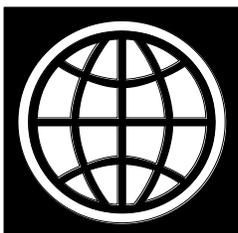

Minimum Wage Policy: *Lessons with a Focus on the ASEAN Region*

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ABBREVIATIONS

AFPC	Australian Fair Pay Commission
ALN	Adequate Living Needs
ASEAN	Association of South East Asian Nations
BMBEA	Barangay Micro Business Enterprise Act
CPI	Consumer Price Index
DOLE	Department of Labor and Employment
EAP	East Asia Pacific
EPL	Employment Protection Legislation
EU	European Union
FDI	Foreign Direct Investment
FIES	Family Income and Expenditure Surveys
FYR Macedonia	Former Yugoslav Republic of Macedonia
GDP	Gross Domestic Product
ILO	International Labor Organization
Lao PDR	Lao People's Democratic Republic
LCL	Labor Contract Law
LFP	Labor Force Participation
LFS	Labor Force Surveys
NCR	National Capital Region
NWC	National Wage Committee
NWPC	National Wage and Productivity Commission
OECD	Organization for Economic Co-operation and Development
PSMWCs	Provincial Minimum Wage Subcommittees
PWD	Person-With-Disabilities

RWPTB	Regional Wage and Productivity Tripartite Boards
STAR	Subcommittee on Technical Affairs and Review
TRU	Technical Research Unit
UK	United Kingdom
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
VES	Vietnam Enterprise Surveys
VHLSS	Vietnam Household Living Standard Survey
WPTBs	Regional Productivity Tripartite Boards

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Chapter 1: Introduction and Report Overview

"A man must always live by his work, and his wages must at least be sufficient to maintain him. They must even upon most occasions be somewhat more; otherwise it would be impossible for him to bring up a family, and the race of such workmen could not last beyond the first generation."

Adam Smith, Wealth of Nations, 1776

1.1 Introduction

As developing economies continue to mature and enter the next phase of reforms, labor market issues and key policy instruments such as the minimum wage increasingly come to the forefront. Increased globalization and wider competition compel countries to make labor markets more flexible so as not to hurt competitiveness. At the same time, policymakers face pressure to rethink labor market regulations (and social safety nets) to avoid disadvantaging workers, especially the most vulnerable who are more prone to employment insecurity (Kanbur and Svejnar, 2009).

In general, evidence shows that governments put in place labor market regulations to improve labor market conditions for workers, enhance their overall worker welfare, and protect them against the risks stemming from vulnerable employment (OECD, 2004). Unfortunately, the evidence of the effects of labor market regulations, including minimum wage, remain controversial and theoretically ambiguous (Bertola, 1990). For instance, some argue that the upside of stricter employment protection regulation is that it reduces labor turnover, stabilizes employment and increases job tenure; but on the down side, some argue that imposing stricter labor laws increases labor costs which in turn increases long-term unemployment and risk of bankruptcy.

In terms of wage policy, most countries around the world have adopted wage-setting policies, typically through the legislative process, by establishing laws or by giving legal force to the terms of collective agreements negotiated among employers, trade unions, and employees (Deakin and Wilkinson, 2009). Such laws or rules for wage bargaining between employers and workers are aimed at decreasing the likelihood of exploitation and reducing the number of working poor (Blanchard, 2002; Pierre and Scarpetta, 2007). Despite the intuitive political economy appeal of the minimum wage policy, it remains a somewhat controversial policy instrument because policymakers often seek to achieve multiple objectives with minimum wages, and adjustments are sometimes made on ideological grounds rather than based on technical analysis.

Countries differ greatly in the goals they want to achieve when establishing and modifying their minimum wage policies. Based on evidence from around the world, countries can be grouped loosely into three groups according to their goals: the first group of countries aims to reduce poverty and inequality by increasing wages of low-income workers (Devereaux, 2005); the second group seeks to promote productivity growth; and the third group seeks to address efficiency issues in the labor market that lead to negative consequences on employment and workers. There are also countries that seek to use the minimum wage policy to meet all three goals but, as will be discussed in the report, it is not clear if these objectives are met.

Existing evidence shows that impacts of the minimum wage policy on poverty, inequality, productivity, and efficiency are mixed and depend on the country context and how the policy is managed. Although it is difficult to disentangle the exact objectives and effects, evidence shows that when the primary objective is to reduce poverty and inequality, the minimum wage policy does not yield policy results because the vast majority of poor people are either unemployed or employed in the informal sector. Given their limited skills and low productivity, poor people (often the least skilled) tend to be among the first to be laid off when a wage increase is enacted, thus not benefitting at all (Lustig and McLeod, 1996). Similarly, evidence shows that using the minimum wage to promote productivity is also risky; some firms may have productivity gains from increases in the minimum wage but, on average, effects are less than favorable because low-productivity firms have difficulty adjusting to wage increases and more market rigidities, and as a result may be forced out of business or into the informal sector (World Bank, 2010).

The impact of the minimum wage on formal sector employment is also not clear. Some studies show reductions in formal employment to levels below the employment-maximizing level and shifts of workers (and firms) from the formal to informal sector, especially when minimum wage levels are too high and enforcement of regulations is weak. However, when minimum wage rates are set at moderate levels, the policy does not lead to significant disemployment effects, although impacts on worker earnings and on poverty tend to be minimal (Rutkowski, 2003). Moreover, when increases are moderate, the minimum wage policy serves as a signaling tool for wage levels, especially in a market affected by information asymmetries (Maloney and Nunez, 2001) and/or when imperfections in the labor market lead employers to have disproportionate power over workers, thus enabling them to suppress wages.

Although accurately predicting the effects that a major policy reform will have on workers, firms, and the economy is difficult, evidence from other country experiences can provide some insight. While the way the minimum wage policy is implemented and the impacts vary depending on the context (Neumark and Wascher, 2006), many countries share similar socio-economic contexts, similar labor markets, and similar institutional features. Fortunately, the body of empirical research that measures the effects of minimum wages on labor market outcomes is growing, providing policymakers with a solid evidence base for adjustments and reforms.

Impacts of the minimum wage have been studied mostly in developed countries (Card and Krueger, 1994) and less so in developing countries where labor markets are more heterogeneous. Most of the existing evidence is from OECD and Latin American countries, where good data and capacity to measure the effects have been most available. In Latin America, local and international researchers investigate the impacts of minimum wages on a regular basis to continuously improve the evidence base—Cunningham (2007) is one example.

Evidence of the impact of minimum wage policies in the East Asian context—and in ASEAN countries, more specifically—remains very limited. A thorough literature search identified only a few rigorous studies of the impact of minimum wages on important welfare outcomes in ASEAN countries, and some of the evidence was narrowly focused on one sector/period or from a time when the institutional setup and management of the policy was different from today. Given the relevance of the minimum wage policy in ASEAN economies, which are experiencing rapid economic growth accompanied by rising income inequality and persistent poverty among unskilled workers, having this evidence seems critical.

1.2 Objective of the Report and Methodology

The objective of this report is to contribute to the ongoing (and renewed) debate on the use of minimum wage policy as a tool for addressing various socioeconomic issues. The report does not make a judgment on the merit of the minimum wage policy itself. Instead, it assumes minimum wages will remain in place, and the analysis seeks to address knowledge gaps on the policy's effects on worker outcomes and firm performance in order to provide guidance to policymakers in ASEAN countries (and similar contexts) on how to best manage the policy. To that end, the report answers the following questions:

1. Is the minimum wage an effective policy instrument for tackling poverty and inequality in various ASEAN countries?
2. How does the minimum wage and changes to the level and the policy itself affect employment, especially for vulnerable groups such as youth, women, and less-skilled people?
3. How does the minimum wage affect employment in contexts where informality is commonplace?
4. Does the minimum wage (and changes) affect how firms perform, invest, and make human resource decisions?
5. What are the political economy and regional (mainly ASEAN) implications of changes to the minimum wage system and level?

Despite the thinness of evidence across the entire East Asia and Pacific region, this report focuses primarily on ASEAN countries because of the economic dynamism and importance of this regional bloc. The institutional analysis covers all countries except Singapore, which does not have a statutory minimum wage policy, and Malaysia, where the policy is now being introduced and for which a separate World Bank study on policy design was completed in 2011. While this report tries to cover all ASEAN countries, new empirical work undertaken for this analysis focuses on Indonesia, Philippines, Thailand, and Vietnam, where the policy is already in place and major reforms are planned in the near future. In looking at the impacts of the minimum wage on employment, the analysis uses the real value of the minimum wage. Although, the overall report is concerned primarily with the nominal minimum wage, this new evidence is based on the effect of changes of the real minimum wage. In doing so, the report accounts for the effect on employment and wages associated with a gradual erosion of the real minimum wage. The new empirical work did not cover Lao PDR, Cambodia, and Myanmar mainly because these economies remain largely agricultural (with low coverage of the policy) and/or little data is available. Given the limited evidence on the impacts of the minimum wage on worker welfare and firm performance in ASEAN countries, the report draws from evidence in non-ASEAN countries, as well.

The research undertaken for this report relied on qualitative and quantitative methodologies. Descriptive sections/chapters draw from existing literature and policy documentation through desk reviews. This information was complemented by substantive primary work aimed at filling the information gaps, using a pre-set analytical framework for gathering institutional and labor policy materials through desk reviews, and then undertaking in-country reviews and information validation exercises in selected countries. The empirical sections/chapters also draw in part from previous empirical research. In addition, five empirical background papers utilizing rigorous methodologies were commissioned for this report (Annex I presents methodological details for all five background papers). The results from these background pieces provide much of the 'new' evidence reflected throughout this report and provide the basis for the discussion sections/chapters.

1.3 Roadmap of the Report

This report consists of seven chapters and is divided into three parts. Part I focuses on the minimum wage policy, its historical evolution, and the current institutional context across ASEAN countries. Part II delves into the socio-economic impacts of the minimum wage policy on workers, households, firms, the economy, and the ASEAN region. Part III links the findings from each country to the ASEAN regional context and brings all the analysis together into a policy and operational discussion.

Specifically, Part I of the report includes this chapter (Chapter 1) and Chapter 2. The rest of Chapter 1 summarizes the findings from all chapters in the report and presents an overview of lessons detailed in the final chapter. To provide some background and context for the remainder of the report, Chapter 2 briefly describes the history of minimum wage policy around the world and the theoretical principles behind wage setting and its effects.

Part II consists of four chapters. Chapter 3, which describes how the minimum wage policy is structured and managed in each ASEAN country, includes details on the objectives that countries have set out for the policy and how the policy is enforced in each country. Chapter 4 summarizes results from primary and secondary empirical research on the impacts of minimum wage changes on employment, wages, and informal work in the four focus ASEAN countries. The discussion in this chapter takes into account the existence of complementary worker protection programs in each country. Chapter 5 discusses empirical results on whether changes in the minimum wage policy affect poverty and inequality. Since each country has distinct poverty programs, the discussion takes into account the presence of various social programs that potentially complement income earned from wage labor. Chapter 6 focuses on how wage and labor costs affect firms, especially in terms of investment decisions and productivity. Due to the limited availability of evidence on the impact of minimum wages on firm performance and private sector activity in ASEAN countries, a large part of the discussion in this chapter includes evidence from non-ASEAN countries. Lastly, this chapter reviews the status of the main labor market institutions legislated in the region and provides some evidence on how other labor institutions might interact with the minimum wage policy to shape its effect.

Part III comprises Chapter 7, which reflects on the material presented in previous chapters and provides policy-oriented insights. It discusses the political economy of the minimum wage policy and draws out the implications of having such diverse wage policies and institutional arrangements for wage management in an increasingly interlinked regional bloc such as ASEAN. The chapter also synthesizes the lessons learned throughout the report and frames the main labor policy issues to provide guidance for, and elicit action from, policymakers going forward.

1.4 Summary and Key Findings of the Report

The minimum wage policy is viewed as a prominent instrument to prevent extreme poverty among workers and address the inefficiencies that stem from non-competitive labor markets. Minimum wages seem to serve as an anchor for wage earners along the wage distribution and provide guidance on a worker's market value in relation to that of a minimum wage earner. Moderate changes to the minimum wage level, aligned with key economic variables, can limit negative impacts and lead to positive impacts from minimum wages. Even though the impacts of minimum wage adjustments are largely felt by workers earning around the minimum wage, in some cases, the

adjustments have positive impacts for informal sector workers who typically earn less as well as for formal workers who earn higher wages.

1.4.1 Lessons on the Impact on Workers and Firms

Evidence on the effects of minimum wage policy on employment, poverty, and inequality is mixed. In terms of employment, in many cases, increases in the minimum wage level lead to layoffs of low-productivity workers while increasing the incidence of self-employment or wage work in the informal sector. In some cases, the effects on employment were minimal largely due to low compliance with the law and because large segments of people work outside the reach of labor law (due to exemptions, loopholes, or evasion).

With respect to poverty, the minimum wage can only help indirectly to reduce poverty among low-wage workers who remain employed, but the outcome is in no way certain. Evidence shows that poverty is often unaffected because minimum wage earners are typically not in the formal sector where the law is binding, and oftentimes minimum wage earners live in non-poor households. Furthermore, since increases in the level require higher skills, they sometimes limit the poor's ability to access jobs in the formal economy. However, evidence of the impact of minimum wages on the poor is not all negative. In some contexts, minimum wage adjustments lower the poverty rate by increasing household consumption for those who retain their jobs. These findings suggest that when poverty alleviation is the primary objective, governments should consider using more appropriate tools for addressing poverty and inequality, such as direct cash transfer systems.

Findings on the impact of minimum wage policies on inequality are also mixed. Various studies find that minimum wage legislation plays a role in reducing wage inequality among wage workers and that minimum wages help compress wages among workers in the lower part of the wage distribution. However, the evidence also shows that gains from higher wages for workers who keep their jobs, push other, less skilled workers into the informal economy where non-wage benefits are not provided, thus exacerbating inequality.

Firms in ASEAN countries cope with minimum wage increases by trying to optimize their workforce composition and substituting labor-intensive processes with capital when possible. The main lesson is that wage increases can lead to higher firm productivity if governments address constraints related to human capital deficiencies and skills shortages, which inhibit employers from being able to change production technology quickly. In addition, governments could help by easing legislative constraints, lowering overall labor costs (beyond the minimum wage), and improving the institutional framework so that employers are able to negotiate training of workers, for instance by embedding worker training in collective agreements through the wage bargaining process. Notably, no evidence was found to support the often-made argument that employers pass on the costs to consumers, affecting aggregate inflation.

It is important to recognize that *the minimum wage is one of many labor costs* employers must pay workers. The minimum wage is part of the package that employers consider when engaging a worker, and isolating its effects is not easy. A review of the broader evidence clearly shows that non-wage costs imposed on firms (and workers) are often associated with lower employment and higher unemployment rates. Thus, adjustments to the minimum wage level and the policy itself should take into account not only wage costs but also all other labor costs that formal (law-abiding) employers must pay their workers.

1.4.2 Lessons on Institutional Matters

The institutional details of minimum wage policy are of great importance to achieving the objectives, ensuring the relevance of the policy, and avoiding detrimental consequences. Again, it should be emphasized that labor market regulations impose employment costs beyond wages. Employers must also take into account direct and indirect costs such as dismissal costs, limitations on the use of temporary employment (over permanent employment with worker benefits), collective dismissal costs, unemployment benefits, mandated pension contributions, and taxes on wages.

While the general trend worldwide has been a relaxation of employment regulations, this trend has not been observed in the ASEAN region. Most countries in the world have relaxed their employment regulations over the past 20 years and increased social protection mechanisms in order to ease the economic burden on employers while not leaving workers unprotected. In contrast, employment regulation has remained static or even increased in the ASEAN region.

Some key lessons emerging from the evidence:

- Simplicity in the minimum wage policy helps increase compliance and reduces monitoring burdens.
- When regional minimum wage levels are necessary, regional differentiation should be largely derived from examining labor market profiles.
- Exemptions and reductions should be minimal to avoid negative incentives for firms and workers.
- To avoid making migrant workers a less expensive (and a more attractive) labor option, it is best to impose that the minimum wage policy be enforced on this subgroup of workers.
- For adjustments to the minimum wage level, it is best to have a clear formula that avoids excessive rigidity in the process and is easy for all stakeholders to understand and apply.
- Effective enforcement requires expanding the powers of the responsible agency, which includes allocating resources for labor inspectors to audit employers and impose penalties, while also giving employers a channel for appeal.
- Beyond institutional enforcement, studies underscore the importance of accurate recordkeeping for monitoring compliance and partnering with civil society—including partners such as trade unions and grass root non-profit organizations—to facilitate the reporting of non-compliance and to leverage resources.

Chapter 2: Context and Conceptual Framework

“...the intensity of the political debate surrounding the minimum wage—on both sides of the issue—is out of proportion to its real importance in the economy...Opponents tend to exaggerate its adverse employment effects, while proponents tend to exaggerate its effects on poverty.”

Card and Krueger, 1994

2.1 Evolution of the Minimum Wage

About 90 percent of countries around the world have statutory minimum wages (World Bank 2012), although the institutional setup of the minimum wage policy varies from country to country. This variation reflects the diversity of motivations for establishing it, as well as the distinct political contexts that influence how the policy is managed (Deakin and Wilkinson, 2009; World Bank, 2011a). Table 1 shows that the majority of countries (60 percent) with the policy in place have it at the national level (with regional variation), while 40 percent have more complex systems that differentiate across sectors and occupational categories (ILO, 2009).

Table 1. National and Sectoral Minimum Wages

(by % of Countries with Minimum Wages)

	National minimum wages (%)	Minimum wages by sectors or occupations (%)
Latin America and the Caribbean	43	57
Asia and the Pacific	47	53
Africa	69	31
Middle East	100	0
Developed economies and EU	67	33
Central and South-Eastern Europe (non-EU) and CIS	100	0
Total	60	40

Source: Global Wage Report, ILO, 2009

2.1.1 Original Motivations for the Minimum Wage Policy

A wide range of rationales have been put forth to justify legislating minimum wages and, to some extent, the motivation for the policy shapes labor regulations in each country. Tracing back to the original motivation for legislating wages, the rationale in Australia and New Zealand during the late 1800s was to prevent workers from earning wages that did not allow them to live in frugal comfort. In the United Kingdom (UK), the motivation was less ambitious: rather than attempting to legislate for a living wage, the Government aimed to protect workers from extreme forms of low pay associated with ‘sweated’ trades (Deakin and Wilkinson, 2009).¹ In the United States, the stated

¹ Some argued that the competitive market had failed to offer adequate wage levels to the most vulnerable—namely women, children, and the unskilled—and capitalists were ‘sweating’ (or paying barely sufficient to sustain existence) workers who were left unprotected. The reason employers had the ability to sweat their workers was that there was an

motivation for states like Wisconsin to adopt minimum wages was for workers to receive a “living wage” or a level of compensation that enables workers to maintain themselves under conditions consistent with their welfare (i.e., reasonable comfort, reasonable physical well-being, decency, and moral well-being). However, there was a lot of pushback in the country until the time the law was passed at the federal level (included in the Fair Labor Standards Act) after the Great Depression, with the stated objective to stop extreme wage cutting, reduce industrial conflict, and enhance the productive efficiency and purchasing power of workers (Kaufman, 2007).

Thus, minimum wages were originally established to address slightly different problems. In one case, the minimum wage was adopted to prevent the proliferation of sweatshops in the manufacturing sector, where vulnerable workers were employed for wages well below subsistence levels, and to provide some balance to the asymmetric bargaining relationship between workers and employers (Neumark and Wascher, 2008). In another case, the minimum wage was intended to provide a living wage that would ensure that a worker had a decent amount for him and his family to live frugally.

2.1.2 Adoption of Minimum Wage Policy Around the World

Most countries have adopted minimum wage policies, starting with Australia and New Zealand in the late 1800s and early 1900s. These countries introduced legislated minimum wages to prevent extreme forms of low pay in sectors that were notorious for paying lower than subsistence wages. In the UK, the original model in 1918 allowed the Board of Trade to set up boards in industries in which wages were exceptionally low compared to other employment. In the United States, the first minimum wage law, meant to protect women, was passed in Massachusetts in 1912 (Thies, 1991). The law passed at the Federal level in 1938 (Waltman, 2000). Over time, many industrialized countries established minimum wage laws. In less developed regions such as Latin America, the policy was set up in the mid-1960s (Bethell, 1990). A recent International Labor Organization (ILO) report found that as of 2009, well over 90 percent of its members had minimum wage laws (ILO, 2009).

In Europe, the majority of countries have adopted statutory minimum wages, although some still negotiate wages at the sector level. In the European Union (EU), only 9 of the 15 original EU members have a statutory national minimum wage, while others negotiate wages at the sector level through collective agreements and allowing for exemptions. In contrast, almost all of the recently integrated members had the policy in place, thus shifting the proportion of EU countries with the minimum wage from 60 percent to 75 percent. Non-EU countries in Europe, such as the UK (in 1999) and Ireland (in 2000), either revived or implemented the policy, and European countries such as Germany and Sweden are currently having public discussions on the merit of implementing it (Vaughan-Whitehead, 2010).

In East Asia, the adoption of the minimum wage came much later than in the EU and the Americas. The Philippines has the longest history of minimum wage policy, since 1951.² Another major push for the policy came after the Second World War, following British influence; Burma and Malaysia (and other colonies) established legislation similar to Britain, but the sectoral coverage was minimal (Starr, 1993). The more industrialized economies such as Taiwan (1956), Japan (1957-

excess supply of workers and destructive competition between employers, which led to a downward cycle of cutting costs through wage reductions (Webb and Webb, 1987; Webb, 1912).

² The early use of minimum wages in the Philippines stems from the country’s U.S. colonial experience.

1959), and Korea (1988) were also relatively early in establishing the policy. Thailand introduced the minimum wage in 1972 for Bangkok and the metropolitan area, and Vietnam set the minimum wage for foreign companies in 1992. Indonesia instituted a minimum wage policy in the early 1970s for those working in the formal, mainly urban sector. The most recent wave of adoption of the minimum wage policy started in the mid-1990s, for example with China passing legislation allowing local governments (province, municipality, region) to enact the policy. Regulation on minimum wage was further strengthened by the promulgation of the Provisions on Minimum Wage in 2004. Hong Kong passed minimum wage legislation in 2010 (with the policy being active in 2011), while Malaysia passed the minimum wage Act in 2011 (to be active in 2012). In ASEAN, most countries have a minimum wage policy in place as of 2013.

2.2 Decision-Making by Various Stakeholders and Theoretical Principles

Predicting what will happen when statutory minimum wages change is difficult, because all stakeholders—namely firms and workers—have several options to consider. On the one side, firms have decisions to make when faced with having to pay statutory minimum wages. A profit-maximizing employer may choose to pay wages above market wages in order to incentivize good workers to stay at the firm and maximize their productivity levels so as to yield better profit margins for their employers. This is known as the *efficiency wage*, and it is almost always above a person's reservation wage, above the statutory minimum wage, and above the competitive wage. The assumption made by employers following this compensation theory is that labor productivity is positively correlated with wages, and the higher the wages they offer, the higher the efforts (up to a point where the costs are too high compared to other alternatives) they get from the workers.

In cases where enforcement of the law is not too stringent or where loopholes in the law exist, some employers may prefer to hire a mixed workforce, with some workers receiving the mandated minimum wage rate and other workers receiving less than that rate (either informally or through contracting). When it is not possible to function profitably by following the law, some employers exit the formal sector (go to the informal sector or out of business) altogether.

On the other side, when a *statutory minimum wage* is in place and/or a change is made to it, many workers seek to get or retain formal jobs that pay at or above the statutory minimum wage rate. Those who cannot find such jobs must choose between unemployment, self-employment, leaving the labor market (for example, to study), or getting jobs in the informal sector where the minimum wage is not binding and/or enforced. This decision can be influenced by the worker's reservation wage, which is the minimum wage for which workers would be willing to work in a particular type of occupation. Reservation wages are not static; they depend on many individual factors and vary from job to job. It should be noted that even if a statutory minimum wage is in place, a person's reservation wage may or may not align with it. Thus, it is not always the case that the statutory minimum wage will attract all workers.

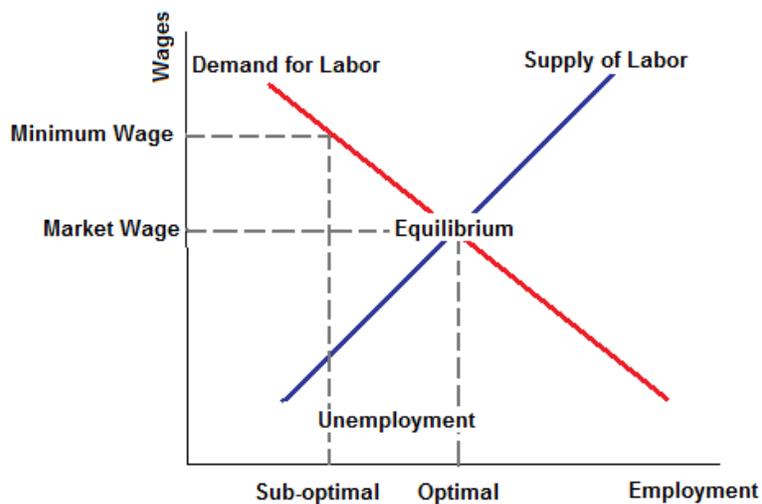
2.2.1 Key Theoretical Principles

Economic theory can help ground the empirical analysis on the effects of minimum wage changes and make the results easier to interpret. Economic theory is useful for putting forth various empirically testable hypotheses of the potential impacts of the minimum wage on various outcomes of interest, such as employment and poverty. It helps inform the conceptual framework used for this report, as discussed further below.

Opposition to the minimum wage is largely based on the (neoclassical) theory that imposing a wage floor leads to job destruction. The belief that the net effects of the minimum wage on employment would be negative was based on the argument that mandating a price floor above the equilibrium wage would lead to excess supply of workers (more people willing to work at the higher rate) in a limited and very selective labor market (employers could only employ some people at higher wages and would likely choose the best ones). The result would be most detrimental for vulnerable workers, those who are least experienced and possess less-skills.

Figure 1 is a simple graphical representation of the neoclassical argument, showing that in a competitive market setting where wage levels are established by market forces, employment levels are optimal (equilibrium point). When a minimum wage level is set above the market clearing wage and employers are not able to set a wage level that is appropriate, they are forced to cut back in production, and/or they substitute workers for machines when possible. Such a leftward shift in employment, from the optimal employment level to a sub-optimal employment level, leads to unemployment (Ehrenberg and Smith, 2003).

Figure 1. Minimum Wage in a Competitive Labor Market



Source: Author's illustration

Most critics of neoclassical theory argue that even though employment losses are possible, they are by no means certain. It is widely recognized that neoclassical theory makes two critical assumptions: (i) that the labor market is perfectly competitive, and (ii) that employers and workers have perfect information needed to negotiate wages. These two assumptions are at the core of most criticisms of the neoclassical theory. Critics argue that the magnitude of employment impacts will depend on how competitive the labor market is (firms may have some monopsony power and keep wages low), how enforceable the law is, what the elasticity of demand for labor is in a given context, how much information workers have compared to employers, what other labor market rigidities are in place that may restrict movement of workers or adjustments, and other complexities that are difficult to capture in a theoretical model. Therefore, it is entirely plausible that raising the minimum wage can boost employment in contexts where firms have monopsony power.

Another important factor affecting whether unemployment will ensue after a minimum wage policy is adopted is the size of the informal (uncovered) sector (Mincer, 1976), as well as the rigidity of boundaries between the formal and informal sectors (Maloney et. al., 2004). In developing economies such as those in most ASEAN countries, substantial portions of the labor force are employed in the informal sector (or have informal jobs in the formal sector) where labor regulations such as the minimum wage are not always applied and enforced.³ Informality tends to be high in contexts where minimum wage levels imposed by the law exceed the marginal product of labor of a significant segment of the workforce and where the enforcement capacity of the government is weak (Boeri et. al. 2008). Having such a dual labor market—formal and informal—makes it difficult to theoretically predict what the employment effects will be at the aggregate level (Fields, 1994).

As is the case with employment, the theoretical prediction of the impact of the policy on poverty is unclear. Workers who remain in the formal sector where minimum wages are binding are likely to benefit from rising wages. In contrast, workers who are pushed into the informal sector are likely to see their wages fall when more people enter the informal sector and face downward wage pressures.

The ambiguity of the effects on poverty is exacerbated in societies where income sharing takes place. For instance, many households are composed of multi-generational families, where more than one family member is employed. A higher number of income earners and the practice of income sharing are more common in developing countries than in developed countries. In non-income sharing cases such as when a worker lives alone, his or her economic welfare will depend solely on him, leaving him or her at risk of becoming poor if the minimum wage rises and results in job loss. In income sharing settings, the impact on poverty depends largely on whether the total income of the members who remain employed increases or decreases since they are able to pool their resources and redistribute them to all household members (Fields and Kanbur, 2007).

Beyond theoretical considerations based on economic motivations, evidence also indicates that modifications to minimum wage policy are made based on political pressures to change (often raise) the minimum wage level. Over time, the original policy design put in place to address a valid market failure (and expected to impose a moderate and economically reasonable wage rate) may no longer be viable after modifications that deviate from economic principles are made. When this occurs, the minimum wage policy not only fails to meet its original objective but also exacerbates the market failure it was meant to address and hurts the people it was originally designed to help. Therefore, any attempt to measure the impact of the policy must take into account whether the policy remains consistent with stated objectives as well as whether the policy is reasonably applied as it evolves over time.

2.3 Conceptual Framework for the Report

³ Despite theoretical predictions that in a dual economy wages are always suppressed in the informal sector, some evidence indicates that the minimum wage has an increasing wage effect in the informal sector because the policy serves as a signal to informal workers (information source) and induces wage increase requests by workers. This phenomenon, known as the lighthouse effect, suggests that workers in the informal sector have some bargaining power (Souza and Baltar, 1980) or that these workers are substitutes for formal sector workers (Fajnzylber, 2001), or that there is sorting of workers across shadow margins (Boeri, Garibaldi and Ribeiro, 2010).

Although the debate on how *changes* to the minimum wage affect people remains unsettled, this report proposes a conceptual framework that centers on how people (workers and non-workers) benefit or not from changes to the minimum wage in order to gain new insight and contribute to the debate. The framework used in this report has three levels:

- First, to understand the variety of institutional setups for managing the minimum wage policy in order to identify how the policy is supposed to function (*de jure*), how it actually works (*de facto*), and whether political manipulation is likely to be at play.
- Second, to empirically test the effect of the policy on people along various socioeconomic welfare outcomes at the individual, household, and firm levels, accounting for various theoretical underpinnings as presented earlier in this chapter. In this level of analysis, the focus is on testing which theoretical prediction is most applicable in each context.
- Third, to identify how *other*—social, labor, regional—policies interact with the minimum wage policy and to understand whether existing policies affect how the minimum wage functions. This level of analysis focuses on determining whether the minimum wage policy is complemented by other policies to protect people from negative socioeconomic outcomes.

This three-level approach helps understand the role of the minimum wage in ASEAN countries, its interaction with other labor policies and institutions and its usefulness as a policy tool in protecting workers, promoting employment and reducing poverty and inequality. In the end, the report presents some policy options on how to best manage the policy and calibrate it to achieve better outcomes.

Chapter 3: Minimum Wage Institutions in ASEAN: How Are They Structured?

"A general flat minimum-wage law for all industry is permissible, but I do not think that it is a particularly wise method of achieving the end. I know much better methods of providing a minimum for everybody. But once you turn from laying down a general minimum for all industry to decreeing particular and different minimum for different industries, then, of course, you make the price mechanism inoperative, because it is no longer the price mechanism which will guide people between industries and trades."

Friedrich Hayek, Psychology Press, 1994

3.1 Objectives of the Minimum Wage in ASEAN Countries

The stated objective and motivation for the minimum wage varies across countries and even across multinational organizations. According to the International Labor Organization (1992), the intended objectives of statutory minimum wages are to prevent the exploitation of workers by employers, to promote a fair wage structure, to provide a minimum acceptable standard of living for low-paid workers and, eventually, to alleviate poverty, especially among working families. However, this set of objectives is by no means uniformly applied in ASEAN countries; this chapter delves deeper into the variety of objectives identified throughout ASEAN countries and in key countries around the world.

In nearly all of the ASEAN countries studied, a basic objective of the minimum wage is to help workers maintain a certain standard of living. In Indonesia, for example, the Law on Manpower Affairs (dated 2003) states that the objective of the minimum wage is solely to help a single worker meet an adequate living standard.⁴ The Thai law lays out an even more specific objective: the 1972 law defined the minimum wage as "the payment sufficient for the employer and two additional family members to dwell in the society" (Imudon, 2001). In Lao PDR, a 2006 revision to the labor code (by decree) outlined that the Government can determine the minimum level of wages (and salaries) for workers so as to ensure that their basic minimum living standard is met and that the minimum wage remains consistent with changes in the cost of living in the country⁵. As in Lao and Indonesia, the minimum wage law in Cambodia, passed in 1997, is intended to ensure that every worker (and his/her family) has a decent standard of living that allows them to live with human dignity.⁶

In contrast, the law in Hong Kong (China) is explicit about not using the maintenance of a minimum living standard as an objective for the minimum wage. The explicit objective laid out in the law is for the minimum wage to set a floor pay rate to ensure that workers receive a just payment for their

⁴ Law on Manpower Affairs 2003 articles 88 and 89. Regulation regarding implementation and component of achievement scale on adequate living needs (ALN) articles 1 and 3. cited in ILO (2011a).

⁵ Labor Law 2006 (No. 06/NA) article 46

⁶ Even though the law is supposed to be applicable to all economic sectors, to date, the ministerial order (Prakas) is only applicable to workers in the textile, garment, and footwear industries. Cambodia Labor Law 1997, article 104, http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_150856.pdf

work.⁷ The law warns against using the minimum wage as a safety net. The background work conducted prior to the write-up of the law emphasizes the importance of setting the appropriate economic wage level and of using other social policies to tackle any distribution problems.

The laws of some countries lay out additional objectives for the minimum wage, beyond helping to ensure a certain standard of living for workers. The law in the Philippines (1989, Republic Act 6727) states that in addition to ensuring a decent living standard for workers and their families, other objectives of the minimum wage include guaranteeing the rights of labor to its just share in the fruits of production, enhancing employment generation in the countryside through industry dispersal, and allowing business and industry reasonable returns on investment, expansion, and growth.⁸ Most recently, the newly introduced minimum wage order in Malaysia was put in place in part to address dysfunctional wage setting practices for low-paid workers. The Government justified the policy as a means to address existing labor market inefficiencies that were keeping wages lower than productivity levels for a large segment of low-wage earners (World Bank, 2012).

While the early version (1994) of the Vietnamese Labor Code does not provide a specific objective for implementation of the minimum wage, it does allude to some more general relevant objectives. The introduction section of the Labor Code mentions that labor is the most important activity a human being can perform, and by regulating the rights and obligations of employees and employers—through labor standards and labor utilization and management principles—the law is able to contribute to increased production and better productivity, quality, and social advancement. More recently, in 2012, the new version of the Labor Code was put forth by the government (to be implemented in 2013), and the Decree 103/2012/ND-CP implemented in 2013, called for a 15 percent increase in the minimum wage over the previous year. The new law establishes that the minimum wage should be the lowest rate that is paid to the employee who performs the simplest work in the normal working conditions and that it must ensure the minimal living needs of the employees and their families⁹.

The laws in each country also describe factors to be taken into account in setting and adjusting minimum wage rates, including cost of living. In general terms, the 1989 Act of the Philippines deems that the minimum wage shall be as nearly adequate as is economically feasible to maintain the minimum standards of living necessary for the health, efficiency, and general well-being of workers.¹⁰ Minimum wage rates shall be adjusted in a "fair and equitable manner," taking into account regional disparities in the cost of living and other socioeconomic factors and the national economic and social development plans. The law identifies ten factors to consider while setting minimum wages, most of which are related to standard of living costs but also include possible impact of the minimum wage on the labor market. In a recent interview of National Capital Region Regional Wage and Productivity Board members, some stakeholders noted that despite having many factors to consider in the process of adjusting levels, the conversation revolved largely around cost of living for workers and their families.¹¹ A recent World Bank report for the Philippines also finds that minimum wages in the Philippines are adjusted almost solely based on the cost of living and in particular, food prices (World Bank, 2012). Similarly, the law in Cambodia

⁷ "[There is] no doubt that this is a historic moment for Hong Kong. We have now said goodbye to an unfair practice in a capitalist economy and have acknowledged the fact that workers should be rewarded for their hard work," Lee Cheuk-yan, leader of the Hong Kong Federation of Trade Unions.

⁸ Department of Labor and Employment (1989a) section 2.

⁹ article 91

¹⁰ Ibid

¹¹ Some committee members referred to a family as a five-member family with a single wage earner.

places much weight on cost of living for a family, and in theory, it determines the minimum wage level relative to the general salary level of other social groups in the country.¹²

Some countries explicitly include productivity as a consideration in setting the minimum wage. The laws in Indonesia, Malaysia, and Cambodia establish, in general terms, that when defining the minimum wage, consideration should also be given to productivity and economic growth.¹³ In Indonesia and Malaysia, labor market conditions (proxied by employment rates), the level of economic development, and competitiveness should also play a role. The Thai Act Number 3 of 2008 states that “apart from using the cost of living index to fix the minimum wage, the Wages Council should also study and consider the facts relating to the wage rate received by the employees in conjunction with facts such as the inflation rate, subsistence standard, production cost, goods and services prices, business capability, labor productivity, gross domestic product (GDP), and economic and social condition.”¹⁴ The Philippines has also begun to include productivity as a factor in minimum wage setting.

Some country laws also identify employer capacity to pay as a factor in minimum wage determination. In the previous Thai law and in Indonesia, the employers’ ability to pay was a key factor in the revision of the rate. In the Philippines, the ten factors specified for consideration in minimum wage setting also include employer capacity to pay.

As in many countries reviewed around the world, political economy factors also influence wage determination. In Indonesia, the Government instituted a minimum wage policy in the early 1970s for those working in the formal (mainly urban) sector, but the policy only became important as a labor market policy in the late 1980s in response to internal pressures as well as pressure from international markets over low wages and worker exploitation. In the first half of the 1990s, minimum wages were tripled in nominal terms and more than doubled in real terms in a period of five years.¹⁵ In 2012, the Indonesian Government announced another round of large increases in minimum wage levels across the country, by 44 percent in the case of Jakarta (this refers to nominal increases). Some argue the decision to increase the level was not linked to analysis (for example, worker productivity changes) but was instead largely motivated by political reasons, as a response to regular labor unrest.¹⁶ The Thai Government also increased minimum wages almost unilaterally (by a significant 35 percent) in 2012 as a way to alleviate the burden on lower-income wage earners and reduce disparities in the country by unifying the minimum wage rate.

3.2 Main Institutional Arrangements for Managing the Minimum Wage Across ASEAN Countries

Although the minimum wage is a common labor market policy, the institutional arrangements for managing the minimum wage can vary considerably from country to country. As described by Rutkowski (2003), two basic mechanisms are used for setting the minimum wage: (i) a statutory minimum wage is set by the government, possibly involving consultations with trade unions and employers, and (ii) minimum wages are determined through collective (bipartite or tripartite) negotiations. Some countries have one national rate, while in other countries the minimum wage

¹² Cambodia Labor Law 1997.

¹³ For Indonesia Law of Manpower Affairs, article 88. For Cambodia, Ibid.

¹⁴ The Labor Act No3 (2008) section 9.

¹⁵ Sutyahadi et al (2001) p. 5.

¹⁶ Wall Street Journal Dec 2012,

<http://online.wsj.com/article/SB10001424127887324352004578132573792308896.html>

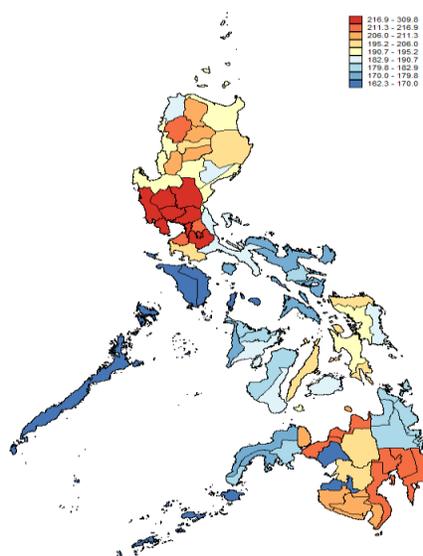
level may vary by age, job tenure, region, industry, and/or occupation. As described by Betcherman (2013), the underlying concept of the minimum wage is to establish a universal floor for wages, but the reality is complicated. Some countries have sub-minimum wages for teenagers or trainees. Some types of workers, such as agricultural and domestic workers, are excluded from minimum wages. Moreover, minimum wage rules are not designed to cover informal sector workers.

3.2.1 Governance of the Policy

Governance of Minimum Wage Systems in ASEAN

In many ASEAN countries such as the Philippines, responsibility for setting minimum wages has been decentralized to provincial/regional authorities, so minimum wage rates often vary greatly by geography. In the Philippines, since the enactment of the Wage Rationalization Act (Republic Act #6727) in 1989, minimum wages have been established at the regional level to account for disparities in cost of living, socioeconomic factors, and economic and social development plans across regions.¹⁷ The result of such flexibility is that each regional wage and productivity tripartite board (RWPTB) imposes a different minimum wage rate for their respective region and different categories of workers; thus, minimum wage levels (or imposition of the law on an employer) vary considerably across the country and workers. As shown in Figure 2, the country currently has over 200 different daily minimum wage rates across various regions and categories nationwide, ranging from PhP 190 to 389 (equivalent to USD 4.4 to 9.0¹⁸) for agriculture and PhP 216 to 426 (USD 5.0 to 5.7) for non-agriculture (NWPC, 2012a).¹⁹

Figure 2: Prevailing Daily Minimum Wage Levels in the Philippines in 2006



Source: Del Carpio, Margolis and Okamura, 2013

¹⁷ The Act created the National Wage and Productivity Commission (NWPC) as well as Regional Wage and Productivity Tripartite Boards (RWPTBs) for the 17 administrative regions of the country. The NWPC is in charge of reviewing the regional minimum wage rates determined by each of the RWPTBs to verify that they are in line with prescribed guidelines and national development plans. Local stakeholders argue that regionalization was done for two purposes: for levels to be determined taking into account local contexts and to remove political pressure from congress.

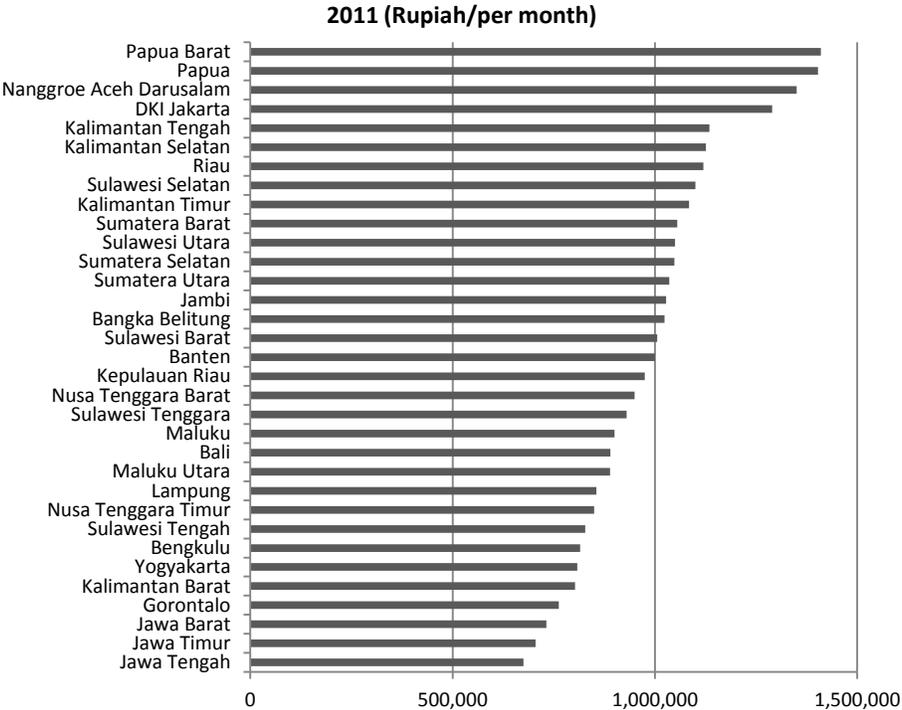
¹⁸ Using the USD-PhP exchange rate of 43 Pesos to 1 USD, (based on the average exchange rate between January to March 2012 (Bangko Sentral ng Pilipinas (Central Bank of the Philippines), 2012).

¹⁹ As of March 2012. Summary of Minimum Wage by regions is available at NWPC website.

Likewise, in Indonesia, the minimum wage regulations set in 2003 under the Law on Manpower Affairs deemed that minimum wage setting was the responsibility of the regional governments, resulting in a complex system of governance. The country has 34 provinces that are made up of regencies, cities, and villages, all of which have their own local governments. Minimum wages for the provinces are determined by governors after considering recommendations from Provincial Wage Councils; at the district level, recommendations come from the Wage Council of the District or City Mayors. Some minimum wages are determined at both the provincial and district levels, so there might be both province- and sector-specific (occupational) minimum wages at the provincial level and the same at the district or city level. If a person works in a certain district within a province but the district does not have an established minimum wage, the minimum wage for the worker is based on the provincial minimum wage. If a minimum wage does exist in the district, then this person's minimum wage is based on the district minimum wage. Similarly, if the person is working in a particular sector within a certain district and the district has determined a sector-specific minimum wage, then the district sector-specific minimum wage prevails (according to the Law of Manpower Affairs 2003, Article 89).

This complex system of governance has resulted in large variability of wage levels across Indonesia, similar to that observed in the Philippines. As shown in Figure 3, average provincial wage levels varied from as high as Rupiah 1,410,000 per month in Papua Barat to as low as Rupiah 675,000 per month in Jawa Tengah.

Figure 3: Average Minimum Wage Levels Across Indonesian Provinces in 2011



Source: <http://www.wageindicator.org/main/minimum-wages/indonesia>.

Like the Philippines and Indonesia, Thailand has a complex governance structure for adjusting the rate. Despite the recent increase of the level to a unified minimum wage rate of 300 baht per day in 2012, the governance structure for future adjustments continues to be complex. More specifically, the law specifies the appointment of the National Wages Council (NWC) to make recommendations on suggested wage rates and to ensure that proposed wage rates coming from the provinces remained consistent with what “an employee deserves” and “sufficient for an employee’s living.”²⁰ The provincial committees deliberate on the adjusted wage rate, given their own context and using tripartite deliberation, and make proposals to the central committee. The final decision is then taken by the Minister of Labor based on recommendations from the NWC, provincial committee, and the Subcommittee on Technical Affairs and Review (STAR). In early 2012, prior to the recent implementation of a unified rate across Thailand, the country had 32 levels of minimum wage rates, ranging from 221 baht in Phuket (the province with the highest cost of living in Thailand), to 159 Baht in Payao.

Like other countries in the world, Thailand faced a challenge of ensuring that all three sides in a tripartite system of governance were well-represented and equipped to negotiate. For instance, the pool of worker representatives in the smaller provinces is often limited; some argue that when unionization levels are low and levels of informality are high, large numbers of workers are not represented in the negotiation. Such lack of representation, in turn, results in limited input in the negotiation from the workers’ side. Governments sometimes remedy such an imbalance by arguing in favor of workers in the negotiation or by making unilateral decisions of raising the minimum wage.

In the case of Thailand, (radically) raising the level of the minimum wage became a top priority in the political campaign; one of the arguments was that workers had not been properly represented in the negotiations and as a result minimum wages had fallen well below an adequate level. In July 2011, when a new prime minister—who campaigned on unifying the minimum wage level across the country and raising to 300 Bhat per day—was elected, the electorate and various organized groups held the new government accountable for their promise to raise the minimum wage. In November 2011, the Cabinet announced a resolution accepting the minimum wage raise, and early in 2012, the Permanent Secretary for Labor announced the implementation of the minimum wage increase to take effect on April 2012, across eight provinces at first (Bangkok, Nonthaburi, Pathum, Thani, Samut, Prakan, Samut, Sakhon, Nakhon, Pathom, and Phuket). All remaining 70 provinces would have an increase of about 39.5 percent, and to be raise to 300 Bhat by January 1st, 2013. According to the Cabinet resolution, the 300-baht daily minimum wage would remain in all provinces nationwide in 2014 and 2015.

Movement toward Simplified Minimum Wage Systems in ASEAN

In a system with multiple minimum wage levels, it can be difficult to keep the tripartite process balanced in many localities, enforce the law once announced and ensure compliance, and avoid further distorting the labor market. The complexity of managing multilevel systems is further exacerbated in low enforcement capacity environments/contexts. Due to these and other concerns, the general trend around the ASEAN region (and the world) is to move away from differentiating wage levels by geography, occupation, and economic sectors.

Some ASEAN countries are moving toward having only one national level of the minimum wage. In 2012, the Government of Thailand proposed piloting a unified level of 300 Baht in Bangkok and the

²⁰ The World Bank (2011a) p. 128.

relatively affluent provinces of Nontaburi, Patumtani, Samutprakarn, Samut Sakon, Nakornpatom, and Phuket. The rise represented an increase of 35.7 percent for Phuket and 39.5 percent for the others. According to a recent journal article, the Labor Protection and Welfare Department announced in January 2013 that the rise to 300 Baht had taken effect across all 70 remaining provinces, accompanied by a government stimulus measure to increase payments for non-wage workers such as farmers.²¹ In Indonesia, recent changes announced by the Government (largely in response to repeated worker demonstrations) may reduce the level of minimum wage dispersion in the near future, if the suggested increases made by the Government²²—a rise for Jakarta by 44 percent (equivalent to USD 228 per month) and the rest of the provinces to a uniform level equivalent to USD 208 per month—take effect.

In Vietnam, recent reforms have separated the common minimum wage used in the domestic private sector from that of the public sector as well as gradually unified the minimum wages for the private domestic sector and foreign sector. Effectively since October 2011, domestic and foreign firms have had the same level of minimum wages. The Malaysian government chose to implement two distinct minimum wage levels in the country, one for Borneo and one for Peninsula, given that these geographic areas have very distinct labor markets.

3.2.2 Coverage of the Policy

National-Level Minimum Wage Systems: ASEAN and Beyond

Many countries around the world set only one national level for the minimum wage and allow for a few exceptions or reductions. The reductions are mainly granted in the case of particularly low-productivity workers whose employment opportunities become extremely limited when the minimum wage is set at a high level. Some of the most common reductions are granted for younger employees, disabled workers, and apprentices.

In South Korea, for example, a single minimum wage is applied without any regional or occupational differences. The law initially included only manufacturing establishments and firms with more than 10 employees, but it gradually expanded to universal coverage of all sectors and firms, regardless of size. Currently, the minimum wage does not apply to family businesses that hire only family members and housework employees. It also exempts seamen and ship owners from being covered by the law. With respect to special groups, workers with limited working capacity (the disabled) are exempt from the law, with the Ministry of Labor granting permission on a case-by-case basis. Workers on probation receive 90 percent of the hourly minimum wage rate, while security guards and caretakers receive 80 percent of the hourly minimum wage rate.

Similarly, the minimum wage law in Hong Kong applies to every employee (whether full-time or part-time) regardless of nationality or type of contract. There are no deductions or exclusions based on worker age as well as no sectorial differentiations, mainly to avoid distortions. However, a few exceptions are allowed for: (i) people not covered by the Employment Ordinance, (ii) domestic workers who live in their employers' households free of charge (nearly 280,000 workers, mostly Filipino and Indonesian), (iii) workers excluded from coverage due to difficulty in calculating their work hours given the round-the-clock nature of their jobs and the monetization of other benefits

²¹ <http://www.bloomberg.com/news/2013-02-26/thai-bankruptcies-rise-as-minimum-wage-rolls-out-southeast-asia.html>

²² The level for Jakarta was suggested by the Jakarta wage board.

such as housing, food, medical care, and free travel to their home countries, (iv) apprentices registered under the Apprenticeship Ordinance, and (v) student interns and specified work experience students.²³ As in some countries, disabled workers are paid a proportion of the minimum wage, estimated by their degree of productivity as assessed in their person-with-disabilities (PWD) certifications. To avoid the risk of abuse, the right to invoke such an assessment is vested in the employees with disabilities rather than the employers.

Minimum Wage Systems with More Limited Coverage and/or Differentiation by Worker Group

Several minimum wage systems in ASEAN countries cover a limited segment of workers and/or provide exemptions that leave a significant proportion of workers outside the minimum wage system. Some countries such as Malaysia do not apply statutory minimum wages to all or the large majority of employees, restricting minimum wages to specific groups as defined by sector or profession. In Malaysia, the public sector has its own wage policies. For the private sector, the Central Government set two distinct regional minimum wage levels, to account for two distinct labor markets in the country. The law in Lao PDR specifies that it should apply to all employees or persons working under written contracts for employment of three months or more,.. In Cambodia, coverage is limited to the garment sector, leaving 85 percent of the labor force uncovered (Warren and Robertson, 2011). Table 2 presents the most recent status of the policy in each ASEAN country.

Table 2. Minimum Wages in ASEAN Countries

Legislation of the Minimum Wage in ASEAN+ Countries, Status as of 2013		
Country	Relevant Law	Relevant Institutions/Entities/Notes
Brunei	❖ No Minimum Wage Law	❖ Enforcement of other labor regulation is under the Department of Labor
Cambodia	❖ Labor Law (1997)	❖ Ministry of Labor ❖ Labor Advisory Committee ❖ Only applicable to the garment sector
China	❖ Regulations on Minimum Wage in Enterprises (1993, revised in 2004) ❖ Labor Law (1994)	❖ Labor and social security bureaus in each province, autonomous region or municipality and city ❖ Ministry of Human Resources and Social Security [MOHRSS]
Indonesia	❖ Law on Manpower Affairs (Act 13,	❖ National Wage Council

²³ The exclusion of student internships is only for university students, and there is no special consideration for younger, less educated workers who will probably be most affected by the new increase in the minimum wage. According to Government officials, the reasoning behind not providing special treatment is based on the low youth unemployment rate, the high rate of tertiary education enrollment, and the existence of hiring subsidies for the first jobs of younger uneducated workers.

	2003)	<ul style="list-style-type: none"> ❖ Provincial Wage Councils ❖ District (Regency)/City Wage Councils ❖ Ministry of Manpower and Transmigration ❖ Head of local governments: Governors, Mayors, etc.
Japan	<ul style="list-style-type: none"> ❖ Labor Standard Law (1947) ❖ Minimum Wage Law (1959, revised in 1968 and 1978) 	<ul style="list-style-type: none"> ❖ Prefecture Minimum Wage Councils ❖ Central Minimum Wage Council ❖ Ministry of Health, Labor, and Welfare
Korea	<ul style="list-style-type: none"> ❖ Minimum Wage Act (1986, revised in 1989, 1999, 2000, and 2005) 	<ul style="list-style-type: none"> ❖ Minimum Wage Council ❖ Ministry of Labor
Malaysia*	<ul style="list-style-type: none"> ❖ Wages Councils Act (1947) ❖ Employment Act (1955, revised 1981) ❖ Industrial Relations Act (1967, amended 1980) ❖ National Minimum Wage Act (2011 with implementation scheduled for 2013) 	<ul style="list-style-type: none"> ❖ National Wages Councils ❖ Ministry of Human Resources ❖ National Wages Consultative Council (as of 2011)
Myanmar	<ul style="list-style-type: none"> ❖ Minimum Wage Law was set in 1949 , however, there is no Minimum Wage Law in place currently. A draft of the Minimum Wage Act was put forth in 2012 but it has not passed ❖ Sectoral standards exist 	<ul style="list-style-type: none"> ❖ Enforcement of other labor regulations are under the Ministry of Labor, Employment, and Social Security
Philippines	<ul style="list-style-type: none"> ❖ Labor Code (1974) ❖ Wage Rationalization Act (1989) [an act to amend the Labor Code provisions on minimum wage] 	<ul style="list-style-type: none"> ❖ Regional Tripartite Wage and Productivity Boards ❖ National Wages and Productivity Commission ❖ Department of Labor and Employment ❖ Parliament has power to enact a legislation setting statutory minimum wage rate
Singapore	<ul style="list-style-type: none"> ❖ No statutory minimum wage 	<ul style="list-style-type: none"> ❖ Enforcement of other labor regulations is under the Ministry of Manpower

Thailand**	<ul style="list-style-type: none"> ❖ Labor Protection Act (1998) 	<ul style="list-style-type: none"> ❖ National Wage Committee ❖ Provincial Minimum Wage Sub-Committees (appointed by the National Wage Committee) ❖ Major (uniform) 2013 reform
Vietnam	<ul style="list-style-type: none"> ❖ 1990 government decree [introducing two minimum wage rates (one for domestic establishment and another for foreign invested enterprises)] ❖ Labor Code (1994) ❖ Series of decrees, latest in November 2007 ❖ Decree 49/2013/ND-CP in July 2013 to establish National Wages Council 	<ul style="list-style-type: none"> ❖ Ministry of Labor (MOLISA) ❖ National Wage [Policy] Reform [Steering] Board (governmental body) ❖ Four zones, four distinct levels ❖ National Wages Council (since 2013)
Source: Various. World Bank, 2013 and ILO's Database of Conditions of Work and Employment Laws		

Notes: *Malaysia just passed the Minimum Wage Law, and enforcement began in 2013. **Thailand has recently introduced a uniform minimum wage across the country, but the law for future revisions of the level continues to be at the provincial level.
Source: Various, author's research from reviewing legal documents.

In some countries, entire subsets of workers are exempted from the minimum wage legislation altogether. In Thailand, government, domestic, and agricultural employees are not covered by the minimum wage. Part-time and student workers are also excluded,²⁴ which is not insignificant given that approximately 32 percent of the labor force worked less than 40 hours per week in 2009. In the Philippines, in addition to differentiating by region and by category of worker as discussed above, the law allows for certain types of employers to be exempted from paying the minimum wage. The minimum wage applies only to wage and salary workers in private establishments,²⁵ representing less than 46 percent of total employment.

In the Philippines, implementation rules further reduce the scope of minimum wage, as microenterprises are exempted from coverage by minimum wages. Employers with 10 or less workers can be exempted, as well as firms that have faced hardship due to extreme economic losses (a drop of 20 percent in assets or capitalization two years in a row) or natural calamities. Around 92 percent of establishments in the Philippines are micro-size with less than 10 employees, implying that the employees working in those micro establishments (who account for roughly one-third of total employment) are not covered by the minimum wages. In addition, the Barangay Micro Business Enterprise Act (BMBEA, RA 9178, 2002) exempts all the registered barangay (village)

²⁴ Approximately 32 percent of the labor force worked less than 40 hours per week in 2009.

²⁵ Department of Labor and Employment (1989b) Chapter 1, Section 1. The minimum wage law applies to all workers in the private sector, regardless of their position, designation, or status and irrespective of payment method. Note that public sector is governed separately by RA 6758 (1989), An Act Prescribing a Revised Compensation and Position Classification System in the Government and for Other Purposes.

enterprises from the minimum wage. These types of exemptions have led to distortions in the labor market and further difficulty in enforcing the law (Del Carpio, Margolis, Okamura, 2013).

A distinctive feature of Vietnam's minimum wage system in the past was the application of different rates for the foreign and domestic sectors, which was much higher for foreign firms than for local firms. The government established minimum wage levels for foreign companies in 1992 and for domestic enterprises that employed 10 or more workers in 1994. The first minimum wage for the foreign sector was established at a level of USD 50 per month, which then changed to four different levels across the four regions of the country in 1996. For the domestic public sector, the first "base minimum wage" went into effect in April 1993 and was used as a basis for computing social insurance and pension contributions for the domestic public sector across the entire country. For the domestic private sector, the minimum wage law specified that private firms were not allowed to pay below the "base minimum wage," essentially tying the minimum wage of the private sector to the base minimum wage for the public sector. The Labor Code (put in place in 1994 and amended in 2002) stipulates industry-specific minimum wages, and until October 2011, there were three industry-specific groups of minimum wages: one applied to the public sector, while the other two applied to Vietnamese firms and to foreign firms (FDI)²⁶ in every region. After October 2011, the Government homogenized the minimum wage in the private sector, leaving only region-specific minimum wages and the common minimum wage.²⁷ The unification of the minimum wage was intended to overcome the levels of discrimination between workers from domestic and foreign companies. Vietnam now has different wage rates covering four area zones and ranked according to the economic development level of each area zone.

A review of international experience also yields many examples of minimum wage systems that cover specific groups of workers and/or apply different levels of minimum wages to different groups of workers. In OECD countries like Germany, for instance, minimum wages are set for several sectors under the provisions of the Posted Workers Act. In Cyprus, minimum wages are set for six occupations: salesmen, clerks, auxiliary health care staff and auxiliary staff in nursery schools, crèches and schools. In many Eastern European countries, minimum wages can be adjusted as a function of education or age (Del Carpio et. al., 2010). For example, Albania, Bosnia and Herzegovina, Czech Republic, Slovakia, FYR Macedonia, and Montenegro set coefficients that are multiplied by the base minimum wage depending on the education level of employees.²⁸

Some countries have legislated lower minimum wages for youth to ease their entry into the market. For example, the labor law in Serbia allows a trainee wage that is 80 percent of the regular minimum wage. Czech legislation permits 90 percent of the minimum wage rate to be paid for those aged 18-21 years old for a six-month period as of the first day of employment, while employees under age 18 are entitled to 80 percent of the minimum wage rate. A lower minimum wage to facilitate the labor market entry of young people is also found in Albania, Bulgaria, and Poland.

3.2.3 Adjusting the Minimum Wage Level

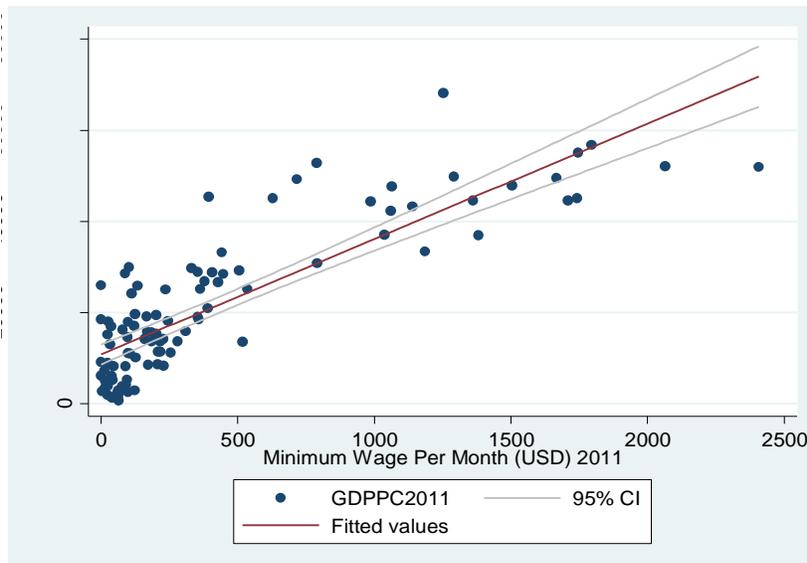
²⁶ Labor Code 23, article 56.

²⁷ Labor Code 23, article 6.

²⁸ This has become problematic, for instance, for vocational/secondary education graduates. Due to low quality, skills mismatches, and general over-supply, wages for these groups are low. Governments have tried to compensate for this by using higher coefficients but in doing so have aggravated employability problems (see Krsmanovic and Walewski, 2006).

Higher minimum wages are typically found in higher income (higher productivity) countries. And the positive relation between higher minimum wages and higher productivity is clearly shown in Figure 4.

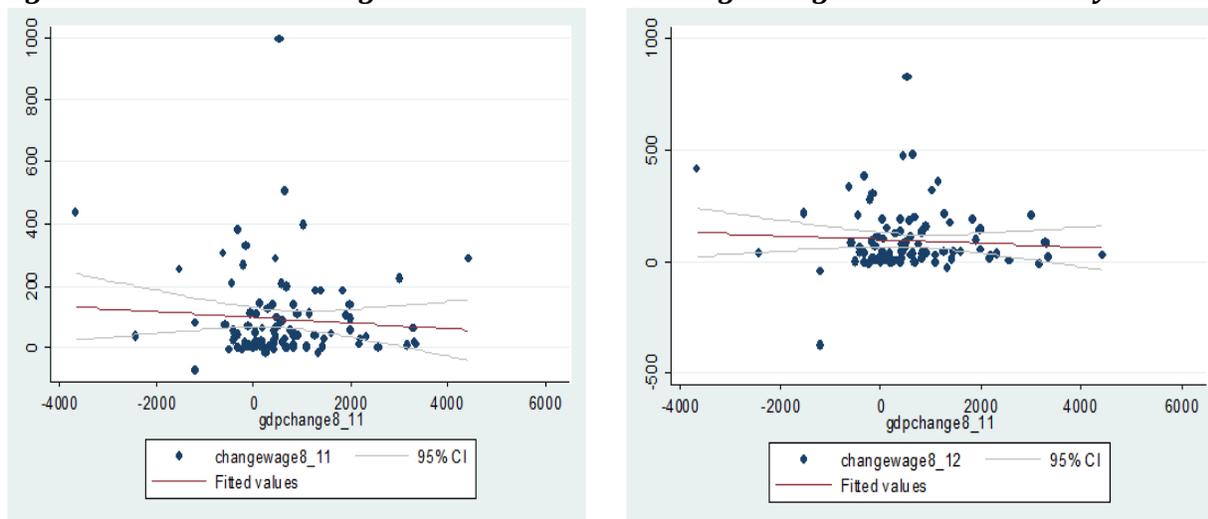
Figure 4 Relation Between Minimum Wage and Productivity



Source: Author's Calculations using World Bank Development Indicators and Doing Business Data, 2013

Figure 5 compares the growth in average labor productivity with increases in the minimum wage for two periods 2008 through 2011 and 2008 through 12. As observed, the relationship is slightly negative suggesting that in the last years, minimum wage increases have not kept pace with changes in productivity.

Figure 5 Relation Between growth in the Minimum Wage and growth in Productivity



Source: Author's Calculations using World Bank Development Indicators and Doing Business Data, 2013

Since the level of the minimum wage helps to define an economy's competitiveness and affect labor costs in low-skilled sectors, increases to the minimum wage without commensurate

adjustments to labor productivity can have significant negative impacts. For instance, in Vietnam, rising minimum wage levels has contributed to decreasing the country's cost advantage relative to countries like Bangladesh or Cambodia where wages are still low relative to Vietnam (McKinsey Global Institute, 2012). The Philippines is notorious for having a (nominal) minimum wage level that is high relative to average wages in the country and other countries around the world. And the fact that the level gets regularly increased makes the country unattractive to many foreign investors in labor-intensive manufacturing (World Bank, 2012).

Adjustments to the minimum wage level are in theory linked to the objectives of the policy in the country. For instance, in countries where the objective of having the policy is to provide a decent wage to workers, the most commonly used adjustment criterion is to link the minimum wage to the cost of living. Using the cost of living is the dominant practice used in 61 percent of countries covered in the ILO database. In 20 percent of countries, the legislation does not provide specific criteria, *de facto* leaving adjustments to the discretion of the government and/or bargaining between social stakeholders. However, in most countries, a pre-set formula (or clear set of criteria) is stipulated in the legislation and/or guidelines to be followed by the governance body.

Conversations with stakeholders in recent visits to the ASEAN countries studied in this report revealed that many governing bodies do not follow the pre-set criteria for adjustments. Lack of available data is one limiting factor, while in some cases, insufficient capacity to process and understand the data limits stakeholders from exercising their voice. Stakeholders recognize that weak capacity hinders the use of objective data to counterbalance political agendas, and this often yields wage rates that are either too high or too low and a process that is not trusted.

Is the Level Too High or Too Low?

In ASEAN as well as in other Asian countries, there are varying degrees of detail on the type or even the specific elements considered in determining the minimum wage level. Some countries give a weight to each specific variable considered, while others are much less specific and let the minimum wage council, the regional governments, or the central governments decide. It is clear that it is not easy or straightforward to determine the optimal adjustment size or whether it is too high or too low.

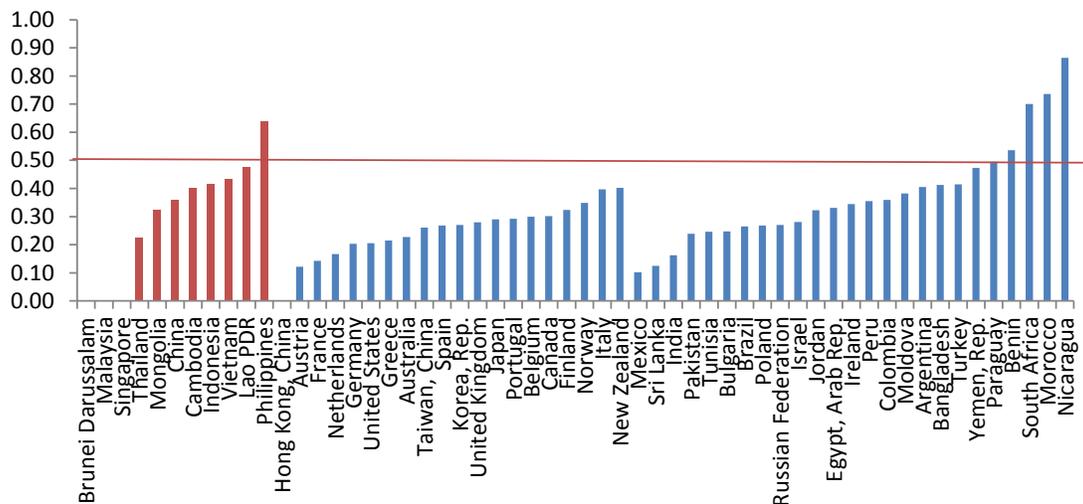
One way to begin to understand whether a level is too high or too low is to use proxies; one useful proxy is the ratio of minimum wage and value-added per worker²⁹. Figure 6 shows that compared to other countries around the world (mainly developed countries) almost all countries in the ASEAN region have high minimum wages relative to their value added per worker; and the ratios have been increasing in several countries. None of the OECD countries listed have ratios above 40 percent. In ASEAN, the Philippines, Lao PDR, Vietnam, Indonesia and Cambodia have ratios at or above 40 percent. Brunei and Singapore have no minimum wage law, and Malaysia had just adopted the law but not implemented it when the data was collected³⁰. The Philippines has a 64 percent ratio while Laos has a ratio of 48 percent. These ratios are twice or thrice as high as other

²⁹ The only concern with focusing on productivity is that it is important to understand what definition is being used. Especially because other factors, not directly related to wages, can affect the relationship between wages and productivity. For instance, if a firm increases its capital-labor ratio, or its production technology (by increasing capital investments), or changes its workforce composition shifting away from low skilled (less expensive) workers it is likely to positively affect its *marginal labor* productivity but will not necessarily have an effect on *average* labor productivity.

³⁰ Recent data shows that the ratio, given the average level for Malaysia of RM 850, will amount be around 30 percent; however, forthcoming analytical work will measure this ratio with more precision.

ASEAN countries (Mongolia and Thailand), and comparable to developing countries such as South Africa, Yemen and Paraguay (Doing Business by the World Bank, 2013).

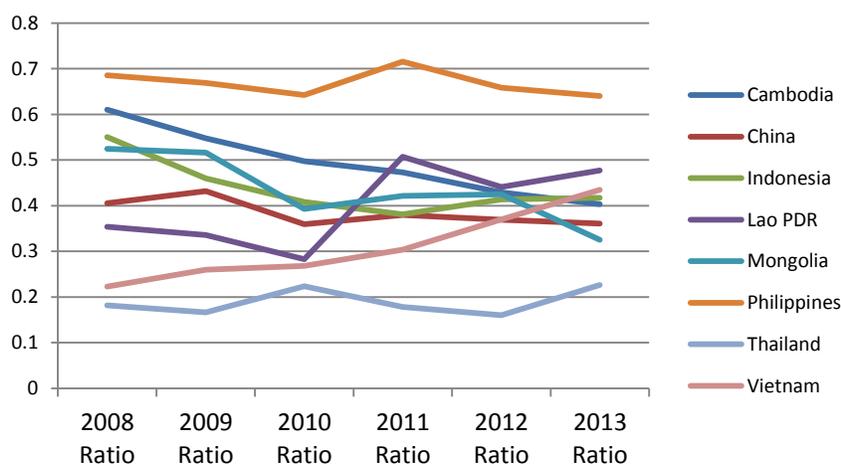
Figure 6 Minimum Wage Levels Relative to Value-Added Per Worker in 2012



Source: World Bank Doing Business Data Set, 2013

As mentioned, these ratios have been changing over time for many of these countries. For instance, Cambodia and Mongolia saw decreases in the minimum wage to value-added-per-workers ratio while Laos and Vietnam experienced rapid increases in the ratio. In the case of Laos and Vietnam, both countries increased their minimum wage rates in the last few years. Laos increased the minimum wage level by 20 percent (in nominal terms) in 2012 while Vietnam increased the nominal level four times in four years, since 2009. However, neither country experienced parallel increases in labor productivity.

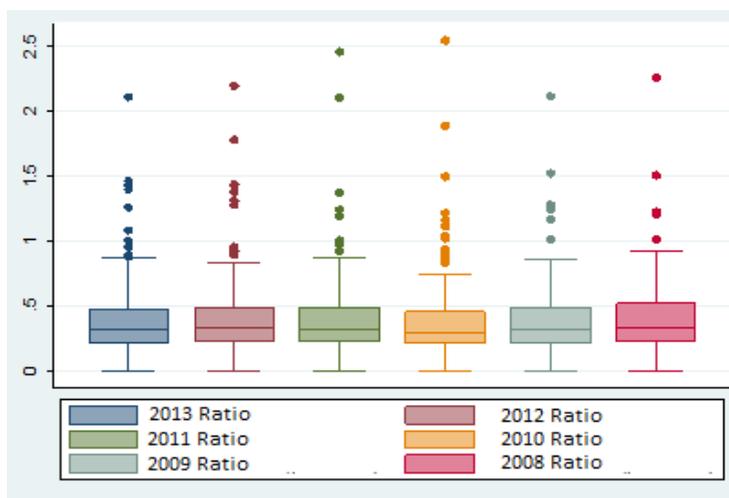
Figure 7 Minimum Wage Level Relative to Value-Added Per Worker, 2008-2013



Source: Author's Calculation using the World Bank Doing Business Data Set, 2013

But a clear question remains, what is the right ratio? Many countries emphasize the need for wage moderation to prevent negative effects. But as previously alluded, there is no clear guidance on what a moderate wage is, whether wages alone (vis-à-vis other labor costs) should be taken into account when making wage related decision, and whether the ratio of wages to labor productivity is the right tool to gauge the appropriateness of the level. Figure 8 shows the distribution of the data across the world (a larger set of countries than previously shown) and across time. The median ratio of the minimum wage to value-added-per-worker across the world since 2008 has stayed at around 35 percent, with the lower quartile at around 25 percent and the higher quartile below 50 percent. Though it cannot be argued that 35 percent is the appropriate level, it is clear that most established economies keep the ratio at that level.

Figure 8 Distribution of the Ratio of Minimum Wage and Value Added Per Worker, Across the World (2008 -2013)



Source: Author's Calculations with World Bank Doing Business Dataset, 2013

Frequency of Reviews and/or Adjustments

In most countries around the world, the minimum wage legislation does not define the frequency of reviews/adjustments. Less than one-fourth of countries require rates to be reviewed on an annual basis (Smits, 2008) and laws governing the minimum wage often define mechanisms for reviewing the minima. In some cases, the level is to be re-assessed automatically based on the consumer price index or economic growth adjustments. But in many cases the level can be adjusted through discretionary updates (increased by legislation), and it is not unusual that tradition of regular adjustments around labor-day or political cycles provide guidance for when minimum wages should be adjusted.

In most countries, the minimum wage is often adjusted in line with inflation, an adjustment that occurs at irregular intervals and often does not fully offset consumer price increases. Among the EU15, only Belgium and Luxembourg appear to automatically index the minimum wage to prices. France, Greece, Japan, Portugal, and Spain have annual reviews in which both price and wage movements are explicitly or implicitly taken into consideration. In a few countries such as New Zealand, Portugal, Spain, and Luxembourg, criteria such as the 'expected' impact on employment, unemployment, and competitiveness are explicitly taken into account in annual or biannual reviews of the minimum wage. In Paraguay and Haiti, the legislation states that inflation rates equal to or higher than 10 percent should trigger a renegotiation of the minimum wage.

In the East Asia region, even though the frequency is not always fixed by law, revisions are generally undertaken on an annual basis or when triggered by demand or change in economic circumstances. In South Korea, the minimum wage level is reviewed each year in early August. The law in Malaysia mandates reviews every two years, and in Hong Kong (where the first minimum wage level was implemented in May 2011), the law requires that the wage level be reviewed at least every two years (although according to newspapers the labor unions are pushing for annual reviews).³¹ In interviews undertaken for this report, Hong Kong officials indicated that the new system would stay flexible and that the minimum wage could be adjusted up or down whenever warranted by changing economic conditions. In the case of Vietnam, the minimum wage is adjusted as the prices of commodities and services change, in accordance with the Labor Law. When the country experiences high economic growth, the minimum wage is also raised to improve the living standard of workers. In Lao PDR, there is no scheduled frequency of adjustments, and changes to the level happen irregularly.

In Thailand, the establishment of the uniform 300 Baht per day (or 6,600 Bhat per month, given 22 days in one month) minimum wage level is meant to be fixed until 2015, unless a severe economic crisis forces the Government to review the amount. Prior to the recent adoption of the 300 Baht per day level nationwide, the practice was to review/adjust the minimum wage on an annual basis and announce the outcome of the review in November of the same year, to be implemented on January 1 of the following year. However, not all years had an increase, while some years had more than one adjustment. Under the previous policy, interim review processes were initiated either by the request of trade unions, a recommendation from the National Wage Commission or Provincial Minimum Wage Subcommittees, or governmental order.

In Indonesia and the Philippines, minimum wage adjustments are made at the provincial/regional level. The law in Indonesia has no specific provision for adjustments, but governors have the power to adjust minimum wages every year if necessary. The governors usually determine the minimum wage once a year by issuing a governor's decision letter.³² Updates to the subsistence requirements are done every year with provincial-level surveys. In the Philippines, minimum wage adjustments are done by regional Wage Orders whenever conditions in the region call for them.³³ Based on prescribed standards and criteria, each Regional Wage and Productivity Tripartite Board (RTWPB) investigates and determines whether the Wage Order should be issued. Figure 9 shows that nominal wages have increased almost every year across the country (World Bank, 2012).³⁴

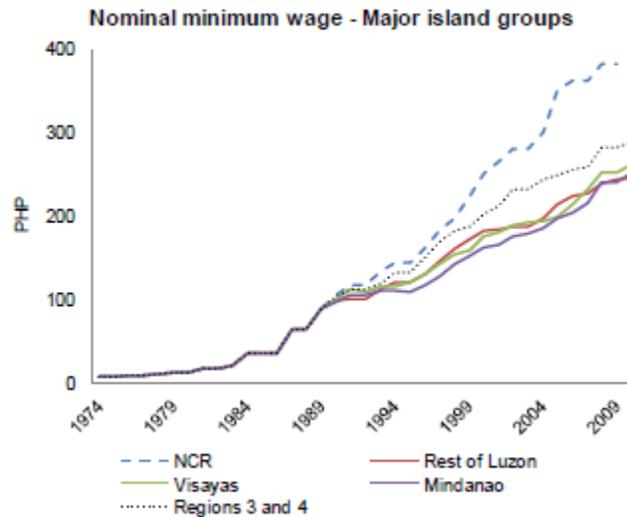
³¹<http://economictimes.indiatimes.com/news/international-business/Hong-Kong-OKs-minimum-wage-law/articleshow/6180516.cms>

³² ILO (2011a).

³³ Department of Labor and Employment (1989b) chapter III, section 1.

³⁴ Under section 3, Rule IV of the Amended Rules of Procedure on Minimum Wage Fixing issued by the National Wage and Productivity Commission (NWPC) in 2007, a Wage Order may not be adjusted for a period of 12 months from its effective date unless there is a supervening condition, such as an extraordinary increase in prices of petroleum products and basic goods/services as determined by a RTWPB and confirmed at the national level by the NWPC. As cited on Wage Order # NCR 16 of the PTWPB.- National Capital Region in <<http://www.nwpc.dole.gov.ph/pages/download/ncr/reg%20ncr%20-%20wo%2016.pdf>>

Figure 9. Nominal Minimum Wage Increases per Year in Major Island Groups in Philippines



Source: World Bank, 2012

Determining the Optimal Minimum Wage Level

Debate over the impact of the minimum wage on labor markets and the economy as a whole is difficult to settle because the effects of the policy often depend on complex substitution and complementary relations with other inputs, including skilled labor and informal labor. Some studies find that labor market rigidities such as wage rigidity caused by the minimum wage can slow job creation and contribute to unemployment and poverty (Pages and Micco, 2006), while other studies find that minimum wages are critical when fierce competition in the globalized world promotes a race to the bottom in wages (Alaniz, Gindling and Terrel, 2011).

Since most countries around the world already have a minimum wage policy and are highly unlikely to do away with it, it is perhaps more useful to practitioners to focus on how to best determine the level. How high should the level be relative to average wages in a country, and given a particular country context? It should be emphasized that fixating on the real minimum wage level and comparing it to the level in other countries is of limited use; instead, practitioners should focus on setting the appropriate level relative to the country's average wage level. Country A may have a totally different labor market than Country B, thus making the comparison not useful (Maloney and Mendez, 2004).

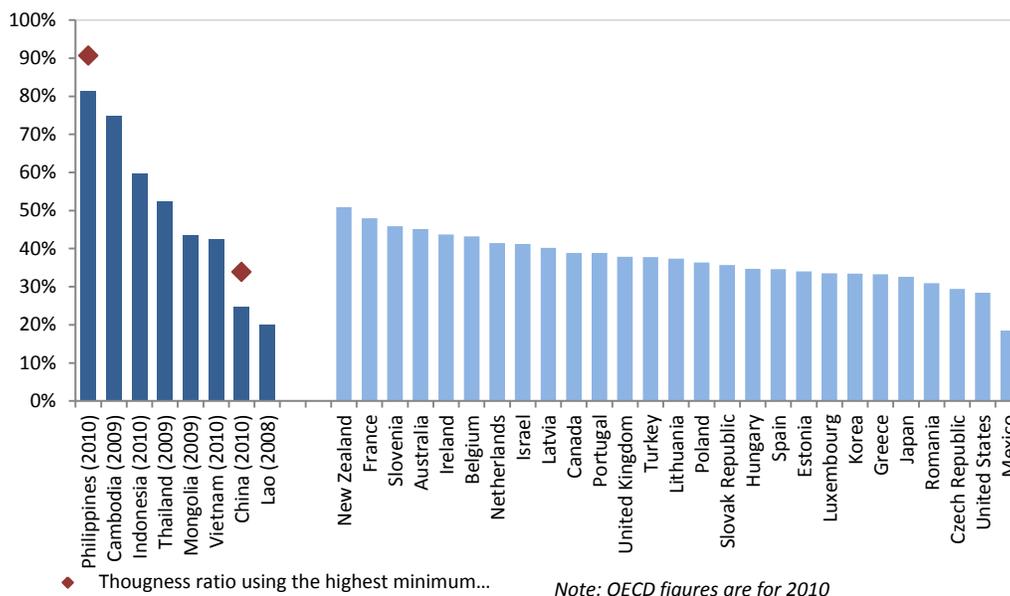
Across the ASEAN region, the average level of minimum wages relative to average wages and as a proportion of value added per worker varies significantly by country. Few countries have kept the rate in check with the factors outlined in their minimum wage adjustment formulas or in line with their objectives. Some countries (or regions within these countries) have had minimal adjustments, keeping the rate too low. Other countries have had drastic increases, making the rate too high, closer to average wages.

Among the countries studied, Thailand had the lowest level of monthly minimum wages in 2011 relative to the country's GDP per capita (the level is now different after the 2012 adjustment). Most Indonesian provinces had similarly low levels. In 2008, the real value of the minimum wage for most ASEAN countries worsened due to a sharp rise in inflation, and tensions between labor and firms rose even higher, with strikes becoming increasingly popular. In response, the nominal levels

of minimum wages have risen dramatically since 2008/09. Since 2011, the governments of Cambodia, Lao PDR, Indonesia, and Thailand announced sharp increases in minimum wage levels.

At the other extreme, the Philippines is notorious for its high minimum wage level, especially relative to the average wage. Figure 10 shows that in 2010, the Philippines average minimum wage level was above the 80th percentile of countries in the world in terms of the ratio of the minimum wage to value added per worker.³⁵ However, the national-level comparison may be informative, as a benchmark, but may not be particularly meaningful, given the high degree of wage dispersion within most countries and high levels of employers and/or workers not abiding by the law. The red diamond indicates that the level in some regions is even higher (or tougher), while the blue bar shows the weighted average using the lowest rate for each region.

Figure 10: Ratio of Minimum Wage to Average Wage

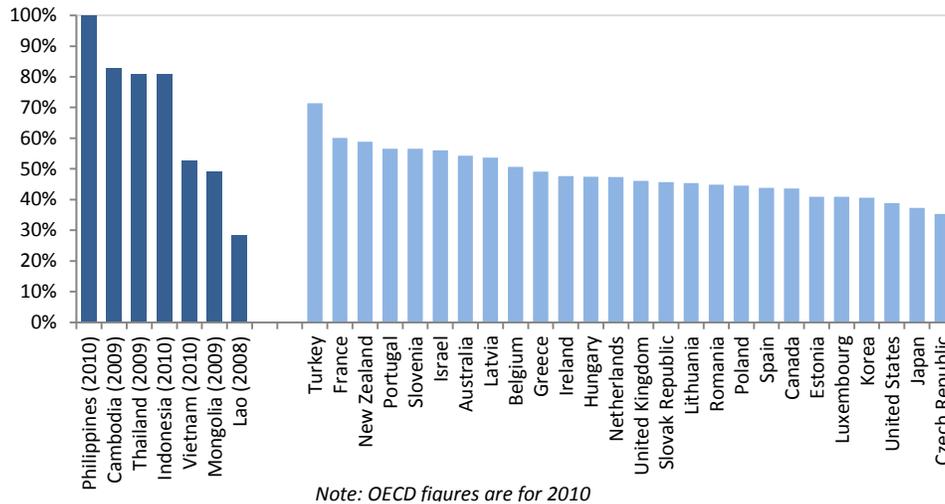


Source: World Bank 2013

Figure 11 illustrates that the minimum wage in the Philippines is equal to the median wage; this is another way to ascertaining whether the level is too high relative to overall wages. The levels in Cambodia, Indonesia and Thailand (prior to the recent major increase) are also not too far from the median wage, and much higher than all countries in the OECD (except Turkey).

³⁵ In the East Asia and Pacific region, only the Solomon Islands, the Federated States of Micronesia, Fiji, and Vanuatu have higher relative minimum wages, and all these ratios are within five percentage points of each other. See the 2013 Doing Business “Employing Workers” data: <http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Miscellaneous/EWI-DB2013-data.ashx>.

Figure 11: Ratio of Minimum Wage to Median Wage



Source: World Bank 2013

3.3 Monitoring and Enforcement of the Minimum Wages in ASEAN Countries

Whether the minimum wage can bring about a fair distribution of rents in the economy depends not only on having the right design or setting the right level but also on whether firms comply with the law and pay their workers' wages at or above this rate. For the law to have its intended effect, mechanisms (and resources) to monitor and enforce compliance need to be in place in parallel to implementation of the minimum wage policy or a level adjustment. Many countries use mass-information campaigns in the mass media to inform workers of their rights, including the new minimum wage level.

3.3.1 Monitoring Compliance

Many ASEAN countries experience limited compliance with labor regulation, including the minimum wage, in part because coverage is limited (most workers are self-employed) and in part because employers find it easy to evade the law due to limited monitoring. Warren and Robertson (2011) provide a good example of compliance issues in Cambodia: although the law mandates that all workers in the garment sector must be paid at or above the minimum wage, the mean level of wage compliance at the firm level in the sector is around 90 percent. Household surveys show that nearly 20 percent of the workers in the apparel sector earn less than the legal minimum wage. According to the study, given that the policy is relatively new in the country, workers still have reservation wages below the minimum wage, so firms in the garment sector are able to evade the policy. In Malaysia, the newly implemented minimum wage policy is set up to be monitored by labor inspectors with ample powers to enter and inspect the necessary documentation to ensure compliance, but there has been no evaluation of compliance with the law thus far.

The experiences of other developing countries with similar contexts show that monitoring compliance with labor regulations takes large amounts of resources and coordination among multiple stakeholders (Gindling, Mossaad and Trejos, 2013). In countries where limited resources are allocated to this part of policy implementation, non-compliance is commonplace (Lemos, 2004;

Harrison and Scorse, 2004; and Cunningham, 2007). Qualitative work undertaken for this report in Thailand and the Philippines confirms that this is true in these countries; it revealed that these countries assign limited resources to monitoring, making it difficult for labor inspectors to monitor many firms.

3.3.2 Penalties

In some of the countries studied, the penalties that employers face for noncompliance are minimal in practice. The law in Thailand says that any person who does not provide every convenience to the labor inspectors, does not give a statement when asked, does not send a document or object in accordance with a notice of the Wages Committee or Labor Inspection Officer, “must be sentenced to not more than one month’s imprisonment or fined not more than two thousand Baht, or both.” Obstructing the performance of the inspectors is also to be punished with “not more than one year’s imprisonment or fined not more than twenty thousand Baht, or both.” However, the maximum penalty of 20,000 Baht is relatively low, making the expected cost of not paying the minimum wage much lower than the expected benefits. Furthermore, a recent study found that in 2010, more than 90 percent of the establishments identified to be violating the law in Thailand did not face monetary or criminal punishment; instead, they only received warnings from the labor inspectors (Leckcivilize, 2013). In the Philippines, violation of the minimum wage carries a fine ranging from PhP 25,000-100,000 or two-four years of imprisonment.³⁶

3.3.3 Enforcement and Compliance

As in other developing countries, enforcement of minimum wage laws, as well as other labor policies, is quite weak or limited in reach. In the Philippines, the enforcement of labor standards has been liberalized through the New Labor Standards Enforcement Framework (DO 57-04), which involves a combination of voluntary compliance, self-regulation, and inspection. As described in Imperial (2004), because small and medium-sized enterprises cannot afford to comply with labor standards, labor enforcement is soft on small enterprises. For large establishments with unions, the Framework encourages self-regulation through the labor-management partnership to ensure the implementation of labor standards. Therefore, the usual regulatory approach through inspection applies only to medium-sized enterprises (10-199 workers), to “complained establishments” or establishments where employees file complaints of violations of labor standards, establishments where there is an incidence or possible occurrence of accidents, and highly hazardous establishments. A recent World Bank report finds that in 2011, 91 percent of establishments were classified as micro-size, with less than 10 workers. The share of workers in those firms makes up around 80 percent of total wage-earning workers. Given the exemptions and rules of the Pilipino labor code, these firms are eligible for minimum wage exemption but given the lax monitoring environment in the country, very few of these firms apply for exemptions, and they simply do not comply. Small and medium sized firms are not exempt but they comprise of a much smaller share of the workforce (World Bank, 2012).

The complexity of minimum wage systems and lack of transparency also make enforcement difficult and the probability of being inspected very low. As mentioned earlier, the Philippines has over 200 different minimum wages in effect, and the law allows for many exemptions.³⁷ In 2011, there were about 270 labor inspectors, which amount to (roughly) one inspector for every 238

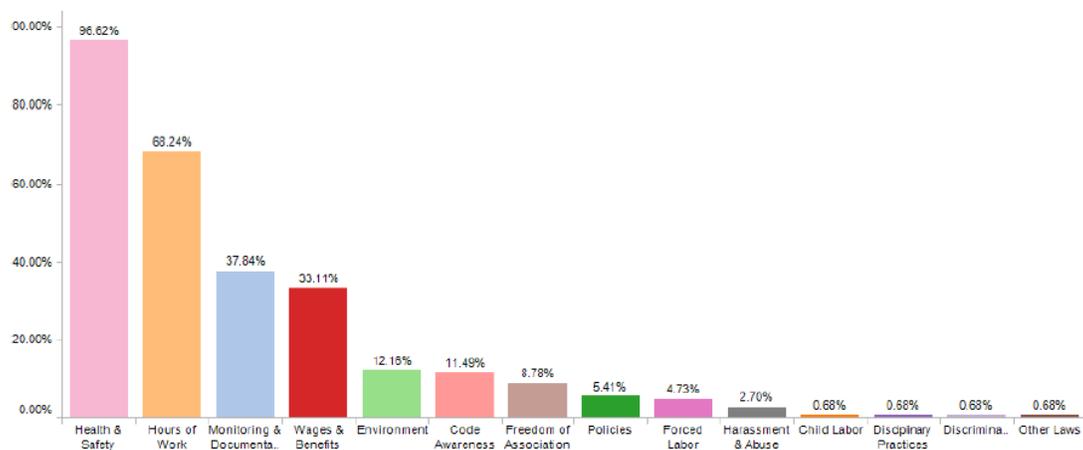
³⁶ Department of Labor and Employment (1989a) and Republic Act # 8188

³⁷ Allowing for exemptions from minimum wage regulations is quite common in the developing world. See Saget (2008), <http://www.ilo.org/travaildatabase/servlet/minimumwages>.

firms covered for inspection; under any system, the number of inspectors is too small to guarantee compliance (World Bank, 2012). Enforcing such complicated systems poses a major challenge even for countries with stronger capacity and greater resources for inspection and enforcement. Indeed, an analysis of official compliance rates in the Philippines suggests weak implementation of the minimum wage orders. According to the NWPC,³⁸ the compliance rate was 77.6 percent out of 5,768 establishments inspected as of June 2010.³⁹ According to a 2012 document from the Department of Labor and Employment (DOLE) of the Philippines, the minimum wage remains the most common violation of the labor code, and inspections found that around 20 percent of firms were noncompliant with the minimum wage over last decade. However, it is important to note that these reported compliance rates are not representative, as under DOLE policy, only firms with 11-99 workers are inspected, with priority going to the larger ones.⁴⁰

Audits of firms in Vietnam (by an international monitoring firm) reveal that many labor violations stem from falsification of documents and lack of verifiability of records. In 2012, an auditing process across manufacturing firms found that 20 percent of firms falsified their records, especially as it pertains to the number of hours worked. About 33 percent of firms had violations related to wages and benefits (Figure 12). Manufacturing firms that violate labor regulation (typically export oriented firms) report fewer hours in order to stay compliant with international labor standards and to avoid affecting their reported productivity rates (many of them pay per piece and ask their workers to work off the clock in order to repair/substitute items that failed in the quality control process) (Level Works, 2012).

Figure 12. Frequency and Type of Labor Violations in Vietnam (2012)



Source: Level Works, 2012

According to the latest ILO Wage Report, Thailand has one of the highest levels of non-compliance, with about 25 percent of workers in the manufacturing sector earning less than the minimum wage in 2009. An analysis that disaggregates compliance in Thailand by firm size finds that micro and small firms are the most non-compliant with the minimum wage law. Firms with less than 20

³⁸ In the National Capital Region (NCR), compliance was at 83.2 percent or (968 of 1,164 establishments inspected). In areas NCR, compliance rate was highest in Regions V (2) and IX (36) with 100 percent compliance rates, and lowest in Region VIII at 33.3 percent (one out of three establishments inspected).

³⁹ The noncompliance rates given here only concern noncompliance reported by inspectors. These figures should be considered low rather than actual, as uncovered by inspectors, to go unreported.

⁴⁰ Firms with 10 or less workers are not inspected, while firms with 200 workers or more are self-reporting.

workers have well over 25 percent of workers earning below the minimum wage, while micro-level firms pay less than the minimum wage to almost half of all their workers.

Given weak enforcement and limited compliance with minimum wage laws, one question that arises is: do minimum wages make a difference? Since employers can simply choose not to implement the minimum wage with relatively minor consequences, the possible positive or negative effects of changes to the minimum wage are dampened. Another issue is that in all of the countries studied, a large proportion of workers are in the informal sector or working for employers that may be legally exempted from minimum wage policies, putting them outside the direct reach of these policies.⁴¹ Therefore, even if minimum wages were strictly enforced and adhered to, would they make a difference or have a significant impact on employment or poverty? These issues are discussed in the following sections.

3.4 International Experience Managing the Policy

Like in ASEAN countries, many OECD countries have governance structures for the minimum wage policy that empower the central governments to set minimum wage levels. For example, in New Zealand and the United States, the government sets the minimum wage rate. In Australia, at the federal level, the Australian Fair Pay Commission (AFPC) has a general wage-setting function to adjust minimum award wage rates. In Mexico, the National Commission on Minimum Wages sets both occupational minimum wages (86 different wages) and general minimum wages (three different wages). In Canada, minimum wages are fixed at the provincial level.

In many developing economies in Latin America and Europe and Central Asia (other than EU-10 countries), minimum wages are typically set by the government after consultation with the social partners, with more exceptions than in the OECD. In some countries, the level of minimum wages is determined by collective agreements or through the labor code, where it is stipulated that minimum wages are determined by law or legislation giving the government discretion to set the level.

In many developed countries with no minimum wage regulations, *de facto* minimum wages exist as a result of widespread collective bargaining agreements. For instance, while the Nordic countries (Denmark, Finland, and Sweden) have no formal system of extending collective agreements, collective agreements cover almost the entire workforce in practice, making minimum wages mandatory for most of the employers there. Among EU15 countries that do not have the universal minimum wage set by law, the collective agreements defining contractual minima cover 95 percent of employees in Austria, 90 percent in Belgium and Finland, 80 percent in Denmark and Italy, and 68 percent in Germany.⁴²

Several ASEAN countries that are looking to reform their minimum wage systems and overall governance structures could learn from already existing and functioning systems. The Philippines, Indonesia, and Vietnam are making changes to their systems, simplifying them in some cases and making them less subjective, and Malaysia recently implemented a new system altogether. These countries could draw lessons from management arrangements used in other countries, especially in contextually relevant economies such as Korea and Hong Kong.

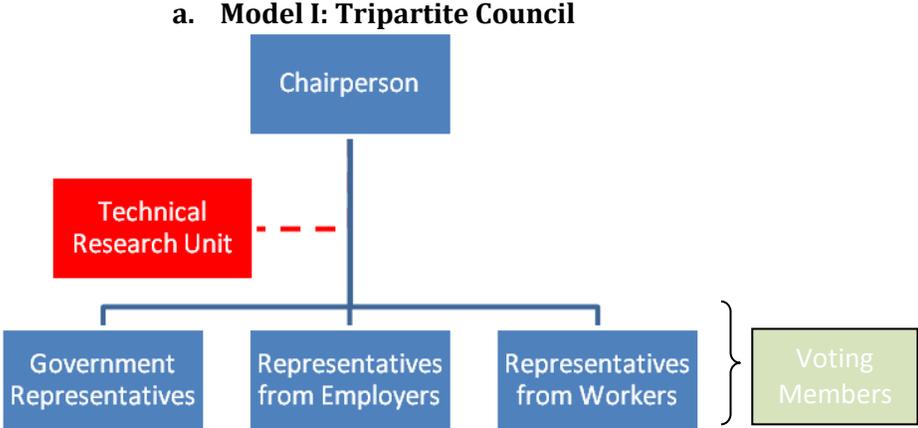
⁴¹ In the Philippines, for example, the shadow economy averaged 41.6 percent of GDP between 1999 and 2007 (Schneider et al, 2010).

⁴² Boeri and van Ours (2008).

Figure 13 illustrate three models of governance for ASEAN countries to consider. A common feature identified is that most systems select Chairpersons who are impartial and respected by all sides. All models include Technical Research Units that prepare the technical (objective) content which forms the basis for the discussions. The main differences in the three models outlined below are in the structure of the Wages Council and the responsibilities and voting rights of the members.

Model I: In this traditional tripartite model, employers, workers, and government are represented in equal proportions. The Technical Research Unit serves to provide information to the entire council, under the guidance of the chairperson.⁴³

Figure 13. Three Distinct Governance Models

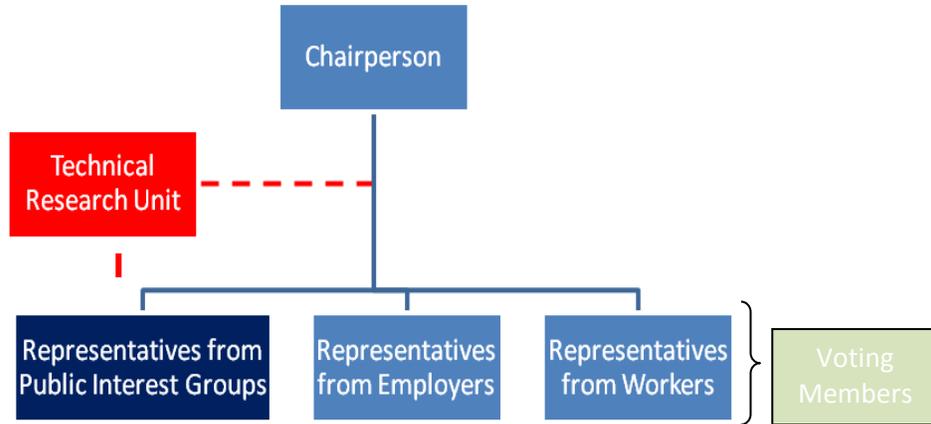


Source: Author’s illustration

Model II: This model has three groups of members, but instead of the government representatives, there is a group of ‘public interest’ representatives, one of which is a government official. In Korea, this third group is nominated by the Ministry of Employment; the employer and worker representatives in the Council have the right to veto a nomination in the public interest group.

b. Model II: Tripartite plus Public Interest Group

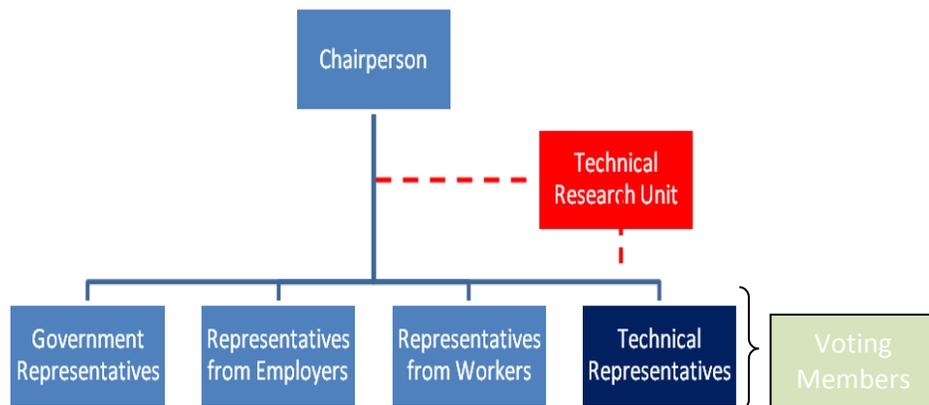
⁴³ Note that the position of the Technical Research Unit in Figures 5a-c does not imply that the TRU is in any way superior hierarchically to the rest of the council. On the contrary, its role is to inform the council, and it has no direct voting role.



Source: Author's illustration

Model III: This model corresponds to the tripartite model but includes a fourth group of members chosen for their technical expertise in disciplines relevant for objectively analyzing all the elements that go into the wage determination process. The role of these technical representatives is to keep the debate and deliberation processes centered on the objective data and experience-driven evidence and to reduce the influence of interest group loyalties and ideologies. Since the deliberations of the Council are made public, this fourth group can provide checks and balances to the arguments put forth by employer, worker, and government representatives. They can act to ensure that the minimum wage is set in a manner that is appropriate given the economic context and the relevant analytical evidence of its impacts.

c. Model III: Tripartite + Technical Representatives



Source: Author's illustration

Chapter 4: Employment, Wages, and Informality: What is the Impact of Minimum Wages on Workers and Firms?

“Most poor people earn more than minimum wage when they are working; their problem is not low wages. The problem comes when they are not working”

Joseph Stiglitz, Economics 1993

4.1 The Minimum Wage Worker: Whom Does It Bind?

Although critics of the minimum wage policy often argue that minimum wages impose rigidities that can increase unemployment and poverty, the actual effects of the policy depend on how the labor market is structured and how binding the policy is. Critics argue that minimum wages impede employers from assigning the appropriate wage level to each worker based on their skills, productivity, and experience, thus causing unemployment and possibly leading to increases in poverty. While it is possible that raising the minimum wage could lead to negative effects on employment in competitive labor markets, the opposite may occur in a less competitive labor market.

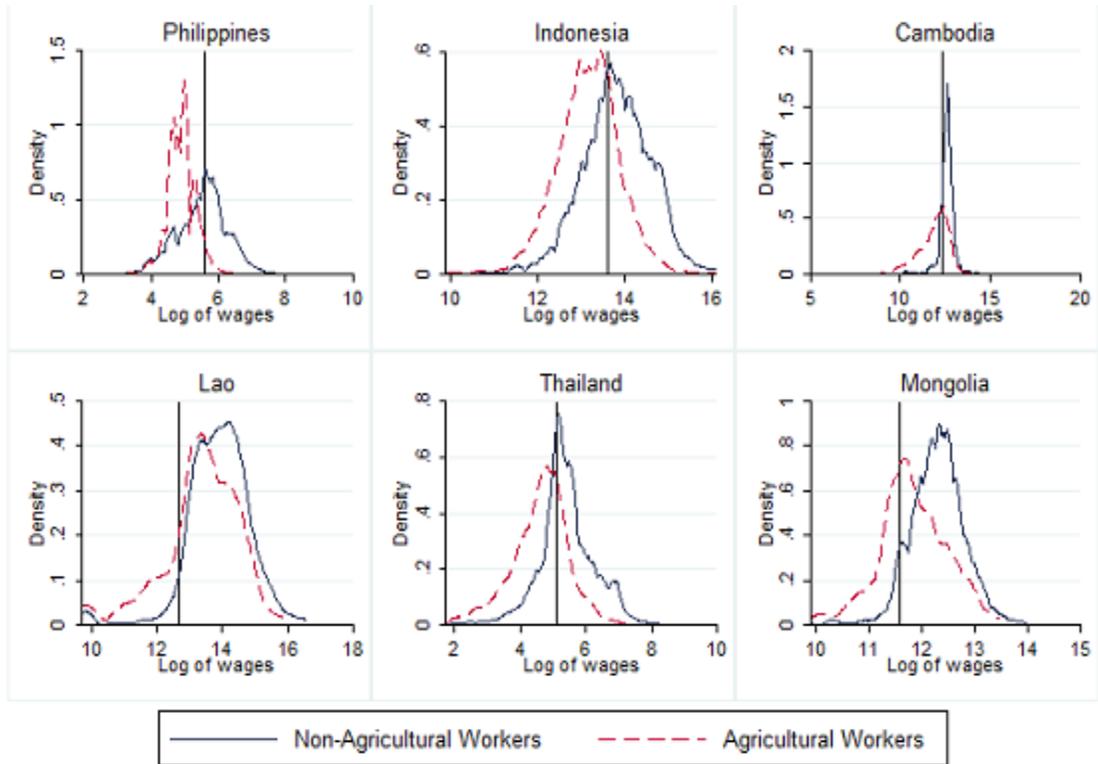
The effects of minimum wage changes can also differ significantly depending on the starting level of the minimum wage, the magnitude of the increase, and the potential contagion ‘push’ effect on higher wages. In many OECD countries where most workers earn well above the minimum wage—or where the policy is binding for a very small group—the effect of a moderate increase on employment is likely to be small. In contrast, in countries where large segments of workers are clustered around the minimum wage, as is the case in many ASEAN countries, any increase is likely to have an effect on employer incentives to hire, retrench, or comply with the la

In looking at the impacts of minimum wage adjustments, the workers who will be most directly affected are those earning around the minimum wage rate, although recent studies show that adjustments also indirectly influence wages above or below the minimum wage (or along the wage distribution). Part of the explanation is that the minimum wage level serves as an anchor for all wage earners and provides information on what the fair labor market value of one’s work is in relation to a minimum wage earner. Thus, a change—through the introduction of the policy or increases in the level—influences what workers all along the wage distribution are willing to take (Falk et. al, 2006). But the effects are not homogenous across demographic groups in the economy, even within the same range of the wage distribution; for instance, young workers (or youth) and women are sometimes impacted differently. Section 4 in this chapter will elaborate on this point.

An analysis of wage distribution in selected countries indicates some clustering of agriculture wages around minimum wage lines in most countries except in Lao, Mongolia and Cambodia. Interestingly, figure 6 shows a clear clustering of agriculture workers’ earning around the average ‘national’ minimum wage line in Cambodia, Thailand and Mongolia, which might suggest that the minimum wage has some impact on informal wages. In general, a large density of agriculture and non-agriculture wages below the minimum wage levels is observed in the Philippines, Indonesia, and Thailand.

Using the weighted average⁴⁴ estimation for the Philippines reveals that about 51 percent of agriculture and non-agriculture workers report making less than the minimum wage, while non-compliance rates in Thailand and Indonesia are around 37 percent and 36 percent, respectively. Notably, estimates are likely to be very different with the new, increased minimum wage levels in all three countries. Figure 14 suggests that minimum wages clearly influence wage levels (at least reported ones) in these countries and that the minimum wage law is not very binding in some countries.

Figure 14: Distribution of Wages in Selected ASEAN Countries



The black line corresponds to the minimum wage

Source: Author's calculations using various household and labor force surveys

Note: Non-Agriculture workers for Cambodia include only workers in manufacturing garment

More specifically, in the ASEAN countries studied in depth for this report, a large proportion of workers earn less than the minimum wage level. According to Esguerra and Jandoc (2009), in the Philippines, 38 percent of non-agriculture workers and 78 percent of agricultural workers receive wages below the minimum wage level. Regional variation is significant, with the proportion of workers earning sub-minimum wage rates being as high as 60 to 70 percent in some regions. The share of workers whose wages are below the legal level is lowest in the National Capital Region (NCR), although even there one-third of workers earned below the minimum wage level in 2009. In Vietnam, an estimated 6.3 percent of workers earned less than the minimum wage in 2010, and around 9.7 percent of workers are currently earning less than the new minimum wages, which increased in 2011. The estimated proportion of workers earning below 110 percent of the

⁴⁴ The weights are the share of workers in each sector.

minimum wage and above 90 percent of the minimum wage—who arguably are more likely to be vulnerable to minimum wage adjustments—was 2.5 percent in 2010. The proportion of workers around the minimum wage tends to be higher for female and young workers, informal sector, and agricultural workers.

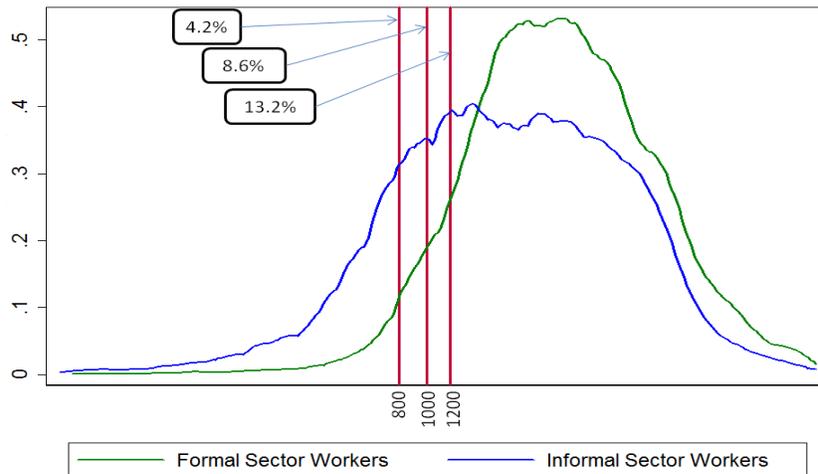
It should also be noted that the impacts of the statutory minimum wage policy and adjustments extend beyond employment and wages. A developing body of literature shows that the policy also has effects on type of work—namely formal versus informal, and part-time versus full-time. The policy can also affect the fringe benefits workers receive (Simon and Kaestner, 2004) and the fiscal revenue employers pay based on their total wage bill (Tonin, 2011).

4.2 Effects on Labor Demand, Overall Employment, and Informality

Evidence on the effects of minimum wage policy on employment is mixed, as the results depend on employer compliance and numerous other factors. Even though the minimum wage is used as an anchor that is supposed to prevent employers from paying workers below that level, in many countries—especially less developed ones—employers often find ways to evade legally mandated costs and/or reduce their wage-related tax burdens. For instance, some employers opt to have blended (formal and informal) workforces, with two separate payroll books: one for formal workers and another for unreported (informal) workers. In other cases, employers comply with the minimum wage by paying their workers the mandated amount but paying them ‘under-the-counter’ cash supplements for any amount above the minimum wage so as to avoid paying more wage-related taxes or having higher payroll-related expenses (Elek, et. al, 2011). Such underreporting of earnings is widespread across European countries. A 2007 report by Eurostat states that about five percent of a representative sample of wage-workers in Europe admitted that they received all or part of their salary under-the-counter in the previous year. A similar story emerges in two OECD countries, South Korea and Mexico; the OECD estimates a 30 percent shortfall in social security contributions due to undeclared wages/work (OECD, 2004).

In considering the effects of minimum wage changes on type of employment (that is, formal and informal), it is useful to look at the potential proportion of workers who are vulnerable to informality at various levels. Figure 15, which shows total monthly earnings of full time workers, illustrates how this was done for Malaysia; the figure shows two curves which reflect the wage distribution for formal and self-employed (assumed informal) workers in the manufacturing sector in Malaysia, prior to the introduction of the minimum wage. The three red lines depict three different wage levels; the line furthest to the left (RM800) shows that around 20 percent of self-employed workers and about four percent of formal wage workers report earning less than the recently implemented minimum wage level. The percentages get larger as the hypothetical minimum wage line increases. Through this figure it is clear that unless something is done (for example, up-skilling or training, exemptions, direct transfers) to help workers to the left of the line, it is likely that they will face unemployment and/or enter the informal sector of the economy where the minimum wage is not applied.

Figure 15: Distribution of Wages of Workers in Manufacturing in Malaysia



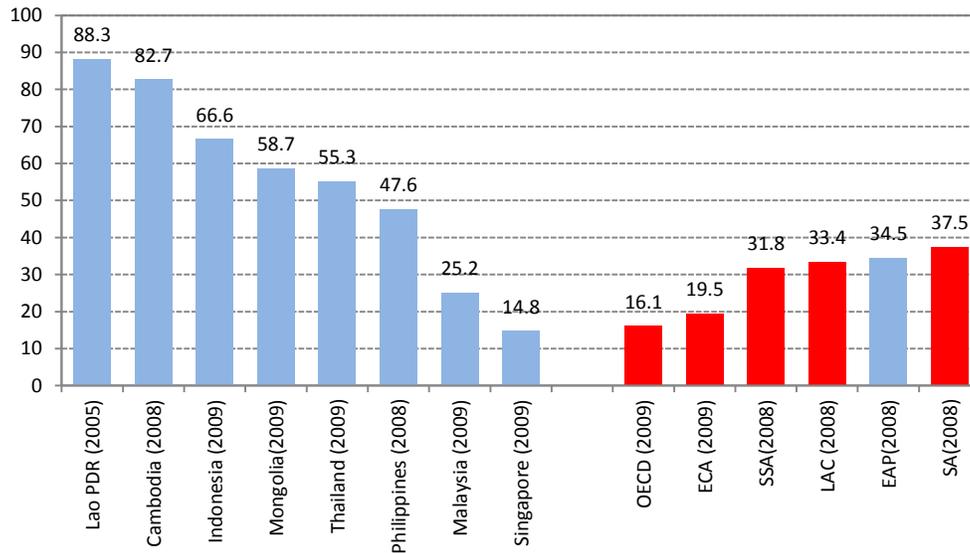
Source: World Bank 2010, using Household Income Survey, 2009

Some evidence shows that when minimum wage levels increase, employers are forced to lay off low-productivity workers when their marginal productivity is below the minimum wage rate, as not doing so would mean going out of business. Alatas and Cameron (2008) studied the effects of minimum wage changes in Indonesia between 1990 and 1996, prior to the Asian crisis, on the employment of production workers in clothing, textiles, footwear, and leather firms in greater Jakarta and found a negative employment impact on those in small firms,⁴⁵ but not in large firms. Harrison and Scorse (2010) found that a 10 percent increase in real minimum wages in Indonesia reduced production worker employment by an average of 1.2 percent in foreign-owned, exporting firms in the textiles, footwear, and apparel sectors. They also found reduced investment, falling profits, and increased probability of going out of business (at least in the formal sector) for smaller firms, but not for large firms.

Laid-off workers typically often seek work in the underground economy or on their own (self-employed). Indeed, cross-country analysis suggests a positive correlation between the size of the increase in minimum wages and the size of the informal economy (Tonin, 2007). In the ASEAN region, self-employment is commonplace; about 35 percent of workers in ASEAN countries are classified as self-employed (Figure 16). Using self-employment as a crude indicator of informality, it is clear that in Lao PDR and Cambodia, where agricultural activity absorbs the largest portion of workers and where micro-size firms (typically unregistered) abound, labor regulations (including statutory minimum wages) are unlikely to change the wages of most workers directly. Among other regions in the world, South Asia (SA) is the only other region with a higher average rate, and Latin America and the Caribbean (LAC) and Sub-Saharan Africa (SSA) have similar averages. In EAP and ASEAN, the lowest percentage of self-employment is in Singapore, where only 15 percent of the workforce is classified as self-employed (lower than the OECD average).

⁴⁵ With an elasticity estimate in the range of -0.31 to -0.54 for employment in small firms.

**Figure 16: Self-Employment Rates in ASEAN+
(% Total Employment)**



Source: World Bank Indicators, 2010

As highlighted through this and other sections, the impact of the minimum wage on employment will vary by economic sector, type of worker depending on production technologies, and, in particular, the degree of substitution between types of skills. For example, a minimum wage can reduce the employment of low-skilled workers but increase the employment of high-skilled workers. In Vietnam (Nguyen, 2011) and in some Latin American countries where minimum wages are high relative to average wages (Kristensen and Cunningham, 2006), increases in the minimum wage resulted in negative effects on formal employment. In Indonesia, Rama (2001) finds a negative employment effect for small firms (those with less than 20 workers) but a positive effect for medium-sized and large ones. Islam and Nazara (2000), Suryahadi et al (2003), and Pratomo (2011) also find negative effects of minimum wage on employment and wages. However, another study on Indonesia using a different methodological approach found that employment did not decrease; on the contrary, it increased for some sectors (not manufacturing) in the early 1990s (Magruder, 2011).

Evidence from some ASEAN countries indicates that when a high degree of substitution is possible within a given economic sector, a minimum wage can reduce formal employment and increase informal employment, while total employment can shrink. An analysis of Indonesian manufacturing industry survey data from 1993 to 2006 found that within the sector, minimum wages had a clear and consistent negative employment effect on small firms while having limited effects on large firms. Since there are many more small firms, the aggregate effect of the minimum wages is to have an overall negative effect on formal employment, with the negative effects largely concentrated among labor-intensive firms with unskilled or less-skilled workers (Del Carpio, Nguyen, Nguyen and Wang, 2012). Evaluation of the policy in Vietnam yields a similar result, see Box 1. The analysis of recent datasets (VHLSS and VES) showed that within wage employment, increases in the real minimum wage reduced employment in domestic firms, particularly for workers on informal contracts (that is, those without social insurance), but did not affect employment in foreign firms.

Box 1: Increases to the Minimum Wage Increase Informal Employment in Vietnam

As a key input to this study, an analysis of the impacts of recent minimum wage changes in Vietnam was undertaken. In examining the impacts of minimum wages on employment, wages, and household welfare, it was possibly the first such comprehensive analysis of its kind for Vietnam. The analysis had two main objectives: (i) to provide a description of workers who earn below and right above the minimum wage, making it possible to characterize vulnerable workers who are at risk when minimum wages are raised, and (ii) to assess the impact of recent changes in the real minimum wage on employment and wages as well as on household welfare, as measured by likelihood of falling into poverty and level of consumption.

Data and Methodology

The analysis utilized data from the Vietnam Enterprise Surveys (VES) 2006-2010 and Vietnam Household Living Standard Surveys (VHLSS) 2006, 2008, and 2010. A more detailed description of the methodology and findings is provided in Annex 1.

The analysis used data from the VES to examine the effects of real minimum wage changes on employment and average salary at the firm level. Because panel data of firms was available, it was possible to exploit the variation of employment and average salary within firms and over time in a firm fixed effects specification. For comparison, Ordinary Least Squares (OLS), province fixed effects, and district fixed effects estimates for most specifications were also reported. As minimum wage changes may affect different industries differently, the analysis also estimated the effects by industry. In addition, as different minimum wages were applied to foreign and domestic firms prior to 2011, foreign firms and domestic firms were examined separately for all specifications.

To examine the effects of minimum wage changes on consumption and poverty, the analysis used VHLSS data to construct repeated cross-sections of households from the three waves of VHLSS and to estimate the effects using district fixed effects specifications. Because the data did not contain households that were repeatedly observed over the sample period, it was not possible to include household or individual fixed effects. As a result, the analysis included a rich set of household characteristics as control variables, such as educational attainment of the household head, ethnicity of the household head, whether the household is in an urban area, household size, and proportions of children and elderly living in the household. Finally, since the focus on employment at the firm level may miss important effects of minimum wage changes on informality and self-employment, the effect of minimum wage changes on the likelihood of individuals having any job, wage job, and being self-employed was also estimated.

Main Findings

In documenting the profile of workers who earn below the minimum wages in Vietnam, the analysis found that those workers tend to be young, relatively uneducated, and of ethnic minorities. In terms of the impact of minimum wages on employment and wages, the analysis found that minimum wage increases have little impact on employment and other outcomes in foreign firms but a significant impact on domestic firms. Specifically, increases in the minimum wage reduce the number of wage workers and increase self-employment. The number of wage workers declines because many workers with informal contracts lose their jobs, but only a fraction of them is absorbed by the creation of jobs outside of the formal economy or self-employment. In addition, the analysis found that minimum wages in Vietnam help raise the average wages of workers who remain employed.

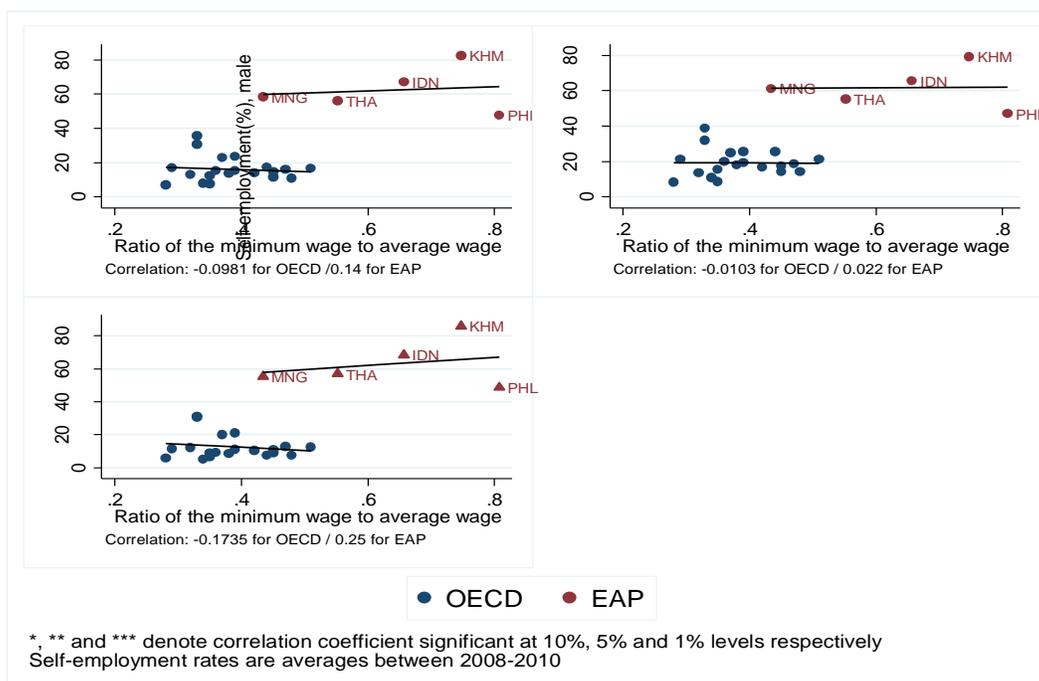
In terms of impacts on household consumption and welfare, the analysis found that an increase in minimum wage is generally beneficial. A one-percent increase in minimum wages reduces the probability of a household being poor by 0.089 percentage points. Although the magnitude is fairly small, it is statistically significant. The analysis also found that minimum wages help households increase income and consumption, particularly in terms of expenditures in education.

Source: Del Carpio, Nguyen, Nguyen, Wang, 2013

In contrast, where employers have some degree of market power and are able to pay wages below the productivity of workers, a minimum wage could have positive effects on both formal employment and output. More workers would be willing to work at the higher wage, and employers would still make profits and be willing to hire. This was the case in Malaysia and Hong Kong, prior to the introduction of their minimum wage policies in 2010 and 2011/12 (World Bank, 2010).

As shown in Figure 17, drawn from the East Asia and Pacific Jobs report (World Bank, 2013), the relationship between minimum wage and self-employment rates appears to be positive. In other words, as minimum wage levels rise, so does the incidence of self-employment for all demographic groups. However, these results should be interpreted with caution because some of these relationships are not statistically significant.⁴⁶

Figure 17 Relationship between Minimum Wage and Self-Employment



Source: World Bank 2013a

As mentioned earlier, in trying to understand the effects of the minimum wage, it is important to recognize that the large size of the informal sectors in ASEAN countries such as Thailand means that a large number of workers are beyond the direct reach of minimum wage policies. Figure 8

⁴⁶ There are few observations for proper inferences and high dispersion of the data.

shows that more than half of all workers in the Thai economy report being self-employed, but various analyses in recent years indicate that the estimate for Thailand is even higher; an ILO report estimates that up to 76 percent of the Thai population works or depends on someone in the informal sector of the economy (ILO, 2010; UNESCAP, 2004).⁴⁷ Only 40 percent of the workforce is subject to labor legislation, and within this group, only a small proportion receives the minimum wage. Approximately four million workers earn the minimum wage, about half of who are migrant workers from surrounding countries. Interestingly, despite the large size of the informal economy the effect of increases in the minimum wage on informality are not clear. One study finds that when minimum wages rise displaced young workers, mainly from small-scale manufacturing and low skill service jobs, they would likely find jobs in the informal sector of the economy (namely in agricultural, fishery, construction and service sectors). In other words, the large informal economy would likely absorb previously formal workers that are displaced (Lathapipat, 2012). Another study finds no evidence of this effect. It finds that the movement of workers from the formal to the informal sector does not necessarily come about when minimum wage levels rise (Del Carpio, Messina, Sanz de Galdeano, 2013).

In some cases, job losses in the formal sector due to higher minimum wages may be compensated for by an increase in informal sector employment, resulting in a net increase in overall employment. For Indonesia, even though various authors (Alatas and Cameron, 2008; Harrison and Scorse, 2010; and Del Carpio, Nguyen and Wang, 2012) find that minimum wage increases result in job losses in formal employment, Comola and Mello (2011) finds that an increase in the relative minimum wage (minimum-to-mean wage ratio) is associated with an increase in informal employment, which in turn offsets the corresponding loss of jobs in the formal sector; such gains in informal employment yield a net increase in total employment⁴⁸. An increase in the minimum-to-mean wage is associated with a decrease in 'queuing unemployment,' a phenomenon in which individuals faced with job losses prefer to remain unemployed while 'queuing' for formal sector jobs, rather than working informally.⁴⁹

Interestingly, the case of Vietnam provides an example in which overall employment decreases due to a relatively larger loss of informal sector jobs. Analysis of recent data from the Vietnam Household Living Standard Survey (VHLSS) and Vietnam Enterprise Surveys (VES) shows that increases in the real minimum wage reduce the number of wage workers and increase self-employment. Contrary to the expectation that a rise in minimum wages would hurt formal sector employment, the number of wage workers declines because many informal workers lose their jobs, with only a fraction of the job loss being absorbed by the creation of additional formal sector jobs. Since roughly 40 percent of workers are employed on an informal basis, the negative effect of minimum wage changes on informal employment dominates the positive effect of minimum wage changes on formal employment. The results suggest that there is some substitution between formal workers and informal workers as the minimum wage rises.

The extent of coverage and compliance with minimum wage policies is a critical determinant of the overall impact, if any, that a minimum wage adjustment will have on employment. As discussed

⁴⁷ With the informal sector defined as own account workers, owner-employers of micro enterprises, and paid and unpaid family workers.

⁴⁸ Important to note that these studies are not strictly comparable as they focus on different time periods, economic sectors, and even formal employment; thus, the main lesson to take away is that the same policy can have different effects on different subgroups in the same context.

⁴⁹ This finding is consistent with the 'lighthouse effect,' whereby informal sector earnings rise in tandem with the minimum wage, thus attracting inactive workers into the labor market. The lighthouse effect is discussed in the following section.

earlier, if a large proportion of workers are not subject to minimum wage—whether due to legal exemptions, low compliance, or informality—minimum wage adjustments will likely have limited impact on overall employment. An analysis of data from the Philippines Family Income and Expenditure Surveys (FIES) of 2006 and 2009 and Philippines Labor Force Surveys (LFS) from 2006-2010 indicates that the effects of real minimum wage changes on overall employment status are basically negligible in the Philippines. Looking across different types of labor force status for male and female workers, it finds no significant difference in average labor market status between doubling the minimum wage and eliminating it entirely. In general, this result seems to support the idea that limited coverage of minimum wage rules and high noncompliance may dampen the potentially negative effects of having high statutory minimum wage. However, sectors with high coverage and compliance with the statutory minimum wage experience negative effects on employment. An analysis based on three types of firm-level panel data for the manufacturing industry, finds that the implementation of the minimum wage policy change appear to have some negative impact on employment and output (Lanzona, Jr, 2013). By demographic groups, the evidence for Philippines suggests that effect of the minimum wage policy on employment is far from neutral. Results based on individual-workers panel data derived from the Labor Force Survey from 2003-2010 suggests that the minimum wage policy reduces the employment opportunities of the young and the less educated and promotes the employment rates of more educated and older workers.

4.3 Impacts on Wages

Although the minimum wage may seem less important in countries with large informal sectors, the impacts of minimum wage adjustments on wages may ripple through the entire wage distribution through the ‘lighthouse effect.’ As discussed earlier, informal sector employers may use the minimum wage as a guidepost in their wage setting decisions. An increase in the minimum wage may increase average earnings, as informal employers compete with formal employers for scarce labor.

Indeed, there are examples in which the statutory minimum wage helped narrow the gap between formal and informal wages by providing a clear signal of what the market wage rate for similar skill sets should be, thus changing the equilibrium efficiency wage in (at least parts of) the informal sector (Dinkelman and Ranchhod, 2010). Recent studies have shown this lighthouse effect in Brazil and Ghana (Boeri et. al. 2010). Gindling and Terrell (2004) also find that in Costa Rica, increases to the minimum wages narrow the wage gap between formal and informal sectors. They argue that an increase in the minimum wage raises wages not only in the urban formal sector (large urban enterprises) but also across all workers covered and uncovered by minimum wage legislation (likely in small urban enterprises, large rural enterprises and small rural enterprises). In other words, the minimum wage functions as a signal to the entire labor market. Unfortunately, the authors of this report found no studies directly measuring this effect in countries in the ASEAN region; however, indirectly, a study by Chun and Khor (2010) identified that increases in the minimum wage for formal sector employees do not have a spillover effect on self-employment in terms of wages. Thus, no lighthouse effect seems to be at play in Indonesia, according to their study.

To an extent, the lighthouse effect is also evident in the Philippines, although the actual impact on the overall wage distribution there depends on the magnitude of the minimum wage adjustment. The micro-simulation study prepared as background for this report found that the lighthouse effect seen in other countries also seems to be present (albeit small) in the Philippines, with small minimum wage increases leading to (much smaller) increases in labor earnings. However, when the

magnitude is large, the effect across groups in the wage distribution is distorted; very large increases in the minimum wage drive down labor earnings, as the shifting to the informal sector/labor supply effect dominates.

Another angle to consider is that the effects of minimum wage changes are not only felt by low-wage and minimum wage workers, but in some cases are also measurable for higher-wage workers. In some countries, wages for higher-wage workers are set in relation to the minimum wage, so an increase in the minimum wage may raise the average wages of all workers who retain their jobs. In Vietnam, for example, wages of public sector employees are tied to the minimum wage level. The background analysis for this report shows that the estimated effect of real minimum wage changes on average salary is positive. It estimates that a one percent increase in the regional minimum wage leads to a 0.16 percent increase in the wages of workers. However, the effects vary across industries; as the minimum wage increases, firms in the construction industry experience a fall in average salary, firms in the heavy manufacturing industry experience no change in average salary, and firms in all other industries experience a rise in average salary.

In cases when measuring income (accurately) is not available (or credible), researchers turn to consumption as a proxy for welfare. Unlike income, the consumption measure is more stable, less likely to be misreported, and a good indicator of whether a household is able to meet its food and non-food needs. Taking the approach of using consumption as a measure for welfare, the background analysis conducted on Thailand for this report shows that increases in the minimum wage have a positive impact on household per capita consumption along all wage groups in the distribution (except the very top). However, this effect is not uniform across the distribution, presenting a sort of inverted u-shape, where the effect is greatest at higher levels of the welfare distribution, almost doubling the effect observed for the lower groups in the welfare distribution.

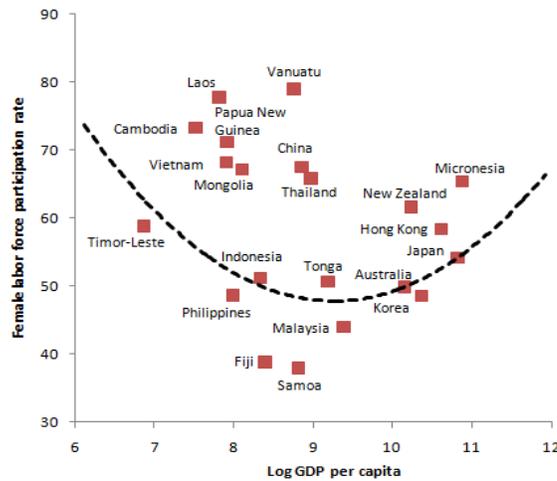
4.4 Impact on Labor Market Outcomes among Women and Youth

Some studies focusing on the ASEAN region have found that impacts of raises in the level of the minimum wage can disproportionately reduce the employment opportunities of subsets female workers (mainly less skilled workers), younger workers, recent entrants to the labor market, and lesser skilled workers (Del Carpio, Nguyen and Wang, 2012). Similar findings are observed in studies from the OECD and Latin America where researchers observe that despite having aggregate gains in employment and wages, when the data are disaggregated by demographic groups, they are often concentrated among prime-aged, skilled workers and male workers who keep their jobs (Cunningham, 2007). This section focuses on female workers, young workers, and low skilled workers, all which are often identified as vulnerable to changes in the policy.

4.4.1 Female Workers

The labor force participation (LFP) of women in most ASEAN countries is high relative to other regions in the world, although it varies significantly across countries. The average participation rate for the East Asia and Pacific region was 70 percent in 2008, compared to less than 60 percent in Latin America and Europe (World Bank EAP Gender, 2012). However, there is substantial variation across and within countries, from as low as 46 percent in Malaysia to as high as 75 percent in Lao PDR, as illustrated by Figure 18. In Vietnam and Cambodia, the rates for women and men are similar, especially in rural areas of the country (Pierre, 2012 for Vietnam). When labor force participation is restricted to wage work, the differences in participation by gender widens.

Figure 18. Female Labor Force Participation in East Asia and Pacific



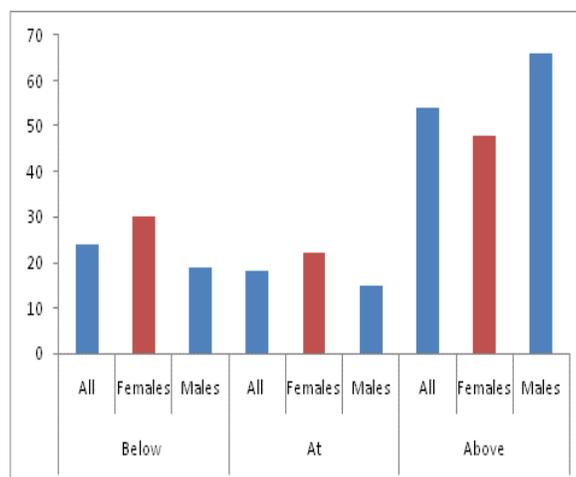
Source: World Bank, 2012

Women and men typically work in different economic sectors and occupations, with women being more likely to work as unpaid family workers or informally in household-based activities. In Indonesia, over 10 percent of women in urban areas and 40 percent of women in rural areas worked as unpaid family workers in 2009. In comparison, the estimates for men are less than five percent and 10 percent in urban and rural areas, respectively (World Bank, 2012c)⁵⁰. With respect to the economic sector, women in Malaysia are over 50 percent more likely than men to be government employees, although many are employed in lower-paying occupations within the public sector. Men, on the other hand, are over three times more likely than women to be employers and 65 percent more likely to be entrepreneurs (World Bank MW report, 2011).

Differences in wage levels between men and women are also evident. In Thailand, for instance, wage disparities have a clear gender dimension. Over 50 percent of women were earning at or below the minimum wage in 2010, compared to less than 35 percent for men (Figure 19). One possible explanation is that in the ASEAN countries as in other countries around the world, women are oftentimes geographically constrained due to family limitations and cultural considerations and thus face limited labor market choices, regardless of their education and experience. Employers are therefore able to offer them lower wages compared to their male counterparts.

Figure 19. Earnings by Gender (Relative to the Minimum Wage) in Thailand, 2010

⁵⁰ World Bank, 2012. *Towards Gender Equality in East Asia and the Pacific*.



Source: Del Carpio, Messina, Saenz de Galdeano, 2013

All of these differentiations influence the impacts that minimum wages and changes to its level can have on men and women. Indeed, gender-differentiated impacts of the minimum wage were found across all of the ASEAN countries studied, with female workers generally bearing a higher burden of job losses compared to their male counterparts. Hallward-Driemeier et al (2010) show that although minimum wage increases in Indonesia reduce gender wage gaps for workers who completed junior high school, the gap worsens for workers who did not complete primary school. In Thailand, increases to the minimum wage level had adverse impacts on employment for women, low-skilled workers, and elderly workers (Del Carpio, Messina and Saenz de-Galdeano, 2013) (see Box 2 for more details). In Vietnam, male workers earn higher wages than women and are less likely to be employed in jobs with earnings below the minimum wage. As noted earlier, the proportion of workers around the minimum wage tends to be higher for female workers, indicating that women are more vulnerable than men to changes in the minimum wage level (Del Carpio, Nguyen, Nguyen and Wang, 2013).

Box 2: Increases in the Minimum Wage in Thailand Positively Affect the Wages of Workers Who Remain Employed but Unemployment Increases Among Vulnerable Workers

To help provide insight into the potential implications of Thailand’s recent increase in the minimum wage level to 300 baht, an analysis was conducted to identify the impacts of minimum wage changes in Thailand over the past decade. The analysis probed three main issues: (i) the minimum wage’s impact on wages on average and across distinct labor market groups; (ii) the impact of the minimum wage on employment and informality, especially for vulnerable groups such as youth, the elderly, women, and less-skilled workers; and (iii) whether the minimum wage has been a useful tool for tackling poverty and reducing inequality in Thailand. The analysis examined the impacts of the minimum wage on a wide variety of labor market outcomes such as wages, employment, and informality, as well as on poverty and consumption.

Data and Methodology

The study utilized data from both Labor Force Surveys from 2001-2011 and Socioeconomic Surveys from 2000-2010. The Labor Force Survey was used for the analyses of labor market outcomes, applying some sample selection criteria which are standard and determined by the applicability and coverage of the Thai minimum wage legislation. The analysis of poverty impacts, carried out at the household level, relied on the full sample of households from the Socioeconomic Survey and used a food poverty line developed by the National Economic and Social Development Board

(NESDB) of Thailand. A detailed description of the data and methodology used is provided in Annex 4.

The impact of the minimum wage on various outcomes was estimated using a difference-in-differences identification strategy. For wage impacts, the analysis looked at the extent to which minimum wages are binding by assessing whether there was a notable spike in the wage distribution that was associated with the minimum wage. The impact of the minimum wage on average wages was also examined, using a sequential approach: the analysis departed from the most basic difference-in-differences specification that includes only province and monthly dummies and progressively incorporated further controls until arriving at the preferred specification, which controlled for monthly and province dummies, education, occupation, industry and establishment size dummies. To examine the impact on average wages for workers with different characteristics, the analysis focused on the preferred specification, which included as controls province and year-month dummies, a quadratic term in age, married and municipal area dummies, occupation, establishment size, and industry indicators as well as the log of real per capita GDP per province and year.

For the analysis of impacts on employment, a logit model was used, in which the dependent variable takes the value of 1 if the individual is working and 0 otherwise. Average partial effects were reported. The analysis also considered worker heterogeneity by splitting the sample across gender, age, and education groups. Similarly, a logit model was estimated for the analysis of poverty impacts, since poverty is binary. To assess whether the impact of the minimum wage on poverty was relevant, the analysis also looked at changes in household consumption.

Finally, the study analyzed the distributional impacts of the minimum wage, looking at the impact on consumption per capita at the household level along the consumption per capita distribution. The analysis used standard quantile regressions, in which the dependent variable is the log of per capita real household consumption, and explanatory variables are the (log of) the real daily minimum wage, household heads' characteristics (male and married dummy, a quadratic in age, education and labor market status indicators), a municipal area dummy and information on household composition (size, and indicators for the presence of household members younger than 15 and older than 59 years old) and the log of real per capita GDP per province and year.

Main Findings

In terms of wage impacts, the impact of minimum wage changes was positive and significant, indicating overall wages increased as minimum wage levels increased. Looking across groups, the analysis found that the minimum wage had a larger impact on female and young workers compared to prime-aged male employees.

On employment, the analysis found that changes in the minimum wage did not push workers out of wage work into the uncovered sector, defined as self-employed and/or unpaid family workers. However, some negative effects of the minimum wage were also detected: the minimum wage reduced the probability of being employed, especially among women and elderly workers, although these estimated impacts were small. In addition, the analysis found some indication that employers adjust to minimum wage changes by adding hours to the workday. Overall, however, it appears that the positive impact of the minimum wage on actual wages dominated the negative effects on employment.

The results suggest an impact on poverty that is sizeable but not statistically different from zero. Possible interpretations include lack of statistical power or various economic mechanisms at play,

such as the minimum wage being non-binding, the minimum wage pushing some workers into the non-covered sector, and/or the minimum wage causing changes in labor force participation within households. The analysis found that the minimum wage is indeed binding, but there is a high degree of noncompliance. It also found that reductions in the minimum wage are associated with increases in the participation of women, elderly, and less educated workers, which may partially explain the negative but not statistically significant effect on poverty.

All of these findings should be interpreted with care, as the pre-2012 minimum wage adjustments studied were much smaller in magnitude compared to the recent 30 percent increase. The results may have been different with a much larger magnitude of change.

Source: Del Carpio, Messina, Sanz-de-Galdeano, 2013

The gender impacts of minimum wages may differ by type of worker, as illustrated by the case of Indonesia. An analysis of production versus non-production workers in Indonesia finds that for non-production employment, a rise in minimum wage disproportionately hurts female workers. The analysis estimates that a 10 percent increase in the minimum wage leads to a 0.6 to 0.7 percent decline in female non-production employment in small firms. While male non-production workers also appear to be affected negatively, the negative effects are smaller (and not statistically different from zero) for men compared to women. For production workers, job losses tend to be more equally split between males and females, indicating that both genders experience similar effects when they are engaged in production-related activities in the firm (Del Carpio, Nguyen and Wang, 2012).

A number of factors could explain why minimum wage increases affect female workers more than male workers. As discussed in the Indonesia study, in many countries, women earn less—between 70-80 percent of the wages of men for similar work (Hausman et al, 2010)—indicating that employers do not perceive (and reward) women's contributions to be equal to that of men. Evidence from around the world shows that firms factor in costs associated with benefits they provide women (for example, maternity and family leave, maternity insurance coverage) as well as costs for replacing women during longer work absences (Ruhm, 1998). Another possible factor is that women are often more constrained by life cycle events (for example, marriage, childrearing, elderly care) than men, so their opportunity cost is sometimes higher than their equilibrium wage. This may be less of an issue for women with higher levels of skills and greater productivity potential, but for women with lower skills—especially those performing non-essential tasks—wage hikes exceeding their equilibrium wage may push their employers to let them go. For example, in Japan, the risk of working in a low-paying job is four times higher for women than men. One of the explanations is that in many countries, (cultural norms are such that) women have lower reservation wages because they either expect to or are expected by employers to make only marginal contributions to the family income rather than be the main income earner, thus not getting wages that reflect their actual productivity contributions.

Evidence also shows that within low-skilled jobs, women fare less well than men in terms of pay and are at a higher risk of working in low-productivity subsectors and occupations than men, which contributes to increases in the gender wage gap and women's vulnerability to losing formal employment when minimum wages increase.

Another factor influencing the gender-differentiated effect of minimum wages is related to the strength (or weakness) of enforcement and collective bargaining. A study of 17 OECD countries

(including Korea and Japan) found that the average wage gap for men and women working full-time is 16 percent, and the percentage is significantly higher (21 percent, for workers in the lowest decile of the income distribution) in countries that have weak collective bargaining coverage and a low minimum wage level. This supports the argument that when the minimum wage policy is well regulated it can in fact help women by reducing their vulnerability to low pay in the formal sector.

It should be noted that in some cases there are no measurable (negative) effects of minimum wage adjustments on women's employment largely due to the presence (and absorption capacity) of the informal sector. Some studies show that for female workers, the informal sector may to some degree offset negative effects in the formal sector when minimum wages are adjusted upward. Comola (2009) found that rising wages in the formal sector may attract male workers who might otherwise work informally in the formal sector, leaving unemployment unchanged. In contrast, for females, rising formal sector wages depress employment in the formal sector. At the same time, it appears that informal sector wages affect unemployment negatively, suggesting that women may be attracted to the informal sector when wages rise in that sector, rather than becoming unemployed.

4.4.2 Youth and Low-Skilled Workers

While the overall employment effect of moderate minimum wage adjustments tends to be small, the effects identified in the literature (from developing countries) are often greater among young and less-educated workers. The main explanation provided is that these workers are most likely to fall within the lower-paid group of workers for whom the minimum wage is binding (Rutkowski, 2003). Indeed, as shown in the case of Vietnam, young workers, ethnic minorities, and workers with lower levels of education (particularly those with primary education or below) are more likely to receive wages below the minimum wage. As shown in Table 3, the percentage of workers earning below or close to the minimum wage is higher among those with lower levels of education and falls with each higher level of education, and a similar pattern can be seen when comparing incidence among the 15-24 year age group compared to older age groups.

Table 3 Incidence of Workers below Minimum Wage in Vietnam

	Hourly wages (thousand VND)	Number of monthly working hours	percent workers below current MW	percent workers between $\pm 10\%$ * MW	percent workers below new MW	percent workers below double gov.pov. line	percent workers below double WB-GSO pov. line
<i>Gender</i>							
Female	21.5	166.7	6.5	2.7	10.2	7.6	18.2
Male	19.3	171.7	6.1	2.3	9.2	7.0	16.3
<i>Age group</i>							
15-24	17.4	176.8	6.7	3.1	10.7	7.9	21.3
25-45	16.6	180.9	6.3	2.6	10.0	7.3	17.7
46-60	23.5	157.1	6.2	2.0	9.1	7.2	15.3
61 +	45.5	104.1	5.2	2.0	7.1	5.8	11.9
<i>Ethnicity</i>							
Kinh/Hoa	20.4	171.6	6.2	2.5	9.6	7.1	17.0
Ethnic minorities	18.2	139.1	7.7	2.6	10.4	9.4	20.2
<i>Education level</i>							
< Primary	22.2	146.1	8.3	2.8	11.7	9.7	21.7
Primary	18.6	165.5	7.4	3.4	11.6	8.7	20.8

	Hourly wages (thousand VND)	Number of monthly working hours	percent workers below current MW	percent workers between $\pm 10\%$ * MW	percent workers below new MW	percent workers below double gov.pov. line	percent workers below double WB-GSO pov. line
Lower-secondary	19.3	167.3	6.6	2.3	10.0	7.5	17.2
Upper-secondary	20.9	183.7	5.3	2.2	8.6	6.1	15.1
Post-secondary	21.8	181.7	2.8	1.2	4.9	3.4	8.9
Total	20.3	169.4	6.3	2.5	9.7	7.3	17.2

Note: The government poverty line is 400 and 500 thousand VND/person/month in rural and urban areas, respectively. National poverty line is 653 thousand VND/person/month.

Source: Del Carpio, Nguyen, Nguyen, Wang 2013, using the 2010 VHLSS.

Examples of negative impacts of the minimum wage on youth and low-skilled workers can be found across the ASEAN countries. The analysis of impacts on production and non-production workers in Indonesia found that workers with low levels of education are the hardest hit by minimum wage increases—especially if they are female—while workers with high school education or above do not seem to be adversely affected. In Malaysia, prior to the minimum wage, workers under the age of 25 earned less than half of the amount that workers over age 40 earn (looking at base compensation) and less than half of what workers aged 25-39 earn on an hourly basis after factoring in all allowances. The significantly lower hourly compensation (because of their lower skill set and less experience) of young workers suggests that adjustments to the minimum wage policy are likely to have a direct effect on this group. Indeed, all scenarios simulated to predict the potential effect of the minimum wage policy in Malaysia showed that this group would experience a decrease in formal employment (World Bank, 2011).

In countries such as Thailand with relatively high levels of youth unemployment, the potential negative effects of minimum wage increases are a particular concern. While total unemployment in Thailand in 2008 was very low at around 1.5 percent, unemployment among youth (ages 15-24) was significantly higher at 4.5 percent. Lathapipat (2012) predicted that the proposed increase in the minimum wage to 300 Baht would have negative effects on the employment of young and low-skilled workers in the manufacturing sector, arguing that low-skilled, less productive workers would be priced out of the formal manufacturing sector and would move to fishing and agricultural activities. But the actual effects will depend on the level of compliance; past studies for Thailand found that negative effects on youth overall employment could be hardly traced due to the fact that non-compliance with the policy was commonplace (Imudom, 2001).

Looking at international experience, a recent compilation of studies focusing on the effect of the minimum wage on youth employment (schooling and training) in 12 OECD countries finds that the size of the employment effects is small. For 16-17 year olds in New Zealand (in 2003), the employment elasticity was -0.1 to -0.2, small and likely to disappear as the workers aged and/or gained experience (Hyslop and Stillman, 2007). The study also points out that the negative impact on youth wages observed in many cases is largely due to having one minimum wage in the country, rather than age-differentiated minimum wage levels.

Chapter 5: Poverty and Inequality: Impact on Households?

“No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable. It is but equity, besides, that they, who feed, clothe and lodge the whole body of the people, should have such a share of the produce of their own labor as to be themselves tolerably well fed, clothed and lodged.”

Adam Smith, in *The Wealth of Nations*, 1776

Although policymakers across the world, and most recently in ASEAN countries, argue that the minimum wage can help the working poor and those vulnerable to poverty by raising their incomes, it is unclear whether the minimum wage is the most appropriate instrument for this purpose. While a well-implemented minimum wage that imposes a moderate (and economically reasonable) level can have positive social welfare effects, it may not be the most effective means for addressing poverty and inequality. The main argument put forth is that many poor people are not employed or are employed in the informal sector where minimum wages are not binding. Furthermore, poor people often have limited skills and low productivity and thus tend to be among the first to be laid off when minimum wages increase.

Unfortunately, empirical evidence properly measuring the policy’s effect on poverty and inequality remains thin and focuses mainly on the United States and other developed economies. The literature on the United States shows that only a fraction of poor families work for minimum wages; most of the poor either live off welfare or have wage earners above the minimum wage who face large dependency ratios. This chapter attempts to shed light on whether the minimum wage policy in the developing country context (namely ASEAN) helps or hurts the poor, addressing the question of whether the minimum wage policy is the right instrument for fighting poverty.

5.1 Minimum Wage and Poverty

Because poverty is typically measured at the household level while minimum wages are paid at the individual level, it is difficult to determine how increases in the legal minimum wage paid to a person will affect his/her household income. In many cases, low-wage workers live in high-income households, and the wage from the minimum wage earner is a trivial part of the household’s full income portfolio—for example, a young worker living with parents. At the same time, there are cases where higher-wage workers are the only earners in a low-wage household or a household of many non-earners, so a change in minimum wages may be only weakly or not at all related to household income (Mascella, Teja and Thompson, 2009). Therefore, to understand the effect of the minimum wage on poverty, one must understand the composition of the household (number of wage earners and dependency ratios) and the interplay of the policy with other sources of income.

International evidence on the impact of minimum wages on poverty is mixed. As discussed in Rutkowski (2003), the evidence indicates an increase in the minimum wage can help a subset of poor families escape poverty, but it can also push a number of non-poor families into poverty since some workers in non-poor families may lose their jobs in the wake of a minimum wage increase. At least in the OECD countries, the impact of minimum wages on poverty is likely negligible since the majority of adults who live in poverty do not work, and many low-wage workers are in relatively affluent families. Accordingly, Rutkowski (2003) argues that even though the minimum wage can reduce poverty among the ‘working poor,’ it is not a well-targeted and effective anti-poverty program. Even the developing country evidence—largely from Latin America—yields differing

conclusions on the minimum wage-poverty relationship. Some find that increases in the minimum wage do reduce poverty (for example, Lustig and McLeod 1997; Morley 1995), while other studies find no connection between minimum wages and poverty reduction (for example, Cunningham and Siga 2006, for Brazil).

Another consideration is the potential inflation that could result from an increase in the minimum wage, which would hurt poor households. By raising labor costs, a minimum wage increase is likely to raise overall production costs (Hamermesh, 1986; Brown, 1999). Competitive firms may look to stay afloat by raising their prices, so consumers would face higher prices in the market. This effect is likely to be broadly felt in economic sectors with low profit margins, such as low-end goods and services. As a result, low-skilled, likely poorer workers would face higher prices as well as vulnerable employment, since they are more likely to work in low-end manufacturing and services. However, the magnitude of price increases depends on the demand elasticity and level of competition faced by the firm (Aaronson, 2001). Thus, it is not obvious that inflation will rise or large price increases will come about, as Card and Krueger's (1994) seminal work argues.

5.1.1 Effect of Minimum Wage on the Poor in ASEAN

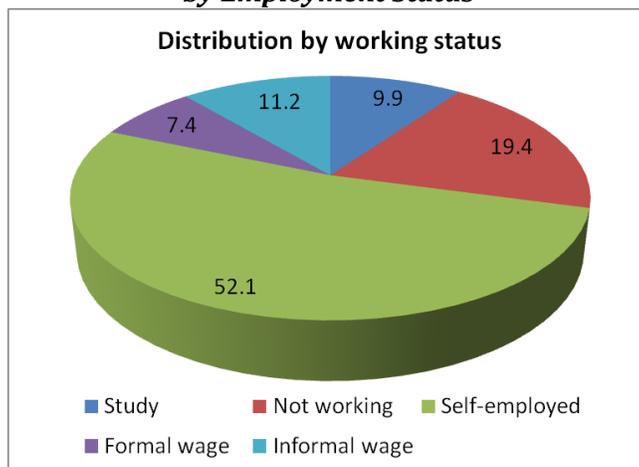
Some country evidence suggests that minimum wage hikes may increase poverty rates. A study by Bird and Manning (2004) assesses the efficiency of using the minimum wage to fight poverty in Indonesia by identifying who benefits and who is hurt by the policy. The authors conclude that the minimum wage policy is not effective in helping poor households because in Indonesia, the poor are typically not the ones earning the minimum wage. The study finds that over half of the benefits from minimum wage increases in 2003 went to non-poor households, and only one in four poor households gained from the increase in wages. As noted by the authors, this result is similar to the one obtained for the United States by MaCurdy and McIntyre (2001), who found that poor households received only 15 percent of the benefits from a wage increase. Bird and Manning also find that poor households face higher prices in the Indonesian market so spend more on basic goods. In addition, Bird, Kelley and Manning (2008) finds that raising the minimum wage increases the incomes of 21 percent of poor households, while the other 79 percent of poor households incur net losses.

However, the evidence of the impact of minimum wages on the poor is not all negative. Analysis estimating the effects of minimum wage changes on the poor in Vietnam finds that on aggregate, minimum wage increases may lower the poverty rate by increasing household consumption for those who retain their jobs. According to the estimations, a one-percent increase in minimum wages reduces the probability of a household being poor by 0.089 percentage points. Although the magnitude is fairly small, it is statistically significant. The analysis also found that a one-percent increase in minimum wages can be associated with a 0.12 percent increase in per capita food expenditure and a 0.48 percent increase in per capita non-food expenditure. In terms of non-food expenditure, if minimum wages increase by one percent, the education expenditure could increase by 0.66 percent (Del Carpio, et. al 2013). These findings are consistent with those of Saget (2001), who compiles various studies to argue that minimum wages can improve the standard of living of poor workers when they remain employed, employers comply with the law, and prices are not affected.

Notably, a study measuring the impact of minimum wage increases on inflation in Vietnam between 1994 and 2008 finds that, when properly measured (using a sound econometric approach), minimum wage level increases did not cause inflation during those years; rather, price increases

came about due to increased consumption of goods around the Vietnamese New Year festivals. The author explains that the number of workers bound by the minimum wage during that period was too small—around 10 percent, compared to 60 percent who were self-employed or working in households—to exert pressure on prices at the macro level (Nguyen, 2011). Indeed, Figure 20 shows that in 2010, the percentage of formal and informal wage-workers was less than 20 percent.

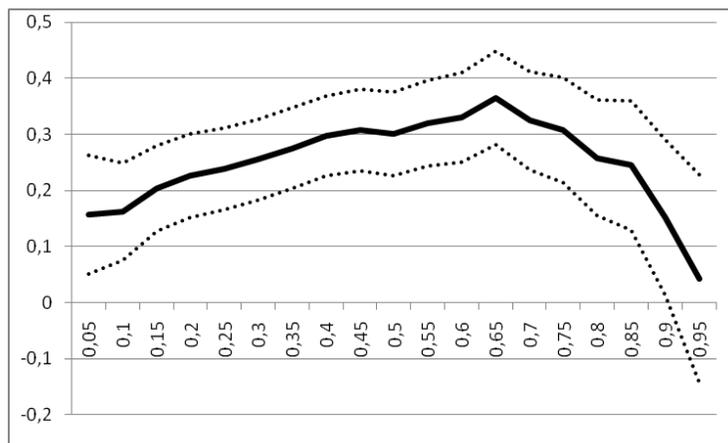
Figure 20. Distribution of Individuals in Vietnam (aged above 14) by Employment Status



Source: Del Carpio, Nguyen, Wang, 2013 using VHLSS 2010

Findings from Thailand highlight that while the effects of minimum wage increases can be positive along the wage distribution, the effects vary across groups. Prior to the recent dramatic increase in the minimum wage to 300 Baht, mild increases in the minimum wage level had positive impacts on the per capita consumption of wage-workers along the wage distribution, except for those at the top end who likely experienced no impact at all. Figure 21 shows that the positive effects were not uniform for all groups; workers at the middle of the distribution saw a higher effect than workers at the lower end of the distribution.

Figure 21: Impact of the Minimum Wage in Thailand



Source: Del Carpio, Messina, Saenz de Galdeano, 2013

A simulation exercise for the Philippines finds that minimum wage changes can bring varying degrees of poverty reduction across different types of households and geographic locations (see

Box 2 for more details). The simulation measures what would have happened to household income and poverty in 2010 if minimum wages had increased by the average amount of the 2005-2006 increase (2.6 percent) in 2009 (a year when minimum wages did not increase). The results show that an average increase in the minimum wage would have lowered poverty by only 1.1 percentage points, with the effects on poverty varying considerably by type of household and geographic location (Table 4). Results indicate that an average increase in the minimum wage could have reduced the poverty rate in the Manila region by more than three-quarters, but the effect on the rest of the Philippines outside Manila is much smaller (a 4.7 percent reduction in the poverty rate). While an average increase in the minimum wage, according to the simulation, could have reduced the poverty rate among single-person households by almost 20 percent, two-person households would see their poverty rate fall by only 3.9 percent. In addition, the simulation found that seniors (people aged 56 and older) tend to live in households that have the least to gain from minimum wage increases, with an average gain of only PhP 741 and a median gain of PhP 365. It is important to note that results from the simulation are debated by others who argue that impact of minimum wage increases on poverty in the Philippines should be minimal because most of the poor work in micro-sized firms or the informal sector where minimum wages are not paid (largely because of massive noncompliance and/or exemptions)(World Bank, 2012).

The simulation exercised undertaken for the Philippines also found that although the minimum wage has an impact on household income, the impact is very small. If the minimum wage had increased in 2009 (thus affecting individuals in 2010) at the same rate as it increased on average during 2005-2006, household income would have risen an average of PhP 1,076 in real terms. Given that the average minimum wage in 2009 was PhP 226.24, this represents slightly more than four days' worth of earnings, a relatively small amount. Put another way, average annual household income per capita in the sample is estimated to be just over PhP 49,000, so this amounts to an increase of 2.2 percent. Looking at the full income distribution, the average appears to be pulled up by households at the top of the distribution, since the median gain is closer to two days of earnings or 1.4 percent of annual income. But again, these findings are debated by others who argue that the average household income of the lowest three deciles of the population (the poor) is less than half the amount of what the minimum wage rate is, thus, it is clear that the poor people earn well below the minimum wage and are highly unlikely to benefit from increases (World Bank, 2012).

**Table 4. Simulated Change in Household Income and Poverty Rate:
Average Observed Minimum Wage Increase 2005-2006**

	<i>Household Income</i>				<i>Poverty Rate</i>	
	Average	First Quartile	Median	Third Quartile	Change	2009 level
Overall	1,076	117	427	1,176	-0.011	0.216
1 person households	5,287	45	569	2,309	-0.003	0.015
2 person households	2,130	151	534	1,400	-0.002	0.052
3 or more person households	946	117	423	1,157	-0.012	0.230
Manila Region	1,962	175	899	2,881	-0.010	0.014
Rest of Philippines	964	110	408	1,058	-0.011	0.242
Youth	1,143	114	403	1,055	-0.017	0.216
Prime Age	1,094	127	448	1,289	-0.009	0.225
Seniors	741	50	365	1,025	-0.008	0.157

Source: Del Carpio, Margolis and Okamura, 2013

Box 3: Non-Compliance with the Minimum Wage Law in the Philippines Limits the Effect of the Policy

To help deepen the understanding of the effects of minimum wages on poverty in developing countries, a rigorous analysis of the impacts of changes on the daily real on income and poverty in the Philippines was undertaken for this study. The analysis was designed to address the lack of an encompassing approach to capturing such effects, by using real-world micro-level evidence and simulating counterfactual minimum wage variations and decomposing the effect on poverty.

Data and Methodology

The analysis estimated a micro-econometric model of labor force status, labor earnings, and other household income sources and took a micro-simulation based approach to quantifying the expected effects of minimum wage changes. The approach used microeconomic household data from two waves of the Philippines Family Income and Expenditure Surveys (FIES) in 2006 and 2009, matched with the respective waves of the Philippines Labor Force Survey (LFS) from 2006-2010, to estimate models that characterized the different mechanisms by which the minimum wage can affect household income and poverty. Separate models for labor force status (private household, private enterprise, public sector, entrepreneur, not employed), labor market earnings, and other income sources available to the household (financial income, transfer income, remittance income and other income sources) were estimated empirically. The analysis utilized a multinomial logit for labor force status and a series of OLS regressions for labor income (by employment state) and other sources of household income.

The analysis also calculated the impacts of simulated counterfactual minimum wage variations for each individual and each mechanism. The combined effects could thus be aggregated to the household level, and the richness of the underlying microeconomic data was preserved, allowing for a much more fine poverty analysis than is done in models based on generic individual or household types. The analysis simulated what the impact on income and poverty would have been if minimum wages increased in 2009 at the same rate as they did on average for the region in 2006. It then explored an alternative counterfactual in which the minimum wage increase in 2009 would have been ten times larger than that of 2006. A detailed description of the data and methodology used is provided in Annex 2.

Main Findings

The analysis found that the effects of real minimum wage changes in the Philippines on employment status are basically negligible. In fact, it found no significant difference in average labor market status between doubling the minimum wage and eliminating it entirely. This is a very strong result, and lends credence to the idea that the very limited coverage and high noncompliance issues allow the Philippines's labor market to avoid many of the potentially negative effects of having such high statutory minimum wages.

While the analysis found that the effects of the minimum wage on employment in the Philippines were minimal, it revealed that the minimum wage does have several implications for earnings. First, the "lighthouse effect" found in other countries also seems to be present in the Philippines. The labor earnings elasticities are positive for all job types except women in the public sector, including for jobs that are not covered by the minimum wage. Second, the analysis found that while a small minimum wage increases can lead to (much smaller) increases in labor earnings, very large increases in the minimum wage may drive down labor earnings as the shifting to the informal

sector/labor supply effect dominates. Third, the results of the analysis suggest that any positive effects of minimum wages on household income would be partially offset by a reduction in other sources of income available to the household.

The results of the counterfactual simulation indicated that the minimum wage can be a (weakly) effective tool for improving living standards and reducing poverty, provided it is used in moderation. The analysis found that moderate increases in the minimum wage can have moderately beneficial effects on household income and can reduce poverty slightly, although there is some variability in the effects across household types. However, the model also makes clear that increases in the minimum wage that are “too large” may be risky. When simulating an increase in the minimum wage that was ten times the average observed increase, median income gains fell by two thirds (relative to an average increase in the minimum wage), and poverty rates actually rose for some categories of the population, notably one- and two-person households.

Source: Del Carpio, Margolis, Okamura, 2013

Notably, the use of a larger increase in the minimum wage for the simulation yielded similarly heterogeneous and ambiguous results, with poverty decreasing for some groups and actually increasing for others. When the minimum wage increase is larger, most of the positive effects on the poor as estimated under the moderate increase scenario are eliminated or reversed. Results from the micro-simulation show that the effect on poverty from drastic rises yields heterogeneous and ambiguous results. Although applying a larger minimum wage increase yields a 2.5 percentage point decrease in the poverty rate, poverty actually increases for some groups in this scenario. For example, the simulation suggests that the poverty rate would be over 4.5 times greater for one-person households than with no minimum wage change at all and that it would increase by fifteen percent for two-person households. Again, the biggest relative drop in the poverty rate would occur in the Manila region, but poverty would fall by ‘only’ 22 percent, compared to the much larger drop associated with the smaller minimum wage increase.

**Table 5. Simulated Change in Household Income and Poverty Rate:
Ten Times Average Observed Minimum Wage Increase 2005-2006**

	<i>Household Income</i>				<i>Poverty Rate</i>	
	Average	First Quartile	Median	Third Quartile	Change	2009 level
Overall	19,431	-1,793	146	11,877	-0.025	0.216
1 person households	29,624	-1,247	410	28,856	0.054	0.015
2 person households	8,375	-2,611	-188	7,718	0.008	0.052
3 or more person households	19,972	-1,760	179	11,940	-0.028	0.230
Manila Region	77,877	-1,369	9,354	54,592	-0.003	0.014
Rest of Philippines	12,014	-1,808	-5	9,369	-0.028	0.242
Youth	10,370	-2,458	-302	8,006	-0.034	0.216
Prime Age	15,960	-1,617	397	14,219	-0.022	0.225
Seniors	71,347	-965	167	10,188	-0.016	0.157

Source: Del Carpio, Margolis and Okamura, 2013

5.2 Minimum Wage and Inequality

As described by Rutkowski (2003), one objective of establishing the minimum wage is to prevent excessive earnings disparities. In most cases, minimum wages do lead to a compression of the earnings distribution (OECD, 1998). However, the benefit of higher earnings following the minimum wage increase tend to be short-lived, as some firms tend to offset the increase in labor cost by adjusting hours of work and the employment levels or by taking advantage of inflation, which erodes the real value of wages. Therefore, the effect depends largely on the extent to which any increase in incomes for poorer households may be offset by higher unemployment among those households. As discussed in Betcherman (2013), while some positive employment effects have been found for workers clustered around the minimum wage, the effects are usually negative.

Evidence from the ASEAN countries on the impacts of minimum wages is inconclusive with regard to the effect on inequality. For Indonesia, for instance, one study by Chun and Khor (2010) shows that the minimum wage legislation has played a role in reducing wage inequality in Indonesia. They find rises in the minimum wage level led to raises in the wage levels of working individuals in the formal sector who initially had monthly wages below 90 percent of the monthly minimum wage line, while having no impact on wage workers closer to the line or above it. They also find that minimum wages are a significant determinant of increases in monthly wages for the population below the minimum wage line in the formal sector, but not the informal sector.

A report issued by the ILO in Thailand in 2012, prior to the implementation of the 300 Baht minimum wage, stated that the share of wages in GDP has been falling in Thailand, while the share going to profits has been increasing. The report finds that wages in Thailand have not been keeping up with labor productivity of workers, which has resulted in a flat (or decreasing) real wage for most workers in the country. Thus, the overall wage inequality—between the highest paid and lowest paid—has been increasing in the country. Indeed this is what a recent study shows for Thailand in the last decade. Before the Asian crisis in 1997, the minimum wage seemed to help compress the wages among workers in the lower parts of wage distribution (mainly for workers employed in larger enterprises), but the positive effect on reducing inequality dissipated after the financial crisis period when there was a decline in the real minimum wage (Leckcivilize, 2013).

International evidence also illustrates how the effect of the minimum wage on inequality depends on the impacts of the minimum wage on the employment and earnings of those at the lower end of the income distribution. A seminal paper by DiNardo, Fortin, and Lemieux (1996) using kernel density techniques shows how the minimum wage held up the bottom tail of the wage distribution in the United States, leading to a spike in the hourly wages of minimum wage earners and narrowing the gap between low- and high-wage earners. As the real value of the minimum wage eroded, wage inequality became more accentuated. A paper by Autor, Manning, and Smith (2010) using better data and econometric techniques finds that much of the wage inequality measured can be attributed to the decline in the real value of the minimum wage, and the impact on wage inequality is larger when the analysis focuses on women's wage distribution. However, the authors find that the decrease in the real value of the minimum wage was only partially attributable to the minimum wage, with other non-wage factors contributing. More recently, a study by Dickens (2013) finds that the minimum wage in the UK has helped to substantially reduce inequality between low and high paid workers; despite the fact that only five percent of workers in the UK receive the minimum wage, the spillover effects on wages benefits up to 25 percent of workers.

It is also important to note that gains from higher wages for some may push other, less skilled workers into the informal economy where non-wage benefits are not provided, thus exacerbating inequality. In countries such as Thailand, there is evidence that some workers move to the informal sector to compensate for their loss of employment in the formal sector. Informal workers in Thailand are not eligible for the Social Security Act (B.E. 2533), which guarantees social insurance to employees.⁵¹ This is considered one of the main sources of inequality between workers—not just in wages but also in benefits. To address this, the Government of Thailand put in place a social protection scheme that extends coverage to informal workers on a voluntary basis.⁵² Other governments in the ASEAN region are also experimenting with less ambitious schemes targeted largely at the poor and the less skilled, rather than at workers in the informal sector.

In some countries, the minimum wage policy affects non-wage benefits (social insurance, pensions, among others), which affects a wider group of workers and hurts overall worker welfare. For example, in Vietnam (and France), the minimum wage is related to the social insurance contribution. Specifically, firms must pay the government 17 percent of a formal worker's wage as social insurance. In reality, since actual wages are usually not reported truthfully, the social security administration uses the minimum wage as a base for calculating the compulsory social insurance contribution by firms. Since an increase in the minimum wage means that firms have to pay higher social insurance, firms may lay off some formal workers, not pay their social insurance (that is, the workers become informal), or cut their wages to offset the higher social insurance bill. Thus, a minimum wage increase might hurt not only low-skilled and low-wage workers but also more highly skilled workers employed on formal contracts.

In terms of social implications, the impacts of the minimum wage on employment and inequality could have ramifications for social cohesion. As discussed in Betcherman (2013), employment can be an important determinant of social inclusion by enabling individuals to participate in the mainstream of social and economic life. To the extent that minimum wages affect employment, they could have an impact on this dimension of social cohesion. Furthermore, the engagement of youth is often seen as an important factor in social cohesion, so any effect of the minimum wage will depend on its impact on youth employment. As discussed earlier, the evidence from the ASEAN countries suggests that the employment impact of minimum wage increases on new labor force entrants may be negative, which in turn could have negative implications for social cohesion.

⁵¹ There are exceptions to the application of this Act. For instance, workers engaged in cultivating, fishery, forestry and livestock industry who have not been employed regularly; temporary seasonal employees; domestic workers; vendors or peddlers; taxi drivers, motorcyclists, etc.

⁵² This scheme provides them with a subsidized package which covers sickness, invalidity, death, and optional old-age benefits as a lump sum. There are two types of benefit levels, depending on the worker contribution: for 70 Baht per month, the employees get all except old-age benefits; for 100 Baht, they get old-age benefits, as well.

Chapter 6: Impacts on Firm Performance

“The capitalist, who works and saves and invests, and drives forward the economic engine of society, finds that all his trouble is for naught, as his wage costs are higher and higher, his profits smaller and smaller, and his rent higher and higher....”

David Ricardo, Principles of Political Economy 1817

6.1 Effects of the Minimum Wage on Firm Productivity and Investment

Research on the effects of the minimum wage on productivity is extremely limited, especially for the ASEAN region. Despite the small but growing evidence on the impact of minimum wages on labor market outcomes in ASEAN, evidence on the effect of the policy (and changes to it) on firm profitability, productivity, investment, and overall performance is nearly nonexistent. This is not for a lack of interest from policymakers and researchers; instead, it is largely because reliable (and/or available) data on investment and firm productivity are limited in ASEAN countries. Given the important role that firms play in the economy and society, this chapter attempts to shed light by compiling the existing (scant) evidence from ASEAN and the rest of the world to identify the effects of the policy on firm performance.

The minimum wage policy could potentially affect firm performance in a number of ways. One potential impact is that firm profit margins are negatively affected, thus reducing profitability. Another possibility is that firms pass on increased wage costs through price increases. A third and perhaps more dire possibility is that firms are unable to cope with lower profits (perhaps because they had low profit margins to begin with) or pass on the increased costs to consumers (because they face a fiercely competitive national and international market) and are forced to enter the underground (informal) economy or exit the market altogether. However, it is also possible that the shock induces firms that are able to restructure to operate more efficiently by cutting slack, substituting low-productivity workers for higher-productivity workers, and making necessary investments in technology to reduce labor costs in the medium to longer term.

In terms of the potential effect on profitability, a study by Draca, Machin and Van Reenen (2011) found that in the UK, the introduction of the minimum wage in 1999 led to decreases in firm profitability. As wages were significantly raised with the policy, firm profitability was reduced considerably. The study also found evidence that firms in industries with high market power experienced large decreases in profit margins, but most firms did not reduce employment (some hired less in the longer term) and did not experience falls in productivity. In other words, the effect was largely concentrated in reductions in firm profits.

As previously mentioned, firms in Indonesia cope with increases in the minimum wage by shedding low-skilled (or unskilled) workers, for whom the higher minimum wage level likely exceed their level of productivity. Thus, increases in the minimum wage mean that small companies, which employ low-skilled workers most often and have low capital intensity, have to lay off non-essential workers (or even recruit informal ones) to avoid going out of business (Del Carpio, Nguyen and Wang, 2012). See Box 3 for more details. The rise in minimum wages in the Philippines and Vietnam affects firms in a manner similar to the Indonesian context. In the case of Vietnam, impacts are mostly felt by domestic firms—which are usually smaller and employ more informal workers. Foreign firms, which are usually larger and more productive, are less (or not) affected (Del Carpio, Nguyen, Nguyen and Wang, 2013). In the case of the Philippines, an increase of 10 percent of the

minimum wage results in reduction of employment among firms in the manufacturing sector by about 8 percent; and the negative employment effects are mostly experienced by medium size firms (100 to 199 workers), which, as argued by the authors, are the most commonly inspected firms in the Philippines (Lanzona, as cited in the World Bank, 2012).

Box 4: Impact of Minimum Wage Changes Differ Depending on the Firm Size in Indonesia

To help address the significant knowledge gaps on firm-level impacts of minimum wages in developing countries, Indonesian manufacturing survey data was used to investigate whether minimum wage changes affect firms' wages, employment, and their labor's educational composition. In a departure from previous literature which ignored employment effects on non-production workers, this analysis looked at both production workers⁵³ and non-production workers in the manufacturing sector. The analysis also examined employment changes by the levels of education of workers and gender to identify the groups that are most severely affected and to see if firms substitute low-skilled, less-educated workers with skilled, more-educated ones—another important issue that has received little attention in other studies.

Data and Methodology

The main data source used in the analysis was the annual manufacturing census survey of Indonesia, for the period 1993-2006. The survey, which includes all manufacturing firms with over 20 employees, captures detailed information on the firm and its operation, including output, intermediate inputs, employment, capital, ownership, and balance sheet. The analysis also used data from the National Socio-Economic Survey (*Susenas*), an annual multi-purpose household level survey that collects individual and household level information, including wages as well as various socio-economic, demographic, and labor characteristics of individuals and households.

The study analyzed the asymmetric impacts of minimum wages on small firms and large firms. Following Alatas and Cameron (2008), small firms are defined as firms that always have 150 workers or less, and large firms are those that always have more than 150 workers. In the data, there are about 27,000 small firms and about 4,500 large firms that appear in the time period evaluated (1993-2006).

In particular, the analysis focused on four variables of interest: employment of production workers, employment of non-production workers, changes in workers' educational composition, and real average wages. The analysis uses panel data and firm fixed effects to capture non-varying firm-specific characteristics. The estimations control for year fixed effects to capture national macroeconomic variables—such as interest rates or exchange rate, or financial crises—that potentially affect the economic environment in which all firms in Indonesia operate.

Given that minimum wages change across provinces and across time, a standard approach is to run OLS with time and province fixed effects to capture non-time varying province characteristics—such as provincial infrastructure or regulations—that might affect both employment and the minimum wages. However, this does not address another potential omitted variable problem at the firm level. For example, some firms (or a group of them) might have connections or receive some favorable treatments from the government. These factors help the firms expand and at the same

⁵³ Production workers, defined by Indonesia industry survey, as “workers who work directly in the production process, or activities connected with the production process, from the time materials enter the factory until the final products are sent out of the factory, for example, foreman supervising the production process, driver of a forklift in the factory, workers of working in the processing of goods etc.”

time give them some voice in the minimum wage decision process. Having firm fixed effects captures the time-invariant component of these connections and treatments. As shown in the analysis, the results flip from pooled OLS with province fixed effect to panel regression with firm fixed effects. A detailed description of the methodology used is provided in Annex 3.

Main Findings

The analysis found that in Indonesia's manufacturing sector, minimum wages have significant and negative employment effects in small firms, while they have limited effects on large firms. Since there are many more small firms, the aggregate effect of minimum wages on formal employment is negative overall—i.e. they lead to job losses.

Employment effects are negative among workers with low levels of education, particularly if they are female, while workers with high school education or above do not seem to be affected. The analysis also showed that while both production and non-production workers lose their jobs when minimum wages are raised, job losses are more severe for non-production workers, which include workers performing low-skill (non-essential) demanding activities such as cleaners and drivers.

The analysis also found that minimum wages are more correlated with average wages in small firms than in large firms. This finding suggests that minimum wages are significantly more binding for small firms, which indeed on average pay less than large firms do.

Source: Del Carpio, Nguyen, Wang 2012

The argument that minimum wage increases can be passed on to consumers through higher prices, thus resulting in higher inflation, remains controversial. In theory, the cost-push factor is a sensible response to wage increases; as higher wages raise production costs, employers cope with the added expense by either absorbing it or passing it on to consumers through higher prices. However, critics argue that not only can employers adjust their workforce composition instead of passing on the expense to consumers, but also that coverage of the policy (or the number of workers directly affected) is not large enough to result in inflationary pressures.

The effects of minimum wage increases on inflation were investigated in Vietnam by Nguyen (2011), who found that the drastic (245 percent) increase in the consumer price index (CPI) in Vietnam for the 1994-2008 time period is not attributable to increases in the minimum wage level (five different increases during that period); instead, inflationary pressures were caused by other economic factors, including increased consumerism around holiday periods. Moreover, the study found negative inflation effects from minimum wage increases. The explanation provided by the author is that the number of workers (and firms) affected by the minimum wage increases was too small (10 percent of the workforce) to affect inflation, and there were too many self-employed people (60 percent) who did not necessarily comply with the policy.

As summarized in Betcherman (2013), one systematic analysis of the productivity effect of wage costs was carried out by Bassanini and Venn (2007), using cross-country aggregate data for 18 OECD member countries. They estimated that a 10 percentage point increase in the minimum wage-to-median wage ratio was associated with an increase of between 1.7 to 2.0 percentage points in long-run labor productivity and multi-factor productivity levels. One possible reason for this effect is the substitution of higher-skilled labor for less-skilled labor due to decreased demand for unskilled labor as minimum wages rise. To the extent that employers make this substitution, productivity levels will rise without any change in employment levels. Another possible reason is

that employers could make productivity-enhancing adjustments—that is, increased investments in training or new technologies—in response to the higher labor costs from minimum wage increases.

Evidence from Indonesia also suggests that firms may react to a minimum wage increase by trying to optimize their human resources and substitute labor-intensive processes with capital. Analyzing data from National Labor Force Surveys, Suryahadi et al (2001) found that the impact of minimum wage policy on employment for all workers and all segments of the labor force is negative, except among white-collar workers. The study points to a possible substitution effect, whereby firms replace other workers with more skilled white-collar workers or adopt more capital-intensive technologies.

Other evidence that may be relevant in assessing productivity effects relates to the impacts of minimum wages on the size and workforce structure of firms. This was the case in Indonesia, as previously mentioned, where negative employment effects were mostly felt by smaller firms (Del Carpio, Nguyen and Wang, 2012) and in the Philippines, where the negative employment effects were mostly felt by medium size firms, especially those reliant on labor-intensive production (Lanzona as cited in the World Bank, 2012). As discussed by Betcherman (2013), to the extent that (lower-productivity) small firms are disproportionately affected compared to medium- and large-size firms, it is possible that minimum wage increases might lead to a reallocation of resources toward more productive (larger) enterprises. A recent study from Chile finds that minimum wage increases also result in productivity declines across the board, but the worst effects are felt by firms reliant on low-skilled labor (Alvarez and Fuentes, 2011).

One possible effect identified in the literature is increased productivity through improved firm efficiency, by encouraging employers to invest in worker training and technology and re-strategize their market approach to produce/provide high value-added products/services. In other words, firms are compelled to adopt the 'high road,' rather than cope through cost minimization. Policymakers often argue in favor of the policy using this justification. However, in the UK, where much of the evidence on this point comes from, this effect has not come about largely due to existing institutional constraints that prevent employers from coping in this manner (Grimshaw and Carroll, 2006). Similarly, a study for New Zealand, Denmark, and Ireland highlights that increasing wages without easing constraints to worker productivity (such as those related to human capital deficiencies and skills shortages) inhibits employers from being able to respond to the shock by increasing their productivity. The study shows how improvements in the overall institutional framework in Denmark, for example, eased constraints faced by employers and led to increases in firm productivity. The authors explain that employers were able to take a high-productivity approach by embedding worker training in collective agreements through the wage bargaining process (McLaughlin, 2007).

6.2 Beyond the Minimum Wage: Other Labor Costs

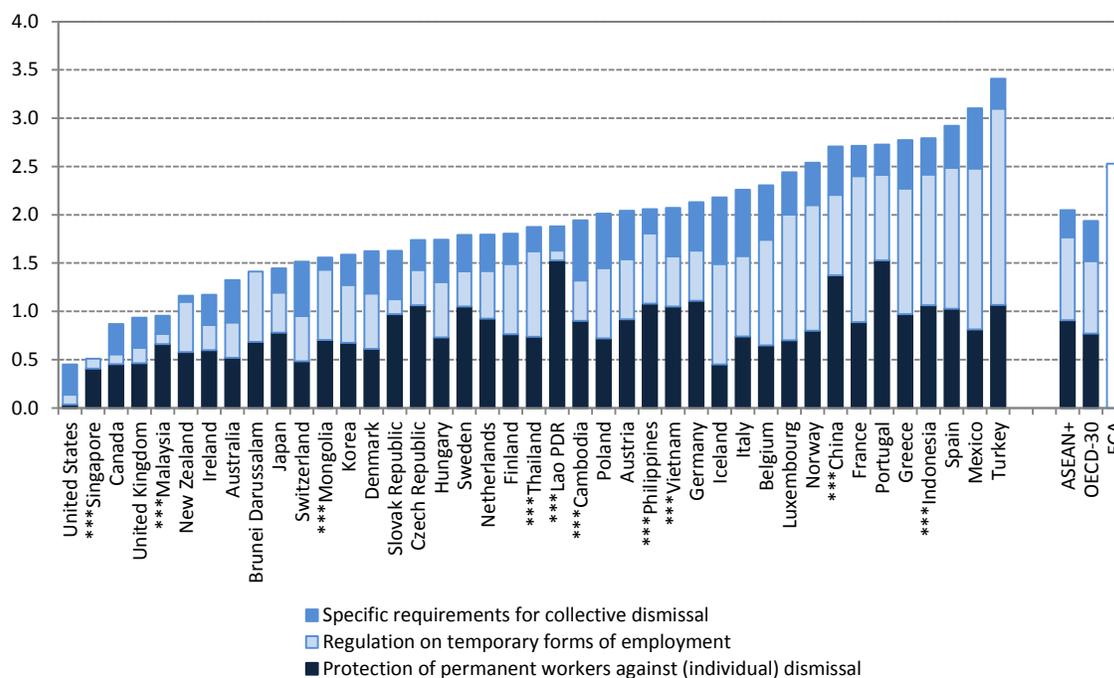
Labor market regulations impose employment costs beyond wages. For example, employment protection legislation (EPL), often put in place to enhance worker welfare and improve overall working conditions, imposes legal mandates on employers that translate into direct and indirect labor costs (OECD, 2004). The more salient EPL components are dismissal costs, limitations on the use of temporary employment (over permanent employment with worker benefits), and collective dismissal costs. Another set of costs imposed on employers includes unemployment benefits, mandated pension contributions, and taxes on wages. This section of the report highlights some of

these costs in order to provide a basic picture of the costs faced by employers in ASEAN countries. More detailed information is available in World Bank (2013a).

The effects of most of these costs on labor market outcomes and firm performance are mixed.⁵⁴ As stated in World Bank (2013a), regulations that make dismissals more costly and difficult for firms (that is, severance payments and procedural costs), can stabilize employment in downturns, but they also increase the risk of bankruptcy for firms during recessions, which in turn leads to unemployment for workers. Evidence (mainly from OECD countries) shows that employment protection may reduce productivity by forcing some firms to keep unproductive workers, but the negative effect is often offset by firms becoming more selective with the new hires and investing more in worker training (Boeri and Jimeno, 2005). While selectivity and training are in principle good outcomes for the economy as a whole, they also limit access to employment for low-skilled and inexperienced workers (mainly youth).

An index for EPL for the ASEAN countries (plus China and Mongolia) shows significant variation in the employment costs employers face in these countries. Figure 22 measures the stringency of employment protection in various ASEAN countries, including estimates for other Asian and OECD countries for comparison. The index uses a scale of 0 to 6, with 0 being the least restrictive and 6 the most restrictive. The figure shows that, overall, the average EPL index in the ASEAN region (1.8 for the period 2009-2010) is slightly above the estimate for OECD countries (1.94). However, the stringency of employment protection regulation (and costs) varies significantly across the ASEAN region, ranging from as low as 0.59 for Singapore to 2.79 for Indonesia.

Figure 22. Employment Protection Legislation (EPL) Index (2008-2010)



Notes: Score range from 0 (least stringent) to 6 (most restrictive). OECD and ASEAN unweighted average. OECD average includes a sample of 30 countries. OECD figures are for 2010.

⁵⁴ See, for example, Bertola (1990).

ECA figures are for 2007 and only reflect a total (with no breakdown by category)

**ASEAN+ countries

Source: Countries' labor regulation

Estimates from the index show that in ASEAN, Indonesia, Vietnam, and the Philippines have the most stringent employment regulation, while Malaysia and Singapore appear to have the least regulation on collective dismissal costs, ability to use temporary employment, and individual dismissal costs. Indonesia reformed its labor regulation in 2003 with the Manpower Law (Act no. 13 of 2003), which increased the amount of mandated severance payments and added some restrictions on the use of temporary jobs (that is, fixed-term contracts and subcontracting). Labor legislation in Vietnam and the Philippines strictly regulates the dismissal of permanent workers and discourages the use of temporary employment contracts, so both countries have fairly costly worker protection legislation. Moreover, in 2013 a new labor Code for Vietnam came into effect. The new legislation included some provisions to increase the level of protection of workers while increasing the labor cost for employers. Therefore, new estimates of the index should increase the index for Vietnam and its regional ranking of rigidity of labor regulations.

Notably, in January 2008, China adopted a Labor Contract Law (LCL) which made significant changes to the 1994 Labor Law and increased worker's protection.⁵⁵ Even though China is not in the ASEAN regional bloc, its proximity and links to other economies in the region can indirectly affect labor reforms in ASEAN countries.

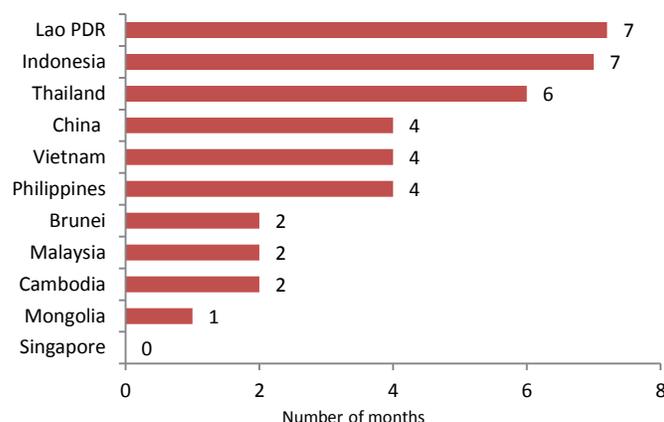
Another cost that employers must take into account when employing a worker is severance pay. It is the most prevalent cost (other than wages) and the most prevalent form of income support system for workers who lose their jobs, especially in developing countries that have no alternative form of unemployment benefit (Vodopivec 2006). While severance pay may be low according to the law, it may be high in practice due to legal costs—for example, full back wages must be paid if the employee wins his/her case even after 10 years.

Lao PDR and Indonesia have the most expensive severance pay regimes in the region, as shown in Figure 23 which presents the severance pay for workers with tenure of four years. In Indonesia, the 2003 Manpower Law increased severance pay for workers with three or more years of service and established an additional 15 percent of severance pay as a gratuity payment to compensate for loss of housing and health care benefits. As a result, severance pay is perceived to be equivalent to a 'hiring tax' of around one-third of a worker's annual wage (World Bank, 2009). It costs an employer in Lao PDR and Indonesia seven months of wages in severance pay to dismiss a worker with four years of tenure. While a worker with 20 years of service receives an average severance payment equal to 36 months of wages in Lao PDR and 25 months of wages in Indonesia, a laid-off OECD worker receives five-six months of wages. In contrast, Singapore and Korea do not have severance pay.

As mentioned above, permanent workers also have protections against dismissals, with the protections being highest in Lao PDR and China. In Lao PDR, where much of the current labor legislation was put in place in 1994, the reforms introduced tighter regulations for the termination of contracts in terms of severance provisions and administrative requirements for layoffs, making the dismissal process most costly (lengthy and legally cumbersome). China tightened its regulation with the passing of the new Contract Law in 2007.

⁵⁵ The law passed after the slave labor scandal in the coal mines of Shanxi and Henan provinces. The Government realized that violations of workers' rights, not to mention the resulting strikes, negatively affected social stability and economic development.

Figure 23. Severance Pay for Workers with Four Years of Tenure



Note: Countries are ranked by decreasing severance pay.

Source: World Bank 2013a

Countries also have regulations that protect against collective dismissals. Employers often have to restructure a company by shutting down part of their operations and laying off subsets of workers who no longer offer the skills needed. In Cambodia and Vietnam, strict regulations on mass redundancies make it very costly for employers to consider this option for coping with higher wage costs. In Cambodia, the 1997 Labor Law provides legal grounds for collective dismissals, which apply to any layoff resulting from a reduction in an establishment's activity or internal reorganization. To reduce its workforce, an employer must provide written notification of the circumstances of the layoff to the labor inspector and workers' representatives. This process is needed to obtain their suggestions for minimizing the effects of the reduction on the affected workers. Dismissed workers have priority to be re-hired for the same position within two years.

A clear linkage exists between unemployment insurance and minimum wages. Workers are able to risk leaving a job to look for a better one while having a (partial) compensation. At the same time, employers are able to undertake workforce reforms—lay off workers as needed—to improve their efficiency. More specifically, unemployment insurance is designed to protect individuals against the risk of being unemployed by offering replacement income to workers experiencing unemployment spells after having lost their jobs (Boeri and van Ours, 2008). Within ASEAN, only Thailand and Vietnam have the policy in place (as of 2010), while Malaysia is currently studying the suitability of the policy for its context. Unemployment insurance benefits in Thailand and Vietnam are comparable to those in developed countries, with benefit levels or replacement rates (defined as the portion of previous income replaced by unemployment insurance benefits) ranging from 40 to 75 percent. In Vietnam, the monthly benefit is equivalent to 60 percent of the average earnings in the six-month period before unemployment. In Thailand, the benefit level depends on the reason for being unemployed; if the worker is involuntarily unemployed, he or she receives 50 percent of the previous daily wage (average daily wage in the highest paid three months during the nine months before unemployment).

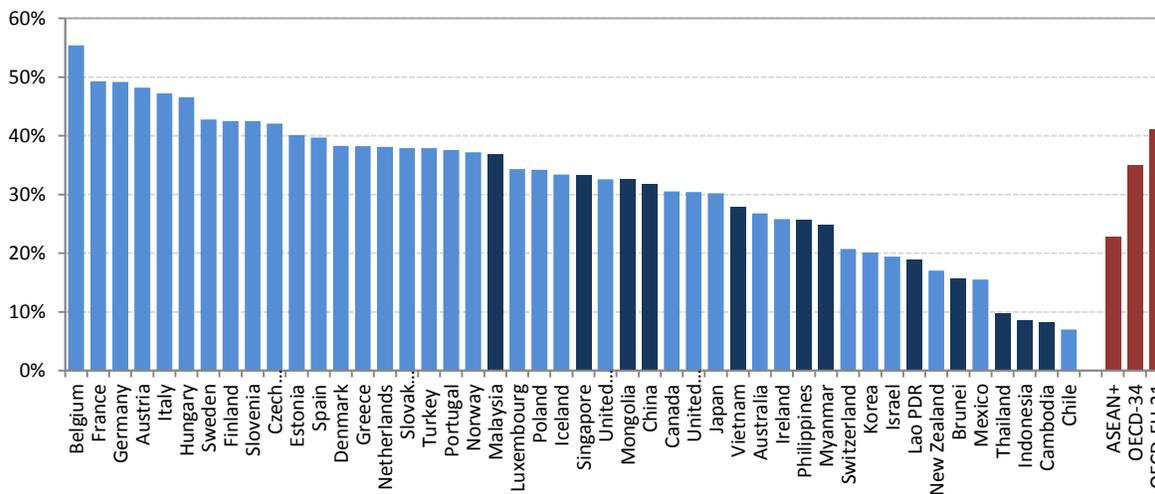
Taxes on labor are directly imposed on employers and sometimes also on workers. Evidence shows that taxes on labor affect individual behavior and may have some distortional effects on the functioning of labor markets. By creating a wedge between the cost of labor for a firm and net take-home pay of workers, labor taxes discourage employment. As net (take-home) wages decrease,

workers get discouraged from participating in the labor market, finding outside options such as prolonged unemployment or informal work more attractive (Boeri et al, 2008). Employers also face discouragement and hire less when they are faced with increased labor (non-wage) costs.

Workers in EAP countries have relatively higher take-home pay⁵⁶ (or lower tax-wedge) than workers in OECD and (developed) Eastern European and Central Asian countries. The levels of labor taxation are significantly lower (averaging 23 percent) than in OECD, where the average is 37 percent and 41 percent for EU countries only. But the costs that tax wedges impose on employers and workers in the EAP region are not negligible, especially taking into account that governments do not necessarily use the resources (taxes) collected to benefit workers and firms through better public services.

Between 2002 and 2010, the average tax wedge for the EAP region⁵⁷, increased four percentage points, increasing in all countries except China that experienced a reduction of 1.2 percentage points. Within ASEAN, Cambodia, Indonesia, and Thailand have the lowest levels of taxation on labor, with tax wedges below 10 percent.⁵⁸ In Cambodia, this result is driven by the absence of statutory social security tax.⁵⁹ In Indonesia and Thailand, the low tax wedge is explained mainly by the fact that workers earning average wages are exempted from paying taxes.⁶⁰ In contrast, Malaysia stands out as having the highest tax wedge among ASEAN countries at over 35 percent, similar to the levels observed for Norway and Luxembourg. One reason given is that personal income for workers earning the average wage is high (16 percent of the average gross salary), and there is a high mandatory contribution to social security (22 percent of the average gross salary) (Figure 24).

Figure 24: Tax Wedge on Labor for OECD and ASEAN+ Countries, 2010 (% Labor Costs)



Note: Unweighted average for ASEAN+ and OECD.

Source: Countries' tax regulations; KPMG's Individual Income Tax and Social Security; Taxing wages report 2011 (OECD).

⁵⁶ The tax wedge ranges between 20 to 30 percent.

⁵⁷ Excluding Lao and Singapore for whom data on taxes is not available for 2002

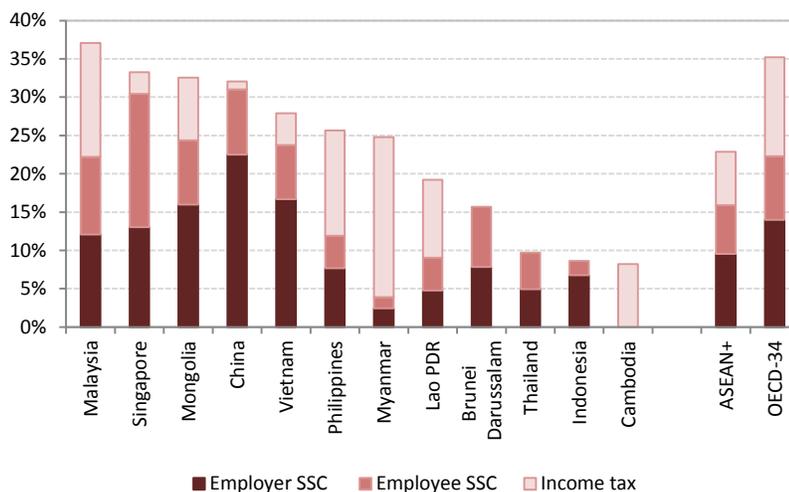
⁵⁸ Tax wedge is calculated as the difference between salary costs of a worker to their employer and the amount of net income that workers receive ('take-home pay'), expressed as a percentage of the total labor cost.

⁵⁹ It is important to note that a new Prakas has already been prepared, stipulating that social security contributions for civil servants will be shared between the Government (18 percent) and workers (6 percent).

⁶⁰ In these countries, generous allowances are provided by law, which reduce the taxable income of average wage workers substantially.

Social security contributions account for the largest portion of the tax-wedge in EAP countries. In most countries employers pay the majority of these contributions (with notable exceptions) on top of wages and other labor costs. Figure 25 disaggregates tax wedge by components (income tax, employee and employer social security contributions) for 2010 as a share of the labor costs. In most countries, social security contributions account for the largest share of the tax wedge, and within these, the employers' contributions dominate, except in Singapore and Brunei. China imposes the highest tax rate for social security among the countries reviewed; it represents 22 percent of the total labor cost for a worker (or 29 percent of the gross salary). Singapore on the other hand, imposes most of the tax burden for social security on workers; they contribute 17 percent of the total labor cost for social security, while employers only pay 13 percent of total labor costs in social security contributions.

Figure 25. Tax Wedge on Labor for OECD and ASEAN Countries, 2010 (% of Labor Costs)

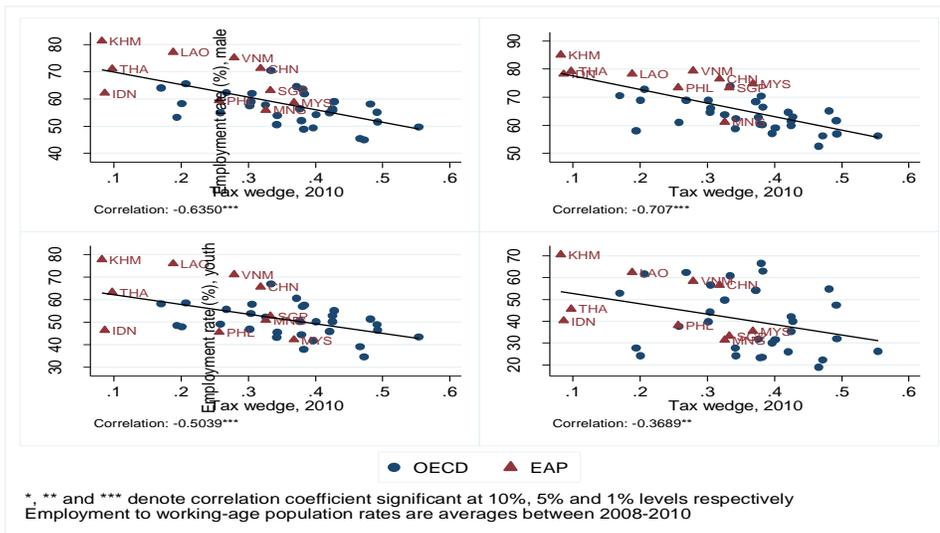


Source: Country tax regulations; KPMG Individual Income Tax and Social Security; Taxing wages report 2011
OECD

There is a clear association in ASEAN (and EAP as a whole) between high non-wage labor costs (as proxied by the tax-wedge), lower employment rates (Figure 26) and higher unemployment (Figure 27). And this is true for all workers as well as youth and women. This finding is consistent with evidence from around the world.

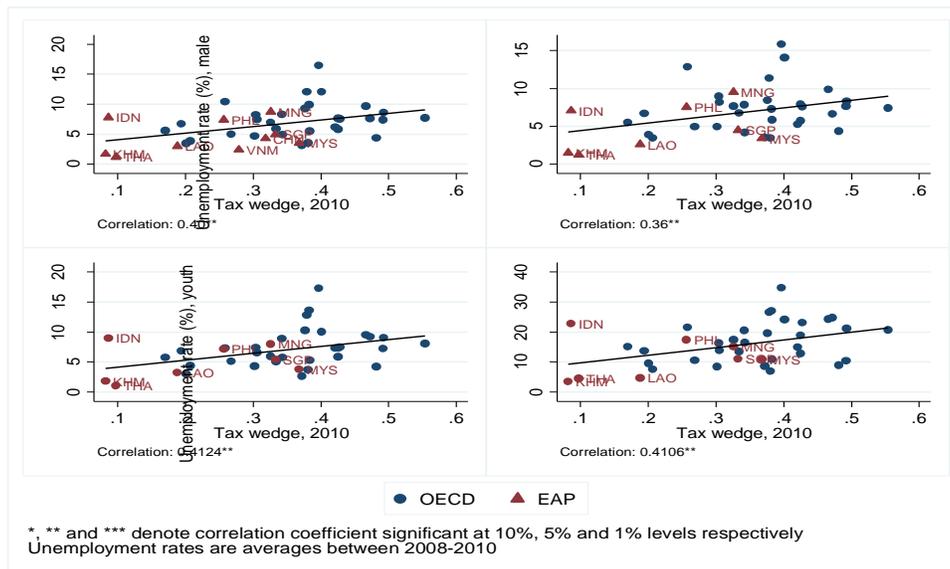
Although, high tax wedges can depress the demand for labor from the formal sector and encourage participation in the informal sector, this is hardly the case in EAP countries; unlike in the OECD, workers in this region facing a higher tax-wedge are unlikely to exit formal wage employment and enter self-employment when their take-home pay is reduced (by law). It is unclear why there is such a different association between OECD and EAP on this dimension but perhaps it is related to the manner in which the tax-wedge is distributed, or whether the burden is on the employer or the worker and the type of benefits (or lack thereof) that firms and workers receive in public services.

Figure 26. Tax Wedge and Employment Rate



Source: World Bank 2013a

Figure 27. Tax Wedge and Unemployment Rate



Source: World Bank 2013a

Chapter 7: Conclusion and Policy Considerations

"The case [of minimum wage] is in one respect very much like public housing. In both, the people who are helped are visible—the people whose wages are raised; the people who occupy the publicly built units. The people who are hurt are anonymous and their problem is not clearly connected to its cause: the people who join the ranks of the unemployed or, more likely, are never employed in particular activities because of the existence of the minimum wage and are driven to even less remunerative activities or to the relief rolls; the people who are pressed ever closer together in the spreading slums that seem to be rather a sign of the need for more public housing than a consequence of the existing public housing."

Milton Friedman, *Capitalism and Freedom*, 2002

7.1 Main Findings of the Impact of the Policy on Workers and Firms

The first, and most critical, finding is that the evidence base for understanding the effects of the minimum wage policy in ASEAN is extremely limited. Thus, much of what is stated in this report relied on studies from other regions around the world, mainly OECD and Latin America. Fortunately, the emerging evidence from ASEAN, when complemented with evidence from other regions, provides a set of important lessons highlighted in this chapter of the report.

Moderate and predictable adjustments in the minimum wage can lead to positive (or non-negative) outcomes for formal workers and informal workers who experience a 'lighthouse effect' from the change

One key lesson that can be drawn from the evidence presented in the previous chapters is that moderate changes to the minimum wage level, aligned with key economic variables, tend to limit the negative impacts. In some cases, moderate rises may even lead to positive impacts. Moreover, when an apolitical formula exists, employers are able to plan ahead and can adapt more easily. However, if the minimum wage rate is set too high or is disconnected from the economic reality of the country, increases in unemployment and poverty could ensue.

Impacts of minimum wage adjustments are largely felt by the workers earning around the minimum wage level, but growing evidence indicates that wages in the informal sector and above the minimum wage also rise. This gives credence to the theory that minimum wages serve as an anchor for wage earners along the distribution and provide guidance on a worker's market value in relation to a minimum wage earner. This point is particularly relevant to the ASEAN economies given that large segments of workers earn below the minimum wage, and even if they are unlikely to have their wages suddenly raised to the minimum wage level, they do sometimes experience a rise in their already low wages.

Evidence on the effects of minimum wage policy on employment is mixed, and in many cases, increases have led to layoffs of low-productivity workers. For instance, female workers (mainly less skilled workers), younger workers, recent entrants to the labor market, and lesser skilled workers disproportionately experience a reduction in their employment rates and entry opportunities. Minimum wage increases have often led to increases in self-employment or wage work in the

informal sector of the economy. In some cases, the effects on employment were minimal largely due to low compliance with the law and because large segments of people work outside the reach of labor law (either due to exemptions, loopholes, or evasion).

As in the case of employment impacts, evidence on the effects of minimum wage policy on poverty is also mixed. In several cases, studies show that the poor (who typically have low skills) tend not to be minimum wage earners in the formal sector, and oftentimes minimum wage earners live in non-poor households. Moreover, increases in the minimum wage level require higher skills, thus limiting the ability of the poor to access formal jobs even further. However, evidence of the impact of minimum wages on the poor is not all negative. Studies show that in some contexts, changes to the minimum wage level lower the poverty rate by increasing household consumption for those who retain their jobs.

Positive effects on the poor are limited to those that keep their employment; but tools other than the minimum wage should be explored to directly reduce poverty and inequality

The minimum wage can only indirectly help to reduce poverty among low-wage workers who remain employed, but the outcome is in no way certain. Evidence shows that a well-implemented minimum wage that imposes a moderate (and economically reasonable) cost on employers can have positive impacts on the welfare of low-income workers who remain employed. However, evidence also shows that raising the level without changing worker skills through training and overall firm productivity can lead to increased unemployment, poverty, and informality.

Thus, governments should consider a more appropriate tool for addressing issues of poverty and inequality, such as direct cash transfer systems. These transfers could be financed by a progressive tax system in which the marginal tax rate increases with the individual's level of income, which can also help to reduce inequality. The success of such a policy depends on the effectiveness of the tax system and the capacity to target poor households, but even a tax and transfer system that is not completely effective would have less potential for negative effects on poverty and inequality than an excessively high minimum wage.

Evidence from the ASEAN countries on the impacts of minimum wages on inequality is inconclusive, as well. Various studies find that minimum wage legislation played a role in reducing wage inequality among wage workers and that minimum wages helped compress wages among workers at the lower part of wage distribution employed in larger enterprises. However, the positive effects dissipate as wage levels are lowered by inflation (real wages). At the same time, the evidence shows that gains from higher wages for workers who keep their jobs push other, less skilled workers into the informal economy where non-wage benefits are not provided, thus exacerbating inequality. To address increasing inequality between formal and informal workers, at least one ASEAN country (Thailand) provides opportunities for informal workers to access non-wage benefits in order to prevent them from falling into poverty in case of sickness, old age, or other life events.

Minimum wage increases accompanied by human capital improvements can lead to positive impacts on workers and firms; however, not addressing human capital prior to or in parallel to wage rises can lead to the opposite effect

Firms in ASEAN countries try to cope with minimum wage increases by looking to optimize their workforce composition and substitute labor-intensive processes with capital when possible. One positive effect from wages increases is the potential for raising firm productivity through

improvements in the efficiency of the firm, by incentivizing changes to the workforce composition, and encouraging employers to invest in worker training and technology. Firms can also be encouraged to re-strategize their market approach to produce/provide high value-added products/services.

Although no studies have measured this impact for the ASEAN countries, the main lesson derived from other countries is that wage increases can lead to higher firm productivity if governments address constraints related to human capital deficiencies and skills shortages, which inhibit employers from being able to change production technology quickly. This can also be achieved by easing legislative constraints, lowering overall labor costs (beyond the minimum wage), and improving the institutional framework so that employers are able to negotiate training of workers, for instance by embedding worker training in collective agreements through the wage bargaining process.

This report found no evidence to justify the often-made argument that employers pass on the costs of higher minimum wages to consumers, resulting in greater aggregate inflation. In one country study, the author argued that too few workers were affected by the minimum wage because large segments of the country's workforce were outside the reach of the law.

Policymakers should take into account all labor related costs when reforming the minimum wage policy and/or making adjustments to its level.

The minimum wage is one of various labor costs employers must pay workers. Beyond wages, employers must also take into account other costs (direct and indirect) such as dismissal costs, limitations on the use of temporary employment (over permanent employment with worker benefits), collective dismissal costs, unemployment benefits, mandated pension contributions, and taxes on wages. It is clear from the analysis that non-wage costs imposed on firms (and workers) are associated with lower employment and higher unemployment rates. Thus, adjustments to the minimum wage level, and the policy, should not only take into account wage costs but also all other labor costs that formal (law abiding) employers must pay their workers.

As discussed earlier, unlike most countries in the world, the ASEAN countries have not relaxed their employment regulation. OECD and Eastern European countries have experienced a relaxation of their labor regulations, with most of the changes driven not by reducing minimum wages but rather by easing regulation of temporary employment, especially in countries with high levels of employment protection (OECD, 2004; World Bank, 2012). In contrast, in the ASEAN countries, the dominant tendency over the past decade has been to either keep regulation on employment protection static, in some cases with very rigid provisions and in other cases increasing labor costs.

7.2 Lessons for Institutional and Policy Reform

Well-defined institutional settings can help limit manipulation of the policy

The minimum wage policy is an instrument that requires proper handling in order to yield desirable outcomes. The institutional details of the policy are of great importance to achieve the objectives, ensure the relevance of the policy, and avoid detrimental consequences. Having well-defined established institutional settings are crucial when policymakers have conflicting views of the objective to be pursued or aim to tackle several opposing objectives with the policy, which is often the case for minimum wage policies around the world.

Simplicity in the policy helps increase compliance and reduces monitoring burdens. Although there are no studies comparing the impact of having multiple minimum wage rates versus having a single minimum wage, some lessons on why a simple policy may be preferable emerged from this review:

1. While multiple minimum wages appear desirable to tailor the 'fair' wage to particular regions, skills, sectors, and productivity levels, in countries with limited institutional capacity to implement, monitor and enforce multi-level minimum levels it is best to limit the differentiation in order to avoid introducing unexpected market distortions and administrative complexity that can crowd out any benefits associated with more flexibility.
2. In the majority of cases, governments do not have the necessary information to set the 'right' minimum wages and can instead distort the allocation of skills and capital across regions and economic sectors by introducing differentiated minimum wages.
3. Therefore, a safer approach is to focus on setting a statutory minimum wage that applies at the national level. In countries with large regional variation in costs of living, the reference wage can be adjusted based on clear and relevant metrics.
4. To address sectoral variation, the national statutory wage can become the reference that can then be modified through sectoral collective agreements, for those employers who participate in the agreements.
5. Governments can consider certain deviations from this norm, such as: (i) minimum wages could be lower for youth to help facilitate their entry into the labor market and not price them out; (ii) small enterprises with a level of sales per year below a given amount could be exempted; and (iii) cost of living adjustments could be used to differentiate the minimum wage between regions and rural and urban areas.

Minimize exemptions and discounted rates

When regional minimum wage levels are necessary, regional differentiation should be largely derived from examining labor market profiles. The profiles could include the types of industries that exist, the average type of worker profile, and the average firm productivity in each region. Policymakers should try to stay away from differentiating based on cost of living, purchasing power, or poverty. The main reason is that firms in poorer areas tend to have low productivity and would not be able to afford high minimum wage rates, and as a result, the policy can have a disproportionately negative effect on the employment of most workers, leading to job losses and to more poverty rather than less.

Another lesson emerging from this review is that exemptions and reductions should be minimal to avoid creating negative incentives for firms and workers. Countries must weigh both sides of the argument, for and against exemptions or reductions for special groups, based on their own contextual reality. In countries where youth unemployment is a problem, governments should consider a sub-minimum wage for this group (Croucher and White for the Low Pay Commission of the UK, 2011) or some sort of compensation through retraining for affected workers in order to be re-assimilated quickly (Lathapipat, 2012). For smaller firms that are unable to cope with minimum wages, especially for lower-skilled workers, other complementary policies—such as employer subsidies to hire workers from special groups, direct wage subsidies, or transfers—for special groups should be considered, rather than differentiating the wages of youth or disabled workers.

As a general principle, migrant workers have the right to be protected by labor laws, including the minimum wage. Low-skilled or unskilled migrant workers, often working in labor-intensive industries, are often employed because they are inexpensive. Article 6 of ILO convention 97

stipulates that no discrimination in terms of conditions of employment, including wages, shall be placed on workers based on nationality. From an economic standpoint, exempting migrant workers from the minimum wage is undesirable, as doing so will make migrant workers less expensive than local workers, more likely to be hired by employers over local workers, and more likely to be vulnerable to abuse.

Increase transparency in the adjustment process

With respect to making minimum wage adjustments, it is best to have a clear formula that avoids excessive rigidity in the process. This can be done by calculating the change in the level according to a pre-set formula, which is then reviewed and revised by a qualified decision-making body that takes into account factors that are not accurately measured or excluded from the formula. In countries like Korea where the policy has not led to detrimental employment effects, the system for adjustment is set up so that rate level changes are based on technical evidence rather than political grounds. In addition, consultations by the tripartite council and/or a set of stakeholders representing the interests of employers and workers should be taken into account. Unfortunately, a challenge in many countries is keeping in check the amount of discretion that bureaucrat and policymakers have in the adjustment process and the over-representation of interests of some groups during consultation.

Strengthen enforcement and monitoring capacity by clarifying the mandate of the relevant agencies, increasing the allocation of resources, and seeking the help of other stakeholders

Effective enforcement requires expanding the powers of the responsible agency, which includes allocating resources for labor inspectors to audit employers and impose penalties, while also giving employers a channel for appeal. Inspection officers are provided with the authority needed to enforce the minimum wage law, and in many cases, their powers are outlined in the legislation. In Korea, Hong Kong, and the United States, compliance officers or inspectors have the power to enter places of business and inspect records, make inquiries related to the law, make copies of documents related to minimum wage compliance, and take on any other activities related to enforcing the minimum wage law. In these countries, officers or inspectors serve a notice of non-compliance or underpayment requiring employers to repay arrears to workers who have been underpaid and to pay a financial penalty to the government. At the same time, employers can appeal a notice of non-compliance, in a process that is as non-discretionary as possible.

Studies focusing on developed economies underscore the importance of accurate recordkeeping for monitoring compliance. Many developed countries and some ASEAN countries such as Malaysia mandate that all wage and employment records are kept by the employer and made accessible to compliance officers and inspectors. In this context, accessibility not only refers to physical access but also to the readability and completeness of the records. In the case of Hong Kong, the law states that all records shall include the total number of hours, even partial hours, worked by each employee in a given wage period. These records need not be kept in the same format across all firms and industries, but they should all make reference to the employee's name, identity number, hours worked, wages paid in reference to the hours reported, and other compensation. This is mandated so that labor inspectors are able to determine compliance easily. The new minimum wage policy in Hong Kong also allows employees to access their own records, and they may make written requests to see and make copies of their records. Employers are usually given a time limit within which they must fulfill the request.

Another tool for monitoring is partnering with civil society. Partners such as trade unions and civil society can facilitate the reporting of non-compliance as a means to leverage resources (Kristensen and Cunningham, 2006). Governments encourage NGOs, recognized grassroots organizations, and unions to monitor compliance and file complaints on the workers' behalf.

Clear penalties for minimum wage violations should be described in the law so that all employers are informed. The law should specify what constitutes a breach of the law and what the penalty will be for a given infraction/violation. As in Korea, the penalty system can range from the issuance of a warning when an employer fails to follow the law for the first time, all the way to incarceration for repeat offenders. In many countries, repeat offenders are subject to increasingly stiff monetary penalties prior to facing incarceration.

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ANNEX 1

Analysis of Minimum Wage Impacts in Vietnam Data and Methodology

Description of Data

The analysis of minimum wage impacts in Vietnam drew upon data from two major sources: the Vietnam Household Living Standard Surveys (VHLSS) in 2006, 2008 and 2010 as well as the Enterprise Surveys 2006-2010.

The VHLSS were implemented by the General Statistics Office of Vietnam (GSO) with technical support from the World Bank. The number of households in the 2006, 2008 and 2010 VHLSS is 9189, 9189, and 9399 households, respectively. The samples are representative for the national, rural and urban, and regional levels. The 2006 and 2008 VHLSS contain a panel of 4090 households, but VHLSS 2008 and 2010 are not linked. The surveys contain detailed data on household and individual characteristics, such as basic demographic information, employment, earnings, labor force participation, education, health, expenditure, housing, fixed assets and durable goods, participation status in poverty alleviation programs, credit information, international remittances, private transfers, pensions, social allowances that households received during the 12 months before the interview, and so on. The information about expenditures and income is fairly detailed. Expenditures are categorized into food and non-food expenditures. Food expenditure includes purchased food and self-produced products of households. Non-food expenditure comprises expenditure on education, healthcare, expenditure on houses and commodities, and expenditure on power, water supply and garbage. Income includes income from agricultural and non-agricultural production, salary, wage, pension, scholarship, income from loan interest and rental properties, remittances, and social transfers.

The Enterprise Surveys were also conducted by the GSO, and the survey respondents were establishments. The Enterprise Survey is a census of all establishments in Vietnam and firms are linked across years to produce a panel data set. To be consistent with the VHLSS, the focus is on the period from 2006-2010, in which the number of firms ranges from 129,000 firms in 2006 to close to 287,000 firms in 2010. The survey questionnaires ask firms for detailed information related to industry, production, workforce, compensation of employees, assets, liabilities, exports and imports values, investments, and so on. The minimum regions of a firm can be located from the information—whether it is foreign or domestically-owned, its formal and informal employment (that is, those without social insurance), and other information necessary for the analysis.

Methodology

Several empirical strategies are utilized to investigate the impact of minimum wages on employment, salary, wages, consumption, and poverty in Vietnam, as described below.

First, data from the Enterprise Surveys 2006-2010 were used to examine the effects of real minimum wage changes on employment and average salary at the firm level. The real minimum wage is calculated as the nominal minimum wage divided by provincial CPI level.⁶¹ Because panel

⁶¹ As a robustness check an alternative measure of the real minimum wage was also calculated, by taking the nominal minimum wage divided by the national CPI level. The results still remain qualitatively robust.

data of firm was available, it was possible to exploit the variation of employment and average salary within firms and over time in a firm fixed effects specification. The empirical specification is:

$$y_{kjt} = \alpha_k + \alpha_t + \delta \log(MW_{jt}) + \epsilon_{kjt} \quad (1)$$

The dependent variables for firm k located in district j in year t include the log of employment and the log of salary per worker. The effects on formal employment and informal employment are also examined separately. Firms are required to pay social insurance for formal employees working on formal contracts, but they are not required to pay social insurance for informal employees. The coefficient of interest δ captures the percentage change in employment or the percentage change in average salary in response to a one per cent increase in the real minimum wage. The term α_t is a set of year fixed effects which controls for time varying factors that affect all firms. The term α_k is a set of firm fixed effects that take into account all time invariant unobserved characteristics of firms. The firm fixed effects specification potentially mitigates concern of endogeneity bias as compared to a specification that includes only district fixed effects. Specifically, it is more difficult to argue that the Government sets the three to four regional minimum wages in accordance with changes in employment of thousands of firms, especially if the variation in employment or average salary is heterogeneous across firms. In other words, a typical firm is likely to have little influence on the setting of the regional minimum wage and is therefore likely to take the minimum wages as exogenous. For comparisons, we also report the Ordinary Least Squares (OLS), province fixed effects, and district fixed effects estimates for most specifications.

As minimum wage changes may affect different industries differently, equation (2) by industry is also estimated. Industries are separated into the following six categories: a) construction; b) heavy manufacturing; c) light manufacturing; d) retail and wholesale; e) other high end services; and f) transportation, hotel and restaurant. Finally, as different minimum wages were applied to foreign and domestic firms prior to 2011, foreign firms and domestic firms are examined separately for all specifications.

To examine the effects of minimum wage changes on consumption and poverty, data from VHLSS 2006, 2008, and 2010 are used to construct repeated cross sections of households from the three waves of VHLSS and to estimate the effects using district fixed effects specifications. The empirical specification is:

$$y_{hjt} = \alpha_j + \alpha_t + \delta \log(MW_{jt}) + \beta' X_{hjt} + \epsilon_{hjt} \quad (2)$$

The dependent variables for household h located in district j in year t are included whether the household is living in poverty and the log of consumption expenditure per household member. A household is defined as living in poverty if its expenditure is below the expenditure poverty line constructed by GSO-WB. When household poverty is used as the dependent variable, the coefficient of interest, δ captures the effect the percentage changes in real minimum wage on the probability of a household falling into poverty. When log of consumption expenditure per household member is used as the dependent variable, δ measures the percentage change in consumption expenditure per household members as a result of a one percent increase in the real minimum wage. Consumption expenditure is further differentiated by food expenditure, non-food expenditure, education expenditure, and healthcare expenditure. The term α_t is a set of year dummies, which capture all unobserved influences on poverty and consumption at the national level. α_j is a set of district fixed

effects, and its inclusion ensures that the analysis looks at how changes in the real minimum wage affect the likelihood of an average household to fall into poverty within a district over time, and similarly, how changes in the real minimum wage affect the consumption expenditure of an average household within that district over time. Because the data do not contain households that are repeatedly observed over the sample period, it is not possible to include household or individual fixed effects. As a result, the analysis includes a rich set of household characteristics, X_{hjt} , such as the educational attainment of the household head, the ethnicity of the household head, whether the household is in an urban area, household size, and the proportions of children and elderly living in the household, as control variables.

Finally, since the focus on employment at the firm level may miss important effects of minimum wage changes on informality and self-employment, the effect of minimum wage changes on the likelihood of individuals having any job, wage job, and being self-employed on the basis of specification (2) is also estimated.

ANNEX 2

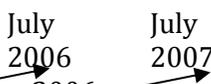
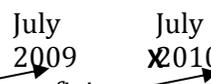
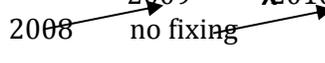
Analysis of Minimum Wage Impacts in Philippines Data and Methodology

Description of Data

The analysis used two waves of the Philippines Family Income and Expenditure Surveys (FIES) from 2006 and 2009, matched with the respective waves of the Philippines Labor Force Survey (LFS) from 2006-2010. The National Statistics Office of the Philippines conducts the FIES on a triennial basis⁶², simultaneously interviewing the same households for the FIES and the LFS.

Given the delays in implementation of minimum wage orders, it is important to properly identify the relevant minimum wage at each year of our LFS panel. Figure shows how the panel data was constructed for the LFS samples associated with the two FIES waves, 2006 and 2009 respectively. For example, 2006 wave data consisted of 13,330 individuals⁶³ between 15-64 years old who were interviewed in both LFS July 2006 and July 2007, matched with income and expenditure data from FIES 2006. Respective minimum wage rates were added at individual level, depending on the industry and geographic location of work for the individual⁶⁴. Note that minimum wage rates from the previous year were applied, factoring in the time lag given to employers to adjust their employees' wages. This means that minimum wage rates which became effective in 2005 were used as reference for LFS as of July 2006. Data for 2009 wave was structured similarly.

Figure 1: Structure of Data Used (2006 and 2009 Waves)

Wave	2006 (for estimation)			2009 (for simulation)		
Year	2005	2006	2007	2008	2009	2010
FIES	2006			2009		
LFS	July 2006 July 2007 			July 2009 July 2010 		
Minimum Wage	2005 → 2006 → 2007 			2008 → no fixing → 2010 		

The annual increase rate in the minimum wage varies across regions and years, although the regions typically follow a common trend, as the National Capital Region set the benchmark when they release their new minimum wage order first, and all other regions follow. On average, the minimum wage increased around 8 percent around 2004-2006, followed by a decline to 3 percent from 2006 to 2007. During 2007-2008, minimum wage growth rate rose up to around 6 percent, however, no revision was made in 2009. The fact that there was no change in the minimum wage in 2009 makes the 2009-2010 transition fertile terrain for a microsimulating a counterfactual minimum wage change, as there is no concomitant real change in the minimum wage to confound interpretation of the microsimulation results.

⁶² For example, FIES 2006 was fielded in July 2006 and January 2007 to collect data concerning the first half of 2006 (January to June) and the second half of 2006 (July to December), respectively.

⁶³ Our sample is 13,330 individuals from 6,626 households for the 2006 wave, and 14,318 individuals from 6,801 households for the 2009 wave.

⁶⁴ People who did not work at the sample date in a given year were assigned the employ-weighted average of minimum wages for their region of residence.

Methodology

The empirical results in this paper are based on the estimation of an empirical microsimulation⁶⁵ model that the effects of the minimum wage are simulated on the 2009-2010 period.

Labor Market Status

The first step requires estimating a model of labor market status. This is done through the estimation of a multinomial logit model in which four labor market states S are defined: private sector employment⁶⁶, public sector employment⁶⁷, entrepreneurship⁶⁸ and non-employment. The multinomial logit model controls for each labor market state $S_{i,t} \in S$ at date t with a set of indicator variables⁶⁹, and estimates the probability of an individual occupying each state $S_{i,t+1} \in S$ at date $t + 1$. Separate models are estimated for men and women.

The multinomial logit models allow the minimum wage to influence the likelihood of occupying different employment states via several mechanisms. First, there is a direct effect of the minimum wage changes on employment. Minimum wages vary across regions and across occupations within regions. The relevant minimum wage changes for the multinomial logit models correspond to changes in the minimum wage for the occupation the individual occupied in the region in which he or she lived in year t ; for individuals who were not employed in year t , the employment-weighted average of minimum wages for the region is used. The percentage change in the real minimum wage and square of the percentage change are included as covariates, as is their interaction with the state the individual occupied at date t .

Following Abowd et. al. (2000), an additional term is added for individuals who were private sector employees (thus potentially bound by the minimum wage) at date t . We define an indicator variable for whether the individual receives a real wage at date t that is between the year t and year $t + 1$ real minimum wages⁷⁰, i.e.

$$B_{i,t} = 1_{(rmw_t \leq rw_{i,t} < rmw_{t+1})} \quad (1)$$

where $rmw_{i,t}$ is the log of real minimum wage at date t and $rw_{i,t}$ is the log of the real wage actually received by individual i at date t . This allows us to write the specification for each latent state as:

⁶⁵ The term “empirical microsimulation” model is intended to distinguish this approach from a standard microsimulation model in that all of the elasticities are empirically estimated, and system parameters (such as legally-specified tax and transfer rates) are not explicitly integrated into the model, since the tax and transfer systems of developing countries (including the Philippines) are rarely implanted in reality according to the procedures and parameters specified in the law.

⁶⁶ The data do not allow us to distinguish between formal (covered by social protection) and informal private sector employment. Moreover, this state combines private household employment and private enterprise employment.

Attempts to distinguish the two states were unsuccessful due to a lack of sufficient data.

⁶⁷ This state includes both government and public enterprise employment. The data do not distinguish between types of public sector employer.

⁶⁸ The entrepreneurship state includes self-employed without employees, employers and workers in family-owned businesses, with or without pay.

⁶⁹ The data did not allow for the estimation of separate models by initial employment status: singular covariance matrices and unidentified transition probabilities were widespread. It was thus decided to control for the initial employment state through a series of indicator variables in a singular multinomial model, in which each indicator variable corresponds to a different initial employment state.

⁷⁰ Abowd et. al. (2000) also define a term for individuals who are paid marginally above (within 10 percent of) the year $t + 1$ minimum wage in year t , i.e. $M_{i,t} = 1_{(rmw_{t+1} \leq rw_{i,t} < \log(1.1) + rmw_{t+1})}$

$$\begin{aligned}
S_{i,t+1}^j &= \beta_0^{j,X} X_{i,t} + \beta_0^{j,dmw} (rmw_{t+1} - rmw_t) + \beta_1^{j,dmw} (rmw_{t+1} - rmw_t)^2 \\
&+ \sum_{j' \in \{\text{Private, Public, Entrepreneur}\}} \left(\beta_0^{j,j'} 1_{(j_i,t=j')} + \beta_1^{j,j'} 1_{(j_i,t=j')} (rmw_{t+1} - rmw_t) + \beta_2^{j,j'} 1_{(j_i,t=j')} (rmw_{t+1} - rmw_t)^2 \right) \\
&+ \beta_0^{j,B} 1_{(j_i,t=\text{Private})} B_{i,t} + \beta_1^{j,B} 1_{(j_i,t=\text{Private})} B_{i,t} (rmw_{t+1} - rmw_t) + \varepsilon_{i,t}^j.
\end{aligned} \tag{2}$$

In equation 2, the first line contains the observable characteristics ($X_{i,t}$) at date t , the contribution of minimum wage changes between $t + 1$ and t and the contribution of squared minimum wage changes. The second line contains indicator variables for the initial state at date t , on their own and interacted with the minimum wage changes and their squares. The third line contains the controls for those in the private sector at date t whose wage was between the $t + 1$ and t minima (level and interacted with the size of the change), while the fourth line contains the controls for those in the private sector at date t whose wage was just over the date $t + 1$ minimum wage (level and interacted with the size of the change).

Using the latent equations defined by (2), we can write the observed labor market state at date $t + 1$ in the standard multinomial manner, i.e.

$$j_{i,t+1} = j \text{ if } S_{i,t+1}^j \geq S_{i,t+1}^{j'} \forall j \neq j' \tag{3}$$

where $j_{i,t+1}$ is the state j in which individual i is observed at date $t + 1$, with $j \in \{\text{Private, Public, Entrepreneur}\}$.

Labor market earnings

The second step of recovering the empirical microsimulation model requires estimation of labor market earnings equations. Separate equations for each of the three previously defined employment states (private sector employment, public sector employment and entrepreneurship) are estimated, with separate models for men and women. Least squares models of log real daily wages are estimated, controlling for the labor market status in the previous year, the relevant real minimum wages and their squares in the previous year, and the percentage change (and its square) in real minimum wages between the previous and the current year for the job in question. This results in estimation of models of the following form.

$$\begin{aligned}
rw_{i,t+1}^j &= \gamma_0^{j,X} X_{i,t+1} + \gamma_0^{j,mw} rmw_t + \gamma_1^{j,dmw} rmw_t^2 \\
&+ \gamma_0^{j,dmw} (rmw_{t+1} - rmw_t) + \gamma_1^{j,dmw} (rmw_{t+1} - rmw_t)^2 + v_{i,t}^j.
\end{aligned} \tag{4}$$

where $rw_{i,t+1}^j$ is the log of real labor earnings of type j received by individual i at date $t + 1$.

Income sources for the household

The final step in the recovery of the empirical microsimulation model involves estimating the effect of labor income and minimum wages on other sources of income available to the household. This involves the estimation of a set of models for (the natural log of) each of four different types of non-labor income: financial income; pensions, workmen's compensation and social security transfers;

remittances and other private transfer income; and other income sources. These models are estimated at the household level, and as not all households receive types of non-labor income, these models are estimated using Heckman's (1979) correction for selection bias. The models control for labor income and the log of the average relevant minimum wage for the members of the household. The average percentage change in the nominal minimum wage between the previous and the current year, and the average of its square, serve as exclusion restrictions for identification of the selection equation. This leads to models of the following form.

$$y_{k,t}^{is} = \alpha^{is,X} X_{k,t} + \alpha^{is,l} l_{k,t} + \alpha^{is,mw} rmw_t + \alpha^{is,sel} \lambda(\iota \tilde{s}_{k,t}) + \eta_{i,t}^{is} \quad (5)$$

where $y_{k,t}^{is}$ is the log of income of type is received by household k in year t ,

$l_{k,t} = \log\left(\sum_{i \in k} \sum_{j \in \{Private, Public, Entrepreneur\}} w_{i,t}^j\right)$ is the log of labor income received by all members i of

household k from all job types j at date t and $\lambda(\iota \tilde{s}_{k,t})$ is the inverse mills ratio as calculated from the selection equation. Income from source is is observed if $\tilde{s}_{k,t} > 0$, with

$$\begin{aligned} \tilde{s}_{k,t} = & \tilde{\alpha}^{is,X} X_{k,t} + \tilde{\alpha}^{is,l} l_{k,t} + \tilde{\alpha}^{is,mw} rmw_t \\ & + \tilde{\alpha}_0^{is,dmw} (mw_t - mw_{t-1}) + \tilde{\alpha}_1^{is,dmw} (mw_t - mw_{t-1})^2 + \tilde{\eta}_{i,t}^{is} \end{aligned} \quad (6)$$

Microsimulation of counterfactual minimum wage changes

Once the parameters of the empirical microsimulation model (the β , γ , α and $\tilde{\alpha}$ vectors) are estimated, it is possible to simulate the effect of a counterfactual increase in the minimum wage on household income. The simulation is done in 6 steps.

1. Choose an amount of increase to simulate. The simulations undertaken here will consider two counterfactual scenarios for 2009: an increase equal to the employment-weighted average nominal increase in minimum wages observed between 2005 and 2006, and an increase equal to ten times that amount.
2. For each individual, simulate the probability of being in each labor market state, $\hat{P}(j_{i,t} = j)$, that would be associated with a given change in the minimum wage, conditional on the individual's characteristics and the initial labor market state, using the estimation results underlying equations (2) and (3).
3. For each individual, simulate the level of earnings at each type of work $\hat{w}_{i,t}^j$ (private sector, public sector and entrepreneurship) that would be associated with a given change in the minimum wage, conditional on the individual's characteristics and the initial labor market state, using the estimation results underlying equation (4).
4. For each household, calculate expected household labor earnings as the sum of the probability of employment in each state times labor earnings when employed in that state, summed over all household members, i.e.

$$\widehat{l}_{k,t} = \sum_{i \in k} \sum_{j \in \{Private, Public, Entrepreneur\}} \hat{P}(j_{i,t} = j) \hat{w}_{i,t}^j$$

5. For each household, simulate the new level of income $y_{k,t}^{is}$ from each income source is conditional on household characteristics and the simulated labor income $\widehat{l}_{k,t}$, using the estimation results of equations (5) and (6).

6. Sum all income sources to calculate the new level of household income.

This stepwise approach to simulating household income allows us to observe not only the effects of counterfactual minimum wage changes on household income and poverty, but also the components that go into those terms, namely labor force status, labor earnings and earnings from other sources. Moreover, the microsimulation approach allows us to decompose changes along any dimension used to characterize individuals or households in the data, since it generates simulated outcomes at the micro- (individual and household) level.

ANNEX 3

Analysis of Minimum Wage Impacts in Indonesia Data and Methodology

Description of Data

The main data source used in the analysis is the annual manufacturing census survey of Indonesia (or the *Survei Industri*). It was collected and compiled by the Indonesian government's statistical agency (*Badan Pusat Statistik* or BPS). The survey includes all manufacturing firms that have more than 20 employees, and the multi-modular survey capture detailed questions about the firm, its' operation, including output, intermediate inputs, employment, capital, ownership and balance sheet⁷¹. The data covers the years ranging (inclusive) from 1993 through 2006. The number of observations varies from about 18,000 firms in 1993 to about 29,000 firms in 2006⁷². In terms of employment, the survey divides a firm's employment into those of production and of non-production workers, along with the total wage bill for each category, from which it is easy to calculate average wages for production workers and non production workers. For four years 1995, 1996, 1997 and 2006, the survey also has information about the exact educational compositions of its workforce. This information is used extensively in subsequent econometric analysis. Minimum wage data are obtained from BPS. A summary table of variables used in the paper is in the Appendix.

The analysis also uses, albeit selectively, data derived from the National Socio-Economic Survey (*Susenas*). The *Susenas* is an annual multi-purpose household level survey that collects individual and household level information, including wages as well as various socio-economic, demographic, and labor characteristics of individuals and households. Comparable waves of this survey are available; however, given that the analysis presented in this paper focuses on firms, the data from *Susenas* is only used to better understand the results and contextualize the discussion.

Methodology

The analysis focuses on the following four variables of interest: employment of production workers, employment of non-production workers, changes in workers' educational composition, and real average wages. The analysis uses panel data and firm fixed effects to capture non-varying firm-specific characteristics. The estimations control for year fixed effects to capture national macroeconomic variables—such as interest rates or exchange rate, or financial crises—that potentially affect the economic environment in which all firms in Indonesia operate. Results of pooled OLS regressions with province fixed effects and time fixed effects are reported in the appendix.

The detailed specification is as follows:

$$\log(Y_{it}) = \beta_0 + \beta_1 \log(\text{MinWage}_{it}) + \beta_X X_{it} + F_i + T_t + \varepsilon_{it}$$

⁷¹ The SI data track establishments, rather than firms. A recent PBS study has suggested that less than 5% of establishments in the Manufacturing Census are owned by a multi-establishment firm (see Hallward-Driemeier et al, 2010 for a discussion). For this reason, we will use the terms "firms" and "plants" interchangeably throughout the paper.

⁷² There are more than 11000 new firms that first appeared in the dataset in 2006. Since we will utilize panel data with firm fixed effects, we drop them out in our analysis.

where i denotes firm i , and t denotes year t . Y_{it} is the dependent variable of interest. $MinWage$ is the real minimum wage (which varies across provinces and across time). X_{it} is a set of control variables. F_i is the firm fixed effects, and T_t is the time dummies. One of the concerns is that the crisis years 1997 and 1998 may distort the regression results. In some of the regressions, the crisis years are dropped for robustness check, but results remain consistent with little difference with and without these years.

The analysis relies on the assumption that firms in general take minimum wages as exogenous and respond to them. Since minimum wages are set at the national and provincial level, the vast majority of firms (with perhaps a very few exceptions) have little bargaining power over how the minimum wages are set. It is true that they can form associations and trade groups to lobby the national and provincial government; alternatively the government can voluntarily set minimum wage requirements in response to firms' conditions. As a result, a potential endogeneity issue might arise. However, based on in-country consultations on the practice of minimum wage setting it is unlikely that the issue is important for the following reasons; first, Indonesian minimum wage councils are tripartite, including representatives from employers, employees and the government. This implies that the government seeks to strike a balance between workers and firms' benefit and therefore does not entirely accommodate firms' wage demands. Second, because of so much heterogeneity among firms, it is impossible for one or even a few minimum wage levels to respond to every single firm, thus one can safely assume that there is a high level of exogeneity in minimum wage setting.

Having firm fixed effects further reduces endogeneity at firm level. Given that minimum wage levels change across province and across time, a standard approach is to run OLS with time and province fixed effects to capture non-time varying province characteristics that might affect both employment and the minimum wages. However, there is another potential omitted variable problem at the firm level. For example, some firms (or a group of them) might have connections to the government or favorable treatments from it, thus helping them expand, and at the same time have lobbying power in the minimum wage decision process. Having firm fixed effects will capture the time-invariant component of this connection. Indeed, the results generally flip from pooled OLS with province fixed effect to panel regression with firm fixed effects. In the pooled OLS regressions, the associations between minimum wages and employment are positive and significant, and it is true for both production and non-production workers. With panel regressions with firm fixed effects, the impacts of minimum wages on both types of employment turn negative, and significant.

ANNEX 4

Analysis of Minimum Wage Impacts in Thailand Data and Methodology

Data

The analyses of labor market outcomes, which were carried out at the individual level, relied on the Labor Force Survey, while poverty at the household level was analyzed using the Socioeconomic Survey. When analyzing labor market outcomes, some sample selection criteria were used which are standard and determined by the applicability and coverage of the Thai minimum wage legislation. The poverty analyses relied on the full sample of households from the Socioeconomic Survey.

Methodology

We estimate the impact of the minimum wage on various outcomes by relying on a difference-in-differences identification strategy. In particular, we estimate equations of the following form:

$$OUTCOME_{it} = \beta_0 + \beta_1 \ln MW_{it} + \sum_{t=1}^T \delta_t * MONTH_{it} + \sum_{p=1}^P \gamma_p * PROVINCE_{it} + X'_{it} \alpha + \varepsilon_{it}$$

, where OUTCOME denotes the outcome of interest (we start by looking at individual real daily wages and then we move to employment, informality and poverty), i stands for individuals in the labor market outcomes analyses and for households in the poverty analyses, t stands for time (we identify the month of interview), and the explanatory variables include the log of the real daily minimum wage that applies to each worker's province/month category as well as X_{it} , a vector of worker or household-specific characteristics.

Impacts on wages

Considering the high level of non-compliance with the minimum wage in Thailand, we analyze how binding minimum wages are by assessing whether there is a notable spike in the wage distribution that is associated with the minimum wage. Since there are differences in the minimum wage across provinces in every year, we have defined a new variable that measures the difference between the wage of the employed individual and the minimum wage in the province in which he or she lives and we then pool all employees in the country per year. The analysis is carried out with daily wages, and we restrict the sample to full-time (working more than 35 hours) employees paid by the day or by the month. For the latter, we construct daily wages dividing monthly wages by 30. We further restrict the sample to private employees, since public sector workers are by law not covered by the minimum wage, and to workers aged 15 to 60, since 60 is the retirement age in Thailand. Finally, we exclude outliers by eliminating from the sample workers at the 1st or 99th percentile of the distribution of observed wages per month and province.

We move next to estimate the impact of the minimum wage on average wages. We use a sequential approach: we depart from the most basic difference in differences specification that only includes province and monthly dummies and we progressively incorporate further controls until we arrive to our preferred specification, which controls for monthly and province dummies, education, occupation, industry and establishment size dummies. Note that in all specifications we include monthly and province dummies, which effectively eliminate differences in structural features across provinces and common macro shocks.

We examine next the impact of the minimum wage on average wages for workers with different characteristics. The discussion is focused on our preferred specification, which includes as controls province and year-month dummies, a quadratic term in age, married and municipal area dummies, occupation, establishment size and industry indicators as well as the log of real per capita GDP per province and year.

Impacts on Informality and Employment

The analysis of minimum wage impacts on rate of employment is carried out using a logit model, where the dependent variable takes the value 1 if the individual is working and zero otherwise. Average partial effects are reported. The analyses are based on the full sample of working age (15-60) individuals, and, as before, the estimated models control for province and year-month dummies, a quadratic term in age, gender and marital status dummies, municipal area dummies as well as the log of real per capita GDP per province and year.

We estimate the impact of the minimum wage in the probability of working in the covered/uncovered sector. For such purposes, we focus on private sector workers and define a dummy variable that takes the value 1 if the worker is an employee and 0 if he or she is self-employed or an unpaid family worker. As before, our benchmark specification includes all workers and controls for province and year-month dummies, a quadratic term in age, married and municipal area dummies, occupation and industry indicators, as well as the log of real per capita GDP per province and year. After estimating the average partial effect on the full sample, we again consider worker heterogeneity by splitting the sample across gender, age and education groups.

The labor force survey asks all employed individuals the number of hours worked during the reference week, allowing us to examine the impact of the minimum wage on the intensive margin. As we did with the analysis of wages, we concentrate on workers directly affected by the minimum wage. Hence, we limit the sample to working age (15-60) full time (35+) private employees in their main job. Control variables in all panels include province and year-month dummies, a quadratic in age, married and municipal area dummies, establishment size, occupation and industry indicators as well as the log of real per capita GDP per province and year.

Impacts on Poverty and Inequality

We start examining the impact of the minimum wage on the probability of being poor, and continue with the study of the impact of the minimum wage on household per capita consumption. To this purpose, we rely on household data from the Thai Socioeconomic surveys carried out in 2000, 2002, 2004, 2006, 2007, 2008, 2009 and 2010. The Thai Socioeconomic Survey is representative of the Thai economy and it includes detailed information on consumption and expenditures. Jitsuchon, Kakwani and Plangpraphan, (2006), in a report prepared for the National Economic and Social Development Board of Thailand and the United Nations Development Program, explain in detail how poor households are defined. It is worth noting that the official poverty line used has been constructed using 2002 (that is, after the 1997 economic crisis, which led to relevant changes in consumption patterns) as the base year. Moreover, poverty incidence is obtained using a consumption approach (namely, comparing the poverty line with per capita household consumption levels) instead of comparing a particular household's income that household's specific poverty line, as was done before the latest official poverty line revision was carried out.

We obtain logit estimates of the probability of being poor as a function of the minimum wage in the province where the household resides, then in order to assess if the impact of the minimum wage

on poverty is relevant or not, we move to the analysis of household consumption. We restrict the analysis to those households that are poor at the moment of the interview and analyze whether they benefit from minimum wage increases by enjoying more consumption per capita.

We conclude the study reporting the distributional impacts of the minimum wage. Rather than focusing on the impact on wages at different points of the wage distribution, we report the impact on consumption per capita at the household level along the consumption per capita distribution. One of the advantages of doing so is that consumption per capita is defined for all households, while in the case of wages we only have information from the LFS for employees. Moreover, consumption captures household welfare better than income, as utility depends on consumption. Even if household consumption may not be a perfect proxy for worker welfare either (especially among those households with high earnings and hence some saving capacity), the analysis has the potential of capturing some of the general equilibrium effects of the minimum wage. Furthermore, consumption data are expected to be smoother and less prone to underreporting than income data. The analysis is conducted using standard quantile regressions, where the dependent variable is the log of per capita real household consumption, and explanatory variables are the (log of) the real daily minimum wage, household heads' characteristics (male and married dummy, a quadratic in age, education and labor market status indicators), a municipal area dummy and information on household composition (size, and indicators for the presence of household members younger than 15 and older than 59 years old) and the log of real per capita GDP per province and year.