

# Informal Workers in Formal and Informal Enterprises in India: a comparative analysis

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## Abstract

Employing workers in *formal* enterprises without the benefit of employment-related social security is a recent form of informalisation of the labour market. In India, the share of such workers has increased considerably in recent years. How different are these informal workers in the formal enterprises from their counterparts in the informal enterprises? Following an overview of the coverage of various employment-related social security benefits across the Indian labour force, using a job and enterprise-based definition, this paper categorises workers into formal workers, informal workers in formal enterprises, informal workers in informal enterprises and self employed. The paper analyses the trends and incidence of such types of employment. It finds considerable overlap between the formal workers and the informal workers in the formal enterprises. This is confirmed with a multinomial probit analysis - highly educated and experienced individuals are hired by formal enterprise, but in informal arrangements. This dispels the traditional notion of the informal workforce as being illiterate or undereducated, or on either end of the age spectrum. An analysis of the structure of wages reveals considerable wage inequality within this emergent form of informalisation. A regression-based decomposition analysis reveals the differential contribution of various factors to wage inequality within each employment group. The increasing trends towards informalisation of the labour market despite higher average educational attainment points towards a 'low road to growth' strategy' and the perpetuating of inequities within the labour market.

## 1. Introduction

The ‘alternative’, ‘atypical’ or informal workforce has grown in developed and developing countries alike (Charmes, 2011; Katz & Krueger, 2016). The manifestations of and motivations for this informality among the workforce have differed. Some theorise that the informal economy is intrinsically linked to the formal and hence grows in tandem (‘structuralists’) through subcontracting and outsourcing arrangements (Ghose & Chandrasekhar, 2015; Unni & Naik, 2013) while others opine that participation in the informal economy may be voluntary because the benefits of informal employment outweigh those of the formal employment (‘voluntarists’) (Amuedo-Dorantes, 2004; Günther & Launov, 2012; Maloney, 2003).

In India, informal employment has persisted over the years. Various estimates place it at anywhere between 60 to 90% of total employment (Unni & Naik, 2013; NCEUS, 2008; Charmes, 2012) depending on the definition adopted. It occurs in various forms, including self employment or wage employment. One of the more recent evolutions of informal employment has been of informal employment within *formal* enterprises. In the interest of flexibility and cost-reduction, many formal firms in India and across the world increasingly hire workers on a temporary or informal basis. Labour regulations, in more ways than one, have implicitly supported this informalisation or ‘contractualisation’ of the work force.

How different is the workforce engaged in this emergent form informal employment when compared to those in the more traditional informal employment, i.e. the self employed and the informal workers in informal enterprises?

Being employed in formal enterprises allows these workers access to more capital and technology. Consequently, their productivities may be higher and earnings relatively more than their counterparts in the informal enterprises, leading some to conclude that this informalisation has been for the benefit of the workforce (A.K. Ghose, 2016). However, this form of employment may also be a trend towards ‘precarisation’ (Standing, 2014), the creation of a workforce having ‘none of the ‘social contract relationships of the proletariat’ (Standing, 2014 p 9), whose labour is ‘instrumental (to live), opportunistic (taking what comes) and precarious (insecure)’. In this context, this paper attempts to place the growing informalisation of the labour market in India within these debates. It compares the evolution of the broad forms of informality in the Indian labour market between 1999 and 2012. It examines the broad trends and incidence of these forms of employment, as well as the difference in the structure of wage inequality within these employment forms.

## 2. Defining Informal Employment in India

Moving away from a purely enterprise-based definition of informal employment (as all employment in the informal sector) as was done in the 15<sup>th</sup> ICLS, the 17<sup>th</sup> International Conference on Labour

Statisticians (ICLS) combined the enterprise and employment concepts to identify informal employment. Informal employment, therefore, comprised of all 'informal jobs ... whether carried out in formal sector enterprises, informal sector enterprises or households' (ILO 2003). This included the own account workers or employers in their own informal enterprises, contributing family workers, members of informal producers' cooperatives and employees holding informal jobs in formal or informal sector enterprises. Employees were considered to have informal jobs "if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits (advance notice of dismissal, severance pay, paid annual or sick leave, etc.)".

Reflecting the international definition of informal employment, in India, the National Commission for Enterprises in the Unorganised Sector defined informal employment to include those individuals "...working in the unorganised enterprises or households, excluding regular workers with social security benefits, and the workers in the formal sector without any employment/ social security benefits provided by the employers" (NCEUS, 2008 p.27 para 2.7.3). Therefore, informal employment could exist in formal enterprises or informal enterprises where informal enterprises are defined based on their size/scope for regulation. In India, the 'informal sector' or 'informal enterprises' includes all unincorporated proprietary and partnership enterprises, as defined by the National Sample Survey Organisation (NSSO, 1999).

However, while theoretical definitions and conceptualisations of informality (whether in the context of employment or enterprise type) often invoke multiple dimensions and characteristics (including technology use, size, legality, payment of taxes, social security payments), the empirical application of the concept has been limited to using one or two criterion to identify informality (Kundu, 1999). Indeed, in India, even if the NCEUS definition is adopted, since various authors have used different interpretations of social security benefits, the measurement of informal employment varies. Unni & Rani (2003) consider all workers without the benefit of paid leave as informally employed. So here, paid leave is the benchmark social security benefit. Sastry (2003) identifies the informally employed as all self employed in informal enterprises, casual labourers, and regular workers who are either part-time or temporary or not covered under provident fund. In Kolli & Sinharay (2011, 2014) , the presence of a written contract is a basic minimum social security and they define informal jobs as any job not subject to written contracts for more than one year. For the 66<sup>th</sup> Round, since information on job contracts was largely missing, the presence of social security (PF/Gratuity/Healthcare) was also taken into account. Unni & Naik (2013) identify various degrees of informal employment - IE1, IE2 & IE3. Under IE1, an individual with either standard social security protection (Employee's State Insurance/Provident Fund/Gratuity) or paid leave qualifies as formally employed. An individual who does not have either of these is an informal worker. IE2 adds an additional criterion - the presence of an open-ended contract for more than a year. IE3 adds provision of state-sponsored pension. So, in each successive definition an additional indicator of social security is appended. This is used to identify degrees of informal employment.

**Table 1: Indicators used to Identify Informal Employment by various authors**

	No Paid Leave	No PF	No Gratuity	No Healthcare	No contract	No ESI	Part time	Temporary	No Pension
Unni & Rani (2003)	√								
NCEUS (2008)		√	√	√					
Sastry (2007)		√					√	√	
Kolli & Sinharay (2011,2014)		√	√	√	√				
Unni & Naik (2013) - IE1	√	√	√			√			
Unni & Naik (2013) - IE2	√	√	√		√	√			
Unni & Naik (2013) - IE3	√	√	√		√	√			√

Notes: √ indicates the indicator that has been used to identify informal employment.

The definition by Unni & Rani (2005) using paid leave is henceforth referred to as IE\_leave, that by Kolli & Sinharay (2011, 2014) using job contract is referred to as IE\_contract, and that of Sastry (2003) which uses a combination of provision of PF, part-time or temporary job characteristic, as IE\_Sy. How does the extent of informal employment differ when different definitions of social security benefits are adopted? This is analysed in section 3.1.

This paper relies exclusively on individual-level data collected through nationally representative sample surveys conducted by the National Sample Survey Organisation. Data pertaining to three years of Employment Unemployment Surveys (EUS) is analysed, specifically 2011-12 (68<sup>th</sup> Round), 2004-05 (61<sup>st</sup> Round) and 1999-2000 (55<sup>th</sup> Round) (NSSO, Government of India, 1999, 2004, 2011). While the broad questions asked during the surveys have remained broadly similar over the years, questions relating to social security benefits have been updated in more recent years. In the 55<sup>th</sup> Round, with regard to access to social security benefits, an individual was asked only if he was covered under the Provident Fund or not. From the 61<sup>st</sup> Round onwards, this question was expanded to include the provision of healthcare/maternity benefits, gratuity and insurance schemes. Owing to this, for the purpose of this analysis, and in the interest of having a longer time period for analysis, the provision of PF is adopted as a proxy for all social security benefits. The tenability of this assumption is shown in the subsequent section when comparing the incidence of PF with other social security provisions. The 68<sup>th</sup> EUS covered 456,999 individuals, the 61<sup>st</sup> EUS covered 602,833 individuals and the 55<sup>th</sup> EUS covered 596,688 individuals in rural and urban India (NSSO, Government of India, 1999, 2004, 2011)

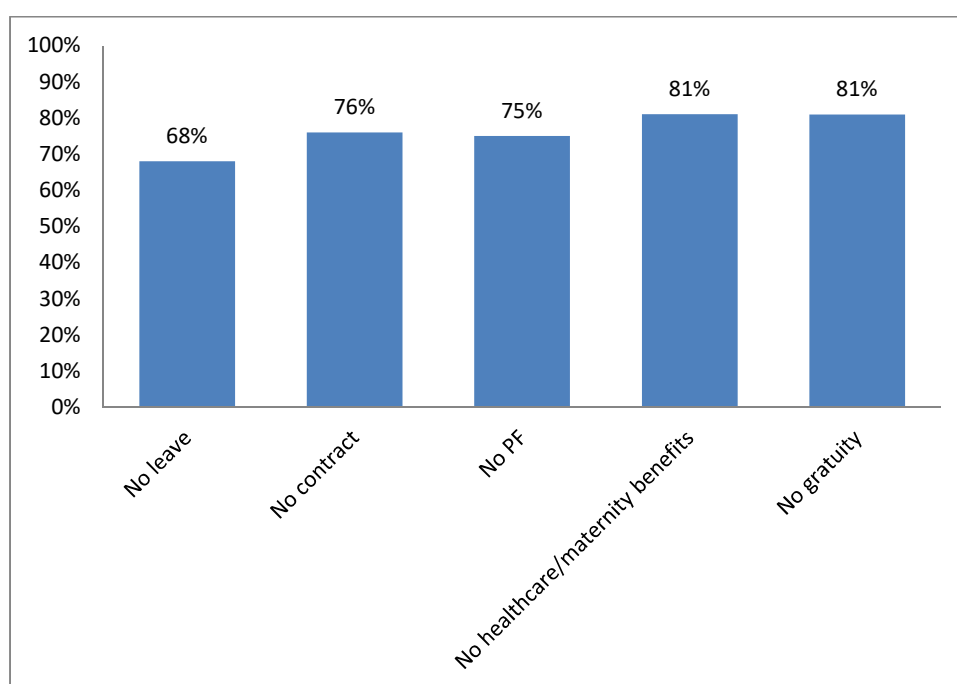
Based on this definition, for the purpose of this study and in the context of the secondary data used, informal employment is defined as any employment without the provision of Provident Fund, irrespective of the (formal or informal) nature of the enterprise. Accordingly, forms of employment are categorised into formal employment (FE), informal employment in informal enterprises (IIE), informal employment in formal enterprises (IFE) and self employment (SE). In rural areas, two additional categories are included - the agricultural labourers and cultivators. The next section provides an overview of the broad trends in these forms of employment, with particular focus on the emergence of the informal workforce in the formal enterprises.

### 3. Forms of Informal Employment: Trends and Incidence

#### 3.1 Measuring Types of Informality among Wage Workers

Precarious employment takes several forms. Workers are not assured continuity in their employment status, have limited or no availability of paid leave, have very insecure work arrangements with no written contracts, or have little or no benefits attached to their employment (gratuity, employers' contributions to provident fund, health insurance etc). The incidence of these forms of precarity is revealed below.

Figure 1: Share of Workforce without access to basic employment-related benefits (% of workforce), 2011-12



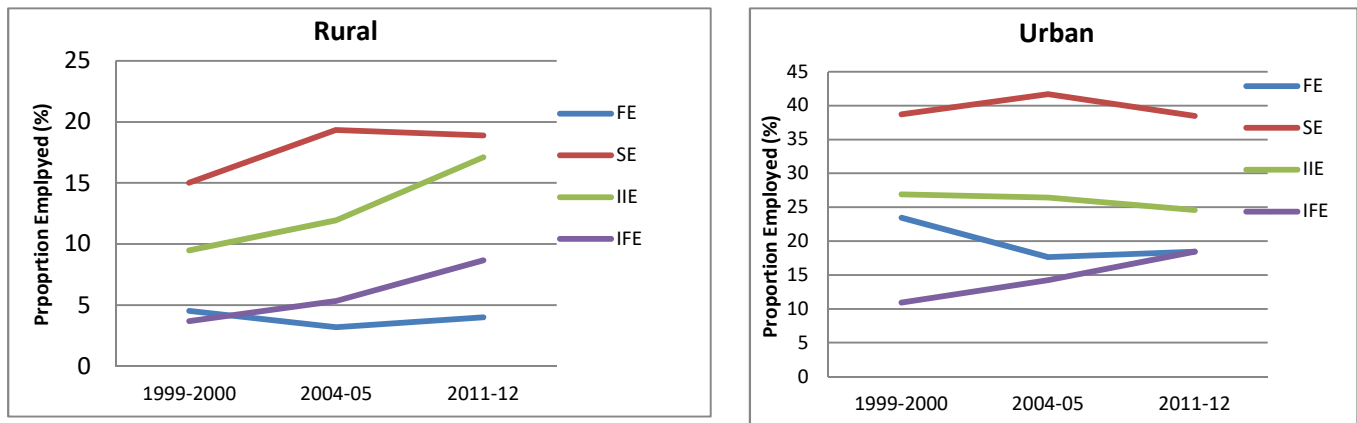
Source: Author's computation using NSS Employment Unemployment Survey 2011-12

The majority of wage workers did not have basic employment benefits, as Figure 1 reveals. As mentioned earlier, the provision of PF is taken as a proxy for all social security benefits. The analysis of employment data revealed that almost 90 per cent of workers who did not have PF did not have access to paid leave or a written job contract. Therefore, the availability of PF provision was a tenable indicator of the provision of other social security benefits, justifying the adoption of this definition of informal employment i.e. all workers without PF, for the purpose of this analysis. Proceeding with the definition of informal employment as those without any PF, the broad trends and incidence of forms of employment may be analysed

### 3.2. Trends in Employment Outcomes

In India, the self employed have formed the majority of the workforce, and are the most prominent of the informally employed. In 2011-12, the (non-agricultural) self employed continued to be the most prominent in the workforce.. The majority of these self employed (95%) are own-account workers while the remaining are employers. The own account workers constitute a ‘mixed bag’ (Papola & Sahu, 2012). About 37% of these self employed own account workers were engaged in agricultural activities, while another 20% were engaged in retail trade activities largely as vegetable vendors, petty traders and other small-scale retail activities. Given the ease of entry into such activities and the unavailability of formal employment, it is not surprising that self employment was the most prevalent economic activity. However, since 2004-05, their numbers in the workforce have declined. As will be seen, this has been accompanied by an increase in the wage workers in rural and urban areas.

Figure 2: Trends in Forms of Employment, 1999-2000 to 2011-12



*Source:* Author’s computations using unit-level data from relevant rounds of NSS EUS

*Note:* FE- formal employment, IIE-informal employment in informal enterprises, IFE- informal employment in formal enterprises, SE- self-employment.

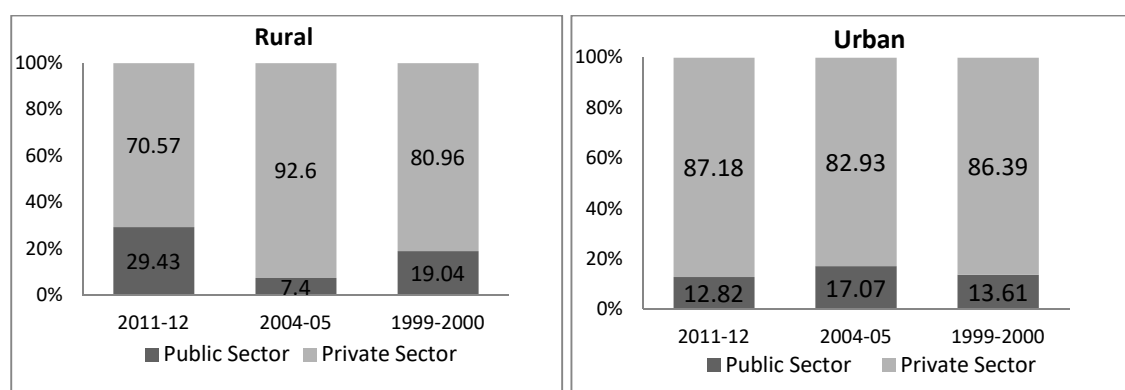
The trend line for agricultural labourers (rural) is not shown here.

The interesting aspect in the analysis of trends in forms of informal employment is the gradual growth in enterprise-based informality. Almost 80 per cent of jobs created between 1999-2000 and 2011-12 were generated by the informal enterprises and the majority were informal (NCEUS 2007). The informally

employed in informal enterprises (henceforth IIE) increased in rural areas from 9 per cent in 1999-2000 to 17 per cent in 2011-12. This may be a consequence of the greater proliferation of informal enterprises in these regions (Ghani, Goswami & Kerr, 2012) On the other hand, the share of IIE has remained fairly stagnant in urban areas at around 25 per cent. Formal enterprises on the other hand have contributed less than 20 per cent to employment creation in the last decade (NCEUS 2007). These jobs have been mainly in the urban areas, having increased from 10 per cent of the labour force to 18 per cent in 2011-12. In fact, the hiring of formal workers by these formal enterprises (FE) has declined over the years. Instead they have increasingly hired informal workers, creating a new form of informal employment, i.e. informal employment in formal enterprises (henceforth IFE). This trend, i.e. the *informalisation of the formal sector*, indicates the growing tendency of large, formal firms to hire workers under vulnerable and insecure employment arrangements. Labour laws in India have also implicitly facilitated the informalisation of the labour force (Chakraborty, 2015).

In rural areas, informal enterprises have been the major driver of informal employment, while in urban areas, it is formal enterprises. Moreover, in the rural areas, a large proportion of informal employment created by formal enterprises was by the public sector. The subsequent increase in public sector informal employment can be attributed to the enactment of the National Rural Employment Guarantee Scheme 2005. In urban areas, the private sector continues to be the major source of informal employment (Figure 3).

Figure 3: Relative Contribution of Public and Private Enterprises to Informal Employment in Formal Enterprises (IFE), rural & urban



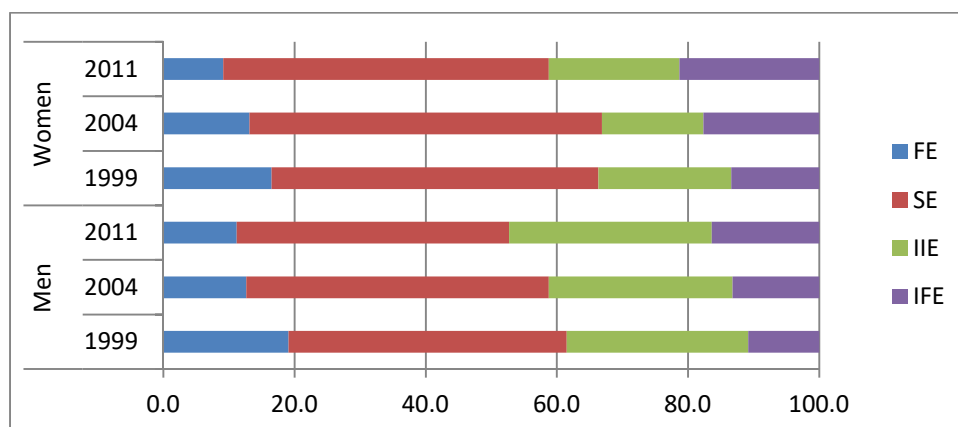
Source: Author's computations using unit-level data from NSS EUS 68<sup>th</sup> (2011-12) Round

### 3.3 Profile of Workers in Different Forms of Employment

In India, women's labour force participation has been on the decline since the 1980s. This decline is attributed to an increase in male wages, higher participation in education, and the influence of social sanctions among others (Bhalla & Kaur, 2011; Ajit Kumar Ghose, 2013; J. Ghose, 2014). Among rural women labour force participation fell from 44 per cent in 1999-2000 to 34 per cent in 2011-12. In urban areas, the fall has not been as drastic, but the rates of participation are relatively low at about 21 per cent (NSS 2011-12).

The nature of women’s participation in the labour market is also markedly different .Self employment which has traditionally been the main-stay of most women workers, has declined over the years. Instead there has been a rise in women’s participation in the market as wage workers. However this wage employment is informal in nature. The share of female formal workers has steadily declined alongside the decline in their participation. Instead, the engagement of women as informal wage labour, particularly in formal enterprises has risen.

Figure 4: Distribution of Employment Types among Men & Women, (%)



*Source:* Author’s computations using unit-level data from relevant rounds of NSS EUS

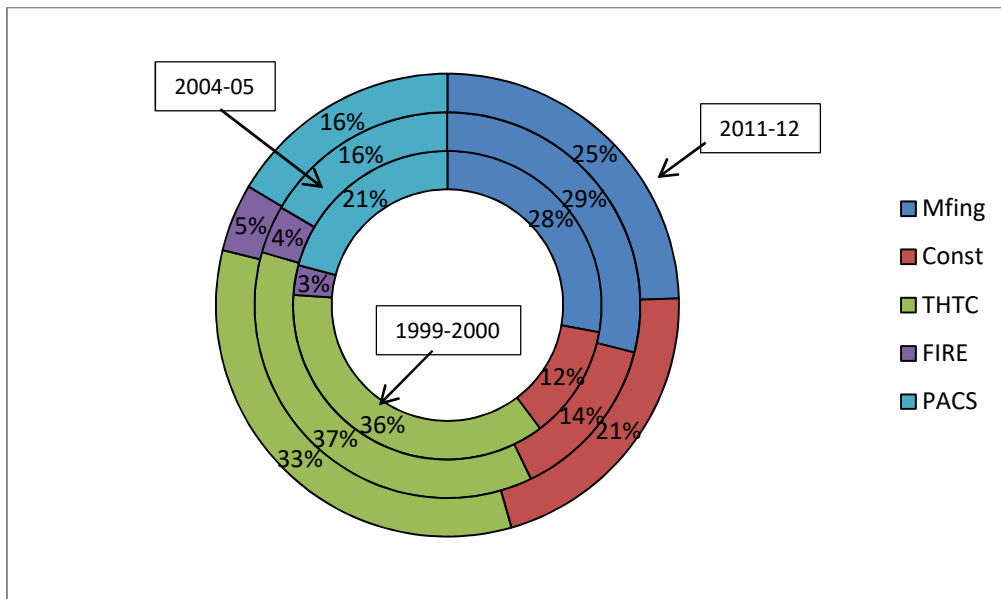
*Note:* FE- formal employment, IIE-informal employment in informal enterprises, IFE- informal employment in formal enterprises, SE- self-employment.

	Men			Women		
	1999	2004	2011	1999	2004	2011
FE	19.1	12.6	11.2	16.5	13.1	9.1
SE	42.4	46.2	41.6	49.9	53.8	49.6
IIE	27.7	28.0	30.9	20.3	15.5	19.9
IFE	10.8	13.2	16.4	13.4	17.7	21.3

Since the opening of its economy to global trade since the liberalisation of 1990s, the services sector has emerged as the major employer in the non-agricultural sector. Of this, Trade, Hotels, Transport and Communication (THTC) accounted for the majority of the workforce, employing about 33 per cent of the workforce. Construction has also emerged as a major employer in recent years.

Figure 5: Sectoral Distribution of Total Employment (as % of total employment)



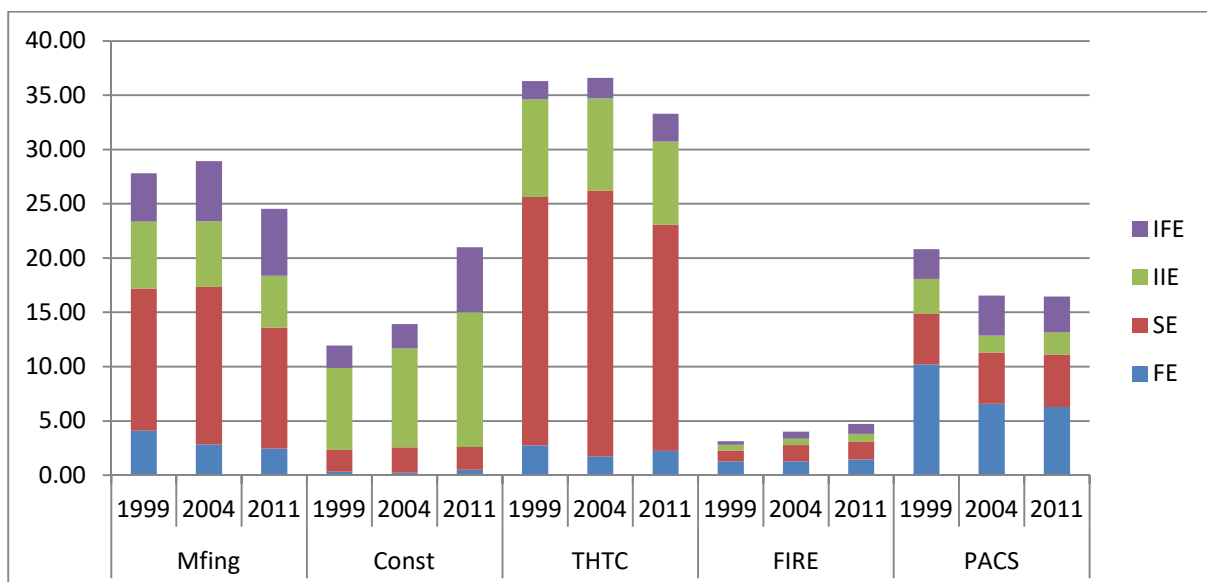


*Source:* Author's computations using unit-level data from relevant rounds of NSS EUS

*Note:* FE- formal employment, IIE-informal employment in informal enterprises, IFE- informal employment in formal enterprises, SE- self-employment. Mfing - Manufacturing, Const- Construction, THTC - Trade, Hotels, Transport and Communication, FIRE - Financial Services, Insurance and Real Estate, PACS - Public Administration, Community Services

What has been the nature of employment occurring in these major sectors? With the exception of construction, in all sectors, self employment is the dominant form of employment.

Figure 6: Distribution of Employment Types across Sectors (as % of total employment)



*Source:* Author's computations using unit-level data from relevant rounds of NSS EUS

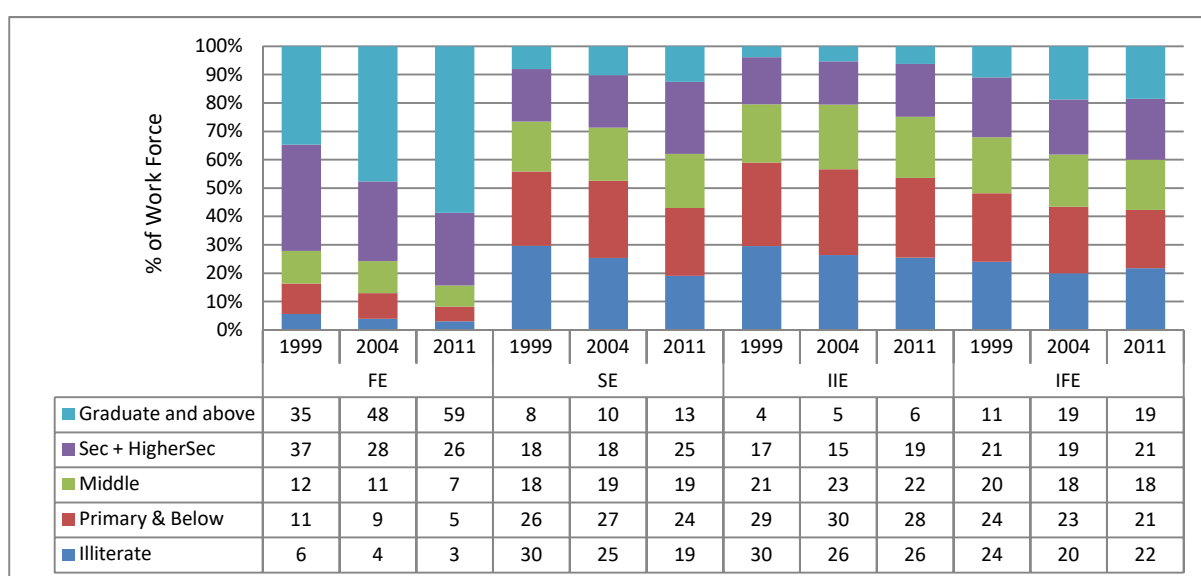
*Note:* FE- formal employment, IIE-informal employment in informal enterprises, IFE- informal employment in formal enterprises, SE- self-employment.

Formal employment has decline in all of the sectors over the years, particularly in PACS. This has been accompanied by an increase in informal wage employment. The construction boom witnessed in the recent years (Papola & Sahu, 2012) has led to a proliferation of small-scale informal construction

businesses hiring part-time workers. Formal enterprises in the construction sectors have also increasingly engaged in the hiring of informal workers. IFE has also proliferated among the PACS services sector.

The Indian labour force is largely uneducated or under-educated with almost 50 percent of its workers being illiterate or having education below primary school level in 1999-2000. However, this has been declining over time with increasing educational attainment, and by 2011-12, the share had fallen to 40 per cent. However, the extent of educational attainment differs markedly across the employment categories. Amongst the formally employed, almost three-fourth of these workers are graduates or have higher secondary education. Among the informal workers, it is interesting to note that there is a relatively higher proportion of illiterate among the IIEs, compared to the SE. In a sense, to some extent, self employment here captures entrepreneurial skills and experience. More interestingly, there was a relatively high proportion of highly educated workers among the IFE. Over the years, their share has increased. Formal enterprises are not just increasingly hiring workers in informal work arrangements, but these workers were also relatively well-educated, highlighting the more exploitative nature of this employment.

Figure 7: Educational Attainment among Employment Groups (as % within each employment group)



Source: Author's computations using unit-level data from relevant rounds of NSS EUS

Note: FE- formal employment, IIE-informal employment in informal enterprises, IFE- informal employment in formal enterprises, SE- self-employment.

With respect to the occupational profile of the workers, the majority of formal workers are in white-collar jobs. Common occupations in this category include teachers, store-keepers and office attendants. This has remained relatively unchanged over the years. Among the self employed, directors/chief

executive officers were common occupations, as well as shopkeepers, salespersons, and street vendors, indicating the employers on one hand, and the own account workers on the other. Among the informal wage workers, the common occupations among the traditional informal employment (IIE) included construction workers, salesmen and motor vehicle drivers, largely blue-collar jobs. The IFE, on the other hand, included a mix of blue and white collar workers. There were construction workers and production workers amongst the IFE, much like among the IIE. At the same time, the IFE also saw considerable overlap with the occupational profiles observed among the formally employed. Teachers and office clerks were also common occupational profiles in this category of workers as well.

Table 2: Major Occupations among Employment Categories

<b>FE</b>	<b>SE</b>	<b>IIE</b>	<b>IFE</b>
<b>1999-2000</b>			
Store keeper	Merchants, shopkeepers	Construction Workers	Construction Workers
Teachers, HS	Working proprietors	Motor Vehicle drivers	Teachers, HigherSecondary
Teachers, primary	Bidi Makers	Salesmen, shop assistant	Production workers
Office attendants	Street vendors	Bricklayers, masons	Office attendants, clerks
<b>2004-05</b>			
Teachers, HigherSecondary	Merchants, shopkeepers	Construction Workers	Construction Workers
Store keeper	Street vendors	Salesmen, shop assistant	Teachers, higher secondary
Teachers, primary	Working proprietors	Tram car and MV drivers	Production workers
Office attendants	Tailors, Dress makers	Bricklayers, masons	Office attendants, clerks
<b>2011-12</b>			
Teachers, middle & primary	Directors, CEO	Mining and construction	Painters & builder
Office clerks	Salesmen	Painters & builder	Mining and construction
Teaching professional,	Textile, garment workers	Motor vehicle drivers	Motor vehicle drivers
Protective Service Workers	Food processing workers	Salesmen	Teachers, middle & primary

*Source:* Author's computations using unit-level data from relevant rounds of NSS EUS

*Note:* FE- formal employment, IIE-informal employment in informal enterprises, IFE- informal employment in formal enterprises, SE- self-employment.

### 3.4 Wage Structure in Different Forms of Employment

Figure 8 presents the distribution of log weekly earnings for the different employment groups as of 2011-12. Weekly wages includes wage/salary earnings in cash or in kind, received or receivable for work done during the reference week. Average real wages have increased in all employment types across the years, although the increase is most substantial for the formally employed, who were earning almost 1.5 times more than they did in 1999-2000 (Table 3). In all forms of employment, irrespective of the year, the median is below the mean, indicating a distribution skewed to the right. Few high-wage earners in the upper-end of the distribution skew the mean away from the median.

For the formal workers, mean wages is well above that of the informal workers. On an average, formal workers earned Rs. 2231 per week (Table 3).. Among the informal workers, mean wages of IFE is above that of the IIE. The mean wages of IIE was Rs. 548 per week approximately, while that of IFE was Rs. 774 approximately. The higher mean wages has often been taken as a indication of an improvement of the status of these informal workers (A.K. Ghose, 2016) but as the previous discussion shows these workers are also relatively more educated than their counterparts in the informal sector, and higher mean wages are not unexpected nor an indicator of better quality of work. The coefficient of variation, as a basic measure of dispersion, also indicates the relatively higher deviation within the IFE, across all years, compared to the other employment groups. Moreover, at the higher end of the distribution, the dispersion of wages among the IFE is higher compared to the IIE indicating greater wage inequality among this workforce (Figure 8)

Table 3: Summary Statistics of Real Weekly Wages

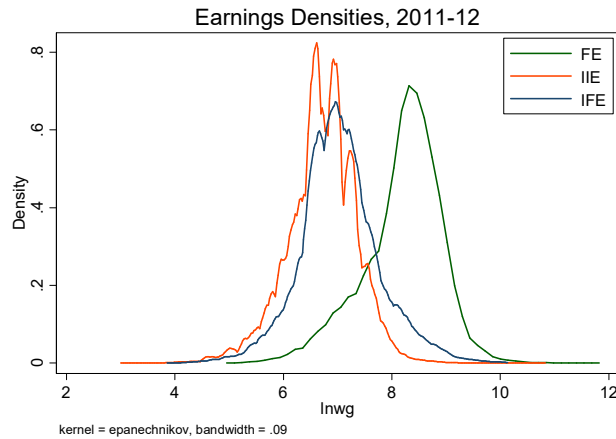
	2011-12			2004-05			1999-2000		
	Mean	Median	CV	Mean	Median	CV	Mean	Median	CV
<b>All</b>	1094	629	1.2	748	415	1.4	829	500	1.0
<b>FE</b>	2231	1973	0.8	1638	1454	0.9	1439	1250	0.6
<b>IFE</b>	774	543	1.07	605	388	1.08	556	400	1.05
<b>IIE</b>	548	493	0.7	362	291	0.8	405	350	0.9

\*CoV - coefficient of variation, Consumer Price Index used as deflators.

Source: Author's computations using unit-level data from relevant rounds of NSS EUS

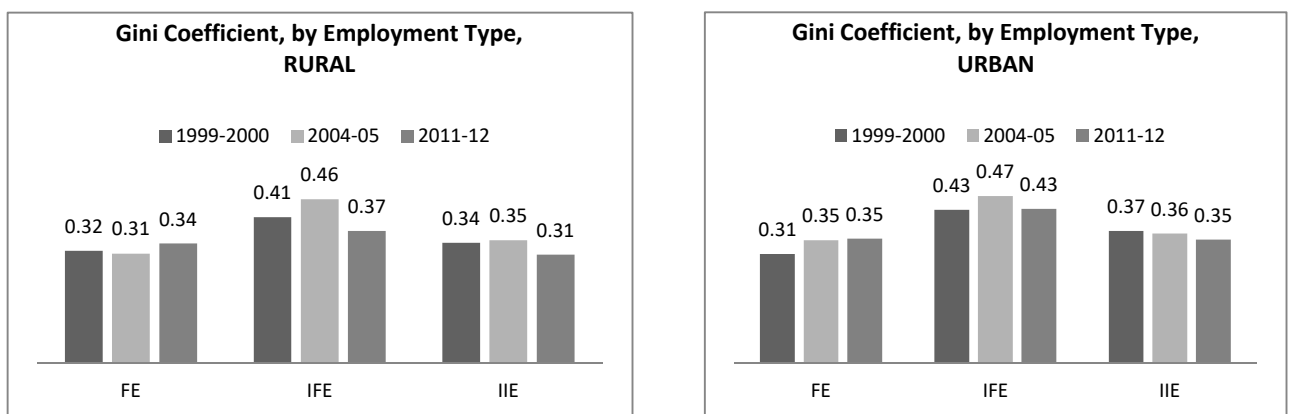
Note: FE- formal employment, IIE-informal employment in informal enterprises, IFE - informal employment in formal enterprises, SE - self employment

Figure 8: Kernel Density Estimates of Log Weekly Earnings, 2011-12



On the whole, across all workers, wage inequality measured by the overall Gini coefficient, has increased between 1999-2000 (Gini=0.47) and 2004-05 (gini =0.52), and registered a marginal decrease in recent years (in 2011-12, gini = 0.50). When disaggregated by the employment groups, it is seen that this trend is reflected only amongst the IFE (Figure 9). Among the FE, inequality has increased consistently, while declining among the IIE. However, although wage inequality has reduced among the IFE, compared to the other employment groups, their wage inequality was still relatively higher. These results were most apparent among the urban workers. On the one hand, this is reflective of the huge occupational differences within this workforce - construction workers to professional teachers, while on the other hand, given the higher average educational attainment of this workforce, it may also be indicative of an exploitative strategy among formal enterprises. The next section probes this further through a probability model of occupational outcome, while the penultimate section examines the sources of wage inequalities.

Figure 9: Evolution of Wage Inequality among Employment Groups



Source: Author's computation using NSS Employment Unemployment Survey rounds

Examining the wage quantiles<sup>1</sup>, the earlier conclusion of higher inequality within the IFE is further reiterated. Among the IFE, the top 10% who earned more than Rs 3733 in weekly wages, earned almost three times the median earnings. In the other forms of employment, the deviation just by a factor of two. Moreover, the top 10% in the IFE accounted for almost thirty percent of total wage earnings<sup>2</sup>. In the other forms of employment, there were no disproportionately large shares accruing to any given quantile as was seen in the case of the IFE (Figure 10).

Table 2: Distributional Summary Statistics, Weekly Wages (ten quantile groups). 2011-12

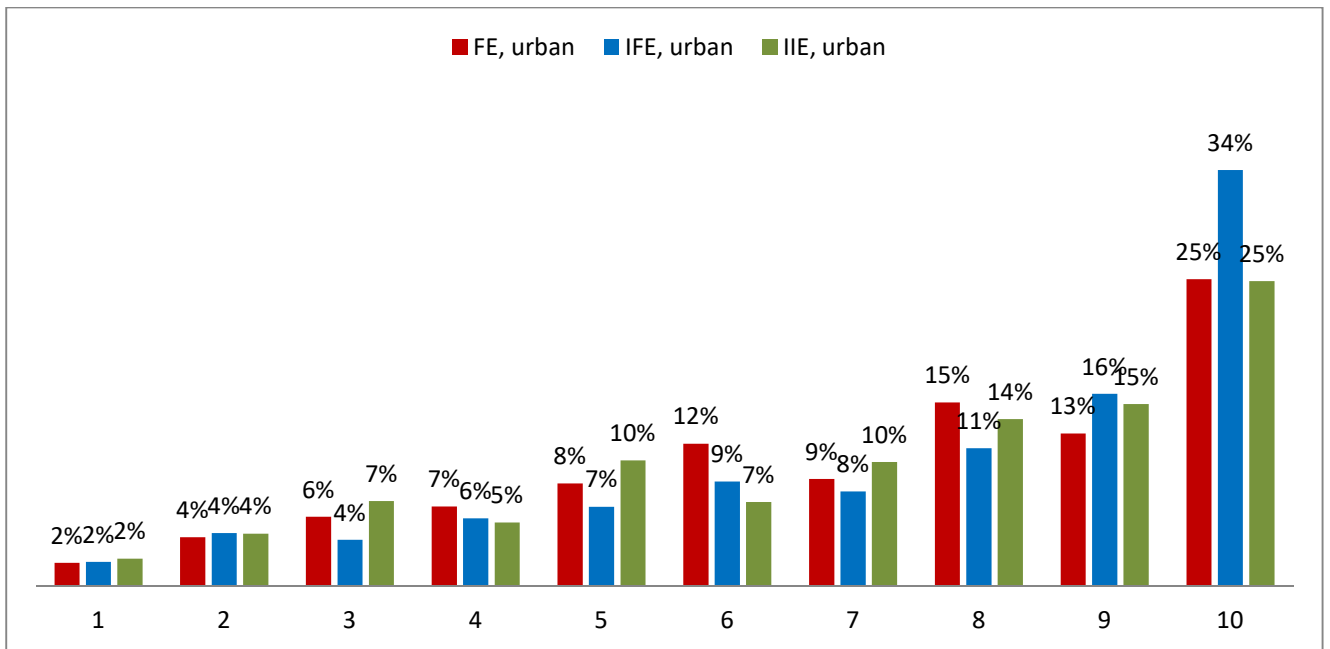
Urban 2011									
Quantile Group	FE			IFE			IIE		
	Quantile	% of Median	Share of Total Wages (%)	Quantile	% of Median	Share of Total Wages (%)	Quantile	% of Median	Share of Total Wages (%)
1	1400	33	2	567	44	2	375	38	2
2	2333	56	4	750	58	4	583	58	4
3	3000	71	6	933	72	4	700	70	7
4	3700	88	7	1100	85	6	820	82	5
5	4200	100	8	1300	100	7	1000	100	10
6	5000	119	12	1500	115	9	1100	110	7
7	5833	139	9	1869	144	8	1325	133	10
8	7000	167	15	2450	188	11	1500	150	14
9	8625	205	13	3733	287	16	2000	200	15
10			25			34			25

The inequality in earnings distribution is apparent across all other groups, in varying degrees. For instance, among all the three groups, the least paid 10% accounted for less than 2% of total wages, while the highest paid 10% accounted for more than a fifth (20%) of total wages paid. Figure 10 also points towards the apparently higher within-group inequality in the case of the IFE. Even if only the above-median population is considered, the distribution is far less equitable above the median in the case of the IFE, as compared to the IIE, or FE.

Figure 10: Percentage Share of Total Wages accruing to each Percentile Group, urban 2011-12

<sup>1</sup> Only the urban sector is examined here in the interest of brevity. But the results are applicable across both.

<sup>2</sup> If the top 10% of the IFE is dropped from the analysis, then the wage distributions resemble those of the other employment groups indicating that the inequality here is led by this category of wage earners.



#### 4. Determinants of Employment Outcomes

A Multinomial Probit model with correction for selection bias (emerging from non-participation of some individuals in the labour force) is used to estimate and compare the impact of individual, household and other factors on different occupational outcomes. The base category is the self-employed. Therefore all probabilities are relative and are interpreted with respect to the base category.

The multinomial probit estimates of employment outcomes in urban areas are given in Table 4<sup>3</sup>. Overall, age did not have significant impact on the probability of being formally employed, except for men between 45-60 years for whom there was a significant increase in the probability indicating perhaps the preference for experienced individuals. For women, as expected, the probability of being formally employed increased as age increased, up to 60 years of age. In the case of enterprise-based informal employment, an increase in age reduced the probability of being either IIE/IFE for men. For women, the marginal impact of an increase in age was in general insignificant.

Education from middle school onwards significantly increased the probability of formal employment for men. For women, the increase in probability of formal employment was seen only on attaining secondary level education onwards (by 2 percentage points for secondary and higher secondary education), although curiously, graduate education did not have a significant impact on the probability. In the case of IIE, among men, as their educational attainment increased, the probability of IIE declined and men with graduate-level education and above were less likely to be IIE by 15 percentage points. Among women, however, such a linear relation was not seen. Education up to secondary level

<sup>3</sup> The analysis here pertains only to the urban sector. However, the results are broadly similar to that of the rural sector and this has not been shown for the sake of brevity. The conclusions are broadly applicable to both sectors. .

reduced the chances of being IIE. While higher secondary education had an insignificant impact, women with graduate education and above were more likely to be IIE by 11 percentage points. In the case of IFE, educational attainment up to secondary level had no significant impact on the probability of being engaged thus. However, men with higher secondary education, or graduate education were significantly more likely to be IFE, by 3 and 13 percentage points respectively. For women too, education increased the probability of IFE and these impacts were significant from middle-school education onwards. Therefore, the educated labour force in urban areas was increasingly likely to be informally employed in formal enterprises. In fact, being a graduate increased the probability of securing formal employment by 5 percentage points while the probability of securing IFE for graduates increased by 13 percentage points.

Table 4: Determinants of Employment Outcomes (sample selection bias corrected), Urban (2011-12)

		Marginal Effect		
		FE	IIE	IFE
Gender: Base - Men	Woman	0.0002 (0.03)	-0.02 (-0.63)	-0.01 (-0.5)
Age: Base 15-25	Age 26- 35	0 (0.35)	-0.04*** (-4.4)	-0.04*** (-4.51)
	Age 36 - 45	0 (1.16)	-0.08*** (-8.1)	-0.06*** (-7.6)
	Age 46 -60	0.02*** (5.63)	-0.13*** (-15.)	-0.11*** (-15.4)
	Age 60 & above	0.0026 (0.77)	-0.18 (-22.32)	-0.11*** (-16.5)
Women's Age: Base 15-25	Age 26- 35 (women)	0.02*** (2.81)	0.02 (1.15)	0.01 (0.69)
	Age 36 - 45 (women)	0.025*** (2.77)	0.01 (0.56)	0 (0.2)
	Age 46 -60 (women)	0.036*** (2.92)	0.051* (2.39)	0.04** (2.12)
	Age 60 & above (women)	0.01 (0.44)	0.02 (0.52)	0.08* (1.96)
Education: Base - Illiterates	Primary Edu	0 (1.53)	-0.01 (-1.22)	-0.01 (-1.4)
	Middle Edu	0.01** (2.41)	-0.05*** (-6.2)	-0.01 (-0.85)
	Secondary Edu	0.02*** (4.45)	-0.09*** (-11.)	-0.008 (-0.88)
	Higher Secondary Edu	0.03*** (5.8)	-0.12*** (-14.4)	0.03*** (2.96)
	Graduate	0.05*** (8.26)	-0.15*** (-16.6)	0.13*** (10.9)
Women's Education:	Primary Edu (women)	0.01 (1)	-0.04*** (-2.75)	0.01 (0.67)



Base - Illiterate	Middle Edu (women)	0.01 (1.19)	-0.09*** (-5.74)	0.06*** (2.67)
	Secondary Edu (women)	0.02* (1.83)	-0.06*** (-2.96)	0.07*** (2.99)
	Higher Second Edu (women)	0.02* (1.67)	0.01 (0.4)	0.18*** (5.89)
	Graduate (women)	0 (0.51)	0.11*** (4.04)	0.15*** (5.76)
Skill: Base - no vocational training, not professional occupation	Has Vocational Training	0.00*** (3.63)	-0.005 (-0.74)	0.007 (1.33)
	Has Vocational Train. (women)	-0.01*** (-3.38)	-0.13*** (-12.4)	-0.06*** (-6.4)
	In Prof/Tech/Manag Occup	0.00*** (2.75)	-0.26*** (-48.3)	-0.08*** (-15.36)
	In Prof/Tech/Manag Occu (w)	0 (1.45)	0.04** (2.29)	0.11*** (6.33)
Household Attributes: Base - General category, Minority religions	SC/ST household	0.01*** (5.59)	0.11*** (14.3)	0.04*** (6.2)
	OBC household	0 (0.3)	0.03*** (5.97)	-0.03*** (-5.7)
	Hindu	0 (-0.77)	-0.01 (-1.19)	0.015 (1.55)
	Hindu Woman	-0.004 (-1.48)	0 (-0.17)	-0.04** (-2.34)
	Muslim	-0.009*** (-7.76)	-0.02* (-1.89)	-0.03*** (-3.1)
	Muslim Woman	0.01 (1.22)	-0.04* (-1.78)	-0.04** (-2.23)
	Child Per Household Member	-0.06*** (-17.12)	-0.02 (-1.39)	-0.08*** (-5.8)
	Prop Informally Employed	-0.27*** (-23.95)	0.11*** (8.84)	0.08*** (7.72)
Regional Factors	HDI	0.01*** (3.27)	-0.01 (-0.96)	0.11*** (8.23)
	Labour Law Environment Index	0.006*** (2.26)	0.03* (1.66)	-0.03** (-2.22)
	State Unemployment rate	0.000* (1.89)	0.00*** (-4.56)	-0.008*** (-10.43)
	IMRR	0.004* (1.9)	0.02** (2.07)	-0.06*** (-6.24)
<b>Model Statistics</b>				
Number of Observations		43517		
Wald Chi2		15902.8		
Log Likelihood		-38870		
Prob > Chi2		0		

Source: Employment Unemployment Survey 68<sup>th</sup> Round (2011-12)

Note: Figures in brackets indicate t-statistic.

\*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% levels, respectively

Self-employment was base category.

Vocationally trained men and those in professional/technical/managerial occupations were more likely to be formally employed, while a similar impact was not seen in the case of women. Vocationally trained women were more likely to be self-employed. In 2013-14, about 39 per cent of women who were vocationally trained did not join the labour force bringing into question the nature of the training imparted and the target population that it reaches (Labour Bureau, 2015).

However, women from professional, technical or managerial occupations were more likely to be IIE while men from similar occupations were more likely to be engaged in self-employment. The presence of young dependents greatly reduced the chances of being IFE, again similar to the observations in rural areas. So, besides not providing employment security, these jobs were also relatively inflexible as individuals with household responsibilities were also less likely to be engaged thus. There were significant network effects in urban areas with the presence of other informally employed members in

the same household greatly increasing the chance of the individual being informally employed themselves.

## 5. Sources of Wage Inequality

To estimate the sources of wage inequality, a regression based decomposition (Fields, 2003) methodology is adopted here. Based on a semi-log wage regression model

$$\ln(Y_i) = \alpha + \sum_j \beta_j x_j + \varepsilon_i \quad \dots (4)$$

the decomposition method estimates  $S_j = \frac{cov[a_j Z_j, \ln Y]}{\sigma^2 \ln Y}$

where each  $S_j(\ln Y)$  represents the ‘factor inequality weight’ capturing the contribution of factor variable  $X_j$  to overall inequality. The results of the regression decomposition are given in Table 5.

Table 5: Relative Inequality Shares, 2011-12

	<b>FE</b>	<b>IIE</b>	<b>IFE</b>
Gender	3.5	<b>35.9</b>	<b>21.3</b>
Education	<b>32.3</b>	9.9	<b>41.6</b>
Age	<b>26.7</b>	12.3	2.8
Occupation	24.0	3.1	15.3
Social			
Group/Religion	3.0	2.4	4.4
Industry	2.0	5.3	4.2
State	<b>8.6</b>	<b>31.1</b>	<b>10.4</b>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

Note: Occupation type - indicates whether occupation is professional/technical/managerial. Social Religion group is an aggregate of relative factor shares accruing to dummy variables capturing membership in SC/ST and Muslim households. Industry is an aggregate of dummies representing manufacturing, construction and services

Among the formal workers, education accounted for 32% of wage inequality, followed by experience and occupation-type, together accounting for half of the wage inequality amongst these workers. Among the IIE, on the other hand, education had a relatively smaller contribution to wage inequality. Instead, gender and state/region had important contributions, together accounting for more than half of the wage inequality. This is indicative of IIE workers being less educated in general, and their wage incomes largely depending on the function of the informal enterprises. Among the IFE, again, there were close similarities with the formal workers. Education accounted for a significant share of wage inequality. As seen earlier, this group of workers also had large variations in the educational attainment amongst them. Therefore, these variations in educational attainment also accounted for the wage variations within them. Gender also accounted for a prominent share of inequality among the IFE.

## 6. Conclusion

Informal employment constitutes more than three-quarters of the workforce in India. Over time, this proportion has remained high, irrespective of how informal employment is defined and measured. However, within informal employment, there have been interesting developments. By explicitly accounting for the increasing informalisation of the formal labour market by separating informal employment in terms of the nature of the employer (self , formal enterprise , informal enterprise), the disaggregate analysis of informal employment provided some interesting insights.

The analysis of determinants of employment outcome revealed the varied motivations and profile of the labour force. While the self-employed informal workers largely fit the typical profile of informally employed - old and uneducated - the enterprise-based informal workers challenged these notions. Instead, young and experienced individuals, with educational qualifications were increasingly employed by the formal sector. The analysis of wage inequality within employment groups revealed the higher disparities and inequalities within the informal workers in the formal sector. While wage inequality had declined over time, it was still relatively high amongst these workers. Further the regression-based decomposition identified education as being a prominent contributor to wage inequality among both the formal workers and the informal workers in formal enterprises.

While the informal workers in formal enterprises may earn relatively higher wages than their counterparts in the informal enterprises, it is not indicative of an improvement in quality of jobs. As this analysis showed, the informal hiring in formal enterprises is a representation of a perverse form of economic growth, where educated and qualified individuals are working in less than ideal employment arrangements, reinforcing the notion of the creation of a 'precariat' class, the 'first class in history expected to labour and work at a lower level than the schooling it typically acquires' (Standing, 2014, p. x).. This is indicative of the exploitative practices prevalent in formal enterprises where profits and returns on investments are being secured by supporting services provided by the informal economy rather than increasing productivity or through innovations. Implicitly facilitated by ineffective and counter-productive labour laws (Chakraborty, 2015) , this 'low road to growth' led by lowering wages and labour standards rather than innovating or improving productivity ('high road to growth') signals a race to the bottom (Sharma, 2006) in the pursuit of economic growth, with a perpetuation of existing inequalities.

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