

Wage Differential between Informal and Formal Wage Worker in India

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Abstract *This paper investigates broad empirical picture of wage differential between informal and formal wage worker across different sector, gender, industry, education, social group and state as well as informal and formal sector in India with the 55th (1999-2000) and 66th round (2009-2010) household survey on employment and unemployment conducted by National Sample Survey Office (NSSO). This study shows informal worker earns approximately two times less than formal worker in both informal as well as formal sector. Wage difference is sharp in case of skilled labour as compared to unskilled and semi-skilled labour. Compound annual growth of wage is very sluggish in all categories of labour. Formal worker earn two to three times more than informal labour in informal as well as in formal sector.*

Key words Informal Worker, Formal Worker, Wage Differential

JEL Codes: J46, J46, J31

1. Introduction

The growth of gross domestic product in every sub-sector of the Indian economy accelerated during the second half of the 2000s, compared to the first half of the decade. However, employment growth in most sectors except construction decelerated. Development experience, especially since the mid-1950s, suggests that two features stand out during the modernization of a country's labour market. First is the movement of "surplus labour" from the traditional (agricultural) sectors to the modern (industrial) sectors – as famously modeled by Arthur Lewis. With the exhaustion of surplus labour reserves in agriculture, the share and absolute size of the agricultural labour force fall and real wages begin to rise in the economy (Fields 2004). Fei and Ranis (1975) note that the east Asian tiger economies, Taiwan and South Korea, had reached such a turning point in development by the mid-1960s. Some observers point out that China too is now moving to a stage in which it has little surplus labour left in agriculture (Xiaobo *et al.*, 2011). Second, modernizing changes in the labour market involve an improvement in the skill and educational levels of the workforce, along with the emergence of new industries or sectors that demand higher labour skills. This was clearly witnessed in the case of East Asian

economies when they began climbing up the technology ladder in the 1970s, transforming from being low-wage exporters (Fei and Ranis, 1975). The significant achievements by the East Asian countries in education and human development aided these countries' industrial transformation (Amsden, 1989). Since 1990's there is a sign of acceleration of structural transformation in Indian economy with the share of non-agriculture in GDP increasing. However, this structural transformation has not reflected proportionately in employment space. Rather, it has resulted into growth of informal sector.

The presence of wage differential between informal and formal sector has attracted the attention of economists for several reasons. Wage differential often creates much broader socio-economic inequality. Differential in wages and earnings are responsible for much of the disparity that exists in assets, consumption, healthcare, educational attainment, and other accepted indicators of well-being, especially in developing countries. This causation also tends to perpetuate, or even accentuate, inequalities through their impact on human capital formation. Non-differential treatment of workers of different sexes, races, religions or formal and informal employments can be regarded as a worthy social goal in itself. The elimination of difference can also improve both efficiency and growth in economy. As a result, interventions to reduce wage differentials across various sections of the society become a major policy objective for developing countries like India. Present paper attempt to explore the issue of wage differential across and within informal or formal sector and informal or formal wage worker.

2. Literature review

Rising wage inequality among workers in developed countries, especially in USA and UK, have been well documented. Studies on developing countries, particularly Latin American countries since the 1980s, have also been in the public domain (Wood, 1997; Katz and Autor, 1999). While studies on wage differentials in India, particularly the post-reform dynamics of it, have been sparse, handful of those that exist (Kingdon, 1998; Kingdon and Unni, 2001; Duraiswamy, 2002; Galbraith, 2004; Dutta, 2005) either focus on specific industries, or specific types of workers, or ignore the possibility of segmented labour markets and hence segmented wage functions for different groups. The empirical studies show that the observed earnings differences between workers were associated with differences in education and experience; earnings differences might also arise by personal characteristics of the individuals such as the sex and the community to which he/she belongs. Different aspects of wage discrimination in the labour market have been studied by a number of scholars by applying different methodologies and with data from different parts of the developing world (Oaxaca 1973; Cotton 1988; Oaxaca and Ransom, 1994; Glick and Sahn, 1997; Mishra and Kumar, 2005; Madheswaran and

Attewell, 2007). There has, however, been a dearth of in depth study on gender wage discrimination in India. Madheswaran and Attewell (2007) found that occupational discrimination was more pronounced than wage discrimination among workers in scheduled tribe (ST) and scheduled caste (SC) social groups. Das et al (2009), by using micro-level information from National Sample Survey (NSS) household surveys, observed that there had been no improvement in the status of women in the Indian labour market almost in all age groups during the 1990s. But there has been diminutive work done on wage differential between formal and informal employment. This study attempts to fill this gap in literature.

3. Methodology of research

Present study attempts to present an idea about wage differential across and within informal sector or formal sector and informal or formal wage worker. Informal worker comprise self-employed, regular wage worker and casual wage worker. Though informal worker is a highly heterogeneous category, consisting of many sub-sets, for the sake of simplicity this study clubs all categories together. This clubbing compromises on rationality but still serves the purpose by generating some idea on wage differential between formal and informal workers/sectors. This paper uses definition of informal and formal worker provided by National Commission for Enterprises in the Unorganized Sector (NCEUS).

On the basis of this definition this paper segregate total worker into two parts that is informal and formal worker. National Commission for Enterprises in the Unorganized Sector (NCEUS) defines informal and formal worker on the basis of availability of regular work, social security and employment security (protection against arbitrary dismissal). Present study use unit record data of National Sample Survey Organization (NSSO). The Employment and Unemployment survey of the NSS 55th (1999-2000) and 66th round (2009-10) canvassed number of question related to availability of social security, type of job contract and employment status which allows identification of informal and formal worker. Real wage is estimated by using implicit deflator. This paper limits itself only to the informal and formal wage worker.

4. Results and Discussions

During the globalization technological change and structural shift of employment has negative effect on wage inequality (Debdas Banerjee, 2007). Broadly defined, the informalization of the labour market represents a situation in which the ratio of the informal labour force to the formal labour force - or the share of the informal labour force in the total labour force - increases over time. Since the 1980s, there has been growing informalization of industrial labor in India. This has taken the form of a rising share of the unorganized sector in total employment, and informalization of the organized sector itself with greater use of subcontracting and higher incidence of

contract and temporary workers (Goldar, 2010). Labour market flexibility with ever growing informalization of work and feminization of labour has been one of the most likely outcomes of the ongoing process of post reform structural adjustment in India (Sengupta and Das, 2014). The flexibility in the labour market in India, as in other developing countries, in the form of informalization of work goes hand in hand with the process of neo-liberal reforms (Unni and Rani, 2008). This is widely practiced by employers in their attempt to reduce wage costs, save on fringe benefits and deny trade union rights to their employees. There has been significant deregulation of labour protection pre-empted by the transfer of ownership from the state to the private enterprises (Das, 2012). A considerable number of profit-making public sector units have been handed over to private enterprises in an overzealous attempt to implement the so-called structural adjustment programme and meet International Monetary Fund and World Bank conditionalities. For most of the deals involving privatization, a significant proportion of regular workers lost their jobs and was largely replaced by casual workers (Das *et al.*, 2009). This informalization of labour market and hiring and firing policy generate huge wage difference between informal and formal wage worker.

Table 1. Wages received by workers in Formal and Informal Workers at All-India Level

Average wage rate Per day(Rs) received by formal and informal wage worker in formal and informal sector						
Sector	Informal wage worker	Formal wage worker	Informal wage worker	Formal wage worker	Compound Annual Growth Rate(IWW)	Compound Annual Growth Rate(FWW)
All India						
	1999-2009		2009-2010			
Informal Sector	64	134	84	252	0.03	0.07
Formal Sector	80	188	129	418	0.05	0.08
Rural						
Informal Sector	61	128	77	208	0.02	0.05
Formal Sector	68	167	93	312	0.03	0.06
Urban						
Informal Sector	66	138	94	295	0.04	0.08
Formal Sector	86	194	156	458	0.06	0.09
Male						
Informal Sector	68	132	89	289	0.03	0.07
Formal Sector	79	189	138	425	0.06	0.08
Female						
Informal Sector	46	144	54	150	0.02	0.00
Formal Sector	86	163	93	381	0.01	0.08

Source: calculated by author from unit data of NSS 55th and 66th round.

IWW: Informal wage worker. FWW: Formal wage worker.

The real wage per day of formal worker is more or less two times more than informal worker in informal sector in almost both rural and urban area and male and female

in one hand and on the other hand this difference is more crucial in formal sector. In formal sector informal wage worker earn three times less than formal worker. The difference is large in case of formal and informal wage worker in both formal and informal sector and in case of women than men. Compound annual growth rate of wage is higher in formal wage worker as compared to informal wage worker in both formal and informal sector. It is suggested that informal sector use low technology that's why this sector is low skilled labour intensive, resulting into low labour productivity and earnings (Coleho and Vijaybaskar, 2014). Mobility barrier for labour in informal sector to formal sector is other cause of wage gap between informal and formal sector (Meagher Kate, 2013).

Number of studies on wage structure has empirically established the existence of substantial wage differentials among the workers with different levels of skills in different industrial units. Some of the important studies on the subject are those undertaken by Dickens and Katz (1986), Krueger and Summers (1986), Holzer, *et al.*, (1988), Katz and Summers (1988), Katz and Murphy (1991), Krueger (1991), Krugman (1994), Lowe (1995), Murphy, *et al.* (1998), Krueger (1999), Jean and Nicoletti (2002), and Virén (2005). The implementation of advanced technologies necessitates the recruitment of skilled workers and training of workers on the payroll. Skilled and experienced workers are available at relatively higher payments in the competitive labour markets (Hina Sidhu, 2008). Wage difference among informal and formal worker within and across informal and formal sector may be due to technology use by that particular industry.

Table 3 shows wage gap between informal and formal worker is high in informal sector as compared to formal sector across and within major fifteen Indian states. Wage gap between informal and formal worker is the highest in West Bengal (177) and the lowest in Andhra Pradesh (27) in informal sector during 1999-2000 but in 2009-10 the highest is Bihar (210) and the lowest is Orissa (59). Within formal sector wage difference between informal and formal worker is the highest in Bihar (191) and the lowest in Orissa (51) during 1999-2000, but in 2009-10 it is the highest in West Bengal (300) and the lowest in Orissa (235). Informal worker earn two (1.84) to five (4.48) times less than formal worker in informal sector and this difference is one and half (1.39) to four (3.85) times in formal sector. This wage difference may be due to various reasons like mismatch of supply and demand for skilled, semi-skilled and unskilled labour, different level of skill, education (year of schooling) & human capital, low rate of urbanization and modernization of state. Urbanization and modernization provide more employment opportunity, but these employment opportunities are most volatile in nature and create wage inequality. Information asymmetry and pathetic social network also may be responsible for this differential

Table 2. Wages received by workers in Formal and Informal Workers at All-India Level

Industry	Average wage rate Per day (Rs.) for formal and informal wage worker by formal and informal sector										Compound Annual Growth Rate					
	Informal Sector		Formal Sector		Informal Sector		Formal Sector		Informal Sector		Formal Sector		Informal Sector			
	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker			
	1999-2000				2009-2010				Informal worker		Formal worker		Informal worker		Formal worker	
Mining	54	217	89	214	85	414	81	394	0.05	0.07	0.02	0.06	0.02	0.06	0.06	0.06
Manufacturing	57	88	73	142	84	219	120	429	0.04	0.10	0.05	0.12	0.05	0.12	0.05	0.12
Electro, gas supply	119	358	95	192	219	438	89	366	0.06	0.02	-0.03	0.07	0.06	-0.03	0.07	0.07
Construction	56	88	63	219	80	126	96	427	0.04	0.04	0.04	0.07	0.04	0.04	0.04	0.07
Wholesale & Retail Trade	74	182	88	185	87	287	131	336	0.02	0.05	0.07	0.06	0.02	0.05	0.07	0.06
Hotel & Restaurant	63	87	115	104	84	177	186	336	0.03	0.07	0.05	0.12	0.03	0.07	0.05	0.12
Trade, Storage & Communication	99	96	111	165	107	208	148	422	0.01	0.08	0.03	0.10	0.01	0.08	0.03	0.10
Financial Intermediates	53	146	92	277	165	541	191	479	0.12	0.14	0.08	0.06	0.12	0.14	0.08	0.06
Real Estate	89	98	145	233	128	481	293	558	0.04	0.17	0.07	0.09	0.04	0.17	0.07	0.09
Public /compulsory social service	41	211	82	188	103	262	133	376	0.10	0.02	0.05	0.07	0.10	0.02	0.05	0.07
Education	65	169	112	216	114	187	124	435	0.06	0.01	0.01	0.07	0.06	0.01	0.01	0.07
Health	67	336	98	216	62	143	159	370	-0.01	-0.08	0.05	0.06	-0.01	-0.08	0.05	0.06

Source: calculated by author from unit data of NSS 55th and 66th round

Table 3. Wages received by workers in Formal and Informal Workers Industry-Wise

State	Average wage rate Per day (Rs.) for formal and informal wage worker by formal and informal sector													
	Informal Sector		Formal Sector		Informal Sector		Formal Sector		Informal Sector		Compound Annual Growth Rate			
	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker	formal wage worker	informal wage worker	Informal worker	Formal worker	Formal worker	Informal worker	
	1999-2000				2009-2010									
ANDHRA PRADESH	52	80	62	221	90	162	157	363	0.06	0.07	0.10	0.06	0.10	0.06
ASSAM	64	111	81	220	80	113	79	329	0.02	0.00	0.00	0.04	0.00	0.04
BHAR	52	204	70	270	68	164	157	440	0.03	-0.02	0.08	0.05	0.08	0.05
GUJRAT	57	128	56	196	81	262	86	342	0.04	0.07	0.04	0.06	0.04	0.06
HARYANA	72	156	68	191	108	333	115	483	0.04	0.08	0.05	0.10	0.05	0.10
KARNATKA	54	139	73	241	82	216	130	448	0.04	0.05	0.06	0.06	0.06	0.06
KERALA	72	121	60	146	111	228	109	345	0.04	0.07	0.06	0.09	0.06	0.09
MP	46	207	96	196	88	311	60	332	0.04	0.04	-0.05	0.05	0.04	0.05
MAHARASHTRA	62	107	80	152	96	321	158	493	0.05	0.12	0.07	0.13	0.05	0.13
ORISSA	38	148	150	208	62	196	74	309	0.05	0.03	-0.07	0.04	0.03	-0.07
PUNJAB	68	203	83	231	92	280	89	438	0.03	0.03	0.01	0.07	0.03	0.01
RAJASTHAN	69	234	115	247	93	368	104	384	0.03	0.05	-0.01	0.05	0.03	-0.01
TAMILNADU	77	113	55	153	91	230	154	369	0.02	0.07	0.11	0.10	0.02	0.07
UTTAR PRADESH	80	231	91	215	66	198	121	363	-0.02	-0.02	0.03	0.05	-0.02	0.03
WEST BENGAL	52	229	89	230	62	324	80	461	0.02	0.04	-0.01	0.07	0.02	-0.01

Source: Calculated by author from unit data of NSS 55th and 66th round

Table 4. Wages received by workers in Formal and Informal Workers by General Education

Average wage rate Per day (Rs.) for formal and informal wage worker												
General Education	Informal Sector		Formal Sector		Informal Sector		Formal Sector		Compound Annual Growth Rate			
	Informal wage worker	Formal wage worker	Informal wage worker	Formal wage worker	Informal wage worker	Formal wage worker	Informal wage worker	Formal wage worker	Informal Sector		Formal Sector	
	1999-2000				2009-2010				Informal worker	Formal worker	Informal worker	Formal worker
No literate/ below primary	51	115	54	111	71	104	74	214	0.03	-0.01	0.35	0.07
Primary	56	80	60	130	76	78	80	221	0.03	-0.002	0.35	0.05
Middle	63	120	68	123	88	165	95	268	0.03	0.46	0.39	0.08
Secondary	114	128	73	161	98	225	137	314	-0.01	0.58	0.52	0.07
Higher Secondary	73	107	108	182	104	189	115	349	0.04	0.55	0.22	0.07
Graduate & above	94	175	147	256	160	372	372	524	0.05	0.70	0.72	0.07

From table 4 it is clear that as education level of labour increase wage difference between informal and formal worker reduces in both formal and informal sector. Compound annual growth of average wage is higher (0.07) for graduate or above and is lower (-0.01) for those who are educated up to primary. This result support high positive relation between education (year of schooling) and skill; high skill provide more productivity.

From table 5 it is clear that wage deferece between skilled labours is more critical then unskilled and semi-skilled labour force. Skilled labours engaged as informal worker earn one (1.07) to two and half (2.53) times low wage in comparison to formal worker in informal sector. Wage difference is more pronounced in formal sector. In formal sector informal worker earn two (1.08) to four (3.79) times lesser amount of wage than formal worker. Those who have diploma in agriculture, working as informal worker in formal sector get seven times less wage as compare to those who work as formal worker in that sector. Many of skilled labour prefer self-employment to wage employment due to batter earning expected in future. It may occur due to lack of formal job.

Table 5. Wages received by workers in Formal and Informal Workers by Technical Education

Technical Education	Average wage rate Per day (Rs) for formal and informal wage worker											
	Informal Sector				Formal Sector				Compound Annual Growth Rate			
	Informal wage worker	Informal wage worker	Formal wage worker	Formal wage worker	Informal wage worker	Informal wage worker	Formal wage worker	Formal wage worker	Informal worker	Informal worker	Formal worker	Formal worker
	1999-2000				2009-2010				Informal worker	Formal worker	Informal worker	Formal worker
no technical education	64	133	81	186	83	238	120	382	0.03	0.06	0.65	0.07
technical degree in agriculture/ engineering/ technology/ medicine, etc.	113	232	88	236	495	421	495	820	0.16	0.06	2.10	0.13
diploma or certificate in agriculture	63	173	109	265	94	223	0	521	0.04	0.03	0.00	0.07
diploma or certificate in engineering/ technology	94	104	84	191	168	266	340	528	0.06	0.10	1.78	0.11
diploma or certificate in medicine	86	105	63	344	94	200	160	503	0.01	0.07	0.47	0.04
diploma or certificate in crafts	89	676	49	151	0	0	0	184	-1.00	-1.00	0.00	0.02
diploma or certificate in other subjects	74	152	78	204	155	249	291	483	0.077	0.051	0.99	0.09

Source: Calculated by author from unit data of NSS 55th and 66th round

5. Conclusions

Present study shows that wage difference between formal and informal worker is more critical in informal sector than formal sector. Wage difference is sharp in case of skilled labour as compared to unskilled and semi-skilled labour. Compound annual growth of wage is very sluggish in all categories of labour. Formal worker earn two to three times more than informal labour in informal as well as in formal sector.

Wage determination behavior during the last decades did not follow one of the basic premises in the theory of labour market in economics, i.e. employment and wage are determined by marginal productivity of labour in value term. Microeconomic and macroeconomic logic argued that competing firms may compete either on the basis of reducing their unit costs by lowering wages and labour standards by following a path of "low road to growth" or by enhancing productivity with new technology, development of new product design and development of organization by following a path of 'high road to growth'. But, as long as a firm chooses to follow 'low road to growth' there will be no motivation to innovate for improving productivity. During the phase of globalization and establishment of global production network domestic firm or industry is highly integrated with global market. This integration generates more opportunity for domestic firms. But this opportunity is supplementary and capricious as to full fill this unpredictable global demand firm's subcontract or putting out his work and hired informal labour. Aim of policy should be to motivate 'high road of growth' and implementation of effective labour laws to improve quality of employment and ensure a reasonable degree of wage equality.

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