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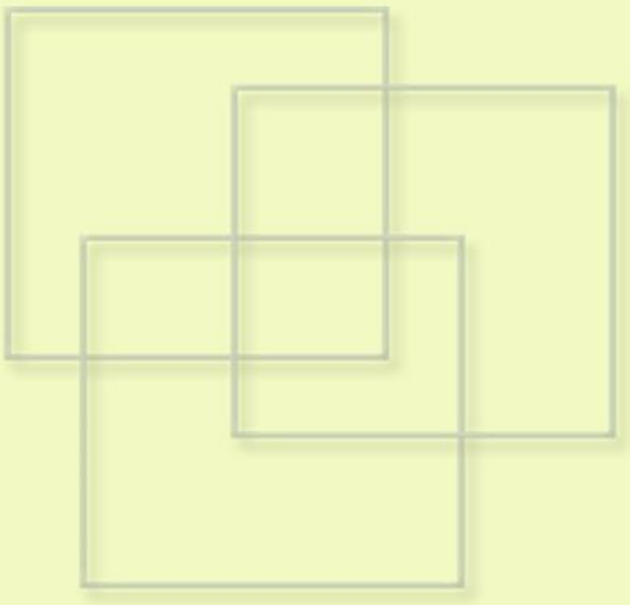
Declining wage share in India's organized manufacturing sector: Trends, patterns and determinants

Vinoj Abraham and S.K. Sasikumar

December 2017



DWT for South Asia and Country Office for India

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Vinoj Abraham[1] and S.K. Sasikumar[2]

December 2017

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[1] Dr. Vinoj Abraham, Centre for Development Studies, Trivandrum, Kerala
[2] Dr.S.K. Sasikumar, V.V. Giri National Labour Institute, Noida, Uttar Pradesh

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Preface

A persistent decline in labour share has been visible in many developed and developing economies since the 1980s. Declining labour share in terms of wages and emoluments portends widening income inequality, demand constriction and slowdown of economic growth. In India, too, declining wages and emoluments share in gross value added has been noted at least since the 1980s. Effective policy intervention in the issue entails a detailed analysis of this process. This research is aimed at understanding the phenomenon of declining labour share in India.

Using the Annual Survey of Industries data, this study analyses the patterns, trends and determinants of declining labour share in organized manufacturing in India from 1980–81 to 2012–13. Specifically, the study addresses three core issues. First, it undertakes a comprehensive analysis of the trends and patterns in factor payments in the organized manufacturing sector. Long-term trends are explored across dimensions such as states, size classification and industrial classification. Second, the various sources contributing to this decline in wage share are identified through decomposition and shift share analysis. Third, factors that explain the change in wage share are identified through a first-difference regression analysis.

We hope that the findings of this research study will spark intensification of debates on labour share in gross value added, on the one hand, and provide valuable inputs for all concerned to evolve and implement appropriate programmes and policies related to wages, on the other.

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Abbreviations

CAGR	Compound Annual Growth Rate
CPI	Consumer Price Index
CSO	Central Statistics Office
CPIIW	Consumer Price Index for Industrial Workers
EPWRF	Economic and Political Weekly Research Foundation
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GVA	Gross Value Added
OECD	Organisation for Economic Co-operation and Development
SBTC	Skill-Biased Technological Changes
WPI	Wholesale Price Index

1. Introduction

Widening income inequality across the world in recent years has emerged as a core concern in development policy discourses. This current phase of rising interpersonal inequality has been marked by its functional nature, with a large part of it emerging from the earning inequality between employers and employees.[3] This concern for the distribution of the value added stems from perspectives of social justice as well as its ability to affect economic growth.[4] Declining labour share can reduce household consumption, limit aggregate demand, and weaken investment and exports, in turn affecting the growth of gross domestic product (GDP) (ILO, IMF, OECD and WB, 2015).

One of the persistent trends noted in the functional distribution of factor shares is the remarkable stability in relative factor shares throughout the nineteenth and early twentieth centuries. Kaldor (1957) in fact regarded this stability in factor shares as a "growth fact" of many economies in the long run. The stability in labour shares was an empirical reality in most developed economies for such a long period in the early twentieth century that scholars even considered it futile to study this distribution any longer.[5]

However, since the 1980s, visible changes in factor shares have been reported in developed economies. Giovannoni (2014a) shows that while the labour share in the United States (US) remained in the narrow band between 68 per cent and 72 per cent from 1947 to 1983, by 2012 it declined to about 64 per cent. Studies indicate that wage share had declined in all Organisation for Economic Co-operation and Development (OECD) countries between 1970 and 2010 and that the wage-productivity gap had been widening in the developed world (Stockhammer, 2012). Moreover, this phenomenon was not restricted to the developed world. Goldberg and Pavcnik (2007) reported widening inequality in many developing economies as well. Charpe (2011) records that since the early 1990s the decline in wage share had in fact been much sharper in the developing and emerging economies than in the developed economies. This study reports that the wage share in Asian economies declined by roughly 20 per cent and in African economies by approximately 15 per cent, with a large part of the drop occurring in more recent decades. Trapp (2015) shows that the share of wages in the gross value added (GVA) has been declining since the early 1990s and also that labour's relative income in developing countries has been declining by about 10 percentage points.

In India, a persistent decline of wage share in GVA of the organized manufacturing sector and a widening gap between real wages per worker and labour productivity have been noted at least since the early 1980s (Guha, 2009; Kannan and Raveendran, 2009; Kumar and Felipe, 2011). Given that the organized manufacturing sector represents only a small share of the total employment in the Indian economy (about 5 per cent),[6] the extent of this decline in wage share may not be the same across the country. Moreover, a large share of the employed in the economy appears to be self-employed (about 50 per cent), whose labour contribution is not easily tractable. Nevertheless, this persisting trend in the organized manufacturing sector may be reflected in the rest of the Indian economy as well, according to the National Accounts Statistics of

[3] The ILO, IMF, OECD, WB (2015) study shows that in a large number of countries, including India, widening interpersonal inequality was strongly associated with the declining labour share in gross value added (GVA).

[4] Most literature on the linkage between growth and inequality has argued the causation from growth to inequality. However, a growing literature argues that the causation could be the reverse. For instance, see ILO, 2013; ILO, 2014.

[5] See Giovannoni, 2014a.

[6] Estimates based on the *India Employment Report 2016* (Ghose, 2016).

India. The estimated figures from the National Accounts Statistics, which covers the entire economy, including both organized and unorganized sectors, shows that in 1980–81 the compensation to employees as a share of the GDP at factor cost stood at 38.5 per cent, which declined to 22.5 per cent by 2012–13.[7]

This paper analyses this persistent decline in the labour share in India. We restrict our study to the organized manufacturing sector due to the lack of data in other sectors. First, we undertake an examination of the trends and patterns in factor payments in the organized manufacturing sector. Second, we examine the extent of decline in wage share and identify the sources of this drop. Third, we look into the factors that explain the change in wage share. The paper is divided into six sections. Section 1 provides the literature review and analytical context. Section 2 explores the trends and patterns of factor shares in GVA in the organized manufacturing sector. In section 3 we undertake a decomposition of the drop in wage share in GVA to identify the sources of this decline. Section 4 examines the changes in the composition of labour and capital. In section 5, a regression model is specified and estimated to explain the drop in wage share. Finally, section 6 draws the main conclusions.

Data and scope of the study: For this study we used the Annual Survey of Industries (ASI), including both unit-level and aggregate data. For the published aggregate data we used data provided by the Central Statistics Office (CSO) and compiled by the Economic and Political Weekly Research Foundation (EPWRF). To look into the long-term trends, we analysed data from 1980–81 to 2012–13, the latest period for which data is available. The analysis for this part of the study has been done for all of India and 16 major states. To specifically address the issue of wage share decline in the recent past, we have considered from the years 2000–01 and 2011–12. For this we compiled data from the unit-level data of the ASI and aggregated it at the three-digit level for 35 states and Union Territories.

Definitions: This paper uses mainly two concepts – wages and emoluments. Detailed definitions are provided in the appendix. Briefly, wages include all wage payments made to the workers of a factory, not including non-wage benefits. Emoluments include wages and all non-wage benefits accrued to the workers. Wage share refers to wages as a share of GVA.[8] One caveat needs to be added. Wages and emoluments do not include the proprietor's income, while the denominator GVA would also include this. There is no way to separate the proprietor's income as the ASI does not collect this separately. To that extent the wages may be underestimated, since the proprietor's income is excluded while his work effort is included in the GVA. But given that in large factories covered by the ASI the proprietor's contribution as worker would be minimal in both absolute and relative terms, this will not bias the results. Other factor shares used are rent, interest and profits, as given in ASI; all figures used are as reported in ASI.

[7] Estimates also show a declining dependence on wage income relative to the total household income in India (Papola and Kannan, forthcoming).

[8] A major hurdle in estimating the share of labour in GVA for developing countries is the presence of a large segment of the self-employed, whose income gets accounted as "mixed income". However, in the context of this study, this does not pose a problem as the focus is purely on the organized manufacturing sector, where there are hardly any employers with mixed income. In the organized sector, the division of GVA into workers' emoluments and other payments is distinct. For a treatment of methods of accounting for self-employed income in share of GVA, see Trapp, 2015.

The figures for GVA and wages, wherever used in real terms and mentioned as real values, have been deflated by the Wholesale Price Index (WPI)[9] with 2004–05 as base year and Consumer Price Index for Industrial Workers (CPIIW) with 2001 as base year at the two-digit industry level. The CPIIW series was spliced to arrive at 2004–05 base year prices. Capital, including IT capital, was deflated using the WPI for Machinery and Machine Tools with 2004–05 as the base year.

1.1 Literature review and analytical context

1.1.1 Literature review

The functional distribution of income was of central concern to the classical thinkers. Scarcity produced rent while labour produced value, according to Ricardo. Wage share depended on the wage fund, which in turn was associated with capital availability. The residual was accounted for as profits. For Marx, capitalist production of labour surplus drove wages to the subsistence level which created larger surpluses as profit share while progressively contracting the labour share. The neoclassicals regarded the market structure as crucial in explaining distributive shares. In perfectly competitive markets, all factors would be paid according to factor productivity, while as monopoly power of the firms increase, the factor productivity may not reflect returns to factor and a greater proportion of the marginal product gets appropriated as profits. However, post-classicals such as Kalecki argued that the neoclassical argument of marginal contribution and its returns is a special case with little general applicability as markets are never perfect. Kalecki instead regarded the mark-up price, which is the excess profit over and above costs, as determining the share of factors in different market conditions. Keynes held that the share of profit in income depended on the ratio of investment to output if the marginal propensity to save for workers and employers differed and that of workers was lower than that of employers.[10]

The recent literature on distribution of value added has focused on the compositional changes in inputs, technological change, institutions and globalization, including financial globalization. We shall briefly look at the arguments and their empirical evidences.

Wage-rental ratio and choice of technology: Labour share – the product of total employment and wage rates – is argued to be affected by the relative price of labour to that of capital or the rental-wage ratio. As the ratio of wages to capital price rises, the choice of production technology shifts to capital deepening. Bentolila and Saint-Paul (2003) in their study on OECD countries identify the rise in wage-rental ratio as a prime factor in explaining the fall in labour share. Similarly, Arpaia, Pérez and Pichelmann (2009) and Driver and Muñoz-Bugarin (2010) find that capital deepening and capital augmenting technology was responsible for the declining share of labour in European economies. Studies on India also show that the relative price of capital has been declining; consequently, employment and wage share have been shrinking (Chandrasekhar, 2008; Goldar, 2013; Kannan and Raveendran, 2009). From 1990–91 to 2009–10, the employment elasticity of manufacturing output was a measly 0.05 (Sen and Das, 2015), in effect implying

[9] Due to unavailability of appropriate price deflators, "WPI of Machinery and Machine Tools" is used as a proxy deflator for Division 30 and Division 33 of NIC-2004; and "WPI of Manufactured Products" as the proxy deflator for Divisions 23, 36 and 37 of NIC-2004.

[10] For a detailed review of early theoretical developments in distribution, see Kaldor, 1955. For a review of theoretical and empirical literature on labour share, see Giovannoni, 2014b, 2014c, and Schneider, 2011.

an almost complete stagnation of employment growth in the sector. Sen and Das identify the prime reason for this stagnation in employment growth to be the consistent decrease in labour intensity across all industries, whether capital-intensive or labour-intensive. This decrease in labour intensity was in turn caused by the rising relative wage-rental price ratio. The wage-rental price ratio had been rising both due to rising real wages and declining capital rental price. The declining capital rental price occurred because of trade liberalization and the reduction of tariff walls for capital goods. However, the rise in real wages did not compensate for the decline in employment, thus reducing the labour share in GVA.

Technological change: Apart from the capital–labour substitution owing to relative price differences, technological change and new forms of industrial organization can alter labour shares. Depending on the direction of technological change, capital deepening or labour deepening, the labour share could vary. Any technological change that alters relative productivity between the factors of production would enhance the relative demand for the more productive input. Bentolila and Saint-Paul (2003) showed that in the OECD countries, apart from capital deepening due to relative factor price difference, capital augmenting technological progress had led to a drop of labour share in value added. Recent developments in capital-deepening technological change created capital-skill complementarities while unskilled labour was substituted. It has been argued that, globally, skill-biased technological changes (SBTC) cause stagnation in overall employment; increase the demand for skilled workers and capital; and decrease the overall wage share in the value added. A plethora of studies of this nature have been done in the US (see, for instance, Berman, 2000; Doms, Dunne and Troske, 1997; Jorgenson and Stiroh, 1999). Studies done on the Indian case by Berman, Somanathan and Tan (2005), Ramaswamy (2008), Abraham (2010) and Goldar (2013) also argue that the widening wage inequalities between skilled and unskilled workers have their roots in capital deepening and SBTC.

Globalization: Globalization essentially involves an enhanced pace of the international mobility of outputs and factor inputs, including mobility of outputs through exports and imports, factor mobility through capital flows, and labour migration. Mobility of both outputs and factor inputs may impact labour share through multiple channels. In the output market channel, decline in aggregate labour share could occur due to sector-biased changes in final goods demand. Following the Heckscher–Ohlin model, international trade could make labour-intensive production concentrated in labour-abundant developing countries, which implies that the share of labour relative to capital would be higher in such economies. On the other hand, increasing competition in the output market, following trade, could reduce profits and hence increase wage share. Guscina (2006) found that in developed economies labour share declined as a result of trade openness following the Heckscher–Ohlin route. Trade openness was found to reduce labour share in both developed and developing economies (Harrison, 2002) through the trade route and factor endowments. Additionally, the author identifies exchange rate fluctuations as causing drop in labour share, while controls on capital mobility, such as foreign direct investments (FDIs), increased labour share.

The relative difference in international mobility of factor inputs would create wedges in the wage-rental ratio. For instance, higher capital mobility relative to labour reduces the quasi-rent for capital, making capital cheaper, leading to rising capital intensity, while institutional rigidities in labour mobility increases quasi-rent for labour. Jayadev (2007), in a cross-country panel study, argues that capital openness has led to reduction in labour shares in developed countries and middle-income countries, though there is not much evidence in the case of low-income countries. He interprets this finding as the reduced bargaining position of labour share owing to increased capital mobility in the developed and middle-income countries. The lack

of evidence of such an association in the low-income countries is attributed to the fact that most workers are already in the informal sector and they earn at subsistence level, hence there is hardly any space for squeezing of their wage share. Alderson and Nielsen (2002) find evidence for a decline in the bargaining power of labour because of multinational corporations, leading to waning labour share. Pollin (2000) argues that the threat of unemployment among the less skilled workers due to outsourcing and capital substitution also reduced the wage rates and labour share.

Studies on India have focused on the trade effect on employment, with very limited evidence on the other facets of globalization, as well as their effect on labour share. Most of these studies analysed the linkage between trade liberalization of the Indian economy and jobless growth in the Indian organized manufacturing sector (for example, Banga, 2005; Bhalotra, 1998; Ghose, 2000; Goldar, 2009; Hasan, Mitra and Ramaswamy, 2007; Kambhampati and Howell, 1998; Nagraj, 2004; Sankaran, Abraham and Joseph, 2010; Sen, 2008). Though labour share is not the prime concern of these studies it may be inferred that the effect of trade liberalization on employment elasticity may have a bearing on labour share as well, due to the relatively slower growth in employment vis-à-vis output growth. However, Bhalotra (1998) does show that the sluggish growth in employment in the 1980s was offset by rising product wage rates in the Indian manufacturing sector. Further, Goldar (2013) shows that increasing exports in the Indian manufacturing sector may have a depressing effect on labour share.

Institutional factors: The Indian economy has witnessed vast changes in its market structure, moving from being a regulated closed economy to an increasingly open, deregulated economy. While the output market and the capital market were progressively being deregulated, the labour market functioned without any major changes in its regulatory structure. Deregulation in the output sector can have cascading effects on the labour market, by reducing the bargaining power of workers (Blanchard and Giavazzi, 2003). One of the important features of deregulation of the industrial sector in India was the privatization of the public sector and encouraging private foreign capital in the industrial sector. The infusion of the private sector and private foreign capital may have implications on labour share. Azmat, Manning and Van Reenen (2012), in a study of network industries in the OECD countries, show that privatization of firms lead to a fall in wage share. This occurs mainly due to a shift in incentive for managers towards maximizing shareholder value and moving away from job protection. The fall in wage share in privatization occurs mainly due to the fall in employment, though the real wages may increase.

Though labour market institutions have remained largely unchanged in India, their roles have witnessed major changes in the period after liberalization. Much has been written about the rigid nature of labour market regulations in India, which have caused employment growth to stagnate (Besley and Burgess, 2004; Fallon and Lucas, 1991). In the Indian context, labour market regulations have arguably increased the hiring and firing costs along with other quasi-fixed costs that discourage employment growth, precipitating substitution of capital for labour. Trade unions strengthen the bargaining power of workers, which in turn raises labour share in value added. Fichtenbaum (2009) and Stockhammer (2009) show that unionization had a positive impact on labour share in the US and OECD countries, respectively. However, globalization has increasingly weakened the trade unions through various mechanisms (Brady and Wallace, 2000).The weakening of bargaining power and employment protection could lead to a fall in labour share, as shown by Blanchard and Giavazzi (2003). In India, it has been noted, the bargaining power of the workers has been declining vis-à-vis employers (Papola, 1994; Sundar, 2005), as indicated by the declining strength of

trade unions in terms of number of unions and union memberships, and the ratio of man-days lost due to employer lockouts versus employee strikes. It is possible that while capital intensity or technological change has been enhancing labour productivity, the fruits of these gains are not passed on to the workers owing to their weakened bargaining position in the relationship. Goldar (2013) shows that the declining bargaining power of trade unions may also be instrumental in explaining the decline in labour share.

1.1.2 Analytical background

A wage bill is the sum total of wages received by individuals of all firms in all industries. A change in wage bill arises out of a change in wage rate or number of employees. Labour share is the proportion of the wage bill in the value added. Any change in labour share is the relative change in wage bill to that of other components in the value added, namely interest, rent and profits.

Profit-maximizing firms substitute factors of production depending upon unit factor price and marginal productivity. Firms may see as substitutes not only labour and capital, but also different types of labour when the unit prices of different types of labour are different. Further, firms may also view not only different types of labour, but also workers and worker-time as substitutes, if they present different unit costs to the firm. Thus profit-maximizing firms may optimize the use of different types of labour, thereby changing the composition of labour, along with the quantity of labour used.

The firm views labour as heterogeneous, not only due to perceived productivity differences as manifested in skill differences, but also due to the structural and institutional features of the labour market. Firms facing dual labour markets would factor in quasi-fixed costs of hiring and retaining workers from the formal labour market vis-à-vis hiring from the informal market. Further, institutional norms, such as gender norms that distort labour markets, may appear to create different types of labour pools with different prices, making them substitutable.

Similarly, firms may alter the quantum of capital as well as the composition of capital if the factor price for capital changes and the marginal productivity of capital changes with a change in the composition of capital. Further, firms may alter the demand for capital depending upon the availability and price of other gross complements. The quantum of capital may change owing to the rental-wage ratio, while the marginal productivity of capital may change because of technological changes. Technological change may also usher in capital-skill complementarities.

Apart from firm-specific effects of composition and quantity of labour and capital, the aggregate share of wages in GVA could be affected due to the changes in firm-specific factors within industries. Profit rate may vary according to market structure and competition. Firms in an industry with a higher degree of monopoly may have a large share in profits, in turn reducing the share of other factors including labour share.

Depending on the differences in factor intensity across industries, the inter-industry variations in growth could lead to changes in the aggregate wage share in GVA. It is possible that such a decline in wage share could also be ushered in by sector-biased changes through international trade.

The Indian labour market is characterized by its dual nature. There is a relatively small formal sector consisting of regular employees with permanent job contracts and clearly laid-out conditions of work, while the informal sector consists of a large share of workers with contractual or casual wage employment with ambiguous conditions of work and job security. The formal labour market is protected through a wide range of labour market regulations, but the informal sector has negligible legal coverage. Also, the labour market is distorted due to pre-market discrimination, occupational segregation and wage discrimination along caste and gender lines. These institutional features of the labour market provide different types of labour with different prices to the typical Indian firm, which exploits these divisions within the labour market towards profit maximizing.

Liberalization has also led to privatization of the economy, while the rhetoric of competitiveness in international markets has raised the demand for flexibility in the labour markets. Labour market regulations have become a weak instrument owing to poor implementation and loopholes in the regulations themselves. The bargaining power of workers has also been waning, as indicated in trade union statistics.

Since the liberalization of the economy, the cost of capital has been declining due to two important changes. First, liberalization of capital imports through tariff reductions and dismantling of quotas has substantially increased the supply of capital and reduced the price of capital. Second, liberalization of foreign investment norms has augmented investment in India. Both these factors have been instrumental in changing the technology content of capital as well.

We analyse the decline in labour share in the organized manufacturing sector in India in light of the above detailed analytical context.

2. Trends and patterns of factor shares in GVA

2.1 Share of factor payments in GVA

The share of factor payments in GVA for the organized manufacturing sector is given in table 1. As can be seen from the table, the share of factor payments has undergone vast changes from 1980–81 to 2012–13. The share of wages in GVA declined from 28.5 per cent in 1980–81 to 11 per cent in 2012–13. The share of all emoluments other than wages also declined from 15.5 per cent to 12.6 per cent during the same period. Total emoluments[11] to workers declined from 44 per cent to 23.6 per cent in the same period. The share of other factor payments including rent and interest declined as well, while the share of profits in GVA jumped from 15.7 per cent to 44.1 per cent during the period of the study.

It is obvious from figure 1 that the composition of factor payments started changing from the late 1980s. Wage share was stable at about 25 to 28 per cent from 1980–81 to 1987–88; thereafter it started declining

[11] Total emoluments – wages = all other payments (provident fund, gratuity, bonus, other material and monetary costs borne by the firm as labour cost).

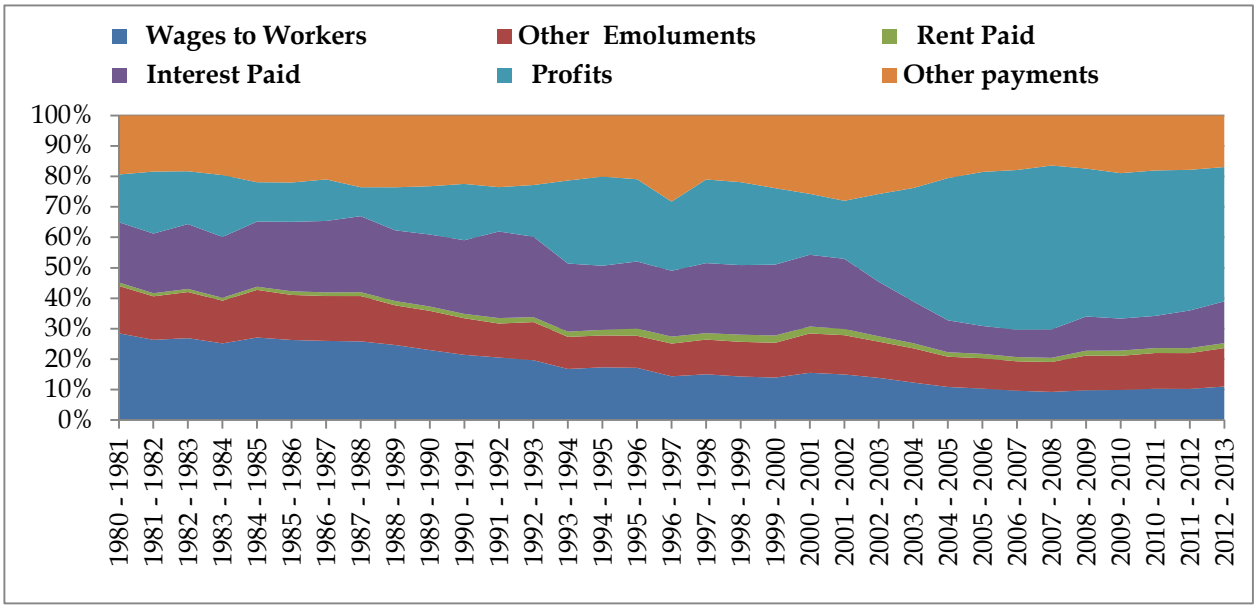
steadily. During the same period, profit share shrank from about 15.7 per cent to a mere 9.5 per cent, while interest payments rose from 19.8 per cent to 25 per cent. In fact, the share of interest payments increased to 28.4 per cent by 1990–91, declining thereafter. The graph shows that the wage share declined continuously from 1980–81 to 2012–13. While during the 1980s the decline in wage share led to the rise in other factor shares, in the 1990s, with a rise in profit share, both wage share and interest payments declined. In the 2000s, though the wage share continued to fall, the high rise in profit share largely corresponded to the decline in interest payment shares from 23.5 per cent to 13.5 per cent.

Table 1. Share of factor payments in GVA (nominal prices)

	Principal characteristics of factories – All-India aggregates						
	Wages to workers	**Other worker emoluments**	**Rent paid**	**Interest paid**	**Profits**	**Other payments**	**GVA**
1980–81	28.5	15.5	1.1	19.8	15.7	19.4	100.0
1981–82	26.3	14.3	1.0	19.6	20.4	18.4	100.0
1982–83	26.9	15.1	1.0	21.3	17.3	18.3	100.0
1983–84	25.2	14.0	1.0	20.0	20.3	19.6	100.0
1984–85	27.1	15.6	1.0	21.4	12.9	21.9	100.0
1985–86	26.3	14.8	1.2	22.8	12.9	22.0	100.0
1986–87	26.0	14.7	1.2	23.5	13.6	21.0	100.0
1987–88	25.8	14.9	1.3	24.9	9.5	23.5	100.0
1988–89	24.6	13.0	1.4	23.2	14.1	23.6	100.0
1989–90	23.0	12.9	1.4	23.6	15.9	23.2	100.0
1990–91	21.4	12.0	1.4	24.2	18.5	22.5	100.0
1991–92	20.5	11.2	1.8	28.4	14.6	23.5	100.0
1992–93	19.6	12.5	1.6	26.4	17.0	22.8	100.0
1993–94	16.8	10.5	1.7	22.4	27.3	21.3	100.0
1994–95	17.3	10.5	1.8	21.1	29.3	20.1	100.0
1995–96	17.2	10.5	2.4	22.0	27.0	20.9	100.0
1996–97	14.4	10.7	2.3	21.6	22.7	28.3	100.0
1997–98	15.0	11.4	2.1	23.0	27.5	21.0	100.0
1998–99	14.3	11.4	2.4	22.8	27.2	21.9	100.0
1999–2000	13.9	11.4	2.4	23.3	25.1	23.9	100.0
2000–01	15.5	12.9	2.3	23.5	20.0	25.7	100.0
2001–02	15.0	12.9	2.0	23.0	19.0	28.0	100.0
2002–03	13.8	11.9	1.8	17.9	28.9	25.8	100.0
2003–04	12.3	11.2	1.7	13.7	37.3	23.8	100.0
2004–05	10.9	9.9	1.5	10.5	46.7	20.5	100.0
2005–06	10.3	10.0	1.5	9.2	50.6	18.5	100.0
2006–07	9.6	9.7	1.4	9.0	52.5	17.9	100.0
2007–08	9.2	9.8	1.4	9.3	53.8	16.4	100.0
2008–09	9.8	11.4	1.6	11.2	48.6	17.4	100.0
2009–10	9.9	11.2	1.7	10.5	47.8	18.9	100.0
2010–11	10.3	11.7	1.6	10.6	47.8	18.0	100.0
2011–12	10.2	11.8	1.7	12.4	46.2	17.8	100.0
2012–13	11.0	12.6	1.6	13.7	44.1	16.9	100.0

Source: Annual Survey of Industries, various years, as reported by the Economic and Political Weekly Research Foundation (EPWRF)

Figure 1. Share of factor payments in GVA (nominal prices)



Source: Annual Survey of Industries, various years, as reported by the Economic and Political Weekly Research Foundation (EPWRF)

It is also to be noted that though the emoluments share dropped during the entire period from 1980 to 2011–12, the decline was concentrated in the first decade of analysis. The decline from 1980 to 1990 accounted for more than 50 per cent of the total drop in emoluments share, while the decades of the 1990s and 2000s accounted for only about 25 and 24 per cent, respectively, of the total decline. Also, the reduction in the share of total emoluments was largely due to the decline in the share of wages in the emoluments, while the share of other benefits (such as provident fund, bonus, etc.) remained more or less the same, at around 12 to 15 per cent throughout the period.

Table 2 shows the relative contribution of each factor in the growth of nominal GVA. It can be seen that the largest contribution to the change in GVA was from profits. When GVA grew at 14.5 per cent per annum from 1980–81 to 2012–13, nearly 45.2 per cent of the addition in GVA was appropriated as profits, while total emoluments accounted for only 23.7 per cent of the total rise in GVA. It is noteworthy that during every consecutive decade, the wage contribution to GVA had been declining, from 20.7 per cent (1980–81 to 1990–91) to 13.2 per cent (1990–91 to 2000–01) to 10.1 per cent (2000–01 to 2012–13). On the other hand, the share of profits in the change in GVA increased from 20.6 per cent to 22.2 per cent to a whopping 49.5 per cent from 2000–01 to 2012–13. However, it is also to be noted that the spike in the contribution of profit share to GVA growth during the 2000s was mainly due to a decline in the contribution of interest payments, which declined from 24.8 per cent to 11.6 per cent between the 1990s and the 2000s. In short, profit share rose throughout the 1990s and 2000s, and the wage shares declined. However, the sudden spurt in profit share in the 2000s was largely because of the decline in factor payments other than labour payments – mainly the drop in interest payments.

Table 2. Contribution of factor payments to growth in GVA

	Share of factor payments in growth of GVA (%)						
	Wages to workers	Total emoluments	Rent paid	Interest paid	Profits	Others	CAGR of GVA
1980–81 to 1990–91	20.7	32.4	1.6	27.2	20.6	18.2	16.0
1990–91 to 2000–01	13.2	27.5	2.9	24.8	22.2	22.5	11.2
2001–01 to 2012–13	10.1	22.7	1.5	11.6	49.5	14.6	19.5
Total change	10.9	23.7	1.7	13.8	45.2	15.7	14.5

Note: (1) Total factor payments = Total emoluments + profits + others + rent + interest; (2) The above share of factors in growth of GVA is a decomposition exercise arriving at the contribution of each factor to the total growth in GVA. $\frac{f_t - f_{t-1}}{V_t - V_{t-1}}$ *100 = P per cent contribution of each factor f in the change in GVA, v. Reported above are the percentage shares of each factor in the total growth of GVA.

The decline in labour share can be conceived as having three effects from the basic labour share equation

$$S = W*L/P*Y \quad (1)$$

Where S= labour share in GVA, W= nominal wages, L= number of workers, P = price level, Y = real GVA.

$$W = Wr*P \quad (2)$$

Where Wr is real wages and P is price level.

It follows that

$$S = Wr*P*L/P*Y \quad (3)$$

$$= Wr*L/Y$$ – that is, real wage bill as a share of real GVA

But if price level for workers and that of GVA are not the same then

If prices of wages = Pr, GDP prices = Pg,

Then $S = (Pr/Pg)*(Wr*L/Y)$ (4)

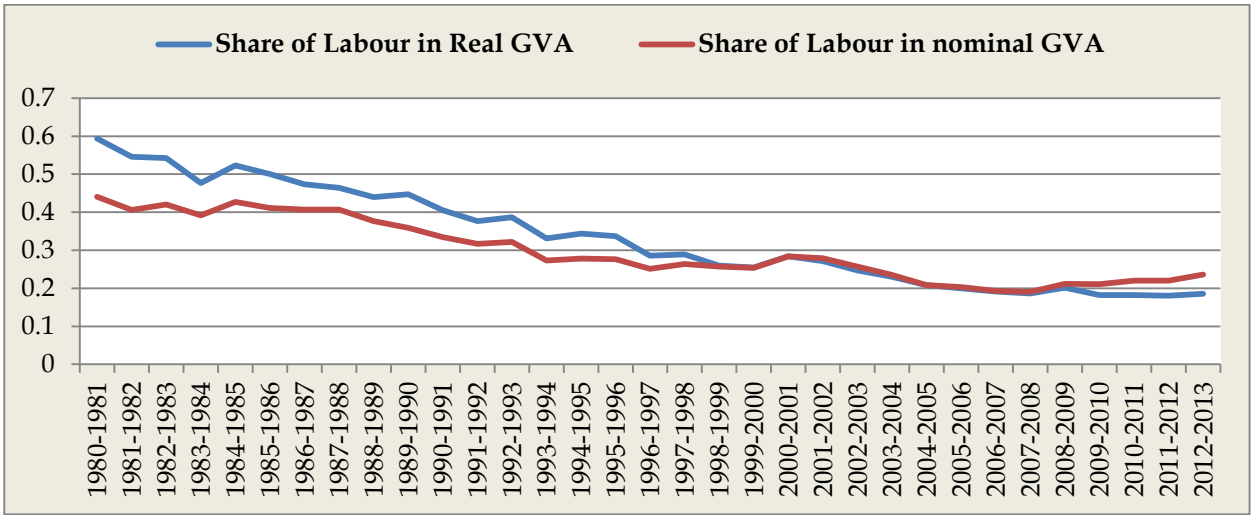
From equation (4) it is seen that wage share can be viewed as having three effects: a relative price effect (Pr/Pg), a wage rate effect (Wr) and a productivity effect (1/(L/Y)). Note that any divergence between real wage rate and real labour productivity could affect wage share.[12] If there is a relative rise in wage rate vis-

[12] Any such gap between wage rates and labour productivity is not warranted under conditions when both labour and product markets are perfectly competitive. Under perfect market conditions, since wage rate = marginal product of labour, there cannot be any long-run deviation between productivity and wages. Hence, the share of wages also remains constant in the long run (which is Kaldor's growth fact). However, if the product and labour markets are not working under competitive conditions, then deviations between wage rates and productivity are possible. Under such other market conditions, where there are deviations between wages and productivity, these in turn may show up as changes in labour share. This seems to be the case with the Indian organized sector as well.

à-vis productivity, then wage share increases and vice versa. To understand the relation between prices, wages and productivity in explaining labour share we must examine these three variables.

First, comparing the real and nominal rates, the decline in labour share in GVA gets accentuated when we consider real values instead of nominal values. In real terms, the share of labour (emoluments share) was as high as 60 per cent in 1980–81, while in nominal terms it was only about 44 per cent. This gap between real and nominal shares of labour declined continuously from the 1980s till 2000–01, moving almost in tandem from 2000–01 to 2007–08; however, from 2008–09, the nominal and real shares of labour began to diverge, with the nominal share becoming higher than the real labour share. The relative difference in price rise for the labour component vis-à-vis the rest of the factors seems to have had some effect on labour share in GVA. From figure A.1 in the appendix it can be noted that since the early 1990s the Consumer Price Index (CPI) has been diverging from the WPI. However, it can be seen from figure 2 that relative changes in prices were not the primary reason for the decline in the share of labour in GVA. The decline seems to be much sharper in real terms than in nominal terms. In other words, the relatively higher price levels in labour share, i.e. in emoluments, confounded the decline in real wages in GVA. A part of the decline in real labour share was offset by price rise in the CPI.

Figure 2. Share of labour in GVA: Comparing nominal and real values

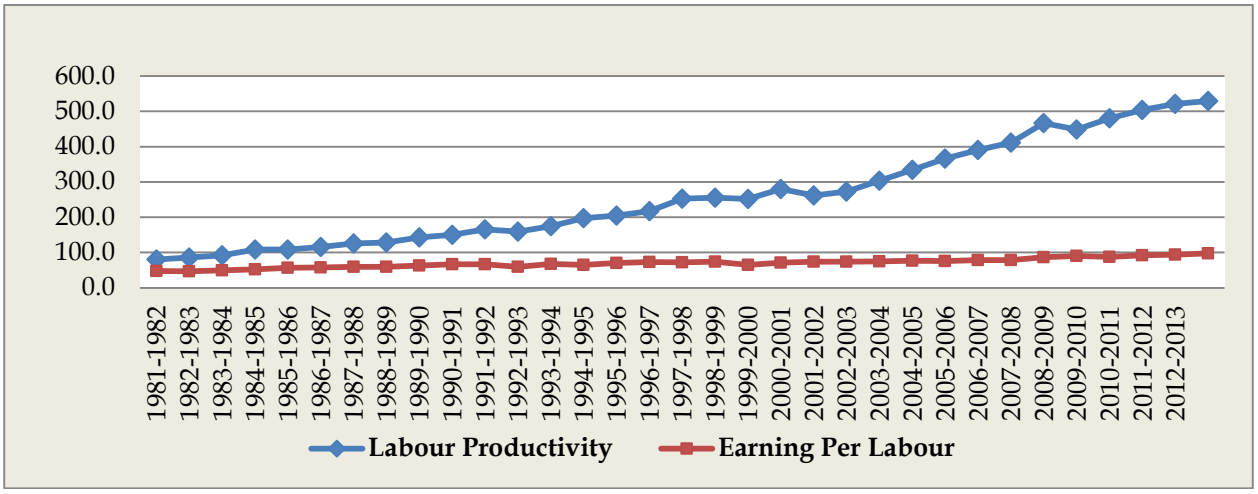


Note: Nominal GVA is deflated using WPI with base year 2004–05 to arrive at the real GVA. The share of labour is deflated using CPIIW after shifting the base year from 2001 to 2004–05.

Second, if we look at the wage rate and productivity, the drop in share of emoluments in the organized sector corresponded with a widening gap between earnings per employee and labour productivity in real terms (figure 3). Labour productivity and earnings per employee moved together for a short period from 1980–81 to around 1985–86; thereafter, the two indicators began to diverge. Labour productivity started growing at a faster pace from the mid-1980s, and, thereafter, starting from the early 2000s, the productivity growth accelerated further. This divergence in labour productivity and wages was noted by Kannan and Raveendran (2009), who argue that the increase in labour productivity was appropriated by employers; the product wage thus did not rise in proportion to output growth.

From the above discussion, it can be seen that the wage share decline is due to the widening gap between labour productivity and wage rates, while the price effect confounds the wage share decline.

Figure 3. Trends in labour productivity and annual earnings per employee (rupees thousand (INR), constant prices at 2004–05 base year)



Note: Labour productivity is measured as real GVA per employee; earnings per employee are all real earnings including wages and all other emoluments.

Table 3. CAGR in labour productivity and annual earnings per employee (constant prices at 2004–05 base year)

	Growth of labour productivity	Growth of real average earnings per employee
1980–81 to 1990–91	7.5	3.5
1990–91 to 2000–01	5.1	1.0
2000–01 to 2012–13	5.7	2.4
1980 to 2012–13	6.1	2.3

Table 3 depicts the divergence in the growth rates of labour productivity and earnings per employee. Throughout the period the Compound Annual Growth Rate (CAGR) of labour productivity was higher by at least 2.5 percentage points. This divergence in the two indicators implies that while the employee contribution to GVA was growing substantially, the returns for the employees did not keep pace; the productivity gains made in the period benefited the non-labour factors, bypassing the employees.

Thus six important trends can be noted from the above. First, the share of emoluments in GVA declined drastically during the last three decades. Second, about 50 per cent of the decline in share of emoluments was concentrated in the first decade; the next two decades accounted for almost equal parts of it. Third, the decline in share of emolument was mostly due to the wage component; other quasi-fixed costs declined only marginally. Fourth, while GVA grew substantially, the share of returns to labour in the expanded GVA has been declining progressively decade after decade. Fifth, the decline in labour share was not created by changes in relative prices; rather, the relative difference in price rise confounded the decline in labour share.

Sixth, the decline in share of emoluments can be accounted for by the widening gap between labour productivity and earnings per worker.

Now let us look at the changes in factor shares at the disaggregate levels. We shall look at the trends in emoluments share at the regional (state), sectoral, employment size, and ownership type levels.

2.2 Share of factor payments: A disaggregated picture

Factor shares by states: The decline in share of emoluments in GVA was a pan-India phenomenon, with almost all states experiencing this decline by some measure. Only in two states – Kerala and Haryana – among the 16 major states did the share of emoluments in GVA either increase or remain at status quo (table 4). All other states experienced this drop in share of emoluments. The drop in emoluments share was the highest in Bihar, followed by Karnataka, West Bengal, Andhra Pradesh, Odisha, and Uttar Pradesh, the reduction being 25 percentage points or more.

During the 1980s (1980–90), the emoluments share in GVA rose in the north-western states of Punjab, Haryana and Himachal Pradesh. In the politically left-dominated states of Kerala and West Bengal, there was only a marginal decline (less than 5 percentage points) during this period. The largest drop in emoluments share was in the eastern states of Assam, Bihar, Odisha, and Uttar Pradesh, which recorded a decline of more than 20 percentage points.

In the 1990s (1990–2000), five out of the 16 states witnessed a rise in emoluments share by varying levels (table 5). Of these five states, three – Assam, Odisha and Andhra Pradesh – had experienced a sharp fall in share of emoluments in the previous decade. The southern states of Kerala, Karnataka, Tamil Nadu and Andhra Pradesh, as well as the western state of Maharashtra, saw only a marginal drop in emoluments share in this period, with Himachal Pradesh, Uttar Pradesh and Rajasthan recording the steepest decline.

In the 2000s (2000–12), only two states – Kerala and Uttar Pradesh – experienced a rise in emoluments share. A marginal drop of less than 5 percentage point was seen in five other states. In nine of the 16 states there was a substantially large fall in emoluments share. The decline in emoluments share in these nine states in the 2000s was responsible for the overall sharp drop in this period.

Table 4. Share of total emoluments to workers in GVA

States	1980–81	1985–86	1990– 91	1995–96	2000–01	2005–06	2010–11	2011–12
Andhra Pradesh	48.4	42.6	31.9	28.8	32.8	25.2	20.5	20.9
Assam	32.4	17.0	13.9	21.3	27.1	14.8	20.2	21.6
Bihar	51.4	40.5	39.6	33.9	35.0	43.7	17.7	13.7
Gujarat	38.7	34.1	28.3	19.5	21.1	13.2	17.8	21.0
Haryana	30.7	37.0	33.1	27.7	30.4	23.0	30.1	30.7
Himachal Pradesh	20.8	23.5	30.4	28.1	14.4	8.3	11.9	13.1
Karnataka	42.0	42.1	34.8	31.6	30.6	23.0	27.1	13.7
Kerala	38.2	36.9	37.7	33.5	35.2	36.6	37.1	38.9
Madhya Pradesh	35.4	30.4	28.1	23.3	23.1	21.0	22.3	22.9

Maharashtra	41.6	37.4	32.8	26.6	28.2	18.0	20.9	24.3
Odisha	46.1	53.5	27.0	26.6	31.2	18.1	21.7	20.8
Punjab	32.4	37.4	37.1	34.0	31.7	32.4	25.0	18.3
Rajasthan	37.6	41.7	31.6	26.2	20.9	21.0	25.0	14.4
Tamil Nadu	41.3	39.1	30.9	28.3	28.7	25.8	28.0	29.1
Uttar Pradesh	53.9	49.6	32.5	25.3	25.2	24.5	21.8	28.6
West Bengal	62.4	59.9	55.9	51.0	54.2	35.5	33.7	34.4

Table 5. Change in emoluments share across states

States	1980–90	1990–2000	2000–12	1980–2012
Andhra Pradesh	-16.5	0.9	-11.9	-27.5
Assam	-18.5	13.2	-5.5	-10.8
Bihar	-11.8	-4.6	-21.3	-37.7
Gujarat	-10.4	-7.2	-0.1	-17.7
Haryana	2.4	-2.7	0.3	0.0
Himachal Pradesh	9.6	-16.0	-1.3	-7.7
Karnataka	-7.2	-4.2	-16.9	-28.3
Kerala	-0.5	-2.5	3.7	0.7
Madhya Pradesh	-7.3	-5.0	-0.2	-12.5
Maharashtra	-8.8	-4.6	-3.9	-17.3
Odisha	-19.1	4.2	-10.4	-25.3
Punjab	4.7	-5.4	-13.4	-14.1
Rajasthan	-6.0	-10.7	-6.5	-23.2
Tamil Nadu	-10.4	-2.2	0.4	-12.2
Uttar Pradesh	-21.4	-7.3	3.4	-25.3
West Bengal	-6.5	-1.7	-19.8	-28.0

Corresponding to the decline in emoluments share, the profit share in GVA increased substantially in all the states except Haryana from 1980 to 2011–12. The states which recorded the largest decline in emoluments share were the same as those that recorded the largest rise in profit share, namely Bihar, Karnataka, Rajasthan, Uttar Pradesh, and Andhra Pradesh. It is also interesting that the states with a lower profit share in the 1980s were the ones that recorded the largest increase in profit share from 1980 to 2011–12 (tables 6 and 7).

Table 6. Share of profits in GVA

States	1980–81	1985–86	1990–91	1995–96	2000–01	2005–06	2010–11	2011–12
Andhra Pradesh	7.2	7.3	-0.3	21.8	12.0	40.5	47.6	46.5
Assam	33.5	61.6	60.2	40.2	29.9	61.8	52.1	46.0
Bihar	-9.5	3.7	18.9	20.4	-10.0	-0.9	66.2	69.9
Gujarat	18.9	21.7	20.4	36.5	17.9	59.2	50.1	41.0
Haryana	33.3	12.5	20.3	29.1	18.8	50.6	33.4	32.2
Himachal Pradesh	52.3	37.8	35.9	31.1	41.0	75.9	66.5	62.9
Karnataka	18.0	18.2	21.4	24.9	18.1	45.9	39.6	69.1
Kerala	14.9	26.7	22.2	21.6	22.0	27.7	31.3	27.2
Madhya Pradesh	22.4	23.2	21.3	20.7	33.5	42.4	42.8	41.0
Maharashtra	23.2	25.7	23.7	33.2	22.8	56.9	54.5	43.8
Odisha	12.2	-14.6	20.4	8.2	-1.3	47.6	34.7	24.1
Punjab	18.8	8.1	1.0	12.8	19.0	31.2	43.2	57.6
Rajasthan	16.0	-1.0	12.7	18.4	29.6	46.8	33.9	63.0
Tamil Nadu	22.5	20.2	29.5	32.3	22.1	38.1	37.3	32.5
Uttar Pradesh	-6.5	-16.8	10.3	27.7	19.0	42.0	49.3	33.3
West Bengal	4.6	-1.6	-3.6	-1.6	-15.7	19.9	25.2	15.5

Table 7. Change in profit share across states

States	1980–90	1990–2000	2000–12	1980–2012
Andhra Pradesh	-7.4	12.2	34.5	39.3
Assam	26.7	-30.3	16.0	12.4
Bihar	28.4	-28.9	79.9	79.5
Gujarat	1.5	-2.5	23.1	22.1
Haryana	-13.0	-1.5	13.4	-1.0
Himachal Pradesh	-16.4	5.1	22.0	10.7
Karnataka	3.4	-3.2	51.0	51.2
Kerala	7.3	-0.2	5.2	12.3
Madhya Pradesh	-1.1	12.2	7.5	18.7
Maharashtra	0.5	-0.9	21.0	20.6
Odisha	8.2	-21.7	25.4	11.9
Punjab	-17.8	18.0	38.6	38.8
Rajasthan	-3.3	16.9	33.4	47.1
Tamil Nadu	6.9	-7.3	10.4	10.0
Uttar Pradesh	16.8	8.7	14.3	39.8
West Bengal	-8.2	-12.1	31.2	10.9

During 1980–90, a sharp rise in profit share, of over 20 percentage points, was noted in Bihar and Assam. Seven states saw a decline in profit share during this period and the rest witnessed a marginal increase in profit share. During 1990–2000, we find a complete reversal of the trend, with almost all states that saw a rise in profit share in the previous period experiencing a decline and vice versa. However, from 2000 to 2011–12, all states experienced a rise in profit share by some measure. In effect, the decline in emoluments share is closely linked to the rise in profit share across all states.

This is visible from table 8, which reports the correlation coefficients between the share of emoluments and share of profits across states for the entire period. The table shows the correlation between all the factor shares in GVA for the period across 16 Indian states. As can be seen, the correlation coefficients between share of emoluments and share of profits across states are as high as -0.87 and never fall below -0.74, showing the negative relation between the two. It can be interpreted thus: those states that had low emoluments share in GVA had a high share of profits in GVA and vice versa.

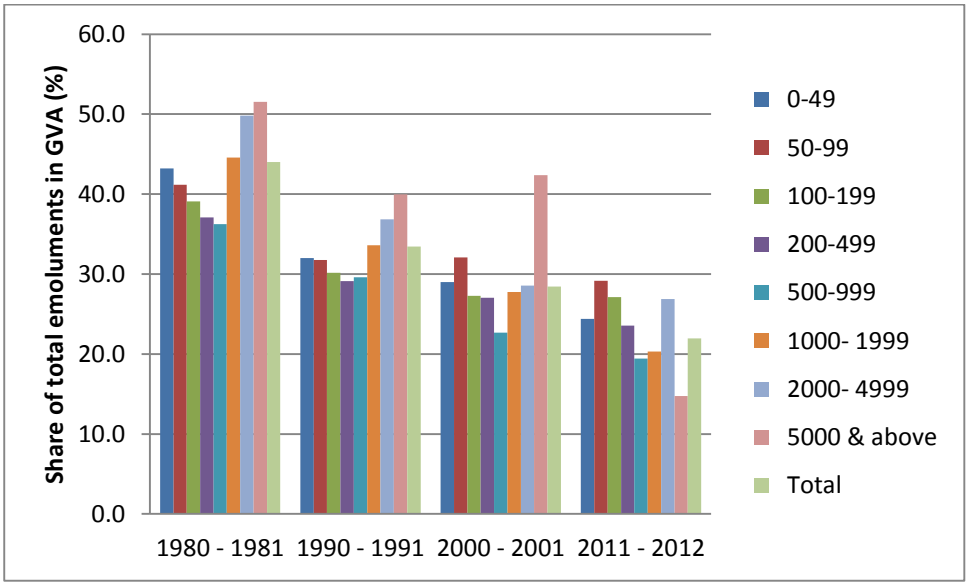
Table 8. Correlation between state-wise share of emoluments, profits, interest, rent and wages in GVA

Correlates	1980–81	1985–86	1990–91	1995–96	2000–01	2004–05	2010–11	2011–12
Emoluments-Wages	0.98	0.90	0.96	0.96	0.98	0.96	0.91	0.93
Emoluments -Profit	-0.87	-0.85	-0.74	-0.74	-0.81	-0.77	-0.86	-0.87
Emoluments-Interest	0.26	0.50	0.23	0.11	0.19	0.25	0.39	0.46
Emoluments-Rent	0.32	0.36	0.33	0.10	0.29	0.14	0.53	0.72
Profit-Interest	-0.57	-0.73	-0.79	-0.53	-0.69	-0.79	-0.75	-0.83
Profit-Rent	-0.16	-0.47	-0.53	-0.17	-0.33	0.07	-0.55	-0.74

It can also be seen that after 2000–01 the correlation coefficient between emoluments share in GVA and interest payments in GVA becomes much stronger than in the earlier periods. Yet the negative relationship between profit share in GVA and interest payments has been strong from the early 1980s. Reading together the decline in emoluments share and the correlation between emoluments share and interest share after the 2000s, it may be inferred that the decline in emoluments share occurred in the states that saw a decline in interest payments as well. In other words, both emoluments and interest payments declined in nearly the same set of states that allowed the profit share to rise in the post-2000s period.

Factor shares by firm size classification: Looking at the share of total emoluments paid to the workers in the organized manufacturing sector, it may be noted that the share of emoluments had a U-shaped association with the size of the industrial unit in 1980–81 (table 9). The size of an industrial unit is determined by the number of employees. In general, it can be seen that mid-sized firms (200 to 1,000 employees) had a lower share of emoluments in GVA than all other size classifications, smaller or bigger (see figure 4). The average share of emoluments in GVA for small-sized firms, with 0 – 49 employees, was 43.2 per cent, which reduced at higher size classifications up to firms of 200 – 499 workers. Thereafter it rose, reaching a peak of 63 per cent for firms with above 5,000 workers. This U-shaped relationship between wage share and average firm size could be due to the relatively higher labour-intensive techniques of production among the smaller firms, though the wage rate may not be necessarily high among the smaller firms. While for the largest size firms the higher wage share may be because of higher wage rates, owing to higher capital intensity and hence higher labour productivity.

Figure 4. Share of total emoluments in GVA: Size classification by number of employees



Between 1980–81 and 2011–12, the share of emoluments of all size classes declined by some measure. It may be noted that decline in the share of emoluments is related to the size of establishments. Though the share of emoluments did decline across size classes, the relatively larger drop was in the larger-sized establishments, with above 500 employees; as the size increases, the drop seems to be larger. The drop in emoluments was relatively larger in the size classes 500 and above, with the largest decline recorded in firms with above 5,000 employees. For the largest size class firms, the share of emoluments dropped steeply from 51.5 per cent to a mere 14.8 per cent during this period. However, it may be noted that the drop in emoluments share in GVA was the highest from 1980–81 to 1990–91 across all size classes except the largest. Between 1990–91 and 2000–01, though the decline continued across all size classes, in most of them the fall in this period was much lower compared to the decade before or after. However, one exception is the case of the largest size class firms, which saw the sharpest drop from 2000–01 to 2011–12, wherein emoluments share dropped by 27.6 percentage points, the highest decline experienced by any size class in any period. This is also the period when we saw the largest drop in share of interest payment, as stated earlier. It appears that the fall in the cost of capital has benefited capital-intensive, large-sized firms the most. This fall in cost of capital has been entirely appropriated as profits by large-sized firms, leading to the largest drop in wage share in the largest firms across various size classes.

Table 9. Share and change in share of total emoluments in GVA of firms by employment size

Year	Share of total emoluments in GVA (%)								Total
	Size classification by number of employees								
	0–49	50–99	100–199	200–499	500–999	1000– 1999	2000– 4999	5000 & above	
1980–81	43.2	41.2	39.1	37.1	36.3	44.6	49.8	51.5	44.0
1990–91	32.0	31.8	30.2	29.1	29.6	33.6	36.9	40.0	33.4
2000–01	29.0	32.1	27.3	27.1	22.7	27.8	28.6	42.4	28.4
2011–12	24.4	29.1	27.1	23.5	19.4	20.3	26.9	14.8	22.0
	Change in share of total emoluments by GVA (%)								
1980–81 to 1990–91	-11.2	-9.4	-8.9	-8.0	-6.6	-11.0	-13.0	-11.6	-10.6
1990–91 to 2000–01	-3.0	0.3	-2.9	-2.1	-6.9	-5.8	-8.3	2.4	-5.0
2000–01 to 2011–12	-4.6	-2.9	-0.2	-3.5	-3.2	-7.5	-1.7	-27.6	-6.5
1980–81 to 2011–12	-18.8	-12.0	-12.0	-13.5	-16.8	-24.3	-22.9	-36.8	-22.1

Very similar observations can be made for the share of wages in GVA as well as in terms of temporal changes. The decline in share of wages is higher amongst the larger-sized establishments compared to smaller ones (table 10).

Table 10. Share and change in share of wages in GVA of firms by employment size

	0–49	50–99	100–199	200–499	500–999	1000– 1999	2000– 4999	5000 & above	Total
1980–81	26.8	27.2	25.0	23.1	23.4	29.0	35.0	31.6	28.5
1990–91	21.7	21.3	19.3	18.6	18.7	22.6	25.4	23.3	21.4
2000–01	15.7	16.9	14.2	14.5	12.2	14.3	17.8	24.0	15.5
2011–12	12.0	13.5	12.8	10.8	8.7	8.9	12.6	7.3	10.2
Change in share of wages by GVA									
1980–81 to 1990–91	-5.0	-5.9	-5.7	-4.6	-4.7	-6.5	-9.6	-8.3	-7.1
1990–91 to 2000–01	-6.0	-4.4	-5.1	-4.0	-6.5	-8.3	-7.6	0.7	-5.9
2000–01 to 2011–12	-3.7	-3.4	-1.4	-3.8	-3.4	-5.4	-5.2	-16.6	-5.3
1980–81 to 2011–12	-14.8	-13.7	-12.2	-12.3	-14.7	-20.2	-22.4	-24.2	-18.3

Factor shares by industry: The share of emoluments in GVA declined in three prominent agro-based industries – food products and beverages, tobacco products, and textiles – throughout the period 1980 to 2011–12 (tables 11 and 12). There was also continuous decline in emoluments share in most high- and medium-technology industries, such as chemical and chemical products, machinery and equipment, office accounting and computing machinery, radio, TV, etc., and medical precision equipment. This seems to point to two possible ways of explaining the drop in emolument share in these industries: the increasing contractualization of employment in agro-based industries, and the increasing capital intensity and technical changes in production in high- and medium-technology industries.

Table 11. Share of emoluments in GVA by industry (%)

NIC Industry	1980–81	1990–91	2000–01	2011–12
15 - Food products and beverages	43.4	33.4	30.0	24.2
16 - Tobacco products	52.7	33.3	22.2	18.0
17- Textiles	55.2	43.4	37.8	38.3
18 - Wearing apparel; dressing and dyeing of fur	50.9	24.5	34.2	51.7
19 - Luggage, handbags, saddlery, harness & footwear; tanning and dressing of leather products	53.6	25.7	39.5	45.0
20 - Wood and products of wood & cork except furniture; articles of straw and plating materials	42.1	32.1	38.7	30.4
21 - Paper and paper products	37.7	25.9	24.5	32.3
22 - Publishing, printing & reproduction of recorded media	56.3	55.6	36.0	36.3
23 - Coke, refined petroleum products and nuclear fuel	16.4	9.8	15.1	7.5
24 - Chemicals and chemical products	31.1	25.0	18.5	19.4
25 - Rubber and plastics products	41.5	26.3	24.5	25.5

26 - Other non-metallic mineral products	45.2	24.3	22.8	19.9
27- Basic metals	42.0	27.7	31.6	21.9
28 - Fabricated metal products, except machinery and equipment	44.0	39.6	40.6	31.8
29 - Machinery and equipment n.e.c.	41.9	38.9	36.7	28.1
30 - Office, accounting and computing machinery	46.6	31.8	24.2	35.0
31 - Electrical machinery and apparatus n.e.c.	39.6	32.5	38.5	29.7
32 - Radio, TV and communication equipments and apparatus	56.5	32.8	27.1	32.0
33 - Medical, precision and optical instruments, watches and clocks	33.9	41.5	35.3	33.0
34 - Motor vehicles, trailers & semi-trailers	43.7	34.1	35.5	28.3
35 - Other transport equipment	64.1	51.9	38.0	24.5
36 - Furniture; manufacturing n.e.c.	45.8	48.0	30.8	35.9
Total (ASI)	44.0	33.4	28.4	23.8

Table 12. Change in share of emoluments in GVA by industry

Industry	1980–81 to 1990–91	1990–91 to 2000–01	2000–01 to 2011–12	1980–81 to 2011–12
15 - Food products and beverages	-9.9	-3.4	-5.8	-19.1
16 - Tobacco products	-19.5	-11.1	-4.2	-34.8
17– Textiles	-11.7	-5.6	0.5	-16.9
18 - Wearing apparel; dressing and dyeing of fur	-26.4	9.7	17.5	0.8
19 - Luggage, handbags, saddlery, harness & footwear; tanning and dressing of leather products	-27.8	13.8	5.5	-8.6
20 - Wood and products of wood & cork except furniture; articles of straw and plating materials	-10.0	6.6	-8.2	-11.6
21 - Paper and paper products	-11.8	-1.3	7.8	-5.4
22 - Publishing, printing & reproduction of recorded media	-0.7	-19.6	0.4	-20.0
23 - Coke, refined petroleum products and nuclear fuel	-6.6	5.3	-7.5	-8.9
24 - Chemicals and chemical products	-6.1	-6.4	0.8	-11.7
25 - Rubber and plastics products	-15.2	-1.8	1.0	-16.0
26 - Other non-metallic mineral products	-20.9	-1.5	-2.9	-25.3
27-Basic metals	-14.3	3.9	-9.7	-20.1
28 - Fabricated metal products, except machinery and equipment	-4.3	0.9	-8.7	-12.1
29 - Machinery and equipment n.e.c.	-3.0	-2.3	-8.6	-13.8
30 - Office, accounting and computing machinery	-14.8	-7.6	10.8	-11.6
31 - Electrical machinery and apparatus n.e.c.	-7.1	5.9	-8.7	-9.9
32 - Radio, TV and communication equipments and apparatus	-23.7	-5.7	4.9	-24.5
33 - Medical, precision and optical instruments, watches and clocks	7.6	-6.2	-2.3	-0.9
34 - Motor vehicles, trailers & semi-trailers	-9.6	1.5	-7.3	-15.4
35 - Other transport equipment	-12.2	-13.9	-13.5	-39.6
36 - Furniture; manufacturing n.e.c.	2.2	-17.2	5.2	-9.8
Total (ASI)	-10.6	-5.0	-4.7	-20.3

3. Wage share: Accounting for the drop

After having analysed the trends and patterns, let us now examine the change in wage shares from 2000–01 to 2011–12. First, we shall try to estimate the relative contribution of states and regions to the drop in wage share during this period. Second, we shall do a decomposition of the change in wage share in an attempt to see the relative contribution of within-industry effects versus between-industry effects in the fall in wage share.

3.1 Relative contribution of regions and industries

To arrive at the relative contribution of regions and industries in the change in wage share from 2000–01 to 2011–12, we work out the following:

$$\Delta\gamma_{iy} \quad = \gamma_{iyt} * \frac{X_{iyt}}{\sum X_t} - \gamma_{iyt-1} * \frac{X_{iyt-1}}{\sum X_{t-1}} \qquad (1)$$

γ_{iy} is the share of wages of 'i'th industry belonging to 'y'th state in value added of the same industry and state; Δ is change; t is period; X is employment.

Basically, the right side of the above equation captures the wage share of each industry of each state in India, weighted by the size (taking employment as a proxy) of the particular industry, in the whole economy. Further, we take the change of this weighted share between the two periods to arrive at the relative contribution of industries and states. This contribution to the change in wage share is expressed in percentages and represented in table A.1 in the appendix. Table A.1 shows the relative contribution of each industry in each state in the total drop in wage share from 2000–01 to 2011–12. It also captures the contribution of all industries and all states.

We had noted earlier that the overall decline in wage share in GVA was by 24 percentage points. After decomposition we find that of the total 24 percentage point decline in wage share in GVA from 2000–01 to 2011–12, about 68 per cent was concentrated in the states of Punjab, Uttar Pradesh, West Bengal, Gujarat, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu. And in each of these states, the drop in wage share was concentrated in the following industries: food products and beverages, textiles, chemicals and chemical products, other non-metallic mineral products, fabricated metal products except machinery and equipment, and machinery and equipment n.e.c. Tamil Nadu alone accounted for nearly 15 per cent of the change in wage share from 2000–01 to 2011–12, followed by Maharashtra which accounted for 12.7 per cent of the drop, Gujarat (8.1 per cent), and West Bengal and Uttar Pradesh (6.2 per cent each). Given that these are the industrially - developed states in India, the fall in wage share seems to be concentrated in these states. But this is not to say that other states did not experience a drop: all states have experienced some decline in wage share. Similarly, the industries that experienced the largest drop in wage share were food products and beverages (16 per cent) and textiles (14.3 per cent). Thus the decline in wage share was steepest in the large labour-intensive industries. Yet all industries experienced some decline in wage share during this period.

3.2 Change in wage share from 2000–01 to 2011–12: A shift share analysis

We have established that though the drop in wage share has some regional and industrial specificities, it is a pan-India phenomenon – cutting across the country and across industries. It may now be appropriate to look into the factors that explain the drop in wage share in GVA during the last three decades. Since there are substantial gaps in data, we examine in detail the decline from 2000-01 to 2011-12, a period identified as one with a sharp drop in wage share in GVA. The first step towards analysing the fall in wage share is to identify its source. A shift share analysis would be able to answer a major question with regard to the change in wage share. Inter-industry variations in the growth of the economy may be a prime factor behind this wage share decline. If growth is concentrated in the sectors that have a higher capital–labour ratio, then assuming that both factors are paid according to their contribution to the final product, this sectoral shift can reduce the share of wages in GVA for the economy as a whole. Thus in the above argument it is the inter-industry variations in growth of GVA that explain the decline in wage share.

It is also possible that it is not inter-industry variations in GVA growth, but intra - industry variations or within-industry variations that are behind the drop in wage share. This would imply that there are changes affecting the **production process that are not industry-specific**; rather, they may be affecting most industries and it is the changes in the inputs utilized in the production process that are the reason for the decline in wage share.

A commonly used analytical tool for comparing the within-industry versus between-industry effect is **the shift share analysis**. Equation (2) below, which has been adapted from Elsby, Hobijn and Sahin (2013), provides the decomposition of the change in wage share.

$$\Delta y^{\rho} = \sum_i \omega_i \ \Delta y_i^{\rho} + \sum_i \Delta\omega_i \ y_i^{\rho} \qquad (2)$$

where $y^{\rho} = \frac{\sum_i W_i^{\rho} L_i^{\rho}}{PY} = \sum_i \omega_i \ y_i^{\rho}$

and $\omega_i = \frac{P_i Y_i}{PY}$

and $y_i^{\rho} = \frac{W_i^{\rho} L_i^{\rho}}{P_i Y_i}$

P = price level, Y = value added, W = wage rate, L = number of workers, "i" is the industry

y_i^{ρ} is the share of wages of "i"th industry in value added of the same industry

ω_i = share of GVA of "i"th industry in the GVA of the economy

γ^{ρ} = share of wages in GVA in the economy

In equation (2), the first part of the right side of the equation represents the "shift" component while the second part provides the "share" component. The shift component captures the intra-industry variations in wage share and the share component captures the inter-industry variations.

The results of the decomposition exercise are given in table 13 below. Column (1) provides the share of wages in GVA for 31 Indian states, union territories, and all-India for the years 2000-01 and 2011-12. The change in wage share in GVA for each state is given in column (2). The decomposition of this change in wage share is reported in columns (3) and (4) as shift and share. First, it may be noted that between 2000-01 and 2011-12 all states experienced a reduction in wage share in GVA by some measure, except for Tripura. The average drop in wage share during the period for the country as a whole was by 25.6 percentage points. This drop varied between states, the highest drop being in West Bengal and the Andaman Islands. Second, it may be noted that the decomposition of the change in wage share shows that much of the change is explained by the shift component while the share component has only a minor role in explaining it. Of the total drop in wage share of 25.6 percentage points, 19.3 percentage points (75.6 per cent of the drop) is explained by the shift component, i.e. an overwhelmingly large component of the drop was due to changes in intra-industry variations in wage share in GVA. As for the share component, we see that it does not explain the drop in wage share. In fact, changes in inter-industry variations in wage share in GVA would actually increase wage share, but the impact is too small to seriously influence the intra-industry effect on wage share drop.

These results - of a very dominant shift effect and weak share effect - are consistent across most states, though the strength of these effects varied. However, a major part of the change in wage share of all states could be explained through the shift effect. In most states, more than 90 per cent of the drop was explained by the shift component. It is therefore safe to conclude that the intra-industry variations in wage shares in all states need to be analysed by looking into the explanatory factors. Having established the importance of intra-industry factors that affect the drop in wage share in GVA, we shall now look into the intra-industry factors.

Table 13. Decomposition of wage share drop

	(1)		(2)	(3)	(4)
	Share of wages in GVA		Change in wage Share	Shift	Share
	2000–01	2011–12			
Jammu & Kashmir	0.400	0.036	-0.364	-0.346	-0.147
Himachal Pradesh	0.197	0.037	-0.160	-0.139	0.030
Punjab	0.296	0.037	-0.259	-0.247	-0.039
Chandigarh (UT)	0.351	0.072	-0.279	-0.266	-0.015
Uttarakhand	0.255	0.039	-0.216	-0.215	0.069
Haryana	0.322	0.051	-0.271	-0.253	0.023
Delhi	0.258	0.065	-0.193	-0.145	0.041
Rajasthan	0.253	0.036	-0.216	-0.195	0.032
Uttar Pradesh	0.292	0.048	-0.243	-0.229	-0.008
Bihar	0.371	0.043	-0.328	-0.305	-0.063
Nagaland	0.395	0.021	-0.374	-0.313	-0.054
Manipur	0.428	0.120	-0.308	-0.195	-0.016
Tripura	0.061	0.094	0.034	0.027	0.247
Meghalaya	0.263	0.046	-0.216	-0.186	0.184
Assam	0.229	0.048	-0.181	-0.173	0.092
West Bengal	0.525	0.049	-0.476	-0.428	-0.139
Jharkhand	0.296	0.062	-0.234	-0.224	-0.012
Odisha	0.355	0.050	-0.306	-0.300	0.173
Chhattisgarh	0.223	0.047	-0.176	-0.175	0.060
Madhya Pradesh	0.275	0.043	-0.232	-0.209	0.065
Gujarat	0.272	0.042	-0.230	-0.217	0.015
Daman & Diu	0.102	0.041	-0.061	-0.045	0.006
Dadra & Nagar Haveli	0.127	0.020	-0.107	-0.090	0.030
Maharashtra	0.316	0.054	-0.263	-0.259	0.014
Andhra Pradesh	0.337	0.052	-0.285	-0.271	-0.017
Karnataka	0.334	0.034	-0.300	-0.248	-0.056
Goa	0.110	0.036	-0.074	-0.039	0.060
Kerala	0.327	0.071	-0.256	-0.242	0.056
Tamil Nadu	0.286	0.050	-0.236	-0.222	0.131
Puducherry	0.162	0.038	-0.124	-0.097	0.001
Andaman & Nicobar Islands	0.595	0.076	-0.519	-0.512	-0.150
Total	0.303	0.046	-0.256	-0.193	0.017

Towards understanding the intra-industry factors, we start with the basic premise that GVA in each sector is the sum total of all factor payments. Any change in GVA is caused by a change in the aggregate rate of returns to factors and/or a change in the aggregate quantity of factors. And any change in the aggregate rate of returns to factors could be due to either an average change in rate of returns to all factors, or a compositional change, wherein the aggregate change is caused by a relative change in rate of returns to factors. Further, this change may be caused by changes in the aggregate quantum of factors or changes in the composition of factors. We shall now proceed to examine the two aspects – quantum and composition of labour and capital - in understanding the decline in wage share.

4. Composition of workforce and worker emoluments

4.1 Composition of employees

Workforce in the organized sector can be categorized into various types based on the analytical classification that we follow. The ASI provides the following category of workers: Male direct, Female direct, Child direct (not in later years) and employed through contractors. Non-production workers are accounted for as supervisors and managerial staff. There are also unpaid workers, who are probably entrepreneurs themselves, and other employees as well. From the unit-level data of ASI we get the average number of persons who worked per year and also the **number of days of work** done by each of the above categories. This rich information can be utilized to analyse the composition of employment in the sector.

For the above categories we also get the wage earned and the payments made as bonus, gratuity and provident fund. This data thus enables us to also analyse the composition of the wage bill. In this context we could bring in the argument of flexibility versus rigidity in the sector.

Table 14. Share of workers in total employment (%)

	Share of Male Direct workers in total employment		Share of Female Direct workers in total employment		Share of contract workers in total employment		Share of managers in total employment		Share of other workers in total employment		Female workers to direct workers	
States	**2000–01**	**2011–12**	**2000–01**	**2011–12**	**2000–01**	**2011–12**	**2000–01**	**2011–12**	**2000–01**	**2011–12**	**2000–01**	**2011–12**
Jammu & Kashmir	63	46	4	3	22	32	10	6	2	13	6	5
Himachal Pradesh	68	53	5	7	9	15	15	12	2	13	6	10
Punjab	70	58	4	3	13	17	10	8	3	15	5	5
Chandigarh (UT)	70	51	3	5	2	16	22	15	4	14	4	9
Uttarakhand	62	35	5	4	11	40	16	8	5	12	7	10
Haryana	59	41	4	2	19	30	16	13	1	14	6	3
Delhi	77	59	4	2	4	7	12	14	3	18	5	4
Rajasthan	64	44	2	1	17	29	16	9	2	17	3	4
Uttar Pradesh	63	47	4	1	18	28	14	11	1	13	6	3
Bihar	68	50	1	1	19	27	9	9	4	13	2	2
Nagaland	59	61	8	6	21	9	9	12	3	12	11	9
Manipur	49	8	20	3	16	66	10	7	5	17	26	27
Tripura	53	28	2	7	35	44	6	7	4	14	3	10
Meghalaya	56	38	6	1	27	27	11	9	0	26	7	3
Assam	74	52	2	2	14	23	8	9	2	14	2	4
West Bengal	73	46	3	1	9	30	13	9	2	14	3	3
Jharkhand	70	48	3	5	12	21	14	13	1	12	4	8
Odisha	55	43	5	7	25	30	14	10	1	10	11	11
Chhattisgarh	69	43	5	8	13	25	10	10	2	14	7	10
Madhya Pradesh	65	48	5	2	13	25	16	12	1	13	7	4
Gujarat	57	41	4	5	23	31	15	10	2	13	7	9
Daman & Diu	60	53	8	8	14	14	17	11	1	15	10	11
Dadra & Nagar Haveli	72	44	1	3	13	31	13	10	2	12	1	9
Maharashtra	60	34	7	6	18	32	15	12	2	15	9	12
Andhra Pradesh	61	39	9	9	17	30	11	11	1	10	12	16
Karnataka	53	39	17	10	12	24	17	15	1	13	21	17
Goa	52	38	17	7	14	26	17	13	1	16	22	15
Kerala	57	43	21	17	7	15	14	12	1	13	24	26
Tamil Nadu	58	41	19	17	9	22	12	9	1	10	23	26
Puducherry	52	41	16	15	16	24	16	9	0	11	20	22
Andaman & Nicobar Islands	85	88	3	0	0	1	12	5	0	7	4	0
Total	63	45	7	6	14	25	14	11	2	14	9	10

Table 14 shows the composition of workers in the organized manufacturing sector in India. Of the total employees, male shop-floor workers who are permanent employees accounted for the largest share – 63 per cent of all employees – in 2000–01. This share, however, **dropped to 45 per cent** by 2011–12. The share of permanent female shop-floor workers among all employees as well as of permanent managers and supervisors also declined from 7 to 6 per cent and 14 to 10 per cent, respectively, during the same period.

However, during the same period, the share of **contract workers increased from 14 per cent to 25 per cent**. This is shown in other studies as well (Kannan and Raveendran, 2009; Kapoor, 2014). In fact, what we see during this period is a decline in all permanent forms of employment which is compensated by temporary forms of employment, such as contract employment. The only other component that shows a substantial rise is the category "Others", a substantial share of whom are unpaid employees. It is important to note that this reduction in permanent forms of employment is widespread in India, across states. The magnitude of decline in the share of permanent workers varied across states, but the direction is clearly that of decline, except for a few states.

Also, though the share of females in overall employment declined from 7 to 6 per cent, their share in total permanent shop-floor workers increased from 9 to 10 per cent during the same period. Again, the direction of these trends is almost the same across the country, with some regional variations in magnitude.

Thus the two notable trends in composition of employees are increasing contractualization of employment and increasing feminization of permanent employment.

4.2 Employees and person days

The next notable feature is the change in the days of work per year for all employees (table 15). The average employee in 2000–01 worked for 299 days per year, which increased to 307 days per year by 2011–12.[13] This addition of work of nearly **eight days** a year would imply that these extra days of production per employee could be achieved without any additional labour costs incurred to the employer. Since wage payment has to be done for the entire year for permanent employees, increasing the days of work would, in effect, reduce the per unit labour cost. It can be seen that the days of employment per worker have increased the most for the permanent direct employees, both males and females. For males this increased from 306 days to 310 days, and for females from 299 to 310 days. For contract workers, whose wage payment would be attached to the days of work, this has risen too but to a much lesser extent compared to the permanent employees.

[13] Bhalotra (1998) shows that the hours of work grew at the rate of 1.64 per cent per annum during 1979–87 in the Indian manufacturing sector – an equivalent to a shift from a five- to a six-day week. The author also shows that adding more time per worker is more productive than adding workers, given the Indian working conditions.

Table 15. Number of days of work per worker in a year

	Days of work in year per Male Direct worker		Days of work in year per Female Direct worker		Days of work in year per contract worker		Days of work in year per manager		Days of work in year per employee	
	2000–01	2011–12	2000–01	2011–12	2000–01	2011–12	2000–01	2011–12	2000–01	2011–12
Jammu & Kashmir	299	301	295	303	303	300	298	302	296	298
Himachal Pradesh	306	306	310	313	308	310	305	308	300	306
Punjab	306	311	298	304	311	314	308	311	299	309
Chandigarh (UT)	299	302	350	303	304	330	280	300	272	310
Uttarakhand	304	310	297	307	314	311	298	309	290	310
Haryana	305	309	298	324	303	309	298	304	299	307
Delhi	297	303	296	307	293	309	297	302	288	300
Rajasthan	311	317	305	319	301	306	308	307	302	294
Uttar Pradesh	308	310	305	300	311	304	309	308	306	308
Bihar	290	286	307	236	281	280	283	285	274	275
Nagaland	269	273	297	277	249	288	263	299	261	276
Manipur	247	277	222	287	268	260	230	270	223	242
Tripura	292	292	275	307	263	264	269	271	266	257
Meghalaya	301	302	282	270	297	390	302	300	301	319
Assam	300	308	289	286	275	267	300	276	293	300
West Bengal	303	306	303	299	312	313	305	310	297	308
Jharkhand	310	314	297	310	316	312	310	316	306	311
Odisha	313	329	288	314	312	329	315	324	308	327
Chhattisgarh	307	316	297	310	308	316	308	316	299	311

Madhya Pradesh	314	311	295	297	313	322	308	312	309	313
Gujarat	317	316	298	310	303	315	312	316	306	315
Daman & Diu	301	304	313	304	312	309	298	303	299	304
Dadra & Nagar Haveli	312	312	299	311	304	315	306	309	305	313
Maharashtra	319	315	302	n.a	320	314	319	315	314	312
Andhra Pradesh	312	308	301	303	296	309	312	308	304	306
Karnataka	308	309	299	305	301	312	302	309	302	310
Goa	313	304	301	300	320	309	305	298	308	302
Kerala	298	304	297	298	310	297	293	303	294	300
Tamil Nadu	308	310	294	305	311	310	306	310	303	309
Puducherry	309	302	295	300	313	305	308	300	309	303
Andaman & Nicobar Islands	293	n.a	304	n.a.	n.a.	n.a	283	n.a	291	1146
Total	306	310	299	310	305	308	303	306	299	307

In effect, what we are noticing are two types of substitutions: substitution of contract workers for permanent employees, and substitution of workers with workdays. The first one reduces the fixed costs of labour, and the second one enhances total output without the incurrence of additional labour costs. Moreover, we see that in increasing the days of work, it is the permanent workers' days of work that rise while for the temporary workers the increase is much lower, indicating that employers do rationalize labour use between permanent workers and temporary workers by increasing the days of work of permanent workers and increasing the number of temporary workers. Employers thus seem to see permanent workers' time and temporary workers as substitutes.

4.3 Wages and emoluments

The above noted changes in the composition of employment were precipitated mainly by the changes in the wage rates and other emoluments of the various categories of workers in the sector. The wages and salaries paid to employees as a share of total emoluments declined from 91 per cent to 84 per cent from 2000–01 to 2011–12 (table 16). In other words, the variable component of the emoluments has declined while the quasi-

fixed component has increased. This seems surprising in the wake of the fact that there has been a rise in the share of contractual employment and total employment has been declining. But the contractualization of employment occurs mostly among the floor workers while the supervisory and managerial staff continues to be permanent employees, whose **quasi-fixed component of emoluments** is substantially **larger** than that of the workers. Thus it is possible that the shift in the composition of employees towards a greater share of supervisory and managerial staff (who are permanent employees) may be a key reason for this increase in the share of quasi-fixed cost in total emoluments. Further, it can be noted that the wages of workers as a ratio to that of the supervisory and managerial staff declined from 45 per cent in 2000–01 to 21 per cent in 2011–12. This increasing wage disparity between floor workers and managerial staff signals a rising demand for skilled workers.

The rise in contractual employment is visible in terms of wages as well. Of all wage payments made to floor workers, only 36 per cent belonged to contract workers in 2000–01, which rose to 60 per cent by the year 2011–12.

Table 16. Relative wages and emoluments

	Male–female ratio in wages		Contract wage ratio to wages of all workers		Ratio of wages of workers to salaries of managers		All wages and salaries as a share of total emoluments	
	2000	2012	2000	2012	2000	2012	2000	2012
Jammu & Kashmir	0.31	0.33	0.46	0.69	0.55	0.26	0.99	0.88
Himachal Pradesh	0.60	0.63	0.37	0.87	0.40	0.15	0.94	0.85
Punjab	0.44	0.55	0.50	0.61	0.41	0.18	0.93	0.85
Chandigarh (UT)	0.34	0.35	0.03	0.30	0.54	0.14	0.93	0.89
Uttarakhand	0.33	0.55	0.30	0.63	0.55	0.22	0.95	0.86
Haryana	0.57	0.75	0.43	0.60	0.35	0.17	0.94	0.84
Delhi	0.64	0.45	0.25	0.42	0.48	0.23	0.88	0.85
Rajasthan	0.41	1.17	0.48	0.62	0.38	0.20	0.89	0.86
Uttar Pradesh	0.57	0.69	0.44	0.60	0.39	0.17	0.90	0.85
Bihar	0.23	0.15	0.41	0.63	0.40	0.28	0.93	0.88
Nagaland	0.68	0.52	0.55	3.21	0.49	0.51	0.96	0.92
Manipur	0.40	0.48	0.58	1.04	1.05	0.70	0.95	0.96
Tripura	0.16	0.11	0.57	1.70	0.49	0.27	0.92	0.86
Meghalaya	0.40	0.24	0.49	0.56	0.52	0.25	0.98	0.86
Assam	0.21	0.38	0.25	0.54	0.49	0.14	0.88	0.86
West Bengal	0.64	0.65	0.31	0.58	0.52	0.22	0.87	0.81
Jharkhand	0.50	0.65	0.14	0.44	0.46	0.37	0.87	0.84
Odisha	0.42	0.63	0.46	0.48	0.40	0.32	0.93	0.85
Chhattisgarh	0.38	0.59	0.38	0.49	0.43	0.24	0.92	0.86

Madhya Pradesh	0.51	0.56	0.42	0.59	0.46	0.26	0.88	0.84
Gujarat	0.50	0.68	0.37	0.62	0.50	0.18	0.92	0.85
Daman & Diu	0.30	0.80	0.31	0.59	0.45	0.15	0.92	0.85
Dadra	0.16	0.63	0.39	0.98	0.40	0.21	0.92	0.86
Maharashtra	0.50	1.78	0.36	0.66	0.48	0.23	0.90	0.83
Andhra Pradesh	0.56	0.71	0.40	0.63	0.42	0.27	0.93	0.85
Karnataka	0.54	0.74	0.31	0.61	0.46	0.24	0.91	0.82
Goa	0.61	0.49	0.29	0.43	0.43	0.24	0.92	0.84
Kerala	0.64	0.55	0.38	0.57	0.58	0.35	0.89	0.80
Tamil Nadu	0.52	0.51	0.35	0.62	0.42	0.19	0.89	0.78
Puducherry	0.41	0.79	0.39	0.50	0.39	0.14	0.92	0.78
Andaman & Nicobar Islands	0.42	0.00	0.00	0.15	0.27	3.53	0.89	0.84
Total	0.49	0.71	0.36	0.60	0.45	0.21	0.91	0.84

4.4 Capital intensity and technology

On examining the changes in quantum and composition of capital, during the period of analysis, a rise in the capital–labour ratio in 19 states/UTs of the total 31 regions (table 17) is evident. Other studies also corroborate the fact there has been rising capital intensity in the organized manufacturing sector (Kapoor, 2014). Though in the aggregate there has been no particular rise in the capital–labour ratio, a large number of states experienced an increase in this ratio during this period. This rise in the capital–labour ratio is accompanied by three aspects. One is the fall in the lending interest rates and the other is the decline in tariff rates. The fall in prime lending rates implies that the cost of acquiring capital was becoming cheaper, while the declining tariff rates imply that importation of capital was cheaper. A third aspect is the capital subsidies provided to enhance industrial investment. These three aspects reduced the cost of capital dramatically in relation to that of labour. This decline in the cost of capital is a key factor that influenced the shift in production technology from labour-intensive to capital-intensive and also reduced the factor payment share to labour. The falling lending rates also probably enabled the purchase of capital inputs with technology content. In our data it can be seen that the spending on capital inputs based on information technology (IT) rose substantially during this period. It is probable that the rise in capital–labour intensity was also enabled by a rise in technology-intensive capital as well. Both these measures, capital intensity and technology intensity, act as substitutes for routinized manual activities; they are essentially labour-substituting changes.

Table 17. Trends in capital intensity and composition of capital

	Log KL ratio		IT Capital/NFC*100	
State	**2000**	**2012**	**2000**	**2012**
Jammu & Kashmir	12.4	12.6	0.2	0.2
Himachal Pradesh	13.5	13.7	0.2	0.7
Punjab	12.8	13.1	0.2	0.7
Chandigarh (UT)	12.3	12.5	0.4	4.5
Uttarakhand	13.4	13.9	0.5	0.5
Haryana	13.6	13.6	0.4	1.2
Delhi	12.3	12.8	1.0	1.1
Rajasthan	13.3	13.5	0.5	0.9
Uttar Pradesh	13.8	13.6	0.4	1.2
Bihar	11.7	12.3	0.2	0.4
Nagaland	10.6	10.8	8.3	7.6
Manipur	12.1	12.0	0.1	0.2
Tripura	11.5	11.6	0.9	0.5
Meghalaya	13.4	12.9	0.1	0.4
Assam	11.8	13.0	0.6	0.4
West Bengal	12.9	13.2	0.5	1.3
Jharkhand	13.3	13.0	0.4	0.8
Odisha	13.1	13.4	0.2	0.6
Chhattisgarh	12.9	13.3	0.3	0.9
Madhya Pradesh	13.7	13.2	0.4	0.5
Gujarat	13.6	13.9	0.5	0.7
Daman & Diu	13.7	13.0	0.5	1.1
Dadra & Nagar Haveli	14.1	13.6	0.3	0.5
Maharashtra	13.8	13.8	0.5	1.4
Andhra Pradesh	13.2	13.3	0.6	0.8
Karnataka	13.6	13.7	0.7	1.5
Goa	14.2	13.6	0.6	2.6
Kerala	12.8	12.5	0.6	1.0
Tamil Nadu	13.2	13.5	0.5	1.1
Puducherry	13.7	12.9	0.2	0.6
Andaman & Nicobar Islands	13.2	12.8	0.0	0.0
Total	13.2	13.2	0.5	1.1

5. What is behind the drop in wage share? A first-difference model

After having established that the decline in wage share in the organized sector is accounted for mainly by intra-industry factors rather than inter-industry growth difference, we now turn to analysing the factors that explain the drop in wage share.

5.1 Data

We use the unit-level data of ASI for the period 2000–01 to 2011–12 and aggregate it to the three-digit NIC classification (NIC, 1998) industry-level data at the state level. So, in effect, we get a panel data set consisting of a three-digit level industry classification for 31 states across India for the two periods. After cleaning the data and dropping some NIC classifications where there were too few observations, we end up with a total of 998 observations per year in a balanced panel.

5.2 Analytical method

Our prime concern here is to explain the drop in wage share in GVA. For the analysis we take the period 2000–01 to 2011–12, based on the observation made earlier that this period corresponds to the largest drop in wage share in GVA since the 1980s. The analysis was done for two measures, one being the drop in wage share in GVA and the other being the drop in emoluments share in GVA. In the second measure, emoluments include wages and other employee benefits such as provident fund and bonus.

Essentially, the analytical method looks into the change in wage share between the two periods 2000–01 and 2011–12 as well as at the direction and magnitude of explanatory variables. The explanatory variables are measured as changes in log of the respective variable, implying that we are looking at the effect of the growth of these explanatory variables in accounting for the drop in wage share in GVA.

$$\Delta wageshare_{it} = \alpha_{it} + \beta_1 \Delta logWR_{it} + \beta_2 \Delta logTE_{it} + \beta_3 \Delta logGVA_{it} + \beta_4 \Delta logKL_{it} + \beta_5 \Delta logITcap_{it} + \beta_6 \Delta logCR_{it} + \Delta logworkerdays_{it} + \beta_7 \Delta logOE_{it} + \beta_8 \Delta logFE_{it} + \in_{it} \quad (1)$$

Where β'sare the coefficients to be estimated, ∈ is the error term and α_{it} is the intercept. Δ that represents the change for the "*i"*th state-industry in "*t*"th period, where the periods are 2000–01 and 2011–12.

We fit two models with the same set of explanatory variables, but the dependent variables would be (1) share of wage bill in GVA and (2) share of total labour emoluments in GVA. The first difference between the two periods for each of the variables is calculated and then we use a weighted least squares regression model to estimate the equation. The weights used are the relative size of the industry measured as the industry's GVA by total GVA.

5.3 Hypothesis

Change in wage rate per employee ($\Delta logWR_{it}$) *and total employment* ($\Delta logTE_{it}$): The share of wages in GVA is the product of wage rate per employee and total employees. So any change in these factors would impact the share of wages. Any rise in wages or total employment would lead to a rise in wage share in GVA. Therefore, it is hypothesized that with an increase in wage rates or/and total employment, the share of wages in GVA would also increase and vice versa. Wage rate per employee is measured as wage bill divided by all employees and total employees is measured as all employees.

Change in gross value added ($\Delta logGVA_{it}$): The rise in GVA would lead to a change in the share of wages in GVA, depending on the relative change in wage rates, total employment and changes in other factors. A rise in GVA along with wages and/or employment could lead to rising wage share, while a rise in GVA along with relative decline in wages and/or employment could lead to a drop in wage share. Similarly, a rise in growth of GVA in labour-intensive industries may show a rise in wage share and vice versa. Taking GVA as an indicator of size, the effect of it on change in wage share may be tested.

Change in capital–labour ratio ($\Delta logKL_{it}$): With rising capital intensity in the production process corresponding to the decline in the share of labour use, the share of wages in GVA would also decline. Hence, it is hypothesized that rising capital intensity would lead to a decline in wage share. The indicator used is the net capital stock divided by all employees.

Change in the share of IT capital in fixed assets ($\Delta logITcap_{it}$): Technological change biased against labour would reduce the demand for labour, and hence could reduce both wage rates and the number of employees, reducing wage share in GVA. IT is known to create skill-biased demand for labour. Here we use the share of IT capital in total fixed assets as an indicator of technology content in capital. We hypothesize that as the share of IT capital in fixed capital increases, this would cause a decline in the demand for labour and hence the share of wages in GVA would decline. The indicator used is the share of net capital stock on computers divided by all net capital stock.

Change in the average number of days of work per worker per year ($\Delta logworkerdays_{it}$): As seen in table 15 above, it is possible that the decline in wage share is an outcome of the rising days of work per worker, however not compensated. It may be hypothesized, therefore, that as the average days of work per worker increases, employers may be prompted to substitute worker days with workers, which would hence lead to a drop in wage share.

Change in the share of contract workers in total workers ($\Delta logCR_{it}$): Contract workers, unlike permanent workers, do not incur any quasi-fixed costs to the firm such as bonus, provident fund payment, etc. It is also known that the wage rates of contract workers are lower than those of permanent workers. Also, contract workers provide firms with greater flexibility in hiring and firing of workers. In effect, increasing contract workers' share in total workers would reduce the per worker costs for the firm. Hence, a rising share of contract workers would reduce the share of the wage bill in GVA. It is hypothesized that an increasing share of contract workers in total workers would lead to a decline in the share of wages in GVA. The indicator used is the share of contract workers to all employees.

Change in other emoluments per worker ($\Delta logOE_{it}$): Emoluments other than wages such as provident fund payments and bonus payments are quasi-fixed costs that the employer incurs. These costs are quasi-fixed in nature as they are usually in some proportion of wages and also need to be paid to all permanent workers. So any rise in emoluments per worker would increase the labour cost for the employer. For the profit-maximizing employer, reducing these fixed costs would allow him to operate at optimal levels of wage payment. Hence, it may be hypothesized that as the emoluments per worker increase, the employer would rationalize costs by reducing the number of workers and would encourage the currently employed workers to work for longer periods. Rise in other emoluments may thus lead to a decline in the share of wages. The indicator used is the share of emoluments other than wages per employee.

Change in share of female employees in permanent employees ($\Delta logFE_{it}$): Given that wages of female workers are lower than those of male workers, a rising share of female employees in total permanent employees would reduce the overall wage bill and hence may reduce the wage share in GVA. The study by Finnoff and Jayadev (2006) shows that with the increasing share of female labour in the workforce in the OECD countries, the labour share for workers declined. Hence it is hypothesized that as the share of females in employment increases, the share of wages in GVA declines. The indicator used is the share of females in direct employment.

Labour regulations: Labour market regulations aim to reduce vulnerabilities of the employees in factories in terms of jobs, income and conditions of work. Such regulations provide workers their basic social security. However, these regulations also work as an impediment to industrial growth as institutional rigidities created in the hiring and firing of workers, social security provisions, etc., add to the indivisibilities of labour and make labour costs quasi-fixed in nature. Hence industrialists often argue in favour of making labour market regulations more flexible. Though most labour market regulations are placed by the central government and there have been no major changes in provisions of labour regulations, the state governments are empowered to amend these provisions. Additionally, the implementation of these provisions has been ineffective, such that in many states labour regulations remain in letter and not in spirit. Based on this understanding, Gupta, Hasan and Kumar (2009, p. 59) calculated a "Labour Market Regulation (LMR)" by using a simple majority rule across different indicators. Based on this rule they have coded the states as pro-labour, pro-business or neutral (inflexible, flexible or neutral, respectively) if the majority of the studies which have calculated these codes do so (table 18). We have utilized this grouping of states to account for labour market regulations and have introduced a dummy variable (LR) with the category "inflexible" as the base category.

Table 18. Labour Market Regulation (LMR) across states in India

LMR category	States
Flexible	Andhra Pradesh, Karnataka, Rajasthan, Tamil Nadu, Uttar Pradesh
Neutral	Assam, Bihar, Gujarat, Haryana, Kerala, Madhya Pradesh, Punjab
Inflexible	Maharashtra, Odisha, West Bengal

Source: Appendix Table E1 in Gupta, Hasan and Kumar, 2009.

Table 19. Estimated model of wage share and emolument Share

	$\Delta\ [\![Wageshare]\!]\_it$			$\Delta Emolumentshare_{it}$		
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta logGVA_{it}$	0.0550	0.0438	0.0362	0.0747	0.0815	0.0732
	(12.46)**	(9.69)**	(7.42)**	(11.62)**	(12.63)**	(10.51)**
$\Delta logWR_{it}$	0.0457	0.0580	0.0572	0.0468	-0.0001	-0.0129
	(4.62)**	(5.46)**	(5.02)**	(3.25)**	(0.01)	(0.80)
$\Delta logTE_{it}$	0.0526	0.0504	0.0388	0.0636	0.0802	0.0674
	(8.69)**	(8.26)**	(5.75)**	(7.23)**	(9.21)**	(7.01)**
$\Delta logKL_{it}$		-0.0144	-0.0148		-0.0146	-0.0147
		(6.44)**	(6.10)**		(4.54)**	(4.24)**
$\Delta logITcap_{it}$		-0.0152	-0.0174		-0.0207	-0.0237
		(9.26)**	(9.63)**		(8.84)**	(9.20)**
$\Delta logCR_{it}$		-0.0102	-0.0127		-0.0188	-0.0241
		(2.97)**	(3.46)**		(3.83)**	(4.58)**
$\Delta logworkerdays_{it}$		0.2592	0.2908		0.3521	0.4030
		(5.53)**	(5.78)**		(5.25)**	(5.62)**
$\Delta logOE_{it}$		-0.0184	-0.0305		0.0596	0.0508
		(2.64)**	(3.99)**		(5.99)**	(4.67)**
$\Delta logFE_{it}$		-0.0043	-0.0055		-0.0076	-0.0099
		(2.39)*	(2.89)**		(2.97)**	(3.62)**
LR Neutral			0.0270			0.0502
			(2.90)**			(3.78)**
LR Flexible			0.0248			0.0453
			(2.87)**			(3.68)**
Constant	-0.0646	-0.0869	-0.1113	-0.0959	-0.1154	-0.1572
	(5.19)**	(6.79)**	(7.97)**	(5.29)**	(6.32)**	(7.90)**
F statistic	55.55	39.17	32.21	55.41	44.54	36.18
Adj R-squared	0.143	0.260	0.278	0.143	0.286	0.303
Obs	987	981	893	987	981	893

Note: + $p<0.1$; * $p<0.05$; ** $p<0.01$, t statistics in parentheses.

5.4 Estimated results

Table 19 provides the estimated regression results of Model (1) in section 5.2 described above. As detailed earlier, the model is estimated as a first-difference model trying to explain the drop in wage share in GVA and emoluments share in GVA. Results are reported for the baseline models for wage share and emoluments share, respectively, in columns (1) and (3). Columns (2) and (4), respectively, report the results, including all labour and labour-substituting variables; columns (5) and (6) add the labour regulation state dummies to the model.

All the models are statistically significant as is evident from the F-statistic. The base variables have expected signs in all the models. Growth of GVA has a positive effect and significant effect (at 1 per cent level) on the changes in wage share and emoluments share. The variable shows consistency across all models. As GVA grew, the share of the wages and emoluments in GVA increased, implying that the growth of GVA was lower than the growth of the wage bill. In other words, part of the drop in wage share is due to a faster deceleration in growth of GVA compared to wage share. But given that the overall sector did not face a deceleration in GVA growth, it could also imply that there were industry- and region-specific effects.

The growth of both wage rate and total employment has a positive effect on the share of wages. Positive growth in wage rate or total employment could lead to a rising share of wages in GVA. These variables behave as theoretically expected. Both the variables are significant at 1 per cent level across the three models on wage share (columns 1, 2 and 3). The variable employment has a positive effect on the change in share of emoluments as well (columns 4, 5 and 6). However, the variable on wage rates, though significant in the base model for emoluments (column 4), turns out to be insignificant and the sign changes to negative in other specifications relating to emoluments (columns 5 and 6). This negative and statistically non-significant coefficient for wage rates occurs when we add the variable "log of change in other emoluments per worker" to the models in columns 5 and 6. This implies that while wage rate does play a significant role in wage share determination, its role in total emoluments paid to the worker is not significant. Rather, the positive and significant sign of the variable "log of change in other emoluments per worker" on change implies that it changes in quasi-fixed payments that have a say in emoluments share and not wage rates.

This can be further corroborated with the wage models. In columns (2) and (3), "log of change in other emoluments per worker" has a negative and significant effect on wage share, but has a positive effect on emoluments share (columns 5 and 6). This points to the negative effect of quasi-fixed forms of employment costs on wage share. As such costs associated with permanent forms of employment increase, there is a tendency towards reducing the share of wages, probably by substituting with other factors of production, including non-permanent forms of employment and employment that incurs a lower wage cost. Yet it is the rise in quasi-fixed costs that increases the emoluments share and not wage rates per se. In short, quasi-fixed payments have a negative effect on wage share while variable payments have a positive effect on wage share.

Now turning to capital's relation with labour, as expected, growth of the capital–labour ratio has a negative effect on the change in wage share. This is found to be negative and significant at 1 per cent level across all specifications, both in wage share and emoluments share models. Keeping other factors constant, there is

clear evidence for the argument that capital is indeed displacing labour and the rising capital intensity is a key explanation for the declining share of wages and emoluments in the organized sector.

The changing composition of capital, or, in other words, technological changes in production, measured as the share of net spending on IT in net capital, again seems to have a negative and significant effect on wage share. The growth in IT-based capital within total capital reduces the share of wages and emoluments. This again is consistent with the argument that capital-deepening technological change would lead to a decline in wage share.

Looking at the composition of employment, the share of contract workers in total employment seems to have a negative effect on the share of wages in total GVA. The coefficient is negative and statistically significant at 1 per cent level. This again is true for the emoluments model and across all specifications. The negative coefficient in the wage model confirms that contractualization reduces wage share, probably through the payment of lower wages to contractual employees in the organized sector. The negative coefficient in the emoluments model supports the view that the decline in emoluments share, in addition to the lower wage rates, is also because the hiring of contractual employees does not incur quasi-fixed payments for the firm. With the increase in contractual employment the share of both wages and emoluments decline. Thus it can be seen that contractualization of employment in the Indian manufacturing sector is an important factor behind the decline in wage share.

Increasing the intensity of work, or increasing the days of work per year for the average worker, has a positive effect on both wage share and emoluments share. As the number of days of work per year increases, the share of wages and emoluments increases. The coefficients of both the models have positive signs and are significant at 1 per cent. Increasing work intensity, apart from wage rates and number of workers, is thus an important factor that determines the changes in the share of wages and emoluments. In case of emoluments share, we see that the growth in wage rates did not have any significant effect on it, while increasing work intensity continues to have a positive effect on it. This implies that increasing work intensity, and the wage costs incurred in doing so, are used as a means to increase employment. This helps in restricting the growth of quasi-fixed costs associated with additional employment. Thus increasing work intensity seems to act as a substitute for permanent forms of employment, just as contractual employment does.

The increasing presence of women in direct permanent employment also seems to explain the decline in wage share and emoluments share. In all the models this variable turns out to be negative and significant as hypothesized. Since, conventionally, the wage rates of women are lower than men, the rising share of women in the sector would mean a decline in the share of men in permanent employment and hence would cause a decline in the wage share. This shift in preference towards female workers as permanent workers may be due to the argument that they remain relatively passive in bargaining and negotiations, thus making it easier to impose managerial decisions. Another possibility is the rising technology content in capital, thus reducing manual physical labour requirements of many of the production operations on the shop-floor.

Lastly, we see that labour market regulations do impact wage share. States that were classified as either neutral or states with flexible regulatory structures had a greater share of wages and emoluments in GVA compared to states with inflexible regulatory regimes. The dummy variables in both the models are significant and positive. This indicates that states with rigid labour market regimes had a lower wage share

compared to other states. One possible explanation, as argued by Gupta, Hasan and Kumar (2009), is that such states with inflexible labour regulations had relatively lower labour intensity and, consequently, slower growth of employment, thus reducing the labour share in the states.

From the above analysis, what emerges is that the composition of labour, composition of capital and the relative compensation to these factors would determine the share of factor payments in GVA. Given the conditions in India, it seems that three changes in the composition of labour are important: (i) contractualization; (ii) increasing female share in permanent workers; and (iii) substitution of workers with more days of work. All three factors have a substantial effect on the drop in wage share in GVA. Further, the nature of emoluments, in the form of variable versus quasi-fixed costs on employment, does seem to make firms view flexible forms of employment and work intensification as substitutes for permanent forms of employment. Also, the effect of both the quantity and quality of capital on labour and hence on wage share is very significant. The increasing capital intensity has reduced the demand for labour, and the changing composition of capital has created biases in the demand for labour; both together reduce the share of wages in GVA.

6. Conclusion

This study examined the trends, patterns and causes for the declining share of wages in value addition in the organized manufacturing sector of India. During 1980–2012, the share of total emoluments to workers declined from 51.1 per cent to 27.9 per cent and the share of wages declined from 33 per cent to 13 per cent. Correspondingly, there has been a steady increase of profit share in GVA. Throughout this period, there was a decline in the share of emoluments and wages, with much of the drop concentrated in the periods 1980–90 and 2000–12. Moreover, though profit share was increasing all through this period, much of this rise occurred during 2000–12. Also, during this period, the rise of profit share coincided with a decline in interest payment share. In effect, the large rise in profit share in the period after 2000 was mainly due to the declining share of interest payment, though wage share was also dropping throughout this period.

The drop in emoluments share during this period was experienced in almost all major states, the exceptions being Kerala and Haryana. However, the decline in emoluments share differed across states. Also, while the drop in emoluments was experienced across all industries, the intensity varied vastly across industries, with the traditional industries witnessing a sharper decline. Further, the decrease in emoluments share is associated with the size of the establishments, with very large establishments recording the greatest decline in wage and emoluments share in GVA.

Having looked at the broad trends in the long run, we now focus on the period 2000–01 to 2011–12 which we had recorded as the second period with a sharp decline in the emoluments share. Using the unit-level data of ASI we aggregate at three-digit level industrial classification for 35 Indian states. During this period the share of wages in GVA declined by 24 percentage points. Of this, 24 percentage points (about 68 per cent of the drop) was concentrated in the following states: Punjab, Uttar Pradesh, West Bengal, Gujarat, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu. And in each of these states the fall in wage share was concentrated in the following industries: food products and beverages, textiles, chemicals and chemical

products, other non-metallic mineral products, fabricated metal products other than machinery and equipment, machinery and equipment n.e.c.

A shift share analysis of the decline in wage share showed that the change is primarily explained by the shift component, i.e. an overwhelmingly large component of the drop was due to changes in intra-industry variations in wage share in GVA rather than inter-industry variations. Looking at the factors that affect wage share within an industry, it can be noted that **increasing flexibility in the labour market** is the key factor behind this decline in wage share. Flexibility in the labour market has been engendered by various types of substitutions of labour in the production process. This has occurred not only through substitution of other factors but also by changing the composition of labour. These measures include substitution of contract workers for permanent employees, substitution of workers with work hours, substitution of women for men as permanent workers, substitution of capital for labour, and substitution of technology for less skilled labour.

A first-difference regression model shows that the composition of labour, composition of capital and the relative compensation to these factors would determine the share of factor payments in GVA. Given the conditions in India, it seems that three changes in the composition of labour are important: contractualization; increasing female share in permanent workers; and, substitution of workers with more days of work. All these three factors have a substantial effect on the drop in wage share in GVA. Also, the quantum and changing composition of capital does reduce wage share significantly.

Thus the declining share of wages and emoluments in the organized sector may be viewed as an indication of rising forms of flexibility in the labour market, in terms of different types of employment. This rising flexibility is precipitated by changes in the capital availability and its composition. This rising capital intensity and changing composition of capital need to be viewed in light of the global rise in capital mobility and falling cost of capital, making labour further vulnerable and amenable to flexibility, control and disciplining.

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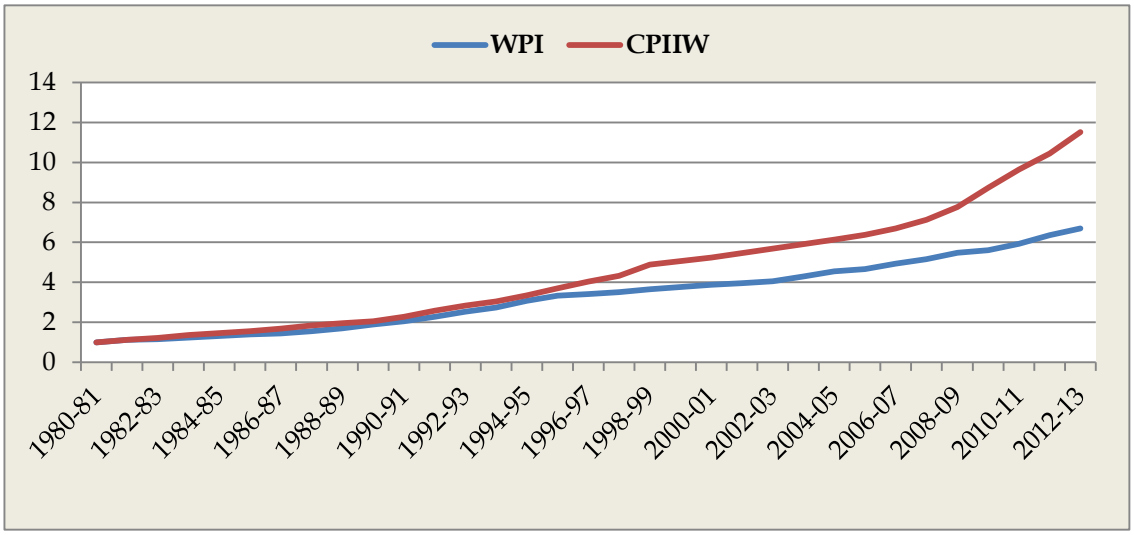
Appendix

A.1. Contribution of region and industry to change in wage share in GVA, 2000–01 to 2011–12 (%)

States	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	Total
Jammu & Kashmir	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Himachal Pradesh	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.8
Punjab	0.9	0.0	0.8	0.0	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.3	0.4	0.6	0.8	0.0	0.1	0.0	0.0	0.2	0.4	0.1	0.0	5.6
Chandigarh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Uttarakhand	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	1.2
Haryana	0.3	0.0	0.6	0.2	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.2	0.2	0.4	0.3	0.1	0.2	0.0	0.1	0.3	0.1	0.1	0.0	3.5
Delhi	0.2	0.0	0.1	0.3	0.1	0.0	0.0	0.4	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.0	0.2	0.1	0.0	0.1	0.1	0.1	0.0	2.7
Rajasthan	0.3	0.1	1.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.2	0.4	0.2	0.0	0.2	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.0	3.2
Uttar Pradesh	1.4	0.3	0.6	0.1	0.3	0.1	0.2	0.1	0.0	0.3	0.3	0.4	0.2	0.3	0.8	0.0	0.3	0.1	0.1	0.2	0.2	0.1	0.0	6.3
Bihar	0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.6	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Nagaland	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Manipur	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Tripura	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.7
Meghalaya	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Assam	0.7	0.0	0.2	0.0	0.0	0.1	0.0	0.2	0.1	0.1	0.1	0.3	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2
West Bengal	1.2	0.3	1.1	0.0	0.1	0.2	0.2	0.1	0.1	0.3	0.1	0.3	0.6	0.6	0.5	0.0	0.2	0.1	0.1	0.0	0.2	0.0	0.0	6.2
Jharkhand	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.1	0.3	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.4
Odisha	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Chhattisgarh	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.5
Madhya Pradesh	0.5	0.3	0.3	0.1	0.1	0.2	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.3	0.0	0.1	0.0	0.0	0.1	0.0	0.2	0.0	3.1
Gujarat	0.9	0.0	2.1	0.1	0.0	0.1	0.2	0.0	0.0	0.8	0.2	0.8	0.3	0.3	1.0	0.0	0.2	0.1	0.1	0.1	0.3	0.3	0.0	8.1
Daman & Diu	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Dadra & Nagar Haveli	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Maharashtra	2.0	0.4	1.3	0.5	0.2	0.1	0.5	0.3	0.0	0.5	0.6	0.5	1.2	1.4	1.3	0.0	0.5	0.2	0.2	0.5	0.4	0.3	0.0	12.7
Andhra Pradesh	2.0	1.2	0.7	0.0	0.0	0.2	0.2	0.1	0.0	0.4	0.2	0.8	0.2	0.5	0.4	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	7.3
Karnataka	1.1	0.1	0.2	1.6	0.1	0.0	0.1	0.2	0.1	0.2	0.3	0.7	0.3	0.5	0.5	0.0	0.4	0.1	0.1	0.3	0.2	0.1	0.0	7.2
Goa	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.3
Kerala	0.8	0.0	0.6	0.0	0.0	0.4	0.1	0.2	0.0	0.2	0.4	0.4	0.1	0.3	0.3	0.0	0.2	0.0	0.1	0.0	0.1	0.1	0.0	4.4
Tamil Nadu	2.1	0.3	3.9	0.9	0.9	0.3	0.3	0.3	0.0	2.0	0.4	0.4	0.3	0.8	0.6	0.0	0.2	0.1	0.1	0.4	0.3	0.3	0.0	14.8
Puducherry	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.6
Andaman & Nicobar Islands	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total	16.3	3.3	14.3	4.0	2.3	2.5	2.7	2.5	0.8	5.8	3.9	8.1	5.0	7.1	8.3	0.2	3.6	1.0	1.1	2.6	2.4	2.3	0.0	100.0

Note: The industry codes are as followed by the ASI. The description of industry codes are given in the appendix in box A.1.
Source: Unit level data of the Annual Survey of Industries

Figure A.1. Deviations in Wholesale Price Index and Consumer Price Index



To measure the deviations in the WPI and CPI, we shift the base year 2001 of CPIIW to 2004–05 so that we have the same year as the base year for both WPI and CPIIW. Then we convert both the series into indices starting at 1 for the initial year so that they are made comparable. From the above graph it is evident that the price rise for consumers was much higher than the WPI and that the two indices began to deviate from the early 1990s.

Definition of wages and emoluments as measured by ASI

Emoluments: These are defined in the same way as wages but paid to all employees; they also include the imputed value of benefits in kind, i.e. the net cost to the employers on those goods and services provided to employees free of charge or at markedly reduced cost which are clearly and primarily of benefit to the employees as consumers. It includes profit sharing, festival and other bonuses, and ex-gratia payments paid at less frequent intervals (i.e. other than bonuses paid more or less regularly for each period). Benefits in kind include supplies or services rendered, such as housing, medical, education and recreation facilities. Personal insurance, income tax, house rent allowance, conveyance, etc. for payment by the employer are also included in the emoluments.

Supplement to emoluments: These include (i) employer's contribution to old-age benefits, i.e. provident fund, pension, gratuity, etc.; (ii) employer's contribution towards other social security charges such as employees' state insurance, compensation for work injuries, occupational diseases, maternity benefits, retrenchment and lay-off benefits, etc.; (iii) group benefits like direct expenditure on maternity, crèches, canteen facilities, educational, cultural and recreational facilities, and grants to trade unions, cooperative stores, etc.

Wages: Wages are defined as including all remuneration capable of being expressed in monetary terms and also paid more or less regularly in each pay period to workers (defined above) as compensation for work done during the accounting year. It includes:

a) Direct wages and salary (i.e. basic wages/salaries, payment of overtime, dearness, compensatory, house rent and other allowances).
b) Remuneration for period not worked (i.e. basic wages, salaries and allowances payable for leave period), paid holidays, lay-off payments and compensation for unemployment (if not paid from source other than employers).
c) Bonus and ex-gratia payment paid both at regular and less frequent intervals (i.e. incentive bonuses and good attendance bonuses, production bonuses, profit-sharing bonuses, festival or year-end bonuses, etc.). It excludes lay-off payments and compensation for employment, except where such payments are not made by the employer. It excludes employer's contribution to old-age benefits and other social security charges, direct expenditure on maternity benefits, crèches and other group benefits in kind, and travelling and other expenditure incurred for business purposes and reimbursed by the employer. The wages are expressed in terms of gross value, i.e. before deductions for fines, damages, taxes, provident fund, employees' state insurance contribution, etc. Benefits in kind (perquisites) of an individual nature only are included.

Interest paid: Includes all interest paid on factory account on loan, whether short term or long term, irrespective of the duration and the nature of the agency from which the loan was taken. Interest paid to partners and proprietors on capital or loan are excluded.

Source: *Manual of Annual Survey of Industries*, CSO, MOSPI, Government of India.

Box A.1. Industry codes as per the Annual Survey of Industries

15 - Food products and beverages
16 - Tobacco products
17 – Textiles
18 - Wearing apparel; dressing and dyeing of fur
19 - Luggage, handbags, saddlery, harness & footwear; tanning and dressing of leather products
20 - Wood and products of wood & cork except furniture; articles of straw and plating materials
21 - Paper and paper products
22 - Publishing, printing & reproduction of recorded media
23 - Coke, refined petroleum products and nuclear fuel
24 - Chemicals and chemical products
25 - Rubber and plastics products
27- Basic Metals
28 - Fabricated metal products, except machinery and equipment
29 - Machinery and equipment n.e.c.
30 - Office, accounting and computing machinery
31 - Electrical machinery and apparatus n.e.c.
32 - Radio, TV and communication equipments and apparatus
33 - Medical, precision and optical instruments, watches and clocks
34 - Motor vehicles, trailers & semi-trailers
35 - Other transport equipment
36 - Furniture; manufacturing n.e.c.
37- Others

Declining wage share in India's organized manufacturing sector: Trends, patterns and determinants

Using the Annual Survey of Industries data of the organized manufacturing sector in India for over three decades, this study identifies a persistent and significant decline in wages and emoluments share in the gross value added. The drop in the share of emoluments in the organized sector corresponded with rising profit shares and a widening gap between earnings per employee and labour productivity in real terms. The decline in labour share was evident across all states, all industries and among large-sized firms. From the analysis, what emerges is that the composition of labour, composition of capital, and the relative compensation to these factors determine the share of factor payments in gross value added. Given the conditions in India, it appears that three changes in the composition of labour are important: (i) contractualization; (ii) increasing female share in permanent workers; and (iii) substitution of workers with more days of work. Also, increasing capital intensity has reduced the demand for labour while the changing composition of capital has created biases in the demand for labour, both together reducing the share of wages in gross value added. The declining share of wages and emoluments in the organized sector may be viewed as an indication of rising forms of flexibility in the labour market, making labour further vulnerable and amenable to flexibility and control.

ILO DWT for South Asia and Country Office for India
India Habitat Centre, Core 4B, 3rd Floor
Lodhi road, New Delhi-110 003
India
Tel.: +91 11 4750 9200, Fax: +91 11 2460 2111
Email: delhi@ilo.org
www.ilo.org/india

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