Minimum Wage Policy in Brazil and India and its Impact on Labour Market Inequality

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Abstract
Minimum wage policy seeks to establish wage floors in order to protect vulnerable workers from exploitation and to establish norms to help ensure equal pay for equal work. It may also act as a macroeconomic policy tool because of their impact on aggregate demand. The role played by minimum wages in Brazil and India is very different due to the contrasting nature, coverage, structure and implementation of the systems. While Brazil has an annually adjusted unique national minimum wage for all workers with a comparatively high level of enforcement; in India, there are large numbers of minimum wages for different occupations, varying between States, which makes the system of minimum wages extremely complicated, and enforcement is very uneven. In Brazil, minimum wages have a multiplier effect and act as a benchmark for other payments such as social security benefits, pensions, etc., while in India; minimum wages are not connected to other payments in this way. In Brazil, the minimum wage plays a central role in labour market policy and in collective bargaining but in India, it receives little political attention. This paper seeks to examine the system of minimum wages in both countries and to compare the impact of this policy on labour market inequalities in these countries.

Keywords: legal coverage, minimum wage compliance, enforcement, impact on poverty, impact on employment, impact on inequality

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This paper is one output of a project on labour market inequality in India and Brazil, being carried out by the Institute for Human Development in New Delhi (IHD) and the Brazilian Centre for Analysis and Planning in São Paulo (Cebrap), and funded by the Canadian International Development Research Centre (IDRC). It does not stand on its own, but should be read in conjunction with other papers which examine the growth regimes of the two countries and their patterns of inequality. More details and full references to publications may be found on the project website, www.ihdindia.org/lmi. This paper was mainly prepared by Maria Cristina Cacciamali, Taniya Chakrabarty, Gerry Rodgers and Fabio Tatei, and includes contributions from Vidhya Soundararajan, Uma Rani and Alexandre de Freitas Barbosa. Cacciamali, Tatei and Barbosa are members of the Cebrap team; Rodgers, Chakrabarty and Soundararajan are members of the IHD team; and Rani, a senior researcher at the International Labour Organization, is an adviser to the project. We also acknowledge comments by other members of the IHD-CEBRAP research team, notably Nandita Gupta and Janine Rodgers, as well as comments by participants at a policy dialogue on the topic held in Delhi on March 14 2015.

Introduction

An active minimum wage policy, as laid out in Conventions 26 (1928), 99 (1951), and 131 (1970) of the International Labour Organization, may contribute to several overlapping goals: not only the basic goal of setting a floor to wages, but also protecting the more vulnerable trades and workers, and reinforcing norms to the effect that equal work receives equal pay. To these goals, we should add the impact on aggregate demand of increasing the incomes of low-paid workers, thus also making the minimum wage into a macroeconomic policy tool.

The implementation of an active minimum wage policy for the purpose of reducing poverty and redistributing income is nevertheless always a cause of controversy and heated debates. According to standard economic theory, in competitive markets, setting an operative minimum wage above market equilibrium leads to excess labour supply relative to demand, reducing employment. In the case of a dual market – formal and informal – the consequences are particularly negative for the less skilled labour force, precisely those workers who should be the main beneficiaries of the policy. According to this view, an increase in the minimum wage causes two losses: elimination of good jobs in the organized/formal labour market and expansion of the non-organized/informal market that pays less than the minimum wage.

Markets, however, are non-competitive, especially the labour market. In oligopsonist markets, the hiring firm has the power to establish a lower wage level than would prevail in a competitive market; after all, not all employees will quit the firm to seek better-paying vacancies.

Further, we can consider two other theories: the efficiency wage model and Marxist-structuralist analysis. The former contends that a worker's effort is a function of the real wage; that is, his or her productivity depends on the level of pay. Thus, setting a minimum wage above competitive levels would increase labour productivity, prompting companies to increase their demand for labour. The latter argues that the minimum wage serves as a benchmark for collective bargaining, ultimately aiming to transfer part of the surplus from capital to labour, contingent upon the size of the industrial reserve army (Cacciamali, 2005).

The lack of a theoretical consensus makes it necessary to critically analyze empirical studies. Up to the 1990s, it was widely believed that there was an inverse correlation between the level of the minimum wage and employment (Congress of the United States, 1995; Neumark and Waher, 2007; Cebrián et al, 2010). Mincy (1990), for example, argued that an increase in the minimum wage leads to unemployment, especially among youths. However, a higher minimum wage can also benefit young adult workers, who are an important group among low-wage workers and contributors to household income. In addition, as pointed out by Basu, Genicot & Stiglitz (1998), a higher minimum wage can lead to a redistribution of labour supply among household members, resulting in an increase in the labour force participation of adults, especially men, in the place of child and juvenile labour, and increasing the possibility for spouses to withdraw from the labour market.

More recently, other studies have emphasized the positive effects of the minimum wage. Research by experts such as David Card, Lawrence Katz, and Alan Krueger do not support the hypothesis that the increase of the minimum wage in the 1980s in the United States or at the beginning of the following decade reduced the level of employment of young workers. More recent studies, such as that of the ILO (2008), show that the minimum wage can have a positive impact on employment, especially for lower-income and socially vulnerable workers.

This paper considers in particular the contribution of minimum wage policy to the reduction of inequality in the labour market, comparing the experiences of India and Brazil. The following sections compare the system of minimum wages and the impact of wage-setting institutions in the two countries. The role played by minimum wages is quite distinct in the two countries due to differences in the nature, coverage, structure and implementation of the system. In Brazil, minimum wages have a multiplier effect and act as a benchmark for other payments such as social security benefits, pensions and others. In India, on the other hand, minimum wages have a more limited effect due to their complicated structure, lack of enforcement and poor implementation. The paper then reviews the absolute levels of minimum wages and their trends, the extent of coverage and compliance, and the impact on employment, poverty and inequality.

1. Historical and Institutional Background

In Brazil the minimum wage was established by the 1934 Federal Constitution and regulated by Law no. 185 of 14 January 1936, signed by President Getúlio Vargas, who introduced the Minimum Wage Commissions. The country was divided into 22 regions and 50 sub-regions, with the Commissions in charge of assessing each region's and sub-region's living conditions and needs, as well as the wages already being paid in each area, with the aim of fixing the value of Regional Minimum Wages. Later on Decree-Law No. 399 was signed on 30 April 1938, establishing that the Minimum Wage of each region and sub-region should be paid to an adult worker with no distinction of sex. This value should be "capable of meeting, in a given region of the country and at a given time, the normal needs of food, housing, clothing, hygiene, and transportation". On the other hand, the minimum wage was restricted to the formal and urban labour market. It therefore had a very limited coverage, although it reached a significant share of manufacturing industry workers.

In 1940, Decree-Law No. 2,162 established 14 different Minimum Wage tables for each specific region and sub-region, to be reviewed after at most three years. However, although Minimum Wages were increased twice in 1943, they were then only raised again in 1954, decreasing by 65% in real terms, due to rising inflation, over the period 1940-1954.

During the period of the military regime from 1964 to 1985, the government specified the annual increase in the minimum wage through a rule that took into account expected inflation and productivity gains. Nevertheless, between 1964 and 1978, the "adjustments" systematically underestimated these indicators, limiting the growth of the floor wage. The effect was a significant increase in wage dispersion and concentration of income; and these inequalities rose further in the 1980s due to high rates of inflation.

At present, the Minimum Wage is guaranteed by the 1988 Federal Constitution that in its Article 7, refers to the "rights of urban and rural workers, among others that aim to improve their social conditions". Additionally, item IV sets forth a "nationally unified minimum wage, established by law, capable of satisfying their basic living needs and those of their families […], it being forbidden to use it as an index for any purpose". The Minimum Wage legislation remains restricted to the formal labour market.

Payment of a wage below the Minimum Wage under a formal employment relationship renders the employer liable to punishment with a fine, which is doubled in case of recurrence. The oversight procedures for compliance with the Minimum Wage legislation are the responsibility of the Ministry of Labour and Employment, which is locally represented by the Regional Labour Office (DRT, from the Portuguese *Delegacia Regional do Trabalho*) in the person of the Labour Auditor. Besides direct and autonomous inspection by the auditor, any employee can also anonymously report violations to the DRT and/or Labour Justice.

The current rules for setting the Minimum Wage were established by Law No. 12,382, of 25 February 2011, whereby the Minimum Wage increases at the same rate as the National Consumer Price Index (INPC) during the previous 12 months, to which is added the real GDP growth 2 years earlier:

$$\Delta minwage_t = \Delta INPC_{t-1} + \Delta GDP_{t-2}, \quad t=2012,\ 2013,\ 2014.$$

This formula establishes a predictable machinery for the pro-cyclical increase of the Minimum Wage, which not only compensates for inflationary losses, but also reflects output growth. Prior to becoming law, it had been implemented since 2006. As the formula was valid only until 2015, in March of this year its continuation was approved by the Congress for the next 4 years.

In addition to its impact on the labour market, the Minimum Wage in Brazil has other direct effects since it is the floor for Social Security benefits, including pensions, unemployment insurance and some cash-transfer programmes (Bolsa Família not included).

In India, much like the other labour market institutions, wage-fixing institutions also have their roots in the colonial period. The Royal Commission on Labour in India, appointed in 1929, recommended a minimum wage fixing machinery in India. After Independence, the Industrial Policy Resolution (1948) was adopted which emphasized the need to fix minimum wages in sweated industries and sought to promote fair wage agreements in organized industry. To facilitate the former, the government enacted the Minimum Wage Act in 1948, and appointed the Committee on Fair Wages to determine the principles on which fair wages should be based and how such principles should be applied.

The Committee on Fair Wages defined three distinct levels of wages – living wage,[1] fair wage and minimum wage. The 'minimum wage' was to ensure not merely the bare sustenance of life but the preservation of the efficiency of the worker by providing some measure of education, medical requirements and amenities. It envisaged that while the lower limit for the "fair wage" must obviously be the minimum wage, the upper limit was set by the capacity of the industry to pay (NCL, 1969).

The legal framework is provided by the Minimum Wages Act of 1948, which acts as an over-arching framework and lays down the minimum levels of wages for all categories of workers in the labour market. This law is applicable to both informal and formal sectors so long as the industry in which they are engaged is included in the Schedules of the Act. The objective of this Act was to ensure a minimum subsistence wage for workers, to prevent sweating or exploitation of labour through payment of low wages. The Act gives both the Central and State governments the right to fix minimum rates of wages for different employments listed in the Act.

The Minimum Wages Act specifies that the minimum wage rate may be fixed in the form of time rate, piece rate, guaranteed time rate and overtime rate; and these rates may be fixed by the hour, day, month or any other period as prescribed by the authority. The act however does not provide any specific criteria for fixing the rates of minimum wages; in the absence of any definite criteria, the Indian Labour Conference in 1957[2] decided on certain norms, which took into account the needs of an average family for food, clothing, rent, fuel, lighting and other items of expenditure, assuming three consumption units per earner.

The minimum wage so fixed is based on the prevailing poverty line estimates. In a landmark judgment in 1992 (*Workmen v. Reptakos Breet & Co. Ltd*), the Supreme Court declared that children's education; medical requirement; minimum recreation, including festivals and ceremonies; provisions for old age and marriage should constitute a further 25 per cent of the minimum wage.

Before that, the Bhoothlingam Committee (1978) had proposed the idea of an absolute national minimum wage, irrespective of sectors, regions or states below which no employment would be permitted. The National Commission on Rural Labour (1991) supported the idea and recommended the creation of a non-statutory national floor level minimum wage, which was to be revised every year, in order to serve as benchmark below which wages should not fall. Following this recommendation, a national minimum wage floor was created but it was non-binding in nature and thus it did not provide a definite national minimum wage level as the lower limit for all wages.

In addition to the national floor level wages, there are multiple rates of minimum wages fixed by the state governments, in accordance to the provisions of the Act, which give rise to a system of multiple rates of minimum wages differing across sectors, regions and skill groups.

[1] 'Living wage' represented a wage level which provided not merely for a bare physical subsistence but for maintenance of health, a measure of frugal comfort including education for the children, protection against ill-health, requirements of essential social needs and some insurance against the more important misfortunes.
[2] The Indian Labour Conference is a tripartite (government, employers and workers) national conference, held at irregular intervals.

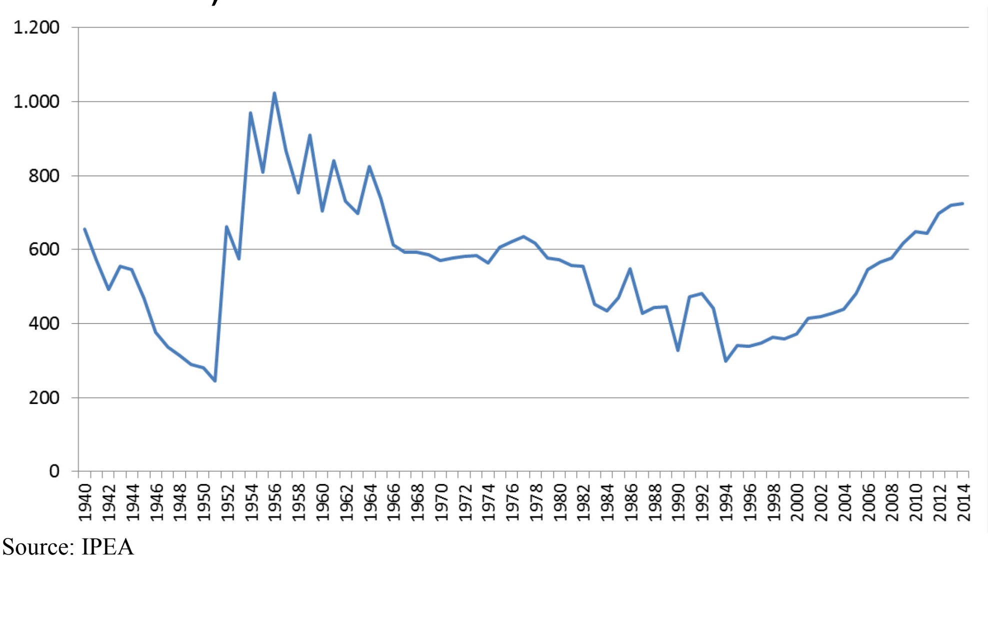
Moreover, over the years, new sectors have been added to the two Schedules of the Act which have further increased the number of minimum wages prevailing in the economy. Belser and Rani (2011) report that the central government sets 48 minimum wages for different categories including mining, agriculture and oil extraction, or any corporation under its ownership. State governments altogether set minimum wages for 1,679 job categories making a grand total of about 1,727 different minimum wage rates in India (Rani et al, 2013).

By legal definition, the Minimum Wage Act is applicable to only wage earners engaged in paid employment which excludes those engaged in self-employment. Among all wage earners, a majority of two-thirds are male and another majority of two thirds live in rural areas. The wage-earners in rural areas are mainly casual workers, while a majority of salaried workers are found in urban area.

2. Minimum Wage Levels and their Evolution over Time

The long term evolution of the real Minimum Wage in Brazil can be observed in Graph 1, where we see the downward trend in the real value of the Minimum Wage between 1964 and 1994, and its sharp recovery, starting in 1994, but especially after 2005. Apart from the impact on living conditions, the Minimum Wage setting over the period affected not only the labour market functioning, poverty and inequality, but also the main contours of the growth regime. During the military regime, a declining minimum wage was one of the reasons why economic growth coincided with growing income concentration and social exclusion, whereas in the 2000s the minimum wage was an important element in the complementarity between growth, income redistribution and social inclusion.

Graph 1: Trend in the National Minimum Wage, Brazil, 1940-2014 (in constant 2014 Brazilian Reais)



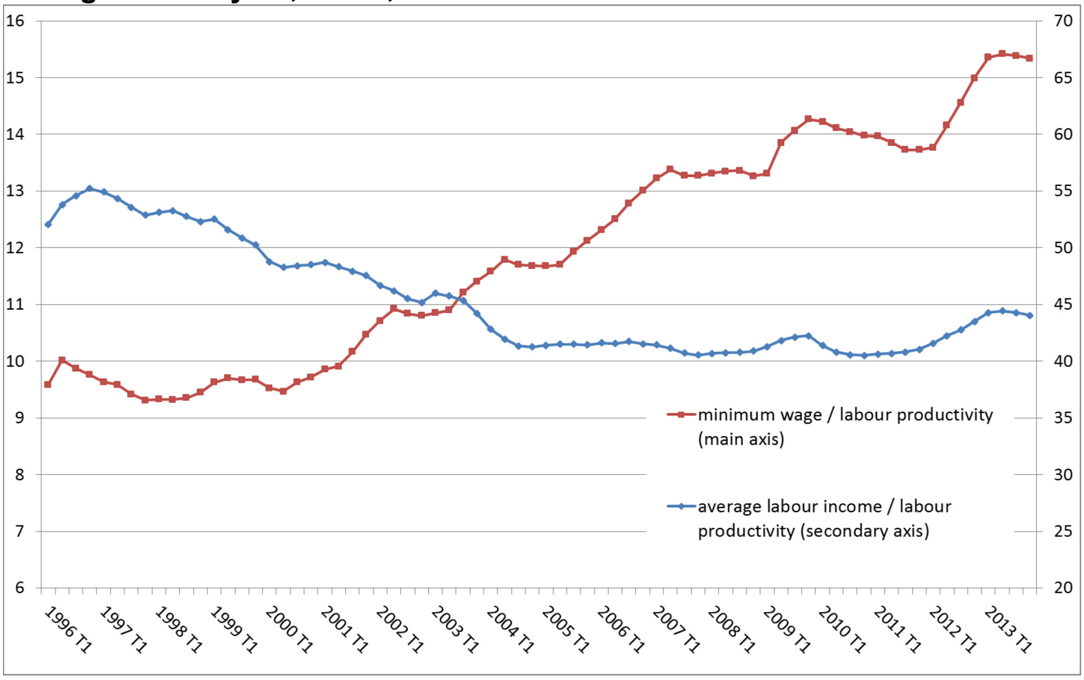
Source: IPEA

Furthermore, it is important to underscore that the real increase of the minimum wage after 1995 was greater than the increase in average income and labour productivity, especially in the 2000s (Graph 2). This led to a minimum wage whose value became closer to the average wage: the minimum wage was equivalent to 46% of the average wage in 2013, compared with

30% in 1999 (Graph 3). This measure is also known as the simplest version of the Kaitz index, which measures the gap between the minimum and the market average wage.[3]

When we break down by registered and unregistered employees, the same pattern is observed for both (graph 3). However, the much higher Kaitz index for unregistered than for registered employees, especially in rural areas, reflects the much lower wages in the informal labour market, which are therefore closer to the minimum wage. Thus, the indices are not directly comparable between groups, and what must be analyzed is their evolution within groups over time.

Graph 2: Ratio of Labour Income and Minimum Wage to Labour Productivity. Moving average for one year, Brazil, 1996 to 2013



Source: IBGE/SCN 2000 quarterly data and IBGE/PME

[3] The complete Kaitz index is the ratio of the minimum wage to the average wage multiplied by the percent of workers covered by the minimum wage.

Graph 3: Ratio of Minimum to Average Wages (simplified Kaitz index), Brazil, 1999-2013.

Source: Prepared by the authors based on PNAD microdata.

In India, different rates in different regions for different categories of workers have made the structure of the minimum wage very complex, and it is difficult to provide a simple picture over time like that for Brazil. However, as noted above a non-binding national minimum wage floor has existed since the 1990s (table 1). It can be seen that this minimum wage rose in real terms between 2002 and 2004, but otherwise has shown very little change.

Table 1: National Minimum Wage Floor, India, 1996-2013

	Minimum Wages per day (in current Rs)	*Price index for industrial workers**	*Real wage (2001 prices)*
1996	35	74	47
1998	40	89	45
2000	45	96	47
2002	50	104	48
2004	66	112	59
2007	80	133	60
2010	100	180	56
2011	115	195	59
2013	137	236	58

Source: *Report on the Working of Minimum Wages Act 1948*, various years
* Average for the financial year (e.g. figure for 1996 corresponds to April 1996 to March 1997)

There is a great diversity of minimum wages across states (table 2) – for some occupations, minimum wages are twice as high in Kerala as in Bihar – but differential levels of economic development across states do not appear to be the most important factors. The comparatively more industrialized states like Gujarat and Haryana continue to have low levels of minimum wages across sectors. For many of the states, we find that there has been some degree of convergence where the minimum wages fixed are the same across sectors, as is seen for Punjab, Delhi and to some extent in Bihar but this also gives rise to questions as to the authenticity of the data provided in the reports by the respective state governments.

State-level minimum wages are expected to be adjusted for inflation over time; however, this is not always the case. The Act specifies that wages be revised every five years; in reality, in certain sectors, these rates often remain unrevised for long periods. This has been possible because of a clause in the Act that says that if wages are not revised by states, then the existing wages should continue – the government has used this to evade responsibilities of regular revision and proper implementation. Representatives from business organizations argue that the fixation of state-level minimum wages is frequently a political issue as governments have often provided a whopping increase in minimum wages, without any definite criterion, prior to elections in order to get the support of workers and unions. Whatever the factors involved, there has in most states and sectors been a rise in the minimum wage in real terms over the 15 year period reported in table 2 (the increase in prices over this period was 2.65 times for industrial workers, while most of the increases in minimum wages fell between 3 and 4 times).

Because of the complexity of the minimum wage system, it is difficult to compute a Kaitz index like that for Brazil. However, table 3 tries to provide a similar comparison for the last two decades. The table takes the lowest and highest minimum wages in each state (from the range of state-wise wages as provided in the various Reports on the Working of the Minimum Wages Act, 1948), and gives the national average across states; and compares this with the mean observed wages for casual and regular workers as estimated in the NSSO reports. Since the national averages for minimum wages are based on the reports filed by each state, the figures are not available for same years as the NSS estimates; therefore, the nearest years have been taken into consideration. Among the various categories of workers, casual workers in rural areas receive the lowest wages and regular workers in urban areas receive the highest wages; so these categories are considered to give a range, which can be compared with the lowest and highest wages set by the minimum wage regulation.

If we first compare the lowest minimum wages with observed casual rural wages, the pattern is remarkably stable over time. In 1991-93 the lowest minimum wage was about the same as the casual rural wage. The minimum rose faster than the average until 2004-05; but then the rise in market wages accelerated, so that the average wages exceeded the prescribed minimum by 2011; but the difference was less than 10 per cent.

Comparing regular urban wages with the highest minimum wage, we see that the market wage was generally much higher than the prescribed minimum – 2.3 times in 1993, falling to 1.7 in 2004-05 before recovering to 2.0 in 2011-12. The pattern over time was similar to that for casual wages, but the implied simple Kaitz ratio was about half of that for casual wages.

Table 2: Minimum Wages in Selected Sectors and States, India, 1998-2013 (in current rupees)

	Bihar	*Gujarat*	*Haryana*	*Kerala*	*Punjab*	*Tamil Nadu*	*Uttar Pradesh*	*West Bengal*	*Delhi*
Agriculture									
1998	39	40	68	40	66	32	49	51	75
2005	66	50	96	72	94	*	58	67	122
2011	120	160	179	150	160	100	100	167	247
2013	170	120	205	150	250	100	142	173	311
Automobile									
1998	51	63	67	N.A.	63	57	75	N.A.	75
2005	68	87	91	N.A.	90	*	95	N.A.	122
2011	125	173	179	N.A.	154	183	166	N.A.	247
2013	176	213	205	N.A.	240	248	200	N.A.	311
Brick Kiln Industry									
1998	51	63	N.A.	80	63	42	52	64	75
2005	68	89	N.A.	154	90	*	67	99	122
2011	125	160	N.A.	262	154	123	166	134	247
2013	176	200	205	304	240	188	200	149	311
Construction of Buildings and Roads									
1998	51	65	67	75	63	67	71	56	75
2005	68	90	90	162	90	*	92	90	122
2011	125	176	179	308	154	194	166	195	247
2013	176	217	205	368	240	262	200	205	311
Stone Breaking and Crushing									
1998	51	63	67	65	63	N.A.	71	58	75
2005	68	87	91	162	90	N.A.	92	64	122
2011	125	173	179	308	154	N.A.	166	195	247
2013	176	213	205	368	240	N.A.	200	205	311
Oil Mills									
1998	51	66	67	113	63	41	73	75	75
2005	68	91	91	136	90	*	92	100	122
2011	125	177	179	212	154	141	166	195	247
2013	176	217	205	250	240	192	200	205	311
Public Motor Transport									
1998	51	69	67	N.A.	63	74	73	80	75
2005	68	94	91	N.A.	90	*	95	120	122
2011	125	182	179	N.A.	154	230	166	196	247
2013	176	222	205	N.A.	240	358	200	207	311

Note: N.A. denotes Non availability of data. *Tamil Nadu did not file reports in 2005
Source: from the Reports on the Working of Minimum Wages Act, 1948, across several years

Table 3: Comparison of Minimum Wages with Actual Wages, India, 1991-2011, in current rupees

National Average of state Minimum Wages			*Actual (Mean) Wages Paid*		
Year	*Lowest*	*Highest*	*Year*	*Casual Rural Wages*	*Regular Urban Wages*
1991	21	33	**1993**	21	76
1999	44	75	**1999-00**	40	165
2004	69	112	**2004-05**	49	194
2011	129	221	**2011-12**	139	450

Source: Minimum Wages are obtained from various reports on the Working of the Minimum Wages Act, MoL&E, Government of India; the actual wages are obtained from various NSSO Employment and Unemployment Reports.

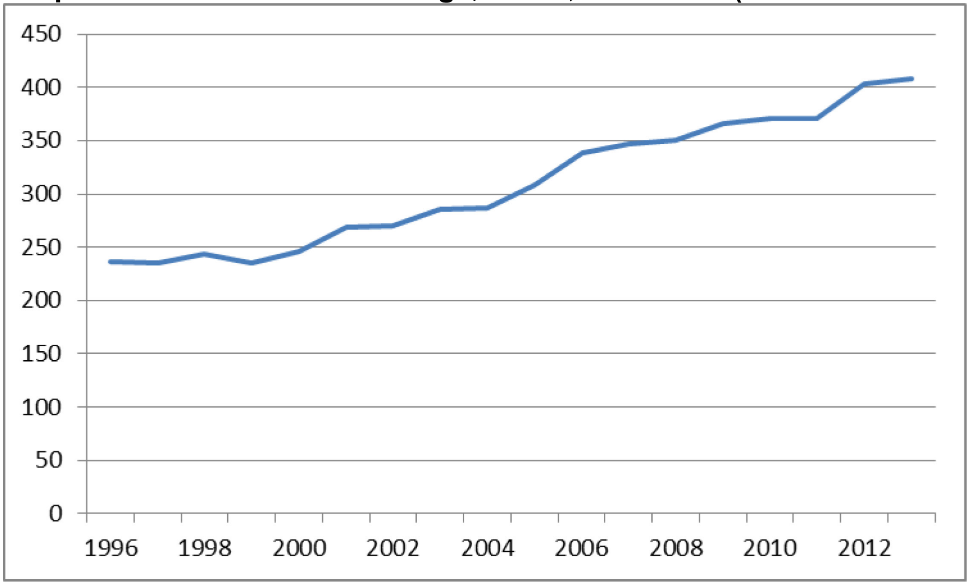
Interestingly, the simple Kaitz ratios for both rural casual and urban regular workers in India in 2011-12 – 0.93 for the former and 0.49 for the latter – were quite close to those for rural unregistered and urban registered workers in Brazil in 2013 (1.08 and 0.43). But this trend was different in the two countries, for the ratio had been rising sharply in Brazil while it was broadly constant in India.

Figures in table 3 are given in current prices. In constant prices, between 2004-05 and 2011-12, the average wage rose by 64% for rural casual workers and 34% for urban regular workers, but the minimum rose by only 8% for the lowest minimum wages and by 14% for the highest. This small increase in minimum wages at a time of rapid GDP growth is surprising, and suggests that minimum wages have played little role in the overall increase of wages in the last decade; this is completely opposite to the situation in Brazil. The complexity of the minimum wage system in India, with its multiple rates of minimum wages, is one of the reasons, but the failure to increase minimum wages after 2004 was mainly a political decision.

Finally, for the comparison of the minimum wage levels between Brazil and India, graphs 4 and 5 show their values in PPP dollars (2011 dollars). In Brazil the minimum wage rose from PPP$ 236 in 1996 to PPP$ 408 in 2013, an increase of 73%, which is significantly lower than the growth of 113% of the real minimum wage in local currency. In India, the national minimum wage in 2011 PPP$ also rose from 1996 to 2013, rather less sharply, though a little more than in real rupee terms.

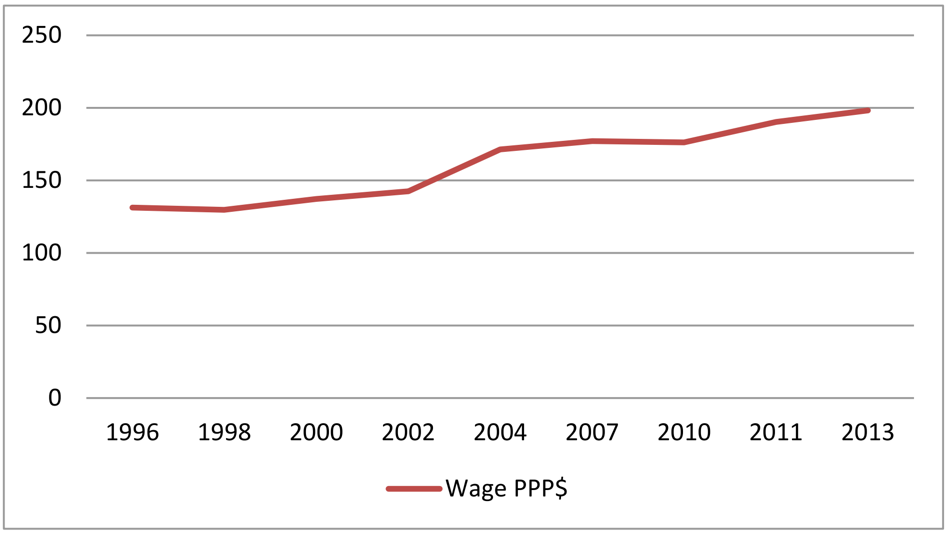
In India, the minimum wage is set at a daily rate. For comparison with Brazil, we convert this to a monthly rate on the assumption of 25 days work per month (but also see the annex, which discusses assumptions about weekly working days). On this basis the minimum wage in 2013, at just under PPP$200, can be compared with the minimum wage in Brazil in the same year of just over PPP$400, and the ratio of the minimum wage in PPP dollars between these countries has increased since the mid-1990s, from about 1.8 to over 2.

Graph 4: National Minimum Wage, Brazil, 1996-2013 (in 2011 PPP US$ per month)



Source: IPEA and World Bank for PPP$ series.

Graph 5: National Minimum Wage, India, 1996-2013, in 2011 PPP US$ (equivalent monthly wage)



Source: Table 1 and World Bank for PPP$ series.

3. Coverage and Compliance

3.1 Legal Coverage

In order to analyze the extent of coverage of and compliance with minimum wages, we must first identify the legal coverage of minimum wages in both countries, in accordance to the provisions of their respective minimum wage legislations. The system of minimum wages in Brazil, as mentioned earlier, is applicable to all wage workers, both formal and informal, through direct or indirect means. In contrast, minimum wages in India are applicable to workers, both formal and informal, provided the industry in which they are engaged is listed under the Schedules of the Act; hence unlike Brazil, not all workers in India are legally covered by the minimum wages.

Table 4: Proportion of Wage Workers Covered by Minimum Wage Legislation, Brazil and India, 2004-05 and 2009-10

		2004-05		*2009-10*	
		Brazil	*India*	*Brazil*	*India*
Overall		100	60.8	100	70.7
Region	*Rural*	100	43.7	100	76.1
	Urban	100	46.9	100	58
Sex	*Male*	100	59.5	100	65.3
	Female	100	63.8	100	85.6
Industry	*Agriculture*	100	80.7	100	93.4
	Mining	100	58.6	100	68.7
	Manufacturing	100	44	100	48.7
	Construction	100	15.5	100	30.5
Skill	*Low Skill Services*	100	36.3	100	66.5
	High Skill Services	100	75.8	100	68.6
Sector	*Formal*	100	57.4	100	65.7
	Informal	100	62.4	100	73.1

Source: Rani, Uma, et al (2013)

Nevertheless, the formal 100 per cent coverage in Brazil is somewhat misleading. Legally, the Minimum Wage legislation covers any wage worker; however unregistered workers (in the informal labour market) may be receiving below the minimum wage. If they appeal to the Labour Court they will receive their due relating to the minimum wage as well as all other labor rights. But in reality, the Minimum Wage legislation only covers registered employees (the formal sector) because employers cannot register an employee paid below the minimum.

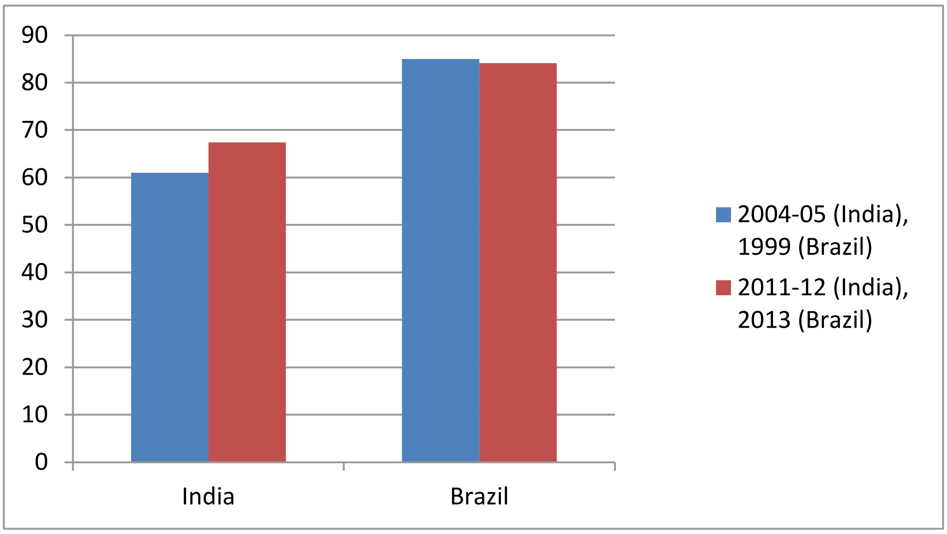
The rates of legal coverage in India differ across sectors, skill groups, region, sex, and industry. Over the years, there has been a rise in the legal coverage because both the central and state governments have made additions to the list of sectors included in the Schedules of the Act; but there still remains significant proportion of unorganized sector workers who are not eligible for coverage. For these groups, it was hoped that the minimum wage legislation would help in creating a norm for setting unorganized sector wages; but it does not appear that this occurred. On the contrary, large numbers of workers legally covered under the Act are paid sub-minimum wages which in turn puts downward pressure on unorganized sector wages.

3.2 Overall Compliance

The major problem faced by the minimum wage policy in both countries is the high incidence of non-compliance where legally covered workers are paid wages less than the minimum levels. The presence of a large informal sector with limited minimum wage coverage and limited unionization make the issue of non-compliance a bigger problem for India than for Brazil.

Rani et al (2013) have compared the rates of minimum wage coverage and compliance across various developing countries, including India and Brazil. This study provides us with the actual rates of minimum wage compliance across different indicators over a period of time. These figures can then be compared with the legal coverage of the Act (as provided in the above table) to analyse the proportion of workers who should be paid minimum wages but do not in fact receive them.

Graph 6: Actual Compliance (%) with Minimum Wages in India (2004-05 and 2011-12) and Brazil (1999 and 2013)



Source: NSS (India); table 5 below (Brazil). Based on Rani, Uma, et al (2013), "Minimum wage coverage and compliance in developing countries", *International Labour Review*, Vol. 152, No. 3-4, pp. 381-410.

Graph 6 shows the overall rate of compliance in both countries for the years 2004-05 and 2011-12 in India, and 1999 and 2013 for Brazil. While the overall rates of compliance have increased in India since 2004-05, a large proportion of workers continue to be paid sub-minimal wages. In addition, as we will see below, the improvement in compliance reflects a rapid increase in average wages but little change in minimum wages, rather than an increase in the effectiveness of the law. Brazil on the other hand, has maintained higher rates of compliance. There is only a slight fall from 1999 to 2013, despite a rapid increase in the absolute level of the minimum wage.

More precise figures for Brazil are given in table 5. In 2013, out of 91 million workers, 9.5 million earned exactly the minimum wage and 14.5 million less than the minimum. The share of workers receiving less than the minimum wage fell from 24 per cent to 16 between 1989 and 2013.[4] The table also shows an increase in the proportion receiving less than the minimum wage between 1999 and 2009, which is consistent with graph 6, but the downward trend may be a better indication of what is happening in the long term.

Table 5: Occupied Workers by Minimum Wage Class, Brazil, 1989-2013*

	Less than 1 m.w.	*1 m.w.*	*More than 1 m.w*	*Total*
Occupied population (thousands)				
1989	13,236	3,549	38,598	55,383
1999	10,610	4,180	45,734	70,787
2009	17,609	9,445	54,159	88,947
2013	14,581	9,476	61,318	91,626
Percentage distribution (excludes workers with no income)				
1989	23.9	6.4	69.7	100.0
1999	15.0	5.9	64.6	100.0
2009	19.8	10.6	60.9	100.0
2013	15.9	10.3	66.9	100.0

Notes: * In 1989 information was unavailable on employed workers with no income. Excluding rural Northern region residents, except Tocantins State.
Occupied population = total labour force occupied; total economically population occupied.
Source: Prepared by the authors based on PNAD microdata for selected years.

3.3 Compliance by Employment Status

The overall rates of compliance can be further disaggregated in order to compare compliance by employment status, region, gender and social group.

Mirroring the formalization process the Brazilian labour market underwent in the 2000s, the minimum wage became more important for non-registered workers (informal workers). While the proportion of non-registered wage workers receiving from one to two minimum wages increased between 1999 and 2013, the proportion below the floor also increased. In 2013, 35% of unregistered wage earners earned below the minimum wage, and 44% of domestic workers receive a wage below the floor (graph 7). However, the most important aspect is that wages below the minimum were practically absent (1%) among the formal workers, the group pioneering the creation of new jobs in the 2000s, confirming effective enforcement of the law.[5] On the other hand, the influence of the minimum wage in Brazil goes beyond the formal sector and serves as a reference throughout the economy, especially for wage workers without a formal job contract (unregistered wage workers). Those spillover effects to the informal or uncovered sector are the so-called “lighthouse effects” discussed in the literature.

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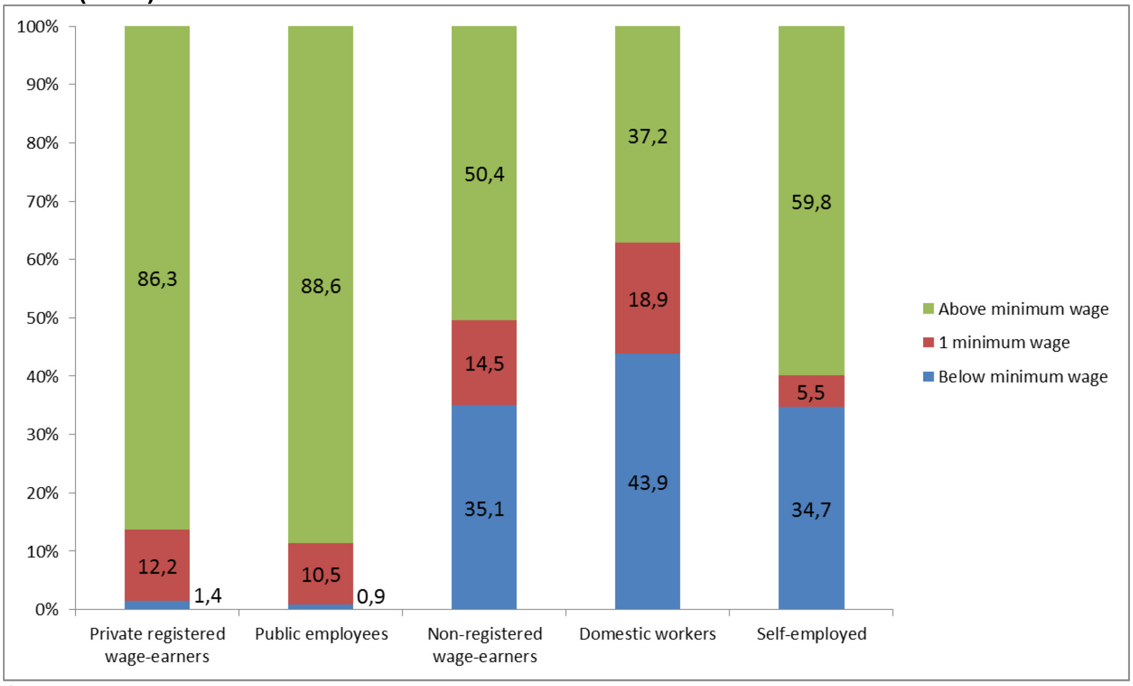
[4] The PNAD only started to collect information on employed workers with no income with the methodological changes introduced in 1992. Thus, these workers were excluded from the analysis to ensure comparability with 1989 data.

[5] There are two hypotheses to explain why there is a percentage of registered employees earning below the minimum wage. The first is that they are part-time employees, i.e. working less than 220 hours per month, the legal monthly working hours in Brazil as established by the Constitution. The second hypothesis is that these are cases of misreporting by PNAD respondents who may have declared net wage instead of gross wage, among other reasons.

Graph 7: Occupied Workers by Minimum Wage Class and Employment Status, Brazil, 2013 (in %)



Source: Prepared by the authors based on PNAD microdata.

In India, graph 8 shows that almost 48% of all casual workers and approximately 22% of all regular workers received sub-minimal wages in 2004-05. There was some improvement in the payment of minimum wages for casual workers from 2004-05 to 2011-12, which can be traced mainly to the fact (which we noted above) that average wages rose faster than the minimum wage during this period. Nevertheless, the broad patterns remained the same, and the proportion below minimum wages was almost unchanged for regular workers.

The pattern by employment status is partly, but not entirely a question of the difference between organized and unorganized sectors. It should be noted that with the expansion of contract employment, there are large numbers of informal workers within the organized sector who are engaged in low skilled, manual jobs and are vulnerable to less-than-minimum wage payments despite being a part of the organized sector. Interestingly, there seems to be a hierarchy of wages even within the organized sector, with wage differences within similar categories of workers employed in factories of different sizes. Further, within the public sector, workers engaged in certain government schemes like ASHA and Anganwadi are not recognized as workers; they are called helpers and are not eligible for minimum wages. In case of regular workers, those engaged in agriculture or working for small scale enterprises are more likely to receive sub-minimum wages while traditional service sector workers are generally paid very low wages irrespective of whether they are regular or casual workers. This greater complexity of the Indian labour market, compared with the Brazilian, is in part because of the importance of informal institutions.

Greater unionization helps production workers in securing at least basic minimum wages, as compared to non-unionized workers in tiny enterprises; if there is a union at the workplace only 20% of casual workers received less than the minimum wage in 2011-12, against 41% where there is no union. There was a similar pattern for regular workers. Thus, workers engaged in informal employment across all sectors are most likely to be receiving sub-minimal wages. Despite the theoretical coverage provided by the Minimum Wage Act, there are no effective mechanisms for fixing wages for the unorganized sector. Employers in the unorganized sector often use minimum wages as the upper limit for setting wages and as a result, wages of informal workers are often less than the minimum wage stipulations.

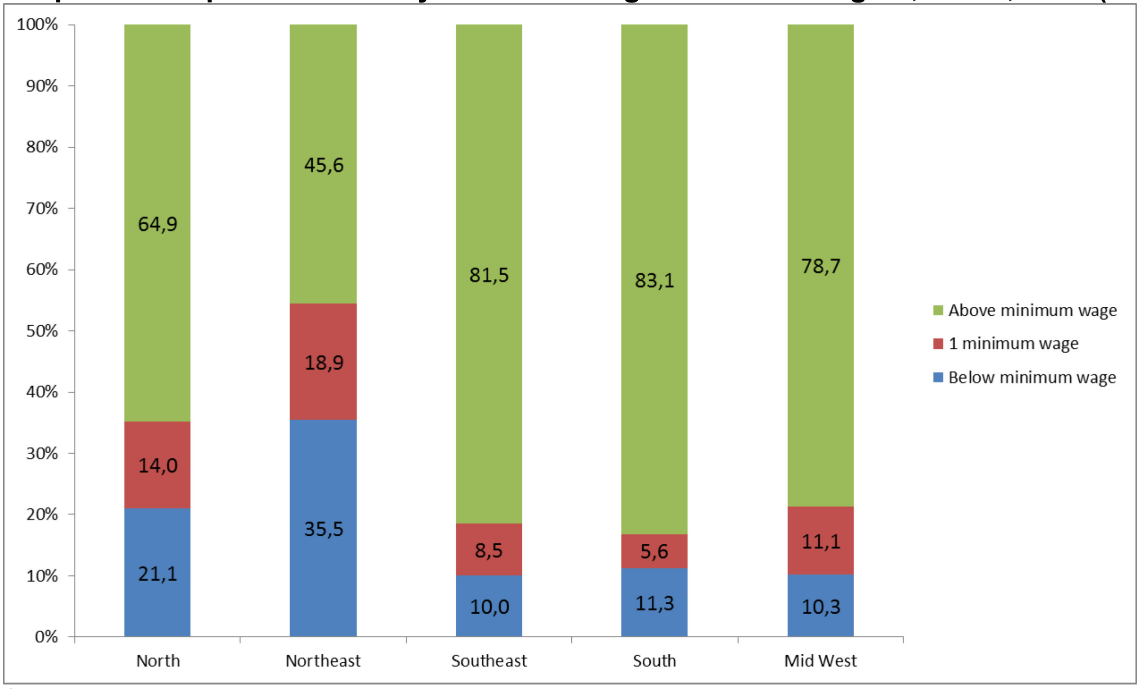
Graph 8: Percent of Workers Receiving Wages below State Level Minimum Wages. India, 2004-05 and 2011-12, by employment status

Source: Calculated from NSSO unit level data of 2004-05 and 2011-12

3.4 Other Dimensions of Minimum Wage Compliance: Region, Gender and Social Group

Unlike in India, in Brazil the minimum wage is set for the whole nation, but enforcement in each region depends on the dynamism of its economic activity, labour market organization and the active role of trade unions. In the poorest region in Brazil, the Northeast, some 36% of workers earn below the minimum wage, while in the wealthier Southeast, South, and Center-West regions, this figure goes down to around 10% (graph 9).

Graph 9: Occupied Workers by Minimum Wage Class and Region, Brazil, 2013 (in %)



Source: Prepared by the authors based on PNAD microdata.

The same happens in India, but in a different extent. Table 6 suggests that in poorer states like Bihar, Madhya Pradesh and Uttar Pradesh, a very high proportion of casual workers do not receive minimum wages. Even in highly industrialized states like Gujarat, Haryana and Maharashtra, a large proportion of casual workers get less than the minimum wage levels announced by the respective states. In the states in southern India, on the other hand, casual labourers are more likely to receive minimum wages. In general, the implementation is better for the rural non-farm casual labourers and worst in the farm sector.

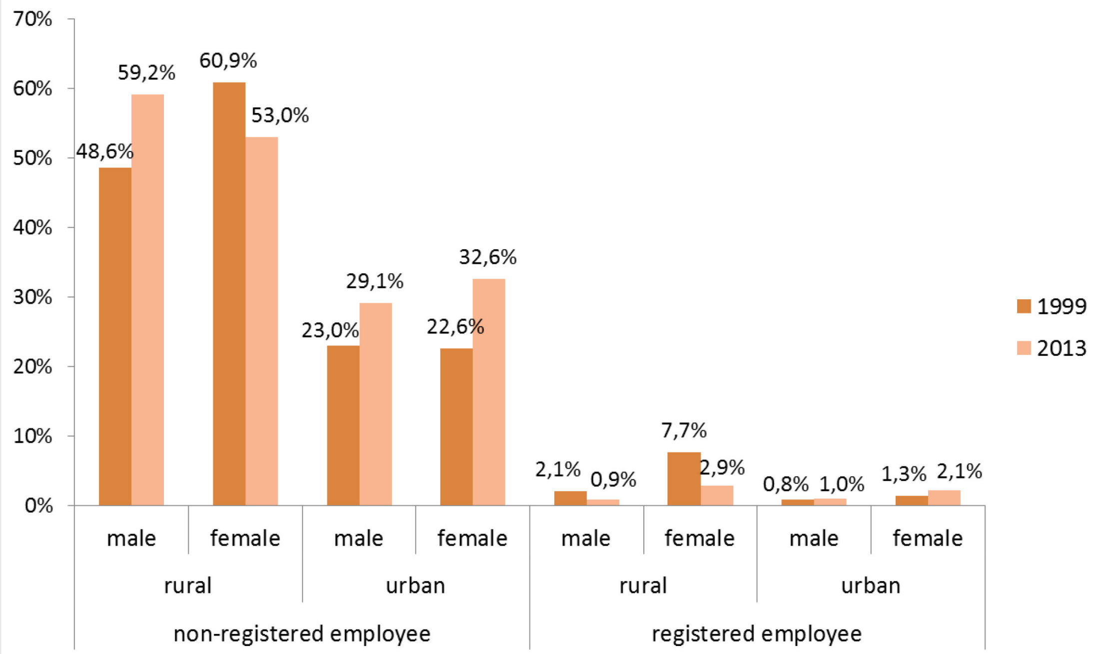
Table 6: Percentage Share of Casual Workers not getting Minimum Wages in Major States, India, 2009–10

States	*Rural*		*Urban*
	Farm	*Non-Farm*	*Non-Farm*
Andhra Pradesh	93	25	36
Assam	71	57	70
Bihar	70	57	56
Chhattisgarh	87	47	74
Gujarat	89	43	77
Haryana	57	26	62
Himachal Pradesh	23	5	28
Jammu & Kashmir	22	8	26
Jharkhand	74	35	80
Karnataka	94	27	58
Kerala	97	18	18
Madhya Pradesh	89	67	86
Maharashtra	91	48	65
Odisha	76	55	39
Punjab	44	19	47
Rajasthan	64	20	67
Tamil Nadu	99	34	39
Uttar Pradesh	66	33	23
Uttarakhand	54	11	39
West Bengal	73	61	56
India	73	37	54

Source: Labour Bureau Data, MoL&E, 2010 and NSS Employment Survey 2009-10.

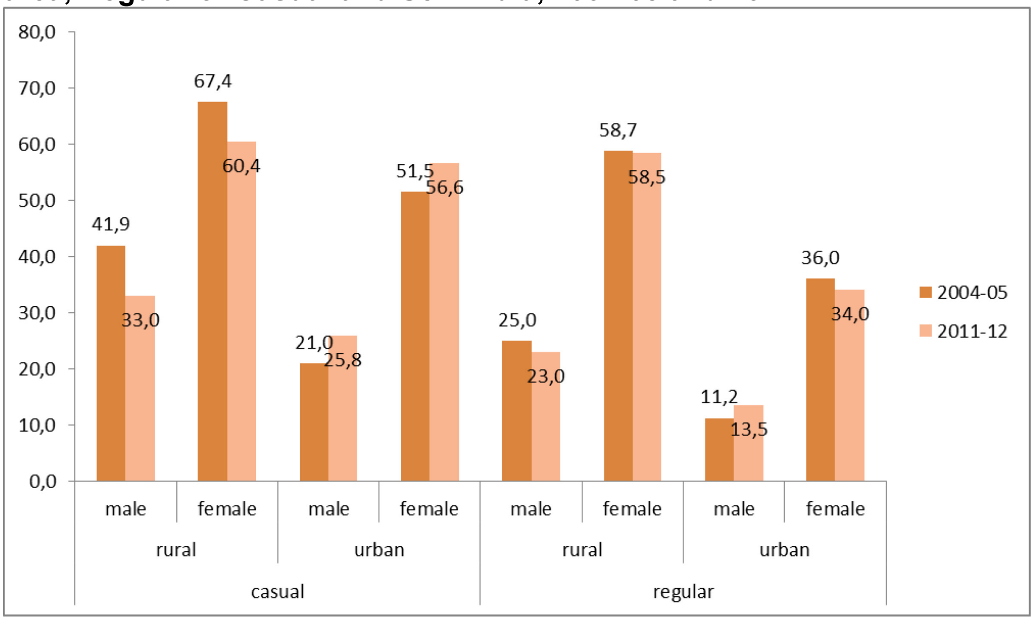
Graphs 10 and 11 give the pattern of compliance with minimum wages (percentage not receiving minimum wages) by gender, rural-urban and employment status. The minimum wage is better respected in urban areas in both Brazil and India, although for female casual workers in India there is not much difference. A high proportion of rural workers in both countries earn less than one minimum wage, both male and female, with women in rural India doing relatively worse. In general, the gender gap is larger in India than in Brazil, with much higher proportions of women than of men getting less than minimum wages, whether rural or urban, casual or regular. In Brazil, in 2013 19 per cent of women earned less than one minimum wage in urban areas, as compared to 10% of men, with the differences concentrated in unregistered work, and negligible in regular work.

Graph 10: Percentage Share of Workers not getting Minimum Wages, by Rural-Urban Area, Registered or Unregistered and Sex, Brazil, 1999 and 2013



Source: Prepared by the authors based on PNAD microdata.

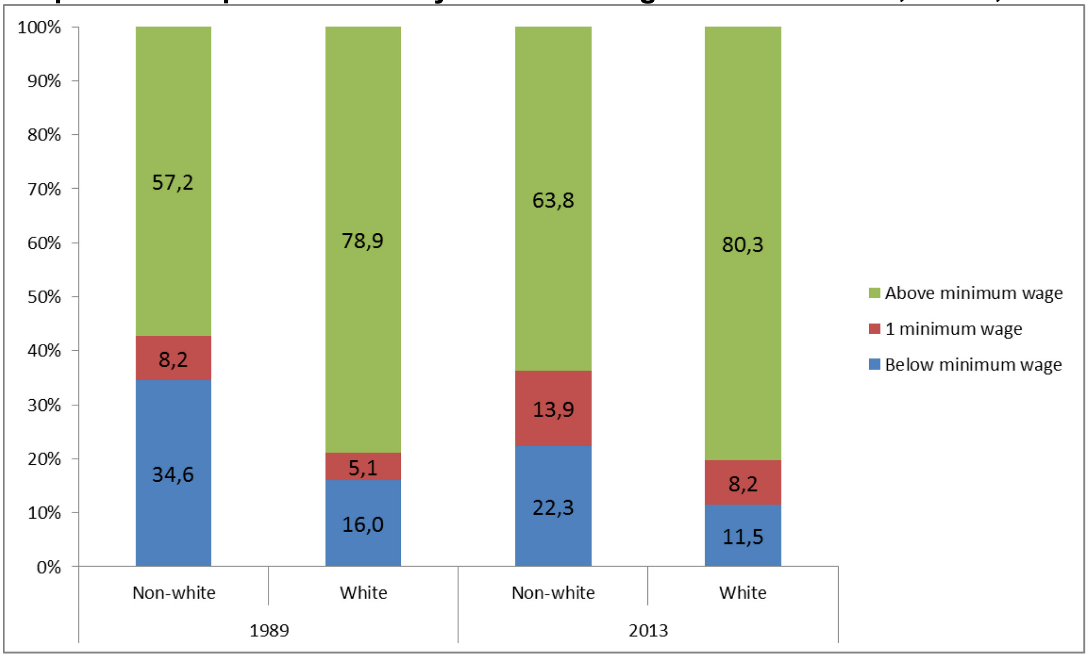
Graph 11: Percentage Share of Workers not getting Minimum Wages, by Rural-Urban area, Regular or Casual and Sex. India, 2004-05 and 2011-12



Source: NSS

On the other hand, the distribution by race (skin colour) in Brazil (graph 12) reveals not only that non-whites are the majority among workers earning less than one minimum wage, but also that the percentage of non-whites (13.9%) who earn exactly the minimum wage is also higher than that of whites. In the recent period, there was a decrease in the proportion of non-white workers below one minimum wage, although this percentage is still twice as high as that of white workers, respectively, 22.3% and 11.5% in 2013.

Graph 12: Occupied Workers by Minimum Wage Class and Race, Brazil, 1989-2013 (%)



Source: Prepared by the authors based on PNAD microdata.

In India, Table 7 shows that 30 to 40% of casual workers were paid less than the minimum wages in 2011-12 irrespective of caste or religion, except the Scheduled Tribes, who are worse off. Among regular workers, upper caste Hindus to do clearly better than other groups, less than 15% below minimum wages compared with 20 to 33% for other group, followed by other religions and Hindu OBCs; and again, Scheduled Tribes do worst, closely followed by Scheduled Castes and Muslim OBCs. Due to the policy of reservations, salaried workers belonging to the SC community may earn minimum wages because of formal sector employment in the lower cadres (grade IV) of government jobs; but the policy of reservations does not extend to the private sector, and it is clearly not enough to offset a tendency for SC workers to have a higher probability of earning less than minimum wages. There is no clear pattern of change over time, and it is interesting to note that the pattern for casual work is quite different from that for regular work.

Table 7: Percentage of Workers Receiving Wages below State Level Minimum Wages, by Social Group, India, 2004-05 and 2011-12

	Casual workers		*Regular workers*	
	2004-05	*2011-12*	*2004-05*	*2011-12*
Hindu ST	60.4	56.9	28.4	33.2
Hindu SC	47.1	36.8	30.1	29.7
Hindu OBC	45.5	38.1	25.8	22.1
Hindu upper caste	45.5	38.6	13.2	14.6
Muslim OBC	37.8	31.8	32.6	30.2
Muslim non OBC	40.9	35.2	19.6	26.5
other religion	48.7	25.9	23.5	22.2

Source: Calculated from NSSO unit level data of 2004-05 and 2011-12

Overall, it can be see that in Brazil, after rising in real terms in the past decade, the minimum wage has become the baseline remuneration for the less skilled sectors of the workforce and/or of those economic sectors with lower productivity rates. This is clear from the decreasing trend (17.1% in 2013) in the percentage of workers who earn less than one minimum wage, mostly distributed among unregistered wage workers, domestic workers and self-employed, the latter not really directly affected by the minimum wage, at least if they are not disguised wage workers. In India the data indicate that the distinction between regular and casual workers in rural and urban areas is more strongly associated with payment of minimum wages than differences across region, gender, caste or religion; nevertheless, the main difference compared to Brazil is not the coverage, but the enforcement of minimum wage.

Of course, in order to interpret these patterns one must also take into account the level of minimum wages in relation to the average wages prevailing in the market. As we saw in section 2, for casual/unregistered work, and for regular/registered work, this ratio is now broadly similar in the two countries. However, in Brazil, this is the outcome of a steady increase in minimum wages, which in turn has facilitated its role as an effective instrument of labour market policy; in sharp contrast, in India, minimum wages have fallen behind the increase in the average wages prevailing in the market.

4. What We Learn from the Experience of India and Brazil

4.1 Enforcement and Implementation of Minimum Wages

Effective implementation of the Minimum Wages Act in India is greatly dependent on the nature and extent of inspections carried out under the Act. The Act puts great importance on the process of periodic inspections by the labour inspectors, appointed by the appropriate government, but recent evidence suggests that there has been a very low level of inspection and enforcement. Further, the informal or unorganized sector, which is much bigger in India than in Brazil, largely remains outside the reach of labour inspection.

Data on the enforcement of this Act can be obtained from the *Reports on the Working of the Minimum Wages Act*, published yearly by the Indian Government, which indicates the number of inspectors assigned at the state level for each year. The average number of inspectors is reported as declining from 187 in 2003-04 to 183 in 2011-12. The Report on the Working of the Minimum Wages Act (1948) for the year 2013 states that the highest numbers of inspectors was found in the state of Tamil Nadu followed by Jharkhand. However, these figures are not useful for making a realistic accurate assessment of the level of enforcement in each state; indeed, this is a general problem with the statistics on enforcement of labour regulations in India.

Apart from inspection, the lack of awareness among workers about the provisions and entitlements listed under the Act is an additional factor that has increased their vulnerability. A recent evaluation study on the implementation of the Minimum Wages Act in the stone-breaking and stone-crushing industry in Karnataka in 2007-08 found that only 30% of employers were aware of this Act and only 27% of them paid the prescribed wages to their workers. Among the workers, only 8.4% were aware of this Act and only 18.5% knew of any inspection authority at all (GOI, 2009).

Minimum wages are expected to be a floor level below which wages should not fall; but many employers pay workers – especially casual, contract and home-based workers – wages far below the minimum wage level. For the unorganized sector, this Act is the principal labour legislation applicable; but ineffective implementation and non-compliance by employers, coupled with low unionization, have made workers in this sector more susceptible to exploitation. Not only are these workers denied minimum wages, they are also denied overtime payments, leave and other entitlements specified under the Act. The imbalance of unionization between organized and unorganized sectors, and across different types of economic activity, has no doubt accentuated the wage differentials between different categories of workers.

Brazil, on the other hand, is credited with having successfully combined a rising level of minimum wages with an increase in the level of compliance. This has been possible due to three factors that are interrelated and mutually reinforcing.

First, Brazil, unlike India, has a simple national minimum wage system that is easier to administer and monitor. We must note that the Ministry of Labour improved the control of informality in the 2000s, especially through the increasing use of virtual monitoring instruments integrated with the Ministry of Finance and the Ministry of Social Security. In addition, there have been other efforts, such as valorizing the profession of inspector, increasing wages, hiring more qualified personnel and intensifying their training in these new instruments. The National Plan to Combat Informality (Plano Nacional de Combate à Informalidade dos Trabalhadores Empregados - PNCITE) established in 2014 integrated and institutionalized all these measures.

Second, the enforcement of the minimum wage in Brazil is also favoured by the active role played by the Labour Justice system, which reviews complaints filed against noncompliance of rules set forth in the labour code, imposing fines on noncompliant employers and the payment of compensation to workers.

Third, trade unions in Brazil have become stronger over time, in sharp contrast to India where they have lost their bargaining power. In Brazil, payroll taxes finance unions, which thus have regular inflows of resources for their expansion and organization. Furthermore, there is a major political factor in the recent union performance. The Workers' Party (Partido dos Trabalhadores - PT) has been in charge of the federal government and of important states and municipalities since 2003. In parallel, union leaders have played important roles in public administration and in shaping public opinion increasing the influence of unions on decisions relating to social and labour rights.

These actions contributed to the high level of enforcement of minimum wage in the formal sector; and can inspire similar actions in other countries, including India. However, the implementation of these actions is expensive, so the political, economic and social environment cannot be disregarded.

4.2 Impacts of Minimum Wages

4.2.1 Impact on Employment

The common belief in standard neoclassical economics is that a rise in minimum wages would adversely affect the level of employment, as discussed above. However, there is by no means a consensus on this belief. A recent ILO publication (ILO, 2008) has pointed out that if set at a reasonable level, minimum wages "can increase the number of workers with access to decent wages and reduce the gender pay gap with little or no adverse impact on employment levels".

In Brazil, the impact of the minimum wage on the employment level in metropolitan areas from 2002 to 2012 was estimated using the methodology of Cebrián, Pitarch, Rodríguez, and Toharia (2010).[6] The relationship tended to be negative, findings that corroborate previous estimates by, among others, Foguel (1998); Foguel, Ramos, and Carneiro (2001); Lemos (2002; 2003; 2004); and Soares (2002).

More specifically, the estimates show that increases in the minimum wage in Brazil in the 2000s tended to negatively affect labour market entry for the more vulnerable social groups, in this case, young women aged 15 to 19 (Table 8). Women are more negatively affected by the impact of the minimum wage on employment, such that a 1 per cent increase in the Kaitz index, ceteris paribus, prompts a decrease of -0.063% in women's employment, compared with a decrease of -0.025% for men. This pattern repeats itself in every age group, but is more significant for women aged 15 to 19, for whom a 1 percentage increase in the Kaitz index causes their employment rate to fall by -0.35%; while for men the impact is only significant among adults.

The estimates for the whole sample and, particularly for the women's sample, show the situation is most pressing for young workers. This finding is not surprising because they are the age group that, in general, is the lesser skilled professionally and has the lowest credentials in face of adults. Consequently, these young workers are employed in lower skill jobs whose income is strongly associated with the minimum wage. On the other hand, the estimates for the work force as a whole are small.

It can be inferred that employers of jobs that are sensitive to minimum wage variations give preference to male adults, who, in their view, are considered more productive than women and young workers. We stress, however, that these findings do not imply that the minimum wage has led to a reduction in the level of employment in Brazil for the groups mentioned above, but just that employment growth was relatively smaller.

Table 8: Estimate of Kaitz Index Effects on Rate of Employment by Sex and Age Group, Brazil, 2002-2012

	Total			*Male*			*Female*	
	Coef.	*Sig.*		*Coef.*	*Sig.*		*Coef.*	*Sig.*
Total	-0.037	**		-0.025	*		-0.063	**
15 to 19 years	-0.224	**		-0.089			-0.355	***
20 to 24 years	-0.057			-0.019			-0.101	**
25 to 54 years	-0.033	**		-0.025	**		-0.068	**

Note: (***) significant at 1%; (**) significant at 5%; and (*) significant at 10%.
Source: Prepared by the authors based on PME microdata.

[6] The model's dependent variable is the employment rate, obtained as ratio of the number of occupied workers to the total active age population; and the impact stemming from the minimum wage rise is observed through the exogenous Kaitz index, which was adjusted for the model to consider the differing working hours/weeks of those occupied.

In India, there has been relatively little research into the possible effect of minimum wages on employment. There is a widespread assumption that the slow growth of employment in the organized sector is due to overregulation, with minimum wages one of the elements, but in reality there is not much evidence to support this. Employers often argue that a rise in the level of minimum wages would exceed their capacity to pay which will in turn force them to reduce their employment levels. In practice, however, what occurs is not a reduction in employment but an informalization or contractualization by which regulation can be bypassed. In this case minimum wages might reinforce labour market segmentation without having much impact on overall levels of employment. It is generally believed that a change in employment levels due to alterations in the minimum wages is more likely to occur in the form of adjustments in the number of work days, especially for casual workers, than in absolute levels of employment. Open unemployment is unlikely because the displaced wage workers would then shift to self-employment instead of remaining unemployed.
So there are certainly implications for employment patterns of minimum wages. But low levels of enforcement suggest that this will be at most a secondary effect. This conclusion is supported by a study of various developing countries by Rani, Belser and Rajbar (2013), which found that the impact on employment of minimum wages in India in the period 2005 to 2010 was statistically insignificant.

4.2.2 Impact on Poverty

The potential impact of minimum wages on the level of poverty is greatly dependent on how high the minimum wage is in relation to the poverty line and on the level of enforcement in each country. Nevertheless, even set at a relatively low level, and despite poor enforcement, minimum wages could play a significant role as a policy instrument to reduce poverty in India since a large share of the workforce live in poverty.

The relationship between the minimum wage and household poverty depends of course on household size and the number of workers. When the minimum wage is specified on a daily basis, it also depends on the number of days worked. An annex to this paper presents some data for 2011-12 in India, using the National Floor Wage of Rs 115 per day at that time as the reference point, and the official estimates of poverty of the Planning Commission. The conclusion is that in urban areas, the minimum wage provides an income below the poverty line whatever the assumptions about household size and days of work. In rural areas it provides an income above the poverty line only under assumptions of very high levels of employment. The best estimate, for a typical household of five persons with 1.5 wage earners, is that the minimum wage gives an income which is 15 per cent below the poverty line in rural areas, and 31 per cent below in urban areas.

In Brazil we have adopted the line of poverty set by Rocha (1997), who considers poverty as income insufficiency on the basis of information on the 'food basket' and the non-household consumption structure across regions. To illustrate, the lowest poverty line is in rural North, equivalent to 15.6% of the minimum wage in 2013 (R$ 678 or PPP US$ 302.5); while the highest poverty line is in the metropolitan area of São Paulo, equal to 58.7% of the minimum wage.

Belser and Rani (2011) in their analysis of 2004-05 NSS data have shown that approximately 30% of regular workers and 40% of casual workers who earn below minimum wages belong to poor families in India and that among the poor wage-earning population approximately 50% are paid wages below the minimum levels. They further find that among the regular workforce, the probability of being poor increases by between 9 and 10 percentage points, compared to otherwise similar workers, if wages are below minimum wage levels. This reflects the results of a multivariate analysis holding constant sex, caste, education, industry, occupation and enterprise size. Similarly, for casual workers, not receiving minimum wages raises the probability of being poor by 7 to 8 percentage points. Therefore, if workers are paid minimum wages, the probability of being poor is substantially reduced. They however add that if the number of working days were reduced, as a result of the enforcement of minimum wages, then the beneficial effects of minimum wages on poverty would also be reduced.

These results probably understate the contribution of minimum wages to the reduction of poverty, because some of the other factors in the equation, such as caste and industry, are themselves significantly related to the likelihood that minimum wages would be paid. However, as in the case of inequality (which we discuss in the next section), it is likely that these effects will have been smaller in 2011-12 than in 2004-05.

In Brazil, the impact of minimum wage on poverty using Belser and Rani's (2011) methodology shows that individuals earning lower than minimum wage labour income have a 15.6% probability of belonging to households below the poverty line, while this probability is only 2.1% for workers who earn at least one minimum wage. Therefore, workers who earned income that is equal to or higher than the minimum wage, *ceteris paribus*, would have a reduction of 13.4 percentage points in the probability of being poor.

In recent years in Brazil, particularly since the mid-2000s, the increase in formal employment and in the real value of the minimum wage at rates higher than average income has changed the relative importance of the minimum wage. The minimum wage was equivalent to 23% of the average income in 1995, while this percentage increased to 43.7% in 2013.[7] This relationship is even more significant if we consider the 20% poorest of the population, for which the minimum wage was 86.6% higher than the average income of this group in 1995, and the differential increased to 127.4% in 2013.[8]

4.2.3 Impact on Inequality

We have a particular interest in this paper in the possible impact of minimum wages on overall labour market inequalities. Belser and Rani (2011) have demonstrated the possible impact of minimum wages (if fully enforced) on wage inequality in India when adjusted to the national floor-level or to the state level minimum wages (table 9).

[7] Different from the Kaitz index (graph 3), because we consider all types of income (rents, pensions, cash transfers, etc.) and not just wages.
[8] These estimates do not consider the population with zero income, so we can expect that the real numbers are slightly lower.

Table 9: Wage Inequality (Gini coefficients) in India by Sector, 2004-05, with and without Minimum Wages

Sector	*Actual Wage*	*Adjusting for National Minimum Wage Floor*	*Adjusting for State-level Minimum Wages*
Rural	0.482	0.357	0.357
Urban	0.486	0.432	0.413
Total	0.499	0.410	0.398

Source: Belser and Rani (2011)

The table shows that if the national minimum wage floor (as prevalent at the time of the study in 2004-05) had been fully enforced, without any fall in employment, then the Gini index of wage inequality would have fallen from 0.499 (observed inequality at existing wage) to 0.410. Further, if the state level minimum wages had been enforced, without any reduction in employment, then the Gini coefficient of wage inequality would have fallen to 0.398. The decline is steeper for rural areas, which reflects the fact that a larger proportion of workers in rural areas earn below minimum wages. The effect would be greatest in agriculture and low-productivity service sectors, followed by the manufacturing sector. Thus, full enforcement of minimum wages would help in reducing inequalities across and within sectors.

Extending this analysis to the most recent data, for 2011-12, it is interesting to note that the potential contribution of the minimum wage to reduction of inequality has declined between 2004-05 and 2011-12 (table 10). At this latter date, the reduction of the overall Gini coefficient is only from 0.47 to 0.44. In urban areas, the decline is even smaller, from 0.50 to 0.48. The reason for this reduction in the potential contribution of minimum wages to inequality lies in the changing level of average wages in relation to the minimum. Between 2004-05 and 2011-12, average real wages rose by 64% for rural casual workers and 34% for urban regular workers, but the range of minimum wages rose by only 12% for minimum values of wages and fell by 11% for the maximum values of minimum wages. Therefore, as we have discussed above, and completely opposite to the situation in Brazil, the role of minimum wages in the labour market has been declining.

Table 10 shows that a substantial increase in the minimum wage would be required to obtain the same impact on inequality as in 2004-05. If we assume that the minimum wages were to be raised, as is being demanded by the trade unions in India, by say 25%, 50%, or were to be doubled, then the Gini coefficient of wage inequality would decline from 0.47 for all workers to 0.41, 0.37 and 0.32 respectively, on the assumption of full implementation. This potential to decrease inequality is found for all categories of workers, but it is larger in rural than in urban areas, and rather small for urban regular workers.

Table 10: Change in Wage Inequality (Gini) with Changes in Minimum Wage Levels (if fully enforced) in India, 2011-12

Category	*Actual Wages*	*Wages Replaced with MW if below MW*	*Wages Replaced with 1.25*MW*	*Wages Replaced with 1.50*MW*	*Wages Replaced with 2*MW*
	Gini coefficient of wages				
All	0.47	0.44	0.41	0.37	0.32
Rural	0.37	0.32	0.28	0.25	0.20
Urban	0.50	0.48	0.46	0.44	0.40
Rural regular workers	0.47	0.43	0.41	0.38	0.33
Rural casual workers	0.25	0.19	0.16	0.13	0.11
Urban regular workers	0.49	0.47	0.46	0.44	0.41
Urban casual workers	0.29	0.24	0.21	0.18	0.14

Source: Computed from NSS Rounds

These results would be modified if higher minimum wages had a significant effect on employment. Belser and Rani (2011) have assumed two alternative possibilities – an employment elasticity of -0.20 and of -0.50 – of impact on employment levels. With these assumptions, the study compares estimates of the Gini index of wage inequality in the two scenarios if the coverage is extended to those receiving wages below minimum wages. Results are given in table 11.

Table 11: Impact of Minimum Wages on Inequality with Employment Effects, by Sector, India, 2004-05

Sector	*Actual Wage*	*Adjusting for National Minimum Wage Floor*	*Elasticity of -0.2*	*Elasticity of -0.5*
Rural	0.482	0.357	0.378	0.410
Urban	0.486	0.432	0.443	0.459
All	0.499	0.410	0.426	0.450

Source: Belser and Rani (2011), computed from NSSO rounds, 2004-05

Their study reveals that in the presence of adverse employment effects, the ability of the minimum wages to compress the wage distribution is reduced. However, despite these adverse effects, the level of inequality (if minimum wage were fully enforced) remains lower, especially for rural areas, than the existing level of wage inequality in the labour market. It should be noted that an elasticity of -0.5 is very high, much higher than any plausible estimates. So this calculation implies that a minimum wage will continue to reduce inequality event under extreme assumptions about employment effects.

We replicate this calculation for Brazil in 2013 using Belser and Rani's (2011) method (table 12). The Gini coefficient for the wage distribution in Brazil is 0.40 and, if all salaried workers who earn less than the minimum wage immediately start earning exactly that amount, the Gini would fall to 0.37. Moreover, the impact is significantly higher among those wage earners who generally earn below this level, that is, rural workers and non-registered workers. On the other hand, the small variation of the Gini coefficient for registered wage earners does not lead to the conclusion that the minimum wage has a negligible effect on wage inequality in the formal labour market but, rather, that there is actually a relatively small proportion of this category of workers who earn less than the minimum wage. As a result, in this case, the simulated Gini remains almost unchanged.

Table 12: Simulation of the Effects of the Minimum Wage on the Gini Coefficient for Wages by Area and Employment Status, Brazil, 2013

	Actual income	*Adjusting for minimum wage*	*Employment Elasticity of -0.2*	*Employment Elasticity of -0.5*
Brazil	0.40	0.37	0.39	0.40
Rural	0.34	0.22	0.26	0.33
Urban	0.40	0.38	0.39	0.40
Registered wage earner	0.37	0.37	0.37	0.37
Non-registered wage earner	0.45	0.34	0.38	0.45

Source: Prepared by the authors based on 2013 PNAD microdata.

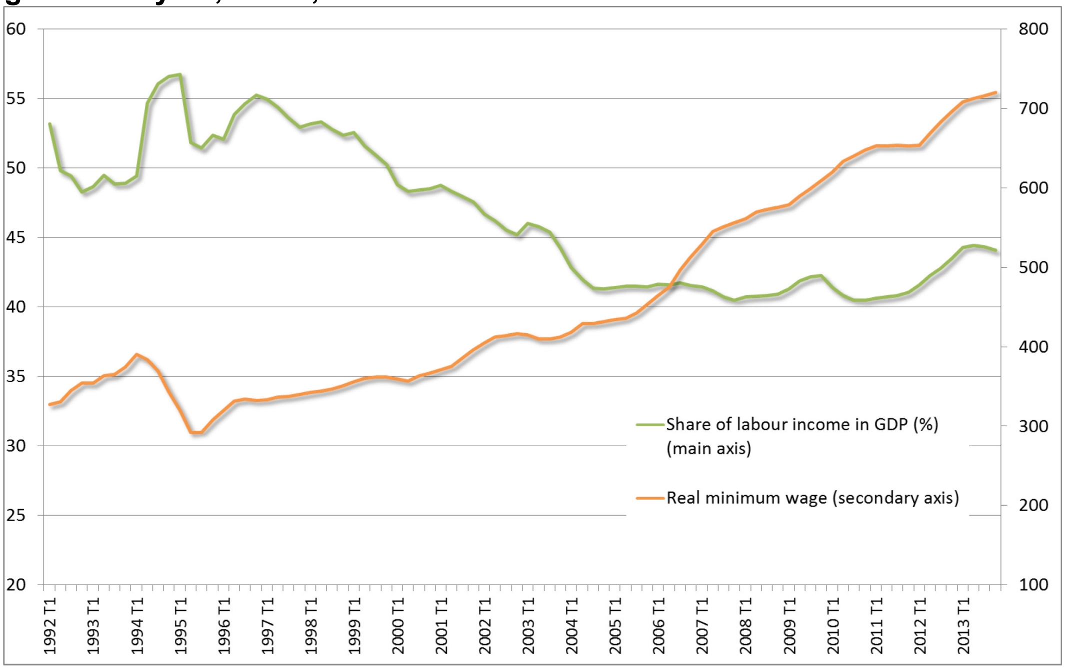
As in the case of India, calculations have also been replicated to allow for employment effects. In the case of a -0.2 employment elasticity with respect to wages, we notice a smaller reduction in the Gini coefficient in comparison with the simulation that disregards the effect on employment, although with still a significant impact for rural and non-registered workers. With the elasticity of -0.5 the income distribution effects basically disappear. However, as noted above, this is not a plausible assumption for the elasticity. Indeed, in recent years the relationship between the minimum wage and employment creation has been positive. So in the case of Brazil as well, we find that the minimum wage can make a significant contribution to reducing labour market inequality.

Lemos (2007) found that minimum wages strongly compressed wage distributions in both formal and informal sectors. The compression effect was more at the bottom of the wage distribution in the formal sector, while it was toward the centre of the informal sector distribution. Consequently, minimum wages did not really benefit the lowest paid workers in the informal sector. This finding probably has to do with the changing role of this segment of the Brazilian labour market, which underwent a shrinking in relative terms. While some of these workers are still very low-paid, other have moved up in the wage scale even though not having the all labour rights secured by the Brazilian law. Thus, enforcement of minimum wages alone is not sufficient for improving the incomes of the worse-off.

By comparing the two countries countries, it is worth acknowledging that an active minimum wage policy – even with an employment elasticity of -0.2 – has the potential to bring more results in India, even in the urban sector, and especially for casual workers, than in Brazil, because in the latter case the current policy has already brought down wage inequality. In rural areas, in both countries, a trend towards lower inequality can be forecast with an increase in the minimum wages. In the case of India, this would call for a reduction of the difference between rural and urban minimum wages. However, it may not suffice if enforcement is not strengthened and better productivity levels are not achieved.

Finally, we should add a positive additional point regarding the relation between the minimum wage and the total wage share in value added. The policy of minimum wage increases introduced in Brazil was important to stabilize the share of labour income as a proportion of GDP after 2005; it had been falling since the early 1990s (Graph 13). This result suggests that the decline in the concentration of labour income in the 2000s can be related to a slight recovery of the share of labour in the functional distribution. Among others, Considera and Pessoa (2013) showed two findings in this regard. The first is that the higher the proportion of labour income to total household income, the lower the Gini coefficient. The second finding is that the closer the value of the minimum wage is to the average wage paid by firms, the better is income distribution in the country. For the moment, available data do not permit a parallel estimation for India, though the decline of the labour share in India may well be connected with the rather modest rise in the minimum wage since the 1990s.

Graph 13: Share of Labour Income in GDP (%) and Real Minimum Wage. Moving average for one year, Brazil, 1992 to 2013



Source: IBGE/SCN 2000 quarterly data and IBGE/PME

5. The Implementation of a Minimum Wage Policy: Some Challenges

It is clear from the above that the minimum wage can play a redistributive role so long as it is backed by measures to ensure compliance. Without effective implementation, minimum wages will fail to act as a key labour market instrument. Non-compliance is an important problem for both countries, but is a greater problem in India than in Brazil. Thus, one of the most important recommendations for minimum wages is to ensure that there is a coherent enforcement strategy based on provision of information, effective labour inspection and sanctions in case of violations.

The complexity of the minimum wage system in India makes it difficult to implement, monitor and administer; this is one of the reasons why the Act suffers from ineffective implementation and non-compliance. The specification of multiple rates of minimum wages also makes it easier for employers to avoid compliance; indeed, the wide variety of occupational minimum wages serves little purpose. There is thus a need to simplify the system of minimum wages in order to make it easier to understand and apply. Various proposals to this effect have been made in the past, and the national floor wage was a step forward, but it is not binding. The minimum wage has not been a political priority in recent years and change has to overcome both vested interests and bureaucratic inertia. In contrast, the Brazilian case demonstrates that if there is strong political backing and union support, a minimum wage policy can be implemented and result in increases in wages while ensuring a stable rate of compliance.

Minimum wage policy can help reduce poverty and inequality by firstly ensuring that all wage workers are covered, as is the case in Brazil which provides 100% legal coverage; and secondly by ensuring that all legally covered wage workers are actually paid the minimum wages. In this regard, in India it has long been advocated to make the state-level minimum wage binding for all wage workers irrespective of whether they are included in the Schedules of the Act.

In addition, it is necessary to ensure that minimum wages are set at a level sufficient for meeting the basic living costs of workers and their families. Of course, in both countries this is a political issue as much as an economic one, reflecting electoral considerations and payoffs to particular constituencies. Real living standards rarely figure in the discussion in India except in a rhetorical sense. In Brazil, there is a continuing debate with regard to the formula of indexation used for fixing minimum wages, which may appear technical but is in reality political. Even though the formula – which pegs the minimum wage to inflation and economic growth – was recently extended until 2019, there is an increasing consensus among business elites and some government sectors that this is a burden for an economy coming to grips with the fiscal adjustment and seeking to increase competitiveness. But this is only part of the story, for the minimum wage has to balance the needs of workers with broader macro-economic context. It is critical that there be a wide political debate about minimum wage setting rules, involving a variety of social actors, which links the wage to the economic cycle, so that minimum wages rise to distribute the benefits of high growth, while maintaining living standards without aggravating unemployment in recessionary situations.

On another front, it has been widely noted that in India in particular, both employers and workers lack sufficient knowledge with regard to the existence, provisions and sanctions of the Minimum Wages Act. In this regard, the presence of strong trade unions has been instrumental in implementing minimum wage policies in Brazil; this is one of the key challenges faced by unions in India, which have witnessed a decline in their influence. There is a need for trade unions in India to build greater collective strength and to reach out to the marginalized workers who form the bulk of the Indian workforce and are commonly paid sub-minimal wages. However, the case of Brazil shows that an active minimum wage policy can also increase the wage of workers in non-unionized sectors, and may lead to new patterns of unionization.

If minimum wages are to be effective, the government has to play an active role in the labour market. The Brazilian government has made conscious efforts to promote compliance and invested in strengthening the enforcement machinery. There is no technical reason why the Indian government could not similarly – perhaps by other means - play a much more active role in promoting enforcement and ensuring adequate levels of inspection by the Labour Departments in each state.

It is also important to take advantage of complementarities between minimum wages and other policy interventions. In this regard, the adoption the MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) has had a positive impact on the implementation of minimum wages in India. The wages paid for employment under the MGNREGA, which were initially linked to the state-level minimum wages and later to the national minimum wage floor, were in principle uniform for all workers without any gender discrimination, and a variety of studies have shown that there was a fairly high degree of compliance due to factors such as transparency and social audits which were required under the Act. So an employment creation scheme, which specifically targets the lower end of the income distribution, helps to fix a reserve price for labour in the market below which wages could not be pushed down on account of excess supply, and so generates mutual reinforcement with minimum wage policy. Some scholars, such as Murgai and Ravallion (2005), argue that the government should act as an "employer of last resort" and provide employment to the excess supply of unskilled labour, through schemes such as the MGNREGA and others, in order to prevent the supply of labour at wages below the minimum levels – in other words, they would see such schemes as the means by which minimum wage policy can be made effective. But this strategy also has its own limitations, as employment programmes only specific areas and segments of the workforce receiving wages below the minimum.

Overall, then, in India the issue is how to formulate and enforce a simple, universal and active minimum wage policy in a fast growing but segmented economy, with large numbers of unprotected, informal workers; in Brazil, where this challenge has in some degree been successfully met, the issue today is sustainability: how to preserve and renew minimum wage policy in a new, much less favourable economic context, especially taking into account the weak performance in terms of rising productivity levels in the past decade, so that it can continue to help reduce inequality.

6. Summing Up

In Brazil, the minimum wage not only protects the incomes of wage workers, especially but not only formal workers, but also constitutes a reference point for official pensions and other Social Security benefits, with a direct impact on public accounts and on aggregate demand. In India minimum wages have a much more limited impact because they are not set at the national level, but regionally and locally, cover only a small section of workers and generally do not influence other payments. The majority of workers, especially casual workers, remain outside the purview of this policy. This is not just a question of wages. The majority of wage workers in India have no access to social security benefits and other protections, and minimum wages need to be seen as one element among others in the building of a fair and inclusionary institutional framework for the labour market.

In Brazil, the minimum wage has in the last 20 years acted as an instrument for labour market convergence and contributed to the reduction of wage disparities; it has also played an important role by reducing household income inequalities in the 2000s, as labour income, especially in the segments at the bottom of wage distribution – although it varies across sectors, regions and social groups – is indexed on the minimum wage. The steady rise of the minimum wage also led to a reduction of wage disparities between men and women, whites and blacks, rich and poor regions and highly and less skilled workers, as the latter tend to earn a wage close to the minimum while the former get higher wages which are not indexed in the same way.

In India, this role is limited because of the multiple rates of minimum wages that differ across different groups of workers, and across regions and different industries. The absence of any definite criterion for fixing wages and poor levels of enforcement and inspection have rendered minimum wages ineffective as an instrument for promoting equality in the labour market.

The minimum wage in Brazil has a positive impact on poverty reduction and wage equalization, in an environment of labour market growth, though it may have a small negative impact on employment of women and young people. In India, minimum wages, if enforced, would have a positive impact on poverty reduction; any impact on employment levels would probably be limited to some reduction in the number of days of work for casual workers, and increased work sharing in self-employment. However, in both countries any negative effects on employment would be more than offset by the constructive role played by the minimum wage in an overall strategy for inclusive growth.

In Brazil compliance with the minimum wage law is the responsibility of labour inspectors from the Ministry of Labour with support from trade unions. In addition, the Labour Courts punish employers who do not comply with labour laws if there is a denunciation. In India, the institutional structure is different and there are few instruments for the enforcement of a minimum wage policy. Although India too has a system for legal sanctions for non-compliance and legal provisions for making claims for non-payment of minimum wages, judicial proceedings have proven to be lengthy and only a small proportion of such cases have resulted in imposition of fines or payment of underpaid wages. The lack of political will and decline in the bargaining potential of unions make it difficult to reverse this situation.

Thus, the biggest challenge is to find the right combination of policies, which would be effective in ensuring a higher degree of compliance and greater role for minimum wages as a tool for wage redistribution in the specific national setting. However, minimum wage policies do not stand on their own. They can only be effectively applied within a broader growth regime, in which there is coherence and continuity in public policies sustained by institutions oriented to growth, distribution and social inclusion.

In this respect, one should bear in mind that the large increase of minimum wages in Brazil was brought about in a context of growing aggregate demand and high levels of job creation – complemented by the demand effect of this rise and of collective bargaining for workers getting above the minimum wage. This economic environment, in which the internal market was growing, led to a rise of consumption and investment at least up to 2010. The productivity/wage gap accumulated in the years 1990 also contributed to the effectiveness of the policy.

The crisis of the growth regime in Brazil – after 2012 – which now is assuming new contours, due to the country's economic stagnation, will show how the minimum wage policy can work in the downturn. It will probably help low skill formal workers to avoid losing purchasing power due to inflation, but will prove incapable of countering informalization and higher unemployment. If a new economic cycle comes in the near future, probably at meagre rates of growth, the maintenance of the minimum wage formula – which still can be changed depending on the political coalition - will not be sufficient to assure inequality reduction. Higher productivity levels with rising investment would be key to assure a new growth regime, and its capacity for redistribution will depend on new round for tax reforms, expansion of social policies and the building up of a more coherent employment public services.

In India too, minimum wage policy has to be integrated into a growth regime aimed at social inclusion and income distribution, which would include a wider set of social policies aimed at poverty reduction, education and health programmes and income transfers. The Indian economy has recovered from the crisis better than the Brazilian, but the future shape of growth is uncertain, after the change of government in 2014 and the hesitant recovery of the global economy. A series of labour market reforms is in preparation, but it is expected that this will aim at greater flexibility rather than greater equality. Nevertheless, the recent rise in real wages, which has been much greater than the rise in the minimum wage, has opened up an important space for establishing a universal wage floor as part of a broader social strategy, because now only a minority of workers receive wages below the current minimum. Women, and deprived social groups such as Scheduled Castes and Scheduled Tribes, are overrepresented in this minority, so an effective minimum wage policy would also contribute to goals of gender equality and social inclusion. But for that to happen there first needs to be a debate on the appropriate level of the minimum wage, on how it can be internalized by all social actors, and – as in Brazil – on the design of complementary measures to raise productivity levels, especially in the unorganized sector. Policy discussions in India have focused on setting poverty lines; this clearly needs to be complemented by, and integrated with a debate on the functioning of labour markets and the role that a minimum wage can play in ensuring a fair distribution of the benefits from growth.

Annex: The relationship between the minimum wage and the poverty line in India in 2011-12

The national floor minimum wage in 2011-12 was set at Rs 115 per day. It has since been raised but poverty estimates are currently based on the 2011-12 National Sample Survey, so Rs 115 is the correct reference point.

In the official statistics from the National Labour Bureau the monthly minimum wage is treated as equivalent to 26 times the daily wage, so a daily wage of Rs. 115 would amount to Rs. 2,990 per month.

How realistic is that as an employment level for daily paid casual workers? The National Sample Survey for 2011-12 gives an average of 5.41 days worked per week for casual workers in rural areas, and 5.71 in urban areas. Taken over the year as a whole, this is a little over 23 days a week in rural areas, and a little under 25 in urban. However, in 2004-05 employment levels were much lower – 19.5 days per month in rural areas and 22.7 in urban. All of these figures are lower than the official 26 days per month.

Since the minimum wage is a floor, we should connect it to a floor for employment. In view of the above figures, we could make the case that casual workers should reasonably hope to obtain an average of 20 days work per month over the year as a whole. Casual workers are in theory entitled to one day's payment without work per week, but in reality they are not normally remunerated for days they do not work. An allowance should also be made for festivals, periods of sickness (also unremunerated), gaps between jobs, travel for migrant workers, etc. So we can consider 240 days work per year as a reasonable measure of full employment. Taking this all into account, the implied monthly minimum wage amounts to Rs. 2,300.

For 2011-12, the national poverty line using the Tendulkar methodology is estimated at Rs. 816 per capita per month in rural areas and Rs. 1,000 per capita per month in urban areas.

How should we relate the individual's wage to household income or expenditure? The 1957 Indian Labour Conference, which established a framework for the setting of minimum wages, considered that "the standard working class family should be taken to comprise three consumption units for one earner, the earnings of women, children and adolescents being disregarded".

If we consider the consumption units to refer to the number of household members, then the equivalent Tendulkar poverty line for a three person household is Rs. 2,448 per month in rural areas or Rs. 3,000 in urban areas.

However, the term "consumption units" suggests that children were being counted as less, probably 0.5 adults. It is likely that three consumption units then corresponds to two adults and two children. In this case, the Tendulkar poverty line is Rs. 3,264 in rural areas and Rs. 4,000 in urban areas.

Finally, we should adjust for the gender bias in the ILC estimate. We could consider a five member household, with one full time male earner and one half-time female earner. The NSS for 2011-12 gives a slightly smaller household size (4.5 average) but the five member household size was used by the Planning Commission in their poverty estimates. As for the number of workers, the NSS gives an average of 1.68 workers (including primary and secondary workers) for the 4.5 member household. This ratio would imply 1.87 workers in a 5 member household, which can be compared with our assumption of two workers, but only one working full time. We are in the right ball park, though clearly these estimates could be refined.

For a five member household the Tendulkar poverty line is Rs. 4080 in rural areas and Rs. 5,000 in urban areas.

These different assumptions give the following table:

Household type	*Poverty line (Rs. per month)*	*Monthly earnings (Rs.) at minimum wage (26 days)*	*Monthly earnings (Rs.) at minimum wage (20 days)*
Rural			
3 persons, one earner	2448	2990	2300
4 persons (= 3 consumption units), one earner	3264	2990	2300
5 persons, 1.5 earners	4080	4485	3450
Urban			
3 persons, one earner	3000	2990	2300
4 persons (= 3 consumption units), one earner	4000	2990	2300
5 persons, 1.5 earners	5000	4485	3450

It can be seen that in only two rural cases (26 days work and a 3-person household for one worker; and 26 days work for 1.5 workers in a 5-person household) does the minimum wage give a household income above the poverty line. In urban areas all are below the poverty line. And all cases using a more realistic level of 20 days work per month, on average, are below the poverty line.

Obviously there will be a great deal of variation in dependency ratios and days of work from one household to another. We consider that the 5 person household with 1.5 workers and an average of 20 days work per month is fairly typical. In this case the minimum wage gives an income which is 15 per cent below the poverty line in rural areas, and 31 per cent below in urban areas.

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