important, has contributed more to the expansion of labour supply than to improvements in aggregate productivity or job quality. This reinforces the broader conclusion of the paper: recent growth has been supported by greater labour mobilisation rather than by a shift toward more productive forms of employment.

[10]Panel regressions indicate a small but statistically significant reverse income effect: declines in male earnings modestly increase the probability of women's employment, consistent with women entering the labour force to smooth household consumption (Basole, 2024).

4.4.3 Evidence of slowdown in enterprise-level surveys

Finally, we examine labour productivity dynamics at the micro level using data from enterprise surveys of the organised (ASI) and unorganised (NSSO-ASUSE) manufacturing sector (see Section 3 for details). Enterprise level evidence allows us to assess how much of the productivity stagnation could be driven by within-firm dynamics and versus that driven by changes in the composition of firms absorbing labour. The exact periods here are somewhat different from the foregoing analysis due to availability of survey rounds.

Table 3 shows the share in total manufacturing employment as well as share in GVA by size class and labour productivity in 2010, 2015 and 2023. These numbers are for the entire manufacturing sector (organised or formal from ASI and unorganised or informal from ASUSE) [11] Several features are worth noting. First, the smallest size class (one worker) which is a proxy for the surplus labour sector, accounted for 20% of employment and only 3.1% of output at the beginning of our period (2010). Over time the employment share has increase, to 25% in 2015 and further to 27.5% in 2023. This in itself is concerning from a structural transformation perspective since a Lewisian process should result in declining share of employment for the surplus sector. But there is a more troubling aspect to the data. Between 2010 and 2015, though the share of employment accounted for by the smallest size class increased, so did the share in value-added with the result that this part of the economy did experience productivity growth (4.9%). The period from 2015 to 2023 however is different. While share in employment increased, share in value added declined, implying a reduction in productivity. This is consistent with the overall story of crowding into the surplus sector and structural retrogression we have reported in this study.

On the other hand, the largest factories (>100 workers) have also significantly expanded their share of employment, particularly between 2015 and 2023. But once again the two periods are quite distinct. Between 2010 and 2015 value added share increased more rapidly than employment share resulting in a healthy productivity growth of 5.5%. In the second period, though employment share continued to increase, there was a decline in the share of value added, resulting in a sharp collapse of productivity growth (-2.16%). This is consistent with the decline in productivity in the organised sector documented earlier in the

[11] We have verified that the aggregate value added, employment and hence labour productivity numbers estimated from the surveys match the KLEMS numbers.

paper using the National Accounts data (Figure 9).

Thus the enterprise data shows a picture of accelerated dualism on the one hand with crowding into the surplus labour sector (home-based micro manufacturing activities) going hand in hand with a rise in employment in larger firms but also a general decline in productivity growth across size classes (the only exception being the 10 to 100 size class).

[TABLE 3 HERE]

5 Conclusion: Entrenched Dualism and Productivity Decline

Is the decoupling of India's growth per capita from growth per earner a cause for concern? For much of the post liberalization period analysts were focused on the problem of insufficient job creation: output expanded rapidly, but employment did not (the so called 'jobless growth' pattern). In recent years, employment has recovered, labour force participation has risen, especially among women, and households have added earners. At first glance, this appears to be unequivocal good news. After all, the fall in productivity can be seen just as the mechanical inverse of rising labour intensity.

This interpretation, we have suggesgted is only partial, and misses the entrenched dualism that the economy seems to possess. Productive and formal employment have not expanded fast enough for several decades now. Jobless growth emerged because productivity gains remained concentrated in narrow, capital- and skill-intensive enclaves that generated little employment. There was structural transformation in terms of the relative shares of the modern and traditional sectors (Centre for Sustainable Employment, 2018), but it was too slow and insufficiently absorptive of labour. Over the last decade, formalisation and the modern sector have continued to grow, but our analysis suggests that this expansion has remained inadequate to meet the employment imperative. In that sense, the period of jobless growth followed by a productivity collapse represents successive phases of the same underlying structural weakness associated with persistent dualism.

India has now firmly entered its demographic dividend phase, with large cohorts of a young population seeking employment (Centre for Sustainable Employment, 2026). Seen in this light, the recent phase can be understood as an adjustment to the constraint of in-

sufficient formal employment generation. When high-productivity sectors failed to absorb labour and demand growth remained weak, labour moved elsewhere into agriculture, informal services, own-account work, and household enterprises. Employment rose, but productivity fell.

Strong headline GDP and per capita growth now coexist with declining labour productivity, and growth may be relying more on labour mobilisation rather than efficiency gains. We observe a relative structural retrogression, in which more people work in low-productivity activities rather than moving to firms that generate higher value per worker. If development is understood as both growth and structural transformation, India has been hopping on one leg.

To recap and summarize, the evidence we have gathered here establishes a coherent aggregate pattern since 2017: labour productivity has stagnated or declined, primarily due to adverse labour reallocation toward lower-productivity sectors and firms, even as aggregate output growth has remained robust because employment has expanded. This employment growth has been driven largely by rising self-employment, household labour mobilisation, and increased female participation, and has been concentrated in agriculture, construction, retail trade, traditional services, and informal or quasi-informal segments of manufacturing and modern services—activities with limited scope for productivity upgrading.

Adjustment has therefore occurred mainly along the extensive margin at the household level, with rising numbers of earners masking stagnant or falling earnings per worker in a demand-constrained environment where real wage growth has been weak. The increase in female labour force participation fits this pattern: while it raises employment and stabilises household incomes, its concentration in low-productivity, unpaid, or own-account work does little to lift aggregate productivity. Viewed jointly, these compositional shifts explain how aggregate growth has been sustained despite a collapse in labour productivity, by absorbing surplus labour into low-barrier, low-productivity activities rather than reallocating it toward higher-productivity uses.

India's relatively strong macroeconomic fundamentals may yet allow for a recovery of productivity. Converting the recovery of employment into a durable improvement in productivity, however, will require sustained demand growth, coordinated public and private

investment, and institutional conditions that support productive labour reallocation.

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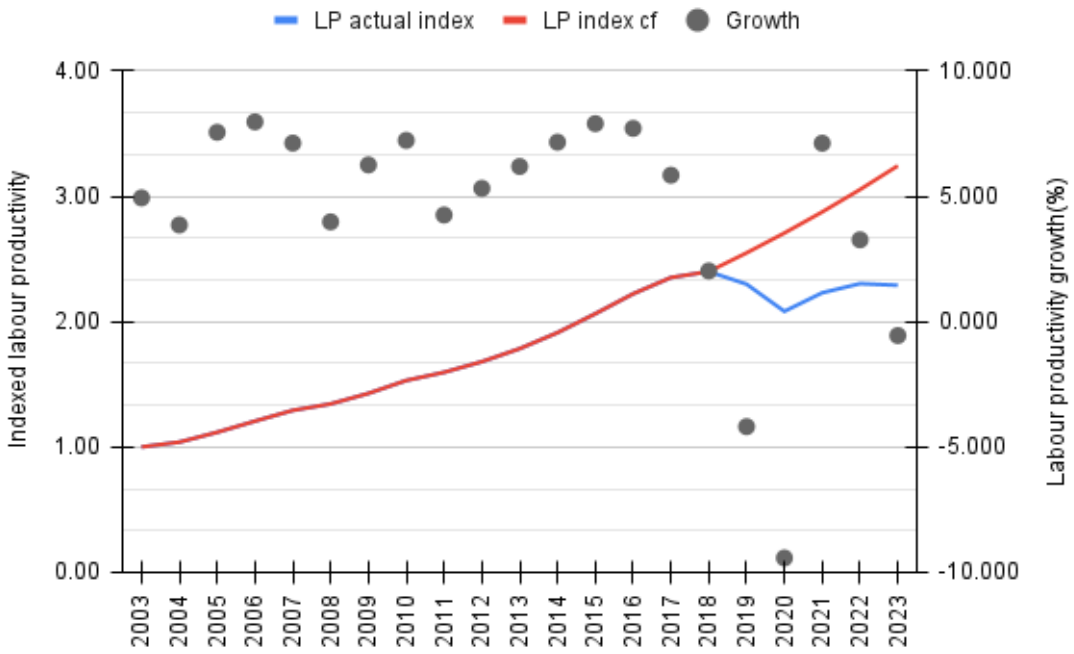
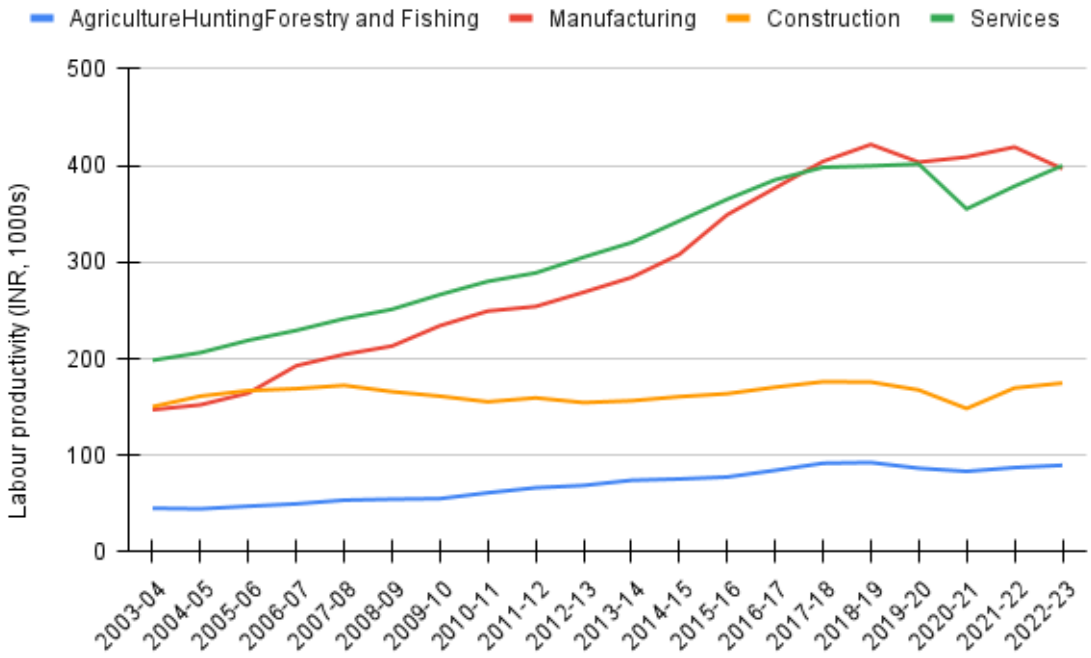
Figures and Tables

Figure 1: Real labour productivity trend-actual and counterfactual- since 2003



Source: Author's calculations based on RBI-KLEMS.

Figure 2: Labour productivity trends at major sector level since 2003

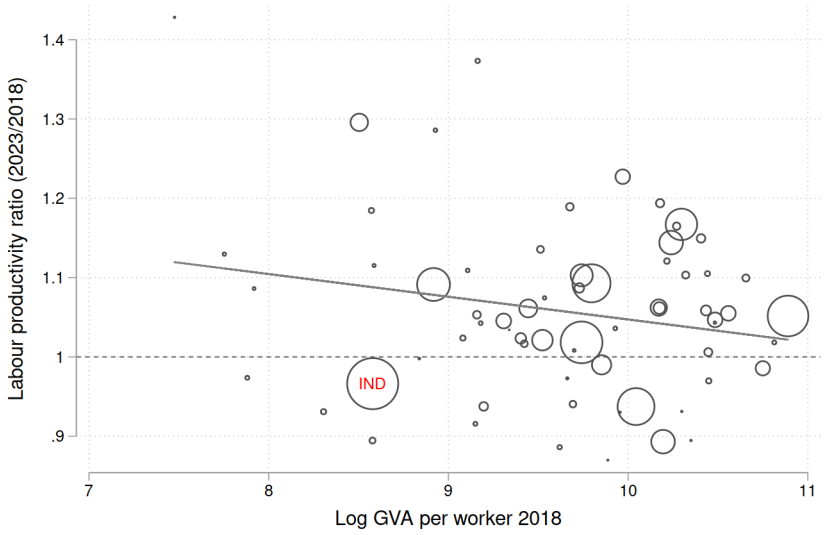


Source: Source: Author's calculations based on RBI-KLEMS.

Figure 3: Cross-country labour productivity growth versus initial level in two periods

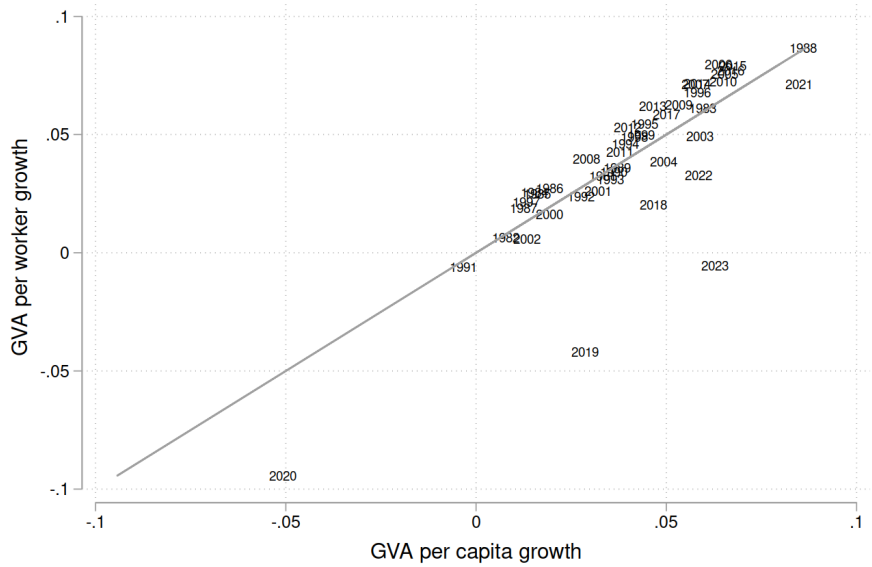
(a) 2012 to 2018

(b) 2018 to 2023



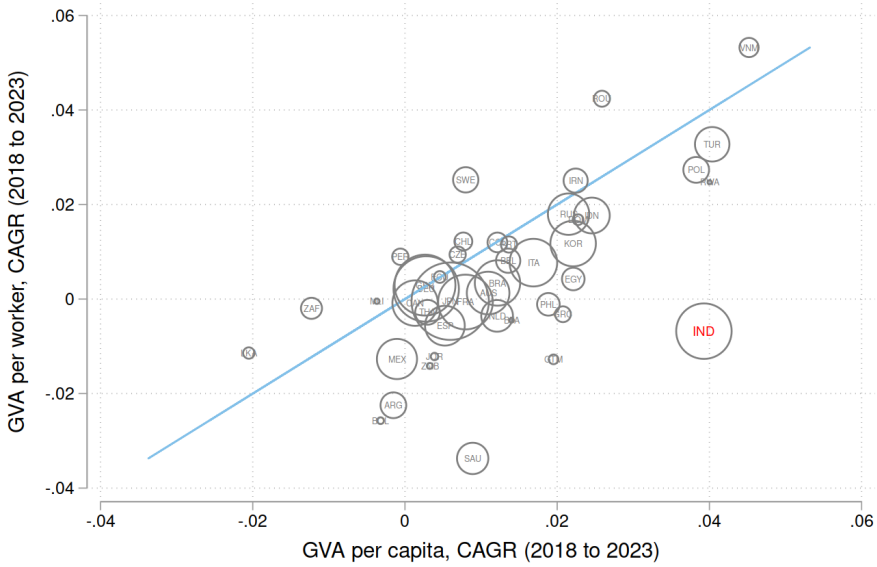
Source: Author's calculations based on World Development Indicators. Labour productivity ratio (final by initial) for both periods is shown against the initial level.

Figure 4: Comparison of annual growth in GVA per worker and GVA per capita for India since 1980



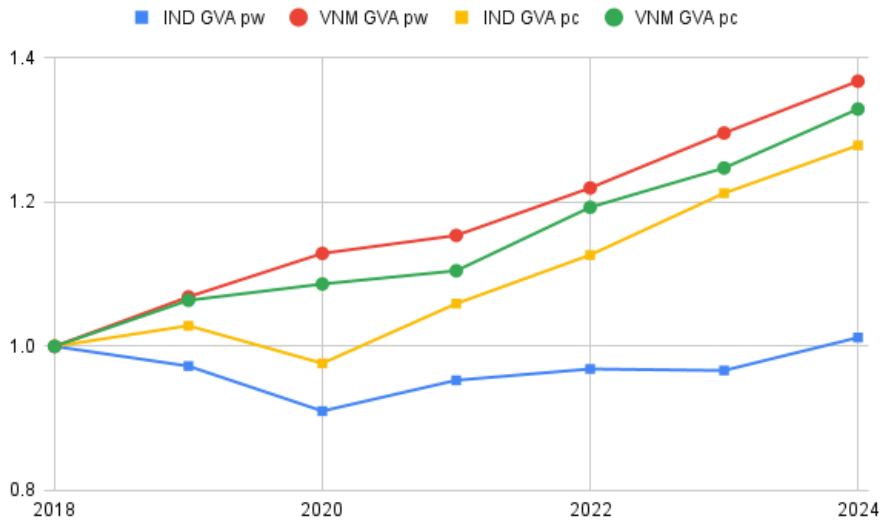
Source: Authors' calculations based on RBI-KLEMS and WDI. 45 deg line added for reference.

Figure 5: GVA per worker versus GVA per capita CAGR cross-country for 2018-2023



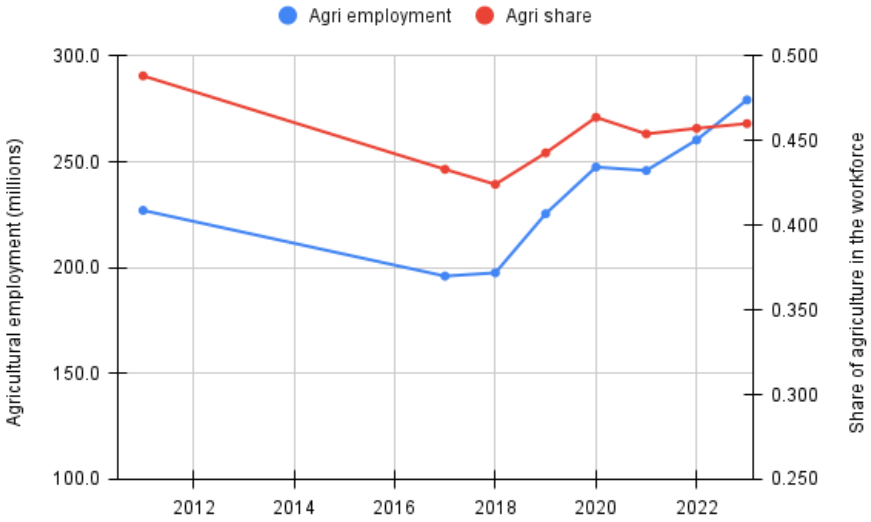
Source: Authors' calculations based on World Development Indicators. 45 deg line added for reference.

Figure 6: Indexed levels of GVA per worker and GVA per capita for India and Vietnam



Source: Authors' calculations based on World Development Indicators.

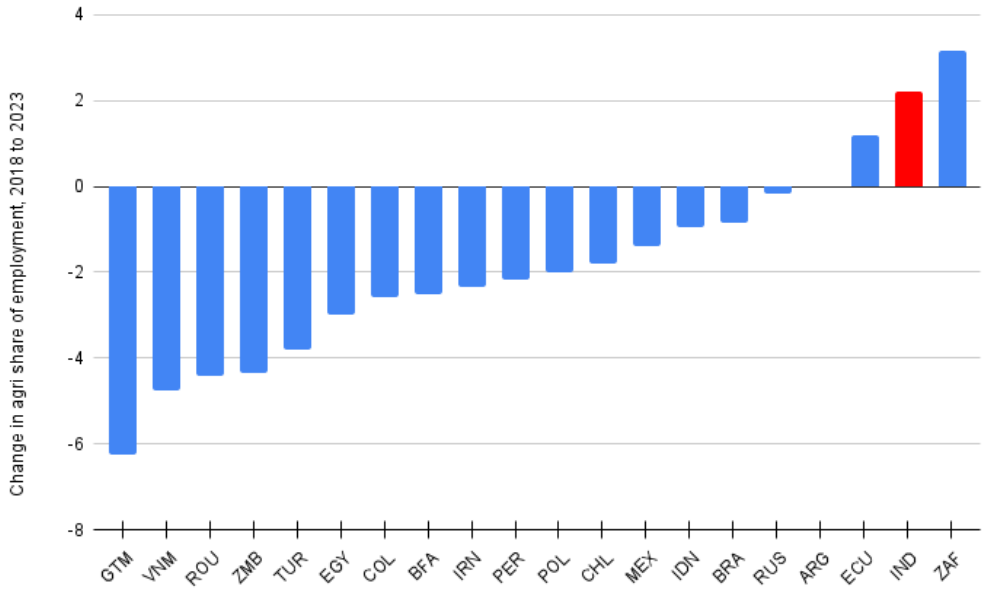
Figure 7: Absolute number of workers and share of workforce engaged in agriculture



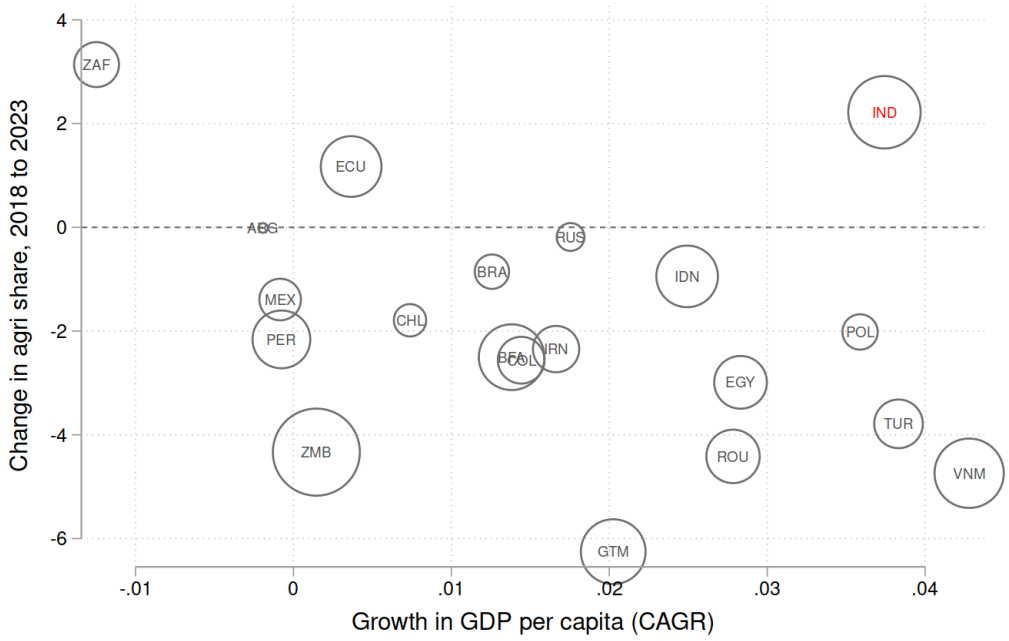
Source: NSSO Employment-Unemployment Survey and Periodic Labour Force Survey

Figure 8: Change in agricultural employment share: India in cross-country perspective

(a) Change in agricultural share of employment (percentage points), 2018–2023



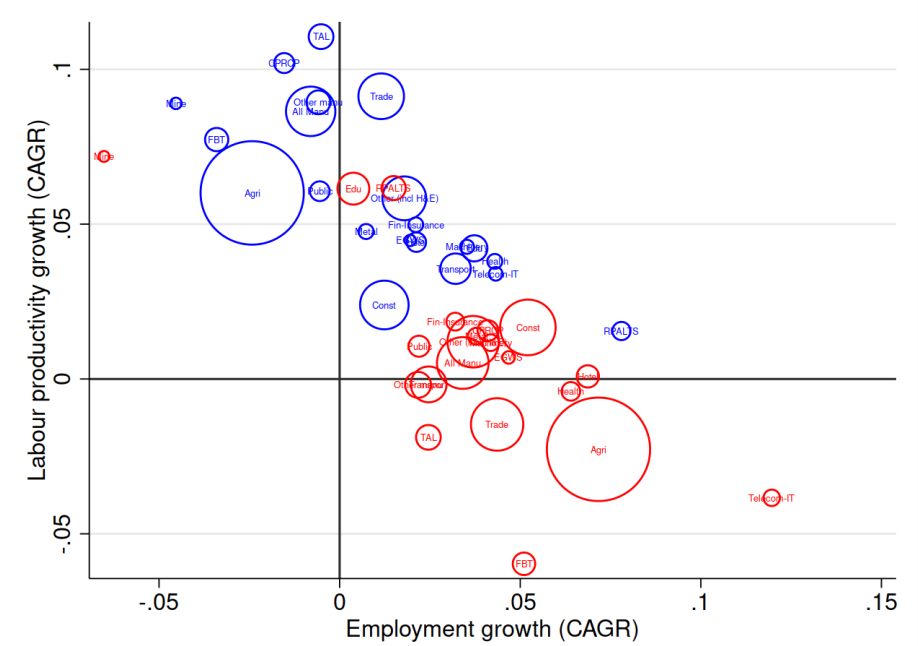
(b) Change in agricultural share of employment versus GDP per capita growth between 2018 and 2023



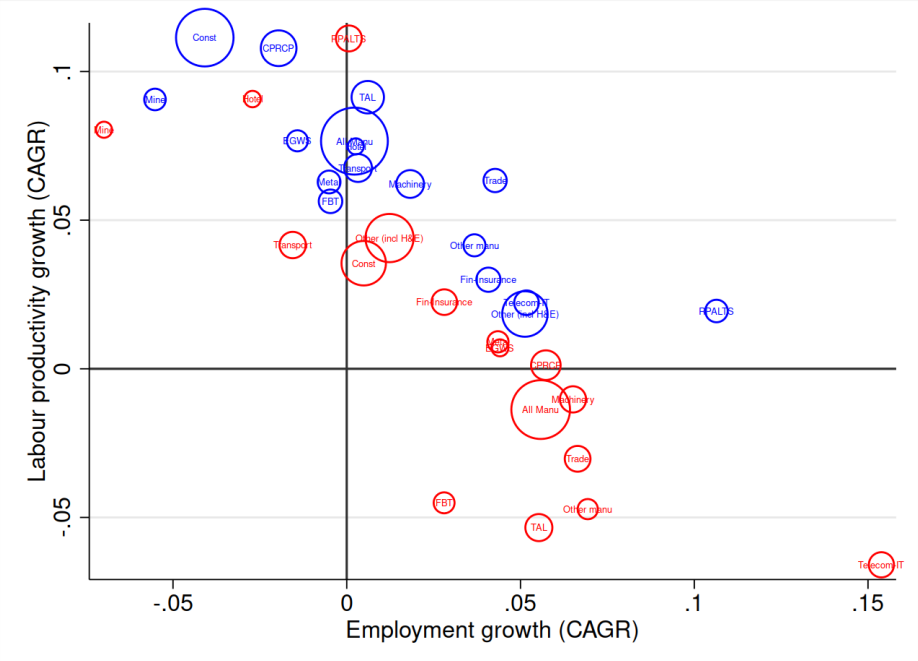
Source: World Development Indicators. Only countries with more than 10 million population are shown and log GDP per capita less than 10 are shown.

Figure 9: Labour productivity growth versus employment growth between 2011–12 to 2017–18 (blue) and 2018–19 to 2023–24 (red)

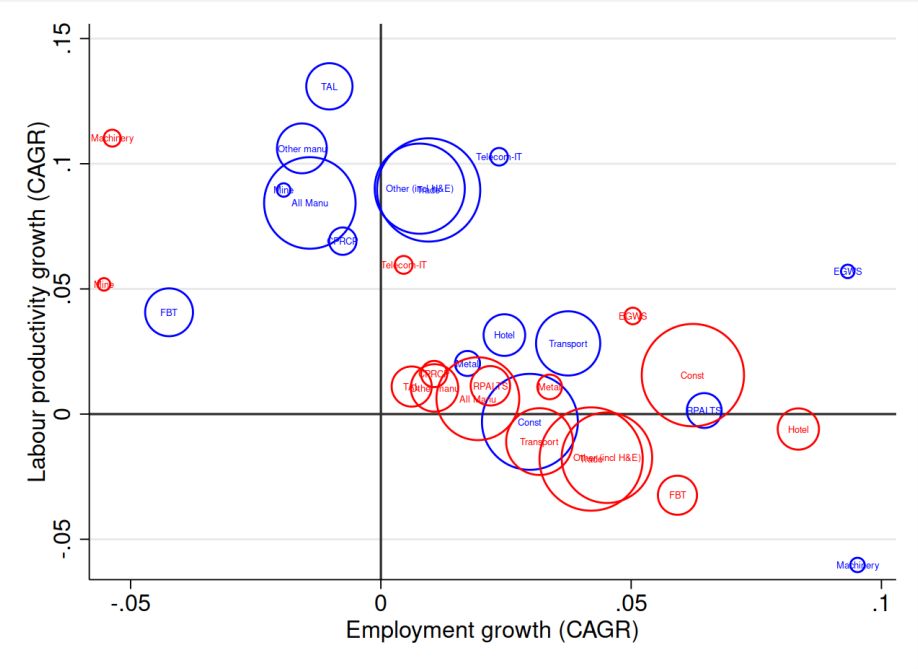
(a) Aggregate



(b) Formal sector



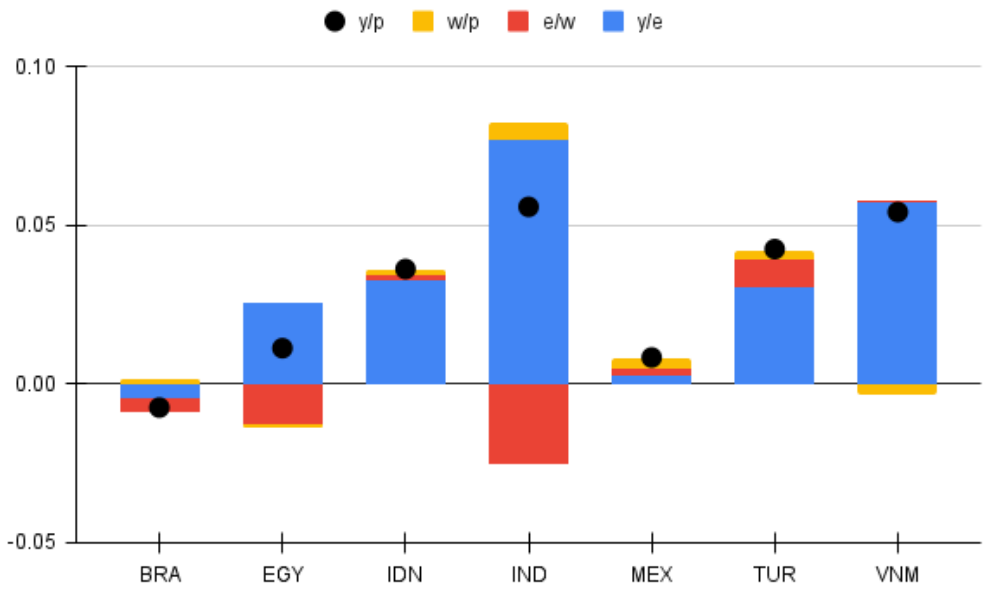
(c) Informal sector



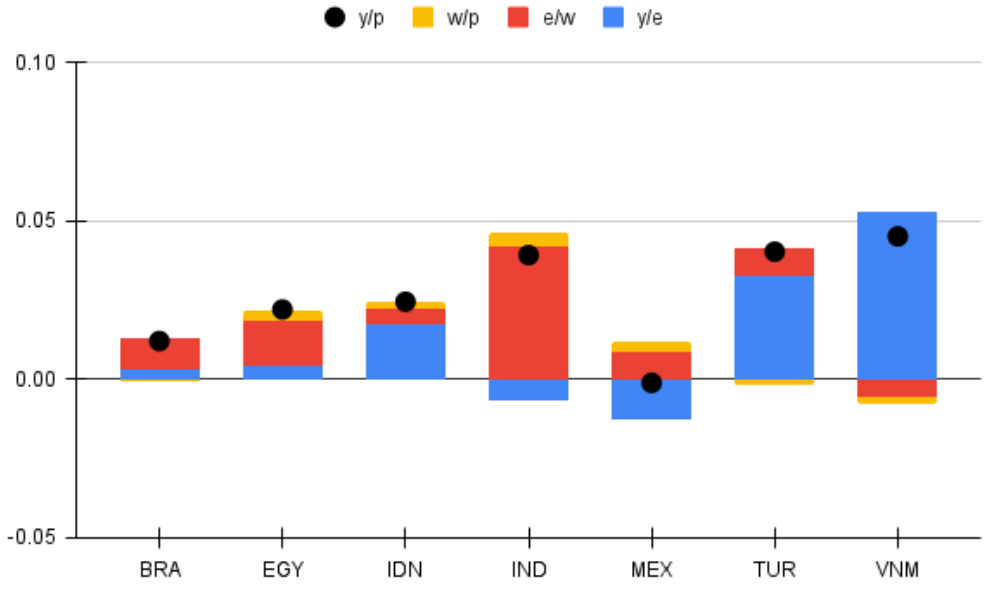
Source: Reproduced from Basole and Kapoor (2026). Based on National Accounts 2024, NSS-EUS (2011-12) and PLFS (2017-18 to 2022-23). Size of bubbles indicates employment level in the initial year. Agriculture has been excluded from the organised sector graph. FBT- Food, beverages and tobacco; TAL - textiles, apparel and leather; CPRCP- coke, petroleum, rubber, chemicals and plastics; EGWS- electricity, gas and water supply; RPALTS- real estate, professional, admin, legal, technical and security services.

Figure 10: Decomposition of GVA per capita growth across countries

(a) 2012–2018



(b) 2018–2023

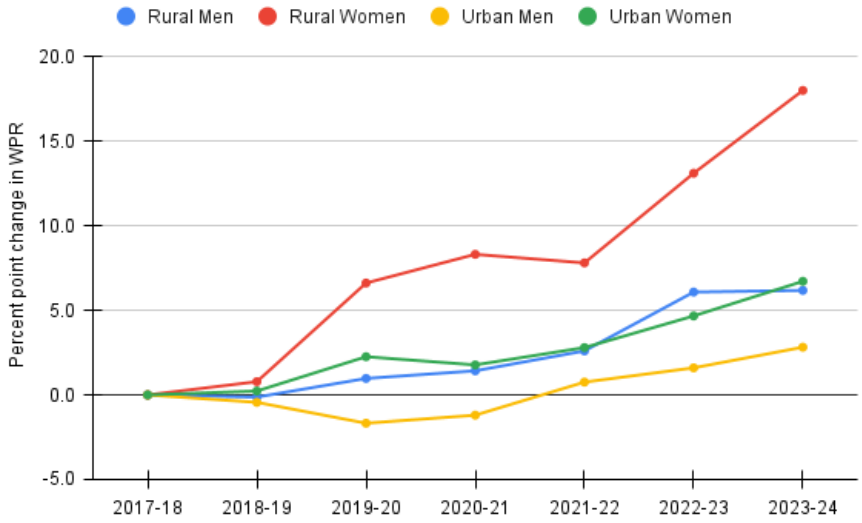


Source: Author's calculations based on World Development Indicators. y/p- per capita income, w/p- working age share, e/w- employment rate, y/e- labour productivity.

Figure 11: Household earnings decomposition

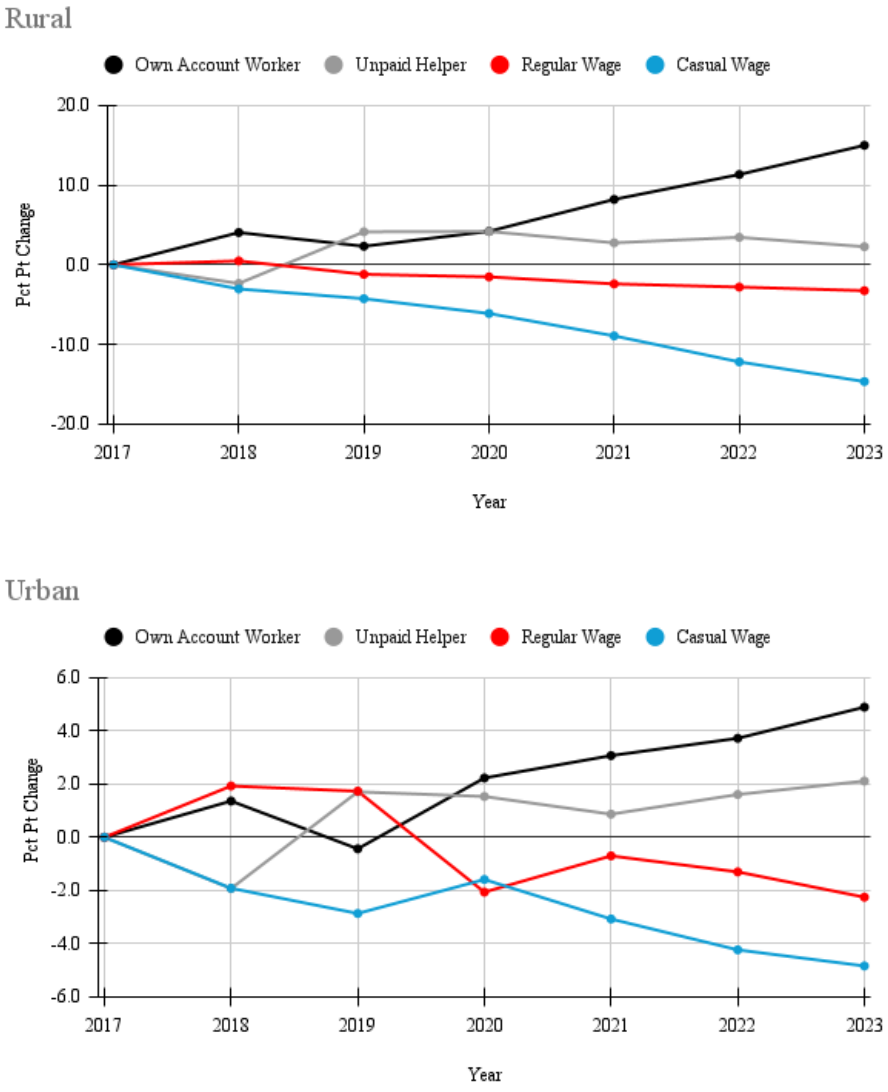
Source: Author's calculations based on PLFS various rounds.

Figure 12: Change in WPR



Source: Author's calculations based on PLFS various rounds.

Figure 13: Change in employment type for women



Source: Author's calculations based on PLFS various rounds.

Table 1: Decomposition of Labour Productivity Growth

Period	Within Sector (%)	Static Effect (%)	Dynamic Effect (%)	CAGR LP (%)
1983–93	1.90	0.97	0.13	3.00
	(64.1)	(32.7)	(4.5)	(100)
1993–99	4.02	0.64	0.14	4.80
	(82.4)	(13.15)	(2.9)	(100)
1999–04	2.09	0.62	0.01	2.71
	(78.6)	(23.3)	(0.3)	(100)
2004–11	4.50	1.81	0.01	6.32
	(71.3)	(28.7)	(0.2)	(100)
2011–17	5.03	1.40	0.26	6.68
	(75.0)	(20.9)	(3.8)	(100)
2017–22	-0.04	-0.25	-0.12	-0.42
	(9.6)	(60.6)	(29.8)	(100)
1983–2017	3.05	0.73	0.81	4.60
	(66.4)	(15.9)	(17.7)	(100)
1983–2022	2.64	0.67	0.63	3.94
	(67.0)	(17.0)	(16.0)	(100)

Source: RBI-KLEMS. Analysis by Mohd Gulfam.

Table 2: Percentage Changes by Sector and Employment Type

(a) Men

	Agriculture	Manufacturing	Construction	Trad Services	Modern Services
OAW	-28.4	-12.3	13.0	23.8	4.1
Unpaid	38.2	0.5	2.5	8.8	2.9
Reg Sal	-0.8	24.3	4.3	15.1	23.6
Casual	-55.0	-14.5	56.9	-7.3	0.2

(b) Women

	Agriculture	Manufacturing	Construction	Trad Services	Modern Services
OAW	35.1	8.9	0.0	2.9	0.8
Unpaid	32.9	1.3	0.2	3.3	0.2
Reg Sal	0.3	1.9	0.0	4.2	5.7
Casual	0.8	-1.0	2.6	-0.3	0.1

Source: PLFS various rounds. Traditional services include trade, transport, hotel and accommodation and domestic work. Modern services include health, education, IT-Telecomm, and RPALTS.

Table 3: Employment and GVA Shares by Size Category of Manufacturing Enterprises

	Employment Share			GVA Share			CAGR of LP (%)	
Size Bin	2010	2015	2023	2010	2015	2023	2010–15	2015–23
One worker	20.44	25.04	27.52	3.14	3.74	3.38	4.89	-0.21
1 to 10 workers	44.21	40.07	29.43	9.20	9.40	8.55	8.08	5.03
10 to 100 workers	15.55	13.19	13.82	18.99	11.74	17.05	-0.96	6.53
More than 100 workers	19.80	21.70	29.24	68.67	75.11	71.01	5.46	-2.16
Total	100.00	100.00	100.00	100.00	100.00	100.00	5.50	2.27

Source: Author's calculations based on ASI and ASUSE data.