

## 5. Minimum wages and inequality

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### 5.1 INTRODUCTION

Throughout the world, millions of workers earn the minimum wage, making it a potentially powerful tool to reduce or contain inequality in the lower half of the wage distribution and to reduce gender pay gaps, as women tend to be over-represented among low-paid workers. The recent theoretical and empirical studies reviewed in our chapter support the idea that carefully designed minimum wage policies can reduce low pay, inequality, and the gender pay gap at little or no adverse cost to employment. While the earlier consensus held that minimum wages always involved trade-offs with employment levels, the new conventional wisdom is that employment effects are unpredictable, often small, and depend on a large number of country-specific factors. In general, the now prevailing view is that statutory minimum wages affect wage distribution but have ‘at best second-order impacts on labour reallocation’ (OECD, 2010, p. 197).

To fully exploit the potential of minimum wages requires careful policy design. One aspect concerns the extent of legal coverage. Although minimum wages are nearly universal, in many instances coverage is too weak and excludes those most in need of social protection, such as domestic workers or homeworkers, or those at the bottom of the subcontracting chain. A second aspect is the level at which minimum wages are set. To be effective, minimum wages must be set at a level that guarantees a minimum living wage to all employed and in need of protection, without jeopardizing employment. Although these objectives are not necessarily contradictory (as our chapter shows), it is clear that when minimum wages are set too low, as is the case in many countries, they fail to provide workers and their families with a decent standard of living. On the contrary, when they are set too high, employment trade-offs become inevitable. A third aspect is compliance. When labour inspection services are too weak and when there are no public employment guarantee programmes to compete for the workers of underpaying employers, non-compliance rates can be so high as to severely reduce the ability of minimum wages to reduce inequality.

In the next section, we provide a brief account of the history of minimum wages, which involves a movement from industry-specific systems with partial coverage towards national minimum wage systems. Section 5.3 discusses minimum wages from a theoretical perspective. Section 5.4 provides empirical evidence on minimum wages and employment, poverty and inequality and section 5.5 concludes.

## 5.2 WHAT ARE MINIMUM WAGES? AN ILO PERSPECTIVE

Although there are several International Labour Organization (ILO) legal instruments on minimum wages, none provide a definition of what a minimum wage is. The ILO's Committee of Experts, however, has defined the minimum wage as 'the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract' (ILO, 2014, p.33). Earlier, the ILO's Committee of Experts had also defined the minimum wage as 'the wage which in each country has the force of law and which is enforceable under threat of penal or other appropriate sanctions' (ILO, 1967, p. 10). Relevant ILO instruments recognize that minimum wages can be set either by statute, decision of a competent authority, decisions of wage boards or councils, labour courts or tribunals, or by giving the force of law to provisions of collective agreements.<sup>1</sup> Hence, minimum wages fixed by collective agreements made binding by public authorities are included in the ILO definition of minimum wages.

By this relatively broad definition, we estimate that close to 90 per cent of ILO member States (164 out of 185 according to our count) have a system of minimum wages in place. This includes 159 countries with a statutory minimum wage that applies to the private sector, as well as five countries, including Nordic countries and Italy, that have minimum wages based on extensions of collective agreements. Hence, minimum wages are today a nearly universal policy instrument. For policy-makers in most countries the question is not so much whether to have it or not, but rather how to operate the system in order to maximize its potential benefits and minimize its potential costs.

Historically, minimum wages developed in New Zealand and Australia at the very end of the 19th century, and were adopted in the UK in 1909, where they initially covered only four industries. When, following a proposal of the British government in the 1920s, the ILO adopted for the first time the Minimum Wage-Fixing Machinery Convention, 1928 (No. 26), it

reflected the fact that minimum wages existed in only a limited number of countries and covered few categories of workers. The convention encouraged countries to protect the pay of workers, but only in sectors and occupations with exceptionally low pay and where collective bargaining did not exist. In effect, ILO Convention No. 26 was limited to manufacture and commerce and excluded agriculture, which represented a significant share of the labour force at that time. The convention was ratified by numerous countries and with 108 ratifications it is still amongst the most widely ratified in the ILO; it is recognized as having played a substantial role in the spread of minimum wages in the 20th century.<sup>2</sup>

After World War II the idea of a *national* minimum wage took hold. In France, for example, the national minimum wage was introduced in 1950 – a period of great precariousness and rising prices that followed the unpopular ‘wage controls’ of World War II. Coverage also expanded progressively in the United States under the Fair Labor Standards Act of 1938, which increased coverage from about 20 per cent of the country’s workforce to nearly 80 per cent in 1970 (Neumark and Wascher, 2008). In light of this evolution, it became clear that the scope of ILO Convention No. 26 was too limited, and the ILO successively adopted in 1951 the Minimum Wage-Fixing Machinery (Agriculture) Convention, No. 99, which complements Convention No. 26 to cover agriculture, and the Minimum Wage-Fixing Convention, 1970 (No. 131), which promotes national coverage.

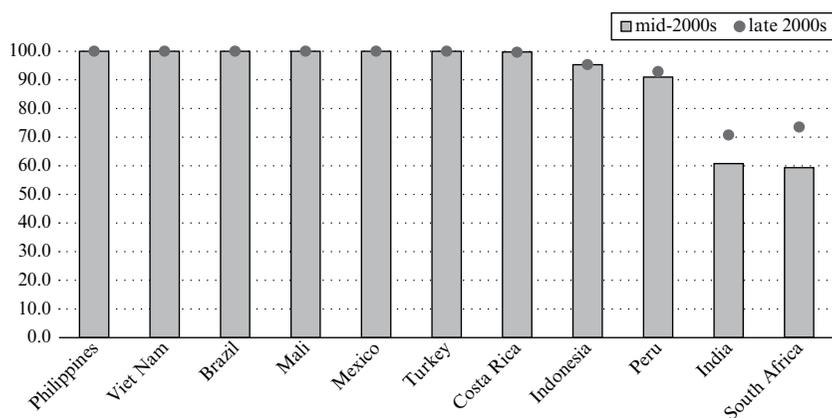
While ratification was rapid in the first ten years and minimum wages were generally regarded favourably until the 1970s, the context changed after the oil shock in 1973, the debt crisis in developing countries in the 1980s and the implementation of structural adjustment policies in the 1980s and 1990s. The ‘Washington Consensus’ called for ‘flexible’ labour markets and was followed by calls for the elimination of all labour market ‘distortions’. In the UK, the Wage Councils were progressively abolished over a period running from the 1980s up until 1993.

However, over the last decade and a half, minimum wages have staged a strong comeback. In light of increasing child poverty, the UK introduced a new minimum wage with national coverage in 1999, which has been identified in a survey of UK academics<sup>3</sup> as the most successful government policy of the past 30 years. Experiences of proactive minimum wage policies in middle-income countries such as Brazil, China and South Africa have also contributed to reviving the interest in minimum wages as a tool for social protection.

In spite of the global financial and economic crisis that started in 2008–09, or perhaps better said *because* of the crisis, many advanced countries have continued to make upward adjustments in their minimum wages,

at least to compensate for increases in the cost of living. Among the emerging economies, both Brazil and China have continued with their strategies of reducing inequality and increasing the purchasing power of low-paid workers through minimum wages, although China temporarily froze its rates in 2009. In Brazil, between 1996 and 2009, the minimum wage increased by 83 per cent in real (inflation-adjusted) terms. At the same time, austerity policies have led to severe cuts in minimum wages in Greece, where the level has been cut by more than 20 per cent. Overall, however, deeper trends suggest that minimum wages are not just reclaiming their role as a central institution of labour and social policies in industrialized countries, but are also increasingly seen as a modern instrument of social cohesion and aggregate demand growth in emerging parts of the world.

Yet in spite of this movement towards strengthening the minimum wage as a policy tool, the minimum wage remains low in many countries, and there remain important gaps in legal coverage.<sup>4</sup> Among developing countries, a large proportion of countries use industry-specific minima rather than national minimum wages (see the review of minimum wage systems in the ILO *Working Conditions Laws Report 2012* in ILO, 2013). As a result, legal coverage can sometimes leave out around one-third of all wage earners, with women comprising a substantial proportion of those excluded. Figure 5.1 shows, for example, that in India and South Africa, although legal coverage of the minimum wage improved, it still



Source: Authors' calculations based on legal information and data from household and labour force surveys.

Figure 5.1 Legal coverage of minimum wage legislation in selected developing economies, %

only covered about 70 per cent of workers in the late 2000s. In Peru, like in many other countries in the world, domestic workers were excluded from the minimum wage.

### 5.3 THE THEORY OF MINIMUM WAGES

#### **The Neoclassical Model**

For many years, and particularly in the second half of the 20th century, the standard neoclassical model of labour demand and labour supply came to dominate perceptions about the effects of minimum wages. In the simple version of the model with an upward-sloping labour supply curve that intersects with a downward-sloping demand curve, any attempt to raise wages through legislation leads to the conclusion that the minimum wage decreases employment (unless the higher wage costs are passed on to workers through lower non-wage benefits). The argument being that, employers have no other choice but to raise prices, thereby losing customers (the ‘scale effect’), and at the same time deciding to employ more machines and less humans (the ‘substitution effects’). In Neumark’s words ‘a minimum wage mandates a movement up the labour demand curve, towards higher wages and lower employment. This policy clearly presents a trade-off between higher wages and lower employment, unless the labour demand curve is perfectly elastic’ (2008, p. 41).

For developing countries, the theory of labour demand and minimum wages is often adjusted to make space for the ‘informal sector’ where minimum wage laws do not apply or – even if they apply in principle – they are weakly enforced. This variation leads to a multiplication of markets within the framework, from one to two. But ultimately the conclusion is only marginally different: by hurting employment in the formal sector, the minimum wage – instead of creating unemployment – redirects the excess labour supply towards the informal sector and depresses labour earnings there. Another part of excess labour supply, namely those whose ‘reservation wage’ is above the level of informal sector wages, are predicted to simply drop out of the labour force.

In a more sophisticated version of the neoclassical story, a distinction is made between skilled and unskilled labour: a higher minimum wage is then predicted to result in lower employment of unskilled labour, while the employment of skilled labour might actually increase if skills are complementary to capital equipment (the idea being that skilled workers are needed to operate machines and computers). Hence the predicted overall decline in employment will tend to be less than the decline in the

employment of the group of low-skilled workers, but employment will nevertheless fall as long as unskilled workers can be replaced by machines. Because different industries operate with different levels of labour, skill and capital intensities, the minimum wage will tend to push up total costs and prices in different ways across industries. This can lead to cross-industry effects, whereby the minimum wage can hurt employment in labour-intensive industries, and increase employment in sectors that produce goods that are substitutes.

While the neoclassical model does not predict that the minimum wage will reduce employment in all industries (Neumark and Wascher, 2008), overall it states unambiguously that minimum wages hurt employment of at least some groups of workers. By how much does it hurt employment? The answer, in this framework, depends on the ‘elasticity’ of labour demand – the percentage change in employment that follows from a 1 per cent change in wages. This elasticity varies from industry to industry, depending on: (1) the share of labour costs in total production (the higher the share of labour in production costs, the more employers will have to raise prices for consumers); (2) the extent to which consumers will reduce their demand as a result of price increases (the so-called price elasticity of the product demand); and (3) the ease by which employers can replace workers with machines (Hammermesh, 1993).

### **The Real World of Imperfect Markets**

Up to the mid-1990s, the neoclassical framework underpinned a large consensus among economists that minimum wages reduce employment. But, as pointed out by Card and Krueger (1995a) and by others since then, ‘there is one problem: the evidence is not singularly agreed that increases in the minimum wage reduce employment’ (p. 1). As our review of the evidence later in the chapter shows, some of the evidence points towards positive employment effects of minimum wages, while recent ‘meta-studies’ (statistical ‘studies of studies’) found that in advanced economies the weight of the evidence points towards no significant employment effects. Because empirical studies of minimum wages provide such a clear test of the neoclassical model, this recent evidence has contributed to undermining the general acceptance of the neoclassical framework.

Newer theoretical models have dropped some of the most unrealistic assumptions of the neoclassical model – in particular the assumption of ‘perfect competition’. This assumption is itself at the origin of another extreme and unrealistic assumption, namely that any attempt by a firm to raise its wages above the wages paid by other firms means automatic bankruptcy, and that any attempt by a firm to press down wages below

those paid by other firms means that the whole workforce immediately quits. In the real world, it is well observed that wages of apparently similar individuals differ sometimes substantially from one enterprise to the next. Such a fact is best understood in a context of ‘imperfect markets’ where firms make profits and where the labour market is replete with ‘frictions’, meaning that firms face difficulties and costs in hiring new workers.

Taking account of this reality implies that firms have some discretion in wage setting – a situation known as ‘monopsony’ power. This means that some firms will be able to attract more workers by paying higher wages, but others will be able to recruit some workers even if the pay is very low. And contrary to yet another unrealistic assumption of the neoclassical model, firms are not all disciplined by the market to pay workers the value of their marginal product. Under imperfect competition, firms can make profits by paying workers less than the value of marginal product. In such circumstances, minimum wages can have complex effects and firms have various possible channels to adjust to small increases in minimum wages (Schmitt, 2013). One possibility is that minimum wages might increase employment levels, by attracting people into the labour force and by allowing firms to fill their vacancies more quickly. Other possibilities are that the higher costs of minimum wages will be compensated through reductions in economic profits, wage compression within firms, reduced turnover rates, higher motivation and labour productivity, or even measures to increase efficiency at the firm level (which is impossible in the neoclassical framework where any less than perfectly efficient firm would go bust).

The net effects of minimum wages are thus *ex ante* uncertain and unpredictable. In a world where some firms have market power and others much less, a minimum wage might induce some firms to expand employment and others to cut back on their labour force, with no foreseeable net effect on overall employment levels. The imperfect nature of markets in which at least some firms have the ability to attract workers by increasing wages without going bankrupt, and the existence of frictions in the labour markets, explain why there may be what some earlier economists had called ‘a range of indeterminacy’ within which wages can vary with little aggregate effect on employment (see Card and Krueger, 1995a).

### **A View from Macroeconomics**

The effects of minimum wages on individual firms should not be confused with their overall macroeconomic effects. It is always possible to find examples of firms that reduce employment or go bankrupt because of minimum wages. On the whole, however, such effects might be counterbalanced by

higher aggregate demand resulting from a transfer of resources to low-paid workers and more employment in other firms. Keynes (1936) long ago criticized the classical model as ‘a special case’ whose assumed characteristics ‘happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience’ (p. 3). He considered that classical explanation of what determined employment levels included too many illegitimate assumptions and argued that this had contributed to a ‘fundamental misunderstanding’ of how ‘the economy in which we live actually works’ (p. 13).

In the *General Theory*, Keynes emphasized that the total economy-wide volume of employment is, in fact, determined by the overall volume of aggregate effective demand. While Keynes agreed that there probably exists a demand schedule for labour at the industry level, which inversely relates the quantity of employment with the level of wages, he considered it fallacious to transfer this reasoning without substantial modification to the economy as a whole (p. 259). The main reason is that industry-level demand can only be constructed on some assumptions about the nature of demand and supply in other industries, and that a simple transposition implicitly assumes that the aggregate effective demand is fixed and independent from the level of wages. Although he recognized that higher wages accompanied by the same aggregate effective demand as before would decrease employment, he asked whether an increase in wages would or would not be accompanied by the same aggregate effective demand as before.

Though he did not explicitly discuss minimum wages, Keynes made clear he believed that low wages would have a negative impact on aggregate demand. He considered that low wages were likely to transfer resources from wage earners to other factors of production, thereby reducing the community’s propensity to consume, and that this fall in consumption would be unlikely to be offset by increasing investment.

In the same vein, post-Keynesian economics has continued to challenge the neoclassical model for its many unrealistic assumptions. In his short book, Lavoie (2009) makes clear that post-Keynesian economists view the neoclassical theory of firms operating under perfect competition and facing diminishing returns as a ‘pure fiction’ (p. 32) and considers that an increase in the minimum wage leads to an increase in consumption, which in turn increases the demand for labour and decreases unemployment. Similarly, Herr et al. (2009) point out that if minimum wages redistribute income from high- to low-wage earners, ‘a positive demand effect can be expected as low-income households consume more out of their income’ (p. 25).

Notwithstanding, the consensus in the 1980s was that policy-makers faced an inescapable trade-off as minimum wages would transfer overall

resources to low-paid workers, but at the cost of some jobs for the young and low-educated workers. The new consensus that has emerged is that the impact of a minimum wage on employment is unpredictable and depends on country-specific factors like the overall macroeconomic context, the characteristics of the product and labour markets into which they are inserted, the different options available to firms for adjusting other variables, and – last but not least – the level at which they are set and measures that are taken to promote their enforcement. This new consensus challenges the neoclassical framework.

## 5.4 EMPIRICS ON MINIMUM WAGES

### **Effect of Minimum Wages on Employment**

The empirical literature on minimum wages is a well-researched and controversial area especially from a policy perspective. As discussed earlier, much of the earlier empirics were grounded in neoclassical theory; as a result the empirical evidence often showed negative impacts on employment as a result of increase in minimum wages (Gramlich, 1976; Brown et al., 1982; Neumark and Wascher, 1992). Indeed, the minimum wage debates in the USA often cited the consensus view of ‘a reduction of between one to three per cent in teenage employment as a result of a 10 per cent increase in federal minimum wage’ (Brown et al., 1982, p. 508).

Research in the 1990s contested the conventional wisdom and argued that increases in minimum wages did not automatically lead to employment losses. The highly influential work by Card and Krueger (1994) on the fast food industry in the USA demonstrates that minimum wage increases employment contrary to the predictions of the perfectly competitive models. However, the most contested and controversial debate during the mid-1990s emerged in response to the study by Neumark and Wascher (1992) on the negative employment effects of the minimum wage on teenage employment in the USA. Card and Krueger (1995a) raise methodological concerns with the choice of the control variables and minimum wage measure, and the potential endogeneity of these variables. They show that when the control variable for schooling was dropped from the estimate then the parameter that is used to measure the impact of minimum wage is no longer significant. Their second concern with the measure of the minimum wage (the Kaitz index), which they argued is flawed, as adult wages were included in the denominator of the Kaitz index, which could actually be correlated with economic activity and subsequently with the teenage wage rate. Using the logarithm of minimum

wage for either state or federal level, whichever was higher, they do not find any significant negative effect on teenage employment due to increase in minimum wages. The contradictory results using different specifications and variables provoked much debate. For example, Burkhauser et al. (2000) re-examine most of the studies including Card and Krueger's and conclude that if the individual year controls are dropped from the specification then minimum wage increases lead to significant negative employment effects for teenagers.

Despite the criticism from neoclassical researchers, there has been quite a bit of support towards Card and Krueger's findings. Dube et al. (2010) in their study on low-wage sectors in the USA, find that there are strong earnings effects and no employment effects of minimum wage increases in states where minimum wages were raised compared to the bordering areas where there were no mandated minimum wages. In Europe, the UK Low Pay Commission has commissioned research since 1999 on the effect of the minimum wage in the UK labour market; studies have found little impact of the minimum wage on employment (LPC, 2009, 2012). Even the case studies of firms across low-paying sectors show that firms 'tended to change their pay structures in response to minimum changes rather than adjust employment' (LPC, 2012, p. 59). Similarly, for Australia, Lee and Suardi (2010) analyse the impact of minimum wage increases on employment using a time series approach and conclude that the seven minimum wage increases from 1997 to 2003 do not appear to have had any significant negative employment effects on teenagers. One of the plausible explanations for this could be that the increases have generally been moderate and predictable, closely tracking the general rise in price levels. Even Neumark and Wascher's (2008) extensive review of literature on minimum wage effects on employment shows mixed results.

There is also evidence from two recent meta-studies on the minimum wage suggesting that in most cases there are either only small or no negative employment effects. In the review by Doucouliagos and Stanley (2009) of 64 recent studies published between 1972 and 2007 on the impacts of minimum wages on teenage employment in the United States, the authors are able to demonstrate statistically that there was a bias in publication in the academic literature towards studies that found negative employment effects. When this bias is corrected through filtering techniques, they find little or no evidence of adverse employment effects. These results corroborate the earlier meta-analysis conducted by Card and Krueger (1995b). Another meta-analysis of 55 studies in 15 industrial countries by Boockmann (2010) finds that the employment effects of minimum wages are heterogeneous across countries and to a large extent dependent on the institutional framework of the respective country. The author tries to

capture how other regulations influence the estimated employment effects of minimum wages, and finds that benefit replacement ratio and coordinated bargaining reduce the employment effects on minimum wages, while stricter employment protection legislation appears to enhance the negative employment effect on minimum wages.

The diversity in empirical findings could be largely due to the use of different estimated parameters or methodologies, different types of data, indicators, age groups and macro indicators, which not only makes comparisons difficult, but also exacerbates the difficulty of pinpointing the net employment effects (Dolton et al., 2010). This is also very evident from Boockmann's (2010) meta-analysis where he shows that 'Both micro and panel data generate more negative (more significant) employment results than time-series data' (p. 12). Similarly, the specification of the models also predefines the negative or positive employment effects, which is very well documented by Allegretto et al. (2013) wherein two-way fixed effects models with further specifications show sizeable disemployment effects, while region-specific time effects, state-specific linear trends, lagged dependent variables and other specifications show smaller disemployment effects.<sup>5</sup>

A growing body of evidence has emerged for developing economies. At the outset it is important to specify that the labour markets in developing countries are quite distinct from the developed countries, due to the large size of the informal sector, as well as the difficulty in regulating and enforcing labour laws, including minimum wages. As in the studies of developed countries, it is also difficult to make comparisons across countries or within a country because of the different periods studied, the different data sources, different sectors, as well as different methodologies. As such, the empirical evidence on the impacts of employment remains quite inconclusive.

Bell (1997) finds that minimum wages had no impact on employment in Mexico in the 1990s, while it did have a negative effect on employment in Colombia. The contrasting results could be due to the level of minimum wages in these two countries: Mexico had a stagnant or declining real minimum wage during this period, which might not have affected employment at all, as the level of minimum wages was not sufficient even to maintain basic minimum living standards. Colombia on the other hand, had high levels of minimum wages, which may have hurt employment.

Despite regular increases in real minimum wages in Brazil, Lemos (2009) finds little evidence of adverse employment effects in both formal and informal sectors, either in the short run or in the long run for the period 1995 to 2004. Both the number of jobs and the number of hours worked in either sector remain unchanged following an increase in the

Table 5.1 *Impact of minimum wages on employment*

	Brazil	Costa Rica	India	Peru	Viet Nam
Log of minimum wages	1.720 (2.02)	1.983 (1.14)	-0.620 (0.58)	1.384* (0.64)	-0.144 (0.153)
R <sup>2</sup>	0.011	0.158	0.076	0.261	0.031
No. of observations	54	359	140	1687	125

*Note:* This is an instrument variable (IV) regression and the dependent variable is the employment rate, and only the required coefficient estimates are presented. For details on the methodology, see Appendix D of 'Chapter 3: Role of minimum wages in rebalancing the economy' in *World of Work Report 2013: Repairing the Economic and Social Fabric*, Geneva: ILO. Standard errors are in parentheses: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

*Source:* Authors' calculations based on data from household and labour force surveys.

minimum wage. It is possible that higher income from a minimum wage increase may have allowed low-wage workers to buy minimum wage products, which would attenuate the disemployment effect of minimum wages. In China, Ni et al. (2011), using data from 2000 to 2005, find that minimum wages had mixed effects on employment depending upon the region: the eastern region experienced slightly negative effects, while the western region experienced slightly positive effects. This could be due to the different levels of minimum wages, extent of enforcement and also the labour market conditions. Our own analysis for five developing countries for the period mid-2000s and late 2000s shows that the employment effects are statistically insignificant in most countries; only in Peru is there a statistically significant effect on employment, and it is positive (Table 5.1).

Other researchers have shown that the increase in the ratio of minimum to mean wages could actually be associated with a net increase in employment, attracting inactive workers into the labour market. In Indonesia, the ratio of minimum to mean wage increased during the period 1996 to 2005, but this had a positive net impact on employment. Although formal employment declined and informal employment increased, the rising wages in the formal sector were associated with higher pay in the informal sector, which attracted inactive workers into the labour market, creating more employment in the informal sector (Comola and de Mello, 2010).

There is also some evidence that minimum wage policies protect the interests of vulnerable groups or low-wage sectors without any adverse effects on employment, at least in the short run. The evidence in South Africa, for example, shows that in some of the low-wage sectors like domestic services, retail and security, there were positive employment effects after the introduction of a minimum wage, though there is also

some indication of reductions in weekly hours worked in retail and security (Bhorat et al., 2012). And, even within a specific low-wage sector like the domestic worker industry, which is largely informal, it was found that the introduction of minimum wage laws in this sector actually led to a large increase in average wages despite the absence of enforcement, with no evidence of negative employment effects (Dinkelman and Ranchhod, 2010).

### **Effect of Minimum Wages on Poverty, Income and Distribution of Wages**

From a policy perspective, the smaller the adverse employment effects, the more attractive are the distributional benefits of minimum wages. Minimum wages are a labour market instrument often introduced for equity reasons and with the clear welfare objective of improving the income distribution or reducing poverty by raising the wages of the low-paid workers above the poverty line and towards average wages. Despite this intuitive appeal, studies have questioned the ability of minimum wages to reduce poverty. There have been numerous and highly contentious debates on the ability of the minimum wage to reduce poverty in the United States (see, for example, Card and Krueger, 1995a; Neumark et al., 1998). In developing countries, the legal minimum wage is sometimes relatively high compared to average wages (Rani et al., 2013a), which could imply that minimum wages have the potential to affect a larger fraction of the population. Yet with large informal sectors and lax enforcement, it is not always the case that minimum wages will affect many in developing country labour markets.

Bird and Manning (2008) calculate that in Indonesia more than 45 per cent of low-wage workers lived in poor households (less than purchasing power parity [PPP] US\$2 per day) or ultra-poor households (less than PPP US\$1 per day). In their simulations, they find that an increase in the minimum wage would reduce the number of people living below PPP US\$2 by 2.7 million out of a total of 90.4 million poor people. The authors, however, assume that the net gains in poverty reduction would be reduced because of higher prices, but they do not take into account the effect of wage increases on overall aggregate demand.

The potential of minimum wages to have a positive impact on poverty depends on how well enforced minimum wages are in any particular country. Gindling and Terrell (2010), in their study on Honduras for the period 2001 to 2004, show that minimum wages are quite well enforced in large firms; as a result, a minimum wage increase of 10 per cent is able to reduce extreme poverty by 1.8 per cent and overall poverty by 1 per cent. In Honduras, 71 per cent of minimum wage earners are in

poor households, thus an increase helps to reduce poverty. In India, legal minimum wages apply to only around 70 per cent of the wage earners; 35 per cent of wage earners live in poor households, of whom 50 per cent earn below the minimum wage. Enforcement has been a major issue, which is further accentuated by the complex system of minimum wages, as wage rates are determined for 1679 job categories in the country. A simulation exercise undertaken for the year 2004–05 shows that if all wage earners had received the legal minimum wage, then poverty may have been reduced by up to seven percentage points (Belser and Rani, 2011).

Others have argued that the impact of minimum wages on poverty depends upon who in the household is affected by it. It is possible that if minimum wages were applied to the main earner of the family, then the probability to pull households out of poverty might be much higher than if applied to secondary earners. A partial equilibrium analysis<sup>6</sup> in Nicaragua shows that every 1 per cent increase in minimum wage reduces poverty by 0.12 percentage points, if the higher minimum wage is applied to the head of the household (Alaniz et al., 2011). When the impact of higher minimum wages is considered for secondary earners, the impact is found to be insignificant on the probability of the household getting out of poverty.

Minimum wages can shape the wage distribution by shifting the earnings distribution in favour of low-paid workers and shrinking the bottom tail of the income distribution. The available evidence in the literature shows that minimum wages reduce wage inequality in the lower tail of the earnings distribution in a number of advanced economies.<sup>7</sup> In the United Kingdom, for instance, minimum wage increases during the period 1999–2007 were associated with a systematic annual reduction in lower tail wage inequality (Dolton et al., 2010), while in the United States the erosion of minimum wages has resulted in a rise in inequality in the lower tail of the wage distribution (Autor et al., 2010).

The equality-enhancing role of minimum wages is also evident in developing economies. In Indonesia where real minimum wages have increased by roughly 50 per cent during 1993 to 2007, Chun and Khor (2010) find that wage inequality declined as minimum wages were more beneficial for those at the bottom end of the distribution. Moreover, a 10 per cent increase in real minimum wages increased real wages by 14 per cent among workers earning less than 90 per cent of the minimum wage.

Lemos (2007) explores the effects of changes in the minimum wage on the wage distribution for Brazil from 1982 to 2000. She found that the minimum wage strongly compressed the wage distribution in both the formal and informal sectors. The compression effect is at the bottom of the wage distribution in the formal sector, while it is towards the centre of

the informal sector distribution. Thus, the minimum wage does not seem to benefit the lowest paid in the informal sector. Nonetheless, a 10 per cent increase in the minimum wage reduced the 90/10 wage gap by 1.25 per cent and the 75/25 wage gap by 2.14 per cent.

Some researchers have found that minimum wages could be regressive, as in the case of Colombia during 1984–2001, where it only improved the earnings of those in the middle and upper part of the income distribution (Arango and Pachón, 2004). This anomaly stems from the high value of the minimum wage. When the minimum wages were low during the 1980s and early 1990s, inequality had declined, while later when minimum wages were high, inequality increased. The high level of minimum wages led to non-compliance, such that low-paid workers did not benefit from the increases.

The above review of the evidence suggests that, despite less than perfect compliance, higher minimum wage levels and improved compliance have tended to boost the relative position of low-paid earners and have contributed to the reduction in inequality observed in various of the 11 countries in our sample. Reductions in inequality at the bottom end of the distribution have been observed in particular in India, Mali, the Philippines, South Africa, Turkey and Viet Nam (Table 5.2).

Minimum wages that lose their value will also affect the wage distribution. For example in Mexico, Bosch and Manacorda (2010) analyse the effect of minimum wage on inequality between 1989 and 2001, when the Mexican minimum wage declined by about 50 per cent relative to median

*Table 5.2 Wage inequality indices, change in inequality between mid-2000s and late 2000s*

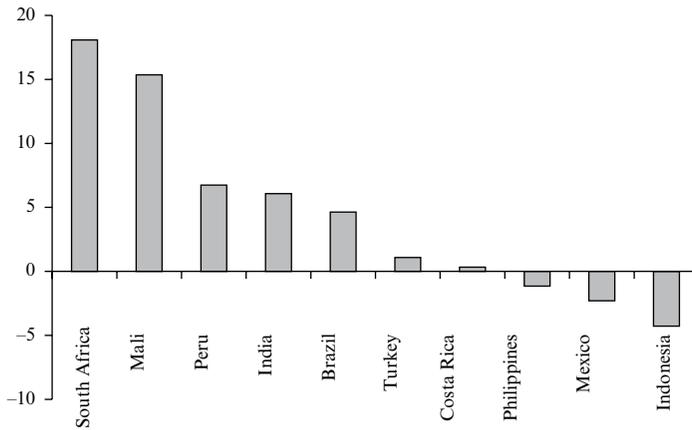
Countries	P50/P10	P90/P50	P75/P25	Gini
Brazil	0.15	-0.37	-0.48	-0.02
Costa Rica	0.34	0.46	0.11	0.03
India	-0.13	0.25	-0.07	-0.01
Indonesia	0.15	0.76	0.34	0.06
Mali	-2.37	1.00	-2.83	0.10
Mexico	0.34	-0.22	-0.07	-0.02
Peru	0.11	-0.29	-0.66	-0.04
Philippines	-0.13	0.21	0.00	0.03
South Africa	-0.45	-0.90	-0.70	0.00
Turkey	-0.22	0.48	0.02	0.01
Viet Nam	-1.71	-0.53	-1.23	-0.15

*Source:* Authors' calculations based on data from household and labour force surveys.

earnings. Their analysis suggests that ‘the decline in the real value of the minimum wage is responsible for the rise in the 50/10 percentile gap of 1.4 percentage point a year and rise in the 90/50 percentile gap of 1.8 percentage point’ (p. 146). The erosion in the real value of minimum wages is ‘fully responsible for the observed increase in inequality at the bottom end of the distribution’ (pp. 143–4). Our own analysis for the period 2005 and 2010 in Mexico, shows that inequality has increased in the lower part of the wage distribution by 0.34 percentage points annually (Table 5.2).

The level at which the minimum wages is set is fundamental as it can potentially impact other sectors in the economy. There is some evidence that shows that minimum wages influence the wage distribution of workers in the informal sector. This has also led to a shift in understanding the potential impact of minimum wages on the informal sector, compared to the earlier notions where minimum wages were supposed to suppress the wages in the informal sector or increase employment as a result of losses in formal sector employment. Bird and Manning (2008) advance two channels through which minimum wages could actually be beneficial to the workers in the informal sector, even if they were not covered by minimum wage laws. The first channel is through the linkages of labour and goods market (Fiszbein, 1992) wherein rises in the minimum wage of the formal sector workers would lead to increase in demand for goods and services in the informal sector, and would eventually lead to a rise in informal wages. The second channel is through minimum wage, which is often used as a signal for wage bargaining and therefore plays a role as a coordinator of the wage policy – what is often referred to in the literature as the ‘lighthouse’ effect.<sup>8</sup>

There is growing empirical evidence that shows minimum wages to be effective in raising the average wages in the informal sector. Khamis (2008), using quasi-experiments for Argentina where minimum wages had increased in 1993 and 2004, finds a significant change in the informal wage distribution after the minimum wage changes as well as wage increases, which did not occur in the formal sector. Gindling and Terrell (2004) provide evidence for Costa Rica where legal minimum wages have a larger impact on the average wages of workers in rural and small enterprises, who are more likely to earn low wages or have market wages below the institutionally determined minimum wages. These findings support the view that minimum wages are often used as a benchmark for setting wages in this sector. The impact of minimum wages on improving wages in the informal sector is also consistent with our own analysis of ten developing countries, where the average wage earnings in the informal sector increased by between 0.33 per cent and 18 per cent per year depending upon the country (Figure 5.2). Countries that experienced



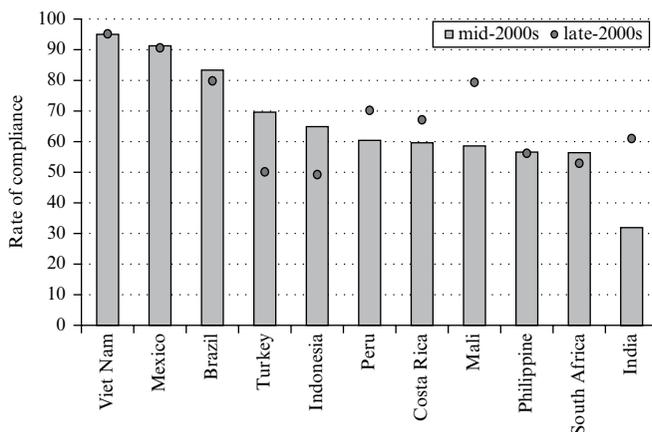
Source: Authors' calculations based on data from household and labour force surveys.

*Figure 5.2 Annual percentage change in real wage earnings in the informal sector between the mid-2000s and the late 2000s*

the greatest improvements in levels of compliance (India and Peru) were actually able to significantly increase their average real earnings in the informal sector. Of course, one needs to be cautious as this could also reflect the improved macroeconomic conditions and not just the spillover effects from minimum wages. However, there were some countries such as Indonesia, Mexico and the Philippines where the wage earnings in the informal sector declined.

### Ensuring Compliance

For minimum wages to be effective, efforts need to be made to improve enforcement. If the compliance rate is too low then the ability of minimum wages to reduce inequality or to have spillover effects in other sectors is compromised. The fact remains that 'simply legislating a minimum wage will not make it happen' (Murgai and Ravallion, 2005, p. 2). In advanced economies, the proportion of workers paid less than the national minimum wages is often relatively low (Metcalf, 2008; Bureau of Labor Statistics, 2009). Ensuring compliance, as measured by the proportion of wage earners who receive minimum wages, however, is more problematic in developing economies. An analysis for 11 countries shows that the rate of compliance using this measure ranges between 95 per cent in Viet Nam to 49 per cent in Indonesia and Turkey (Figure 5.3). The compliance rate is relatively high in Brazil, Mali, Mexico and Viet Nam, while in all the



Source: Authors' calculations based on data from household and labour force surveys.

*Figure 5.3 Estimated rate of compliance with minimum wage legislation in selected developing economies*

other countries the rate of compliance hovers around 60 per cent. The high level of compliance in Brazil could be due in part to the simple national minimum wage system, which makes it easy to implement and administer. On the other hand, a relatively high degree of compliance, as in Mali, Mexico and Viet Nam could be associated with a low level of minimum wages.<sup>9</sup> Conversely, a higher level of minimum wages as observed in Costa Rica, India, Indonesia, Peru, the Philippines, South Africa and Turkey, tends to be associated with lower levels of compliance.

There is no doubt that the degree of compliance depends upon the complexity of the minimum wage system and the level at which the minimum wage is set, but it is also linked to the general institutional environment. A high rate of compliance requires effective labour inspection, a coherent strategy based on provision of information, and sanctions in the event of failure to comply with legal provisions. Social partners also play a key role in protecting workers against abuses. The regulatory structures in developing economies, including labour inspection services, are often under-resourced and under-staffed and penalties may be too weak to induce compliance (Ghosheh, 2013). For example, although Costa Rica and India have complex minimum wage systems, the two countries have successfully improved compliance rates, largely due to the strengthening of enforcement mechanisms. Costa Rica was able to improve compliance by 7.5 percentage points between 2005 and 2011. The improvement stemmed

from an increase in the number of labour inspectors, allowing an increase in the proportion of firms inspected regularly. Further, in August 2010, a national campaign for Minimum Wages (*Campaña Nacional de Salarios Mínimos*) was launched, which combined sustained awareness raising, facilitation and encouragement of complaints, and increased the number of wage inspections with the aim of increasing compliance (Gindling et al., 2013). Workers were encouraged to report employers who paid less than the minimum wage. The programme also increased the capacity of the call centre to handle complaints, resulting in 77 816 calls in the first year alone, as well as an increase in joint inspections with the social security administration (Rani et al., 2013b).

Similarly, in India the Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA), which provides all households in rural areas with 100 days of employment per year, also paid wages at minimum wages and there was equal remuneration for both males and females. The act also relies on a legislated Right to Information and Social Audits, which provides an opportunity for civil society to ensure that the implementation of the programme is effective. This has not only provided a number of days of work at minimum wages to poor households but also improved the compliance rate with minimum wages in rural parts of India where the programme operates (see Rani and Belser, 2012 for more details). A high proportion of female workers have benefitted from the programme and the strategy has effectively redistributed resources to low-paid workers.

## 5.5 CONCLUSION

This chapter has discussed minimum wages from a theoretical perspective and provided empirical evidence on minimum wages and employment, and on inequality. We argue that the standard neoclassical model has over-emphasized the adverse consequences of minimum wages on employment, giving more prominence to the topic than is warranted. A new consensus is emerging, based on empirical evidence, which views that the impact of minimum wages on employment is unpredictable and dependent on country-specific factors, the level at which the minimum wage is set, the extent of enforcement, as well as the labour market peculiarities and institutions prevailing in each country. If the minimum wage is set at too low a level, it may be ineffective in ensuring a minimum living income to workers and their families and may fail to act as an automatic aggregate demand stabilizer in the face of shocks. If minimum wages are set too high or raised unexpectedly, they can hurt employment and lead to widespread non-compliance.

The empirical evidence also brings out the distributive role played by minimum wages, which by assuring a minimum income for those at the bottom of the pay scale can help in reducing inequality and poverty. The empirical evidence in the literature shows that minimum wages are effective in distribution, when they are well enforced, if the main earner in the households receives minimum wages and if they are set at the right level. So for minimum wages to be an effective redistributive tool, the level at which the minimum wage is set and the extent of enforcement are critical. Good policy design is what can transform a potentially powerful tool into an effective instrument whose benefits outweigh the costs, and which can improve the lives of millions of low-paid workers at the lower end of the wage distribution.

## NOTES

- \* We would like to gratefully acknowledge Setareh Ranjbar and Laura Ravazzini for meticulously helping us with the statistical analysis.
1. Minimum Wage-Fixing Machinery Recommendation, 1970 (No. 135), IV.
  2. See, for example, Sankaran (1997) for the case of India.
  3. See [http://www.instituteforgovernment.org.uk/sites/default/files/PSA\\_survey\\_results.pdf](http://www.instituteforgovernment.org.uk/sites/default/files/PSA_survey_results.pdf); see also <http://www.bbc.co.uk/news/uk-politics-11896971?print=true>; last accessed 29 August 2014.
  4. The term ‘legal coverage’ refers to workers who have been included in the minimum wage legislation and who are therefore entitled to be paid at least the minimum wage.
  5. For more details on the specification of the models see Allegretto et al. (2013, pp. 39–40).
  6. This analysis tries to estimate the impact of minimum wages on the probability of a worker’s family transitioning in and out of poverty, controlling for individual-level characteristics of the workers and the level of GDP of the sector where the worker is engaged. The analysis does not take into consideration the impact on household incomes, cost of living of workers and families, and the direct effect on employment.
  7. See, for example, Lee (1999) for the United States; Dickens and Manning (2004), Dolton et al. (2010) and Butcher et al. (2012), for the United Kingdom; and Vaughan-Whitehead (2011) for other European countries.
  8. The original reference is Souza and Baltar (1979). Studies that discuss the lighthouse effect include Fajnzylber (2001); Carneiro and Henley (2001); Lemos (2009) for Brazil; Gindling and Terrell (2004) for Costa Rica; Maloney and Núñez (2001) for Colombia; Chun and Khor (2010) for Indonesia.
  9. In Mexico, fewer than 2 per cent of workers earn less than the minimum wage.

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