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IDRC | CRDI
International Development Research Centre
Centre de recherches pour le développement international

Canada

# Job Prospects for Youth, Low-skilled and Women Workers in the Greater Mekong Subregion

## Edited by Vathana Roth

# Job Prospects for Youth, Low-skilled and Women Workers in the Greater Mekong Subregion

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## Abbreviations

| | |
|---|---|
| ADB | Asian Development Bank |
| AEC | ASEAN Economic Community |
| ASEAN | Association of Southeast Asian Nations |
| CAF | Centre for Analysis and Forecasting |
| CDRI | Cambodia Development Resource Institute |
| CESD | Centre for Economic and Social Development |
| CIEM | Central Institute of Economic Management |
| CMP | cutting, making and packaging |
| CPI | consumer price index |
| CSES | Cambodia Socio-Economic Survey |
| EGBOK | Everything's Gonna Be OK |
| FDI | foreign direct investment |
| FIE | foreign-invested enterprise |
| FTUB | Federation of Trade Unions of Burma |
| GDP | gross domestic product |
| GMS | Greater Mekong Subregion |
| GMS-Net | Greater Mekong Subregion Research Network |
| GSO | General Statistics Office Vietnam |
| GWP | Gallup World Poll |
| IDRC | International Development Research Centre of Canada |
| IES | Informal Employment Survey |
| ILO | International Labour Organization |
| IMF | International Monetary Fund |
| ISCO | International Standard Classification of Occupations |
| ISIC | International Standard Industrial Classification |
| ITT | intention-to-treat |
| IV | instrumental variable |
| KHR | Khmer riel |
| KILM | Key Indicators of the Labour Market |
| KUST | Kunming University of Science and Technology |
| LAK | Lao kip |
| LECS | Lao Expenditure and Consumption Study |
| LFS | Labour Force Survey |
| LPM | linear probability model |
| LSB | Lao Statistics Bureau |
| LSMS | Living Standard Measurement Study |
| MMK | Myanmar kyat |
| MNE | multinational enterprise |
| MOEYS | Ministry of Education, Youth and Sport |

| | |
|---|---|
| MOLISA | Ministry of Labour, Invalids and Social Affairs |
| MOLVT | Ministry of Labour and Vocational Training |
| MOU | memorandum of understanding |
| MSME | micro, small and medium-sized enterprise |
| MW | minimum wage |
| NGO | non-governmental organisation |
| NWC | National Wage Committee |
| OECD | Organisation for Economic Co-operation and Development |
| OLS | ordinary least squares |
| OT | overtime |
| PSE | Pour un Sourire d'Enfant |
| PSMW | Provincial Subcommittee on Minimum Wages |
| SD | standard deviation |
| SDG | Sustainable Development Goal |
| SEZ | special economic zone |
| SI | social insurance |
| SME | small and medium enterprise |
| SODA | Social Development Alliance Association |
| SOE | state-owned enterprise |
| STAR | Subcommittee on Technical Affairs and Review |
| STEP | Skills Towards Employability and Productivity |
| SWTS | School-to-Work Transition Survey |
| TDRI | Thailand Development Research Institute |
| TVET | Technical and Vocational Education and Training |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Education, Scientific and Cultural Organization |
| USD | US dollar |
| VASS | Vietnam Academy of Social Sciences |
| VHLSS | Vietnam Household Living Standard Survey |
| VIE | Vietnam Institute of Economics |
| VND | Vietnamese dong |
| VSI | Vietnam Social Insurance Office |
| WDI | World Development Indicator |
| WEF | World Economic Forum |
| YUE | Yangon University of Economics |

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An important aspect of the project was mentorship – an expert was hired to assist each research team. The idea was to ensure high quality research and to put in place a strong and effective quality assurance mechanism. For that, we are grateful to all mentors for their guidance and advice: Thomas van den Aarssen, Thomas Bernhardt, Dr Gordon Betcherman, Sabina Dewan, Dr Philippe Doneys, Dr Franque Grimard, Dr Shannon Maloney, Dr Makiko Matsumoto, Dr Jayant Menon and Gregory Randolph.

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This publication is the product of various research studies conducted under the Greater Mekong Subregion Research Network (GMS-Net). The project was funded solely by the International Development Research Centre (IDRC) of Canada, and was implemented by the Cambodia Development Resource Institute (CDRI). In March 2015, CDRI called for proposals from researchers and research institutions in GMS countries on six research themes. The views and claims expressed in the introductory chapter and the subsequent chapters do not represent the views and claims of IDRC or CDRI nor do they represent the views or claims of the organisations and entities that worked with the research teams during data collection (quantitative and qualitative). The sole responsibility for any errors, omission, inaccuracies and incompleteness of information lies with the author(s).

## Foreword

I remember joining a roundtable discussion in March 2015 in Phnom Penh. That was almost one year into my five-year term as executive director at the Cambodia Development Resource Institute (CDRI). The aim of the half-day event was to gather experts and economists from the region and beyond to discuss labour market issues and to collect feedback to inform the design of a project examining job prospects for young, low-skilled and female workers in the Greater Mekong Subregion.

Three years later, it gives me great pleasure to present this publication. It is a collection of original research papers, and is an output of the Greater Mekong Subregion Research Network (GMS-Net). In 2015, GMS-Net launched its first competitive call for proposals from research institutions and organisations in the region for policy and action research on six themes: earnings inequality; labour market regulation and wage setting; safety nets for low-income, low-skilled workers; private sector engagement in skills development; implications for labour market policies and institutions of the ASEAN Economic Community; and strategies to scale up investment in programs that support decent job creation and skills training for young people. Eight research grants were awarded.

The policy projects explored and documented trends and policy reforms affecting low-skilled and young workers' wage or job prospects in terms of labour force participation, wages, gender wage gaps and women's engagement in wage labour. These papers provide concrete, specific policy options for change. The action research projects included evaluation of labour standards compliance, innovative business programs and new business practices. The CDRI research team, led by Dr Chandarany Ouch, worked closely with Pour un Sourire d'Enfant to provide training on hospitality to disadvantaged young Cambodian women and men. The team then evaluated how the training could help trainees transition as well as advance in the job market. This is an example of the benefits action research offers policymakers and the value-added contributions GMS-Net provides.

The themes covered tackle crucial aspects of the labour market in the region and for the target groups. This collection of research studies provides detailed and comprehensive findings which will have important implications for research, policy and practice in the region. Over the three years, with support from the International Development Research Centre of Canada, CDRI provided management oversight of the research competition, coordinated mentorship, and ensured quality control and knowledge dissemination. GMS-Net also mentored talented young researchers with the aim of supporting thought and social change leaders.

The GMS is a unique and dynamic region that has maintained robust economic growth. GMS countries, however, still face a number of development challenges, two of which are achieving sustainable economic growth and ensuring that growth is inclusive for young adults, the low-skilled and women in terms of decent job opportunities, pay equity and equitable pay, and gender equality in the labour market. Addressing these challenges requires major institutional and regulatory reforms. Policymakers and reformers will inevitably demand scientific and empirical evidence to formulate informed policies and regulations that can ensure optimal labour market outcomes. Thus it is of utmost importance that research be designed so that evidence is readily available when the topic demands their serious attention. This is what GMS-Net through this multi-country research program has achieved. The paper on the effects of minimum wages in Myanmar adds value to the research collection, and I would like to thank Zaw Oo and co-authors at the Centre for Economic and Social Development for their hard work even though their research was not funded by GMS-Net.

In sum, I am confident that the research results presented in this volume deliver insights into some of the most important, sometimes controversial, labour market issues in the GMS, and are applicable and relevant beyond the region. I am also optimistic that this output will be an asset to attract more interest, and perhaps opportunities for a new multi-stakeholder approach for funding research, in the region.

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# 1
# Towards Equitable Pay and Decent Job Opportunities for Women, Youth and Low-skilled in the Greater Mekong Subregion: A Synthesis

Vathana Roth and Edgard R. Rodriguez

**Highlights**

1. Countries in the Greater Mekong Subregion (GMS) are growing fast, so is job creation. Working women are gaining ground, but most workers are still vulnerable.
2. The GMS countries have some of the lowest indicators of human capital, so young and ill-prepared workers are facing a bleak future in a rapidly evolving world economy where globalisation and international trade are spearheading the rise of skill-biased technologies (i.e. artificial intelligence and robotics).
3. Greater attention to gender perspectives and measures to support gender equality in the workplace remains an urgent policy priority to improve job prospects for girls and young women.
4. Minimum wages are found to help reduce wage inequality and increase the wages of covered formal workers, particularly the low-paid. Research finds little or no evidence of adverse effects of minimum wages on formal employment, possibly due to lack of compliance by firms, which often resort to using informal sector workers, or because the minimum wage remains below the market wage.
5. Women are increasingly willing to work outside the home. Key barriers to women's employment are family-work balance, lack of affordable childcare, abuse-related factors, high transport cost and long commuting time.
6. Gender wage gaps remain persistent. Women are paid less than men on average. The most important determinants contributing to wage differentials are social and cultural norms and workplace discrimination.
7. Skills shortages and mismatches persist in most, if not all, GMS countries. Skills development remains critical for a region needing to boost its basic human capital indicators. Also, reskilling and retraining – an idea that is aligned with lifelong learning – is crucial, particularly for women and youth. Technical or vocational education and training could be a solution, but impacts on employment and income are mixed, at least in the short term.
8. GMS countries need to invest more in their own domestic research capacity to analyse labour issues.

## 1.1 Context and motivation

The future of work can be both rewarding and worrying, particularly for those who cannot keep up with a fast-changing world. *Towards a Reskilling Revolution: A Future of Jobs for All* emphasises how economic growth "is increasingly based on the use of ever higher levels of specialized skills and knowledge, creating unprecedented new opportunities for some while threatening to leave behind a significant share of the workforce" (WEF 2018, 3). The ensuing upheaval is likely to be substantial and many difficult policy questions will need to be resolved. How will technological progress affect jobs? How can labour market institutions improve labour market outcomes for workers? Does employment protection legislation have negative consequences for vulnerable groups in the labour force? How can labour programs or legislation increase employment opportunities and improve youth and women's employability?

The Greater Mekong Subregion[1] (GMS) is one of the most dynamic regions within Asia. In the last two decades, most GMS countries have sustained robust economic growth, lifting millions of people out of poverty and improving wellbeing across the region. Three of the six GMS members – Thailand, Vietnam and China – belong to the global list of high-growth economies (i.e. those that have sustained an average annual growth rate of more than 7 percent for the last 25 years). Cambodia and Laos, which have grown at a rate of just over 7 percent year-on-year since the late 2000s, are also on track to join what the International Monetary Fund refers to as the dynamic low-income countries whose economic growth take-offs began in the 1990s. Finally, Myanmar, in the wake of a series of liberalising political and economic reforms, is catching up with its GMS neighbours quickly. This once secluded country is slated to achieve GDP growth of 6.8 percent in 2018 and 7.2 percent in 2019 (ADB 2018).

For the GMS, the large youth population and rising presence of women in labour markets present both advantages and challenges. On the one hand, harnessing the potential of a young and enlarged labour force would go a long way to unlocking economic potential in the subregion. On the other, as these countries continue their economic transformation and climb the development ladder, they face the dual challenge of creating not only more but also better jobs – formal sector jobs that are both better paid and less vulnerable.

---

[1] The Greater Mekong Subregion (GMS) is a transnational region of the Mekong River Basin in Southeast Asia. The term GMS was coined by the Asian Development Bank in the early 1990s to refer to Cambodia, Laos, Myanmar, Thailand, Vietnam and Yunnan Province of China.

Research on labour markets in developed economies is not directly transferable to low- and lower-middle-income countries, especially those in the GMS, where labour markets present unique features and policy challenges reflect different stages of socioeconomic development. Indeed, it was the need to generate and support local research on labour and employment that prompted the Cambodia Development Resource Institute (CDRI) to seek financial support from Canada's International Development Research Centre (IDRC) to engage regional thinktanks in a three-year research program on improving job prospects for young, unskilled and women workers in the GMS. CDRI, as coordinator of the Greater Mekong Subregion Research Network (GMS-Net),[2] launched an open competitive grant call for research proposals. The aim was to advance high-quality development research on labour markets in GMS countries to generate concrete evidence-informed policy solutions for the challenges facing workers in the subregion. Of the 20 proposals received, GMS-Net selected and funded eight highly promising research proposals from various institutions and thinktanks in the subregion. Those studies form the core of this report, along with two other papers – one from a regional perspective and the other from Myanmar.

This introductory chapter provides a snapshot of the current labour market conditions for youth, women and the low-skilled in the GMS, reviews important regulations and the institutional factors that influence labour market outcomes, and maps the key findings of the research studies conducted under the current GMS-Net research program. It also presents an overview of selected literature on the issues covered aiming to understand what has been researched and to identify possible academic and policy-practice gaps.

## 1.2 Labour market trends in the Greater Mekong Subregion

The International Labour Organization (ILO) estimates that there are 134 million workers in Cambodia, Laos, Myanmar, Thailand and Vietnam: more than half (74 million) are vulnerable workers, that is, own-account workers or family workers,[3] 57 million are wage and salaried workers, and 2 million are openly unemployed. Underemployment rather than open unemployment remains a critical feature of labour markets in these low- and middle-income countries. Therefore, improving the prospects for their workers, especially the young, low-skilled and women, constitutes a core policy concern.

---

[2] Formerly known as the Greater Mekong Subregion Development Analysis Network (GMS-DAN), founded in 1992 by the Cambodia Development Resource Institute.

[3] We use ILO's definition of vulnerable employment (www.ilo.org/wesodata/definitions-and-metadata/vulnerable-employment).

### *1.2.1 Young and low-skilled workers*

Youth employability has received growing policy attention from governments, development partners, NGOs and other stakeholders in the GMS countries. A lot of research has focused on youth labour force participation rate, education, competency and the relevance of chosen skills. Young people have a higher probability of being unemployed than their older counterparts and, when employed, they face bleaker job prospects. For instance, finding work in their preferred sector tends to be difficult, resulting in young job seekers accepting low-paid and low-quality employment (Acharya 2004, 6). This phenomenon is, however, not unique for the subregion but a global concern about a shortage of young workers "with critical job skills" (Mourshed, Farrell and Barton 2012).

In 2017, according to ILO estimates, young workers (aged 15 to 24 years old) represented 38 percent of the world's population. This percentage is much higher in the GMS countries: 75 percent of the population of Cambodia, 60 percent in Laos, 58 percent in Myanmar and 55 percent in Vietnam. A key challenge in the GMS is the overwhelmingly low educational attainment of labour market entrants making skills development and gains difficult. Severe skills mismatches and the employment unreadiness of youth in national markets and in integrated markets like ASEAN are concerns. The World Bank Investment Climate Assessment 2014 identified lack of job skills as a main challenge facing firms in general and special economic zones in particular in Laos (Clarke et al. 2014). According to the World Bank Enterprise Surveys, 13.2 percent of surveyed firms in Laos reported that inadequately educated workforce is a constraint on their growth (World Bank 2016).

Youth underemployment is a particular challenge for GMS countries, where it takes the form of low pay, unfavourable working conditions, short-term contracts, overqualification, or informal and unpaid work. The World Economic Forum (2018) estimates that in developing countries more than 200 million young people are "working poor", mostly employed in informal sectors and earning less than USD2 a day. The lack of public and private sector job creation compels young people to accept less than full-time employment or less than expected conditions. Therefore, an important part of the labour agenda is to increase decent job opportunities and to narrow skills mismatches between young job seekers and employers. That demands close collaboration between governments, development partners, the private sector, training and education providers.

Another challenge facing GMS countries is the employability of their populations. The majority of the working age population rely on informal agricultural self-employment or working in the family business, and much of the region's industrial growth still depends on the supply of low-skilled and low-educated workers. Thus, to ensure sustainable growth, GMS countries must address low human capital endowment by investing more aggressively in education in general and higher education in particular, as well as in labour force and skills development.

### *1.2.2 Female workers*

It is widely recognised that women's labour market participation helps boost GDP. Yet gender differences in participation rates persist across the GMS. In Cambodia, for example, the total labour force participation rate in 2013 stood at 83.0 percent (women 77.8 percent versus men 88.7 percent). Similarly, in Vietnam, the total labour participation rate in 2013 was 77.5 percent (women 71.2 percent and men 82.2 percent). In Myanmar the gender gap was much wider, with a labour force participation rate in 2012 of 66.3 (women 50.3 percent and men 82.7 percent) (ADB 2014a, b). Further, compared to men, women in the GMS are far more likely to be subject to vulnerable employment conditions. ILO (2018) projections show that, in 2019, half of all working women (37.3 million) will be in vulnerable employment (i.e. as self-employed or unpaid family workers), while 32.4 percent (24.2 million) will be wage or salary workers. Despite relatively high rates of women's participation in paid work, women in the GMS are still less likely to be employed than men. The ILO (2018) calls for equal pay and a more workplace-friendly environment for women. Eliminating pay discrimination and unconscious bias would improve productivity and therefore GDP. Banerji et al. (2018, 17) highlight similar challenges constraining women and recommend major policy reforms to address them.

## 1.3 Better policies for better and more equitable job prospects: minimum wages, better training

Policies for better job prospects and better pay hinge on how the employment effects of labour supply-demand and labour-market institutions are understood. Some scholars argue that skill-biased technological change, international trade and globalisation explain a significant portion of the observed increase in wage and income inequality, at least in advanced countries. Others argue that the erosion of labour market institutions and policies, including

unionisation,[4] minimum wages and social contributions, amplify wage and income inequalities, particularly for the low and middle earners of the income distribution (Farber et al. 2018; Farber 2003; Jaumotte and Buitron 2015). The rise of artificial intelligence and robotics is inevitable, and could negatively affect low-skilled workers, necessitating further institutional and policy support and reforms. Rhee (2018, 11) postulates that ASEAN workers need to work harder to gain quality education and skills to keep up with these advances in technology. The current United States Administration also supports retraining through apprenticeships and other programs to support entry and re-entry into the labour market (Card, Lemieux and Riddell 2018, 104).

Two common policy interventions in the GMS are the re-introduction of or changes to minimum wage legislation, and the use of training programs to integrate youth more effectively into labour markets. There are other policies and institutional arrangements which also have potential impacts on the job prospects of GMS workers. Nonetheless, the current research program under GMS-Net focused on these two policy issues.

### *Renewed efforts to adopt minimum wage law*

The issue of a minimum wage has generated significant disagreement among researchers and between researchers and policymakers. The literature is voluminous but there is no generally agreed conclusion on its effects. Theoretically, a binding minimum wage implemented under a competitive market framework results in labour surplus, particularly of low-skilled workers, because it sets an above-equilibrium or artificial price that cannot be adjusted by labour market supply and demand. Once it stays above market clearing wages, the theory predicts that minimum wages would be more likely to cause unemployment or dis-employment: they could have negative effects on the employment of youth who have little or no work experience, or of low-skilled workers who are less attractive to employers and find it hard to switch jobs. Evidence from the US and Canada points to

[4] Empirical evidence has shown that unionised workers earn about 10–20 percent more than similar workers who do not belong to unions (Farber et al. 2018; Farber 2003). Proponents argue for the benefits of having unions to help guard against exploitation and increase workers' voices, wages and working conditions. Jaumotte and Buitron (2015) find that in sample advanced countries, the decline in labour market institutions, such as de-unionisation, is associated with rising inequality, particularly of the top income bracket. Others who find inequality-reducing effects of unionisation include Western and Rosenfeld (2011), Card, Lemieux and Riddell (2004), Dinardo, Fortin and Lemieux (1996), Card (1996), Freeman and Medoff (1984). The decline in unionism is also found to have political implications, particularly negatively affecting voter turnout for the Democratic Party in the US (Feigenbaum, Hertel-Fernandez and Williamson 2018).

the detrimental effects of a rise in minimum wages among younger workers.[5] However, there is another side to the argument – when implemented in non-competitive settings, such as monopsonistic markets, minimum wages could increase employment and reduce wage inequality particularly among young and low-skilled workers.[6]

The empirical literature from emerging economies casts doubt on the robustness of the impact of minimum wages on employment. Shi and Lin (2014), for example, find positive and negative impacts of the increase in minimum wages in China. They postulate that although the minimum wage hike raised workers' incomes and reduced wage inequality, it negatively affected employment of women, youth and low-skilled workers. The authors suggest that policymakers might face a trade-off between equity and efficiency, pointing out that minimum wages should not be used beyond their intended purpose of ensuring reasonable remuneration for basic needs. In India, Menon and Rodgers (2018) conclude that, in urban areas, an increased minimum wage does not result in an increased supply of informal under-age workers. In the ASEAN region, Carpio and Pabon (2014) find mixed evidence for the impacts of increased minimum wages on employment, poverty and inequality. In certain cases, increased minimum wages lead to reduced employment of low-productivity workers; in other cases, the impacts on employment are minimal.

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[5] Analysing a meta-regression on studies of the effects of minimum wages on youth employment in the US, Brown, Gilro and Kohen (1982) find that a 10 percent increase in federal minimum wage results in a 1–3 percent reduction in teenage employment. In the case of Canadian teenagers, Baker, Benjamin and Stanger (1999) find that a 10 percent increase in minimum wages is associated with a 2.5 percent decrease in employment, further reconciling the negligible negative or positive effects of minimum wages on employment found in previous studies.

[6] See O'Neill (2004) for Ireland and Dickens, Machin and Manning (1999) for the UK. Examining the effects of legislated minimum wages under the framework of social cost of labour, Kaufman (2009) finds that a minimum wage often increases both economic efficiency and social fairness, unlike what the neoclassic economists claim. Using payroll data and minimum wage arrangements in the Finnish retail trade sector, Böckerman and Uusitalo (2009) find that a minimum wage reduces "only modestly" average wages of eligible groups of young workers, and that there are no significant effects on employment. Other authors using time-series and cross-sectional data who find practically negligible effects, or sometimes positive relationships, include O'Neill, Nolan and Williams (2002) and Card (1992a, b) for the United States; Katz and Krueger (1992) for Texas, US; Card and Krueger (1994) for New Jersey and Pennsylvania, US; and Machin and Manning (1994) for the UK. Also, there have been a few meta-analysis studies on the impacts of minimum wages on employment. Doucouliagos and Stanley (2009) find little or no negative correlation between increased minimum wages and employment and corroborate the earlier findings of Card and Krueger (1995). De Linde Leonard, Stanley and Doucouliagos (2014) also find no practically adverse effects of minimum wage on employment, except in the residential homecare industry.

The inconclusive empirical results point to the fact that the effects of a minimum wage, whether on wages and the employment of youth and low-skilled workers, or on the economy, are heterogeneous depending on country context and sector specificity. The effects might also depend on the type of labour markets in which the minimum wage is implemented. Lack of compliance with minimum wages or the existence of large informal labour markets will tend to weaken any clear response to increases in minimum wages. This points to the need for in-depth exploration of such issues, particularly within the labour markets of developing countries where legal enforcement or monitoring is generally weak and insufficient. For example, recent empirical literature from Central America examining the effects of legal minimum wages[7] illustrates the difficulties of enforcement, and finds that employers sometimes only partially comply with minimum wages, and, in some cases, minimum wage hikes can even increase non-compliance.

Probably the most interesting finding of all the studies on minimum wages is that there is no robust evidence or consensus that minimum wages alone can help reduce overall extreme or moderate poverty. For most countries, raising the minimum wage has long been considered a way to protect poor workers and their families. In fact, this active labour market intervention represents a common social protection policy in many middle-income countries, such as those in Latin America. But how effective are minimum wages in protecting the poor? This is a timely question for GMS countries as the debate heats up over whether minimum wages help avoid "the race to the bottom" or serve as a major impediment to greater labour market flexibility and competitiveness. The results from the empirical literature show that minimum wages could boost the wages of some workers and that higher minimum wages could reduce poverty rates. However, the evidence also suggests that minimum wages alone are a blunt and inefficient way to curb overall poverty and income inequality. More and better investments in the human capital of the poor, and especially women, can permanently reduce poverty and inequality and improve productivity among younger workers.

## 1.4 An overview

This compilation of papers is the first ever undertaking by GMS-Net on the nature of work, and makes an important contribution to policymaking in the subregion. Grounded in scientifically based research, the papers are organised under three broad labour market issues.

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[7] Ham (2018) shows results for Honduras and Gindling et al. (forthcoming) have results from a recent government campaign to increase compliance in Costa Rica.

Part 1 touches on one of the most debated and sometimes controversial topics in labour economics – the minimum wage and its impacts on employment, wages and wage distribution. It contains three chapters corresponding to separate studies from Thailand, Vietnam and Myanmar that make compelling cases both for and against a national minimum wage. The empirical findings remain inconclusive on the consequences of minimum wages for labour market outcomes, whether in advanced or developing countries. This underscores the need for more evidence-based research and knowledge on GMS countries to help stakeholders make better and more informed decisions. Indeed, Panpiemras, Boonwara and Ruttiya (Chapter 2) point to the lack of rigorous empirical research on the potential impacts of the recent minimum wage hike in Thailand. However, their study does not focus on Thai employees, but on migrant workers from Cambodia, Laos and Myanmar. Combining secondary data (e.g. from the Informal Employment Survey) and primary data from qualitative interviews with migrant workers and firms in Bangkok, Samut Sakhon, Samut Prakan and Tak, the authors find that the minimum wage hike has increased the wages of migrant workers, and that non-compliance is still an issue in implementing and enforcing the minimum wage, particularly in areas farther away from Bangkok. They also find that the 300 baht (about USD9) minimum wage seemed to have a small and temporary dis-employment effect.

The evidence on the effects of minimum wages in Thailand is complemented by a more quantitative study of the situation in Vietnam by Dat, Pham and La in Chapter 3. Analysis of longitudinal data on labour market outcomes and individuals' employment dynamics between 2010 and 2014, and micro-econometric modelling allow the authors to answer two important questions about the impact of minimum wage hikes (averaging 15 percent a year since 2008) on employment and wage distribution. The authors also examine the effect of gender and age differences. They find a negative but statistically insignificant impact on employment of the whole sample and subsamples (male/female, younger/older workers). This finding is contrary to that of most previous similar research in Vietnam, mainly because of the current study's inclusion of trends.[8] As for wage distribution, the minimum wage hikes are found to have helped narrow the wage gap between employees in the lower percentiles and those in the 80th percentile. This wage compression is also found for the female, young and older worker subgroups. Zaw Oo and co-authors at the Centre for Economic and Social Development (CESD), together with the Yangon University of Economics (YUE), conducted a survey to

[8] The interaction between location and time trends, which was captured by multiplying location dummy variables and the general linear time trend.

understand the effects of a minimum wage increase in Myanmar, focusing on wages, working conditions and income distribution, as well as workers' perceptions and attitudes towards the minimum wage (Chapter 4). The survey covered employers and employees in labour-intensive manufacturing industries in Hlaing Tharyar Industrial Zone in Yangon. Overall, the findings indicate a positive impact on wages, particularly after policy enforcement. The majority of respondents had positive attitudes towards the minimum wage increase and its enforcement. The authors recommend that, in addition to minimum wage legislation, the government pay greater attention to productivity improvement and industrial relations. Myanmar needs to create a better enabling environment for firms to assure their long-term growth and profitability. Policymakers in the region currently debating minimum wages and other labour laws could learn from Myanmar's contemporary experience.

**Part 2**, containing four chapters, delves into the current situation of women's labour market participation in the GMS. It also examines gender wage inequality and institutional policies such as mandatory social insurance, which could affect the supply of and demand for female and male labour. Betcherman and Haque provide a snapshot of women's employment in the GMS using the newly available Gallup-ILO World Poll (Chapter 5). The tabulated and correlated quantitative information offers state policymakers significant insights into the status of women in the labour market, and their characteristics and perspectives when it comes to paid work. Women's labour participation and women-friendly workplaces are beneficial for the economy. Nonetheless, little is known about women's willingness to work and the problems and challenges they face in the workplace. Betcherman and Haque address these questions by describing the employment status of women in the GMS and examine the barriers to women's participation in the labour force. What makes the 2016 version of the Gallop World Poll unique is a series of questions added by the ILO about the attitudes of women and men towards women and work. The vast majority of women expressed a preference to work outside the home and only a minority of men indicated that their preference would be for women in their household to stay at home. The survey data also offered no evidence that women (or men) saw limited opportunities in the labour market as a barrier to female employment. Barriers to women's employment that were raised most frequently concern family-work balance, lack of affordable childcare, abuse-related factors, high transport cost and long commuting time. These call for policy interventions that are well outside the traditional labour market interventions considered by policymakers, and suggest that maximising job opportunities for GMS women will require a broad approach to public policy.

Gender wage gaps, a topic of importance and policy relevance, are explored in Chapter 6 (by Cheng and co-authors) and Chapter 7 (by Siliphong and Phoumphon), further disentangling the observed and unobserved determinants affecting how women are paid and treated in the workplace compared to their male counterparts.

Cheng and co-authors investigate gender wage gaps in Cambodia. They use the nationally representative Cambodia Socio-Economic Survey to decompose important factors, both observed and unobserved, determining wage differentials between female and male workers. The decomposition was disaggregated by industry and skill classification to better understand the differences. The results of an extended Oaxaca-Blinder decomposition indicate that men earn more than women on average, and the difference is attributable to unobserved factors such as discrimination and institutional arrangements. Women are also found to have lower levels of education and less work experience than men, particularly in high-paid management and professional positions. The lack of opportunities for women in those jobs could further widen the gender wage gap.

Gender pay gaps are also evident in Laos. Siliphong and Phoumphon interviewed 902 of 4,022 employees from 183 private firms in four major provinces. The predicted gender wage gap is 15.3 percent, and the wage differential is attributable to both observed and unobserved factors. Observed factors, which capture the differences in workers' characteristics (e.g. education, work experience, ethnicity and marital status), contributed 3.8 percent of the gender wage gap. Even with identical characteristics (except for gender), men earned 11.2 percent more than women, a clear advantage for men in the Lao labour market. This is attributable to unobserved factors (e.g. culture, social norms, workplace discrimination).

The last chapter in Part 2 (Chapter 8, by Dung, Ngo and Do) examines how mandatory social insurance contributions by employers affect wages and the propensity to hire in Vietnam. Using panel data from Vietnam Enterprise Surveys/Censuses, the authors find a negative but small impact of an increase in social insurance contributions: a 1 percent increase in social insurance to total wage fund would reduce by 0.16 percent the average wage per firm. The authors recommend that social insurance contributions will have to be increased as Vietnam's population ages. Nonetheless, the effects of such public policy intervention need to be monitored more closely.

**Part 3** contains three chapters focusing on skills and training. Reskilling and retraining are increasingly important to keep up with the fast-changing world of work and to prevent lags in occupational advancement. Ouch investigates how vocational training programs could help prepare economically disadvantaged

young adults in Cambodia for entry into the labour market (Chapter 9). Not only is the research topic interesting, its practical relevance adds value. The author finds a positive but statistically insignificant impact of participating in the training on employment outcomes. One of the main contributions of the paper is the use of randomisation to examine the causal links between vocational training, labour market transition and trainee outcomes. Randomised control trials, a simple but powerful research tool believed to be superior in dealing with endogeneity and in ensuring internal validity, have received growing attention from development and labour economists. The lessons learned from the experiment provide important inputs for researchers and practitioners thinking of using randomisation in their work.

Peou, Chhorn, Heng and Yi investigate the labour market transition of young people in Cambodia, and how they see and seize opportunities in the labour market (Chapter 10). Their analysis relies on quantitative secondary data from ILO's School-to-Work Transition Survey supplemented by primary qualitative data gathered from interviews with young people, university and training centre representatives, and policymakers. The results indicate that young Cambodians are gradually moving from family farming to urban wage jobs. They are also highly motivated to seek better paid jobs offering better working conditions and new experiences.

Chen, Wen and Deng examine skills shortage and mismatch in Laos (Chapter 11). Their main purpose was to diagnose the issue and provide feedback for Chinese firms operating in Laos, affording them a better understanding of the opportunities and challenges of investing in a low-income country. The findings are important for Lao policymakers concerned with resolving skills mismatches and shortages to improve labour productivity and foreign firm profitability. The authors find that Chinese firms try to employ more local labour, but the productivity of underskilled Lao workers is often low, resulting in higher-than-expected Chinese labour costs. The distribution of skills shows that workers' cognitive abilities (reading, writing and numeracy) contribute more to skills shortages than their non-cognitive abilities. The chapter underscores the difficulty of improving these skills solely through on-the-job training within firms.

## 1.5 Looking ahead – what next for GMS-Net?

Throughout its 25 years, GMS-Net has made significant contributions to collaborative research, networking and mutual understanding. The high degree of collegiality maintained through the network has leveraged a better and more impactful commitment to policy-relevant research that addresses priority issues defined from within the GMS, and that engages policymakers in consultation

and knowledge exchange. We will continue our commitment to building research capacities in the GMS, especially of early career researchers. This will have wide implications not only for the professional growth of individual researchers in the network but also for the growth of their institutions. Further, national policymakers will have the benefit of learning from the experience of neighbouring GMS countries. We strongly hope to maintain the network and to deepen research collaboration and other knowledge sharing activities.

GMS-Net has undertaken a series of multi-country research studies on a wide range of topics, from the impact of the Asian financial crises on transitional economies to cross-border migration and trade. Research works, the findings of which were drawn on as inputs for the current research program, include:

Health and Education in the Mekong Subregion: Policies, Institutions and Practices (2015)

Inclusive Development in the Greater Mekong Subregion: An Assessment (2014)

Cost and Benefits of Cross-County Labour Migration in the GMS (2012)

The Cross-border Economies of Cambodia, Laos, Thailand and Vietnam (2005)

Off-farm and Non-farm Employment in Southeast Asian Transitional Economies and Thailand (2003)

Labour Markets in Transitional Economies in Southeast Asia and Thailand: A Study in Four Countries (2001)

This volume on labour is the latest contribution of GMS-Net. Despite the wide array of research questions explored, further studies on labour will continue to be relevant for all GMS stakeholders. Questions we should ask include: What are the implications of the ASEAN Economic Community for labour market policies and institutions for GMS countries and ASEAN? What kinds of job creation and skills development programs are suitable for female, youth and low-skilled workers? And how can those programs be scaled up? Tackling these and other critical research questions that influence labour market policy will require a deeper look into the existing and changing landscape of research in the GMS.

Professional and credible research is beneficial to society at large, but the scope and ultimate quality of future research will depend on having more researchers, more access to data and more funding. The subregion still needs to tap into emerging communities of thinktanks and universities capable of undertaking rigorous research, and GMS-Net is constantly seeking

opportunities to collaborate with like-minded institutions. Regarding the data gap, the good news is that greater attention to the need for reliable, clean data has led GMS governments to invest in datasets that allow researchers and policymakers to analyse and address labour market issues in a comprehensive and disaggregated fashion.[9] However, such datasets are not always readily accessible to local researchers due to cost, technical formatting or institutional permissions.

Finding funding to support research is perhaps the biggest challenge facing independent researchers. GMS countries need to open more spaces for dialogue among policymakers, researchers, development partners, trade unions and the private sector to drive a new research agenda on the future of work and employment. In turn, this dialogue would generate demand for more research on labour policies and ultimately trigger more support for high-quality research. Efforts to promote the demand and supply of labour research have been uneven across the GMS. There is a lot to be done. Domestic or international funding is needed to invest in more technical training on labour issues in universities and thinktanks, in dedicated time from researchers to conduct research, in improving the quality of labour data as well as data collection and access. More needs to be done so that researchers can construct, for instance, panel databases on workers or have better access to gender-disaggregated data to help them understand labour market dynamics or use newer and better research techniques such as randomised experiments. In this collection, the randomised controlled trial for Cambodia represents an example of the latter, but more similar studies are required to build up a body of evidence on whether or not some programs could work better. The GMS has to develop its own capacity to analyse the status, gauge the progress and

[9] For instance, Cambodia has a number of survey datasets readily available for quantitative analysis: Labour Force and Child Labour Survey (2014), and the Cambodia Socio-Economic Surveys conducted every five years for 15,000 households and yearly for 3,500 households. The World Bank has released its 2013 round of Cambodia enterprise surveys. The first round was in 2007, and other GMS countries are part of this World Bank exercise (Enterprise Surveys). Laos also has a good stock of micro household and firm survey data – Expenditure and Consumption Surveys (2002–03, 2007–08, 2012–13), Multiple Indicator Cluster Survey (2006), Social Indicator Survey (2011–12), Labour Force and Child Labour Survey (2010) and Employment and Livelihoods Survey (2009). In Vietnam, Labour and Employment surveys (conducted annually since 1996), Population and Housing Census (every 10 years), and Vietnam Household Living Standards surveys (every two years) are all important sources of data. In Myanmar, World Bank Enterprise Surveys (2014 and 2017), ILO Labour Force Survey (2015) repeated by the government in 2017, Census 2014, UNDP's Integrated Household Survey (2009–10), and the latest Living Conditions Survey by the World Bank, Central Statistics Office and international partners help overcome the lack of data for research.

overcome the challenges of its own human capital so that the region can fulfil the potential of present and future generations.

We hope you will join us in sharing our aspirations while you enjoy reading the next chapters.

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# Part 1:

# Minimum Wage and Its Impacts

# 2
# Impacts of the 300-Baht Minimum Wage Policy on Migrant Workers in Thailand

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and Ruttiya Bhula-Or

This paper explores the impact of Thailand's 300-baht minimum wage policy on wages and employment of migrant workers using secondary data, such as the Informal Employment Survey, and qualitative methods, including interviews with 100 migrant workers from Myanmar in food/food processing and garment manufacturing sectors in Bangkok, Samut Sakhon, Samut Prakan and Tak. We find that the 300-baht minimum wage has not reached its full potential due to non-compliance. This is because the introduction of 300-baht minimum wage in 2012 was a big change, and firms were not ready to raise wages at the time. However, firms seem to have adjusted in the following years as the proportion of workers earning below the minimum wage has declined. Migrant workers in Bangkok and its vicinity are less likely to be paid below minimum wages than those in other regions, implying that enforcement is weaker in areas further away from the central government. Moreover, the 300-baht policy created a positive spill-over effect on migrant workers who already received at least 300 baht. However, migrant workers may not be better off with the 300-baht minimum wage because when wages rose, workers' expenditures also increased. Regarding the impacts on employment, the 300-baht minimum wage seemed to have a small and temporary disemployment effect.

## 2.1 Introduction

The International Labour Organization has defined a minimum wage (MW) as the "level of wage that renders workers sustainable social well-being". In many developing countries, including Thailand, the MW is used with the objective of improving the prospects of low-skilled workers and poor individuals. On the one hand, the MW can help increase the wage of workers whose wages are below the MW, and in some cases, the effect could spill over to upper parts of the wage distribution. On the other hand, increasing labour costs can have a negative impact on employment. A lot of studies have investigated the impacts of the MW on different labour market parameters (see Card and Krueger 1997; Flinn 2010 for extensive surveys of the literature). The broad consensus is that MWs have a positive impact on average wages, while their effects on employment are still continuously debated (Carpio and Sanz-de-Galdeano 2014).

Thailand has enforced a MW since 1972. The process of setting the MW has gone through several important changes. The biggest change happened in 2012–13 when the government decided to raise the existing MW to 300 baht nationwide, an increase of about 44 percent on average – the largest ever increase. Previous studies on Thailand find evidence that, despite a high degree of non-compliance with the MW, the MW helped raise workers' average wages. It is important to note that these past studies look at the impacts on workers as a whole, regardless of their nationality. Nonetheless, because migrant workers, especially low-skilled workers from neighbouring countries (Cambodia, Laos, Myanmar and Vietnam), are more vulnerable to abuse and exploitation by employers and officials, it is sensible to conjecture heterogeneous impacts between average workers and migrant workers.

Although migrant workers in Thailand account for around 10 percent of the labour force and have made important contributions to the Thai economy, relatively little is known about the impacts of the MW on migrant workers. There are a few qualitative studies based on interviews with small and selective samples which collected data on wages, overtime pay, and working hours. These studies provide useful information, but they do not systematically answer the question how the MW affects key variables such as wage, pay and working hours. This research adds to the stock of knowledge by thoroughly studying the impact of the recent 300-baht MW policy on wages and employment of migrant workers using available secondary data as well as new primary data collected through qualitative research methods (employee interviews and in-depth interviews with firms).

The paper is organised as follows. The next section provides an overview of the MW policy in Thailand and reviews the existing literature on the impacts of the Thai MW on workers, and on the recent situation of migrant workers in Thailand with a focus on their wages, overtime pay and working hours. Section 3 discusses data used in the analysis. The quantitative research strategy is reported in Section 4. Section 5 discusses the findings. The last section concludes and provides policy recommendations.

## 2.2 Literature review

Following the promulgation of the Revolutionary Party Decree No. 103, the MW was first introduced in Thailand in 1972. Decree No. 103 gave authority to the Ministry of the Interior to appoint the tripartite National Wage Committee (NWC), comprising representatives from the government, employers and employees, to set the MW rate, which was defined as "a wage rate which an employee deserves and is sufficient for an employee's living." The first MW was set at 12 baht per day and was enforced in only three provinces: Bangkok, Samut Prakarn and Pathum Thani.

The Asian financial crisis in 1997–98 led to the introduction of the Labour Protection Act BE 2541 (1998), which extended enforcement of the MW to all provinces in Thailand. The law also introduced the new MW setting system, which involves three institutions: the NWC, the Provincial Subcommittees on MW (PSMWs) and the Subcommittee on Technical Affairs and Review (STAR). The PSMWs recommend appropriate MW levels for each province to the NWC, considering several economic variables, such as inflation, standard of living, production cost, prices of goods and services, employers' ability to pay, labour productivity and socioeconomic conditions (Paitoonpong, Akkarakul and Sukaruji 2005). The NWC, in turn, sends the recommendations to STAR for technical review. After receiving STAR's review, the NWC makes a final decision and submits it to the Ministry of Labour. Then, the NWC's recommendation on the MW is officially announced by the Cabinet. Although the new regime adopted a system of provincial differentiation, industry-level differentiation was not implemented, largely because it was too complex to administer (Carpio and Sanz-de-Galdeano 2014).

In 2011, the newly elected government announced that a MW of 300 baht per day would be imposed nationwide by January 2013. In April 2012, the government announced the pilot implementation of the 300-baht MW in seven provinces (Bangkok, Nonthaburi, Pathum Thani, Samut Prakan, Samut Sakhon, Nakhon Prathom and Phuket), causing the MWs in these provinces to immediately increase from 215–221 baht, representing an increase of 36–40 percent. In January 2013, the 300-baht MW policy was implemented

in all remaining provinces. The new rate represented a drastic increase from the existing rates, attracting criticism that the policy has been driven by institutional factors such as political interest rather than by economic conditions. Meanwhile, the system of differentiating MWs according to different provincial economic factors was abandoned.

Table 2.1: Growth rate of MW, 2012–2013

| Region | Mean | SD | Min | Max |
|---|---|---|---|---|
| Northeast | 0.501 | 0.043 | 0.370 | 0.567 |
| North | 0.517 | 0.040 | 0.392 | 0.575 |
| South | 0.408 | 0.085 | 0.152 | 0.474 |
| East | 0.384 | 0.079 | 0.279 | 0.481 |
| West | 0.432 | 0.046 | 0.386 | 0.500 |
| Central | 0.392 | 0.076 | 0.299 | 0.500 |
| Bangkok and vicinity | 0.165 | 0.000 | 0.165 | 0.165 |
| All | 0.435 | 0.110 | 0.152 | 0.575 |

Note: For regions that had more than one MW rate in 2013, the average rate is used to calculate the growth rate.
Source: Authors' calculations using MW data from the Ministry of Labour

Increasing the existing MW to 300 baht was a big jump. Table 2.1 shows the mean regional and national MW growth rates between 2012 and 2013. Overall, the growth rate was approximately 44 percent, but there are some variations across regions. Due to the relatively low existing MW rates, provinces in the north and northeast experienced the largest shift in the MW, with average growth rate of more than 50 percent. The average MW growth rate in southern, central and eastern provinces was around 40 percent.

The 300-baht MW policy was expected to have significant impacts on firms, industries and the overall economy. Firms in labour-intensive industries such as garment manufacturing and food processing were expected to face major increases in production costs and thus might be forced adjust, for example, by raising prices and adopting new technology and employment policies. A study by the Bank of Thailand (Sikamat 2012) forecast that the new MW could lead to a drop in real GDP of 1.7 percent, compared to a counterfactual scenario of no MW change, and to a 1 percentage point rise in inflation.

A large body of literature has studied the impacts of MWs on average wages and employment. While it is unanimous that MWs have positive impacts on average wages, the impacts on employment are not conclusive. Studies in developed countries find small disemployment effects (Card and

Krueger 1997; Dickens, Machin and Manning 1999). For Thailand, there are several studies using econometric techniques to investigate the impacts of the MW on wages and employment. First, all reviewed studies point to the fact that a significant portion of wage employees receive less than the MW (high degree of non-compliance), reflecting weak enforcement of Labour Protection Law. Second, all quantitative studies concur that the MW has a positive and significant effect on wage levels (Leckcivilize 2013; Carpio and Sanz-de-Galdeano 2014; Carpio and Pabon 2014; Lathapipat and Poggi 2016). However, the impact is heterogeneous in the sense that it is not evenly distributed across population subgroups and sectors. Leckcivilize (2013) finds that while the MW effectively reduces wage inequality among workers in formal sectors (wages at the lower end of the wage distribution increase proportionally more than at the upper part of the wage distribution), it does not affect wage distribution in the informal sector at all, perhaps due to weaker law enforcement.

Carpio and Pabon (2014) and Carpio Ximena and Sanz-de-Galdeano (2014) report that the MW has increased wages in general but has had a larger impact on female and young workers than on prime-aged male employees. Lathapipat and Poggi (2016) find that the MW has increased the wages of workers in general, and that the wages of young low-skilled workers (15–24 years old with secondary education or less) have increased more than for the average workers. In addition, they find that the 300-baht MW has a positive effect on workers at the lower end of the wage distribution, but not on those at the very bottom of the distribution; they attribute this phenomenon to the non-compliance problem. Third, the MW change tends to have small impacts on employment. Carpio and Pabon (2014) and Carpio and Sanz-de-Galdeano (2014) find that the MW reduces the probability of being employed, especially for female, elderly and less-educated workers. The disemployment effect is small, however. Lathapipat and Poggi (2016) find no significant reduction in the employment of workers in general and young low-skilled workers in the short- and medium terms, but they observe a slight negative effect in the long-run (six quarters after the change in the MW) for both cases. Moreover, the negative effect is more pronounced in small firms.

All the studies we reviewed use data from Thailand's Labour Force Survey series, implying that some foreign workers (albeit a small portion) are included in their analyses. Therefore, their results reflect the impacts of the MW on wage workers in general, not on migrant workers in particular. Our research partially fills this research gap. A few qualitative studies have documented facts regarding wages, overtime pay and working hours of

migrant workers in Thailand. We provide a brief review of those studies. Makcharoen (2010) interviewed a small number of child migrant workers (most were undocumented) and parents working in small primary seafood-processing plants in Samut Sakhon. The small primary plants usually have subcontracting agreements with larger plants in which both parties accept agreed piece rates, for example, 5–6 baht for peeling 1 kg of large shrimp. Reportedly, most interviewed child migrant workers received much less than the MW (which was 199 baht per day at the time).

The MAP Foundation (2015) interviewed 139 Myanmar migrant workers employed in construction, agricultural, manufacturing and domestic sectors during November and December 2013. The majority of the surveyed workers, regardless of their legal status, were paid less, often far less, than the MW (300 baht). The majority of interviewees did not receive overtime pay corresponding to the amount specified in Labour Protection Law. A significant number of interviewees claimed to work more hours than permitted by law.

Napier and Sheill (2016) interviewed 125 migrant workers in the construction sector in Bangkok and Chiang Mai between October and December 2015. More than half of the fully documented workers in their sample received less than the MW (300 baht). Moreover, there is inequality in pay, with women likely to be paid less than men, even if they had more experience. In addition to gender inequality, inequality between Thai and migrant workers is evident; some firms establish pay structures ensuring that the pay ceiling for migrant workers is about the same as the starting pay for local workers. Although MAP (2015) and Napier and Sheill (2016) shed light on the situation after the implementation of the 300-baht MW, they did not attempt to examine the impacts of the 300-baht MW, leaving the important question of how the new MW rate has affected migrant workers unanswered. Our research helps fill some of that gap.

### 2.3 Data

In this study, we use primary and secondary data for our analyses. For qualitative analysis, we collected primary data through an employee survey with 100 regular migrant workers from Myanmar who either entered the country through the MOU process for migrant workers or who used to be irregular migrant workers in Thailand but have become regular workers through the National Verification process.

For quantitative analysis, we use secondary data from the Informal Employment Survey (IES) to analyse impacts of the 300-baht MW on migrant workers. Conducted by the National Statistics Office, the IES collects data on foreign workers and local informal workers, the latter being defined as

those local workers who have no social security through work.[1] IES is the only national survey containing information on foreign workers. However, it is worth mentioning that the dataset has important caveats. First, what we know about foreign workers is only that they are regular workers. We do not know their nationalities, but it is likely that most of them are from Myanmar and Cambodia.[2] Second, the IES is supposed to include only workers in informal businesses or under informal employment arrangements. Thus the IES covers only Thai workers who have no social security. Because the IES does not collect data on migrant workers' social security status, we cannot determine whether or not a migrant worker included in the IES has social security. In other words, we do not know if they are formal or informal workers.[3] Last, the sample of regular foreign workers surveyed may not represent the entire population. In 2013, according to the Ministry of Labour, there were about 1,021,000 migrant workers (from Myanmar, Laos and Cambodia) with MOU or National Verification status. The number of informal foreign workers obtained from the 2013 IES is 329,000, which is much smaller than the number of regular migrant workers from the three countries recorded by the Ministry of Labour.[4]

## 2.4 Methodology

For quantitative analysis, we use data from the Informal Employment Survey (IES) to calculate the proportion of foreign employees receiving less than the MW. Following Carpio et al. (2014), we define above MW workers as those whose daily wage is more than 5 percent higher than the MW: $w > (1 + 0.05)\ x\ MW$. Below MW workers are those whose daily wage is more than 5 percent lower than the MW: $w < (1 - 0.05)$ x $MW$.

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1 The Informal Employment Survey (IES) was conducted for the first time in 2005, and has usually been conducted along with the Labour Force Survey (LFS) during the 3rd quarter. The IES contains all variables appearing in the LFS plus its own set of variables, including a migrant identifier. With information from the IES, we are able to identify foreign workers in the LFS.

2 According to information from the Ministry of Labour, in 2016, around 95 percent of regular migrant workers in Thailand were from Cambodia, Laos and Myanmar.

3 In practice, not having social security does not imply that a regular migrant does not work in a formal business. Due to weak law enforcement, a significant number of regular migrant workers in formal businesses do not have social security. For example, Huguet (2014) estimated that, in 2013, about 700,000 regular Cambodian, Lao and Myanmar workers failed to register in the social security system.

4 Based on our calculations using IES data, the number of foreign workers increased from 371,000 in 2012 to 755,000 in 2015. These figures are far lower than the official numbers of migrant workers from Cambodia, Laos and Myanmar recorded by the Ministry of Labour.

And at the MW workers are those whose daily wage is between the daily wage of the other two groups.

For qualitative analysis, we interviewed 100 regular Myanmar migrant workers in the food/food processing and garment manufacturing sectors (50 interviewees in each sector). These two sectors were selected because they employ a significant share of migrant workers. Located in four provinces, the interviewed employees are from 27 food/food processing factories located in provinces adjacent to Bangkok (24 in Samut Sakhon and 3 in Samut Prakan) and from 18 garment factories (12 in Tak, a remote western province bordering Myanmar, 5 in Samut Sakhon and 1 in Bangkok). The studied provinces were purposefully chosen because they host many factories in the sectors of interest. In addition, for the garment sector, areas both near and very far from Bangkok were purposefully chosen to reflect how law enforcement can vary across areas. For comparison purposes, in each sector, the interviewees were selected from both small (less than or equal to 100 employees) and large factories (more than 100 employees).

To complement the information collected through interviews with migrant workers, we conducted in-depth interviews with representatives of some large firms and a business association in both sectors in order to learn more about how the 300-baht MW has affected their employment of migrant workers, and how firms have made adjustments to comply with the policy.[5] Key informants' opinions may not necessarily reflect the views of smaller factories. We report the findings when applicable.

## 2.5 Results and discussion

### *2.5.1 Quantitative analysis*

Table 2.2 reports the percentages of fulltime local and migrant workers receiving wages above, below and at the MW, using data from IES. In 2011, before the implementation of the 300-baht MW policy, the largest group of fulltime migrant workers were those who received wages above the MW (38.79 percent of the total), while those receiving below the MW made up the smallest of the three groups (25.98 percent). After the implementation of the 300-baht policy in seven provinces in April 2012, the proportion of foreign workers getting below MW jumped to 42.09

[5] We sent out interview requests to around 20 firms (including large and small firms in the garment and food/food processing sectors in the studied provinces), but only three large firms in the food/processing sector in Samut Sakhon permitted us to interview them. In Mae Sot, we were fortunate to interview representatives of the Federation of Thai Industries, Mae Sot branch. The representatives are involved in large garment factories in Mae Sot.

percent, and the proportion of the above MW group dropped to 15.97 percent. Compared to 2011, the non-compliance proportion for both types of workers rose significantly in 2012 and 2013, then constantly declined continuously. This is because the 300-baht MW was a big change, and firms were not yet ready and had difficulties raising wages at the time. However, in the following years, firms seem to have been increasingly able to adjust to the new MW policy, as the proportion of the below MW group has continuously declined. In 2015, the proportion of the below MW group was 17.32 percent, which is lower than it was in 2011. Although the non-compliance problem has continuously improved since the introduction of the 300-baht policy, the degree of non-compliance is still significant and remains a challenge.

Table 2.2: Percentage of workers receiving above, below and at the MW, 2011–15

| | Migrant | | | Local | | |
|---|---|---|---|---|---|---|
| Year | Above MW | At MW | Below MW | Above MW | At MW | Below MW |
| 2011 | 38.79 | 35.23 | 25.98 | 74.12 | 9.24 | 16.64 |
| 2012 | 15.97 | 41.94 | 42.09 | 55.10 | 16.58 | 28.32 |
| 2013 | 17.88 | 48.44 | 33.68 | 53.58 | 18.59 | 27.83 |
| 2014 | 21.80 | 56.27 | 21.93 | 65.61 | 17.84 | 16.55 |
| 2015 | 20.17 | 62.51 | 17.32 | 68.35 | 17.81 | 13.83 |
| 2011–15 | 21.61 | 53.15 | 25.24 | 63.57 | 15.99 | 20.44 |

Note: The 300-baht MW was enforced in seven provinces in 2012 before being extended to other provinces throughout the country in 2013.
Source: Authors' calculations using data from IES and LFS 2011–2015

To see how the degree of compliance with the 300-baht MW varies across important characteristics of foreign workers, we use IES 2012–2015 data to calculate the proportions of the fulltime migrant workers receiving above, below and at the MW by gender, education, sector, firm size and region. The results are reported in Table 2.3. The degree of non-compliance is higher for women, as 28.74 percent of female migrant workers get below the MW compared to 22.52 percent of male migrant workers. Older migrant workers (aged 44 and over) are more likely than younger workers to get paid less than the MW. However, they are also more likely to be paid above the MW than younger workers. This result might

be driven by heterogeneity among older migrant workers, as they differ in work experience and skills. The highly skilled and more experienced ones are more likely to receive above MW. Strikingly, higher education does not guarantee payment of the MW: 29 percent of migrant workers with secondary education and higher are below the MW, compared to 25 percent of migrant workers with just primary education.

Table 2.3: Percentage of migrant workers receiving MW by characteristics

| | Above MW | At MW | Below MW |
|---|---|---|---|
| Female | 15.04 | 56.22 | 28.74 |
| Male | 23.48 | 53.99 | 22.52 |
| ***Age*** | | | |
| Age 15–24 | 17.41 | 54.11 | 28.49 |
| Age 24–44 | 20.68 | 56.54 | 22.77 |
| Age > 44 | 26.57 | 38.06 | 35.37 |
| ***Education*** | | | |
| Primary and lower | 18.32 | 56.87 | 24.81 |
| Secondary and higher | 37.33 | 33.67 | 29.01 |
| ***Sector*** | | | |
| Agricultural, hunting, forestry | 32.24 | 20.76 | 47.00 |
| Manufacturing | 10.31 | 76.06 | 13.63 |
| Construction | 32.07 | 29.99 | 37.93 |
| Wholesale and retail trade, repair of motor vehicles, and personal and household goods | 26.72 | 39.42 | 33.86 |
| Hotels and restaurants | 31.63 | 30.9 | 37.47 |
| ***Firm size (number of employees)*** | | | |
| 1–9 | 25.40 | 26.93 | 47.67 |
| 10–49 | 28.60 | 36.40 | 35.00 |
| 50–99 | 25.13 | 54.26 | 20.61 |
| More than 99 | 11.98 | 79.49 | 8.53 |
| ***Region*** | | | |
| Bangkok | 25.86 | 44.52 | 29.62 |
| Central | 14.59 | 70.09 | 15.32 |
| North | 24.46 | 18.78 | 56.76 |
| Northeast | 21.36 | 14.09 | 64.55 |
| South | 31.50 | 28.17 | 40.33 |
| ***All*** | 20.04 | 54.90 | 25.06 |

Source: Authors' calculations using data from LFS and IES 2012–2015

Compliance also varies across industry and firm size. Manufacturing is the sector with the lowest non-compliance rate (13.63 percent) and agriculture has the highest non-compliance rate (47.00 percent). Based on our broad classification of firm size, size seems to have a positive relationship with compliance. That is, larger firms are more likely to comply with the MW than smaller firms. However, the high degree of compliance of larger firms (with 100 employees or more) does not mean that larger firms generally pay more than the MW. In fact, most of the migrants employed in larger firms (79.49 percent) are at the MW and only a small proportion (11.98 percent) receive above the MW, the smallest among the four groups of firms by size. Last, there is much variation in the compliance rate at regional level. Migrant workers in Bangkok and the central area are less likely to be paid below MW than in other regions, implying that enforcement is weaker in areas further away from the central government. Tighter labour market conditions in Bangkok and the central area could be another reason explaining the higher compliance rate. Competitive pressure forces firms in the area to pay at or even above the MW.

How the 300-baht MW affects wage distribution is of much interest to policymakers and academia. This section sheds some light on the issue by simply inspecting various parts of foreign workers' daily wage distribution from 2011 to 2015. Table 2.4 shows the mean and the 10th, 25th, 50th, 75th and 90th percentiles of the wage distribution. In 2012, when the partial introduction of the 300-baht MW kicked off, we spot shifts in all parts of the distribution, with the largest shifts in the median percentile. When the 300-baht MW policy was fully implemented in 2013, the wage distribution continued to shift upwards, and the largest shift (in growth and absolute terms) occurred in the 10th percentile. In 2015, the 10th percentile wage continued to grow while the other percentiles remained unchanged.[6] Despite the rise, the gap between the MW and the 10th percentile wage was still sizable (at around 50 baht).

The increase in the 90th percentile observed during 2012–2013 implies that the 300-baht MW had a positive spillover effect on workers that already received at least 300 baht. However, overall, the 300-baht MW policy seemed to help improve wage inequality among migrant workers in the long run as the lower percentiles moved closer to the upper percentiles over time. The wage ratio between the 75th and the 25th percentiles has narrowed, from 1.28 in 2011 to 1.03 in 2015. Despite all improvements, how to further increase wages in the lowest part of the distribution remains an important challenge.

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[6] Due to an outlier in 2014, the mean daily wage in 2015 is lower than the mean in 2014. If the outlier is dropped, the 2014 mean daily wage reduces to 304.34 baht.

Table 2.4: The 10th, 25th, 50th, 75th and 90th percentiles of foreign workers' daily wage distribution (baht)

| year | mean | p10 | p25 | p50 | p75 | p90 | p75/p25 |
|---|---|---|---|---|---|---|---|
| 2011 | 248.13 | 150.00 | 180.00 | 200.00 | 230.77 | 290.00 | 1.28 |
| 2012 | 294.55 | 180.00 | 230.77 | 269.23 | 300.00 | 307.69 | 1.30 |
| 2013 | 295.14 | 230.77 | 250.00 | 300.00 | 307.69 | 346.15 | 1.23 |
| 2014 | 314.19 | 230.77 | 288.46 | 300.00 | 307.69 | 346.15 | 1.07 |
| 2015 | 311.10 | 250.00 | 300.00 | 300.00 | 307.69 | 346.15 | 1.03 |

Source: Authors' calculation using IES and LFS 2011–2015

Our finding that the 300-baht MW is associated with an upward shift in the entire wage distribution of foreign workers differs from Lathapipat and Poggi (2016) who find a positive effect on workers at the lower end of the wage distribution only. The discrepancy arises because we focus on the wage distribution of foreign workers, while Lathapipat and Poggi (2016) looked at the wage distribution of the entire workforce, which consists of heterogeneous groups of workers and thus has a much larger variance.

One of the most prominent concerns regarding a sharp rise in MW levels, such as by introducing the 300-baht MW policy, is a disemployment effect. Firms that cannot afford to pay the 300-baht MW might try to reduce costs by firing workers. In the worst-case scenario, firms that can no longer bear the costs might decide to close down. The Labour Force Survey provides information on the number of unemployed workers and the reasons why the unemployed workers quit their last jobs. We investigate the disemployment effect by examining how the unemployment caused by lay-offs and factory closures changed after the introduction of the 300-baht MW.

The 300-baht MW seemed to have only a small impact on the number of newly unemployed local workers and foreign workers, which is consistent with previous studies such as Carpio and Pabon (2014), Carpio and Sanz-de-Galdeano (2014 and Lathapipat and Poggi (2016). For local workers, we do not observe significant increases in the numbers of unemployed workers after the introduction of the MW. From 2012–2013, the total unemployment figure increased by around 20,000, accounting for a very small proportion of Thailand's labour force. The increases in unemployment caused by factory closures and lay-offs were also small. For foreign workers, the unemployment effect, if any, appears to have been temporary as it only occurred in 2012 when the 300-baht MW policy was first introduced. Nonetheless, the unemployment figures were small and negligible.

### *2.5.2 Qualitative analysis*

#### *2.5.2.1 Wages*

The interviewed migrants can be categorised into two groups according to the type of wage they receive: daily-wage workers, and piece-rate workers (the more quantity or weight they put out, the more money they make). Examples of piece-rate jobs are peeling shrimp (4–5 baht per kg), descaling fish (5 baht per kg) and sewing shirts or trousers (50–60 baht per item).

Piece-rate workers can be found in both sectors and in all surveyed provinces. In our survey, piece-rate workers are more concentrated in Tak province where about one-third of the interviewed migrants are piece-rate workers. All large firms in our sample where we interviewed migrant workers paid daily wages. Based on our interviews with food and food processing factories, some large firms employ both payment types, paying some workers on a daily wage basis and others on a piece-rate basis. However, to the best of our knowledge, those factories are not in our sample. Piece-rate payment seems to be more common in small firms than in large firms. In our sample, the majority of small firms, namely 13 out of 21, paid piece rates. The interviewed firms explained that they received orders from larger firms who paid them by piece rate, so they also paid their workers by piece rate.

Table 2.5: Number of interviewees on less than or at least 300 baht a day

| | **Food/food processing** | | | |
|---|---|---|---|---|
| | daily wage | | piece-rate | |
| | below MW | at least MW | below MW | at least MW |
| Samut Sakhon | 0 | 33 | 7 | 4 |
| Sumut Prakarn | 0 | 6 | 0 | 0 |
| Total | 0 | 39 | 7 | 4 |
| | **Garment manufacturing** | | | |
| | daily wage | | piece-rate | |
| | below MW | at least MW | below MW | at least MW |
| Samut Sakhon | 0 | 12 | 0 | 6 |
| Bangkok | 0 | 0 | 0 | 2 |
| Tak | 11 | 8 | 11 | 0 |
| Total | 11 | 20 | 11 | 8 |

Source: Authors' compilation

Regarding the speed of adjustment, larger firms seem to adjust and comply with the 300-baht policy more quickly than smaller firms. Based on our survey, all 17 large firms in the garment sector and food/food processing sectors that our interviewees work for had adjusted their wage rate to 300 baht within 6 months of policy implementation, while most of the small firms had not. Only six of 18 small firms raised wages to 300 baht within a 6-month period.

Consistent with the findings from our quantitative analysis, we find that many interviewees receive less than 300 baht a day. Table 2.5 shows that 29 out of 100 workers interviewed received less than the MW.[7] The share of workers paid less than the MW in our sample is somewhat higher in the garments sector than in the food/food processing sector. For the latter, whether the workers received at least 300 baht a day seems to be associated with wage type. All daily-wage workers received at least 300 baht, while the majority of piece-rate workers received less than 300 baht. The reasons why these piece-rate workers did not receive at least 300 baht could be as follows. First, the piece rate may be low, and getting at least 300 baht a day would require the workers to get a tremendous amount of work done in one day, which may not be possible. Second, the raw materials (mostly fish and shrimp) arriving at the factories in particular periods may not be enough to generate an income of at least 300 baht a day. Third, some piece-rate workers might be willing to forego higher wages for more leisure time.

For the garment sector, all of the interviewees in Samut Sakhon received at least 300 baht a day, regardless of wage type. Contrary to the findings in the other surveyed provinces, the majority of the interviewees in Tak province received less than the MW. All interviewed piece-rate workers were paid less than 300 baht. More interestingly, almost half of the daily-wage interviewees in Tak did not receive the MW. This, again, suggests that the enforcement of the MW differs vastly across provinces. Samut Sakhon and Samut Prakarn provinces, located closer to the central government, could have stricter enforcement of the MW than Tak, a border province in west Thailand, which is much further away from central authorities. The number of labour inspectors is limited (for example, there was a total of 710 labour inspectors in 2015), and they cannot inspect every firm throughout the country. Factories in Tak, particularly small factories, are often hidden in small alleys and have no clear signage, making it difficult to tell if they are factories.

How much the daily wage changed after the introduction of the MW is central to our study. Despite the small sample size, we compare the wage rate that daily wage interviewees received six months before the introduction of the 300-baht MW with what they currently receive, and then report the mean differences in Table 2.6. Overall, the mean daily wage of the interviewees in Samut Sakhon and Samut Prakarn increased as expected. For both sectors, the interviewed migrant workers from large firms experienced a larger percentage change than those from smaller firms. The percentage change in the wage rate

[7] This is higher than the non-compliance rate of 17.32 percent in 2015 (and the average of 25.24 percent for 2011–2015), based on data from the IES.

varies from 43 to 52 percent for large firms, while the percentage changes for small firms range from 14 to 41 percent. Whether this observed wage increase improves workers' livelihoods is explored below.

Table 2.6: Mean daily wage differences: a comparison between 6 months before the 300-baht MW and present

| **Food/food processing** | | | |
|---|---|---|---|
| | mean wage difference (baht) | percent change | obs. |
| Samut Sakhon, large-sized | 90.18 | 42.83 | 17 |
| Samut Sakhon, small-sized | 80.00 | 36.36 | 2 |
| Sumut Prakarn, large-sized | 91.67 | 44.02 | 3 |
| Sumut Prakarn, small-sized | 35.00 | 13.57 | 2 |
| **Garment manufacturing** | | | |
| | mean wage difference (baht) | percent change | obs. |
| Samut Sakhon, large-sized | 88.00 | 51.52 | 5 |
| Samut Sakhon, small-sized | 86.36 | 40.52 | 11 |

Note: The numbers are calculated using data collected from daily wage interviewees who never changed their employers. Data collected from interviewees in Tak province is not used due to lack of wage data for the 6 months before the introduction of the 300-baht MW.
Source: Authors' compilation

For workers in Tak, we were not able to collect wage data for the six months before the introduction of the 300-baht MW policy, and therefore cannot provide the same comparison. However, due to weak law enforcement, it is expected that the 300-baht MW policy has had only limited impacts on the interviewed workers' daily wage, especially those working in small firms.

*2.5.2.2 Overtime work*

The Labour Protection Act BE 2541 stipulates that workers should be compensated at a rate of 1.5 times their hourly wage for each overtime (OT) hour. Therefore, if workers receive 300 baht a day, they should be paid 56 baht for each OT hour. While many of the interviewed migrants reported receiving OT pay of 56 baht per hour, a number of them receive less than the amount they are entitled to (see Table 2.7). Almost all (45 out of 48) of the interviewed workers in Samut Sakhonand and all of the interviewed migrants in Samut Prakarn received at least 56 baht per OT hour. However, the OT rates that the underpaid interviewees received (50–54 baht per hour) were more or less close to the legal rate.

In Tak province, it is not surprising that most (10 out of 13) of the interviewed migrant workers received less than 56 baht per OT hour. These underpaid interviewees can be found in both large and small firms. Most of them never received OT pay, and a few received only 20 baht per OT hour, for below the legal rate. The daily-wage workers who received no OT pay explained that their supervisors usually set a daily target that they have to reach before they can leave work and go home. Often, reaching the target would require the workers to work more than the regular working hours, of course without OT pay. In effect, this practice corresponds to piece-rate payment with binding daily targets. The practice caused confusion for some daily-wage interviewees as they thought that they were paid on a piece-rate basis. Again, this finding indicates that legal enforcement might be more lenient in Tak than in the other surveyed provinces.

Table 2.7: Number of interviewees paid OT of at least or less than 56 baht per hour

| | **Food/food processing** | | | |
|---|---|---|---|---|
| | large | | small | |
| | below 56 baht | at least 56 baht | below 56 baht | at least 56 baht |
| Samut Sakhon | 1 | 28 | 2 | 1 |
| Sumut Prakarn | 0 | 1 | 0 | 3 |
| Total | 1 | 29 | 2 | 4 |
| | **Garment manufacturing** | | | |
| | large | | small | |
| | below 56 baht | at least 56 baht | below 56 baht | at least 56 baht |
| Samut Sakhon | 0 | 5 | 0 | 11 |
| Tak | 7 | 3 | 3 | 0 |
| Total | 7 | 8 | 3 | 11 |

Note: The figures are the numbers of the interviewed daily-wage workers who work more than 40 hours a week.
Source: Authors' compilation

Regarding the number of OT hours, the interviewees in the garment sector currently work, on average, 3–4 OT hours a day, while the interviewees in the food/food processing plants work 0–2 OT hours a day. The difference in OT hours partially reflects differences in demand and market conditions between the two sectors. For average migrant workers in factories, working OT can be a significant source of additional income. For example, if a worker receiving the 300-baht MW works 2 hours OT, the OT pay will be more than one-third of the daily wage.

Table 2.8 reports the interviewees' mean daily income (defined as daily wage plus daily OT pay). For some interviewees, daily income is as high as 400–500 baht, an increase of 100–200 baht from their daily wages. Our conversations with many daily-wage workers lead to the same conclusion that OT pay contributes significantly to their total income and plays an important role in supporting their living. "The 300 baht does not really improve my standard of living, but OT pay does. My life would be very difficult if there is no OT," said an interviewed garment worker in Samut Sakhon. This finding raises two important issues. First, although OT pay could contribute significantly to workers' income, additional income from OT hours could also come at a cost. The surveyed workers have quite long working hours, which can be stressful and exhausting, damaging for their health (in the medium to long run) and leave them with little time for a social life. Second, the need to work OT implies that the 300-baht MW is still not high enough for workers to survive on regular working hours.

Table 2.8: Average daily income (baht)

| | **Food/food processing** | | | |
|---|---|---|---|---|
| | mean | min | max | obs. |
| Samut Sakhon, large-sized | 424.5 | 327 | 580 | 29 |
| Samut Sakhon, small-sized | 360.0 | 300 | 390 | 4 |
| Sumut Prakarn, large-sized | 329.0 | 300 | 387 | 3 |
| Sumut Prakarn, small-sized | 357.0 | 356 | 360 | 3 |
| | **Garment manufacturing** | | | |
| | mean | min | max | obs. |
| Samut Sakhon, large-sized | 367.0 | 357 | 384 | 5 |
| Samut Sakhon, small-sized | 424.5 | 384 | 468 | 11 |
| Tak, large-sized | 258.0 | 150 | 356 | 16 |
| Tak, small-sized | 213.0 | 150 | 330 | 3 |

Note: Daily income is defined as daily wage plus OT pay.
Source: Authors' compilation

In principle, the 300-baht MW can push the production costs of firms upward. Firms with high demand for their products might be able to continue business as usual. However, firms facing declining demand might have to find ways to reduce costs, and reducing OT hours is one option. We investigate this issue by asking the interviewees if their current OT hours increased, decreased or stayed the same compared to the OT hours before the introduction of the 300-baht MW. For the food and food processing sector, 7 out of 19 interviewees reported a decrease in OT

hours, 12 out of 19 interviewees reported no change, and no one reported an increase. At first glance, it appears that the 300-baht MW was the force behind the decrease in OT hours observed in some surveyed factories. But, in addition to the introduction of the 300-baht MW, there are other important factors causing firms to decrease OT hours. One such factor is the fact that the Thai government has been trying to resolve the illegal, unreported and uncontrolled fishing problem. Many measures introduced by the government resulted in a decrease in fishing volume and reduced the number of permitted fishing boats permitted fishing boats. Where supplies of fresh seafood have fallen, the need for OT work has also decreased. The interviewed employers in the food/food processing sector agreed that the 300-baht MW was not the main reason why firms reduced OT hours. The main reason was market developments.

*2.5.2.3 Working conditions*

The interviewed migrant workers in both sectors work long hours. Their average working hours surpass the normal working time prescribed in the Labour Protection Act (8 hours a day). In Mae Sot, some interviewed piece-rate workers reported working up to 13 hours a day, without OT pay, in the so-called in-house factories (i.e. firms that appear like normal houses from the outside but operate as garment factories inside). According to the interviewees, large factories in Mae Sot usually allow workers to have a holiday every other week, while small plants normally allow holidays once a month. This violates the Labour Protection Act, which stipulates that workers are entitled to have at least one day of rest every week.

According to some interviewees in Samut Sakhon, employers generally treat Thai and migrant workers equally. Nevertheless, in some food and food processing factories, Thai workers get better treatment such as being provided free uniforms, bonuses and diligence allowance, while migrants not only have to pay for their uniforms but also do not receive diligence allowance and bonuses. In addition, they have to work during Thai national holidays, without proper compensation. “Thai workers get diligence allowance and bonus but Myanmar workers do not,” said an interviewed migrant in a large food/food processing factory.

After the introduction of the 300-baht MW policy, some interviewed workers in the food and food processing sector were forced to work in a more stressful environment. Some interviewed migrants described how the working conditions changed: “They [the supervisors] keep a time record of how many pieces we can finish in an hour. They even limit the number of toilet breaks during normal working hours to three at the most,” said an

interviewed migrant in a food processing factory. Another migrant worker in the same sector explained "They force us to work harder and faster, applying more pressure on us." This seems to reflect efforts by employers to squeeze productivity increases from workers to at least partly offset the rise in labour costs.

*2.5.2.4 Livelihoods*

To understand the role that the 300-baht MW plays in improving standards of living, we asked the interviewees: "Is the 300-baht MW sufficient to cover living costs for yourself and your family?" Their answers are summarised in Table 2.9. Forty-one of 50 interviewed migrant workers in the food and food processing sector stated that with the 300-baht MW they could not cover their living expenses. This might be because they live in the vicinity of Bangkok, an increasingly urbanised area where living costs have grown continuously. "Before the 300 baht [MW], things were not expensive. But after the 300 baht [MW], everything such as food, accommodation and transport started to get more and more expensive" said a garment worker in Samut Sakhon. For the garment sector, 40 percent of the interviewees felt that the 300-baht MW was not enough to cover living expenses, while the other 60 percent said the MW was sufficient.

Table 2.9: Is the 300-baht MW sufficient to cover living costs for yourself and your family?

| | sufficient | not sufficient |
|---|---|---|
| Food and food processing | 9 | 41 |
| Garment manufacturing | 12 | 8 |
| Total | 21 | 49 |

Note: Figures are the number of respondents. The interviewees from Tak are excluded.
Source: Authors' compilation

Table 2.10 shows the interviewees' opinions about how various types of expenditure (living, housing, transport, communication and leisure) changed after the introduction of the 300-baht MW policy. Note that these opinions are from all interviewees except those in Tak. It is clear that the majority of the interviewees think that all types of expenditure have increased since the introduction of the 300-baht MW. More than 90 percent of them think their living and housing expenditures have increased, more than 80 percent think their transport and communication expenditures have increased, and more than 60 percent think their leisure expenditures have increased.

It is not clear, however, whether the increase in workers' expenditures has been due to the price effect (goods becoming more expensive) or the quantity effect (wage earners being able to buy more). In theory, a big rise in the MW could result in inflation. How the 300-baht MW has affected Thai price levels in practice is not well understood and thus is an interesting topic for future research.

Table 2.10: Change in expenses since the introduction of the 300-baht MW

| Type of expenditure | increase | decrease | no change |
|---|---|---|---|
| Living | 68 | 0 | 2 |
| Housing | 66 | 0 | 4 |
| Transport | 62 | 0 | 8 |
| Communications | 58 | 0 | 12 |
| Leisure | 44 | 1 | 25 |

Note: Figures show the number of respondents. The interviewees from Tak are excluded.
Source: Authors' compilation

Although we did not put the question about the sufficiency of the 300-baht MW to interviewees in Tak, we found that many of them were satisfied with their current wages. Some were even content with their less-than-MW. "Although my wage is lower than 300 baht, I can live with it. Living expenses are also low. I am able to save and send some money back home. It is good; it is a secure job; I can work regularly, better than in Myanmar", said a piece-rate migrant worker. Thus, if these workers were to receive the 300-baht MW, their living standard would be much improved. Among the reasons why the workers receiving less than 300 baht a day were still content with their wages are the following. First, the cost of living in Tak is relatively low. Second, migrant workers usually spend most of their time either working in the factories or staying at home. Many of them cannot speak Thai, rarely talk to strangers and barely go outside their communities or factories (for safety reasons). Consequently, they seldom spend money on leisure, unnecessary items and transport, and are able to save and remit. In fact, all of the interviewees in Tak reported being able to save, regardless of their income level.

## 2.6 Conclusions and policy implications

Since introducing the first MW in 1973, Thailand's MW regime has gone through important changes in the quest for fair and sufficient MWs. Despite the changes, the MW was adjusted slowly and often did not keep up with inflation, resulting in continuously declining real MWs for more than a decade. During

2012–2013, the Thai government opted for a drastic change by introducing the 300-baht MW nationwide, raising important questions about how such a jump affected wages, employment and livelihoods. While the impacts of the 300-baht MW policy on the general workforce are well covered by previous literature, the impacts on migrant workers in particular are less well-known. This study helps fill the gap by providing qualitative and quantitative evidence of the impacts on migrant workers employed in Thailand.

On the quantitative side, we used IES data to analyse the impacts of the 300-baht MW. We find that the 300-baht MW has not reached its full potential due to non-compliance. After the introduction of the 300-baht policy in seven pilot provinces in 2012, the proportion of foreign workers getting below the MW jumped from 25.98 percent to 42.09 percent. In the following years, firms seem to have been increasingly able to adjust, as the proportion of the below-MW group declined to 17.32 percent in 2015. However, the share of migrant workers affected by non-compliance has consistently been larger than that of local workers, suggesting that migrant workers more often than Thai workers are paid less than the MW.

Compliance varies across individual characteristics, however. The degree of non-compliance is higher for female, older (aged 44 and up), low skilled and less experienced migrant workers. Compliance also varies across industry, firm size and location. Manufacturing has the lowest non-compliance rate, while agriculture has the highest. Larger firms are more likely to comply with the MW than smaller firms. Migrant workers in Bangkok and its vicinity are less likely to be paid below the MW than in other regions, implying that enforcement is weaker in areas further away from the central government.

Our analysis suggests that the 300-baht MW – through a positive spillover effect – also lifted the wages of migrant workers who already received at least 300 baht. However, overall, the 300-baht MW policy appears to have helped reduce wage inequality among migrant workers as the lower percentiles of the wage distribution moved closer to the upper percentiles over time. Regarding the impacts on employment, the 300-baht MW seems to have had only a small and temporary disemployment effect on migrant workers.

On the qualitative side, we gathered information by interviewing 100 regular Myanmar migrant workers who work in the food and food processing and garment sectors in four provinces. The aim was to gain a better understanding of the current situation of migrant workers and assess how they were affected by the introduction of the 300-baht MW. The main findings from this qualitative research are largely consistent with the findings from our quantitative analysis.

Non-compliance is found in both sectors. For the food and food processing sector, the interviewed workers who received below the MW are mostly piece-rate workers from small firms. For the garment sector, the interviewed migrants who receive less than 300 baht are mostly located in Mae Sot, Tak. In fact, most of the interviewed migrants in Tak receive much less than the MW, including both daily-wage and piece-rate workers in large and small firms. This indicates that labour market conditions, compliance pressures and law enforcement measures vary across locations.

The mean daily wage of the interviewees in Samut Sakhon and Samut Prakarn increased after the 300-baht MW was introduced. Migrant workers from large firms experienced a larger percentage change in their wages (43 to 52 percent) than those from smaller firms (14 to 41 percent). However, some of these wage increases were eaten up by rising expenditures and living costs of workers.

Based on our findings, we have six policy recommendations. First, the government should allocate sufficient budget and resources to relevant government agencies and encourage them to strictly enforce the Labour Protection Act, especially in remote provinces. Second, another way to promote compliance is offering employers an incentive (e.g. tax rebate) to raise wages to the MW level. For small and medium-sized enterprises, the government may consider setting up a budget for zero or low interest rate loans to help them keep up with the MW rate. Third, since prices also rise every year, the MW rate should be regularly reviewed and adjusted to keep up with inflation. The MW needs not be the same for all provinces; it should depend on the cost of living in each province. Fourth, the government should promote awareness among employers and employees and their representatives (business associations, trade unions) about workers' rights such as the right to MW, OT pay, rest days, and so on, with a strict notion that the Labour Protection Act is applied to local and migrant workers alike. Fifth, the government should consider streamlining and facilitating the migrant registration process. This is one crucial way to strengthen the employment status and thus the bargaining power of migrant workers in Thailand, which would then help prevent their mistreatment. Finally, migrant workers are undoubtedly vital and necessary to foster strong economic growth in Thailand. They should therefore be offered training opportunities to upgrade their skills which would then help increase their wages and productivity.

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# 3
# Impact of Minimum Wages on Employment and Wage Distribution in Vietnam: Gender and Age Perspectives

Vu Hoang Dat, Pham Minh Thai and La Hai Anh

Since 2008, minimum wages in Vietnam have grown at about 15 percent annually. This growth has been higher than productivity growth. Using data from Vietnam Labour Force Surveys and Household Living Standard Surveys 2010 to 2014, this paper investigates the impacts of minimum wages on two interrelated issues: (1) employment profiles of the whole population and gender and age subgroups, and (2) wages distribution in general and within these subgroups. The results imply that minimum wages do not have significant impacts on total employment of the whole population or subgroups. This result is somewhat different from those reported in previous studies for Vietnam. The difference is attributed to the current study's inclusion of trends. Similarly to the work of Hansen, Rand and Torm (2015), the results indicate that minimum wages positively affect wage distribution in the formal sector. However, we find that the effect does not stop at the median as those scholars found but also affects higher percentiles. The effect is stronger for young workers than for older workers. The model does not work well for male workers or wage earners in the informal sector.

## 3.1 Introduction

As part of economic reforms since Doi Moi (1986), the minimum wage was introduced in Vietnam in the early 1990s. According to the 2012 Labour Code, the minimum wage is "the lowest rate paid to workers for performing the simplest work in normal working conditions, and that has to secure their and their families' minimal living needs".

Since their introduction, minimum wage schemes have gone through a number of critical adjustments. Before 2008, the minimum wage for both state and non-state domestic sectors was mainly known as the "basic salary". In 2008, the minimum wage for non-state domestic sectors was separated from the "basic salary" of the state sector and acted truly as a minimum wage. In the following years, nominal minimum wages increased drastically, at a rate of more than 15 percent annually. The increases have been higher than in other countries in the region (Carpio and Pabon 2014) and higher than increases in labour productivity, making minimum wages in Vietnam higher than in a number of countries (World Bank 2015).

In addition, Oudin et al. (2013) report that expansion of employment in foreign direct investment (FDI) and domestic private enterprises has slowed since 2010. Specifically, the proportion of employment in FDI enterprises decreased by 0.25 percent in 2010–12, compared with an increase of 1.46 percent in 2007–09. Although the proportion of employment in domestic private enterprises still increased by 0.91 percent in 2010–12, it was significantly lower than the increase of 1.46 percent in 2007–09. This raises the question of whether increases in minimum wages played a role in employment slowdown in these types of firms. This question is important because the relative expansion of employment in the enterprise sector is an indicator of modernisation of Vietnam's labour market.

Initial works on the topic for Vietnam (Nguyen 2010; Carpio and Pabon 2014; Nguyen 2014; Hansen, Rand and Torm 2015) indicate a small but negative effect on employment and a positive impact on wage distribution. However, these studies investigate only the whole labour market or a specific group of workers receiving less than the minimum wage in foreign-owned, state-owned and domestically owned private enterprises (Nguyen 2010). Meanwhile, the effect of gender and age differences has not been investigated. Furthermore, employment impact assessment studies (Nguyen 2010; Carpio and Pabon 2014; Nguyen 2014) mainly cover periods before 2010 and do not capture the unification of minimum wages across enterprise types (foreign versus domestic private) in 2012 and the slowing of employment expansion.

Towards filling these gaps, this paper investigates the effects of minimum wages on wage distribution and total employment in general and the movement

of employees between different types of employment in particular, with a focus on gender and age groups. The results not only confirm the impact, if any, of minimum wage policies in the new context but also contribute to the debate about the impact of minimum wages on employment and income distribution in two ways. First, the findings enrich empirical evidence on minimum wages in a developing country, about which there is scant information in the literature. Second, they provide detailed evidence of impacts on different groups that may be neutralised when the whole population is investigated.

The results show that increases in the minimum wage have not had significant impacts on total employment or on total employment in the formal sector, for the whole labour market in general and for subgroups in particular. This result is at variance with previous studies on Vietnam which found negative impacts of the minimum wage. Our different specifications reveal that the difference between the result of this study and previous studies is attributable to the inclusion of trends in the empirical models. Without trends in the empirical models, the results imply that there are negative effects of minimum wage on total employment as well as employment in the formal sector.

The study confirms that the minimum wage has a positive effect on wage distribution in the formal sector. Put differently, an increase in the minimum wage narrows the gaps between the lower percentiles and the 80th one. The narrowing effects are larger for percentiles on the left of the wage distribution. The difference between the result of our study and that of Hansen, Rand and Torm (2015) is that the effects do not stop at the median as reported in the latter but also affect higher percentiles. The difference is attributable to the current study correcting the potential for endogeneity bias.

The rest of the paper is organised as follows: Section 2 presents empirical evidence from the literature, Section 3 looks at the context of minimum wages in Vietnam, Section 4 presents sources of data, Section 5 presents empirical models for investigating the impact of minimum wages, Section 6 discusses the empirical results and Section 7 concludes with policy implications.

## 3.2 Literature review

### *3.2.1 Impact of minimum wages on employment*

Theoretically, different models predict different effects of minimum wages on total employment. In a competitive labour market, if the binding minimum wage is higher than the clearance wage, unemployment will increase. Total employment decreases as a consequence. However, under the monopsony model, employment possibly increases if a binding minimum wage is imposed (Brown 1999).

Empirical evidence of the impact of minimum wages on employment in the US, the most intensively studied economy, has not reached a consensus. A frequently cited paper of Card and Krueger (1994) reports no negative effect on employment in the fast-food industry in New Jersey and Pennsylvania. No dis-employment impact was found by Addison, Blackburn and Cotti (2009) for low-wage retail trade subsectors in the US in 1990–2005. However, Neumark and Wascher (2007) argue that results for specific industries may not hold true for the economy as a whole. A review by Neumark, Salas and Wascher (2014) finds a negative employment elasticity of the minimum wage at 0.15 for teenage workers in the US.

The results are also somewhat diverse across developing countries. Maloney and Mendez (2004) find a significant dis-employment effect of minimum wages in Colombia. Lemos (2007) reports no impacts of minimum wages on employment for 1982–2004 in Brazil. By contrast, Montenegro and Pagés (2004) find a positive impact of minimum wages on employment in Chile. In a careful review of studies for developing countries, Betcherman (2015) concludes that the effect of minimum wages on employment is generally small.

### *3.2.2 Empirical evidence for impact of minimum wages on wages and income*

Empirical evidence for impacts of minimum wages on income in general and income distribution in particular is more concentrated. Lee (1999) studies the impacts of minimum wages on wage distribution in the US from 1979 to 1989 and finds that an increase in inequality at the low end of the distribution could be attributed to deterioration of minimum wages, especially for women. He also shows that wage differences across gender, race and education groups were modestly affected by changes in real minimum wages.

Maloney and Menez (2004) report that, in Columbia, increases in minimum wages had a significant effect on wages, especially for workers whose incomes were initially close to the minimum wage. Lemos (2007) documents a compression of the wage distribution as a consequence of minimum wages in Brazil. Bosch and Manacorda (2010) attribute an increase in inequality in Mexico in 1989–2001 to the deteriorating minimum wage.

For Asian countries, Lin and Yun (2016) study the impacts of changes in minimum wages in China in 2002–09 using the model developed by Lee (1999). They find that increases in minimum wages had positive effects on income distribution, particularly in reducing the gap between the median and bottom deciles. Hohberg and Jay (2015) find that minimum wages have positive effects on wages in the formal sector in Indonesia, while wages in the informal sector are not affected. The review

of Betcherman (2015) finds wage compression in the covered sectors in developing countries, but disadvantaged subgroups in the labour market may be excluded from the benefits.

### *3.2.3 Initial evidence from Vietnam*

Initial studies for Vietnam report a consistent effect of minimum wages on employment. They find negative though modest effects on employment for the whole labour market or some specific groups.

Nguyen (2010) uses data from the Vietnam Household Living Standard Surveys 2004 and 2006 to study the impacts of minimum wage increases on employment, wages and expenditures of workers in the formal sector earning below the minimum wage. The findings show that the increase in the minimum wage between 2004 and 2006 reduced employment in the formal sector where compensation was initially below the minimum wage, but had no significant effect on the wages and expenditures of formal sector workers. Using data from Enterprise Censuses 2008–10, Nguyen (2014) investigates the effects of increases in minimum wages on enterprises' labour and fixed assets. He finds that increases reduce employment: a 1 percent increase in real minimum wages results in a 0.1 percent decrease in firms' employment. A counterintuitive result is that male workers and those without social insurance face a higher probability of a reduction in wages, although the decrease in male workers' wages is small, at 0.06 percent for a 1 percent increase in real minimum wages.

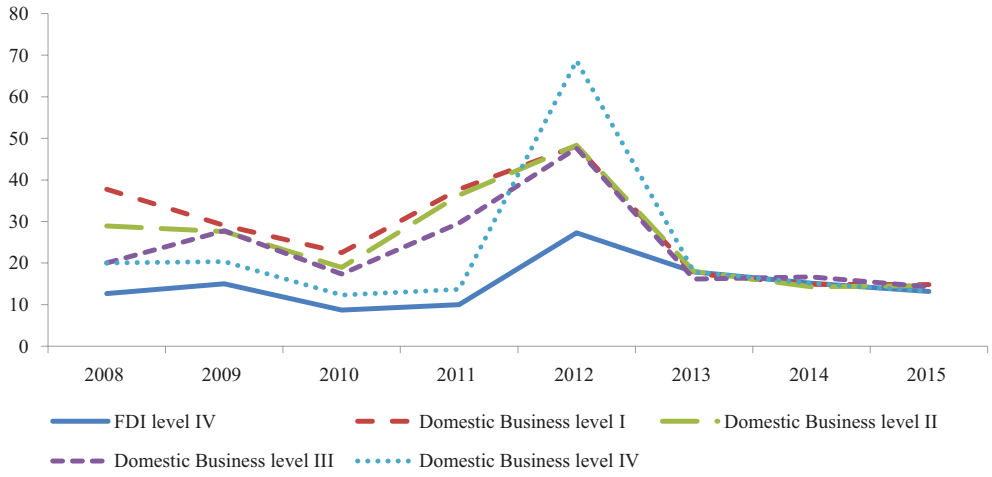
Carpio et al. (2013 cited in Carpio and Pabon 2014) also use data from Enterprise Censuses 2006–10 to investigate the impact of minimum wages on employment and wages. They find that increases in minimum wages have a negative impact on wage employment. Self-employment increases but absorbs only a part of the reduction in wage employment. Thus total employment declines as the minimum wage increases. In addition, the average wage of workers who retain their employment is positively affected by increases in minimum wages. Hansen, Rand and Torm (2015) use data from Vietnam Labour Force Surveys 2011–13 to investigate the association between minimum wages and hourly wages. They find that the relationship is positive for the formal sector. Furthermore, in the minimum wage increases compress wage distribution, bringing wages at the low end of the distribution closer to the median. Another finding is that the minimum wage setting has not affected income distribution in the informal sector, although the authors indicate that more representative data is needed to reach a proper conclusion about this.

### 3.3 The minimum wage in Vietnam

Minimum wages in Vietnam for different sectors have been introduced at different times. The first minimum wage scheme was introduced for the FDI sector in 1992, with two levels for differently developed regions. The first region included Hanoi and Ho Chi Minh City, and the second region was other provinces and cities. One year later, a minimum wage for those receiving payments from the state budget was promulgated, but it was not a minimum wage in the normal sense of the term. For civil servants and people receiving salaries and benefits from the state, there was a "basic salary", plus a system of multiples depending on their position, qualifications and seniority. A minimum wage for both state-owned and domestically owned private enterprises in all industries, which was the same as the "basic salary" for the state sector, was introduced under Decree No. 10/2000/ND-CP dated 27 March 2000. Since 1 October 2004, under Decree No. 203/2004/ND-CP dated 14 December 2004, the minimum wage for the domestic sector has been extended to cover all employees, including those working in cooperatives and household businesses.

There was another significant adjustment in 2008. The minimum wage for the domestic non-state sector was separated from the basic salary for the state sector and differentiated across locations based on level of development, the same as for the FDI sector. Within locations, the minimum wages for FDI firms were still significantly higher than for domestic non-state firms. This created three separate minimum wage schemes: for FDI sector, domestic non-state sector, and the basic salary for the state sector.

Figure 3.1: Growth rates of nominal minimum wages (percent), 2008–14




Source: Authors' calculations from minimum wages stipulated in government documents

In subsequent years, minimum wages increased rapidly, with different growth rates for the FDI sector and the domestic non-state sector (Figure 3.1). The gap between the two shrank because of higher growth rates in the latter. Higher increases in minimum wages for the domestic non-state sector in 2011 resulted in the unification of minimum wages across FDI and domestic non-state sectors from October 2011. The unification of minimum wages was induced by Vietnam's commitment to non-discrimination between domestically produced and imported goods and services in its domestic market on its accession to the World Trade Organization in 2007. However, the system of four minimum wage levels across locations, based on development, has been kept.

Since 2011, minimum wages for enterprises have increased about 15 percent annually. In 2015, the monthly minimum wage ranged from VND2,150,000 (USD100) in the fourth region to VND3,100,000 (USD144) in the first region. The increase in minimum wages has been significantly faster than the increase in labour productivity for recent years (World Bank 2015). To recap, Vietnam has long applied different minimum wages for different localities based on their stage of development. The number of levels for the FDI sector was extended from the initial two to three in 1996. The three levels were split into four in 2009. Districts are the primary level of administration for minimum wages, meaning that in one province there can be more than one minimum wage level.

### 3.4 Data

In this section, we describe the sources of primary data for empirical estimation, the calculation and the estimation of variables for empirical models.

The data used in this paper come from two survey series: the Vietnam Labour Force Survey (LFS) and the Vietnam Household Living Standard Survey (VHLSS), both conducted by the General Statistics Office. As individual panel data can be constructed from the VHLSS, it is used for investigating transition across types of employment. The large sample sizes of the LFS allow us to aggregate employment for investigating total employment effects and to estimate the wage percentiles for groups of districts within provinces for studying effects on wage distribution. The LFS is conducted monthly, and the sampling frame is drawn from the 2009 population census. Large sample sizes of more than 500,000 observations a year mean that the surveys are representative at the provincial level. The LFS collects information on education, employment status, wages and several demographic factors.

We restrict our sample to 2011–14 because we cannot retrieve district identification within provinces before 2011. Meanwhile, increases in minimum wages since 2012 have been relatively stable; put differently, raising the minimum wage has been a regular policy. In that context, actors in the economy

might incorporate predicted changes in minimum wages into their decisions, or regard minimum wage changes as endogenous. Therefore, if we include a long period after 2012, those endogenous behaviours may make increases in minimum wages no longer exogenous. Hansen, Rand and Torm (2015) restrict their study to 2011–2013 to capture only the "shock" increases in 2012. We extend one more year to be able to include trends in the empirical models.

The VHLSS is conducted every two years and follows the standardised contents of the Living Standards Measurement Study (LSMS) of the World Bank. The VHLSS sampling frame for 2010–18 is the same as that used for Population Census 2009. With a sample size of 9,400 households and about 37,000 individuals, the VHLSS is representative of the whole country and its six regions, with further breakdowns possible for urban and rural areas. The survey provides rich demographic information on households, education and employment of individuals aged 6 and above for the 12 months before survey. This allows us to define employment status and other characteristics.

The VHLSS is designed as a rotation survey. Theoretically, we can construct a two-wave panel for half of the observations and a three-wave panel (2010-2012-2014) for a quarter of the observations in 2010. In reality, the three-wave-balanced panel consists of 6,328 individuals (x3 = 18,984 observations). With the VHLSS 2010 sampling frame of 37,012 individuals, the theoretical sample size of the three-wave-balanced panel is about 9,250 individuals. So, the attrition rate is about 31.6 percent.

The three-wave-unbalanced panel is a combination of the two-wave panels of 2010–12 and 2012–14. It includes observations of the three-wave-balanced panel and additional observations of individuals of the two-wave panels of 2010–12 and 2012–14. The sample includes 6,328 individuals of the three-wave balanced panel and 17,041 individuals of the two-wave panels; the total number of observations is 53,066. On a rough calculation, the theoretical number of observations for this three-wave-unbalanced panel is 64,417, and the attrition rate is 17.7 percent.

We prefer the three-wave-unbalanced panel as it has advantages over both the balanced panel and the pooled cross-sectional sample. Compared with the balanced panel, the unbalanced panel has the advantages of (1) a significantly larger sample, (2) a considerably lower attrition rate and (3) a sample that better reflects the whole labour market in the lower attrition rate and is less restrictive for groups of individuals. Fixed-effects models are still applicable.

Consequently, the total number of observations of the panel sample is 53,066, of which 18,984 are three-wave-panel and 34,082 are two-wave panel. However, the panel data needs to be cleaned because there are potential errors in that the information may not identify the same persons over time. Our cleaning procedure is relatively simple: persons with inconsistent information

on birth year or gender across rounds are dropped from the sample. Thus we exclude 2,697 observations. After restricting ages, and retaining only panel observations, our final sample comprises 38,360 observations.

## 3.5 Methodology

In this section, we discuss models for investigating the impact of minimum wages on total employment, movement across types of employment and wage distribution. Identification problems in model construction and strategies for overcoming them are then discussed.

### *3.5.1 Impact of minimum wages on total employment and employment status*

One of the most frequent questions is how minimum wages affect total employment. Therefore, we first discuss the model for estimating effects on total employment. We employ an aggregate model of the effects of minimum wage increases on total employment of locations over years. This specification helps us to reduce partially the effects of individuals moving across neighbouring districts. Meanwhile, the inclusion of both total working-age population and proportion of immigrants in locations as explanatory variables partially captures the effects of demographic changes. We aggregate employment for each group of districts with the same minimum wage level within provinces and estimate this variable against the minimum wages applied for that group of districts and other employment characteristics of the group, such as average education, ethnic composition and proportion of immigrants.

Specifically, the number of employees, $S_{djt}$, of group of districts d of province j at time t are explained by the following function:

$$S_{djt} = \beta_0 + pop_{djt}\beta_1 + X_{djt}\beta_2 + MW_{djt}\beta_3 + \pi_{dj} + \tau_{dj} + u_{idjt} \quad (1)$$

where $pop_{djt}$ and $X_{djt}$ are the number of working-age people and other characteristics of groups of district d in province j at time t; $MW_{djt}$ is the minimum wage applied for the group of districts at time t; and $\pi_{dj}, \tau_{dj}$ are fixed effects of groups of districts and time-fixed effects, respectively. With this aggregation, we have 140 units over the country in one year. Given the availability of the Labour Force Survey (LFS) over years, we can calculate the data and construct panel data for the units. Consequently, fixed-effect panel models can be applied.

To capture the possibilities of difference in time trends across groups, interactions between years and groups are also included in the models. Therefore, the estimation model is:

$$S_{djt} = \beta_0 + pop_{djt}\beta_1 + X_{djt}\beta_2 + ln(MW_{djt})\beta_3 + \pi_{dj}\beta_4 + \tau_{dj}\beta_5 + \tau_{dj}\, dj\beta_6 + u_{ijt} \quad (2)$$

The second question deals with transition across types of employment for individuals who have jobs. Ideally, different types of employment based on institutional sectors such as private or state-owned enterprises, statutes at work and sectors should be investigated. For example, employment can be classified into four types: (1) wage work in formal FDI enterprises, domestic formal private enterprises and state-owned enterprises; (2) agricultural self-employment; (3) non-agricultural self-employment; and (4) wage work in household businesses. This grouping is relatively good at capturing the reallocation of labour across sectors in Vietnam. However, the short study period and the low frequency of employment changes cause difficulties in estimations, especially when we work in subgroups.[1] Therefore, we investigate only two types: (1) wage work in formal sectors and (2) other types of employment. This classification is still meaningful. First, it can answer whether minimum wages have negative effects on modernisation, that is, on the increase in the proportion of employment in formal sectors. Second, it can capture impacts on different sectors' levels of exposure to minimum wage regulation. Minimum wages in Vietnam apply to all types of salaried employment, including in household businesses and collectives, but degrees of exposure are significantly different. Required accounting systems and reports vary among sectors, leading to different perceptions and practices of regulatory compliance among sectors.[2] Therefore, there is a distinct difference in regulation between formal sectors and household businesses.

Specifically, type of employment k, of individual i in group of districts d within province j at time t is explained by the following function:

$$P_{ikdjt} = \beta_0 + X_{idjt}\beta_2 + MW_{djt}\beta_3 + \pi_{idj} + \tau_{dj} + u_{idjt} \quad (3)$$

where $X_{ikdjt}$ is characteristics of individual i at group of districts d in province j at time t; $MW_{djt}$ is the minimum wage applied for group of districts d in province j at time t; and $\pi_{idj}, \tau_{dj}$ are individual and time-fixed effects, respectively. Because we include the individual fixed effects in the models as discussed in more detail later, it is impossible to include any location fixed effects: $u_{idjt}$ is unobservable time-variant variables.

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1 We tried to estimate the individual fixed-effects multinomial logit model using the method of Chamberlain (1980). However, estimation results could not be retrieved for a majority of specifications.

2 An example of difference in perception is that, if a business has fewer than 10 permanent employees, it does not have to register as an enterprise, and it is often misunderstood that it is also not necessary to pay social insurance for employees. However, the social insurance provisions regulate all types of employment. These facts result in weak compliance with regulations in household businesses, where fewer than 5 percent of wage workers have written contracts.

To capture possible differences in time trends across locations, interaction between time and location is included to form the estimation model as follows:

$$P_{ikdjt} = \beta_0 + X_{idjt}\beta_2 + ln(MW_{djt})\beta_3 + \pi_{idj}\beta_4 + \tau_{dj}\beta_6 + \theta_{ir}\tau_{dj}\beta_7 + u_{ijt} \qquad (4)$$

where $\theta_{ir}$ is is location of individual i; and k takes 1 if the person is a wage earner in the formal sector and 0 for other types of employment. Consequently, a logit model is suitable for estimation. Given the availability of panel data for individuals as discussed in Section 4, the individual fixed-effects model is applicable. It is standard to estimate the fixed-effects logit model as conditional.

Several studies on the same topic include some economic environmental variables in (2). For example, Hohberg and Lay (2015) include provinces' GDP as a control for differences in economic conditions across locations; Gindling and Terrell (2007) include industry value added to control for changes in demand overtime. However, because our sample includes people who did not work in previous periods, working environment variables are impossible. Meanwhile, effects of locational economic conditions are partially captured by the trends.

### *3.5.2 Impact of minimum wages on distribution*

To answer the second research question, we employ the model of Lee (1999); the explicit form is from Bosch and Manacorda (2010), Hansen, Rand and Torm (2015) and Autor, Manning and Smith (2016).

Intuitively, the functional form of (4) with the dependent variable as the wage of individuals can be applied to investigate impacts of minimum wages on income distribution by estimating impacts at different percentiles. However, observed wages are already affected by minimum wages. Therefore, the conditional quintiles (of the observed wages) do not reflect the true effects of minimum wages on wages at specific percentiles. Consequently, we need wages without the effects of minimum wages, but it is impossible to observe this. Therefore, we face a challenge of missing counterfactuals if we evaluate impacts of minimum wages on wage distribution (Hansen, Rand and Torm 2015). To solve this problem, Lee (1999) developed an approach to estimate the relative ratios across quintiles of the "latent" wage distribution, the distribution without effects of the minimum wage.

The underlying assumption of this approach is that the "latent" distribution of income does not vary in shape across time, location or type of ownership. The differences are the means and variances. Let us assume that $w^q_{kdjt}$ is the q$^{th}$ percentile of the latent log wage distribution of sector k of group of districts d in province j at time t, the distribution without the effect of minimum wages

$w^q_{kdjt}$ is the corresponding percentile of the observed wage distribution of the same sector, group of districts in the province, and time.

It is assumed that there is a sufficiently high percentile p so that at that percentile and higher, the minimum wage does not affect the wage. If the minimum wage has the censoring effect that wages under the minimum are increased exactly to the minimum wage, we have a censoring model:

$$w^q_{kdjt} - w^p_{kdjt} = w^q_{kdjt} - w^p_{kdjt} \text{ if } w^q_{kdjt} \geq MW_{kdjt}$$

$$w^q_{kdjt} - w^p_{kdjt} = MW_{kdjt} - w^p_{kdjt} \quad \text{if } w^q_{kdjt} < MW_{kdjt}$$

where $MW_{djt}$ is the minimum wage of group of districts d in province j at time t.

Removing the censoring assumption, $w^q_{kdjt} - w^p_{kdjt}$, is affected by both the minimum wage and the "latent" income differential, $w^q_{kdjt} - w^p_{kdjt}$. Let us define $MW_{djt} - w^p_{kdjt}$ as the "effective minimum wage" and allow for non-linear effects of the minimum wage. The quadratic term is included to capture dependencies of marginal effects on the level of effective minimum wages, following Lee (1999). Effects of the minimum wage on wage distribution can be estimated with:

$$w^q_{kdjt} - w^p_{kdjt} = \beta_{1,q}(MW_{sdjt} - w^p_{kdjt}) + \beta_{2,q}(MW_{sdjt} - w^p_{kdjt})^2 + \gamma_{k,q} + \delta_{dj,q} + \tau_{t,q} + (\gamma\delta)_{k,j} + (\gamma\tau)_{k,t} + (\delta\tau)_{j,t} + \beta_{x,q}X'_{kdjt} + \epsilon_{jkt,p} \quad (5)$$

where $X'_{kdjt}$ are averages of the selected individual specific characteristics of sector k of group of districts d in province j at time t; $\delta_{dj,q}$ and $\tau_{t,q}$ are fixed effects of groups of districts and time trends, respectively; and terms in parentheses are interactions of these factors.

One empirical issue is to set the $p^{th}$ percentile. Studies of the US (Lee 1999; Autor, Manning and Smith 2016) use the median. Studies using the same approach often set a higher percentile; for example, in a study by Leckcivilize (2015) of Thailand, p is the 60th percentile, and Bosch and Manacorda (2010) argue that the threshold should be the 70th percentile for Mexico. Therefore, in the current study, we shall examine a valid threshold in Vietnam.

### *3.5.3 Estimation strategies*

For the models of total employment and wage distribution, one possible concern is the representativeness of figures for each group of districts. The LFS represents rural and urban areas within provinces separately. The classification of groups of districts for application of minimum wage levels is not identical to the urban and rural classification. Therefore, figures for each group of districts do not fully secure their representativeness. However, the maximum number of groups of districts within a province is three, which is not too low. Indeed, with 63 provinces, we have 126 representative areas.

Meanwhile, we have 140 groups of districts, which is modestly larger than the number of representative areas. Of course, the groups of districts are not identical to the urban and rural areas within provinces. Consequently, a number of the groups secure the representativeness and others do not. However, the modest difference between the number of groups and the number of representative areas implies that the under-representativeness of some groups of districts is not a serious problem.

We also filter the sample with certain criteria. First, labourers aged less than 15 or over 65 are excluded. Second, only labourers who work for more than 20 hours per week are retained. These selections avoid the effects of outliers, especially when we estimate hourly income. Too young or too old labourers as well as those who have worked for a short time may have specific incomes which are potentially different from that of a typical labourer. Within groups of districts, formal and informal sectors are estimated separately. The formal sector is defined as for movements across types of employment: state-owned, FDI and domestic private enterprises. The informal sector covers wage earners in non-farm household businesses. Unfortunately, the income of self-employed or family workers is not available. Therefore, we cannot investigate the effects of minimum wage on the income of this group of workers.

To estimate wage percentiles within sectors of groups of districts as defined above, we face some problems. First, changes in the classification of districts led to different minimum wages over time. We also employ the classification of the period 2012–2014, which was stable for 2011, to secure identical groups over time. Second, when we work with different sectors within a group of districts in a province (hereafter referred to as sectors), as well as further separation in terms of gender and age, the number of observations for percentile estimation is small. Consequently, we select a sample of sectors with 50 observations or more. Both number of observations and total wage workers of sectors excluded from estimation account for less than 1 percent of total observations or total wage workers.

Since 2011, the LFS has been conducted monthly in a rotation strategy. A quarterly sample represents the nation. Each household is surveyed in two consecutive quarters and then excluded from the sample. Therefore, each individual is theoretically surveyed twice within a year. However, there are a number of individuals whose identifiers indicate that they were surveyed twice, but some information, such as age or gender, is inconsistent between the two surveys. In addition, we keep only one observation per year for individuals surveyed twice. Therefore, we have to clean the data before analysis. The cleaning procedure as well as keeping one observation for those surveyed twice is presented in the Annex.

As noted, the models of employment status include measures of trends. Ideally, trends of groups of districts that have the same level of minimum wage within provinces are controlled for. However, these trends are possibly too heavy for the models, given that we already employ individual fixed-effect models. Therefore, trends of districts with the same levels of minimum wage within geographic regions[3] of the country are used when the trends of groups of districts within provinces are impossible.

The model of Lee (1999) may suffer from measurement errors because the observed wages are used to estimate percentiles for both the dependent variable and the effective minimum wage as an independent variable in (3). In addition, if there are shocks that affect both the pth percentile and differences between specific percentiles and the pth percentile, the ordinary least squares (OLS) estimation of (3) will be biased (Autor, Manning and Smith 2016). Therefore, the two-stage least square estimation with instrumental variables proposed by Autor, Manning and Smith (2016) is employed to correct for bias. Specifically, the real minimum wage is used as an instrumental variable for the effective minimum wage. The square term of the minimum wage and interaction between the minimum wage and average of the median of the wage distribution are used as instruments for the square term of the effective minimum wage.

## 3.6 Results and discussion

### *3.6.1 Proportion of workers receiving wages below minimum wages*

Table 3.1 presents the proportion of wage workers earning below minimum wages (the binding ratio) across groups and years. In general, the binding ratio increased tremendously in the study period. The binding ratio of all non-farm wage earners increased almost threefold after four years, from 3.8 percent to 11.6 percent. This increase is observed for all years but unevenly. The breaking increase was in 2012, when the binding ratio doubled. This pattern is consistent with the pattern of increases in real minimum wages.

In 2014, the binding ratio was extremely high for female workers. Although it was already high in 2011, it increased drastically in the study period and reached more than 40 percent in 2014.

As expected, the binding ratio was higher for female wage earners than for males. The gender difference was widened in absolute terms but narrowed relatively. This result can be partially explained by an extremely low binding

[3] Vietnam changed the administrative regions in 2010, reducing the number from eight to six. However, in this study, we construct eight geographical regions by province. This classification better captures heterogeneity across areas.

ratio of male wage earners in 2011, so that a small absolute gap resulted in a large relative difference. It is interesting that the gap in the binding ratio between the two genders was mainly caused by the difference in the informal sector. The difference in the formal sector was consistently less than 2 percent in all years, but the gap in the informal sector increased from 14.7 percent in 2010 to 30.3 percent in 2014.

The gap between young and older wage earners changed only slightly, and the pattern was similar in both formal and informal sectors. Possibly, the higher education of new labour market entrants makes up for their lack of experience.

Table 3.1: Proportion of workers receiving wages below minimum wage (percent)

| | 2011 | | | 2012 | | |
|---|---|---|---|---|---|---|
| | All non-farm wage | Non-farm formal | Non-farm informal | All non-farm wage | Non-farm formal | Non-farm informal |
| Whole sample | 3.78 | 1.36 | 6.94 | 7.87 | 3.13 | 14.15 |
| **Gender** | | | | | | |
| Female | 6.82 | 1.82 | 17.56 | 12.52 | 3.75 | 31.36 |
| Male | 1.94 | 0.99 | 2.88 | 4.97 | 2.60 | 7.35 |
| **Age** | | | | | | |
| Older (30–65) | 3.92 | 1.33 | 6.75 | 8.04 | 3.09 | 13.61 |
| Young (15–29) | 3.62 | 1.40 | 7.23 | 7.62 | 3.17 | 15.08 |
| | 2013 | | | 2014 | | |
| | All non-farm wage | Non-farm formal | Non-farm informal | All non-farm wage | Non-farm formal | Non-farm informal |
| Whole sample | 10.55 | 4.24 | 18.61 | 11.60 | 5.06 | 20.55 |
| **Gender** | | | | | | |
| Female | 16.60 | 5.14 | 40.94 | 16.89 | 5.83 | 42.14 |
| Male | 6.69 | 3.43 | 9.75 | 8.10 | 4.35 | 11.83 |
| **Age** | | | | | | |
| Older (30–65) | 10.61 | 3.86 | 18.05 | 11.71 | 4.76 | 19.82 |
| Young (15–29) | 10.46 | 4.71 | 19.62 | 11.44 | 5.45 | 21.97 |

Source: Authors' calculations using data from LFS 2011, 2012, 2013 and 2014

### *3.6.2 Employment effects*

#### *3.6.2.1 Total employment*

Empirical results of the fixed-effects model of minimum wages on total employment of the whole population and different subgroups are presented in Table 3.2. To capture the potential non-linear association between minimum wages and employment, we also estimate the model with the square term of the log of minimum wages. The results of two specifications, with and without trends, are presented, given that time-fixed effects are included in both specifications. Our preferential specifications are those with trends of the minimum wage regions within the geographic regions, with and without the square term of minimum wages, given in columns (3) and (4) of Table 3.2, respectively.

Table 3.2: Effects of minimum wage on employment

| Dependent variable: number of full-time jobs of the whole population of groups of districts or their subpopulations by age and gender | | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| **Whole population (aged 15–65)** | | | | |
| Minimum Wage (log) | -0.112** | -0.809 | -0.075 | 0.028 |
| | (0.055) | (0.588) | (0.064) | (1.120) |
| Minimum Wage (log), square | | 0.051 | | -0.008 |
| | | (0.042) | | (0.082) |
| Year effect | | | | |
| 2011 | | Base | | |
| 2012 | 0.026 | 0.020 | -0.040 | -0.039 |
| | (0.022) | (0.022) | (0.033) | (0.034) |
| 2013 | 0.032 | 0.021 | -0.089* | -0.088* |
| | (0.028) | (0.028) | (0.048) | (0.050) |
| 2014 | 0.033 | 0.017 | -0.142** | -0.140** |
| | (0.032) | (0.033) | (0.065) | (0.068) |
| Trend | No | No | Yes | Yes |
| Prob > chi2 | 0.000 | 0.000 | 0.000 | 0.000 |
| Pseudo R2 | 0.840 | 0.841 | 0.919 | 0.919 |
| Observations | 560 | 560 | 560 | 560 |
| Number of groups of districts | 140 | 140 | 140 | 140 |
| Total effect of minimum wage at mean | | -0.075 | | -0.080 |
| Wald test statistics of the total effects equal zero | | 1.65 | | 0.84 |

| | | | | |
|---|---|---|---|---|
| **Female workers** | | | | |
| Minimum Wage (log) | -0.157** | -2.062*** | -0.079 | -1.023 |
| | (0.067) | (0.684) | (0.086) | (1.483) |
| Minimum Wage (log), square | | 0.140*** | | 0.069 |
| | | (0.049) | | (0.109) |
| Year effect | | | | |
| 2011 | | Base | | |
| 2012 | 0.043 | 0.024 | -0.014 | -0.021 |
| | (0.028) | (0.027) | (0.043) | (0.045) |
| 2013 | 0.046 | 0.017 | -0.043 | -0.054 |
| | (0.033) | (0.034) | (0.063) | (0.066) |
| 2014 | 0.049 | 0.005 | -0.073 | -0.090 |
| | (0.039) | (0.040) | (0.085) | (0.089) |
| Trend | No | No | Yes | Yes |
| Pseudo R2 | 0.779 | 0.783 | 0.881 | 0.882 |
| Observations | 560 | 560 | 560 | 560 |
| Number of groups of districts | 140 | 140 | 140 | 140 |
| Total effect of minimum wage at mean | | -0.056 | | -0.029 |
| Wald test of the total effect equal zero | | 0.61 | | 0.07 |
| **Male workers** | | | | |
| Minimum Wage (log) | -0.069 | 0.326 | -0.058 | 0.551 |
| | (0.053) | (0.591) | (0.063) | (1.102) |
| Minimum Wage (log), square | | -0.029 | | -0.045 |
| | | (0.043) | | (0.081) |
| Year effect | | | | |
| 2011 | | Base | | |
| 2010 | 0.005 | 0.009 | -0.070** | -0.065** |
| | (0.022) | (0.022) | (0.031) | (0.033) |
| 2012 | 0.008 | 0.014 | -0.138*** | -0.130*** |
| | (0.027) | (0.028) | (0.046) | (0.048) |
| 2014 | 0.005 | 0.014 | -0.210*** | -0.200*** |
| | (0.031) | (0.033) | (0.063) | (0.066) |
| Trend | No | No | Yes | Yes |
| Pseudo R2 | 0.853 | 0.853 | 0.924 | 0.924 |
| Observations | 560 | 560 | 560 | 560 |
| Number of groups of districts | 140 | 140 | 140 | 140 |
| Minimum Wage (log) + 2* Minimum Wage (log), square* (mean of Minimum Wage (log)) | | -0.090 | | -0.090 |
| Wald test of the total effect equal zero | | 2.31 | | 1.12 |

| | | | | |
|---|---|---|---|---|
| **Young (aged 15–29) workers** | | | | |
| Minimum Wage (log) | -0.123 | -1.468* | 0.022 | -3.802** |
| | (0.080) | (0.809) | (0.102) | (1.759) |
| Minimum Wage (log), square | | 0.098 | | 0.281** |
| | | (0.060) | | (0.129) |
| Year effect | | | | |
| 2011 | | Base | | |
| 2010 | 0.023 | 0.012 | -0.076 | -0.108** |
| | (0.033) | (0.035) | (0.050) | (0.052) |
| 2012 | 0.024 | 0.005 | -0.134* | -0.184** |
| | (0.042) | (0.045) | (0.075) | (0.078) |
| 2014 | 0.038 | 0.011 | -0.173* | -0.247** |
| | (0.048) | (0.054) | (0.100) | (0.105) |
| Trend | No | No | Yes | Yes |
| Pseudo R2 | 0.872 | 0.873 | 0.931 | 0.933 |
| Observations | 560 | 560 | 560 | 560 |
| Number of groups of districts | 140 | 140 | 140 | 140 |
| Total effect of minimum wage at mean | | -0.056 | | 0.215 |
| Wald test of the total effect equal zero | | 0.40 | | 2.55 |
| **Older (aged 30–65) workers** | | | | |
| Minimum Wage (log) | -0.062 | -0.695 | -0.062 | 1.203 |
| | (0.054) | (0.566) | (0.067) | (1.162) |
| Minimum Wage (log), square | | 0.047 | | -0.093 |
| | | (0.041) | | (0.085) |
| Year effect | | | | |
| 2011 | | Base | | |
| 2010 | 0.012 | 0.006 | -0.024 | -0.014 |
| | (0.021) | (0.022) | (0.034) | (0.035) |
| 2012 | 0.015 | 0.005 | -0.061 | -0.045 |
| | (0.027) | (0.027) | (0.050) | (0.052) |
| 2014 | 0.008 | -0.007 | -0.106 | -0.083 |
| | (0.031) | (0.032) | (0.067) | (0.070) |
| Trend | No | No | Yes | Yes |
| Prob > chi2 | 0.000 | 0.000 | | |
| Pseudo R2 | 0.841 | 0.841 | 0.913 | 0.913 |
| Observations | 560 | 560 | 560 | 560 |
| Number of groups of districts | 140 | 140 | 140 | 140 |
| Total effect of minimum wage at mean | | -.027 | | -.131 |
| Wald test of the total effect equal zero | | 0.21 | | 2.04 |

Panel fixed-effect model

Trend: trends of groups of district with the same level of minimum wage within provinces. 140 groups in total. Robust standard error in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' estimation using data from LFS, 2011, 2012, 2013 and 2014

In general, the coefficients of the association between the amount of employment and minimum wages are negative. However, only the coefficient in the specification without trends and the first order of minimum wages is significant at 5 percent. The change into insignificance of the coefficients in the specification with trends indicates the strong effect of trends in the study period. Therefore, these results imply that increases in minimum wages do not have an effect on total employment.

The situation of Vietnam's labour market in the period may be an underlying reason for the insignificant effect. First, the demographic trend meant the net increment of working-age population decreased significantly. Our calculations from LFSs are that the net increase of population aged 15–65 in 2011 was 942,000 people, then dropped to 640,000 in 2012, 312,000 in 2013 and 308,000 in 2014. This significant decline in the net increment of the working-age population in a short period would result in an increase of working opportunities for people already in the economy, which was accustomed to an average annual increase of almost 1 million in the working-age population. Therefore, if there was a factor that negatively affected employment in the economy, the demographic trend would mitigate its impact.

Second, compliance with labour regulations in Vietnam is quite weak in general. Our estimation from the 2012 Enterprise Census is that about 40 percent of enterprises do not contribute to social insurance although it is compulsory for any contracts of more than three months. Therefore, it is suggested that compliance with the minimum wage is also not strong. Furthermore, a majority of enterprises in our qualitative survey in Hanoi and Ho Chi Minh City reported that their workers' pay was already higher than the minimum wages. Minimum wages are used only for calculating social and health insurance and other wage-related contributions. Under current regulations, firms have to contribute about 22 percent of the compensation indicated in contracts for different types of insurance and contributions. Therefore, when the minimum wage increases, a majority of firms directly face only 22 percent of the increase.

Firms also have their own schedules of compensation increase, which may be coincident with increases in minimum wages. About 60 percent of firms in the qualitative survey reported no effects on their operation from changes in minimum wages. The remaining 40 percent said minimum wages affect them only modestly. The second and third factors mitigate the impact of minimum wages in firms. Meanwhile, the first situation neutralises any negative impact of increases in minimum wages on total employment.

The coefficients of minimum wages are also negative in the three subgroups of male, female and older workers. However, once again, all coefficients in the

specification with trends are statistically insignificant. The results indicate that minimum wages do not affect employment of these subgroups.

The coefficients are significant only in the specification including both the first and the second orders of minimum wages for the young worker subgroup. As the square term of minimum wages is included in regressions, it is not correct to conclude the direction of impact when signs of the estimated coefficients of the first and the second terms of the minimum wage are opposite. In this case, we may estimate the total effects at the mean of minimum wages by the formula: coefficient of the minimum wage +2*(coefficient of the square term)*(mean value of the minimum wage).

The positive result shown in Table 3.2 indicates a positive association between minimum wages and the employment of young workers on average. However, the Wald test for the total effect at the mean of minimum wages is statistically insignificant. Therefore, one question is at which levels of minimum wages is the total effect statistically significant? This question can be answered by estimation of minimum wage levels at which the statistic of the Wald test is higher than the critical value. With a 10 percent level of statistical significance, the total effect would be significant if the minimum wage was less than VND521,500 or higher than VND1,309,000 per month.

*3.6.2.2 Transition across types of employment*

For the transition among working people, we estimate the fixed-effect (conditional) logit model with and without trends. The estimation results for the whole working population and subgroups are given in Table 3.3.

The pseudo R2 of specifications with and without trends is remarkably different for models of the transition across types of employment. The pseudo R2 of the specification with trends is almost double that of the specification without trends for some cases. In addition, the inclusion of trends alters the statistical significance of estimated coefficients of the minimum wage in the models for all groups except female workers. This result confirms the importance of trends in Vietnam's labour market, as noted in the previous subsection on effects on total employment.

For the whole working population, the estimated coefficient of the minimum wage and its square term are negative but statistically insignificant in the specification with trends, although they are statistically significant in one specification without trends. This result indicates that increases in the minimum wage do not affect transition across types of employment.

Estimated coefficients for subgroups are negative in some cases, which implies a negative effect on the probability of moving to formal sectors. However, they are also statistically insignificant in the specification with

trends. Consequently, it is safe to conclude that minimum wage increases do not affect movements across sectors for the subgroups. Weak regulatory compliance in formal sectors is also a potential reason for the insignificant effect of the policy on transition across sectors.

Table 3.3: Effects of the minimum wage on probability of working in the formal sector

Dependent variable: probability of working in the formal sector of the whole working population or subpopulations by age and gender; it takes 1 if the person works in the formal sector and 0 otherwise

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| **Whole population (aged 15–65)** | | | | |
| Minimum Wage (log) | 1.363 | -27.748** | -0.596 | -34.072 |
| | (1.014) | (13.897) | (1.487) | (25.022) |
| Minimum Wage (log), square | | 2.012** | | 2.428 |
| | | (0.957) | | (1.814) |
| Year effect | | | | |
| 2010 | 1.000 | 0.165 | 1.063 | 1.070 |
| | (0.780) | (0.876) | (1.110) | (1.105) |
| 2012 | 0.261 | 0.167 | 0.527 | 0.729 |
| | (0.299) | (0.299) | (0.426) | (0.447) |
| 2014 | | Base | | |
| Trend | No | No | Yes | Yes |
| Prob > chi2 | 0.000 | 0.000 | 0.000 | 0.000 |
| Pseudo R2 | 0.0436 | 0.0467 | 0.0698 | 0.0711 |
| Observations | 2055 | 2055 | 2055 | 2055 |
| Total effect of minimum wage at mean | | 0.369 | | -0.137 |
| Wald test of the total effect equal zero | | 0.11 | | 0.01 |
| **Female workers** | | | | |
| Minimum Wage (log) | 0.853 | -6.937 | 0.775 | -1.096 |
| | (1.689) | (24.972) | (2.812) | (44.938) |
| Minimum Wage (log), square | | 0.537 | | 0.135 |
| | | (1.704) | | (3.235) |
| Year effect | | | | |
| 2010 | 0.165 | -0.073 | 1.813 | 1.810 |
| | (1.476) | (1.768) | (2.113) | (2.116) |
| 2012 | -0.117 | -0.146 | 0.779 | 0.789 |
| | (0.610) | (0.626) | (0.816) | (0.853) |
| 2014 | | Base | | |
| Trend | No | No | Yes | Yes |
| Prob > chi2 | 0.000 | 0.000 | 0.000 | 0.000 |
| Pseudo R2 | 0.1218 | 0.1220 | 0.1791 | 0.1791 |
| Observations | 747 | 747 | 747 | 747 |
| Total effect of minimum wage at mean | | 0.0570 | | 0.795 |
| Wald test of the total effect equal zero | | 0.08 | | 0.08 |

| | | | | |
|---|---|---|---|---|
| **Male workers** | | | | |
| Minimum Wage (log) | 1.198 | -42.020** | -1.716 | -47.616 |
| | (1.323) | (17.427) | (1.951) | (32.884) |
| Minimum Wage (log), square | | 2.985** | | 3.329 |
| | | (1.200) | | (2.390) |
| Year effect | | | | |
| 2010 | 0.792 | -0.578 | -0.035 | -0.059 |
| | (1.105) | (1.275) | (1.542) | (1.569) |
| 2012 | 0.237 | 0.031 | 0.167 | 0.425 |
| | (0.435) | (0.464) | (0.604) | (0.642) |
| 2014 | | Base | | |
| Trend | No | No | Yes | Yes |
| Prob > chi2 | 0.0667 | 0.0198 | 0.0000 | 0.0000 |
| Pseudo R2 | 0.0349 | 0.0413 | 0.0741 | 0.0763 |
| Observations | 1302 | 1302 | 1302 | 1302 |
| Total effect of minimum wage at mean | | -0.302 | | -1.094 |
| Wald test of the total effect equal zero | | 0.04 | | 0.28 |
| **Young (aged 15–65) workers** | | | | |
| Minimum Wage (log) | 1.068 | -47.405* | -2.550 | -4.596 |
| | (1.637) | (24.463) | (2.476) | (50.895) |
| Minimum Wage (log), square | | 3.351** | | 0.149 |
| | | (1.690) | | (3.681) |
| Year effect | | | | |
| 2010 | 1.190 | -0.256 | 1.888 | 1.896 |
| | (1.438) | (1.596) | (2.332) | (2.330) |
| 2012 | 0.461 | 0.273 | 1.301 | 1.318 |
| | (0.592) | (0.582) | (0.996) | (1.067) |
| 2014 | | Base | | |
| Trend | No | No | Yes | Yes |
| | 0.0013 | 0.0012 | 0.0000 | 0.0000 |
| Pseudo R2 | 0.1148 | 0.1231 | 0.2169 | 0.2170 |
| Observations | 701 | 701 | 701 | 701 |
| Total effect of minimum wage at mean | | -0.574 | | -2.520 |
| Wald test of the total effect equal zero | | 0.10 | | 0.98 |

| | | | | |
|---|---|---|---|---|
| **Older (aged 30–65) workers** | | | | |
| Minimum Wage (log) | 2.691** | -22.769 | 1.223 | -48.553 |
| | (1.371) | (18.856) | (1.979) | (32.759) |
| Minimum Wage (log), square | | 1.763 | | 3.615 |
| | | (1.303) | | (2.383) |
| Year effect | | | | |
| 2010 | 1.962* | 1.295 | 1.580 | 1.677 |
| | (1.027) | (1.128) | (1.437) | (1.443) |
| 2012 | 0.540 | 0.486 | 0.553 | 0.882 |
| | (0.385) | (0.386) | (0.531) | (0.585) |
| 2014 | | Base | | |
| Trend | No | No | Yes | Yes |
| | 0.4298 | 0.4342 | 0.0000 | 0.0000 |
| Pseudo R2 | 0.0281 | 0.0304 | 0.0602 | 0.0630 |
| Observations | 1193 | 1193 | 1193 | 1193 |
| Total effect of minimum wage at mean | | 1.872 | | 1.968 |
| Wald test of the total effect equal zero | | 1.56 | | 0.91 |

The conditional logit model
Trend: groups of districts with the same level of the minimum wage within geographic regions. Robust standard error in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Source: Authors' estimation using data from VHLSS 2010, 2012, 2014

### *3.6.2.3 Robustness check*

As noted above, the approach for investigating effects on total employment can also be used for employment in formal sectors. Under this approach, we can investigate the effects of minimum wages on total employment in formal sectors while controlling for total employment in groups of districts within provinces.

The estimation results with the fixed-effects panel model indicate that minimum wages do not significantly affect total employment in formal sectors, in specifications both with and without trends. Furthermore, none of the coefficients are significant in the results for subgroups. This supports the finding that minimum wages do not affect movements across types of employment, as discussed above.

We also estimate the effects of minimum wages on employment rates as a robustness check for the case of total employment. This specification is still influenced by demographic trends, as the reduction in the net increment of working-age population could promote working opportunities for existing workers. However, the inclusion of trends can partially capture the effects of demographic trends.

The estimation results are similar to that of total employment. Some coefficients are negative and statistically significant in the specification without trends. With the inclusion of trends, none of the estimated coefficients in the specifications are statistically significant, which confirms the results of insignificant effects of minimum wages on total employment.

### *3.6.3 Impacts on wage distribution*

As the square term of the effective minimum wage is included in the estimation, we have to retrieve total effects by the formula introduced in Section 6.2: coefficient of the first order of the effective minimum wage +2*(coefficient of the second order term)*(mean value of the effective minimum wage). Then, the total effect is tested for being different from zero by the Wald test. If the total effect is positive, the increase in the minimum wage would compress the wage distribution to the threshold percentile and vice versa.

As noted in Section 5.3, we separate the sample into formal and informal sectors.[4] Unfortunately, tests for detecting the percentile at which the minimum wages does not affect it and higher percentiles fail in the informal sector of non-farm household businesses. Therefore, we cannot estimate the effect of minimum wages on wage distribution for the sector.

A key assumption of the model is the percentile above which minimum wages do not affect the "latent" wage distribution; we call it the threshold percentile. One implication of this assumption is that the effective minimum wage should not affect the gaps between the threshold percentile and higher ones. For studies in the US, the median is often used. Other studies for developing countries employ higher percentiles, as discussed above. Therefore, we first evaluate which percentile is valid in Vietnam.

To find the threshold percentile, we have to select the model specification among alternatives. The model with trends is our preference because it can capture time-variant local effects. In addition, the effective minimum wage is potentially endogenous. Therefore, endogeneity tests are conducted to see whether OLS estimations are valid. If the effective minimum wage and its square term are endogenous, estimation with instruments is employed to examine the validity of the threshold percentile.

Starting with the 60th percentile as the threshold, we investigate whether the effective minimum wage affects the gaps between the threshold percentile and higher ones. For the 70th and 80th percentiles, the results of the endogenous test indicate that the effective minimum wage and its square

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4 In the literature, the agricultural sector is not considered as informal. Therefore, we also exclude agriculture from the informal sector.

term are exogenous estimates for the gaps between these percentiles and the 60th percentile. The OLS results are therefore valid and the insignificant coefficients imply no effect of the effective minimum wage on the gaps. For the 90th percentile, the tests indicate that the effective minimum wage and its square are endogenous. However, the test for validity of the instrumental variables implies that the instruments are invalid. Therefore, we do not have information to learn whether the effective minimum wage impacts the gap between the 60th and 90th percentiles and cannot conclude whether the 60th percentile meets the condition of the model.

Moving to the 70th percentile, the effective minimum wage and its square are endogenous and the instruments are valid for estimation of the gaps for both 80th and 90th percentiles. The estimation results with the instruments imply that the effective minimum wage has a significant effect on the gaps between the 80th and 90th percentiles and the 70th. Therefore, the threshold of 70th percentile violates the condition.

However, the 80th percentile satisfies the condition. The effective minimum wage and its square term are endogenous and the instruments are valid. The estimation result indicates that the effect of the effective minimum wage and its square term on the gap between the 80th and 90th percentiles is insignificant, or the condition is met. Therefore, the 80th percentile is selected as the threshold.

The total effect of the effective minimum wage on the gaps between different percentiles and the 80th percentile, and statistics of relevant tests, are given in Table 3.5. For the whole population, there are two percentiles, the 20th and 30th, where the effective minimum wage and its square term are endogenous but the instruments are invalid. The remaining percentiles to the left of the 80th percentile do not suffer the endogeneity problem. OLS estimation is unbiased for these percentiles as a consequence.

All effects[5] are statistically significant at the 1 percent level, which indicates a strong association between the effective minimum wage and the wage distribution. The positive effect indicates a "compression" effect, or an increase in the effective minimum wage narrows the gaps between the lower percentiles and the 80th. Furthermore, the decreasing magnitudes of the effect for percentiles approaching the 80th imply that the effect is stronger for percentiles far from the threshold. This result is similar to that reported in Hansen, Rand and Torm (2015), that more "compression" effect is found for

[5] For the effects of the 20th and 30th percentiles, the instruments are invalid but there are positive associations between the effective minimum wage and the gaps between these percentiles and the 80th percentile in both OLS and instrument estimations. Therefore, we can tentatively argue that a positive association is also found for these percentiles.

low percentiles. As the thresholds are different, the median in Hansen, Rand and Torm and the 80th percentile in the current study, we cannot compare the magnitude of the effect. However, the trends are similar.

We now turn to the effect of minimum wages on the wage distribution of subgroups. The results with the threshold of 80th percentile and estimations with trends are reported in Table 3.4. We first evaluate whether the condition of no effect on higher percentiles is satisfied, that is, whether the effect of the effective minimum wage and its square term on the gap between the 80th and 90th percentiles is significant. Once again, depending on whether the effective minimum wage and its square term are endogenous, the OLS estimation or the estimation with the instruments is used for evaluation.

For age subgroups, the OLS estimation is unbiased, as the endogenous test implies there is no endogeneity. In addition, the effect on the gap between the 80th and 90th percentiles is statistically insignificant in both subgroups. Therefore, the 80th percentile satisfies the condition for these subgroups.

The effective minimum wage and its square term are endogenous in the estimation of the gap between the 80th and 90th percentiles for female workers, but the instruments are valid. Furthermore, the effect is insignificant in the estimation with instruments. This implies that the 80th percentile also meets the condition for female workers. The result of the endogenous test indicates that OLS estimation for the gap between the 80th and 90th percentiles is unbiased in the male subgroup. However, the OLS estimation result shows that the effective minimum wage is significantly associated with the gap. Consequently, the result for males is not reliable, and we cannot make comments on the result for the subgroup.

Table 3.4: Impacts of minimum wage on wage distribution in the formal sector

Dependent variable: distances between percentiles of wage (log) of the wage earners in the formal sectors of groups of districts or their subpopulations in terms of age and gender.

| | OLS | Instrument variable | Durbin test statistics | Wu–Hausman test statistics | Statistics of test of over-identification |
|---|---|---|---|---|---|
| | | **All wage earners (aged 15–65)** | | | |
| p10-p80 | 0.7863*** | 0.4697 | 2.737 | 1.058 | |
| p20-p80 | 0.6749*** | 1.5027* | 8.733** | 2.909* | 2.760* |
| p30-p80 | 0.6875*** | 1.3397** | 7.272** | 2.522* | 3.933** |
| p40-p80 | 0.5812*** | 1.0312** | 3.303 | 1.078 | |
| p50-p80 | 0.5294*** | 0.628** | 0.247 | 0.087 | |
| p60-p80 | 0.4202*** | 0.5349** | 0.327 | 0.101 | |
| p70-p80 | 0.2583*** | -0.1418 | 4.361 | 1.375 | |
| p90-p80 | -0.1054 | 1.6936 | 16.899*** | 4.956*** | 0.041 |

| | | | | | |
|---|---|---|---|---|---|
| **Female workers** | | | | | |
| p10-p80 | 0.8511*** | 0.8331*** | 2.084 | 0.620 | |
| p20-p80 | 0.6861*** | 0.6499*** | 2.231 | 0.611 | |
| p30-p80 | 0.6222*** | 0.6233*** | 0.018 | 0.005 | |
| p40-p80 | 0.6414*** | 0.5779*** | 2.397 | 1.046 | |
| p50-p80 | 0.5377*** | 0.5168*** | 0.961 | 0.349 | |
| p60-p80 | 0.4335*** | 0.3143*** | 8.163** | 1.522 | |
| p70-p80 | 0.2345*** | 0.0953 | 15.036*** | 2.574* | 0.132 |
| p90-p80 | 0.0082 | 0.2485 | 7.791** | 2.110 | |
| **Male workers** | | | | | |
| p10-p80 | 0.6783*** | -1.1392 | 5.200* | 3.570** | 0.172 |
| p20-p80 | 0.7246*** | -0.0609 | 2.417 | 0.610 | |
| p30-p80 | 0.706*** | -0.529 | 8.718** | 2.580* | 0.503 |
| p40-p80 | 0.6467*** | -0.6743 | 12.718*** | 3.962** | 0.354 |
| p50-p80 | 0.5562*** | -1.1817 | 21.528*** | 7.255*** | 0.026 |
| p60-p80 | 0.4193*** | -0.7653 | 12.613*** | 2.588* | 0.001 |
| p70-p80 | 0.2208*** | -0.4729 | 5.836* | 0.872 | |
| p90-p80 | -0.3766*** | -1.4706 | 2.721 | 0.898 | |
| **Young (15–29) workers** | | | | | |
| p10-p80 | 0.8974*** | 0.4969** | 2.832 | 0.658 | |
| p20-p80 | 0.6376*** | 0.6652*** | 0.284 | 0.074 | |
| p30-p80 | 0.5697*** | 0.6204*** | 4.068 | 0.818 | |
| p40-p80 | 0.5521*** | 0.6401*** | 7.577** | 2.469* | 15.195*** |
| p50-p80 | 0.4811*** | 0.5337*** | 2.689 | 0.695 | |
| p60-p80 | 0.4216*** | 0.4892*** | 2.298 | 0.658 | |
| p70-p80 | 0.3199*** | 0.5565*** | 5.360* | 0.886 | |
| p90-p80 | -0.073 | 0.2199 | 1.783 | 0.282 | |

| | | | | | |
|---|---|---|---|---|---|
| | | **Older (30–65) workers** | | | |
| p10-p80 | 0.8162*** | 0.6882*** | 0.302 | 0.106 | |
| p20-p80 | 0.7588*** | 0.5089** | 2.907 | 0.683 | |
| p30-p80 | 0.703*** | 0.3534 | 6.502** | 1.608 | |
| p40-p80 | 0.6059*** | 0.1641 | 13.727*** | 5.089*** | 1.013 |
| p50-p80 | 0.5541*** | -0.2082 | 33.715*** | 13.313*** | 0.268 |
| p60-p80 | 0.4684*** | -0.011 | 16.372*** | 7.709*** | 0.047 |
| p70-p80 | 0.247*** | 0.1803 | 2.413 | 0.995 | |
| p90-p80 | -0.0787 | -0.3732 | 3.941 | 1.685 | |
| Year fixed effect | Yes | Yes | | | |
| Group of district fixed effects | Yes | Yes | | | |
| Trends | Yes | Yes | | | |

*** p<0.01, ** p<0.05, * p<0.1
Source: Authors' estimation of data from LFS 2011, 2012, 2013 and 2014

Returning to the results for different percentiles of subgroups, we first evaluate the validity of estimation for each. For results of endogeneity test as well as validity of instruments of other percentiles for female, young and older worker subgroups, we have either no endogeneity or valid instruments for endogenous cases, except the 40th percentile for young workers. Therefore, we have unbiased estimation results for most percentiles of the three subgroups.

Comparing the results for young and older worker subgroups, the effective minimum wage has stronger effects for young workers although the positive effect, that is, "compression", is found in both subgroups. The effect is significant only for the gaps between the 10th and 20th percentiles and the 80th percentile for older workers. The effect is significant up to the 70th percentile for young workers. In addition, the magnitudes of the effect are larger for young workers; this is understandable because their wages are lower than those of older workers and therefore more likely to be affected by the minimum wage.

### 3.7 Conclusions and policy implications

Vietnam has experienced significant increases in minimum wages since 2008. The increases for the domestic sector were significantly higher than for the FDI sector due to past differences between minimum wages in the FDI and

domestic sectors. The minimum wages of different sectors were aligned in 2012, and have since increased considerably.

The current paper investigates the impact of increases in minimum wages on employment and wage distribution of different age and gender groups in 2010–14. Specifically, we investigate the impact on total employment, movement between formal and informal sectors, and wage distribution within sectors.

Increases in binding ratios were observed in both formal and informal sectors. The binding ratio in the formal sector was still low in 2014 but was significantly high in the informal sector, as about one-fifth of workers in the sector received wages below their minimum wage applicable. This ratio was three times larger than in 2011. The situation was worse for female workers in the informal sector, although the gap of binding ratios between the two genders was modest in the formal sector. Trends of locations play important roles in determining all features of the labour market under investigation. Inclusion of trends alters the results considerably, both directions of impact and statistical significance of the estimated coefficients in some cases. Therefore, the inclusion of trends is necessary to estimate precisely the impact of minimum wages.

We find that increases in minimum wages have no effect on total employment or movement across types of employment for the whole population or its subgroups. Negative impacts are detected but are all insignificant. The decrease in net increment of working-age population, the weak compliance in the labour market, and workers' compensation already above the minimum wage are factors that partially mitigate the negative impacts of increases in minimum wages on total employment and movement of workers into formal sectors. The insignificant effect on employment is somewhat different to the negative effect reported in previous studies on the topic for Vietnam. However, our alternative specifications detect that the differences can be attributed to the inclusion of trends in the empirical models in the current study.

In terms of impact on wage distribution, increases in minimum wages are found to narrow the gaps between the lower percentiles and the 80th percentile, the percentile that is not affected by minimum wages or the threshold in formal sectors. In addition, the reduction in the gaps decreases for percentiles closer to the threshold. This compression is also found in female, young and older worker subgroups in the formal sectors. The positive effect of the minimum wage on wage distribution is also reported in Hansen, Rand and Torm (2015). However, we find that the effect does not stop at the median, as in that study, but also affects higher percentiles of the wage distribution.

A broader effect is found for the young worker subgroup than for the older

worker subgroup. The effect is found for percentiles that are close to the threshold percentile, and the magnitudes of the effect are larger for young workers, while being detected only for left-end percentiles in the older worker subgroup.

Our findings indicate that increases in minimum wages have not yet had significantly negative effects on the labour market. However, there is a possibility that the labour market could not mitigate the negative impact of further increases in minimum wages. This possibility should be considered in minimum wage policy in the future. Furthermore, the insignificant effect is potentially contributed to by low compliance with regulations. The effect may be different if enforcement is enhanced, especially in the informal sector.

The current paper faces a number of limitations. First, the model for estimating the impact of minimum wages on wage distribution does not work well for the informal sector or the male worker subgroup in the formal sector. Therefore, other models should be employed to investigate the effect in the informal sector and the male subgroup. It is important to investigate the effect in the informal sector, given its large size in Vietnam. Second, although we include trends of locations in the empirical models, time-variance economic conditions of locations as proxies for the demand side of local labour markets should be controlled for in the estimation. Third, we focus only on investigating effects of increases in minimum wages on the labour market in general but not the mechanisms, the behaviour of stakeholders or other aspects. Minimum wages can be also linked to other aspects of firms' operations and workers' behaviour. For instance, on firms' side, minimum wages can influence investment decisions, for example, replacement of labour by equipment that can induce increases in labour productivity. On labour's side, increases in minimum wages may affect workers' decisions on investing in skills and productivity.

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## Annex: Data cleaning

As only wages are available in LFS, only wage earners are kept. Then we follow the data cleaning procedure of Hansen, Rand and Torm (2015) with some modifications. Consistencies in typical personal characteristics are first checked. Observations are surveyed twice (identifying via household and personal ID); differences in age or education across surveys larger than 1 are dropped. Duplicate observations that are inconsistent in birth year, gender or ethnicity are also dropped. In the last step, duplicate observations of birth year, gender, ethnicity and working sector (and age or education differences by one unit is allowed) are collapsed into one with the mean characteristics of the two observations.

# 4
# Effects of Minimum Wage on Manufacturing Workers and Firms in Myanmar: Initial Evidence and Policy Implications

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After two years of tripartite consultations across Myanmar following the 2013 Minimum Wage Law, the government of Myanmar set the minimum wage at MMK3,600 (USD3.25) in June 2015. After a year of enforcement, a rapid assessment was undertaken by the Centre for Economic and Social Development (CESD) in cooperation with the Yangon University of Economics (YUE) to observe the effects of the minimum wage on labour-intensive manufacturing industries in Hlaing Tharyar Industrial Zone in Yangon, the largest industrial estate in the commercial capital of Myanmar. The primary objective of this research was to understand the initial effects of implementing the first minimum wage since independence from Britain in 1948. The survey was a semi-structured interview administered to 525 workers from food-processing and garment factories.

This paper analyses the survey results on wages, working conditions and income redistribution after the enforcement of the minimum wage, as well as perceptions and attitudes of workers towards the minimum wage. The study finds that 49 percent of respondents in food-processing factories and 57 percent in garment factories earned less than the official minimum wage prior to the enforcement. Within a year of the enforcement of the minimum wage, not only their daily wage but also monthly income improved above the minimum wage level, reported by 96.0 percent of the surveyed garment workers and 90.5 percent of the surveyed food processing workers. At the same time, the rest of the respondents who were already above the market-clearing

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levels all received higher wages. The majority of respondents had a positive attitude towards the enforcement of the minimum wage. However, 14 percent suggested that the minimum wage was still not enough to meet their family needs and 13 percent reported that the number of overtime opportunities – where they should receive twice the normal hourly rate – were reduced while other benefits such as transport and food allowances were curtailed after the minimum wage law came into force. The paper concludes that the minimum wage enforcement has had positive effects on employment welfare. However, it recommends that the government urgently needs to promote an enabling environment and labour productivity for SMEs in Myanmar to maintain positive industrial relations and inclusive growth. This study also recommends a number of concrete measures to improve the minimum wage system and social security provisions for workers and their families when there is a large gap between what workers need and what employers afford to pay them.

## 4.1 Introduction

The minimum wage system is practiced in almost 190 countries around the world, with all ASEAN members except the two richest countries, Singapore and Brunei, having minimum wage systems. With the adoption of the United Nation's Sustainable Development Goals in 2015, member states reaffirmed their commitment to global efforts to address global issues. Goal 8 requires states to implement labour market reforms to meet "sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all." The goal highlights the importance of achieving equal pay for work of equal value, and protecting labour rights. In achieving this goal, many countries are implementing a minimum wage and the International Labour Organization (ILO) has been providing technical assistance and policy guidance with regard to minimum wage fixing mechanisms.[1]

Myanmar was one of the earliest countries in Southeast Asia to promulgate a minimum wage, with the Minimum Wage Act in 1949, following its independence in 1948. It was an attractive policy tool for the post-independence government to address deep-seated poverty as well as the growing urban income gap between the rich and the poor. More importantly, the Act recognised the important role of the labour movement during the independence struggle.

However, Myanmar's actual attempts to enforce the minimum wage failed; this was despite the formation of the Minimum Wage Council in 1953, and attempts to set rates for the agriculture sector and cigarette-manufacturing companies throughout the 1950s (Than 2007, 83–84). In 2013, President Thein Sein's government reintroduced a new law on minimum wage, 64 years after the first was introduced, as a key component of economic and social reforms. In June 2015, the rate was set at MMK3,600 or approximately USD3.25.[2] At the same time, the government also promulgated the Labour Organisation Law and the Settlement of Labour Dispute Law, opening a new chapter on the country's tripartite consultation processes between workers' representatives, employers and the government. The minimum wage and related laws were motivated by the need to demonstrate the government was respecting and promoting labour standards – a statutory condition required by the United States to lift its sanctions on Myanmar.

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1 ILO has specific provisions for minimum wage setting (see ILO 2014). ILO also advised the use of social dialogue and collective bargaining to help strike a balance between the legitimate needs of workers and enterprises.

2 The National Minimum Wage Fixing Committee proposed a rate of MMK3,600 for an 8-hour day at the end of June 2015, when the prevailing exchange rate for USD1 was MMK1,110. The Committee announced it nationwide and waited 60 days for public feedback and questions. The government issued an official notification on 28 August 2015.

Unlike Myanmar's earlier bitter experience of its first highly contentious minimum wage and the eventual collapse of the system due to political pressure, the recent experiences of tripartite dialogue on minimum wage suggest a rare success of inclusive consensus making. While other comparative experiences from neighbouring countries showed highly conflictual and often violent outcomes during minimum wage setting, Myanmar avoided such negative backlashes and maintained cooperative bargaining among key stakeholders.

In Myanmar, the minimum wage supposedly affected all formally registered firms with a minimum of 15 workers in any industrial sector across the country. During that enforcement in 2015, the government took no additional policy measures that could significantly affect the operations of small or medium-sized enterprises (SMEs) in the country. Macroeconomic conditions were stable while the government's fiscal and monetary policies were neutral on real variables. The country had very competitive elections in November 2015; however, the legally prescribed transition period took some time and the newly elected government led by President Htin Kyaw was inaugurated on 30 March 2016. The new government took a major initiative in reorganising and reducing the number of ministries, including the merger of the Labour and Immigration ministries into the Ministry of Labour, Immigration and Population. The government was able to announce the 12-Point Economic Policy on 30 July 2016; however, the policy did not outline priority sectors or specific action plans to shape the prevailing economic trends of the country. In light of this policy, this study assumes that the minimum wage policy pronouncement was mostly likely a causal variable of firm-level outcomes such as wages, employment and sales.

In essence, the setting of the minimum wage was undertaken in accordance with twin objectives of the law: "to meet the basic needs of working families engaging in production, trade and service sectors as well as to strengthen productivity and competitiveness of work force in these sectors" (Union of Myanmar 2013, Preamble). Since the minimum wage was set in 1949, enforcement has been applied nationwide without differentiating between regional or sectoral variations. At the same time, firms that employed less than 15 workers were exempted from minimum wage enforcement in order to help the informal sector gradually adjust to labour regulations (NCMW 2015). In terms of industrial relations, the social dialogue on the minimum wage tended to focus on consignment manufacturing process (cut-make-pack) industries as they employ large numbers of low-wage workers. In this regard, the garment industry became the main beneficiary of the policy where the enforcement of the minimum wage was geared towards protecting the most vulnerable group of workers – female rural migrant workers – as well as reallocating

compensation patterns in these low-wage sectors to boost labour productivity initiatives.

The rest of this research paper is structured as follows. The first section focuses on the historical context of the minimum wage during the colonial and postcolonial periods, particularly workers' contributions to political movements. The literature review presented in the second section gives an in-depth analysis with scholarly references of the effects of the minimum wage. The third section describes the research methods and frameworks that were employed for this research study as well as the limitations of the study. Following this is the results section, which provides an overview of the survey findings, including the effects of the minimum age, characteristics of minimum wage workers and the state of the minimum wage before and after minimum wage policy intervention. Finally, the paper offers some key policy recommendations that will help facilitate the effective implementation and regulation of the minimum wage.

This paper examines the effects of Myanmar's minimum wage on SMEs in the country through an empirical study involving a worker survey undertaken in the largest industrial zone in the former capital, Yangon. The survey is supplemented by analysing the dataset of the World Bank's 2016 Enterprise Survey on SMEs across major urban centres in Myanmar. The findings suggest that the effects of the minimum wage are more consequential in garment industries that tend to comply with minimum wage regulations without causing the regulators additional monitoring or enforcement costs. In these industries, the most vulnerable group of workers – rural migrant women on the lowest wages – benefited immediately from the enforcement while industry leaders also appeared committed to improving the system. There was a reputational incentive for employers to improve industrial relations as the minimum wage seemed to have attracted larger investment in labour-intensive industries, with many SMEs experiencing significant improvement in both employment and revenue positions.

## 4.2. The context

### *4.2.1 The road to a minimum wage*

Myanmar was exposed to the concept of a minimum wage under the British colonial administration in the first half of the 20th century, when the growing extractive sectors employed several thousand workers. The idea of a minimum wage was first raised in 1938, when 300 Myanmar oil field workers organised strikes against the British Oil Corporation for a basic wage, an 8-hour working day, paid overtime, the right to medical leave,

and the provision of living quarters for workers' families – fundamental labour rights that remain a global topic of concern and protest to this day. As the protests grew into the general strikes popularly known as the "1300 Revolution" (Maung 1976), labour activism became a turning point for the country's independence struggle.

Labour activism also played a major role in resisting socialist rule in Myanmar. In the mid-1970s, labour strikes against the rising price of food and basic consumer goods, reinforced by student activism, brought a series of protests against the socialist regime. The momentum of student, labour and political activism in the decade escalated into the popular uprisings in 1988 that eventually brought down the government, placing labour activism at the forefront of political movements in the country. In short, the early history of the labour movement was "quite militant and workers were incorporated into party politics." (Lwin 2014, 137) However, when the military regime took power in 1988, they jailed many protest leaders to suppress the popular movement that had developed.

Under the military government, labour activism came to the forefront of the pro-democracy movement. Many labour activists joined together to form the Federation of Trade Unions of Burma (FTUB) in 1991, which actively lobbied human rights organisations and sought international support. The FTUB brought the deteriorating working conditions in the country to the attention of the ILO and became a powerful lobby for labour rights in Myanmar. FTUB returned from exile to establish the Confederation of Trade Unions of Myanmar in 2013, in accordance with Labour Organisation Law promulgated in 2011. Likewise, many other workers associations followed suit and established workers associations across the country, registering some 400 primary trade union organisations (ITUC 2013).

During the period of political liberalisation that began in 2011, "networks of local trade union activists working as part of the international trade union movement … played a crucial role in setting the agenda for political change … and taking advantage of new opportunities to organise workers into trade unions as a force for further political and economic change" (Henry 2015). Together with the Labour Organisations Law, the government adopted the new Settlement of Labour Dispute Law on 28 March 2012, which provided dispute resolution mechanisms through conciliation and arbitration. However, confrontations between the workers and employers have instead risen, as "agreements reached between employers and workers through the conciliation process are not always respected and are not enforced as binding agreements" (ITUC 2013, 23).

According to the 2016 survey report by NGO Action Labour Rights, there were 447 garment worker strikes nationwide between 2012 and 2014. The majority of the strikes occurred in garment and food-processing factories. As the government came to realise that the majority of strikes were for better wages, rather than political, the Ministry of Labour became more resolved to address the minimum wage situation in accordance with the law promulgated in March 2013.[3] As the 2015 elections approached, labour movements became even more political as they forged coordinated action with political parties and mobilised factory walkouts and street protests to seek attention from the government. In short, throughout Myanmar's post-independence, the relationship between the government and labour movements was never straightforward and cooperative, giving rise to a contentious climate of distrust surrounding the final negotiations on the setting of the minimum wage in 2015.

### *4.2.2 Enterprise and employer conditions*

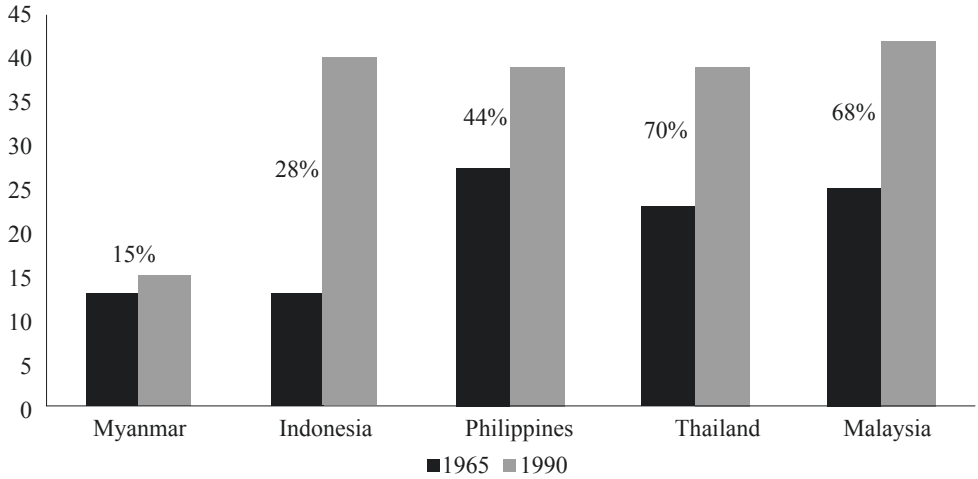
In Myanmar, successive governments have emphasised industrialisation as the cornerstone of their economic policies. Starting with the post-independence government in the early 1950s, Myanmar joined other third world countries in adopting a strategy of import-substitution industrialisation as it drew an ambitious master plan known as the Pyidawtha Plan. The socialist government followed through this strategy under more isolationist policies better known as the "Burmese Way to Socialism." Despite 40 years of state-led industrialisation under both democratic and authoritarian regimes, Myanmar's economy experienced very little structural change, with industry's share of GDP standing at less than 20 percent by the 1990s. By contrast, in the same period, other Southeast Asian countries achieved impressive industrial growth. (Figure 4.1) While the shortcomings of Myanmar's industrial strategy and plans, and the political instability and economic uncertainty in the late 1950s, contributed to feeble industrial performance, excessive state control and autarkic economic policies during the socialist period brought industrial development to a standstill (Than 2007).

Concerns about lagging behind other Asian countries prompted the military government to introduce several initiatives in an attempt to revive the industrial sector after taking power in 1988. It promulgated a number of supportive laws; the Foreign Investment Law in 1988, the Private Industrial Enterprise Law in 1990, and the Promotion of Cottage Industrial Law in 1991. In 1995, the government

[3] According to an interview with the Permanent Secretary of the Ministry of Labour, Immigration and Population, most of the strikes and disputes in the period 2012–15 were related to low wages. See CESD's Minimum Wage Documentary, 2016.

rolled out an ambitious plan to develop industrial zones in major cities to boost manufacturing firms, agro-processing factories and other base industries, as well as to attract foreign direct investment (FDI) to create conditions for transition to an industrialised economy (Lin and Linn 2014).

Figure 4.1: Structural change of Myanmar in comparison with ASEAN neighbours (percent)




Note: The ratio of industrial sector greatly improved during the five-year tenure of President Thein Sein, achieving a growth rate of 30 percent, from 26.5 percent in 2010 to 34.5 percent in 2015.
Sources: ADB Key Indicators for Asia and the Pacific 2017; Kyi et al. 2000

With the formation of the Myanmar Industrial Development Committee in 1995, the government initiated the setting up of 18 industrial zones in the capital cities of almost all states and regions across the country. Seven industrial zones were also planned, particularly in the remote border regions. Within a year, the government also established the Myanmar Industrial Development Bank to finance the relocation of SMEs to these industrial zones. Despite such an ambitious undertaking, there were several weaknesses in the actual planning of industrial zones in terms of spatial planning, logistics, and many other hard and soft imperatives critical to effective and efficient operations. More importantly, there was very little consideration of the social aspects of industrial zones, which became a major bottleneck across the country as they were primarily hosting labour-intensive industries. Despite efforts made under the regime of President Thein Sein in 2011 to reform the industrial sector, the conditions of the infrastructure and existing social tensions presented several challenges (Lin and Linn 2014).

According to the report on the state of industrial zones in Myanmar (Lin and Linn 2014), the majority of zones suffer from unreliable electricity supply,

poor transport links, skills shortages, frequent bouts of labour unrest, weak environmental safeguards, land speculation and ghost factories, and sparse backward and forward linkages with local firms. The government fully funded the development of these zones and subsidised the sale of land plots to SMEs in order to help the private sector to industrialise; but a lack of spatial and cluster planning as well as industrial policy now hinder many of these zones from capitalising on the promised industrial development. Moreover, zone management is assigned to self-help style committees elected by the firms operating within the zones. Token fees collected from each firm go to provide minimal security and emergency services.[4] The relatively high rates of crime and theft, often perpetrated against the predominantly rural female migrant workers, combined with high transport and housing costs, have exacerbated stress levels among the workforce, particularly in the congested zones around Yangon.[5] Such adverse conditions undermine nascent industrial relations between workers and employers. Indeed, the government's responsibility for addressing these concerns was a major concern of key stakeholders during the minimum wage negotiations.

Since the government of President Thein Sein took office in 2011, there has been a rapid change in the political, social and economic landscapes in Myanmar. The election followed the adoption of the new constitution, drafted in 2008. Thus, the new government was obliged to fulfil basic workers' rights and welfare (Constitution 2008, Chapter 1 Article 24). At the same time, the government was also conscious of the need to restore international legitimacy; it therefore swiftly enacted additional laws to reinforce the protection of workers' rights in line with international standards.[6] Nevertheless, workplace conditions and the unfavourable environment surrounding industrial zones further confounded government efforts to restore the confidence of both workers and employers in the tripartite dialogue.

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4 Although the government took responsibility for overall supervision, and responsibilities for closer supervision were delegated to regional governments, no proper regulatory framework had been developed to solve the many problems in the industrial zones. Weaknesses in such "software" aspects of zone management are a more serious anomaly than issues concerning hard infrastructure.

5 The authors recently conducted a rapid assessment of the chances of garment workers' strikes inside industrial zones in Yangon and those outside the zones in nearby Bago and found that the incidences are much lower in Bago despite unfavourable infrastructure services in the latter. Initial interviews suggest that the workers are happier, citing cheaper rental or dormitory prices, free transport (because the city does not have public transport) and close proximity to their families as some of the reasons.

6 The Labour Organisation Law (2011), the Social Security Law (2012), the Settlement of Labour Dispute Law (2012) and the Employment and Skill Development Law (2013) were enacted to promote the rights of workers.

### *4.2.3 Evolving mechanisms on fixing minimum wage*

When Myanmar attempted to set the minimum wage, it did not have mature experience of collaborating in technical assistance or policy support programs with either development partners or international labour institutions. A major challenge was a lack of labour statistics that countries usually rely on when they estimate living wage figures and other labour market conditions. Due to international sanctions imposed on Myanmar in the 1990s for non-observance of the Forced Labour Convention, the ILO could not provide any technical cooperation or policy assistance to Myanmar until 2011. Even when the restrictions were lifted in 2012, it was not until 2015 that the ILO provided technical assistance for the labour force survey, leaving Myanmar with very weak technical capacity and scant data for setting the minimum wage.

In the absence of international technical assistance, Myanmar had to rely on formal mechanisms under the tripartite National Minimum Wage Committee, comprising five worker representatives, five employer representatives, 12 government representatives and five independent experts, to determine an acceptable wage rate for both workers and employers. The government requested the Centre for Economic and Social Development, an independent Myanmar thinktank, to fill the data gap concerning prevailing market prices by undertaking a rapid assessment survey of wages and living conditions in Yangon, Mandalay and Bago. Based on these initial findings, the Department of Labour also conducted household surveys in all 15 states and regions to understand household expenditure and living conditions. These findings were presented to the committee with parallel social dialogue sessions hosted regularly by the ministry for worker and employer representatives.

At the initial stage of consultations in 2014, the workers demanded MMK8,000 (about USD7.2) while employers proposed MMK1,500 (USD1.35). The release of the findings about living wage estimations and workers' living conditions led employers to propose a more generous offer in response. A comparative analysis of minimum wages in the region, mainly of Myanmar's close competitors such as Bangladesh and Cambodia, also made the union leaders more pragmatic in their demands. Eventually, in August 2015, after a year-long series of tripartite meetings, the committee agreed to fix the minimum wage at MMK3,600 (approximately USD3.25) for an 8-hour work day. The law came into effect on 1 September 2015.[7] Myanmar's minimum wage was the lowest among ASEAN countries, followed by Laos at almost USD4 and Cambodia at over USD4.50 as of 30 June 2017.[8] As required

[7] Notification on Minimum Wage, unofficial English translation www.pwplegal.com/documents/documents/ b7bc4-Employment---Notification-on-Minimum-Wage.pdf.

[8] www.nwpc.dole.gov.ph/pages/statistics/stat_comparative.html.

by law, the National Minimum Wage Committee must review Myanmar's minimum wage every two years (Minimum Wage Notification 2/2015). In this way, this study provides further evidence on the impact of the minimum wage on workers and enterprises.

### *4.2.4 Lessons learned from ASEAN experience*

Cambodia's minimum wage setting process in 2014 was much more tumultuous than Myanmar's. Leading up to the minimum wage setting in Myanmar, a few peaceful protests took place. By contrast, in Cambodia, tensions between the government, unions and workers led to tension, after the Labour Advisory Council and the Ministry of Labour raised the monthly minimum wage from USD80 to only USD95. This was despite the fact that the Garment Manufacturers Association in Cambodia had suggested a significantly higher monthly wage of USD160. Immediately after this decision was made public, the president of the Cambodian Confederation of Unions encouraged workers to strike in order to put pressure on the Ministry of Labour and the Labour Advisory Council to revise their decision. The protests spread across various zones in and around Phnom Penh. At the centrally located Freedom Park, there were clashes between protesters and municipal security guards and law enforcement officers. Overall, dozens of people were arrested (Teehan and Quinlan 2014).

**Box 1: The case of Indonesia and the effects of a minimum wage**

Alatas and Cameron (2008) studied the effects of minimum wage changes in Indonesia between 1990 and 1996, prior to the Asian financial crisis, on the employment of production workers in clothing, textiles, footwear and leather firms in greater Jakarta. They found a negative employment impact in small firms, 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 export 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.

Similarly to the minimum wage process among stakeholders in Cambodia, Myanmar also experienced some tension and challenges. Over the two years between the passing of the law in 2013 and its enforcement in 2015, debates between employers and workers' associations mediated by the National Minimum Wage Committee were not always cordial. Moreover, some factory owners expressed concern that a generous minimum wage might harm their access to international markets. In the end, after the announcement of the minimum wage, the unions, including the International Trade Union Confederation, and employees both criticised the proposed figure.

### 4.3 Literature review

The ILO defines a minimum wage as "the minimum amount of remuneration that an employer is required to pay wage earners for the work performed during a given period, which cannot be reduced by collective agreement or an individual contract".[9] This provision emphasises protection for low-paid workers, often the most vulnerable in their employment sectors, by shifting the earning distributions in their favour; as Freeman (1996, 639) suggests, "The goal of the minimum wage is not, of course, to reduce employment, but to redistribute earnings to low-paid workers". Although minimum wages can affect only formal covered sectors, they also send a signal to informal uncovered sectors, often rural labour markets, the so-called "lighthouse" effect. (Boeri, Garibaldi and Ribeiro 2010)

In many countries, the minimum wage has an influence on increasing wages in the informal sector, despite the fact that the system does not cover informal sector workers. Souza and Balta (1979) coined the term "lighthouse effect" after they discovered how the minimum wage in Brazil also affected workers in small enterprises and the informal sector even though they were barely inspected. Moreover, they also discovered that self-employed workers used the minimum wage as a point of reference (ILO 2017). In fact, Myanmar authorities carefully considered the balance between allowing adequate coverage of the minimum wage for all workers and the need to allow SMEs to adjust their labour costs.

Having intervened in industrial wage distribution with good intentions to protect workers, governments unintentionally allow minimum wages to cause dis-employment effects, thus hurting the low-paid workers they are supposed to protect. The theoretical explanation for this effect has to do with setting the minimum wage above the market equilibrium rate, subsequently forcing firms

[9] www.ilo.org/global/topics/wages/minimum-wages/definition/WCMS_439072/lang--en/index.htm.

to lay off low-paid or unskilled workers first. An example of this effect happened in Colombia, where the minimum was set relatively high and led to job losses on the bottom rungs of the labour market while also improving the earnings of families in the middle and upper parts of the income distribution. Arango and Pachón (2003) and A. Freeman and R. Freeman (1996) found minimum wages substantially lowered employment in Puerto Rico. Likewise, Maloney and Mendez (2003) found similar results in other Latin American countries.

Compared to many Latin American countries, Southeast Asian countries were late in implementing a minimum wage system, while wealthy Brunei and Singapore do not have one.[10] In Thailand, the minimum wage increases actual wages, doing so more for young workers and older workers than for prime-aged employees (Carpio, Messina and Sanz-de-Galdeano 2014). In Indonesia, Harrison and Scorse (2010) found that the minimum wage is positively associated with higher wages. In Vietnam, Nguyen (2010) reports that the minimum wage brought about a 19.9 percent increase in monthly wages between 2004 and 2006 for workers in the formal sector. There was also wage growth of 4 percent for workers who moved from the informal to the formal sector and a 26.1 percent increase in wages for those moving from the formal to the informal sector.

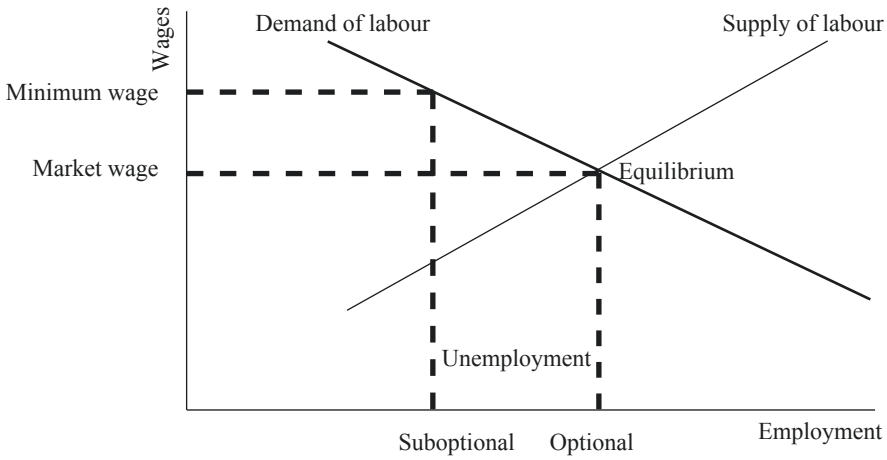
In terms of employment, in Vietnam, Nguyen (2010) reports that an increase in the minimum wage led to unemployment in the formal sector. In the Philippines, Lanzona (2014) reports that the minimum wage led firms to minimise their costs, mostly by cutting training and reducing recruitment of young and less skilled workers. Findings by Paqueo and Olivar (2015) point to the same trend of a significant negative impact on labour force participation in the Philippines, especially of young, inexperienced and less educated workers and female workers. The rationale behind focusing on dis-employment as a potential consequence of setting the minimum wage too high is to ensure that Myanmar does not make a similar mistake. According to Kuddo, Robalino and Weber (2015), the impact of a minimum wage on formal sector employment is not clear. However, some studies show reductions in formal employment to levels below the employment-maximising level, and shifts of workers (and firms) from the formal to the informal sector, especially when minimum wage rates are too high and regulatory enforcement is weak. However, when set at more moderate levels, minimum wages do not lead to significant dis-employment effects, and impacts on worker earnings and on poverty tend to be minimal (Rutkowski 2003). Therefore, it is important to ensure that

[10] www.aseanbriefing.com/news/2016/02/05/minimum-wages-in-asean.html.

the minimum wage is set at such a level that it avoids the dis-employment effect and related detrimental economic effects.

Figure 4.2 shows that in a competitive market setting where wage levels are established by market forces, employment levels are optimal (equilibrium point). When the minimum wage 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 on production, or they may substitute workers for machines when possible. Such a leftward shift in employment, from the optimal employment level to a suboptimal employment level, leads to unemployment (Ehrenberg and Smith 2003)

Figure 4.2: Minimum wages in a competitive labour market




Source: World Bank 2014

When the minimum wage does not cause major dis-employment effects, it probably has positive effects on household welfare, often measured in terms of consumption. In Thailand, household per capita consumption improved in all wage groups except the very top after the minimum wage was increased in 2011. The minimum wage also helped households in Vietnam to increase consumption, particularly expenditure on education (Carpio and Pabon 2014). However, others point out that the minimum wage caused inflation, leading to higher input costs and prices hampering businesses because least-skilled workers were paid at the expense of more productive and capable workers, and industries shutting down because of higher labour costs (Parker 2013). Cambodian garment workers face the same situation, with an increase in the minimum wage followed by rising commodity prices, rent, electricity and transport costs, as reported by garment workers (Hoekstra 2017).

Firms use working times per worker as an instrument to respond to minimum wage policies, meaning that the minimum wage can affect workplace conditions as well (Couch and Wittenburg 2001; Linneman 1982). In Cambodia, some factory managers have been accused of using pressure tactics to meet increased production quotas after the minimum wage was raised, adding greater workload and work stress (Hoekstra 2017). Depending on minimum wage provisions, firms often attempt to reduce costs by reducing working hours and increasing work intensity. When a monthly minimum wage standard is set, firms can dilute hourly pay by increasing monthly working hours. In China, minimum wage adjustments have significantly reduced working hours, especially for women, as employers suppress wage increases for the weakest group of workers (Sun, Wang and Zhang 2015).

It is important to understand the extent to which setting a minimum wage affects the level of FDI that flows into a country. According to Rama (1999, 2001), doubling the minimum wage in Indonesia in the 1990s led to a 2 percent decrease in employment and a 5 percent decrease in investment. Moreover, Chan and Ross (2003) note that some countries use incentives to lower wages in order to attract foreign investment. However, the opposite effect is observed in other countries that have shown positive causality between higher minimum wages and increased FDI. For example, in both 2012 and 2013, Malaysia's minimum wage increased by an average of 19 percent, yet FDI reportedly increased by 16.2 percent. This indicates how in some countries an increase in minimum wages can have a positive effect on FDI. Moreover, a report published by the Organisation for Economic Co-operation and Development in 2008 found evidence that multinational enterprises tend to promote higher pay in the countries in which they operate in order to project their corporate social responsibility to raise labour standards (Hijzen and Swaim 2008). Even so, the positive wage effect tends to be concentrated among workers that are directly employed by those multinational enterprises. This stresses the importance of considering other factors when trying to understand whether there is a causal relation between minimum wages and FDI.

In short, minimum wage systems in developing countries have different impacts on different groups of workers in a variety of ways. Firms try to minimise costs in any way possible; therefore, it is always important to monitor firms' compliance with the minimum wage and other labour standards. This is a lesson learned from the experience of minimum wage systems in ASEAN countries, where "simplicity in the minimum wage policy helps increase compliance and reduces monitoring burdens" (Carpio and Pabon 2014, 6). Enforcing compliance often requires large amounts of resources and coordination within the government (Gindling, Mossaad and Trejos 2010).

The experience of Thailand and the Philippines confirms that these countries assign only limited resources to monitoring, making it difficult for labour inspectors to monitor many firms. In this regard, the effectiveness of any minimum wage system depends as much on enforcement and compliance as it does on minimum wage setting.

### 4.4 Research methodology and description of the surveys

The paper relies on data from two sources: a worker survey conducted by CESD and YUE, and the World Bank Enterprise Survey 2016–17 across five major urban centres in the country. The worker survey was conducted at Hlaing Tharyar, the largest industrial zone in Myanmar in both size (about 1.4 million acres) and in the number of firms it hosts (500 firms employing over 50,000 workers), providing scope to randomly select sample firms. Its location in Yangon provides immediate access to Yangon Port, the largest port in the country, which handles about 90 percent of Myanmar's overseas trade. With close proximity to abundant rural labour in the neighbouring Ayeyarwady region, most industries within the zone are labour-intensive and the majority produce export commodities such as garments, footwear and electronic parts (Aung and Kudo 2012). More importantly, the zone is relatively successful with little infrastructure and logistics disruption. In this regard, the survey could control for the endogeneity of other causal effects on firms' wage and recruitment decisions. The survey used a purposive sampling method, selecting 525 respondents from garment and food-processing factories that employ more than 50 workers. These two industries represent 70 percent of all the firms within the surveyed zone, and the firms surveyed are representative of the average size of firms in those industries.

Table 4.1: Number of workers and enterprises in Hlaing Tharyar Industrial Zone, 2015 and 2016

| Sir. No | Type of business | No of workers in 2015 | No of workers in 2016 | No of enterprises in 2015 | No of enterprises in 2016 |
|---|---|---|---|---|---|
| 1. | Foodstuffs | 10,629 | 12,322 | 171 | 157 |
| 2. | Textiles and garments | 65,011 | 71,699 | 121 | 175 |
| 3. | Engineering works | 3,189 | 3,521 | 34 | 59 |
| 4. | Chemical products | 3,137 | 3,175 | 38 | 61 |
| 5. | Stationery and printing | 1,122 | 1,275 | 15 | 20 |
| 6. | Forestry products | 1,170 | 1,486 | 39 | 42 |
| 7. | Metal and oil products | 1,424 | 870 | 35 | 26 |
| 8. | Packaging | 4,613 | - | 19 | - |
| 11. | Miscellaneous | 29,803 | 35,926 | 446 | 503 |

Source: Hlaing Tharyar Labour Exchange Office and Industrial Management Committee 2016

The worker survey was conducted by 400 final year economics students from YUE guided by 20 economics lecturers from the same university and 12 experienced survey researchers from CESD. The survey was administered to randomly chosen garment and food-processing factory workers and comprised three groups of questions:

- Workers' entitlements to the minimum wage as well as any changes in their wage levels and wage structures.
- Changes in workplace conditions as well as the state of industrial relations covering rights of association and dispute settlement mechanisms.
- Workers' general attitudes towards the implementation of the minimum wage, and their aspirations.

Although the worker survey provides a useful analysis of changing patterns of wages, employee turnover and workplace conditions as possible consequences of minimum wage policy, it was administered to workers only and not to staff who could have provided management-level information such as on employment and performance. To compensate for this gap, the analysis was supplemented with data from the World Bank Enterprise Survey conducted between October 2016 and April 2017. The survey, undertaken in five major cities in Myanmar and administered to firms' management representatives, collected useful information on employment and sales growth, thus providing additional information on firms' performance. Because the survey covers major commercial cities in the country, the effects of the minimum wage can also be observed more accurately at the national level.

Hlaing Tharyar enterprises and many SMEs have high transaction costs, leaving very thin profit margins. As a result, factory owners pay their workers low wages, leading to Myanmar's position as one of the last frontiers of cheap labour among rapidly growing Southeast Asian economies; both the government and employers maintained low wages as an incentive to attract foreign companies to the industrial zones (Kudo 2001). Until the minimum wage was introduced, there was very limited policy intervention to reverse wage suppression and enforce worker protections. Although the government set the minimum wage in September 2015, it did not implement any additional policy measures that could significantly affect SME operations in the country. Macroeconomic conditions were stable throughout 2015 and 2016 and fiscal and monetary policies were neutral during and after the elections in November 2015. The new government prioritised peacebuilding

and public administrative reforms over economic restructuring until it announced the 12-Point Economic Policy on 30 July 2016. In light of this, the study assumes that the minimum wage policy pronouncement was the only substantial instrument and most likely a causal variable of firm-level outcomes such as wages, employment and sales.

## 4.5 The survey results

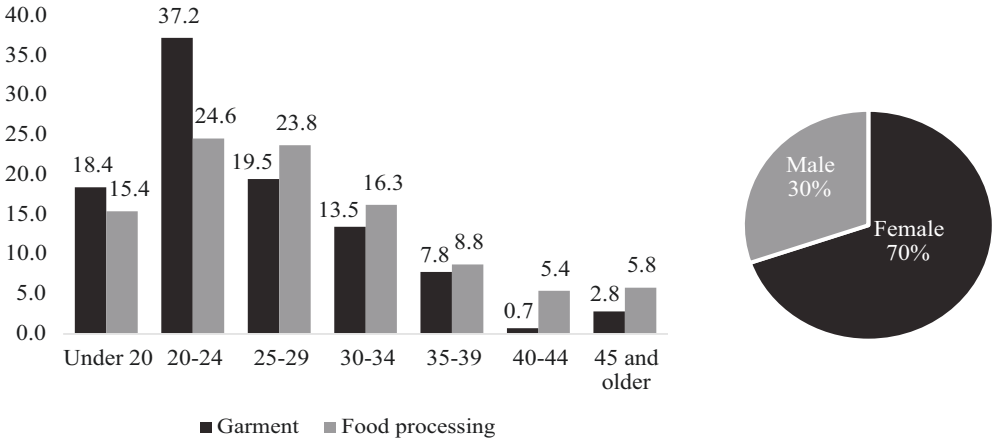
The minimum wage was implemented with the objective of protecting low-paid and often young female workers in labour-intensive industries. The study therefore sought to collect information about workers' characteristics. It is often argued that minimum wages have negative impacts on young female workers. The survey therefore looks at the dynamics of this group of workers and the impacts of the minimum wage on their earnings, workplace conditions and welfare, particularly following the implementation of the minimum wage.

### *4.5.1 Age and gender*

The gender ratio of the entire workforce in the survey is overwhelmingly female, representing 70 percent of the respondents, with an average age of 26.7 (25.5 in garment factories and 28.2 in food-processing factories). About 56 percent of the workforce in the garment sector and 40 percent in the food processing sector are under the age of 25. Although the legal age of child labour in Myanmar is above 14 with no overtime for the age group 14–16,[11] a few respondents (2 percent in garment and 3 percent in food-processing factories) fall into the under-17 age group. Despite widespread child labour across Myanmar, with an estimated 1 million child workers recorded in the recent labour census, the survey found the share of the workforce in the 14–16 age group to be negligible, at less than 2 percent. The survey also found a few respondents above the retirement age, all engaged in non-operational jobs such as office staff and security guards.

[11] In Myanmar, the Shops and Establishments Act of 1951 prohibited children under 13 years old from working in industrial settings. However, as of January 2016, the Factories Act and Shops and Establishments Act was amended and the minimum age for employment was raised to 14.

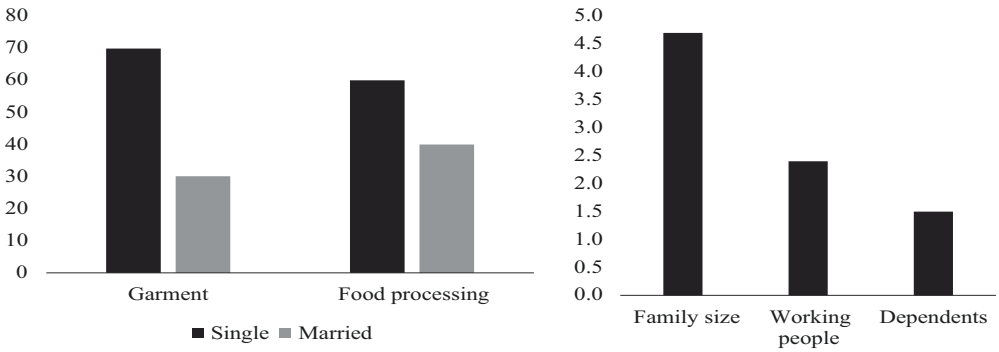
Figure 4.3: Gender and age composition of respondents (percent)




### *4.5.2 Marital status and family size*

Seventy percent of respondents from garment factories and 60 percent of respondents in food-processing factories reported they are single; the majority of respondents in both types of factories are unmarried. The average family size of respondents is 4.7, the same as the nationwide average reported in the 2014 Myanmar population census. There is no difference between the average family size of respondents in garment and food-processing factories. The study found 115 families that had no dependents. It also confirmed that factory workers' income is very low and at least two other household members have to work to meet household daily needs.

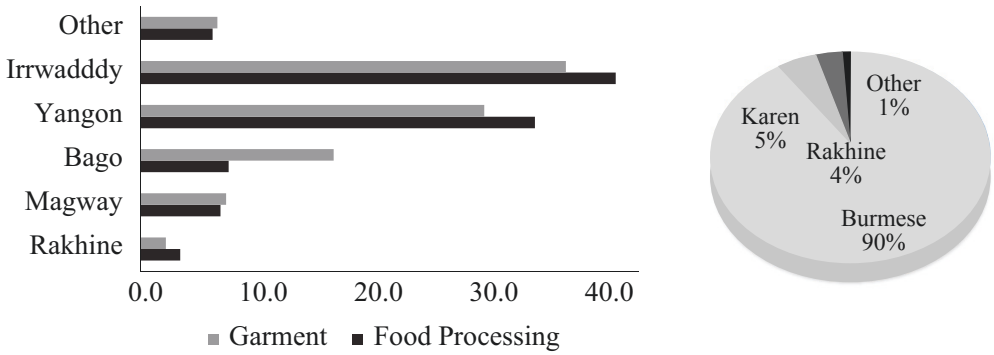
Figure 4.4: Marital status (percent) and family size



### *4.5.3 Migration and ethnicity*

Sixty-eight percent of the respondents are migrant workers from other parts of the country and 32 percent are from the Yangon region. More than a third of all migrant workers (39 percent) are from the Irrawaddy region (41 percent in food-processing and 37 percent in garment factories). The remaining migrant workers come from Bago (12 percent), the closest region to Yangon, Magway (7 percent), and other states and regions (6 percent). This finding corresponds with that of the Thematic Report on Migration and Urbanization (Department of Population 2016), confirming the prevailing trend of young rural women seeking work in Yangon's industrial zones.

Figure 4.5: Migration and ethnicity (percent)

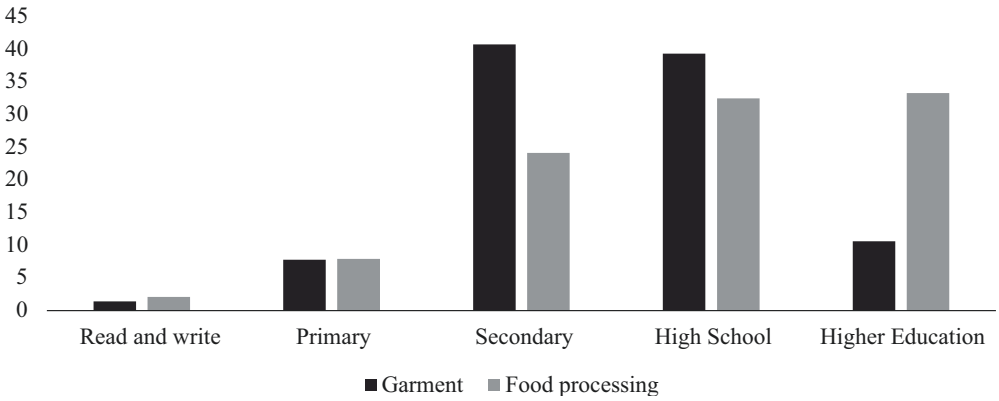



In terms of ethnicity, the vast majority (90 percent) of respondents are of Burmese ethnicity, followed by Karen (5 percent), Rakhine (4 percent) and others (1 percent). Based on these figures, it is safe to conclude that Burmese make up the majority of the labour force in Hlaing Tharyar Industrial Zone. Workers' migration decisions are influenced not just by the availability of jobs in Yangon but also by access to higher, technical and vocational education. Those who had already completed their high school education preferred to come to Yangon as they could attend public universities of distance education or private job skills training courses. Employers seemed to have a somewhat favourable policy of supporting workers' education, as the majority of factories in Hlaing Tharyar provide leave without pay to those who want to sit for the University of Distance Education exam (Aung 2015).

### *4.5.4 Education*

Both the garment and food processing factories have a large share of workers with only secondary education. Almost 41 percent of the workforce in the garment factories has secondary level education while another 39 percent has high school education. One surprising fact is that about 33 percent of respondents from food-processing factories have a university degree. Less than 2 percent of respondents in both garment and food-processing factories are illiterate, due to never attending school. There were no special programs or classes to teach them to read and write, either in their factory or within the zone. The result clearly indicates the need for worker training within industrial zones and firms.

Figure 4.6: Education level of the respondents (percent)




### *4.5.5 The effects of minimum wage on workers*

This section provides some descriptive evidence on the effects of minimum wages on garment and food-processing factory workers in Hlaing Tharyar. There are three reasons for a disaggregated analysis of the effects of minimum wages. First, the minimum wage set in 2015 was much lower than the average wage in the market, so it is unreasonable to expect that setting the minimum wage would have significant effects on aggregate labour markets or productivity statistics. Second, the objective of the minimum wage was to protect low-paid workers; observations of labour market outcomes should be confined to the segments of the population that tend to receive lower wages in urban manufacturing industries. In these segments, the effects of the minimum wage on labour market outcomes should be substantial. In this regard, Myanmar's experience of minimum wage setting has the semblance

of "self-targeting, lower monitoring, low leakage, 'right' worker incentive and labour market–focused characteristics" (Cunningham 2007, xi), often emphasised by labour experts to achieve national goals of poverty reduction and social justice through minimum wage policies. Third, it is not possible to analyse time series labour market data at the macro level because Myanmar's labour force surveys are not consistent. Even if that data becomes available in coming years, it would still be necessary to use disaggregated data because important aspects of the distributional effects of minimum wages can only be analysed in a structured comparison. Nonetheless, this study is expected to inform the direction of further labour market research in Myanmar, particularly in developing economic models for predicting employment outcomes and dis-employment effects of different policies.

### *4.5.6 Impact on wages*

The study found that 49 percent of respondents in food-processing factories and 57 percent in garment factories earned less than the official minimum wage prior to enforcement. Within a year of the enforcement of the minimum wage, not only their daily wage but also their basic monthly salary had increased to above the minimum wage level, reported by 96.0 percent of surveyed garment workers and 90.5 percent of surveyed food-processing workers.[12]

Figure 4.7 shows that after the minimum wage, all employment allowances increased, albeit at different rates. Service fee is the category with the highest percentage increase (42 percent), followed by overtime benefit (38 percent), skill bonus (32 percent) and productivity bonus (28 percent). By contrast, there was a slight increase in attendance bonus (6 percent). These findings have implications for industrial firms' strategy of boosting workers' productivity to increase their profits. In fact, many enterprises in Myanmar have faced the challenge of meeting daily production targets. In-depth interviews with garment employers and workers in Myanmar show that firms increased their production targets by an average of 30 percent. For instance, at Bago garment factory I, the production target used to be 60–70 pieces for 20–25 people before the minimum wage, but increased to 70–80 pieces for 19–20 people after the minimum wage. Some supervisors fear that the minimum wage will have a greater impact on operators who are less skilled, putting more pressure on supervisors to reach production targets.

[12] Basic salary means the total monthly wage, excluding overtime, attendance, production, skill, transport and meal allowances. With a minimum daily wage of MMK3,600 and assuming 26 working days a month (Sundays are mandatory holidays in Myanmar), food processing and garment factory workers minimum monthly salary is MMK93,600.

Figure 4.7: Breakdown of average worker monthly wages before and after minimum wage (MMK thousand)

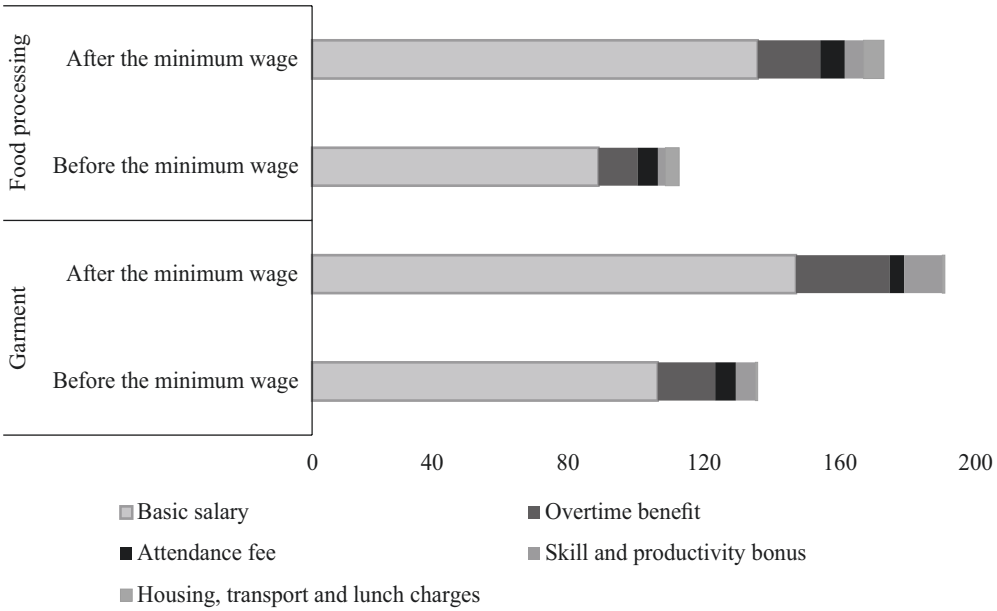



Table 4.2 describes changes in basic salary or minimum wage by workers' age, gender and education. Before the minimum wage enforcement, a food-processing worker, on average, earned less than a garment worker. The basic salary was significantly lower among workers under 20 years old, standing at MMK88,953 per month (USD80). When disaggregated by level of education, the data shows that workers with no formal education (read and write group) were the most vulnerable, with a monthly income of MMK68,125 (USD61). This wage was more than 30 percent less than that of workers with a higher level of education (primary and above). After the minimum wage enforcement, basic salaries of all employment groups were higher than the minimum wage. The t-test results to compare differences in means of basic salaries before and after the minimum wage show that all the differences are significant, at 1 percent. This result confirms the ripple effect of the minimum wage in that all workers benefitted from the policy. Specifically, the basic salary of food-processing workers, on average, increased by 38 percent, whereas that of garment workers increased by 31 percent. Workers with low levels of education (read and write) benefited the most from the minimum wage enforcement, with a 67 percent increase in wages. Therefore, the minimum wage policy is target efficient for low educated workers.

Table 4.2: Difference in average basic salary before and after the minimum wage

| | Basic salary before the MW (BBS) | Basic salary after the MW (ABS) | Increase (%) | Pr (\|BBS\| <\|ABS\|) |
|---|---|---|---|---|
| *Sector* | | | | |
| Food processing | 97,485 | 134,560 | 38 | 0.00 |
| Garment | 111,131 | 145,339 | 31 | 0.00 |
| *Age* | | | | |
| <20 | **88,953** | 121,025 | 36 | 0.00 |
| 20–24 | 101,793 | 133,992 | 32 | 0.00 |
| 25–29 | 101,318 | 139,606 | 38 | 0.00 |
| 30–34 | 113,620 | 149,625 | 32 | 0.00 |
| 35–39 | 123,102 | 166,025 | 35 | 0.00 |
| 40–44 | 126,667 | 183,500 | 45 | 0.00 |
| 45+ | 125,111 | 148,139 | 18 | 0.00 |
| *Gender* | | | | |
| Female | 106,774 | 138,040 | 29 | 0.00 |
| Male | 102,194 | 147,598 | 44 | 0.00 |
| *Education* | | | | |
| Read and write | **68,125** | 113,750 | 67 | 0.00 |
| Primary | 102,923 | 135,077 | 31 | 0.00 |
| Secondary | 106,374 | 137,898 | 30 | 0.00 |
| High school | 106,194 | 143,620 | 35 | 0.00 |
| Higher education | 107,413 | 145,309 | 35 | 0.00 |
| *Observations* | 378 | | | |

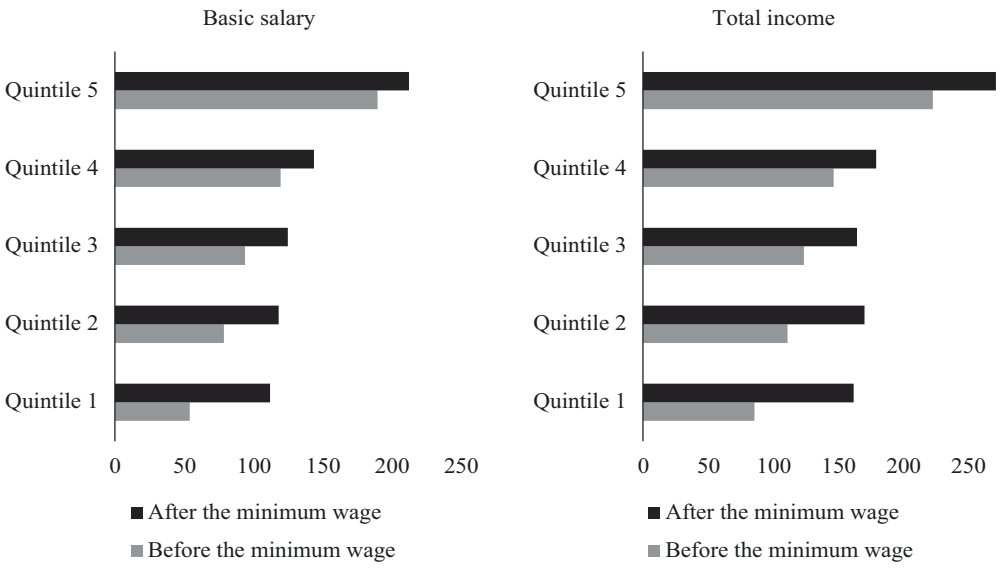
Note: Numbers in bold are the wages that were below the minimum wage of MMK108,000. The sample size of 378 only includes observations that did not change their position after the minimum wage to control for the correlation between wage growth and career enhancement.

From a gender perspective, female workers earned more than male workers before the minimum wage. However, after the minimum wage enforcement, with a 44 percent increase in basic salary, male workers' earnings surpassed that of female workers whose wages increased on average by 29 percent. Regarding redistribution effects between experienced and inexperienced employees, employees in the 40 to 44 age group benefited the most from the minimum wage, with a 45 percent increase in their basic salary, making them the highest earners. This effect also widened the existing pay gap between

this group and youth who are low earners. Indeed, according to the survey data, while workers under 20 years old had worked in the same position for an average of 2.2 years, older workers (30 to 44 years old) had accumulated 5.4 to 5.8 years of experience. This finding also reflects wage division between workers by experience.

In terms of wage distribution, there was an interesting effect on wage distribution across different income quintiles. Employers have to pay the minimum wage to low-paid workers, but of their own volition they also tended to increase the wages of workers who already earned more than the minimum wage. After the minimum wage was enforced, both the basic pay and total salary of the lowest quintile increased significantly. All other quintile groups experienced a relatively modest increase in basic pay and total salary, while the highest group, most probably the group with higher skill sets, did not experience much change in their total salary.

Figure 4.8: Income change across quintiles after the minimum wage (MMK thousand)




In fact, the total salaries of the three middle quintiles are now very close to each other, suggesting that employers may be using fewer incentives to differentiate skills based on labour productivity. Although employers are expected to adjust wage distribution more responsively to labour productivity in the long run, the changes in wage distribution have caused some unsettling disgruntlement among workers, particularly those with higher skills. If the employers maintain this pattern of wage distribution, it could undermine the

labour productivity objectives of the minimum wage policy – of achieving sustainable and long-term labour market reforms in Myanmar.

Before the minimum wage enforcement in 2015, there was public concern that an increase in wages could raise the price of consumer goods, which in turn would harm workers' standard of living. We use a consumer price index (CPI) to give an accurate analysis of the implementation of the minimum wage and whether the new wage is reflective of the economic situation. For the purpose of this paper, we use the CPI from the Central Statistics Office of the Ministry of Planning and Finance, specifically 116.53 from the first quarter (April–June) of financial year 2015/16 and 130.01 from the second quarter (July–September) of financial year 2016/17. The real wage is calculated as follows:

Real Wage = (Old Wage × New CPI)/Old CPI

Figure 4.9 shows the distribution of the nominal wage before and after the implementation of the minimum wage in 2015, as well as the real wage before data was collected. The graph provides information across five income quintiles, including the comparison between the nominal wage before and the nominal wage after in the first quintile (89 percent) and the second quintile (53 percent). At first glance, the differences seem great when examining the gap between the two nominal wages, until the real wage is considered. The graph also indicates how the differences between the two nominal wages start to decrease further up the quintiles. For example, the difference between the nominal wage before and after in the fifth quintile is only 22 percent.

Figure 4.9: Real wage and nominal basic salary distribution across quintiles (MMK thousand)

However, the real wage line on the graph in Figure 4.9 gives a better representation of the difference between the nominal wage after and the real wage before. For the first quintile there is a significant change between the nominal wage after and the real wage before (70 percent), which starts to decrease up the quintiles. For example, the difference for the second quintile is 37 percent and for the third quintile 19 percent. This indicates that the difference is only greater in the first quintile for the lower earning workers. Further up the quintiles, the difference starts to narrow. For example, the difference between the real wage before and the nominal wage after in the fifth quintile is only 9 percent. This means that workers in the upper quintiles do not experience a great change in their wages after the minimum wage, which could potentially lead to dissatisfaction and lack of motivation. Therefore, the graph represents the differences that exist between nominal wages when the minimum wage is set, and real wages.

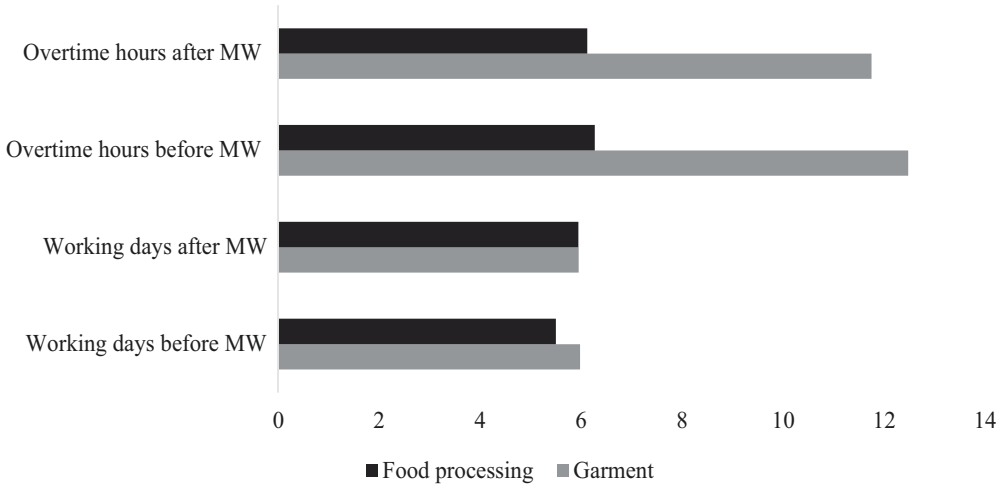
### *4.5.7 Impact on working day and overtime*

After the minimum wage has been set, employers usually attempt to manage the work times of the workforce, particularly overtime schedules, to control labour costs. The study found that there was a slight increase in the number of working days in the food-processing sector, while overtime hours in the garment sector decreased by 7 percent.

The majority of firms in the garment sector are export-oriented cut-make-pack factories whose international orders are time-bound; garment factories therefore do not have much room to manage overtime schedules. On the other hand, food-processing factories mostly serve local markets where there is flexibility to manage demand or to charge consumers a higher premium without incurring additional labour costs. Although the number of overtime hours decreased in garment factories (Figure 4.10), the average total overtime income increased significantly after the minimum wage was set. Previously, the average overtime rate was fixed at a much lower rate of MMK460 per hour and rose to MMK900 per hour after changes in the minimum wage.[13] In fact, garment workers received nearly double income from working overtime, which off-set the reduction in overall overtime hours.

[13] Under the Factory Inspection Law, a companion law to the Minimum Wage Law, the overtime rate is fixed at twice the basic rate. Employers pointed out that Myanmar's overtime rates are much higher than the ASEAN average or other South Asian rates, complicating minimum wage setting.

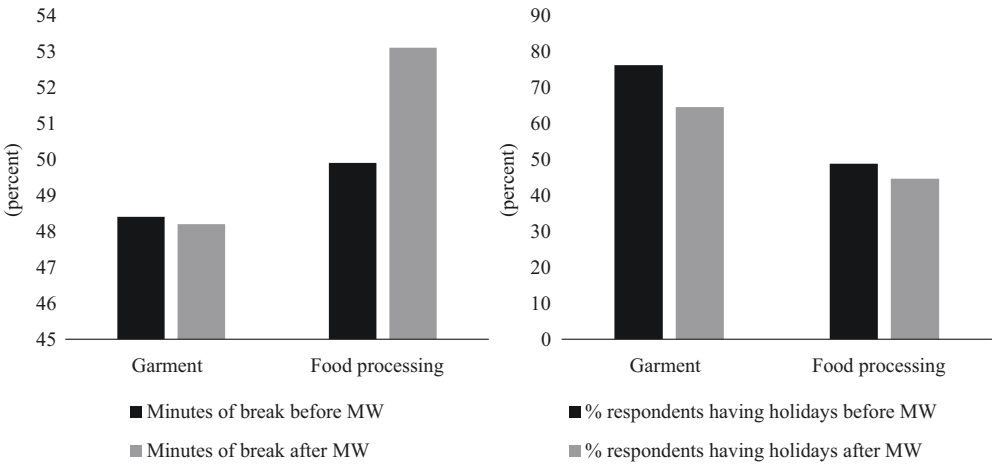
Figure 4.10: Average overtime and working hours before and after minimum wage




### *4.5.8 Impact on holiday and breaktime*

Workers' breaktime as well as holiday-overtime is another management issue for employers, with changes to both in 2015. Twenty-four percent of garment factory respondents and 36 percent of food-processing factory respondents reported having to work during holidays, meaning Sundays and public holidays, before the minimum wage. After the minimum wage, 51 percent of garment factory respondents and 55 percent of food-processing factory respondents said that they had to work on holidays. However, there was also a slight change in the amount of freetime or breaktime per day in both sectors after the minimum wage. The majority of factories allowed workers around 48 minutes free time or breaktime a day before the minimum wage. After the minimum wage, the total average breaktime slightly decreased for both sectors. Also, some garment and food-processing workers reported that their daily production targets increased after the minimum wage. Compared to overtime scheduling, breaktime and holiday-work does not seem to have changed that much since the minimum wage.

Figure 4.11: Impact on the holidays and breaks before and after minimum wage

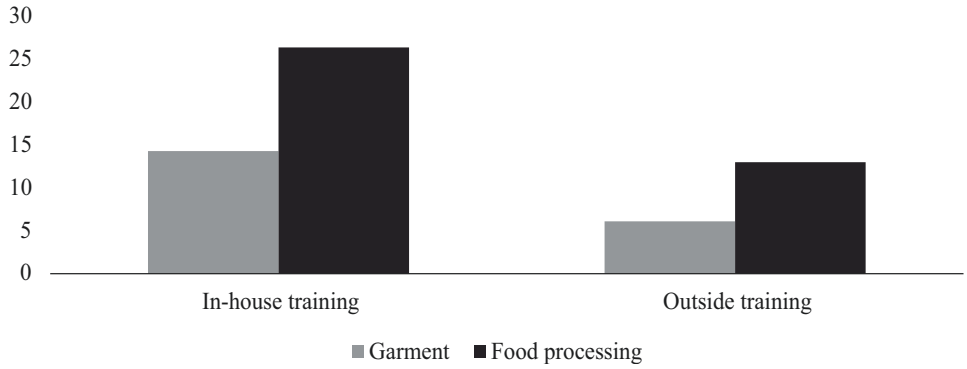



### *4.5.9 Impact on training*

As discussed earlier under SME perspectives, the provision of training for workers is minimal in the factories surveyed in Hlaing Tharyar Industrial Zone. As such, a comparably large proportion of the workers surveyed received in-house training rather than outside training.[14] Specifically, 14 percent of garment workers and 26 percent of food-processing workers reported having attended in-house training after the minimum wage. By contrast, only 6 percent of the respondents from garment factories and 13 percent of those from food factories reported having received outside training.

[14] Apart from work-related skills such as sewing and cutting, in-house training includes basic safety drills and routine first-aid training. Occupational health and safety requirements in fact encouraged factories to provide more in-house training to avoid injuries and sickness. However, the factories are responding slowly to the notice.

Figure 4.12: Capacity building training after the minimum wage (percent)




### *4.5.10 Respondents' perceptions of the minimum wage*

Fifty-six percent of the respondents reported that their salary increased and they were happy when the minimum wage law came into force. A respondent from one garment factory commented, "Our salary increased and life was better because of the minimum wage". Thirty-two percent of the respondents complained that they would like to be paid more because MMK3,600 is still not enough to meet their needs. Thirteen percent of the respondents reported that their salary increased but their working conditions – amount of overtime, breaktime allowance, daily production – are more challenging. Seventeen percent of the respondents claimed that there was no change or impact on their take-home monthly salary after the minimum wage because their salary was already more than or equal to the minimum wage.

The minimum wage forced employers to guarantee that all workers are paid above the minimum wage, which resulted in a wage increase for low-paid unskilled labour at the expense of higher wages for skilled labour, which remained the same. One respondent from a food-processing factory complained, "It is unfair that new workers and old workers have the same salary. After the minimum wage, the salary for new workers increased, but the salary for old workers remains the same."

A National Minimum Wage Committee member from the Confederation of Trade Unions of Myanmar comments on the minimum wage, "In the past, workers got about MMK100,000 for 11 working hours. Now they earn approximately MMK108,000 for 8 hours. If a worker wants to learn or improve his or her computer skills, he or she can learn after work." However, such reduced work time did not translate into more training and learning opportunities for the workers as there were no such services available in the industrial zones.

Figure 4.13: Respondents' perceptions of the impact of minimum wages

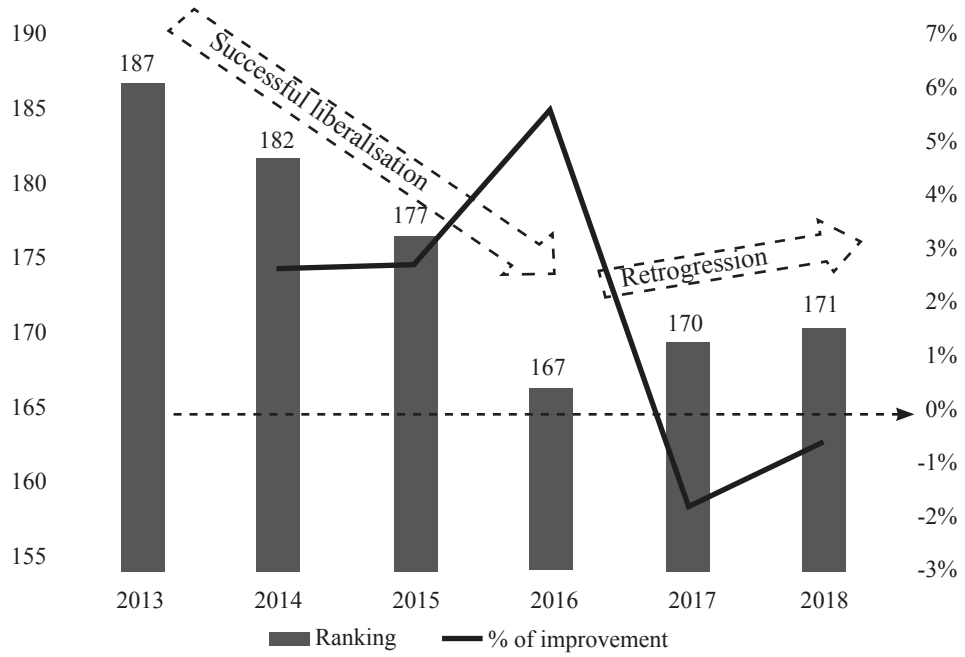
All in all, a large number of respondents gave positive feedback on the minimum wage. Many workers expect the economy to improve and the government to provide additional supportive measures to improve public services for workers as well as create an enabling environment for employers.

### 4.6 The state of SMEs in Myanmar

When the minimum wage was enacted in 2015, many private sector leaders complained that the government must address the challenges and barriers facing SME development so that they could comply with the minimum wage effectively. The government responded favourably to these demands as it started to implement liberalisation measures to reduce over-regulation on the businesses. The commitment of the government is evident in the persistent improvement of the country's ranking in the World Bank's Ease of Doing Business indicators. When Myanmar decided to collaborate with the World Bank in 2013, the preliminary assessment gave Myanmar an unfavourable rating for its dysfunctional SME ecosystem, ranking the country among the world's poorest business environments. Since then, the government has established the Committee on Private Sector Development chaired by a presidential office minister, as well as several delivery units led by deputy ministers to tackle specific barriers impeding SME development in various sectors. From 2014 to 2016, Myanmar achieved rapid improvements across many indicators, moving the country 16 places up the ranking from 183 to 167 within three years (Figure 4.14). The achievement was recognised by the World Bank Group bestowing "the Star Reformer Award" to the

government of Myanmar in 2017.[15] These commitments were credible enough to convince the private sector to cooperate with the labour unions as well as the government in a tripartite dialogue to set the minimum wage in 2015, despite the many challenges facing SMEs.

Figure 4.14: Myanmar's ease of doing business ranking




Source: World Bank Ease of Doing Business Indicators 2018

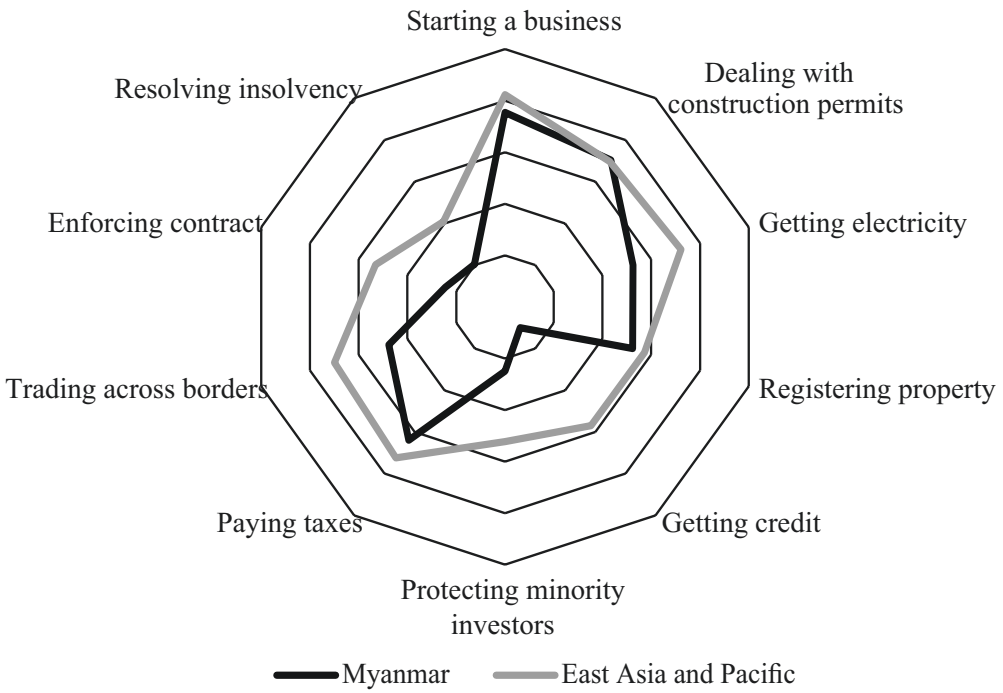
However, deregulation efforts and business environment improvements have slowed, with Myanmar's rankings sliding in the last two years. The retrogression of the ranking reflects sluggish efforts to build the forward-looking institutions needed to develop judiciary and legal protection for businesses. This suggests the need for structural adjustments to improve the business environment. Under these circumstances, SMEs still face the same structural barriers they faced two years ago (Figure 4.15).

As shown, Myanmar enterprises face four main obstacles: access to finance, poorly trained workers, access to land and reliable electricity supply. All four constraints are more severe in Myanmar than in comparator economies such as Cambodia, Laos and Vietnam. Nonetheless, upgrading the workforce is a potential solution for the government to support enterprises

[15] The award was received on behalf of the government by Director General Aung Naing Oo of the Myanmar Investment Commission during the Investment Competitiveness Forum held by the World Bank in Vienna in October 2017 (DICA 2017).

to perform better. In fact, Myanmar fares poorly against almost all countries in the Asia-Pacific, with just under 6 percent of firms offering formal training to their workforce compared to almost 22 percent in Cambodia and Vietnam and almost 80 percent in China (Annex Figure A1). Myanmar has significant space for improvement in this area. As a result, at 54 percent, the proportion of skilled workers in Myanmar's workforce is also the lowest, compared to Laos (98 percent), Cambodia (80 percent) and Vietnam (74 percent) (Annex Figure A3). The availability of skilled workers is important for garment sectors to attract foreign investments as well as cut-make-pack contracts. Whereas it will take time to resolve infrastructure challenges such as electricity supply and logistics services, providing formal training and incentivising skill development would be a practical and effective policy to pursue. Firms can address this constraint directly by setting a budget for formal and informal training to upgrade the skills of their workers. The government can support the provision of training, whether in firms or in industrial zones, through subsidies. Although the government can choose to address access to finance for SMEs, progress is dependent on how fast the country's banking and microfinance sectors can reform and grow.

Figure 4.15: Barriers for businesses in Myanmar



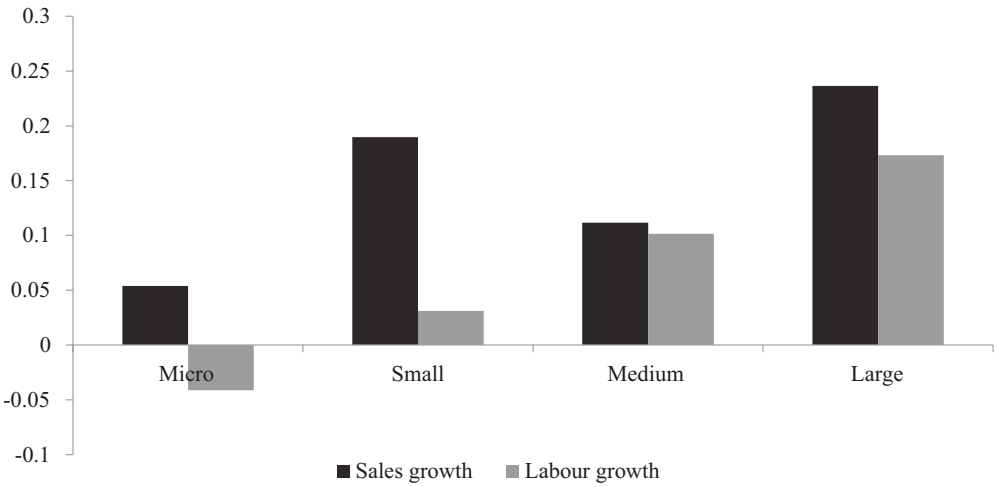

Source: World Bank Ease of Doing Business Indicators 2018

The World Bank (2017) establishes the state of enterprises in Myanmar and points out that resolving labour productivity is a priority. This is also a feasible policy option because firms now have substantial revenue flows as a result of Myanmar's improved reputation following its adoption of the minimum wage. The following analysis draws on the World Bank Enterprise Survey 2016–17 dataset. The findings strengthen the rigour and enrich the analysis and findings of the worker survey.

### *4.6.1 The effects of minimum wage on firms*

The employment effect of minimum wage enforcement is greater in large firms than in small firms. Data from the World Bank Enterprise Survey 2016–17 suggests that the minimum wage could have dis-employment effects on micro firms, as indicated by a 4 percent decline in their workforce over two years. The fact that firms with fewer than 15 employees are exempt from the national minimum wage could have an adjustment effect in that some firms tried to downsize to become a micro firm. In contrast, the number of employees in large firms increased on average by 17 percent. Large firms also performed better, with sales growth of almost 24 percent over the years. Both sales growth and labour growth were positive in small and medium-sized firms. The results suggest that employment and income effects from minimum wage enforcement in SMEs and large firms offset the dis-employment effect in micro firms.

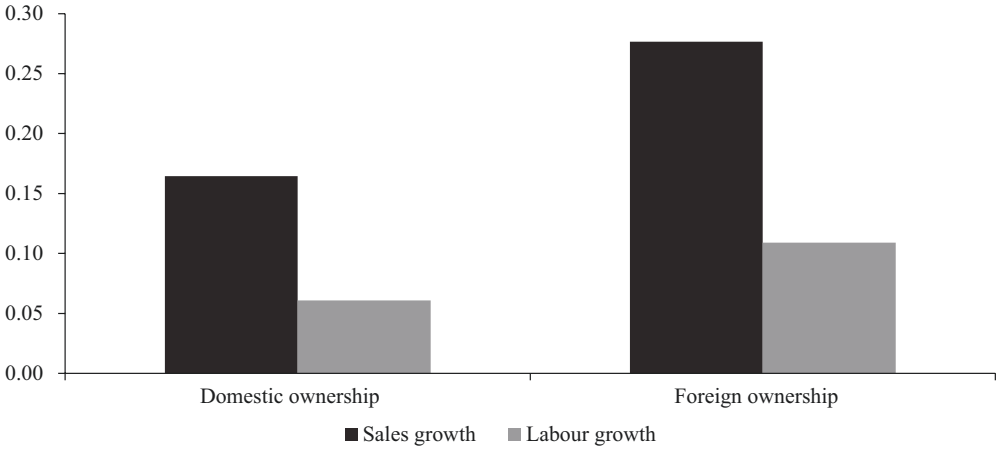
Figure 4.16: Sales growth and labour growth by firm size




Source: World Bank Enterprise Survey 2016–17

Foreign-owned firms experienced higher growth than domestically owned firms. Specifically, sales growth in foreign-owned firms was 28 percent, almost double that of domestically owned firms. The same trend is true for labour growth, standing at 11 percent in foreign-owned firms and 6 percent in domestically owned firms. This suggests the positive impact of the minimum wage setting process and minimum wage enforcement in creating a business-friendly environment, which in turn attracts more foreign investors into the country.

Figure 4.17: Sales growth and labour growth by firm ownership




Source: World Bank Enterprise Survey 2016–17

Apart from the setting of the minimum wage in September 2015, SMEs have not been affected by any major policy initiatives. This paper therefore uses the World Bank Enterprise Survey 2016–17 to observe the effects of the minimum wage on all SMEs in Myanmar. At first glance, the survey dataset shows that Myanmar's manufacturing sector is performing better than in previous years. Employment growth and sales growth are highest in the retail sector followed by manufacturing. The manufacturing sector seems to have higher labour productivity than the retail sector because it has achieved similar sales growth with less labour. This finding supports the view that investing in training can be beneficial to firms. Another finding suggests that electricity shortages are not significantly associated with sales performance, although electricity was cited as one of the major obstacles facing enterprises. This suggests that firms have resolved the problem of infrastructure services; therefore, sales performance is not being affected by electricity blackouts and water shortages.

With this finding in mind, we perform regression analysis on the relationship between firms' sales, employment, innovation and access to finance. The regression results show that employment growth is positively correlated with sales growth, though the causal relationship of the two variables is not clear. Given huge constraints on financing and access to finance, we can postulate that sales growth must have contributed to firms' decisions to recruit more workers. On the other hand, the analysis also shows that sales growth is negatively correlated with lack of credit. Clearly, access to finance is a major cause of SMEs' low performance in Myanmar. There is no significant relationship between sales growth and employment growth and a lack of training; however, we can only assume that the relationship may become significant if firms take a serious approach to training their workforce. In addition, the regression analysis shows that a lack of innovation is negatively correlated with sales growth, though the significance of this relationship is not strong.

The evidence suggests that many firms in Myanmar, particularly manufacturing and retail firms, experienced significant sales growth in 2016 and 2017. In only two years, the minimum wage policy has proved a powerful instrument to shape the SME environment in Myanmar. Because the government did not introduce any other significant policy instruments in the period of interest, we can conclude that the impact of the minimum wage has been positive. As many of the manufacturing firms are export-oriented, the effects of the minimum wage come from Myanmar's improved reputation. With "made in Myanmar" as a positive brand image, Myanmar suppliers are receiving increasingly more orders from sourcing companies. However, this surge of orders may not be sustained if the cost of labour continues to rise without any improvement in labour productivity. It is therefore of utmost importance that the government facilitates training, provides incentives and other support measures to help firms and workers jointly engage in initiatives promoting labour productivity.

The government can play a major role in supporting firms to increase their training budget by providing an enabling environment for such efforts. Pursuing this path is a good option for Myanmar given that very few firms (1.4 percent) consider labour regulations a major constraint (Annex Figure A2). Also, the fact that industrial relations are collaborative rather than confrontational means that firms, the government and the workforce can collaborate effectively in skill training initiatives. The new Myanmar government responded to the training challenge by increasing the budget for technical and vocational education training (TVET) in 2016. Although TVET as an educational strategy to address the shortage of skilled labour may narrow the gap between Myanmar and the rest of the region, a more effective intervention is to encourage firms

to provide on-the-job formal training. At the same time, the government can prioritise growing sectors such as the garment industry by offering industry-specific incentives to promote training opportunities.

### 4.7 Conclusion

Enacting the minimum wage has been a very important step to meet the basic needs of workers and their families in Myanmar. The vast majority of low-paid unskilled workers' salaries increased to some extent because of minimum wage legislation. However, they cannot fully enjoy it because of a rise in living costs due to inflation. Both positive and negative impacts of the minimum wage are observed.

- A minimum wage far below living costs has a negative impact on the quality of life which, in turn, determines labour productivity. Policymakers should therefore pay close attention to changing living costs in the country when they review the minimum wage every two years. To that end, before reviewing and adjusting the minimum wage, the Cost of Living Survey should be conducted systematically in every state and region.
- Enterprises have to pay higher wages to workers in compliance with minimum wage law. As a result, the cost of doing business in Myanmar has risen, directly affecting firms' profits. Therefore, it is highly recommended that the government support enterprises by providing low-interest loans, reforming polices that burden firms' efficiency, and providing more effective healthcare services for employees.
- Some factories fail to comply with the law and take advantage of low-skilled workers by paying them less than the minimum wage. It is therefore recommended that government officers, especially the Factories and General Labour Laws Inspection Department, conduct regular inspections to ensure compliance with the law and take necessary action.
- Training is necessary to improve productivity. Enterprises must provide more capacity building to improve employee efficiency. Allowing workers to attend training provided by NGOs could be a cost-effective option.

In sum, there is evidence that the introduction of a minimum wage in Myanmar has had positive impacts on many SMEs, particularly their sales growth. The evidence also suggests that the minimum wage has encouraged employment growth, possibly because booming businesses have recruited more workers. On both counts, the effects of the minimum wage are positive. However, it is not sufficient for the government of Myanmar to maintain a

good minimum wage system to protect workers' rights while many otherwise capable SMEs are frustrated by numerous barriers hampering their business initiatives and performance. It is of utmost importance that the government continues its liberalisation efforts to remove excessive regulation, thereby enabling SMEs to scale up and sustain their competitiveness. Equally importantly, the upcoming social dialogue must seriously address the need for expanding training programs in order to boost labour force productivity; otherwise, rising wages without rising productivity will eventually hurt firms and workers alike.

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## Annex

Figure A1: Percentage of firms offering formal training

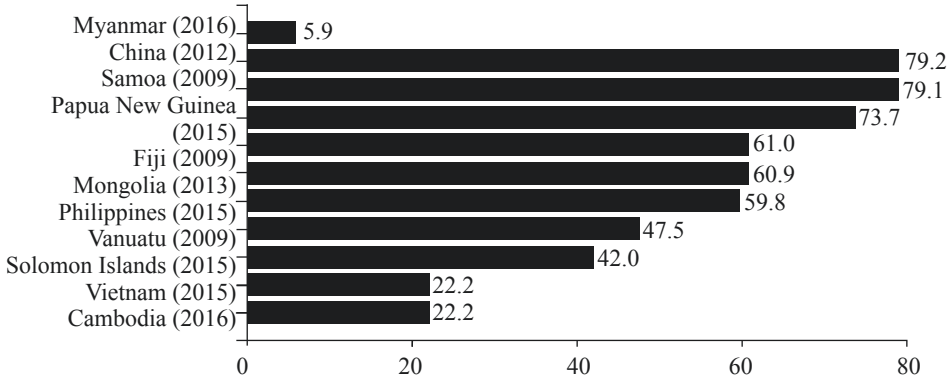



Figure A2: Percentage of firms identifying labour regulations as a major constraint

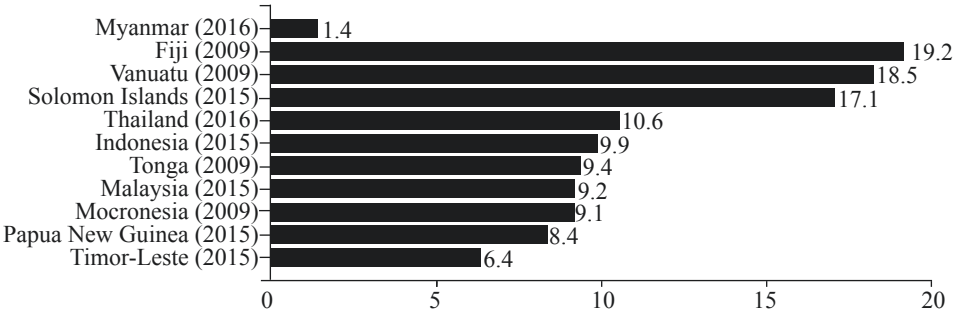



Figure A3: Percentage of skilled workers

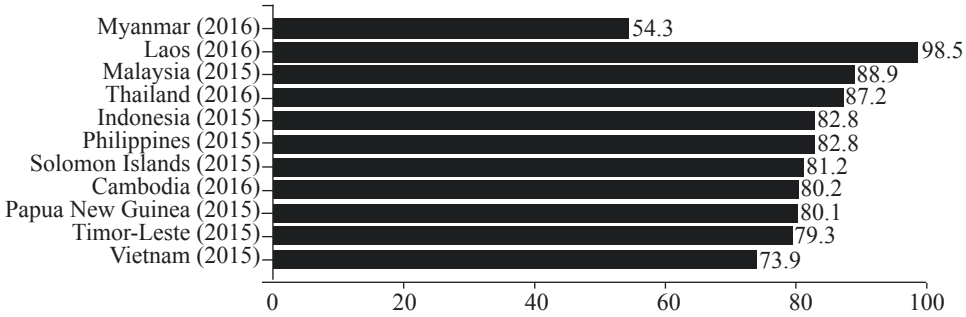


Figure A4: Sales and labour growth by region

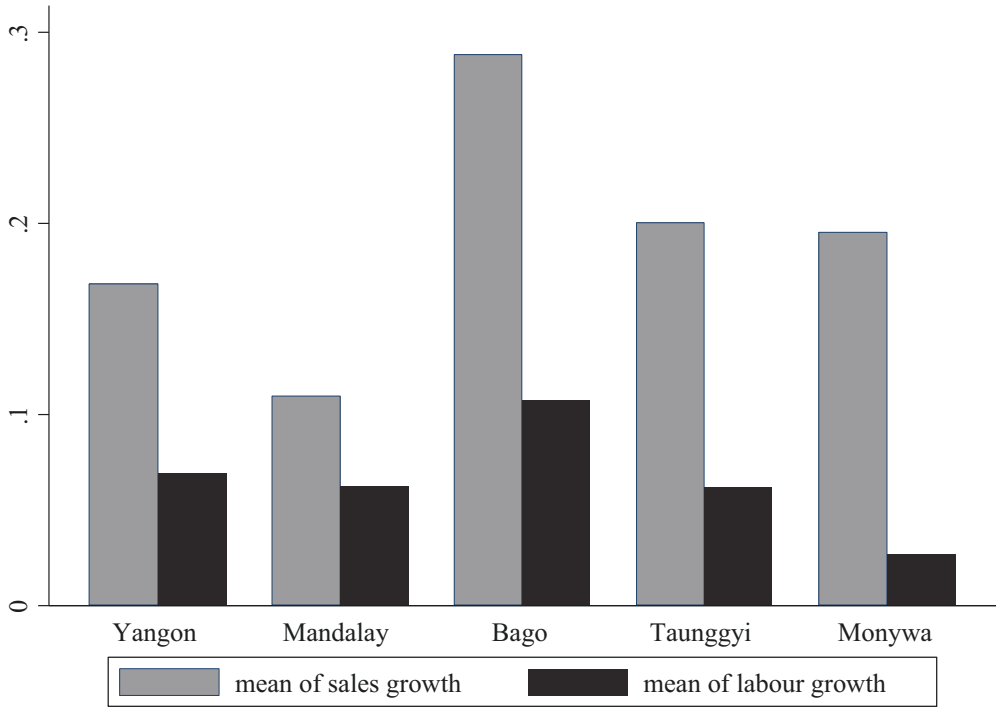



Figure A5: Sales and labour growth in firms with and without female leadership

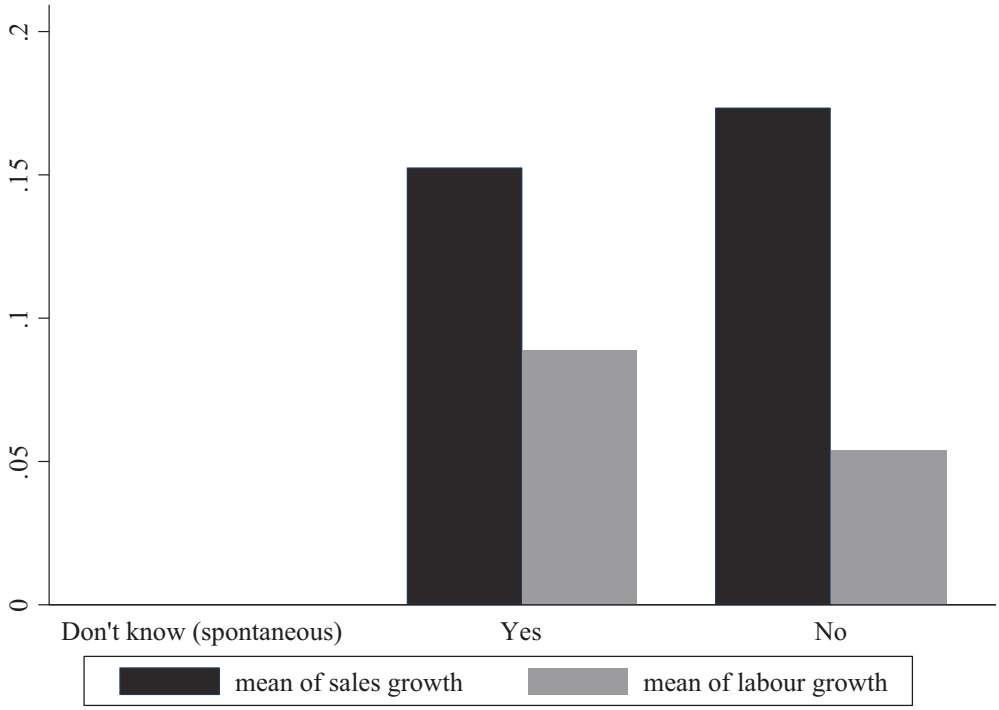
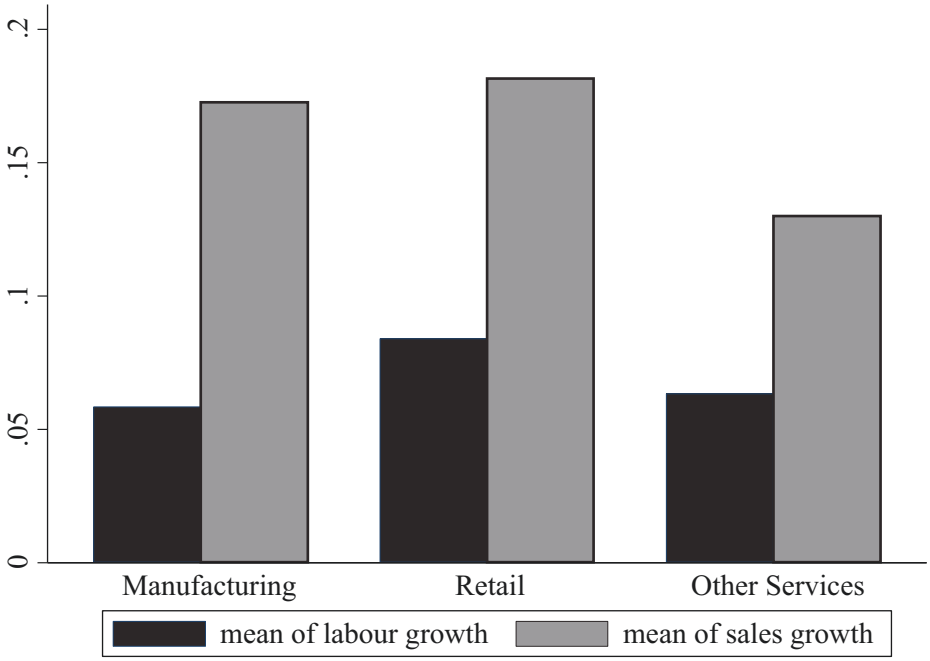


Figure A6: Performance of firms




Source: World Bank Enterprise Survey 2016–17

# Part 2:

# Women's Employment, Wage Gaps and Social Insurance

# 5
# Employment of Women in the Greater Mekong Subregion: New Insights from the Gallup-ILO World Poll

Gordon Betcherman and Iftekharul Haque

In this paper, we use a new and non-traditional data source, the 2016 Gallup World Poll (GWP), to describe the labour force status of women in the Greater Mekong Subregion (GMS) and to examine the barriers women face in participating in the labour force. As other data show, the GWP confirms that, compared to men, participation rates of women in the GMS are lower, unemployment rates are generally higher, and employment is more likely to be in family work and other informal forms than in formal waged employment. What makes the 2016 version of the GWP unique is a series of questions added by the ILO about the attitudes of women and men towards women and work. The vast majority of women expressed a preference to work outside the home and only a minority of men indicated that their preference would be for women in their household to stay at home. The survey data also offered no evidence that women (or men) saw limited opportunities in the labour market as a barrier to female employment. Barriers to women accessing employment that were raised most frequently concerned balancing work and family, lack of affordable care, factors related to abuse and transport. These calls for policy interventions are well outside the traditional sorts of interventions considered by policymakers in the employment area and they suggest that maximising job opportunities for GMS women will require a broad approach to public policy.

## 5.1 Introduction

Women in the Greater Mekong Subregion (GMS) face labour market challenges faced by women elsewhere in Southeast Asia and the Pacific and globally. Compared to men, labour force participation rates (although high by international standards) are lower, unemployment rates are higher, employment is more likely to be in family work and other informal forms than in formal waged employment, and earnings are lower.

International research has shown that these relatively unfavourable labour market outcomes for women are due to a number of (often interrelated) factors (ILO 2017). Women may suffer from human capital disadvantages in education, training and experience. Gender roles can affect whether women participate in the labour force and, if they do, what types of work are seen as appropriate. Discrimination and sexual harassment can discourage women from participating in the workforce and, more generally, reduce their employment possibilities. Limited ownership of productive assets and access to financing and transport can also be constraints. The extent to which women are disadvantaged in the workforce and the relative importance of these and other barriers varies considerably from country to country and with the characteristics of women within countries.

In any case, women, their families and their societies bear the costs of labour market disadvantages in terms of living standards, economic growth and social cohesion.[1] For this reason, improving women's employment is important on the international development agenda, including the Sustainable Development Goals, specifically SDG 5 on gender equality, SDG 8 on decent work and economic growth and SDG 10 on reduced inequality.

Achieving these development goals and improving female labour market prospects more generally depends on understanding the employment-related barriers women face. Traditional data sources, like labour force surveys, censuses and administrative data, can describe the outcomes of women in the labour market but they are not designed to generate evidence on the behaviours, norms and expectations that are critical to understanding why those outcomes occur and what their individual and social implications are. This is important for identifying what policy interventions could improve female employment outcomes.

In this paper, we rely on a non-traditional source of data for labour economists: the Gallup World Poll (GWP). In the 2016 version of the GWP, the survey's standard questions were supplemented by a series of questions

[1] For a review of the individual and social costs of the current female employment situation in Asia, see Asian Development Bank 2015.

sponsored by the ILO on women and work.[2] The GWP-ILO data are of interest to us for three reasons. First, the survey asks a series of questions about how men and women think and feel about women and work. Second, with these individual data on values, norms and preferences, we can analyse their relationship to female participation in the workforce. Third, the GWP-ILO data include information on a wide set of "hard" and "soft" challenges women face in employment. The 2016 GWP-ILO data were collected in 142 countries, including four in the GMS: Cambodia, Myanmar, Thailand and Vietnam. Unfortunately, Laos was not included in the 2016 survey; however, we are able to use data from the 2013 World Gallup Poll, when it was last surveyed, though without the women-and-work questions added by the ILO. The poll is not representative at the subnational level, so Yunnan (China) cannot be included in our analysis.

In the next section, we provide more detail on the Gallup World Poll and the 2016 Gallup-ILO version. In Section 3, we describe the labour force status of women in the GMS according to the GWP data and provide some comparison with standard ILO data reported in the Key Indicators of the Labour Market (KILM). Section 4 examines the barriers women face in participating in the labour market, focusing in particular on the results of the special questions in the GWP-ILO survey concerning the attitudes of women and men towards work. A summary is provided in Section 5.

### 5.2 Gallup-ILO World Poll

The GWP surveys adults around the world on a wide range of important social and economic issues. The GWP covers more than 160 countries and samples about 1,000 adults per country in order to generate nationally representative data.[3] It asks respondents everywhere a standardised set of questions about their personal situation (e.g. employment, income, housing, access to food, health, daily experience, life satisfaction) as well as their views on aspects of society (e.g. leadership, environment, infrastructure, governance and corruption, institutions). Many of these variables are aggregated into indexes that span various social and economic topics.[4]

The 2016 GWP included a set of questions developed by the ILO to provide insights into the perceptions and attitudes of women and men towards women and their work. About 149,000 adults in 142 countries responded to these questions. This included four GMS countries: Cambodia, Myanmar, Thailand

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2 For a summary of the results and the methodology of the survey, see Gallup and ILO 2017.

3 In large countries such as China and Russia, the sample may be around 2,000.

4 For a summary of GWP methodology, see www.gallup.com/178667/gallup-world-poll-work.aspx?g_source=link_wwwv9&g_campaign=item_178685&g_medium=copy.

and Vietnam. As mentioned in the introduction, Laos was not included in the 2016 GWP, so these attitudinal data are not available for that country.

The questions added by the ILO to the 2016 GWP cover the following topics: (1) preferences of women and men regarding female employment relative to household activities; (2) acceptability of women working outside the home; (3) challenges women face in working; (4) opportunities for women; and (5) contribution of female earnings to household income. The actual questions are included in Section 4, where we analyse the data on these topics in terms of how attitudes and preferences relate to the labour market outcomes of women in the GMS.

## 5.3 Labour force status of women in the GMS

In this section, we present summary statistics on the labour force status of adults in the GMS. We include GWP estimates of the labour force participation rate, employment rate and unemployment rate for the adult population (15 years and over) in Cambodia, Myanmar, Thailand, Vietnam (all for 2015) and Laos (2012).[5] Moreover, to consider the representativeness of the GWP, we compare these estimates with the ILO Key Indicators of the Labour Market (ILO-KILM), which are based on national surveys adjusted to meet international standards.[6] In the second part of this section, more detailed data from the GWP are presented which summarise the survey's estimates of female labour force status by various characteristics.

### *5.3.1 Labour force status in the GMS*

The GWP asks respondents about their labour force status, according to the following metrics:

- Employed full time (at least 30 hours) for an employer
- Self-employed full time (at least 30 hours)
- Employed part time, either for an employer or self, and not wanting to work full time
- Employed part time, either for an employer or self, and wanting to work full time
- Unemployed[7]
- Out of the workforce.[8]

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5 The Laos figures are based on the last GWP administered in that country.

6 The KILM data and methodology are available at www.ilo.org/global/statistics-and-databases/research-and-databases/kilm/lang—en/index.htm.

7 Not employed in the past seven days and actively looking and available for work in the past four weeks.

8 Not employed in the past seven days and not actively looking or available for work.

The basic categories of labour force participation, employment and unemployment, and their definitions, are aligned with international standards used by the ILO. This is also the case for the classification of full-time and part-time employment. However, the way that part time is classified renders it impossible to get national estimates of employment status (e.g. waged and salaried vs self-employed).

The following three tables show the GWP summary statistics overall, and by sex for the adult population (15 years and over) in the GMS countries, along with the comparable figures from the ILO-KILM.[9] According to GWP data, female labour force participation (Table 5.1) is in the 60–70 percent range, with Cambodia and Laos at the lower end and Myanmar and Thailand at the higher end. Male-female differences are substantial in Cambodia (19 percentage points), Laos (12 points) and Myanmar (12 points), while female participation in Vietnam is only slightly lower than the male rate (4 points).

Table 5.1: Labour force participation rate, 15 years and over (percent), 2015

| | GWP-ILO | | | ILO-KILM | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| Cambodia | 67.7 | 78.0 | 59.2 | 84.5 | 88.5 | 80.8 |
| Laos (2012) | 66.5 | 72.5 | 60.9 | 78.1 | 79.4 | 76.8 |
| Myanmar | 73.8 | 80.3 | 68.0 | 65.6 | 80.5 | 51.8 |
| Thailand | 74.0 | 78.1 | 70.3 | 69.1 | 77.8 | 61.0 |
| Vietnam | 66.9 | 69.0 | 65.0 | 78.5 | 83.9 | 73.4 |

Source: GWP calculations by authors; ILO-KILM

Table 5.1 shows that some significant differences exist between the participation rates generated by the GWP survey and the ILO-KILM figures. The ILO-KILM rates, based on national labour force surveys (except in Cambodia, where estimates seem to be derived from the 2014 Household Income and Expenditure Survey), are much higher in Cambodia, Laos and Vietnam than the GWP-ILO rates, but lower in Thailand and Myanmar.[10] According to the ILO-KILM data, male participation rates are higher than female rates in all countries, most strikingly in Myanmar, but the magnitudes of the differentials do not follow the same national patterns as the GWP-ILO figures.

[9] GWP data are weighted to be representative at the national level.

[10] The Labour Force Surveys are for 2015 in Myanmar, Thailand and Vietnam, and 2010 for Laos. The most recent LFS in Cambodia is 2012. The participation rates in that survey are much lower than in the 2014 HIES and are quite close to the GWP estimates for 2015.

As measured by international standards, unemployment is generally very low in the GMS (Table 5.2). However, the GWP data give a somewhat different picture than do national surveys, as reflected in the ILO-KILM. First, the GWP suggests there is more unemployment than does the ILO-KILM, particularly in Laos, Myanmar and Thailand, where rates are 3–6 percentage points higher according to the GWP. Second, in contrast to the ILO-KILM figures, which indicate little if any difference by sex, the GWP data show higher unemployment rates for women than men in all countries except Laos. In Myanmar and Thailand, the female unemployment rate was in the neighbourhood of 7 percent, compared to less than 1 percent according to the ILO-KILM.

Table 5.2: Unemployment rate, 15 years and over, total and by sex in four GMS countries (percent), 2015

| | GWP-ILO | | | ILO-KILM | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| Cambodia | 1.7 | 1.4 | 2.1 | 0.2 | 0.2 | 0.2 |
| Laos (2012) | 4.2 | 4.7 | 3.7 | 0.7 | 0.8 | 0.6 |
| Myanmar | 4.0 | 1.2 | 6.9 | 0.8 | 0.7 | 0.9 |
| Thailand | 6.6 | 5.8 | 7.3 | 0.6 | 0.6 | 0.6 |
| Vietnam | 1.7 | 1.5 | 1.9 | 2.1 | 2.2 | 2.0 |

Source: GWP calculations by authors; ILO-KILM

Given the generally low unemployment rates in the GMS, for the most part, employment rates (Table 5.3) look very similar to labour force participation rates. According to the GWP, there is relatively minor variation across the GMS in employment rates overall and by sex. Fewer than two-thirds of adult women are employed in all countries, with rates in Cambodia and Laos below 60 percent. Note that national surveys, reflected in the ILO-KILM figures, show a much wider variation. The differences in the two sets of estimates overall and for women are particularly large for Cambodia, Laos and Vietnam, with ILO-KILM rates much higher than GWP ones.

Table 5.3: Employment rate, 15 years and over, total and by sex in GMS countries (percent), 2015

| | GWP-ILO | | | ILO-KILM | | |
|---|---|---|---|---|---|---|
| | Total | Male | Female | Total | Male | Female |
| Cambodia | 66.5 | 76.9 | 57.9 | 84.3 | 88.3 | 80.7 |
| Laos (2012) | 63.7 | 69.1 | 58.6 | 77.6 | 78.8 | 76.3 |
| Myanmar | 70.8 | 79.4 | 63.3 | 65.1 | 80.0 | 51.3 |
| Thailand | 69.1 | 73.5 | 65.2 | 68.7 | 77.3 | 60.6 |
| Vietnam | 65.8 | 67.9 | 63.7 | 76.8 | 82.0 | 71.9 |

Source: GWP calculations by authors; ILO-KILM

Overall, the GWP-ILO data indicate that a substantial portion of the female population in the GMS is not active in the labour force. Female participation rates are lowest – around 60 percent – in Cambodia and Laos. These two countries also have the widest differential between men and women in labour force participation. Although unemployment is generally low throughout the GMS, women are more likely to be unemployed in all countries except Laos. In Myanmar and Thailand, the female unemployment rate is in the 7 percent range, according to the GMS data.

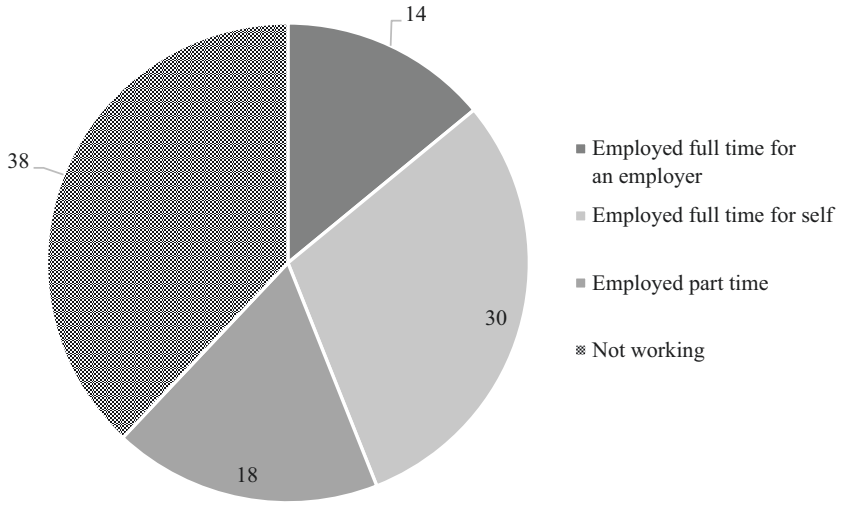
Having made these observations, it should be noted that, while they are claimed to be nationally representative and follow ILO standards of labour force status definitions, the Gallup World Polls are not ideally suited to generate accurate labour force estimates. This is primarily due to the relatively small sample sizes (around 1,000 per country). National labour force surveys and the ILO-KILM database presumably produce more accurate results. Accordingly, the differences in the labour force status estimates between the two sources, as summarised in the above tables should be kept in mind.

### *5.3.2 Correlates of female labour force status*

This subsection presents GWP results on the labour force status of women in the GMS by age, education and location. Here, we disaggregate employment into three categories: full time for an employer, full time for self, and part time. Since unemployment is a minor status for the survey respondents, it has been combined with the "out of the labour force" category into a "not working" category.

This categorisation for women in the five GMS countries combined is shown in Figure 5.1. The largest group is not working – 38 percent. It is noteworthy that women employed full time are more than twice as likely to be working for themselves as for an employer. This reflects the high level of informality in the subregion. Part-time work (for either an employer or self) accounts for 18 percent. This overall pattern roughly describes the individual countries in the subregion, with minor variations. For example, Vietnam has less part-time and more full-time employment: Thailand's full-time workers are more likely to work for an employer than to be self-employed; and Cambodia has more part-time employment (Figure 5.1).

Figure 5.1: Labour force status, women 15 years and over, five GMS countries combined (percent), 2015 and 2012 (Laos)




Source: GWP calculations by authors

*Age.* Female labour force activity differs substantially by age group, with largely similar patterns throughout the GMS countries (Table 5.4). For both younger (below 25) and older (55 and over) women, the most prevalent status is not working. This accounts for the majority of younger women in all countries except Myanmar and older women except in Thailand. In the prime-age group (25–54), some differences exist within the subregion. For example, full-time self-employment is the dominant status for employed women in that age group in Vietnam and Laos. In Thailand, where the waged sector is the most developed in the GMS, full-time employment for an employer is more important. A significant share of prime-age women in Cambodia and Myanmar work part time. According to the GWP data, most of these women would prefer to be working full time.

*Education*. Labour force status by educational attainment is shown for the GMS countries in Table 5.5. Three observations should be noted. First, full-time employment for an employer (i.e. in a wage/salary job) rises significantly with education. This status accounts for nearly half of post-secondary graduates in Vietnam, Thailand and Laos. In Myanmar, the share is lower but still much higher than is the case for less educated women.[11] While postsecondary women are much more likely to be wage/salary employees

[11] Cambodia is not included in this part of the analysis because of very low sample sizes of well-educated women.

than self-employed, the reverse is true for less educated women. Second, the prevalence of part-time work declines with education in all countries but Laos. Third, while the table does not distinguish between unemployment and being out of the labour force, the nature of non-employment differs by education. Non-working postsecondary graduates are much more likely to be unemployed than their less educated counterparts, who tend to be out of the labour force. Since unemployment as a labour market state is associated with waged workers, this is consistent with the observation that wage/salary work is much more common among post-secondary graduates than among the less educated.

Table 5.4: Labour force status, women 15 years and over, by country and age group, 2015

| | Age group | Employed full time for an employer | Employed full time for self | Employed part time | Not working | Total |
|---|---|---|---|---|---|---|
| | | Percent distribution | | | | |
| Vietnam | Below 25 | 16 | 18 | 15 | 50 | 100 |
| | 25–54 | 22 | 48 | 8 | 22 | 100 |
| | 55+ | 4 | 30 | 4 | 62 | 100 |
| | Total | 17 | 37 | 9 | 36 | 100 |
| Thailand | Below 25 | 21 | 3 | 14 | 63 | 100 |
| | 25–54 | 25 | 31 | 21 | 24 | 100 |
| | 55+ | 6 | 19 | 28 | 46 | 100 |
| | Total | 20 | 24 | 21 | 35 | 100 |
| Cambodia | Below 25 | 13 | 11 | 23 | 52 | 100 |
| | 25–54 | 9 | 30 | 27 | 34 | 100 |
| | 55+ | 5 | 27 | 17 | 51 | 100 |
| | Total | 10 | 23 | 25 | 42 | 100 |
| Laos (2012) | Below 25 | 9 | 30 | 9 | 53 | 100 |
| | 25–54 | 12 | 43 | 17 | 28 | 100 |
| | 55+ | 1 | 21 | 16 | 63 | 100 |
| | Total | 9 | 36 | 14 | 41 | 100 |
| Myanmar | Below 25 | 16 | 26 | 22 | 37 | 100 |
| | 25–54 | 16 | 31 | 23 | 30 | 100 |
| | 55+ | 4 | 25 | 12 | 59 | 100 |

Source: GWP calculations by authors

Table 5.5: Labour force status, women 15 years and over, by country and education (percent), 2015

| | Education | Employed full time for an employer | Employed full time for self | Employed part time | Not working | Total |
|---|---|---|---|---|---|---|
| Vietnam | Elementary or less | 16 | 38 | 11 | 36 | 100 |
| | Secondary/ some tertiary | 13 | 41 | 9 | 37 | 100 |
| | Completed 4+ years tertiary | 44 | 16 | 4 | 36 | 100 |
| | Total | 17 | 37 | 9 | 36 | 100 |
| Thailand | Elementary or less | 14 | 25 | 23 | 38 | 100 |
| | Secondary/ some tertiary | 26 | 21 | 21 | 33 | 100 |
| | Completed 4+ years tertiary | 42 | 25 | 9 | 24 | 100 |
| | Total | 20 | 24 | 21 | 35 | 100 |
| Cambodia | Elementary or less | 9 | 23 | 25 | 43 | 100 |
| | Secondary/ some tertiary[a] | 20 | 27 | 14 | 39 | 100 |
| | Completed 4+ years tertiary[a] | 20 | 80 | 0 | 0 | 100 |
| | Total | 10 | 24 | 25 | 42 | 100 |
| Laos (2012) | Elementary or less | 6 | 40 | 15 | 39 | 100 |
| | Secondary/ some tertiary | 11 | 30 | 12 | 48 | 100 |
| | Completed 4+ years tertiary[a] | 44 | 13 | 14 | 29 | 100 |
| | Total | 9 | 36 | 14 | 41 | 100 |
| Myanmar | Elementary or less | 14 | 28 | 21 | 38 | 100 |
| | Secondary/ some tertiary | 12 | 29 | 21 | 38 | 100 |
| | Completed 4+ years tertiary | 25 | 34 | 18 | 23 | 100 |
| | Total | 14 | 29 | 21 | 37 | 100 |

Note: Sample sizes for some cells are very small. For example, for Cambodia, completed tertiary (n=3); secondary (n=24); Laos, completed tertiary (n=24).
Source: GWP calculations by authors

Labour force status patterns also differ by location (Table 5.6). In all GMS countries, rural women are less likely than urban women to be out of the labour force. On the other hand, employed women have higher part-time employment rates in rural areas than in urban centres. Among those working full time, urban women have higher rates of waged employment than their rural counterparts, which is what would be expected given the nature of urban vs rural economies. However, in all countries, self-employment is still more common than waged employment in both urban and rural areas.

Table 5.6: Labour force status, women 15 years and over, by location (percent), 2015

| | | Employed full time for an employer | Employed full time for self | Employed part time | Not working | Total |
|---|---|---|---|---|---|---|
| Vietnam | Urban | 21 | 33 | 6 | 41 | 100 |
| | Rural | 15 | 40 | 11 | 34 | 100 |
| | Total | 17 | 37 | 9 | 36 | 100 |
| Thailand | Urban | 20 | 24 | 21 | 36 | 100 |
| | Rural | 20 | 24 | 22 | 34 | 100 |
| | Total | 20 | 24 | 21 | 35 | 100 |
| Cambodia | Urban | 13 | 18 | 19 | 50 | 100 |
| | Rural | 9 | 25 | 26 | 40 | 100 |
| | Total | 10 | 23 | 25 | 42 | 100 |
| Laos (2012) | Urban | 18 | 22 | 9 | 51 | 100 |
| | Rural | 6 | 41 | 16 | 38 | 100 |
| | Total | 9 | 36 | 14 | 41 | 100 |
| Myanmar | Urban | 13 | 25 | 18 | 44 | 100 |
| | Rural | 14 | 30 | 22 | 33 | 100 |

Source: GWP calculations by authors

## 5.4 Barriers to women working

The unique feature of the 2016 GWP is the series of questions sponsored by the ILO on attitudes to female employment. The responses to these questions allow us to consider a wider set of barriers to women participating in the workforce than is typically possible using traditional labour market data. The questions include:

- Would you prefer to work at a paid job, or to stay at home and take care of your family and the housework, or would you prefer to do both? (asked of women)
- Would you prefer that the women in your family work at paid jobs, or that they stay at home and take care of your family and the housework, or would you prefer that they do both? (asked of men)

- Do you agree or disagree with the following statement? It is perfectly acceptable for any woman in your family to have a paid job outside the home if she wants one. (asked of both men and women)
- Please think about women who work at paid jobs in [country/territory name] today. What do you think is the biggest challenge these women face? (asked of both men and women)
- If a woman has similar education and experience to a man, does she have a better opportunity, the same opportunity or a worse opportunity to find a good job in the city or area where you live? (asked of both men and women)
- Please think about what you earn at your job and how it contributes to your household's income. Would you say it is the main source, a significant source or a small source of your household's income? (asked of both men and women)

In this section, we analyse the responses to these questions to better understand the labour force activities of women in the GMS, specifically Cambodia, Myanmar, Thailand and Vietnam. As indicated in Table 5.1, the (weighted) national female labour participation rates according to the GWP data were in the 60–70 percent range, meaning that, depending on the country, 30–40 percent of adult women were not in the workforce. For the surveyed GMS countries as a whole, the out of the labour force rate was 35 percent. Among women working, only a small minority (22 percent) worked full time in an employee status. The rest were in more flexible and "non-standard" forms of work: either full time self-employed (48 percent) or part time (29 percent).

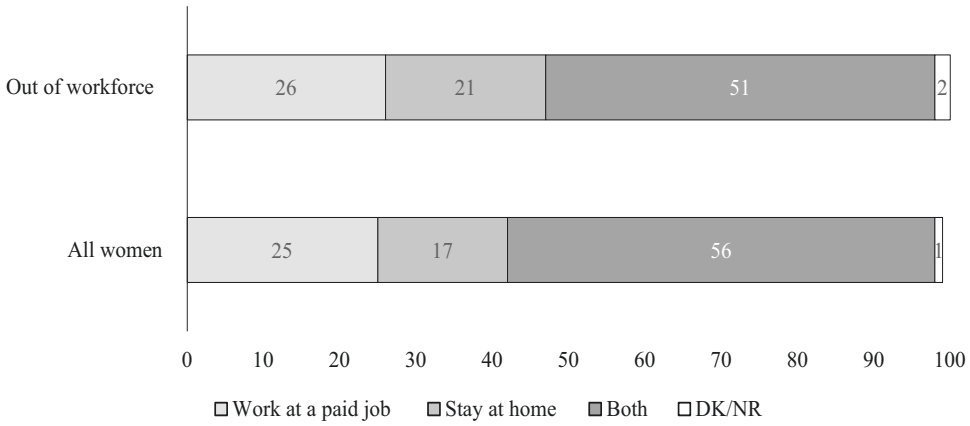
### *5.4.1 Preferences and attitudes regarding female participation in the workforce*

When asked whether they would prefer to work in a paid job, stay at home (to care for family, housework) or do both, the majority of women in Thailand (58 percent), Cambodia (66 percent) and Myanmar (67 percent) responded that their preference was to do both. Vietnamese women were less likely to report this preference (34 percent). In all countries, a high percentage of women would prefer to work, either in combination with household duties or not; this share ranged from 66 percent in Vietnam to 89 percent in Thailand and Myanmar. Not surprisingly, preference for working outside the home decreases for older women: 32 percent of women over 55 would prefer to stay at home, compared to 17 percent of the 25–54 age group and just 8 percent for the under 25 group. Preference for working outside the home is stronger for better educated women than for those with less schooling.

While, overall, women in the GMS express a strong preference for work outside the home, is this true for those who are not in the workforce? Figure 5.2 compares the preferences of GMS women not in the labour force with all women and shows that there is very little difference. In other words, there is no evidence that non-participation reflects the preference of those women to stay at home. Only 21 percent of women outside the workforce reported that preference, only slightly more than the 17 percent figure for all women.

Do the preferences of men explain the significant non-participation among adult women in the GMS? Men asked about their preferences were more likely to say they would prefer that women in their family stayed at home than women themselves reported (35 percent vs 17 percent). However, this was not the dominant attitude. The majority of men in all four countries indicated a preference for women to work, either in combination with household duties or not. This ranged from 70 percent in Myanmar to 57 percent in Thailand.

Figure 5.2: Work preferences of women, by labour force status in four GMS countries, 2015



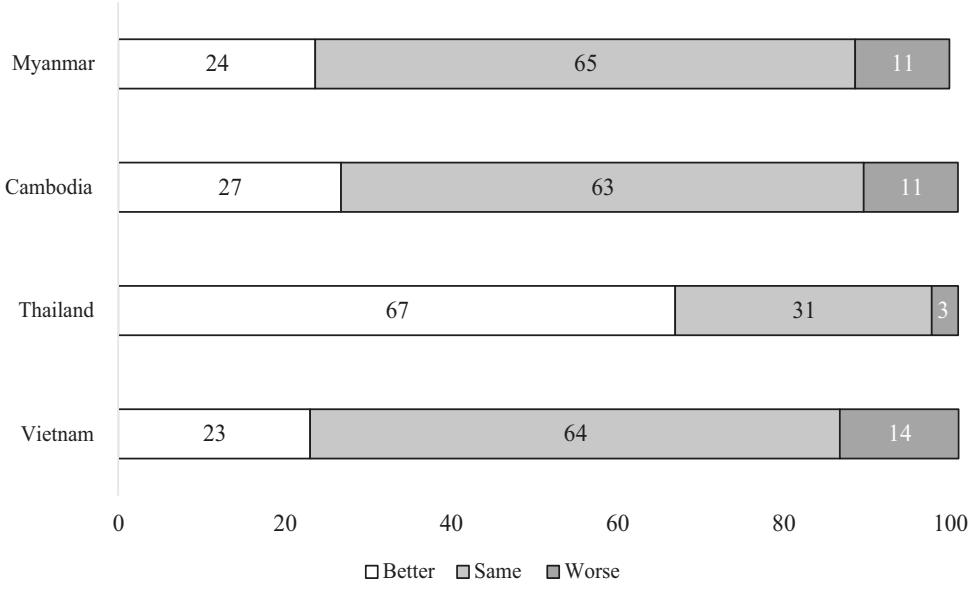

Source: GWP calculations by authors

Closely related to the issue of preferences, both female and male respondents were also asked whether it was perfectly acceptable for any woman in the family to have a paid job outside the home if she wanted one. There was strong support for this across the four GMS countries and among both women (85 percent) and men (76 percent). Higher income, better educated and younger respondents had moderately higher support levels, but the acceptability of women working was fairly strong among all types of adults in the region.

### *5.4.2 Perceived opportunities for women in the labour market*

The GWP-ILO data suggest that the preferences and attitudes of women and men are not significant factors in discouraging female labour force participation in the four GMS countries where data were collected. Another possible barrier addressed in the survey is perceptions of women's employment opportunities. Is there a sense in the region that women are disadvantaged relative to men? Figure 5.3 summarises how survey respondents (male and female) assessed the relative opportunities for women to find a good job compared to men with similar levels of experience and education. The general perception in all four countries is that women have at least the same opportunities as men with similar profiles. In Myanmar, Cambodia and Vietnam, 85–90 percent of respondents share this view and, in fact, almost twice as many believe opportunities for women are better than for men as those who think men are favoured. The perceived advantage of women is especially marked in Thailand, where two-thirds assessed women's opportunities as better than those of men.

Figure 5.3: Perceptions of employment opportunities for women relative to men in four GMS countries (percent), 2015




Source: GWP calculations by authors

Do both women and men share this perception that women have at least as much opportunity, if not more, than men in the labour market? As Table 5.7 indicates, perceptions are almost identical between the two.

Table 5.7: Perception of opportunity for women to find a good job relative to men with similar experience and education, by gender in four GMS countries (percent), 2015

| | Male | Female | Total |
|---|---|---|---|
| | Percent distribution | | |
| Better opportunity | 33 | 32 | 33 |
| Same opportunity | 52 | 53 | 53 |
| Worse opportunity | 9 | 10 | 9 |
| DK/RF | 6 | 5 | 5 |

Source: GWP calculations by authors

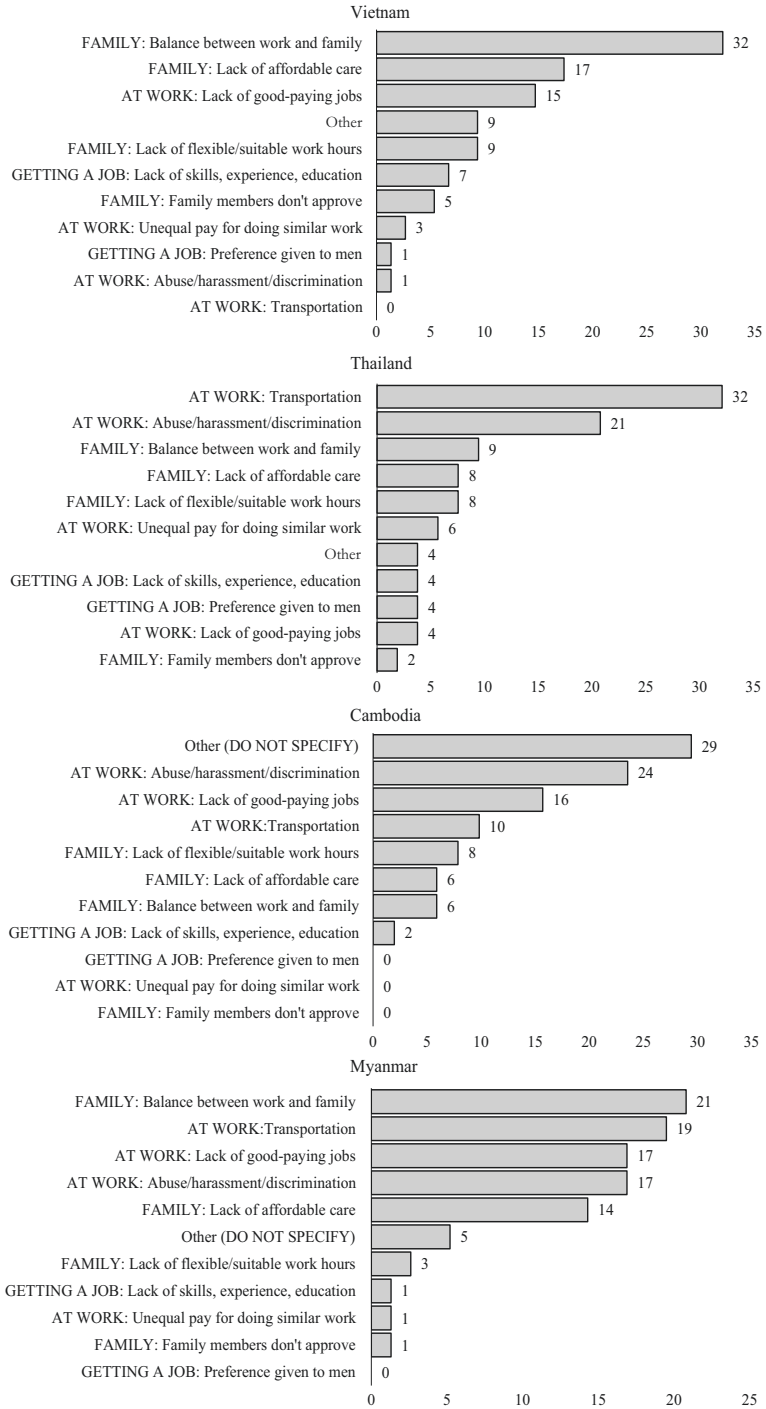
### *5.4.3 Top challenges women face in employment*

The GWP-ILO questions on women and work offer little support for the argument that preferences and attitudes of men and women are important factors in explaining the labour force participation patterns of GMS women. To complete our review of the data collected, we now look at responses to the question on the challenges women face in paid work. Respondents were asked to identify the single most important challenge in an open-ended question. Responses were then coded into the following 10 categories, based on the most common themes that were mentioned by respondents (Gallup and ILO 2017):

- balance between work and family or home/no time to spend with family
- lack of affordable care for children or relatives
- unfair treatment at work/abuse/harassment/discrimination
- lack of flexible work hours/appropriate, suitable work hours
- lack of good-paying jobs
- unequal pay for doing similar work as men (or work of equal value)
- family members do not approve of women working
- lack of transport/lack of safe transport
- people prefer to hire or promote men
- lack of skills, experience or education.

Figure 5.4 presents the results for each of the four countries. These figures combine the responses for both men and women; there was very little difference between the two. Family-related challenges were most prevalent in Vietnam, with balance between work and family being significantly more likely to be cited than any other barrier. Another family-related factor, lack of affordable care, was the second most often cited. On the other hand, respondents in Thailand and Cambodia highlighted work-related factors: transport and abuse/harassment/discrimination were the top two challenges in Thailand, and transport, lack of good paying jobs and abuse/harassment/discrimination were the top three in Cambodia. Myanmar reported a combination of work- and family-related challenges.

Figure 5.4: Biggest challenge facing women in paid work, percentage distribution in four GMS countries, 2015




Source: GWP calculations by authors

It is interesting to note from Figure 5.4 that respondents almost never cited discrimination (in the form of preference given to men in hiring and promotion or unequal pay for similar work), family preferences/values (i.e. family members do not approve of women working) or lack of skills, education or experience as the biggest challenge women face in paid work.

## 5.5 Conclusion

Women in the Greater Mekong Subregion exhibit labour force patterns that are characteristic of many developing countries. Participation rates are significantly lower than they are for men. According to the Gallup World Poll, between 30 and 40 percent of women 15 years and older in the countries covered (Cambodia, Laos, Myanmar, Thailand and Vietnam) were not in the labour force. It should be noted that these participation rates are somewhat different from rates generated by national surveys, where the range of participation rates is much greater, 50–80 percent. Among women who are working, only slightly more than 20 percent are in "standard" full-time wage/salary employment. The rest are working in "non-standard" jobs: almost half are full time self-employed, with the remaining 30 percent or so working part time.

Participation in the labour force and employment in a full-time waged position may not be the preference for all women in the region. Indeed, non-standard work arrangements are the preference of many women. Nonetheless, the data suggest that they face some disadvantages in their labour market situation. Removing these not only would benefit the subregion's women by expanding the opportunities available to them but would also bring broader social benefits. Accordingly, it is important from both an analytical and a policy perspective to understand barriers that women in the GMS face in the labour market.

In this paper, we have benefited from the 2016 Gallup World Poll, augmented by a unique series of questions on women and work sponsored by the ILO, to investigate various potential challenges for women in paid employment. This analysis yielded the following findings.

First, attitudes regarding female employment do not seem to be a major barrier in the GMS. The vast majority of women in the subregion expressed a preference to work outside the home, either exclusively or in combination with household duties. This applied as well to women who were not in the labour force in 2015, almost 80 percent indicating a preference to work outside the home. Moreover, only a minority of men indicated that their preference would be for women in their household to stay at home. Consistent with this, three in four men and 85 percent of women agreed it was perfectly acceptable for women to work in a paid job outside the home.

Second, the survey data offered no evidence that women (or men) saw limited opportunities in the labour market as a barrier to female employment. In all countries, both sexes evaluated the opportunities for women relative to similarly qualified men as equal or even better; in Thailand, in particular, respondents perceived the opportunities for women as especially favourable relative to men.

Third, both men and women identified similar challenges that women face in paid employment. However, the particular challenges cited differ in the countries included in the survey. In Vietnam, family-related concerns, including balance between work and family and lack of affordable care, predominated. In Thailand and Cambodia, the top challenges were related to work, including transport and abuse/harassment/discrimination. Myanmar respondents identified both family- and work-related challenges.

What are the policy implications? To begin, it is important to recognise that the large majority of women in the GMS do want to participate in the labour force but that many would prefer flexible arrangements that would allow them to combine work outside the home with household duties. The barriers to accessing good jobs do not seem to be rooted in the attitudes of women and men regarding work – indeed, there seems to be a broad acceptance of women working outside the home. Barriers raised most frequently by respondents concerned balancing work and family, lack of affordable care, factors related to abuse and transport. It is noteworthy that these call for policy interventions that are well outside the traditional sorts of interventions considered by policymakers in the employment area. Maximising the job opportunities for GMS women will require a broad approach to public policy.

## Acknowledgements

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# 6
# Investigating the Gender Wage Gap in Cambodia

Cheng Savuth, Ngov Penghuy, Heng Molyaneth and Heng Seltik

Despite improvements in female labour force participation rates, the gender wage gap remains an issue in Cambodia. This study analyses the gender wage gap using a modified Oaxaca-Blinder decomposition method. The findings show that men earn more than women on average. Unobservable factors contribute more to the gender wage gap than do observable factors, suggesting that workers' skills, labour discrimination and institutional factors underlie the gender wage gap. Among the directly observed variables, women lag behind men in education, work experience, and highly paid management and professional jobs, widening the gender wage gap. However, women's employment in high-wage manufacturing sectors such as garments and in high-wage foreign and domestic firms has increased, thus reducing the gender wage gap. The results imply that to reach pay equality between women and men doing the same work, attention must be paid to both observable factors such as education and work experience and unobservable factors such as gender discrimination, institutional settings and other barriers that result in lower pay for women.

## 6.1 Introduction

Despite fast progress in reducing poverty and providing more and better employment opportunities, there is still a clear imbalance between the quality of life and wages in Phnom Penh city and in the rest of the country. Similarly, it is a persistent fact that women earn less than men.

Investigating earnings inequality has strong policy implications for Cambodia. A study by the Japan International Cooperation Agency (JICA 2010) using the Gini coefficient, the most commonly used measurement of inequality, finds that income inequality in Cambodia worsened from 2004 to 2007, especially in rural areas, despite concomitant reduction in overall poverty. At the regional level, with a Gini coefficient value of 44.4 percent, Cambodia has the second highest rate of inequality among ASEAN member states after Malaysia with 46.2 percent (Aekapol 2013).[1] However, the Asian Development Bank (2014), using the Palma measurement,[2] finds an overall reduction in income inequality in Cambodia. Roth and Lun (2014) find a decline in consumption inequality between 2009 and 2011. This highlights the difficulty of obtaining conclusive data on the issue.

Wage employment was selected as the focus of study because of its paramount importance for raising living standards and to fill a gap in the existing body of knowledge on the topic in Cambodia. Wage employment is the second largest source of employment and household income in Cambodia after self-employment. The proportion of wage workers in the total labour force almost doubled from 23 percent in 2004 to 41 percent in 2013, while the share of self-employed workers rose from 39 percent to 55 percent (NIS 2010, 2015). The growth of wage employment suggests that it is becoming integral to family income and national poverty reduction. However, little is known about the extent of inequality in this important segment of the labour market.

Investigating earnings inequality in wage employment on the basis of gender is particularly important for promoting decent wage employment for women. Latest data shows that gender disparities in the overall labour force in Cambodia remain high and barely improved over the 10 years to 2014. The labour force participation rates of women and men remained virtually unchanged at 77.5 percent and 87.9 percent, respectively. Similarly, the employment rates of women and men nudged up just 0.8 percentage point and 1 percentage point to 77.4 and 87.8 percent, respectively (NIS 2015). Perhaps most striking is the difference between women's and men's annual

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1 A Gini score of 100 percent indicates maximum inequality and a score of 0 percent indicates no inequality.

2 The Palma measurement is the ratio of the income share of the top 10 percent to that of the bottom 40 percent.

earnings: women earned just 71 percent of what men did in 2012 (ILO and ADB 2013).

Economic growth and structural change over recent decades led to employment growth in non-agricultural sectors. The share of women's employment in manufacturing increased from about 43 percent in 2004 to 53 percent in 2014, suggesting some signs of progress in improving women's labour position. But the gender pay gap indicates that employment growth has not been sufficiently inclusive for women (ILO and ADB 2013). Constraints on women's labour market options have relaxed, but there are still barriers and biases that result in lower pay for women. The current study examines the extent of earnings inequality between and within groups of wage workers on the basis of gender. The joint ILO-ADB (2013) report confirms the fact that female wage workers earn less than male wage workers in Cambodia, but sheds no light on the situation of wage workers in different economic sectors, different occupations and different areas (rural and urban).

The issue of wage inequality might be more complex when comparing workers in different groups at different wage levels, for example, male workers versus female workers in the top 20 percent of the wage distribution. Yet, there is no available information about gender differences in earnings for wage workers in the same wage distribution quantile. For example, equally qualified female workers may find it more difficult to secure high-wage jobs than their male counterparts. Therefore, the wage gap may differ by quantile and could be wider among high-wage than among low-wage workers.

Wage gap studies have been conducted in several developing countries, for example, Knight and Sabot (1982) in Tanzania, Chapman and Harding (1985) in Malaysia, and Amin, Quayes and Alam (2015) in Bangladesh. Yet, there is no similar comprehensive empirical study that explains the causes of the gender wage gap in Cambodia. This study attempts to highlight the issue in Cambodia and fill this knowledge gap.

The main objectives of the study are to investigate earnings inequality on the basis of gender and to identify the drivers of existing wage inequalities in Cambodia. To that end, the study addresses two key research questions. First, whether there is earnings inequality among male and female wage workers in general and within different quantiles of wage distribution in particular. Second, what the underlying causes of earnings inequality among wage workers are.

This study explores the causes of the gender wage gap using data on wage employment, which is an important segment of the labour market and a vital source of household income in Cambodia. By re-evaluating and investigating the main drivers of the persistent gender wage gap in Cambodia, the study offers new insights into the issue and suggests policy areas where interventions may be needed.

## 6.2 Literature review

When one group of people receives fewer benefits than other groups, there exists an unjust distributive system or so-called inequality (Kolm 1999; Nripesh 1999). The outcomes of inequality can have significant consequences for the affected parties, including feelings of unfairness and envy, deprivation and isolation, and social upheaval. Economic inequality not only harms economic growth in general but also reduces the effectiveness of political institutions and weakens the economic system, depriving workers of rights and fair pay while a few powerful individuals benefit from the labour of the majority. Thus, economic inequality requires policy immediate interventions (Nripesh 1999).

At the macro level, dissatisfaction as a result of workers' constant comparison of their status with their peers can lower productivity (Poggi 2014). Inequality can also hold back economic growth through its effects on labour force participation, fertility, labour productivity and working hours (Cassells et al. 2009; Schober and Winter-Ember 2009).

Despite compelling evidence of earnings differentials between female and male wage workers, previous studies on Cambodia, unlike those in other developing countries (see, for example, Nopo, Daza and Ramos 2011), have not documented any factors that explain why earning inequalities exist. Roth and Lun (2014), for instance, found high inequality in educational attainment between Cambodian men and women, but they did not explore the relationship between education inequality and wage inequality.

The debate about wage inequality in the literature suggests several main contributing factors. First is a change in labour supply composition, such as increases in highly educated workers, female labour force participation or migrant workers. An increase in the supply of highly educated workers reduces wage inequality because it lowers the wages of highly educated workers and narrows the wage gap between low-wage and high-wage earners. On the other hand, an increase in female labour force participation can widen wage inequality if female workers are concentrated in low-paying jobs. Changes in the quality and endowments of the labour force, such as age, experience and education, also affect wage inequality (Daczo 2012; Martins and Pereira 2004).

An increase in trade openness can shift demand towards skilled workers and thus widen wage inequality (Oostendorp 2009), though this effect depends on firms' heterogeneity – trade that enhances revenue dispersion across firms also increases wage inequality across workers and firms (Akerman et al. 2013).

Labour market institutions such as minimum wages and unions are another factor. In Indonesia, for instance, the introduction of a minimum wage had a positive impact on the wages of workers who previously earned below

the minimum wage (Chun and Khor 2010), and consequently reduced wage inequality.

Skill-biased technological change that favours skilled workers over unskilled workers can widen wage inequality, such as when organisational restructuring as a result of competitive market forces creates demand for more skilled labour (Bound and Johnson 1995; Acemoglu 1999; Bernard and Jensen 2000; Leonardi 2004; Oostendorp 2009; Daczo 2012).

Labour market heterogeneity across regions can cause wage inequality. If labour market integration of migrant workers and/or free movement of labour across regions exist, the economic returns to labour and therefore wage inequalities across regions will be small (Bernard and Jensen 2000).

Economic structural change can also induce wage inequality. For instance, innovation in the services sector increases the demand for skilled labour, thereby widening wage inequality between services and manufacturing sectors (Daczo 2012; Henze 2014). Even within sectors, occupational segregation, such as when more women than men concentrate in low-paying elementary occupations, can cause wage inequality (Blau and Kanh 2000; Oostendorp 2009; Mouw and Kalleberg 2010).

Workers' skill levels and job commitment have an effect on wage differentials, too. Wage inequality can arise due to an increase in demand for unobserved skills. If women have lower levels of unobserved skills than men do, then wage inequality may emerge. This could happen even if men and women have the same levels of observed skills (e.g. education) or the same occupation (Acemoglu 1999; Mouw and Kalleberg 2010). However, wage inequality is also thought to be associated with gender discrimination (Juhn, Murphy and Pierce 1993; Blau and Kanh 1997).

Daczo (2012) suggests classifying factors that affect wage inequality into two groups: group-specific or non-wage effect factors, and wage structure or wage-effect factors. The first group comprises observable factors such as education and experience and unobservable factors such as labour discrimination, unobserved skills and characteristics. Thus, if women have lower observed and/or unobserved skills or suffer discrimination, the gender wage gap will widen. The second group concerns differences in returns to observed and unobserved factors, mainly wage distribution, and includes returns to observed and unobserved skills as well as discrimination.

It is necessary to acknowledge the interactions between group-specific factors and wage-specific factors, as well as the interactions between observable and unobservable components of wage inequality. For instance, discrimination may cause a certain group such as women to form expectations about future pay, which, in turn, may influence the decision to invest in skill

acquisition (Juhn, Murphy and Pierce 1993; Blau and Kanh 1996; Gonzaler 2001; Carneiro, Heckman, and Masterov 2005).

Workforce skills and their basic components are variously and sometimes ambiguously defined in the literature. However, there is general consensus that work skills can be divided into hard skills – the technical or practical capabilities specific to a particular occupation, which are observable and measurable, and soft skills – interpersonal, communication, problem solving, mentoring, negotiation and persuasion. Some scholars extend the definition to include willingness to learn, positive attitude, work ethics and self-confidence (Lafer 2002, 2004).

## 6.3 Methodology

Wages, although not the only determinant of living standards, are commonly used in the literature because they are easy to measure. There are several measures of wage inequality. Many studies focus on wage dispersion and changes in wage distribution. Others use variance in wages between men and women or between sectors to measure the extent of wage inequality. In this study, we use average wages to analyse the gender wage gap. The study used a mixed methods approach and relied mainly on secondary data supplemented with primary data.

### *6.3.1 Data*

Primary data was collected from key informant interviews and consultation workshops. Key informants included policymakers, researchers, university academics, gender specialists from the Asian Development Bank and UN-Women, and representatives from business sectors, Cambodia Federation of Employers and Business Associations, and labour unions. Two workshops were organised. The first one assembled 15 key informants who have practical and policy knowledge on earnings inequality issues in Cambodia. The second was a technical consultation workshop to verify the regression models and quantitative analyses. The workshops provided in-depth insights into earnings inequality issues in Cambodia, especially unobserved factors such as workers' attitudes and behaviour and workplace discrimination, and helped validate the choice of control variables for the regression models.

Secondary data was compiled from the Cambodia Socio-Economic Survey (CSES), a nationally representative household survey conducted by the National Institute of Statistics (NIS) in 1994, 1996, 1997, 1999 and 2004, then annually since 2007. The CSES provides comprehensive information about the labour force and employment. It collects data on monthly salary, employment status, employment by sector, primary occupation, workplace and location (urban, rural) and demographic information on workers' gender, education, age, ethnicity, family size and land ownership. We used the CSES

2014 dataset to generate the descriptive statistics because the large sample size allows precise estimation of the gender wage gap.

### *6.3.2 Variables*

- *Employees or wage workers* are defined as workers (both full-time and part-time), aged 15–64, hired and paid by an employer, whether or not they have a written employment contract. Self-employed workers or own-account workers, unpaid family workers, child workers and older workers are excluded from the analysis because of lack of reliable information on their wages.
- *Wages* are defined as monthly earnings or salary in KHR. We use the real wage to calculate wages and perform wage gap decomposition. Real wage is obtained by deflating the nominal wage in CSES 2014 by the consumer price index (2010 = 100) from World Bank World Development Indicators 2015. Wage outliers, which fall below KHR80,000 a month (about KHR2,500 or USD0.50 a day) and above KHR12,000,000 a month (about KHR400,000 or USD100 a day), were excluded from the analysis. Because wages tend to have positive skew and most wages are concentrated below the mean wage, the minimum threshold was set to include workers earning less than the minimum wage.
- *Gender and ethnicity* are self-reported information collected by the CSES. Gender includes male and female. Ethnicity includes Khmer, Cham, Kuy and Tampaun (local ethnic groups), Chinese, Vietnamese, Thai and Lao. Khmer make up the majority of Cambodia's population.
- *Location* is rural or urban. The CSES defines urban communes as an area with a population density exceeding 200 per $km^2$ or a total population of more than 2,000, or where less than 5 percent of male workers work in agriculture.
- *Marital status*. Although not directly correlated with workers' earnings, living with a partner has an effect on labour force participation, especially for female workers. Marital status is classified into two groups: those who live with a partner, whether or not they are legally married, and those who are single, separated, divorced or widowed.
- *Family size* (the number of household members) also affects the likelihood of becoming a wage worker. Women with large families tend to opt for part-time work, and part-time workers tend to be in low-paid jobs.
- *Household head education* also affects labour force participation rates. In Cambodia, females are traditionally assigned household duties such as child care, elder care and other unpaid work. However, it is hypothesised that the higher the educational level of the household head, the lower the influence of cultural norms. This variable captures how cultural norms and expectations affect labour market participation.

- *Workers' age* is provided in complete years in the CSES.
- *Workers' educational attainment* is the highest school grade completed by individuals. A value of zero indicates no education, a value of 1 indicates completion of grade 1 or preschool education, 2 means completion of grade 2 and so on up to grade 12, which indicates completion of high school education. A value of 13 means individuals passed the national grade-12 exam (BAC II) and a value above 13 indicates higher education and formal training.
- *Work experience* is a variable constructed based on workers' age and education. Following Mincer (1974) and Miller (1993), we calculate experience using the function *Experience = Age – Education – 5,* which captures workers' potential work experience since leaving school. Potential experience is valid because we do not have information about actual work experience.
- *Land ownership* is the total land ($m^2$) owned by a household. It includes land that is owned, purchased, inherited, rented out or rented in. Although asset ownership does not directly affect wages, it directly affects the decision about when to participate in the labour market as wage workers.
- *Employment by sector* refers to workers' primary economic activities as per the International Standard Industrial Classification (ISIC), which classifies industries by a four-digit code. The ISIC has 21 major categories (A to U) which at the 2-digit level are organised into 99 subdivisions (01–99), which are further subdivided (1–9). ISIC has undergone several revisions due to the adding of new economic sectors such as e-commerce and merging of existing ones (United Nations 2002, 2008). While it is easy to adjust for consistency at the 1-digit level, it is difficult to adjust CSES data at the 2-digit level and above. We therefore analyse employment at the 1-digit level and group all economic activities into three major sectors: agriculture, manufacturing and services.
- *Occupations* in the CSES are categorised using the 4-digit International Standard Classification of Occupations-88, which was adopted in 1987. We use the 1-digit classification of 10 occupations: armed forces; managers; professionals; technicians and associate professionals; clerical support workers, service and sales workers; skilled agricultural, forestry and fishery workers; crafts and related trade workers; plant and machine operators, and assemblers; and elementary occupations. However, we exclude armed forces from our analysis.
- *Workplace types* are classified into four groups: public organisations (government and government enterprises), domestic firms (including household businesses), foreign firms and others (NGOs, international organisations).

### *6.3.3 Pay gap decomposition*

We perform a modified Oaxaca-Blinder decomposition (Oaxaca 1973; Blinder 973) to separate the portion of the gender pay gap that is explained by differences between the observable characteristics of female and male workers (e.g. educational attainment, work experience, family size, occupation) from the portion that is not explained by those characteristics (i.e. unobservable factors). This method decomposes mean differences between women's and men's wages into observable and unobservable factors, as shown in the following equation and diagram.

$$w_m - w_f = (X_m - X_f)\hat{\beta}_M + X_m(\hat{\beta}_m - \hat{\beta}_f)$$

Difference between the average real wage of female ($w_f$) and male ($w_m$) workers

Observable differences between the characteristics of female ($X_f$) and male ($X_m$) workers:
- Education
- Work experience
- Economic sector
- Occupation
- Workplace
- Urban or rural residency
- Race and ethnicity

Factors affecting the decision to become wage worker
- Family size
- Marital status
- Household head education
- Assets (land ownership)

Unobservable factors:
- Discrimination
- Skills (hard/soft)
- Personal traits (work ethic, attitude, behaviour)
- Institutional (legal system)
- Cultural and social norms/ stereotyping

Note: $\hat{\beta}_M$ and $\hat{\beta}_f$ are rate of return on observable characteristics. For instance, the rates of return on education in Cambodia for women and men are 3% and 4%, respectively. One additional year of education increases women's average monthly wage by 3%.

The first part of the equation $(X_m - X_f)\hat{\beta}_M$ is the observable portion of the gender pay gap and can be explained by gender differences in the characteristics listed. For example, if the average level of women's education is lower than that of men, there is a gender gap in education that increases the gender wage gap. The observable portion also includes other factors that affect the decision to engage in waged work such as family size, marital status, household head education and assets.

The second part $X_m(\hat{\beta}_m - \hat{\beta}_f)$ is the unobservable portion of the gender pay gap and cannot be explained by differences in wage determinants. For example, men and women in the same occupation may have the same level of

education, but women may be paid lower wages than men. This was previously put down to workplace discrimination, whether intentional or unintentional. However, caution should be exercised when interpreting the decomposition results because differences between men's and women's earnings may be correlated with other unobservable factors such as workers' skills and motivation, institutional factors, cultural and social norms (Daczo 2012).

We deal with sample selection bias using the Heckman (1976) technique, the index problem following Oaxaca and Ransom (1994), and sensitivity of dummy variables using the contrast transform technique of Yun (2005).

To study the gender wage gap across different quantiles of wage distribution, we use the Machado and Mata (2005) technique[3] to decompose the gender wage gap into gender differences in observed characteristics and in returns to observed characteristics using a nonparametric technique.

## 6.4 Results and discussion

CSES 2014 indicates that wage workers account for about 45 percent (41 percent women, 59 percent men) of the labour force, the self-employed about 50 percent and unpaid family workers about 5 percent (NIS 2015). This suggests that wage work is an important segment of the labour force and also an important source of household income in Cambodia.

### *6.4.1 Overview of the Cambodian labour market and wage employment*

The proportion of wage workers in total employment doubled from 22.3 percent in 2004 to 44.5 percent in 2014, along with a more modest rise in self-employed workers from 38.2 percent to 49.9 percent. The percentage difference between the shares of wage workers and the self-employed in total employment narrowed from around 16 percentage points in 2004 to 5 percentage points in 2014, suggesting a rapid change in labour market segmentation. Waged employment has clearly become an increasingly important labour market segment.

As Figure 6.1 shows, in 2014, women made up 53 percent of the manufacturing workforce and men 44 percent, and 30 percent of the services workforce compared to 41 percent for men.

Figure 6.2 shows the distribution of wage workers across different occupations. The largest proportions of wage workers are engaged in crafts and related trades followed by elementary occupations and then services and sales and clerical work.

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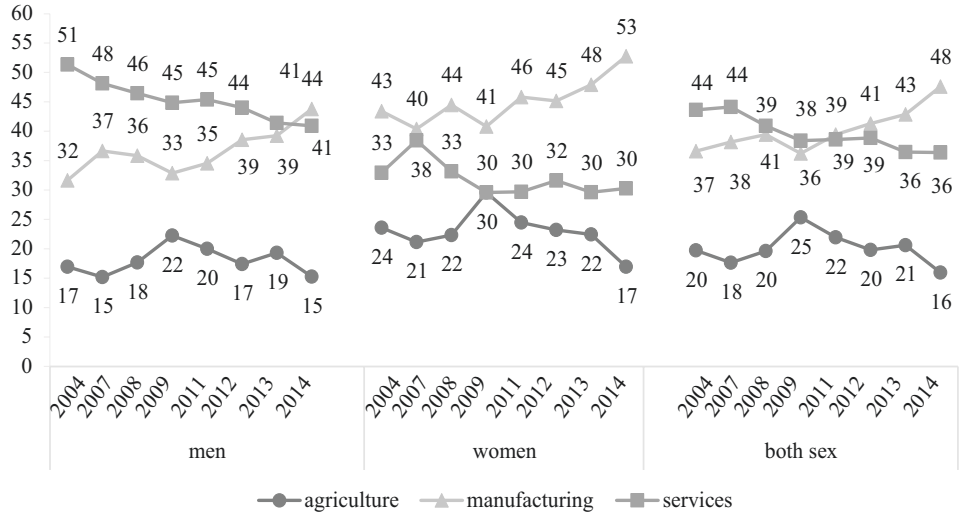
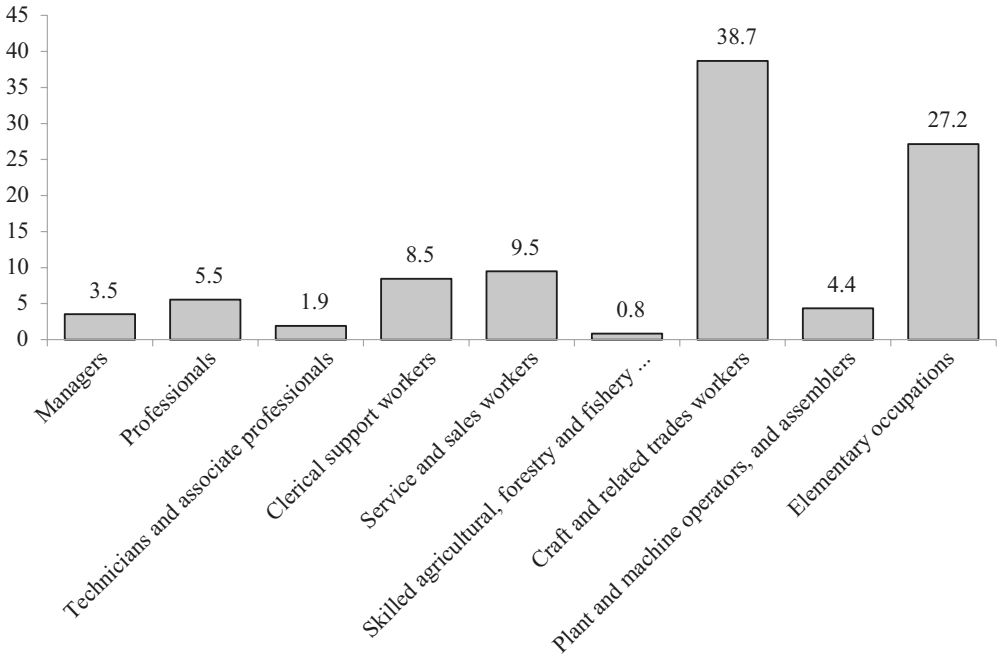
[3] The Machado-Mata decomposition is executed with Stata command "mmsel".

Figure 6.1: Wage labour shares by sector and gender (percent), 2004–14




Source: Authors' calculations using data from CSES 2014

Figure 6.2: Wage labour by occupation (percent), 2014




Source: Authors' calculations using data from CSES 2014

Table 6.1: Employment by occupation and workplace (percent), 2014

| | | Men | Women |
|---|---|---|---|
| Occupations (ISCO-88) | Manager | 5.3 | 1.2 |
| | Professional | 5.3 | **5.9** |
| | Technicians and associate professional | 2.2 | 1.5 |
| | Clerical support worker | 8.9 | 7.9 |
| | Service and sales worker | 9.5 | 9.4 |
| | Skilled agricultural, forestry and fishery worker | 0.9 | 0.8 |
| | Craft and related trades worker | 32.6 | **46.9** |
| | Plant and machine operators, and assembler | 6.5 | 1.5 |
| | Elementary occupation | 28.9 | 24.8 |
| Workplace type | Public organisation | 14.7 | 6.7 |
| | Domestic firm, household business | 59.5 | 41.6 |
| | Foreign firm | 25.1 | 51.0 |
| | NGO, international organisation, other | 0.8 | 0.6 |

Source: Authors' calculations using 2014 CSES data

Table 6.2: Gender wage ratio (KHR 2010), 2014

| Category | Variables | (1) | (2) | (2) / (1) |
|---|---|---|---|---|
| | | Men | Women | Wage ratio |
| Region | Urban | 721,709 | 576,464 | 0.80 |
| | Rural | 514,743 | 439,883 | 0.85 |
| Economic sector | Agriculture | 419,812 | 317,655 | 0.76 |
| | Manufacturing | 570,231 | 493,435 | 0.87 |
| | Services | 653,142 | 558,430 | 0.85 |
| Occupation ISCO-88 | Manager | 612,353 | 449,573 | 0.73 |
| | Professional | 717,754 | 656,734 | 0.91 |
| | Technician and associate professional | 903,114 | 636,112 | 0.70 |
| | Clerical support worker | 866,906 | 762,026 | 0.88 |
| | Service and sales worker | 524,851 | 412,927 | 0.79 |
| | Skilled agricultural, forestry and fishery worker | 508,966 | 295,202 | 0.58 |
| | Craft and related trades worker | 561,400 | 482,019 | 0.86 |
| | Plant and machine operator, and assembler | 670,440 | 538,016 | 0.80 |
| | Elementary occupation | 460,727 | 379,008 | 0.82 |
| Workplace type | Public organisation | 588,384 | 511,744 | 0.87 |
| | Domestic and household firm | 528,411 | 414,734 | 0.78 |
| | Foreign firm | 684,580 | 534,236 | 0.78 |
| | NGO, international organisation, other | 1,152,685 | 696,187 | 0.60 |
| Total | | 581,380 | 484,617 | 0.83 |

Source: Authors' calculations using data from CSES 2014

Table 6.1 shows employment by gender across occupation and workplace. Women outnumber men in only two occupations, particularly in crafts and related trades, and more than twice as many women as men work in foreign firms.

Table 6.2 displays the ratio of women's wage to men's wage in 2014. A wage ratio of less than 1 indicates that women's average wage is lower than that of men. The statistics show that the gender wage gap is higher in urban areas than in rural areas and lower in manufacturing and services than in agriculture. By occupation, the largest gender wage gap is in skilled agricultural, forestry and fishing jobs, followed by technician and management jobs. By workplace, the gender wage gap is highest in NGOs and lowest in the public sector.

### *6.4.2 Gender wage gap decomposition*

The results of Oaxaca-Blinder decomposition based on a sample of 10,190 wage workers (41 percent women, 59 percent men) and adjusted for sample selection bias are shown in Table 6.3. The results indicate that the differences between explained (observed) and unexplained (unobserved) characteristics contribute significantly to the gender wage gap. The gender wage gap of 0.15 indicates that women's average monthly real wage is about 15 percent or 1.2 times lower than that of men. In other words, women earn about 87 percent of what men earn. The magnitude is not large but it is statistically significant at the 5 percent level. The predicted real average monthly wage for men is about USD127 or KHR508,000 compared to about USD111 or KHR440,000 for women, a difference of about USD16 or KHR64,000.

Table 6.3: Results from the wage gap decomposition using the Oaxaca-Blinder method

| | Difference in ln(wage) | Standard error | | % |
|---|---|---|---|---|
| **Differential** | | | | |
| Prediction_men | 13.14 | (0.008) | *** | |
| Prediction_women | 13.00 | (0.009) | *** | |
| Difference | 0.13 | (0.012) | *** | |
| Adjusted for selection bias | **0.15** | (0.038) | *** | 100 |
| **Explained** | **-0.02** | (0.007) | *** | -15 |
| Education | 0.03 | (0.004) | *** | 17 |
| Experience | 0.02 | (0.002) | *** | 12 |
| Economic sector | -0.02 | (0.003) | *** | -11 |
| Occupation | 0.02 | (0.004) | *** | 15 |
| Workplace type | -0.07 | (0.005) | *** | -47 |
| Urban | -0.00 | (0.001) | | -1 |
| Majority | 0.00 | (0.000) | | 0 |
| **Unexplained** | **0.17** | (0.007) | *** | 115 |
| *n_men* | | 6,006 (adjust R2=0.23) | | |
| *n_women* | | 4,184 (adjust R2=0.28) | | |

Notes: Standard errors in parentheses; * p < 0.10, ** p < 0.05, *** p < 0.01.

The difference in workers' endowment, or the explained part (observed characteristics), is -0.02, and the difference in the unexplained part (unobserved characteristics) is 0.17. This means that a significant proportion of pay inequality cannot be explained by differences in observable factors. Many scholars have attributed this unexplained part to labour market discrimination. However, caution must be exercised when interpreting the results because this part of the gender wage gap could include the gaps in unobserved (unmeasured) skills and in returns to unobserved skills in addition to labour market discrimination or other institutional factors (Juhn, Murphy and Pierce 1993; Daczo 2012). Within the explained (observed) part, the following patterns are observed:

- *Education*: Gender differences in educational attainment explain 17 percent of the wage gap. Women, on average, completed 7.27 years of schooling and men completed 8.15 years. The fact that women have a lower level of education than men widens the gender wage gap.
- *Work experience*: That women have less work experience than men explains about 12 percent of wage inequality. Women generally opt for part-time work because they do the bulk of household work, which is one of the reasons they accumulate less work experience than men.
- *Economic sector*: Gender differences by industry can explain 11 percent of the gender wage gap. This is because of the higher percentage of women employed in high-wage sectors. The percentage of female workers is larger in manufacturing, which also has the largest positive coefficient in men's earnings regression (see Annex Table A1). Economic sector reduces the gender wage gap by 11 percent. The results indicate that investment growth in sectors such as manufacturing and services, which pay higher wages and employ more women, reduces the gender wage gap.
- *Occupation*: Gender differences in occupation explain 15 percent of the gender wage gap. Women's employment is primarily concentrated in low-paid occupations such as crafts and trades, whereas fewer women than men are employed in high-wage occupations (e.g. as managers, professionals and technicians). However, the coefficient of male earnings in these low-paid occupations is the smallest. We can safely conclude that occupational segregation increases the gender wage gap.
- *Workplace type* has a negative effect on the gender wage gap, reducing it by 47 percent. This is because the percentage of female workers employed in high-wage workplaces generally exceeds the percentage of male workers. This suggests that the distribution of female wage workers by workplace type, which includes domestic firms, foreign firms and the public sector, has generally improved compared to that of male wage workers.

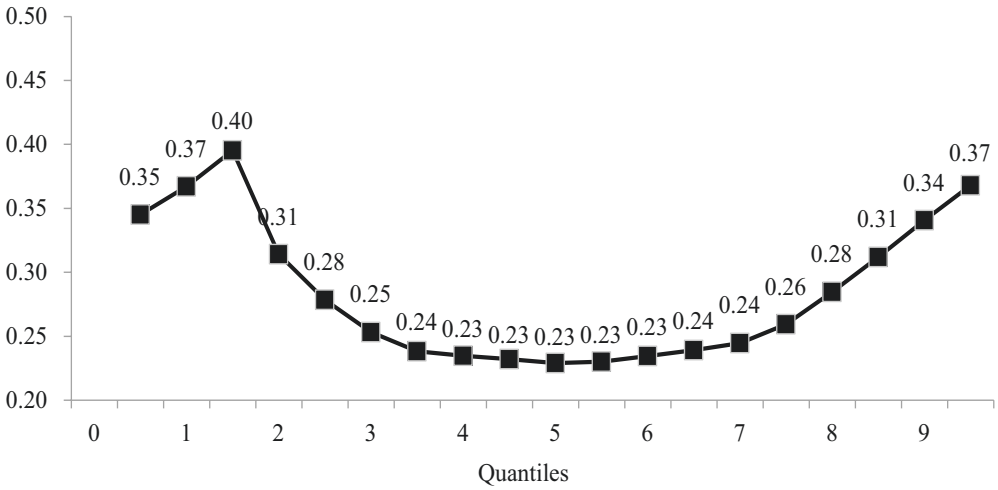
- *Urban/rural residence* does not have any statistically significant effect on the gender wage gap.
- *Ethnicity* does not influence the gender wage gap.

In summary, the findings from the Oaxaca-Blinder decomposition imply that efforts to address the gender wage gap must pay more attention to closing the gender gap in unobserved factors such as unobserved skills, discrimination against women, and institutional barriers that prevent women from getting equal pay. Moreover, the findings suggest that efforts to promote improvements in the observed characteristics of female wage workers such as education and work experience and increase women's employment in high-wage sectors and high-paying occupations must be continued.

### *6.4.3 Gender wage gap decomposition by wage distribution quantile*

The results of the Machado-Mata decomposition, which looked at the difference in characteristics and coefficient effect of the gender wage gap are shown in Figure 6.3. The lowest quantiles (the 1st and 2nd) include the group of jobs that pay lower wages while the highest quantiles (the 9th and 10th) include the group of jobs that pay higher wages. The vertical axis measures the estimated gender wage gap across quantiles.

Figure 6.3: Machado-Mata gender wage gap decomposition, 2014




Source: Authors' calculations using data from CSES 2014

The results indicate that the gender wage gap is positive across all wage distribution quantiles. This suggests that men's wages are higher than women's wages in both low-paying and high-paying jobs. However,

the gender wage gap appears to be much larger among the lowest and the highest earners.

In general, women tend to have difficulty getting top-paying jobs and negotiating high salaries. Thus, the gender wage gap is expected to be larger among high-paying jobs (the top quantiles of wage distribution). However, in Cambodia, even in the lowest paying jobs (the bottom quantiles), women get lower wages than men.

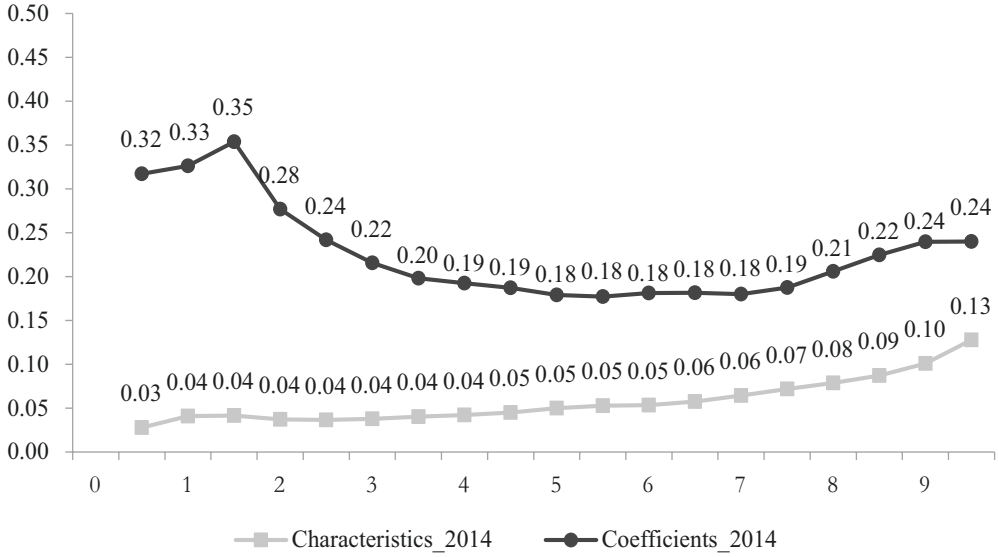
Moreover, gaps in coefficients (differences between men and women in returns to observed characteristics) have a stronger impact on the gender wage gap than gaps in characteristics (differences between men and women in quantity of observed characteristics), as shown in Figure 6.4. The gaps in observed characteristics refer to differences in education, work experience, employment share by sector, occupation and workplace while the gaps in unobserved characteristics refer to differences in returns to those observed characteristics.

The results also show that the gender gap in observed characteristics is the largest at the top of the wage distribution (among the highest-wage workers) while the gender gap in coefficient is larger at the bottom of the wage distribution (among the lowest-wage workers) and the top of the wage distribution (among the highest-wage workers).

The largest gender wage gap at the bottom of the wage distribution is mainly contributed by the gap in workers characteristics and the returns to worker characteristics. When it comes to observed characteristics such as education, experience and skills, the gap between women and men in the bottom quantile is small. However, women tend to receive far lower wages than men. This observed gender wage gap can be caused by gaps in unobserved factors such as gender discrimination, unobserved skills, or other institutional barriers and biases that result in lower pay for women.

At the top quantiles of wage distribution, the gender wage gap is not only contributed by differences in returns to observed characteristics but also by the large gap in observed characteristics. Among high-wage workers, women have much lower observed characteristics such as education, experience, observed skills and other observed characteristics than men. The findings suggest that narrowing the gender wage gap requires both removing barriers that stop women moving from low-paying jobs to better paying jobs and addressing discrimination against women.

Figure 6.4: Machado-Mata decomposition for gender wage gap in 2014




Source: Authors' calculations using data from CSES 2014

### *6.4.4 Earnings equation estimation*

It is useful to examine male-female differences in estimated earnings. The results of the earnings equation estimations given in Annex Table A1 indicate that, in 2014, an additional year of education increased average wages by 3 percent for women and 4 percent for men. They also show that both female and male workers in manufacturing and service sectors earn higher average wages than those in agriculture. The coefficient for women in manufacturing and services is higher than that for men, suggesting structural change that favours women's wages.

Moreover, wage workers in domestic and foreign firms and other organisations receive higher mean wages than public sector workers (i.e. government staff). Although public sector workers generally receive lower wages with slower increments, they have more job security than private sector workers. Similarly, workers in urban areas have higher mean wages than workers in rural areas, while the mean wages of majority and minority workers are not statistically different for women.

The earnings regression is shown in Annex Table A1 and the likelihood of being a wage worker in Annex Table A2. The results indicate that most variables have a positive impact on the likelihood of becoming a wage worker, except marital-status and assets (land ownership), which reduce the likelihood of becoming a wage worker.

## 6.5 Conclusions and policy implications

This paper has endeavoured to empirically investigate the influential factors causing gender wage inequality in Cambodia by decomposing the gender wage gap (men/women) into observable and unobservable factors using an extended Oaxaca-Blinder decomposition approach.

Men's wages grew faster than women's wages in the observed period, widening the gender wage gap. Unobserved factors, which include labour discrimination against women, unobserved skills and institutional factors that prevent women from getting equal pay, are a likely reason for this. On the other hand, gender gaps in observed factors, that is, education, experience, employment in high-paying sectors, occupation and workplace, have narrowed.

Observable characteristics, including education, put female wage workers in a markedly weaker position in both the bottom and the top wage distribution quantiles than men.

Household characteristics such as family size and household head positively affect women's decisions to become wage workers while marriage and land ownership reduce the probability of women becoming wage-workers.

In summary, to reduce the gender wage gap, interventions should be extended beyond narrowing gender gaps in education and experience to increasing women's employment in high-paying occupations, economic sectors and workplaces, removing other barriers and biases that result in lower pay for women, and eliminating discrimination against women. Policy actions to narrow the gender wage gap should therefore focus on the following:

- Reducing discrimination against women and other forms of discrimination (both direct and indirect) that prevent women from getting equal pay.
- Creating the right policy and institutional environment to break down the social, cultural and legal barriers that prevent women from getting equal pay.
- Promoting more investment and trade in high-wage manufacturing and services sectors that employ growing numbers of women.
- Promoting women's employment in high-wage firms including in multinational corporations.
- Promoting and supporting skill and educational development for women in competing for high-wage occupations.
- Reinforcing policy efforts aimed at narrowing education and work experience gaps by increasing women's enrolment and retention rates in higher education.

Moreover, in the presence of persistent gender wage gap and wage employment growth, especially in unskilled and low-skilled jobs, the

development of social security protection and labour institutions such as a statutory minimum wage are indispensable factors in addressing wage inequalities. Although our study suggests the existence of unobserved skills and discrimination, additional studies are needed to quantify the impact of discrimination on the gender wage gap.

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# Annex

Table A1: Earnings regression for men and women

| | 2004 | | 2014 | |
|---|---|---|---|---|
| | Ln(wage) | | | |
| | men | women | men | women |
| education | 0.03*** | 0.04*** | 0.04*** | 0.03*** |
| | (0.00) | (0.01) | (0.00) | (0.00) |
| experience | 0.01*** | 0.00** | 0.01*** | 0.00 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| inverse Mills ratio | -0.23*** | -0.12*** | -0.05 | -0.01 |
| | (0.04) | (0.04) | (0.03) | (0.03) |
| manufacturing | 0.02 | -0.17 | 0.16*** | 0.37*** |
| | (0.12) | (0.21) | (0.03) | (0.05) |
| services | -0.00 | -0.25 | 0.04 | 0.19*** |
| | (0.11) | (0.20) | (0.04) | (0.05) |
| manager | 0.03 | -0.11 | 0.14*** | 0.39*** |
| | (0.06) | (0.10) | (0.04) | (0.08) |
| professional | 0.13 | -0.34** | 0.21*** | 0.33*** |
| | (0.11) | (0.16) | (0.06) | (0.09) |
| technician and associate professional | 0.19 | -0.09 | 0.15*** | 0.39*** |
| | (0.24) | (0.28) | (0.04) | (0.08) |
| clerical support worker | -0.11* | -0.33*** | -0.06 | 0.03 |
| | (0.07) | (0.12) | (0.04) | (0.08) |
| service and sales worker | -0.44*** | -0.97*** | 0.02 | -0.05 |
| | (0.13) | (0.22) | (0.10) | (0.16) |
| skilled agricultural and fishery worker | -0.08 | -0.40*** | -0.07 | -0.14 |
| | (0.08) | (0.14) | (0.05) | (0.08) |
| craft and related trades worker | -0.00 | -0.26** | 0.13*** | 0.04 |
| | (0.07) | (0.13) | (0.05) | (0.10) |
| plant and machine operator, assembler | -0.20*** | -0.53*** | -0.10* | 0.05 |
| | (0.06) | (0.11) | (0.05) | (0.08) |
| domestic firm | 0.76*** | 0.71*** | 0.20*** | 0.27*** |
| | (0.05) | (0.08) | (0.03) | (0.04) |
| foreign firm | 0.88*** | 0.67*** | 0.41*** | 0.55*** |
| | (0.12) | (0.13) | (0.03) | (0.04) |
| NGO and others | 1.12*** | 0.91*** | 0.50*** | 0.23 |
| | (0.08) | (0.10) | (0.10) | (0.16) |
| urban | 0.17*** | 0.09*** | 0.18*** | 0.09*** |
| | (0.03) | (0.03) | (0.02) | (0.02) |
| majority | -0.02 | -0.11 | -0.17** | -0.05 |
| | (0.11) | (0.12) | (0.08) | (0.11) |
| _cons | 12.13*** | 12.53*** | 12.53*** | 12.03*** |
| | (0.17) | (0.26) | (0.11) | (0.15) |
| *N* | 5791 | 5130 | 6006 | 4184 |
| r2 | 0.31 | 0.30 | 0.22 | 0.29 |
| F | 53.27 | 29.76 | 76.37 | 62.91 |
| P | 0.00 | 0.00 | 0.00 | 0.00 |

Notes: Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Source: Authors' calculations using data from CSES 2014

Table A2: Likelihood of being wage-employees for men and women

| | 2004 | | 2014 | |
|---|---|---|---|---|
| | Labour Force Participation | | | |
| | men | women | men | women |
| age | 0.11*** | 0.07*** | 0.05*** | 0.00 |
| | (0.01) | (0.01) | (0.01) | (0.01) |
| age squared | -0.00*** | -0.00*** | -0.00*** | -0.00*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| marital status | -0.35*** | -0.70*** | -0.42*** | -0.59*** |
| | (0.04) | (0.04) | (0.04) | (0.03) |
| family size | 0.02*** | 0.05*** | 0.05*** | 0.04*** |
| | (0.01) | (0.01) | (0.01) | (0.01) |
| household head education | 0.08*** | 0.05*** | 0.05*** | 0.01*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| log(land) | -0.08*** | -0.08*** | -0.08*** | -0.07*** |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| _cons | -2.62*** | -1.73*** | -0.35*** | 0.67*** |
| | (0.13) | (0.14) | (0.13) | (0.13) |
| *N* | 13105 | 12784 | 12087 | 11379 |
| r2_p | 0.13 | 0.15 | 0.13 | 0.17 |
| ll_0 | -6899.94 | -5362.80 | -8376.71 | -7626.06 |
| ll | -6000.15 | -4581.68 | -7309.70 | -6311.21 |
| aic | 12014.29 | 9177.36 | 14633.39 | 12636.43 |
| chi2 | 1799.58 | 1562.25 | 2134.04 | 2629.70 |
| p | 0.00 | 0.00 | 0.00 | 0.00 |

Notes: Standard errors in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Source: Authors' calculations using data from CSES 2014

## Table A3: Summary statistics for men and women

| | 2004 | | | | 2014 | | | |
|---|---|---|---|---|---|---|---|---|
| Variable | male | n | female | n | male | n | female | n |
| wage | 247,815 | 3,796 | 229,476 | 2,558 | 659,445 | 7,721 | 551,810 | 5,813 |
| real wage | 404,200 | 3,796 | 374,288 | 2,558 | 568,096 | 7,721 | 475,371 | 5,813 |
| ln(wage) | 12.65 | 3,796 | 12.6 | 2,558 | 13.1 | 7,721 | 12.9 | 5,813 |
| lfp | 0.20 | 17,698 | 0.1 | 18,191 | 0.5 | 14,848 | 0.4 | 14,465 |
| age | 30.77 | 20,654 | 32.5 | 23,877 | 32.4 | 16,937 | 33.8 | 18,904 |
| age squared | 1,113.36 | 20,654 | 1,237.6 | 23,877 | 1,217.5 | 16,937 | 1,330.2 | 18,904 |
| marital status | 0.57 | 20,649 | 0.54 | 23,863 | 0.58 | 16,937 | 0.56 | 18,904 |
| family size | 5.81 | 20,654 | 5.60 | 23,877 | 5.22 | 16,937 | 5.07 | 18,904 |
| household head education | 5.96 | 15,425 | 5.90 | 17,024 | 6.67 | 13,847 | 6.54 | 15,018 |
| education | 6.52 | 17,340 | 5.46 | 16,560 | 8.15 | 15,138 | 7.27 | 15,176 |
| experience | 18.65 | 17,304 | 19.57 | 16,516 | 19.16 | 14,693 | 20.14 | 14,769 |
| log(land) | 6.69 | 20,654 | 6.59 | 23,877 | 5.94 | 16,937 | 5.78 | 18,904 |
| agriculture | 0.60 | 17,721 | 0.58 | 18,215 | 0.44 | 14,854 | 0.47 | 14,477 |
| manufacturing | 0.13 | 17,721 | 0.15 | 18,215 | 0.25 | 14,854 | 0.24 | 14,477 |
| services | 0.27 | 17,721 | 0.27 | 18,215 | 0.32 | 14,854 | 0.29 | 14,477 |
| isoc1 | 0.02 | 17,684 | 0.00 | 18,195 | 0.03 | 14,854 | 0.01 | 14,477 |
| isco2 | 0.05 | 17,684 | 0.02 | 18,195 | 0.03 | 14,854 | 0.02 | 14,477 |
| isco3 | 0.01 | 17,684 | 0.00 | 18,195 | 0.01 | 14,854 | 0.01 | 14,477 |
| isco4 | 0.00 | 17,684 | 0.00 | 18,195 | 0.04 | 14,854 | 0.03 | 14,477 |
| isco5 | 0.08 | 17,684 | 0.18 | 18,195 | 0.11 | 14,854 | 0.20 | 14,477 |
| isco6 | 0.61 | 17,684 | 0.59 | 18,195 | 0.36 | 14,854 | 0.39 | 14,477 |
| isco7 | 0.06 | 17,684 | 0.07 | 18,195 | 0.19 | 14,854 | 0.22 | 14,477 |
| isco8 | 0.07 | 17,684 | 0.06 | 18,195 | 0.07 | 14,854 | 0.01 | 14,477 |
| isco9 | 0.11 | 17,684 | 0.07 | 18,195 | 0.16 | 14,854 | 0.11 | 14,477 |
| public organisation | 0.06 | 17,651 | 0.02 | 18,138 | 0.07 | 14,850 | 0.03 | 14,476 |
| domestic firm | 0.90 | 17,651 | 0.95 | 18,138 | 0.80 | 14,850 | 0.77 | 14,476 |
| foreign firm | 0.00 | 17,651 | 0.00 | 18,138 | 0.12 | 14,850 | 0.20 | 14,476 |
| NGO and others | 0.03 | 17,651 | 0.03 | 18,138 | 0.00 | 14,850 | 0.00 | 14,476 |
| urban | 0.17 | 20,654 | 0.17 | 23,877 | 0.24 | 16,937 | 0.25 | 18,904 |
| majority | 0.96 | 20,654 | 0.96 | 23,877 | 0.96 | 16,937 | 0.96 | 18,904 |

Source: Authors' calculations using data from CSES 2014

# 7
# Gender, Employment and Wage Disparities in Laos

Phothong Siliphong and Keophet Phoumphon

To provide substantive evidence of the gender wage gap in the private sector, the Social Development Alliance Association (SODA) commissioned this survey to examine the gender pay gap and other work benefits in the Lao enterprise sector. Nine hundred and two interviewees out of a total 4,022 employees were selected from 183 private firms across four major provinces. The predicted gender wage gap is around 15.3 percent. Differences between the characteristics of female and male workers (e.g. education, work experience, ethnicity, marital status) contribute around 3.8 percent of the gender wage gap. Differences in returns to worker characteristics contribute about 11.2 percent of the gap. This means that even when female and male workers have identical characteristics (except their sex group), male workers earn 11.2 percent more than female workers. This suggests the scope of discrimination against women in the labour market. There is a need to review from a gender perspective all policies related to wages, employment and the salary system in the private sector, with a focus on creating a policy reform agenda aimed at strengthening law enforcement in order to close the gender wage gap. There is a need to conduct public information campaigns to raise male and female employees' awareness of their rights at work, specifically on equal remuneration for women and men for work of equal value.

## 7.1 Introduction

Women in Laos are major contributors to the economy, but their contributions remain invisible and therefore greatly undervalued due to the lack of sex-disaggregated data across economic sectors. In the agricultural sector, women's contributions to agricultural production, often unpaid, are crucial to household food security and the rural economy. Yet their activities are often excluded from economic accounts. Although a number of national surveys such as the Agriculture Census 2011, Lao Expenditure and Consumption Survey (LECS) 2007–08 and 2012–13, Economic Census 2013, and Population and Housing Census 2015 were implemented countrywide, gender and ethnicity data related to employment and the labour market were often inadequately tabulated, analysed and disseminated (LSB 2003, 2009a, 2013a, 2016).

The effects of domestic work on women's economic opportunities are often neglected in policies aimed at increasing female participation in productive paid employment. First, the time burden of women's domestic unpaid work and the lack of substitutability of female labour in such tasks as birth and child care limit women's choices in accessing paid employment. Second, female time poverty contributes to unequal educational outcomes, which hinder women from competing for more skilled, better-paid jobs.

Several studies have shown that women and ethnic minorities may face unequal treatment in labour markets compared to men or majority ethnic groups (SODA 2015). In the case of Laos, little is known about inequalities in labour market outcomes. Enhancing the literature on gender and ethnicity gaps is important for several reasons. First, studies on Laos are scant, mainly because of the shortage of available data. Second, gender and ethnic inequalities are likely to be greater when markets do not function efficiently and the state lacks resources for introducing corrective policies. Third, understanding the root causes of inequalities between the sexes and ethnic groups that contribute to the gender wage gap could help design poverty reducing and equality strengthening policies in Laos.

The lack of relevant data on women's employment, wages and labour market participation limits planners' understanding of the real situation in the Lao economy and constrains effective action planning. There is thus a strong need for incorporating a gender perspective into employment statistics. From a policy perspective, it is important to explore the extent to which the gender wage gap can be attributed to differences in observable characteristics such as human capital and job characteristics, or to wage discrimination.

The general objective of this study is to explore the gender wage gap in the private sector. The study assesses the extent to which the magnitude of the gender wage gap, and the factors contributing to it, vary across occupations

and industries. The specific objectives are to: (1) analyse labour market participation and wages along gender lines; (2) identify the gender wage gap in the SME sector; and (3) examine key drivers of access and opportunity barriers to employment encountered by female employees.

### 7.2 Literature review

In 1997, based on data from LECS 2012–13, on average a male employee received 18 percent to 33 percent more than a female employee at each education level. Male workers in Vientiane capital earned the highest wage, LAK103,000 per month, 33 percent more than male workers in other regions (LSB 2009a). The provincial discrepancy is slightly higher, 38 percent, between female employees. Males earned 28 percent more than females in Vientiane capital, and 24 percent more than females in other provinces (Onphanhdala and Suguga 2006).

Manufacturing and services firms often complain that there are no applicants even for low-skilled jobs, despite the possibility of higher earnings from moving out of agriculture. Agriculture provides the poorest earning possibilities of all sectors. In 2013, a secondary-educated agricultural worker (whose education would conceivably be useful for finding employment outside of agriculture) earned approximately LAK4,100 per hour. By moving to a non-agricultural sector, the worker would almost double his or her salary (earning LAK7,450 per hour). Similarly, workers with tertiary education earned an average of LAK6,911 per hour in agriculture, compared to LAK7,970 in industry and LAK9,574 in services.

The 2012 World Bank survey of managers and workers revealed that base monthly wages varied from USD46 per month for unskilled workers in small factories to USD71 per month for skilled or semi-skilled workers in large factories. However, those working on production lines can earn significantly more (upwards of double these base amounts), and most workers want to be in these units. The salary for most production-line workers is based on piece rates and targets set for either individual workers or production units. Only a small percentage of small and medium-sized firms (12 percent and 16 percent, respectively) allow workers to earn additional income by taking extra work home (World Bank 2012).

The Lao labour market is highly informalised and agriculture-based. Of the total female workforce of 1.5 million, 1.1 million or 72.3 percent are engaged in the agriculture and fishery sectors as their main activity and most of this work is in smallholder family farming. The proportion of households participating in wage labour increased from 14 percent in 2007–08 to 17.8 percent in 2012–13. The share of women in wage employment in the non-

agriculture sector increased from approximately 20 percent in 1990 to 34 percent in 2010, which is still low. This is commonly attributed to the high proportion of female unpaid family workers. Among service workers and shop and market sales workers, 63 percent were women and 37 percent were men. This is also a vulnerable sector, with a significant proportion of the workforce either self-employed or engaged in unpaid family work. A far greater proportion of unpaid family workers (65 percent) are women as opposed to men (35 percent) (LSB 2013b).

The government's announcement of an increase in the minimum wage took effect on 1 April 2015. It was increased by 44 percent, from LAK626,000 (USD77) to LAK900,000 (USD111) per month. In 2017, the government increased the minimum wage to LAK1.2 million. Additionally, employers were required to pay LAK30,000 (USD3.74) per day meal allowance. The minimum wage for civil servants and state enterprise employees was last increased to LAK1.4 million (USD170) per month.

## 7.3 Data collection and sampling

The survey interviewed 902 respondents out of a total 4,022 employees in 183 firms in four major provinces, including Vientiane capital, Luangprabang, Savannakhet and Champasack. The questions captured basic information on work and working conditions, wages and other benefits. About 183 employers were also asked about their perception of gender wage gaps in their businesses.

### *7.3.1 Primary data survey*

The interviews were conducted using guidelines that included a list of general questions addressing pay equity. They also included specific questions about employees' experiences regarding working conditions and benefits. Two questionnaires were developed. One specifically addressed questions to employees. A key aspect is remuneration, which includes salary, paid leave, severance pay and bonuses. It also includes employer contributions to pension funds, health insurance or other forms of social security, overtime pay, family allowances, meal vouchers, education grants or scholarships and other benefits such as company cars, entertainment allowances or access to health or leisure facilities. The questionnaire was designed to capture female and male employees' perceptions of the gender wage gap and workplace discrimination. The second questionnaire addressed employers and private business owners relating to working conditions, treatment of workers, employer-worker relations, gender stereotypes and perceived gender discrimination in the workplace.

### *7.3.2 Sampling design*

Based on official national data, a mapping of private firms was conducted as a baseline for the sample design. The definition of micro, small and medium-sized enterprises (MSMEs) contained in the Prime Minister's Decree 42 was used as a reference. Thus, the surveyed enterprises were classified based on the average number of employees: micro-enterprises (0–4), small enterprises (5–9), medium enterprises (10–99) and large enterprises (100 or more). The employee sample was selected from all four categories of firms. The survey was implemented in Vientiane capital and large cities in Savannakhet, Champasack and Luangprabang provinces.

A number of occupations were targeted in different industry groups: wholesale and retail trade, motor vehicle repair, accommodation and food service, manufacturing, transport and storage, and construction. The sample was selected based on stratified random sampling, following the methodology explained in the Sampling Manual (World Bank 2017a). Stratified random sampling was preferred over simple random sampling for several reasons:

- To obtain unbiased estimates for different subdivisions of the population with some known level of precision.
- The whole population, or universe of the study, is the non-agricultural economy. It comprises all manufacturing sectors, which include mining and quarrying (ISIC class B), manufacturing (class C), electricity, gas and air conditioning supply (class D), construction (class F), financial and insurance activities (class K), real estate (class L), education (class P), services (classes G and H), accommodation and food service (class I) and other services (class S).
- To ensure that the final sample includes establishments from all sectors and is not concentrated in one or two industries, enterprise sizes or regions.
- To exploit the benefits of stratified sampling where population estimates, in most cases, will be more precise than using a simple random sampling method (i.e. lower standard errors, other things being equal).
- Stratification may produce a smaller bound on the error of estimation than would be produced by a simple random sample of the same size. This is particularly true if measurements within strata are homogeneous.
- The cost per observation in the survey may be reduced by stratification of the population elements into convenient groupings.
- Industry stratification was designed as follows: the universe was stratified into seven manufacturing industries (food, apparel, leather, chemicals, transport, furniture and other) and two service industries (retail and other services).

- Size stratification was defined following the standardised definition for the rollout: micro (0 to 4 employees), small (5 to 19), medium (20 to 99), and large (100 and above), the employees being defined as reported permanent full-time workers. This seems to be an appropriate definition of the labour force since seasonal, casual and part-time employment is not common apart from in construction and agriculture, which are not included in the survey.

### *7.3.3 Sampling implementation*

Laos has three regions – North, Central and South. Regional stratification was defined in four major provinces: Vientiane capital, Champasak, Luangprabang and Savannakhet. Given the stratified design, sample frames containing a complete and updated list of establishments and information on all stratification variables (number of employees, industry and region) are required to draw the sample for the survey. One sample frame was obtained from the Economic Census 2013, maintained by the Lao Statistics Bureau (LSB) of the Ministry of Planning and Investment. This listing was updated by the LSB in 2015 as part of the implementation of this survey. The modified and translated sample frame was used to select the sample of establishments for the full survey. This database contained the following information: name of the firm, contact details, International Standard Industrial Classification (ISIC) code and the number of employees.

Following the sampling guideline from the 2016 World Bank Enterprise Survey, the study team defined the optimal sample size to achieve a minimum level of precision of 7.5 percent. The optimal sample size was 120 firms (World Bank 2017). However, the team was able to add 63 firms, creating a sampling frame of 183 firms. These 183 firms were selected from 55,594 firms using probability proportional to size sampling.

According to the Economic Census 2013, about 86 percent of SMEs have fewer than five employees. Therefore, we decided to choose 100 percent of employees in firms with fewer than 5 employees, 80 percent in firms with 5–9 employees, 30 percent in firms with 10–99 employees and 10 percent in firms with 100 or more employees. We used the systematic sampling method in which sample numbers are selected according to a random starting point and a fixed interval. This interval was calculated by dividing the population size by the desired sample size. With these sampling steps, we arrived at 902 respondents out of a total 4,022 employees in 183 firms, or 22.4 percent of the total population, which is sufficient for data analysis.

## 7.4 Methodology

The study team used a Mincerian equation and Blinder-Oaxaca technique to analyse wage differences between female and male workers (Blinder 1973; Oaxaca 1973). The gender-specific wage equations are specified as follows:

$$W_m = X_m' \beta_m + \mu_m \quad (1)$$

$$W_f = X_f' \beta_f + \mu_f \quad (2)$$

where $X_j$ is a ($k \times n$) matrix of worker characteristics (e.g. education, work experience which is proxied by age) and some firm characteristics (e.g. economic sector, geographical location); $m$ and $f$ denote male and female workers, respectively; $\beta$ is a ($k \times 1$) vector of unknown parameters capturing the effect of various covariates on the natural log wage rate ($W$); $\mu$ is a ($n \times 1$) vector of random error terms.

Applying the Blinder-Oaxaca decomposition, the estimated mean gender wage difference is generally expressed as:

$$\overline{W}_m - \overline{W}_f = (\overline{X}_m - \overline{X}_f)' \hat{\beta}_m + X_f' (\hat{\beta}_m - \hat{\beta}_f) \quad (3)$$

where the "bar" denotes mean values and the "hat" denotes coefficient estimates. This method divides the average wage differential between males and females into a part that can be explained by differences in worker characteristics (the "explained" or "endowment" effect) and a residual part that cannot be explained by those differences (the "unexplained" or "treatment" effect). The final part of expression (3) is sometimes used to capture the effect of the unequal treatment of women in the workplace.

The estimation strategy outlined in equations (1) to (3) was used to analyse the survey data. From the 902 observations, 883 employees provided sufficient information to calculate the hourly wage rate for estimating equations (1) and (2). The remaining 19 employees provided information about their monthly wage but not the number of days or the average number of hours a day worked. They were therefore dropped from the estimation.

## 7.5 Results and discussion

### *7.5.1 Salary scales*

As shown in Table 7.1, average salaries in the Lao SME sector are very low – LAK1,191,746 a month (up from LAK831,147 when first hired) for an assistant, LAK1,459,226 (up from LAK949,700) for an administrator and LAK2,880,235 for a manager. We can conclude that the salaries are low because most businesses are informal micro and small-scale enterprises

According to the latest Economic Census in 2013, 86 percent of Lao SMEs have less than five employees, which reflects and complements our survey findings.

Table 7.1: Monthly salary of employees in the selected firms (LAK thousand)

| Positions | Beginning | | | 2017 | | |
|---|---|---|---|---|---|---|
| | Minimum | Maximum | Mean | Minimum | Maximum | Mean |
| Assistant/servant | 400 | 1,800 | 831.15 | 1,300 | 3,000 | 1,191.75 |
| Administrator | 400 | 3,000 | 949.70 | 700 | 5,800 | 1,459.23 |
| Technician | 500 | 2,500 | 1,389.19 | 800 | 4,000 | 2,064.10 |
| Senior technician | 900 | 2,500 | 1,550.00 | 1,000 | 3,500 | 2,218.75 |
| Manager/branch head | 1,000 | 3,500 | 2,218.75 | 1,500 | 1,000 | 2,888.24 |
| Executive director | 1,000 | 8,000 | 2,294.74 | 1,500 | 10,000 | 3,036.36 |

Source: Authors' calculations using survey data

We test the hypothesis that the population means are equal for the female and male subsamples. We assume that the variances for the two samples are equal. The results indicate a statistically significant difference in the means of female (LAK1.3 million) and male (LAK1.5 million) gross monthly salaries at the 1 percent confidence level. We, therefore, reject the null hypothesis and conclude that there is a significant difference.

### *7.5.2 Decomposition of gender wage gaps*

Table 7.2 summarises by sex the variables of interest. The majority of respondents finished lower secondary and primary school; a small number had never gone to school. A majority completed primary school and vocational training. Only small numbers had a bachelor's or master's degree. Female employees had less education than males. Wholesale and retail trade was the top industry for employment for both women and men. The second and third most prevalent industries for women were manufacturing and other services, respectively.

The wage determinants specified in equations (1) and (2) include educational attainment, age (and its square) to proxy for work experience, marital status, signed work contract (which indicates whether the work is casual or informal and could also be used to suggest employers' compliance with labour law), Lao-Tai ethnicity or other ethnicity, firms' location (province), and the sector (expressed in one-digit ISIC classification).

The estimation results of the pooled wage equations for male and female workers are reported in Table 7.3. Although the interest of this section is to analyse empirically the gender wage gap, the results from estimating the pooled wage equations present some interesting findings and are briefly discussed here. The goodness of fit is higher than conventional cross-sectional estimation standards. This provides a credible background for further interpretation of the results.

Table 7.2: Summary statistics of key variables and variable descriptions

| | | Female (N=401) | | Male (N=501) | |
|---|---|---|---|---|---|
| | | mean | SD | mean | SD |
| Hourly wage (LAK) | Hourly wage rate adjusted by CPI | 6,492.00 | 3,193.90 | 7,641.70 | 3,904.30 |
| Age | Age of workers (years) | 29.00 | 8.80 | 30.00 | 10.10 |
| Age squared | Age squared (years) | 918.50 | 589.30 | 1,002.90 | 731.60 |
| Marital status | = 1 if married, 0 otherwise | 0.53 | 0.50 | 0.52 | 0.50 |
| Lao-Tai ethnicity | = 1 if Lao-Tai | 0.92 | 0.28 | 0.88 | 0.33 |
| Signed work contract | = 1 signed contract, 0 otherwise | 0.23 | 0.42 | 0.23 | 0.42 |
| Education | | | | | |
| primary | = 1 primary education, 0 otherwise | 0.20 | 0.40 | 0.19 | 0.39 |
| lower secondary | = 1 lower secondary, 0 otherwise | 0.29 | 0.46 | 0.23 | 0.42 |
| upper secondary | = 1 upper secondary, 0 otherwise | 0.13 | 0.34 | 0.12 | 0.33 |
| Vocational training | = 1 vocational training, 0 otherwise | 0.25 | 0.44 | 0.28 | 0.45 |
| University | = 1 university education, 0 otherwise | 0.08 | 0.28 | 0.16 | 0.36 |
| in Vientiane | = 1 if in Vientiane capital | 0.27 | 0.44 | 0.36 | 0.48 |
| in Luangprabang | = 1 if in Luangprabang province | 0.12 | 0.32 | 0.14 | 0.35 |
| in Savannakhet | = 1 if in Savannakhet province | 0.36 | 0.48 | 0.27 | 0.44 |
| in Champasak | = 1 if in Champasak province | 0.25 | 0.43 | 0.23 | 0.42 |
| Manufacturing sector | = 1 if employed in manufacturing | 0.00 | 0.05 | 0.06 | 0.23 |

Source: Authors' calculations using survey data

The gender effect is found to be statistically significant for the data used in this analysis. On average and other things being equal, a male worker's hourly wage is 11.2 percent higher than that of a female worker. Ethnicity does not seem to be an important wage determinant as its effect is not statistically significant. This result was surprising given that minority ethnic workers are usually expected to suffer labour market disadvantages. However, this might be an issue of small sample size. Around 89 percent of the workers surveyed were Lao-Tai; only 97 workers were from other ethnic groups. Age was not found to be important in wage determination although the expected inverted U-shapes pattern between age and earnings was observed. The estimated coefficient of the age variable indicated that with a one-year increase in age, the wage rate increases by 1.6 percent, which is quite a small increment. Returns on education become significant only after upper secondary school. Compared to workers with no qualifications, workers with vocational training earned around 19.4 percent more, other things being equal. The return on university degrees was found to be around 21.The results in Table 7.3 also suggest a considerable regional effect. On average, compared to employees in Vientiane capital, employees in all three other provinces earned 7 to 25 percent less, the largest effect being for workers in Champasak. Workers in the samples were found in different one-digit ISIC sectors but the majority were in services and manufacturing. A worker in manufacturing earned around 18.4 percent more on average than a worker in services. Notably, the estimated coefficient on the variable contract – a proxy for firms' compliance with labour law – suggests that those with a work contract earned nearly 15 percent more than those without. We now turn to the decomposition results presented in Table 7.5.

The actual gender wage gap in the Lao labour market is modest (Table 7.4). The predicted gap is 0.1426 log points – equivalent to around 15.3 percent. This gap is attributable to three factors. First, differences between the characteristics of female and male workers contribute around 3.8 percent. This could suggest that male workers are slightly better educated and have more training opportunities than female workers. Second, differences in returns to worker characteristics contribute about 11.2 percent of the gap. This means that even when male and female workers have identical characteristics, male workers earn 11.2 percent more than female workers. This component suggests the scope of discrimination against women in the labour market. The third component represents unobserved factors that could influence wage determination.

## Table 7.3: Wage determinants

| | Coefficient estimates | | | | | |
|---|---|---|---|---|---|---|
| | Both | | Male | | Female | |
| Wage worker | 0.1057*** | (0.024) | 0.1069*** | (0.024) | 0.1069*** | (0.024) |
| Age | 0.0164* | (0.009) | -0.0035 | (0.0107) | 0.0353* | (0.020) |
| Age squared | -0.0101 | (0.014) | 0.0001 | (0.001) | -0.0001* | (0.001) |
| Married | 0.0412 | (0.033) | 0.1135** | (0.035) | 0.0103 | (0.044) |
| Lao-Tai ethnicity | 0.1382*** | (0.028) | 0.0032 | (0.039) | 0.1099** | (0.057) |
| Signed work contract | -0.009 | (0.051) | 0.0738** | (0.039) | 0.1939*** | (0.039) |
| Primary education | -0.0028 | (0.050) | -0.051 | (0.071) | 0.011 | (0.081) |
| Lower secondary education | 0.0439 | (0.056) | -0.0026 | (0.071) | 0.0091 | (0.078) |
| Upper secondary education | 0.1775*** | (0.054) | 0.0365 | (0.080) | 0.1141 | (0.087) |
| Vocational training | 0.1913*** | (0.059) | 0.1420* | (0.075) | 0.2015** | (0.085) |
| University | -0.0843** | (0.037) | -0.0810 | (0.076) | 0.3804*** | (0.101) |
| in Luangprabang | -0.0717** | (0.031) | -0.0543 | (0.049) | -0.0740* | (0.054) |
| in Savannakhet | -0.2814*** | (0.029) | -0.0944*** | (0.047) | 0.0325 | (0.042) |
| in Champasak | 0.1692** | (0.086) | 0.3165** | (0.037) | 0.2079*** | (0.045) |
| Manufacturing sector | -0.0163* | (0.029) | -0.1345* | (0.089) | -0.0867* | (0.060) |
| Other sectors | 8.4014*** | (0.155) | -0.0024 | (0.039) | -0.0271 | (0.039) |
| Constant | 0.1057*** | (0.024) | 8.8137*** | (0.185) | 7.756*** | (0.320) |
| Number of observations | 883 | | 494 | | 389 | |
| R-squared | 0.2862 | | 0.3041 | | 0.3032 | |
| F (16, 866) (15,478) (14,373) | 25.87 | | 15.85 | | - | |
| Prob > F | 0.0000 | | 0.0000 | | - | |
| Root MSE | .33595 | | .32779 | | .33317 | |

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are in parentheses.
Source: Authors' calculations using survey data

## Table 7.4: Decomposition of gender wage gap

| | Coefficient estimates | |
|---|---|---|
| Gender wage gap | 0.1426*** | (0.027) |
| Differences in characteristics | 0.0376** | (0.016) |
| Differences in returns to characteristics | 0.1155*** | (0.032) |
| Unobserved factors | -0.0105 | (0.025) |

Notes: *$p$<0.10, **$p$<0.05, ***$p$<0.01. Standard errors are in parentheses.
Source: Authors' calculations using survey data

## 7.6 Conclusions and policy implications

There are many gender dimensions to consider in employment. The majority of male employees are full-time workers in mining and quarrying, wholesale trade, motor vehicle assembly, and motorcycle mechanics. Female employees dominate education, manufacturing and services. Overall, female employees have less education than males. Male employees hold more leadership and high-level professional positions than female employees, and female workers hold more assistant and administrative staff positions than male workers. Both female and male employees receive scant health insurance coverage through their employers.

We can conclude that the salary of SME employees is very low because these businesses are small and operate informally. The gender wage gap in Laos is estimated at 11.2 percent. Average monthly salaries range from USD134 for assistants, USD176 for administrators and USD267 for senior technicians to USD365 for executives. Employees in micro businesses tend to have lower salaries and less compensation than employees in small and medium-sized enterprises.

From the research findings, we conclude that low education and lack of working skills are the most important factors for opportunity barriers to employment encountered by female and male employees. Based on the findings, this brief suggests the following policy priorities:

- An array of labour market policies governs employment practices and wages in Laos' private sector. The government should revise all policy documents from a gender perspective, including the Ministerial Decision on Technical and Vocational Education and Training and Skills Development and the prime ministerial decrees on Occupational Safety and Health, on the National Action Plan for Prevention and Elimination of Child Labour, and on Occupational Safety and Health. Salary guidelines on equal pay for the same value jobs set out in Labour Law should be reinforced.
- The government should conduct more public information campaigns to improve public understanding about the importance of gender equality and gender wage gap issues in the private sector through mass media, workshops, meetings, seminars and other high-profile events aimed at policy and decision makers.

- There is a need to improve data collection on wage differentials in various sectors and to create a national database to track the labour force and wages. The causes of gender pay gaps should be investigated in depth and the findings presented to the National Assembly, ministries, Lao Trade Unions, Lao Women's Union and Lao National Chamber of Commerce and Industry in policy discussions at national, sectoral and local level on monitoring the gender wage gap and achieving pay equality.

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## Annex

Table A1: Educational level by ethnicity

| | Lao-Tai | | Mon-Khmer | | Hmong-Mien | | Chinese-Tibetan | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| No education | 22 | 2.7 | 7 | 8.9 | 3 | 20.0 | 1 | 50.0 | 33 | 3.7 |
| Primary | 147 | 18.2 | 26 | 32.9 | 1 | 6.7 | 0 | 0.0 | 174 | 19.3 |
| Lower secondary | 204 | 25.3 | 22 | 27.8 | 6 | 40.0 | 0 | 0.0 | 232 | 25.7 |
| Upper secondary | 105 | 13.0 | 5 | 6.3 | 2 | 13.3 | 0 | 0.0 | 112 | 12.4 |
| Primary vocational | 61 | 7.6 | 6 | 7.6 | 0 | 0.0 | 1 | 50.0 | 68 | 7.5 |
| Medium technical | 74 | 9.2 | 4 | 5.1 | 0 | 0.0 | 0 | 0.0 | 78 | 8.6 |
| High diploma | 90 | 11.2 | 4 | 5.1 | 0 | 0.0 | 0 | 0.0 | 94 | 10.4 |
| Bachelor's degree | 93 | 11.5 | 2 | 2.5 | 3 | 20.0 | 0 | 0.0 | 98 | 10.9 |
| Master's degree | 10 | 1.2 | 3 | 3.8 | 0 | 0.0 | 0 | 0.0 | 13 | 1.4 |
| Total | 806 | 100 | 79 | 100 | 15 | 100 | 2 | 100 | 902 | 100 |

Source: Authors' calculations using survey data

Table A2: Current position of employee by ethnicity

| | Lao-Tai | | Mon-Khmer | | Hmong-Mien | | Chinese-Tibetan | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| Assistant | 48 | 82.8 | 9 | 15.5 | 1 | 1.7 | 0 | 0.0 | 58 | 100 |
| Administrator | 325 | 89.0 | 33 | 9.0 | 6 | 1.6 | 1 | 0.3 | 365 | 100 |
| Technician | 262 | 89.4 | 28 | 9.6 | 3 | 1.0 | 0 | 0.0 | 293 | 100 |
| Senior technician | 161 | 92.0 | 9 | 5.1 | 4 | 2.3 | 1 | 0.6 | 175 | 100 |
| Manager | 9 | 90.0 | 0 | 0.0 | 1 | 10.0 | 0 | 0.0 | 10 | 100 |
| Executive director | 1 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 100 |
| Total | 806 | 89.4 | 79 | 8.8 | 15 | 1.7 | 2 | 0.2 | 902 | 100 |

Source: Authors' calculations using survey data

Table A3: Employers' views of the biggest gender wage gap in different types of businesses

| | Count | % |
|---|---|---|
| Do not know | 56 | 30.6 |
| Construction | 54 | 29.5 |
| Professional, scientific and technical activities | 18 | 9.8 |
| Mining and quarrying | 17 | 9.3 |
| Manufacturing | 17 | 9.3 |
| Arts, entertainment, and recreation | 5 | 2.7 |
| Wholesale and retail trade; motor vehicle and motor cycle repair | 5 | 2.7 |
| Other service activities | 4 | 2.2 |
| Electricity, gas, steam and air conditioning supply | 4 | 2.2 |
| Real estate activities | 1 | 0.5 |
| Financial and insurance activities | 1 | 0.5 |
| Transport and storage | 1 | 0.5 |
| Total | 183 | 100 |

Source: Authors' calculations using survey data

Table A4: Employee recruitment and retention strategies

| | Female | | Male | | Total | |
|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % |
| Family business/did not have to apply | 14 | 3.5 | 7 | 1.4 | 21 | 2.3 |
| Relative's business/did not have to apply | 45 | 11.2 | 31 | 6.2 | 76 | 8.4 |
| Applied by myself | 212 | 52.9 | 316 | 63.1 | 528 | 58.5 |
| Accompanied my friends | 61 | 15.2 | 68 | 13.6 | 129 | 14.3 |
| Company picked me up at home | 26 | 6.5 | 22 | 4.4 | 48 | 5.3 |
| Introduced by a relative | 43 | 10.7 | 57 | 11.4 | 100 | 11.1 |
| Total | 401 | 100 | 501 | 100 | 902 | 100 |

Source: Authors' calculations using survey data

Table A5: Perception of contributing factors to gender wage gap by ethnicity

| | Lao-Tai | | Mon-Khmer | | Hmong-Mien | | Chinese-Tibetan | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| Do not know | 21 | 2.6 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 21 | 2.3 |
| Politics | 36 | 4.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 36 | 4.0 |
| Marital status | 36 | 4.5 | 3 | 3.8 | 0 | 0.0 | 0 | 0.0 | 39 | 4.3 |
| Ethnicity | 16 | 2.0 | 2 | 2.5 | 1 | 6.7 | 0 | 0.0 | 19 | 2.1 |
| Education and experience | 551 | 68.4 | 58 | 73.4 | 9 | 60.0 | 2 | 100 | 620 | 68.7 |
| Discrimination | 146 | 18.1 | 16 | 20.3 | 5 | 33.3 | 0 | 0.0 | 167 | 18.5 |
| Total | 806 | 100 | 79 | 100 | 15 | 100 | 2 | 100 | 902 | 100 |

Source: Authors' calculations using survey data

Table A6: Opinions on the gender wage gap by ethnicity of respondents

| | Lao-Tai | | Mon-Khmer | | Hmong-Mien | | Chinese-Tibetan | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| Strongly agree | 17 | 2.1 | 1 | 1.3 | 0 | 0.0 | 0 | 0.0 | 18 | 2.0 |
| Agree | 127 | 15.8 | 9 | 11.4 | 2 | 13.3 | 0 | 0.0 | 138 | 15.3 |
| Neutral | 247 | 30.6 | 25 | 31.6 | 1 | 6.7 | 1 | 50.0 | 274 | 30.4 |
| Disagree | 327 | 40.6 | 33 | 41.8 | 11 | 73.3 | 1 | 50.0 | 372 | 41.2 |
| Strongly disagree | 88 | 10.9 | 11 | 13.9 | 1 | 6.7 | 0 | 0.0 | 100 | 11.1 |
| Strongly agree | 17 | 2.1 | 1 | 1.3 | 0 | 0.0 | 0 | 0.0 | 18 | 2.0 |
| Total | 806 | 100 | 79 | 100 | 15 | 100 | 2 | 100 | 902 | 100 |

Source: Authors' calculations using survey data

Table A7: Opinions on gender wage gap in the dominant enterprises by ethnicity of respondents

| | Lao-Tai | | Mon-Khmer | | Hmong-Mien | | Chinese-Tibetan | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Count | % | Count | % | Count | % | Count | % | Count | % |
| Strongly agree | 53 | 6.6 | 1 | 1.3 | 1 | 6.7 | 0 | 0.0 | 55 | 6.1 |
| Agree | 226 | 28.0 | 30 | 38.0 | 1 | 6.7 | 2 | 100 | 259 | 28.7 |
| Neutral | 294 | 36.5 | 18 | 22.8 | 3 | 20.0 | 0 | 0.0 | 315 | 34.9 |
| Disagree | 162 | 20.1 | 22 | 27.8 | 9 | 60.0 | 0 | 0.0 | 193 | 21.4 |
| Strongly disagree | 71 | 8.8 | 8 | 10.1 | 1 | 6.7 | 0 | 0.0 | 80 | 8.9 |
| Strongly agree | 53 | 6.6 | 1 | 1.3 | 1 | 6.7 | 0 | 0.0 | 55 | 6.1 |
| Total | 806 | 100 | 79 | 100 | 15 | 100 | 2 | 100 | 902 | 100 |

Source: Authors' calculations using survey data

# 8
# Labour Market Effects of Mandatory Social Insurance Policy: Some Evidence from Vietnam

Nguyen Thi Kim Dung, Ngo Minh Tuan and Do Son Tung

Vietnam is currently reforming its compulsory social insurance (SI) system. The most debatable change is an increase in mandatory SI contributions. This study uses panel data from Vietnam Enterprise Surveys to analyse how the rise in SI contribution rates from 2006 to 2013 has affected formal employment and wages. We find that, while the average wage per firm is negatively correlated to the ratio of total SI contribution to total wage fund, the average number of workers per firm is positively correlated to change in this ratio. A 1 percent increase in total SI contribution to total wage fund decreases by 0.16 percent the average wage per firm and increases by 0.039 percent the average number of workers per firm. A different impact is also found between firms according to industrial sector, ownership, firm size and employee gender: for a 1 percent rise in the SI contribution rate, the average wage per firm falls by 0.181 percent in the state-owned sector, 0.023 percent in domestic private and 0.098 percent in foreign-invested sectors. The impact on wages is higher in the shoe industry than in garments, textiles and other industries. By firm size, the largest effect is in microbusinesses, and the effect decreases as the scale of firm increases. The results indicate that the effects of an increase in the SI contribution rate on firms' average wage and formal employment do not much vary with the gender of employees.

## 8.1 Introduction

Along with remarkable economic achievements, the social security system in Vietnam has been significantly improved. The most important improvement in social protection concerns changes made to the social insurance (SI) scheme, which is designed on the principle of protecting workers against reduced income in the event of sickness, unemployment and retirement. In 1960, the North Vietnamese government issued a decree on the provision of social welfare services for all government officials and employees working in internal affairs, education, healthcare, the armed forces and state-owned enterprises (SOEs). This SI system provided coverage for only 600,000–700,000 of a total population of 17 million.

After reunification in 1975, SI was extended uniformly throughout the country. Social protection included long-term benefits (pension, early retirement and survivor support), which fell under the responsibility of the Ministry of Labour, Invalids and Social Affairs (MOLISA), and short-term benefits (sickness, maternity, work-related accidents and occupational diseases), which came under the management of the Vietnam General Confederation of Labour. The main funding was employer contributions and direct state budget support. During 1960–95, over 90 percent of total SI expenditure was covered by the state.

Chapter XII of the Labour Code, in force since 1 January 1995, deals specifically with social insurance. To guide implementation of the Labour Code, the government issued Decree No. 19/CP (dated 16 February 1995) on the establishment of the Vietnam Social Insurance (VSI) Office as a legal and independent accounting entity under the direct authority of the prime minister, but managed by MOLISA. The Office was mandated to help the prime minister with the implementation of SI and health insurance policies and SI fund management. Its sources of income were defined to include employer and employee contributions, state contributions and support, investment income and other financial assistance and support. SI benefits were indexed to the average monthly wage or salary and number of years of contributions. In the same year, the government promulgated Decree No. 12/CP (dated 26 January 1995) establishing the Charter of Civil Social Insurance, which specified benefits for injury or sickness, maternity, work-related accident and occupational diseases, pension and survivor allowance for civil recipients, and Decree No.45/CP (dated 16 July 1995), which regulated SI for the armed forces (the army and police). Both decrees specified that the SI fund be created by mandatory contributions from employers (15 percent of the total salary fund) and employees (5 percent of monthly salary). The SI fund is preserved and protected by the state. Since 2002, the health insurance

system, formerly under the management of the Ministry of Health, has been merged into VSI.

A further development occurred in 2007, when the first Social Insurance Law was put into effect with six mandatory components: sickness, maternity, work-related accidents and occupational diseases, unemployment insurance, retirement and survivor benefits. The law requires participation in SI schemes by employees from SOEs, non-SOEs with 10 or more employees, foreign direct investment (FDI) firms, foreign or international organisations, government administrative agencies, members of the ruling party's organisations and socio-political organisations. Following promulgation of the law, the scope and coverage of SI were remarkably extended. By April 2008, there were 8.2 million SI participants, accounting for nearly 18 percent of the total labour force. About 54 percent of workers in the state, foreign investment and private sectors registered to participate in the system.

To achieve the social targets set out in Socio-Economic Development Plan 2011–16, the government recently set a target of "approximately 50 percent of the total workforce participating in social insurance; 35 percent of the workforce participating in the unemployment insurance and over 80 percent of the population participating in health insurance by 2020".[1] To that end, the amended Law on Social Insurance 2014 (Law No.58/2014/QH-13) extended the coverage of compulsory SI to include workers on short-term contracts (1 to 3 months), foreign workers permitted to work in Vietnam, and part-time government officials at commune, ward and township levels. The law also specifies several new groups of SI beneficiaries: cadets in police and military academies, students in national security colleges and salaried managers in collective cooperatives/businesses, whose social security was previously stipulated by other sector-specific regulations. New provisions on workers' rights have also been put forward, for instance, the provision that a male worker can have five days paid leave when his wife gives birth (seven days for deliveries requiring surgery). More importantly, changes to SI contribution rates were adopted (Table 8.1).

A new base for calculating SI contributions was introduced in 2016.[2] Previously the base included only the basic salary/wage specified in the employment contract. Effective since 1 January 2016, it now includes salary-related allowances such as attraction and regional allowances. Further, the law stipulated that the base would also include other payments such as children's education allowance and commission (KPMG 2016). At the same time, the

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1 Development Strategy for Social Insurance in Vietnam to year 2020 promulgated by Decision No.1215/QĐ-TTg, dated 23 July 2013.

2 Decree No.115/2015/ND-CP and Circular 59/2015/TT-BLDTBXH.

regional minimum wage and basic salary were raised (Decree 122/2015/ND-CP). The regional minimum wage was increased by 12.4 percent on average, and the monthly base salary was increased from VND1.15 million to VND1.21 million, implying a remarkable increase in the salary base for social and health insurance contributions.

Table 8.1: Changes in contribution rates (percent), 2007–14

| | Employer | | | Employee | | |
|---|---|---|---|---|---|---|
| Year | Social Insurance | Health | Un-employment | Social Insurance | Health | Un-employment |
| From Jan 2007 | 15 | 2 | - | 5 | 1.0 | - |
| From Jan 2009 | 15 | 2 | 1 | 5 | 1.0 | 1 |
| From Jan 2010 to Dec 2011 | 16 | 3 | 1 | 6 | 1.5 | 1 |
| From Jan 2012 to Dec 2013 | 17 | 3 | 1 | 7 | 1.5 | 1 |
| From Jan 2014 | 18 | 3 | 1 | 8 | 1.5 | 1 |

Source: Authors' compilation from government documents

From the firm's perspective, social and health insurance contributions are essentially indirect labour costs. Thus, an increase in the contribution rate can result in a burden for firms. Firms may respond in various ways such as reducing wage levels, avoiding labour contracts or reducing employee numbers to minimise their production costs. If the burden of SI policy is sufficiently large for firms, the effectiveness of social protection can hardly be expected. These reasons give rise to our attempt to analyse the compulsory SI scheme and its impacts on enterprises.

The main objectives of this study are to (1) examine changes in the compulsory SI contribution scheme and its implementation, and (2) analyse the impact of compulsory SI contributions on labour demand and wages.

## 8.2 Review of theoretical and conceptual frameworks

### *8.2.1 Possible responses of firms and labour to increase in social insurance contributions*

With no compulsory SI contributions and perfectly competitive markets for production factors, the firm will choose a level of employment level that equalises the wage rate and the marginal product of labour to maximise profits. This wage will correspond to the market equilibrium level. Under the compulsory SI scheme, the firm bears the cost of SI – the non-wage

labour cost. Under the pay-as-you-go system, the SI contribution is equal to a fixed proportion of the wage, which is essentially a firm-borne labour tax. Compulsory SI may then induce different responses from both the firm (demand side) and the labourers (supply side).

*8.2.1.1 Possible responses of firms*

The firm usually seeks to minimise the cost of compulsory SI and maintain profits. To do this, the firm may:

1. Directly reduce SI costs by employing fewer workers and/or reducing the wage by a fraction of or the whole contribution amount. If the firm is able to shift the cost entirely to labour, compulsory SI will have virtually no effect on labour demand. However, shrinking the payroll by the total SI contribution is often hard to achieve, particularly if workers are entitled to a legal minimum wage and/or if the workforce is highly skilled. Similarly, if the firm creates the majority of employment for a geographical region and it is hard for workers to move to other regions, compulsory SI contributions will have no negative impact on labour demand. In this case, the firm may recruit workers of a certain skill level who are willing to work for a lower wage than they otherwise would have. As long as SI contributions are less than or equal to that wage saving, compulsory SI will have no effect on the number of workers recruited.
2. Indirectly reduce SI costs. This usually happens over a longer period of time, and may take place simultaneously with direct reduction of SI costs. In the long term, the firm may increase labour productivity by:

   - Investing in new technology, increasing machinery efficiency and capacity if there is spare capacity.
   - Using more capital (or other inputs) and less labour and becoming more capital-intensive. The magnitude of such substitution effect, however, depends on the prices of the factors of production. In fact, a rise in the price of one factor of production usually leads to increases in the prices of other inputs.

These alternatives require access to additional capital. If the firm substitutes capital for labour, then it is possible that labour demand will fall. Under such circumstances, the demand for labour with no or low skills will go down dramatically. The firm may also:

- Reduce other costs, such as administration and management, by reorganising its production and business and using fewer managers to offset SI costs. In this case, a fall in labour demand may be avoided.

- Borrow to make SI contributions, a more passive approach than other solutions. In the worst case, the firm may violate labour regulations and declare fewer workers under SI to avoid this cost.

All of the above responses are possible, but the firm is more likely to pass the costs to labour partially or completely by reducing either the wage or employment. That is, there is a negative relationship between labour demand and the SI contribution rate. This relationship has been suggested in numerous studies from around the world.

*8.2.1.2 Possible responses of labourers*

Workers may respond differently to compulsory SI contributions. The type and magnitude of the response depend on how much workers value SI. If the perceived benefits are less than the contribution, or if current consumption is sufficiently preferred, workers may choose to leave for other firms not under compulsory SI. In this case, the relationship between contributions to and benefits from SI is considered non-existent. As a result, labour supply in the formal sector will decrease. Conversely, if workers value SI benefits sufficiently highly, they are willing to make contributions and even to accept lower wages. In this case, a perfect relationship is evident between contributing to and receiving benefits from SI, and compulsory SI has no negative effect on labour supply in the formal sector. Indeed, the formal sector may even attract more labour from the informal sector. The magnitude of the response depends on workers' valuation of SI benefits and/or the possibility of finding a job or earning an income and personal situation.

This study considers only how firms respond to compulsory SI. As SI is essentially an indirect labour cost, we first consider the likelihood of the firm directly reducing these costs – an approach commonly adopted by other studies. That tendency may lead to a reduction in employment and/or a decline in the average wage.

### *8.2.2 Theoretical relationship between SI contributions, wages and firms' labour demand*

A number of studies have explored the relationships between SI contributions, firms' demand for labour, and wages (Gruber 1994, 1997; Marrufo 2001; A. Kugler and M. Kugler 2003). Empirical evidence on the impact of changes in SI contributions for different countries is mixed. Some studies suggest that contributions do have an impact on wages, but the effect on employment is unclear (Gruber and Krueger 1991; Gruber 1994, 1997). Other studies indicate

that in many developing countries, the relationship between contributions and labour demand is not significant (IMF 2014; Rutskowski 2007).

A classic study that remains relevant is the paper by A. Kugler and M. Kugler (2003). Based on a simple analytical framework, the authors constructed a quantitative model to assess the effect of increases in payroll taxes (paid by firms) on firms' labour demand and wages in Colombia. The authors pointed to a formal wage fall of between 1.4 percent and 2.3 percent and a lowered formal employment rate of between 4 percent and 5 percent as result of a 10 percent rise in payroll taxes. The authors assumed that the firm uses labour as the only input, with the production function exhibiting diminishing marginal returns to labour. The firm is assumed to operate in a perfectly competitive market (i.e. prices of outputs and production factors are given). In addition to the monthly wage, denoted by ω, the firm also has to make SI contributions at fraction $t_s$ of the monthly wage, as stipulated by law. $t_s$ is calculated by dividing the SI contribution amount by the wage – the base for SI contributions. The cost per worker, denoted by $W$, is equal to the sum of the two above-mentioned costs: $W = \omega + \omega t_s = \omega\,(1 + t_s)$. The problem for the representative firm[3] is to choose an employment level to maximise its profits. Under certain assumptions, the authors construct the supply and demand functions for labour. In a perfectly competitive market, the supplied and demanded quantities will be equal at the equilibrium wage. From that approach, A. Krugler and M. Krugler (2003) show that, in theory, the negative relationships between (1) the ratio of SI contributions to wages and (2) the SI contribution rate and employment can be represented by the following equations:

$$\frac{\mathrm{dln}\omega}{\mathrm{dt}_s} = -\frac{\eta^s + (1+\mathrm{tS})}{\eta^s + 1} < 0 \qquad (1)$$

$$\frac{dlnL}{\mathrm{dt}_s} = \left[\frac{dln\omega}{\mathrm{dt}_s}(1+\mathrm{tS}) + 1\right]\left(\frac{\omega}{L}\right) < 0 \qquad (2)$$

In the above equations, $\eta^s$ is the elasticity of labour supply and $L$ denotes labour demand. However, increasing the contribution rate may leave labour demand unaffected if workers highly value the benefits of SI or if labour supply is perfectly inelastic. In both cases, workers make SI contributions only because of their high valuation of SI benefits. Under such circumstances, the firm may shift the whole SI cost to labour by reducing the wage and keeping the workforce size unchanged.

Nevertheless, reducing the wage is difficult, particularly in countries with a legally stipulated minimum wage, which may limit the magnitude of wage

[3] There are a large number of firms in the economy. However, for simplicity, these firms are assumed to be homogeneous, to facilitate the use of a single firm as representative.

reduction. Hence, in the presence of minimum wage regulations, SI may reduce labour demand, and workers with no or low skills will be the most disadvantaged.

### *8.2.3 Quantifying the impact of SI contributions on wages and employment*

Descriptive analyses were undertaken of the impact of SI contributions on employment and wage levels. Quantitative analyses were conducted using econometric models. Based on the theoretical grounds presented earlier, two specific models on the impact of SI contributions on employment and wages in Vietnam can be expressed as follows:

$$\log(\omega_{ijt}) = \beta_1 + \beta_2 t^s_{ijt} + C_{ijt} + u_{ijt} \quad (3)$$

$$\log(E_{ijt}) = \gamma_1 + \gamma_2 t^s_{ijt} + d_{ijt} + e_{ijt} \quad (4)$$

where $\omega_{ijt}$ denotes the average wage of the i$^{th}$ firm in the j$^{th}$ industry, measured by $\omega_{ijt} = W_{ijt}/E_{ijt}$, where $W$ is total wage fund[4] and $E$ is year-end total labour of the firm. $t^s_{ijt}$ is the ratio of total SI contributions by the i$^{th}$ firm in the j$^{th}$ industry at time t ($C_{ijt}$) to the total wage fund ($W_{ijt}$), or $t^s_{ijt} = C_{ijt}/W_{ijt}$. And $d_{ijt}$ are fixed effects and $u_{ijt}$ and $e_{ijt}$ are idiosyncratic disturbances.

These two fundamental models are structured based on A. Kugler and M. Kugler (2003) and include single independent equations and fixed effects. The independent variable, which is the ratio of total SI contribution to total wage fund, helps to gauge the impact of SI on employment as labour demand (equation 4) and wages as the price of labour (equation 3). These are certainly the two important factors in the labour market.

To consider the effects of other factors (possible independent variables) on wage and employment levels, models (1) and (2) are modified to include two more variables – $dnnn_{ijt}$ and $Fem_{ijt}$. *dnnn* is a dummy variable representing whether the firm is an SOE, while *dndm* is the variable representing whether the firm is in garments and textiles. *DNSN* is another dummy variable representing whether the enterprise has a labour force smaller than 10 workers. $Fem_{ijt}$ is the share of female workers in total number of workers of the i$^{th}$ firm in the j$^{th}$ industry at time t, which captures the effect of the share of female workers on average wage of the firm. This variable, however, is included only in equation (1), being excluded from equation (2) to avoid multi-collinearity. The expanded models are as follows:

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4 In the model of A. Kugler and M. Kugler (2003), W is the total wage fund – the base to calculate SI contributions. In fact, the firms in these countries comply relatively strictly with regulations on labour contracts and negotiated wages. Hence, the total wage of workers paying SI contributions is almost equal to the actual wage fund of the firm. In Vietnam, there is a gap between these two amounts.

$$\log(\omega_{ijt}) = \beta_1 + \beta_2 t^s_{nijt} + \beta_3 dndm_{nijt} + \beta_4 Fem_{nijt} + \alpha_{ijt} + \varepsilon_{ijt} \quad (5)$$

$$\log(\omega_{ijt}) = \beta_1 + \beta_2 t^s_{nijt} + \beta_3 dnnn_{nijt} + \beta_4 Fem_{nijt} + \alpha_{ijt} + \varepsilon_{ijt} \quad (6)$$

$$\log(\omega_{ijt}) = \beta_1 + \beta_2 t^s_{nijt} + \beta_3 DNSN_{nijt} + \beta_4 Fem_{nijt} + \alpha_{ijt} + \varepsilon_{ijt} \quad (7)$$

$$\log(E_{ijt}) = \gamma_1 + \gamma_2 t^s_{ijt} + \gamma_3 dnnn_{nijt} + \lambda_{ijt} + \nu_{ijt} \quad (8)$$

$$\log(E_{ijt}) = \gamma_1 + \gamma_2 t^s_{ijt} + \gamma_3 dndm_{nijt} + \lambda_{ijt} + \nu_{ijt} \quad (9)$$

$$\log(E_{ijt}) = \gamma_1 + \gamma_2 t^s_{ijt} + \gamma_3 DNSM_{nijt} + \lambda_{ijt} + \nu_{ijt} \quad (10)$$

All the above equations are now multi-variable models that can capture multi-dimensional effects of factors affecting employment and wages in Vietnam. Equations (5), (6), (7) and (8) are modified from equation (1), and all include three independent variables estimating the impact on wages. Equations (8), (9) and (10) are developed to gauge the impact of various factors on employment levels. In the latter equations, two explanatory variables are included. The number of estimation models/equations is larger, corresponding to the larger number of dummy variables representing not only SOEs but also FDI and private sector firms for the case of ownership variables. It is similar for variable *DNSN*, with different dummies for different scales of enterprises.

### 8.3 Data

Data in this research comes from Enterprise Surveys conducted by Vietnam's General Statistics Office (GSO) between 2006 and 2013. These surveys cover the formal sector only. The Law on Social Insurance stipulates that all enterprises must contribute to social and health insurance and union fees every month. Table 8.2 shows the stipulated contribution rates.

Table 8.2: Social protection contribution rates of enterprises (percent), 2006–13

| Year | Social insurance | Health insurance | Union fees |
|---|---|---|---|
| 2006 | 15 | 2 | 2 |
| 2007 | 15 | 2 | 2 |
| 2008 | 15 | 2 | 2 |
| 2009 | 15 | 2 | 2 |
| 2010 | 16 | 3 | 2 |
| 2011 | 16 | 3 | 2 |
| 2012 | 17 | 3 | 2 |
| 2013 | 17 | 3 | 2 |

Source: Law on Social Insurance and related regulations

The surveys include information on firm characteristics, number of workers, type of firm, scale of labour from the beginning to the end of the year, total wage fund, total SI contributions and union fees. Thus, the surveys provide sufficient data for the purposes of this research. After data cleaning and checking the consistency of time-invariant variables between surveys, we achieved a strong balanced panel of 2,838,664 observations for eight years. The surveys also provide information on firms' total wage funds, which are likely to be larger than the total wage funds under SI. Thus, the actual SI payment rate of enterprises was lower than the legally stipulated rate, and varied over years.

From 2006 to 2009, enterprises were responsible for a compulsory direct premium of 19 percent of the monthly wage fund (15 percent for SI, 2 percent for health insurance and 2 percent for union fees) for its workers. The formula is as follows:

$$\text{Contribution}_{\text{rate}}\ (19) = \frac{\text{social}_{\text{insurance}} + \text{health}_{\text{insurance}} + \text{union}_{\text{fee}}}{\text{Total}_{\text{wage fund}}} * 100$$

The contribution rate changed slightly from 2010 to 2013, amounting to 22 percent, of which SI contributions accounted for 17 percent and health insurance and union fees 5 percent. All enterprises pay the same contribution rate; differences come from the total wage funds of firms. The wage fund currently differs between SOEs, domestic private and foreign-invested enterprises (FIEs). In the SOE sector, social and health insurance premiums are based on wages, which depend on the minimum wage and wage scale. In domestic private enterprises and FIEs, contributions are calculated based solely on the contractual wage level.

In this study we construct several variables for exploring the effect of contribution rates on employment and wages (Annex Table A1). Annex Table A2 shows trends in SI contribution rates over the sample period. Rates fluctuated, with the highest average SI contributions in 2011 and 2012 and a drop in 2013. The average wage also increased over time, while employment dropped from 2009 to 2013. The average SI contribution rate is shown by ownership type, number of workers and industrial sector. SOEs have the highest SI contribution rate, followed by FDI and private domestic firms. Firms with more than 100 workers have the highest proportion of workers making SI contributions as well as the highest total SI contribution. The shoes and garment sectors dominated labour SI contributions as well as total SI contributions (Annex Table A3).

## 8.4 Results and discussions

### *8.4.1 Social insurance contribution and changes in employment*

In Vietnam, firms can recruit workers under three types of work contracts: (1) short term (normally under three months), (2) seasonal[5] and (3) long term (full-time employment equivalent).[6] Before 2014, the compulsory SI scheme covered Vietnamese workers with employment contracts of three months or longer and applied only to companies with 10 or more employees. Employees working under a contract of less than three months had the SI contribution included in their salary and were responsible for paying their own SI contributions or joining the voluntary SI scheme.

Table 8.3: Full-time workers and contributions to social and health insurance and union fees per firm

| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|
| Total workers (0,000) | 6,560.4 | 6,955.6 | 7,967.4 | 8,758.1 | 9,643.3 | 11,070.2 | 11,313.4 | 11,462.9 |
| Workers per firm (persons) | 50.02 | 44.70 | 38.77 | 35.14 | 33.06 | 32.63 | 31.44 | 30.04 |
| Workers contributing SI (0,000) | 3,712.3 | 4,012.1 | 4,624.3 | 4,773.4 | 5,469.9 | 6,369.7 | 6,670.5 | 6,912.8 |
| Workers with SI per firm (persons) | 28.30 | 25.78 | 22.50 | 19.15 | 18.75 | 18.78 | 18.54 | 18.12 |
| Annual contribution/ firm (VND million) | 72.89 | 80.05 | 89.77 | 129.71 | 136.63 | 194.13 | 199.51 | 176.96 |

Source: Authors' calculations using data from GSO surveys 2006–13

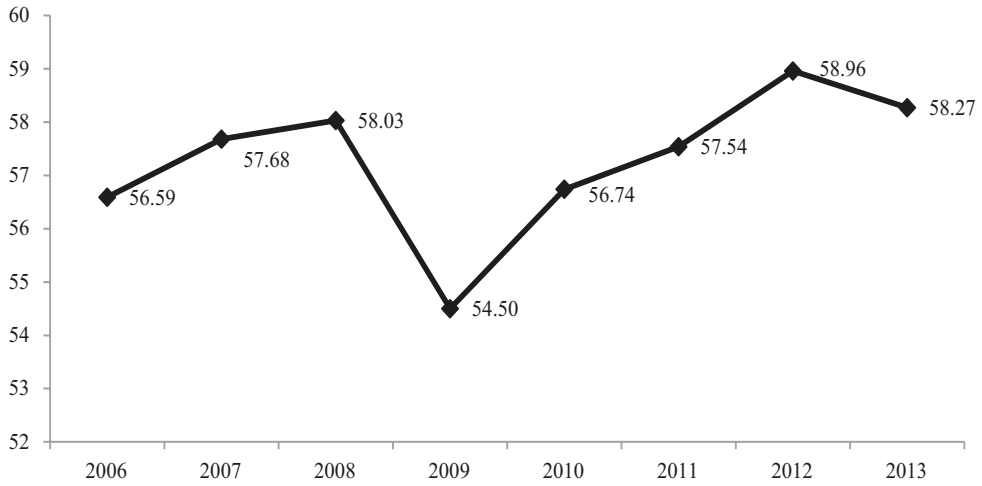
Table 8.3 presents the total number of workers and workers covered and contributions to social and health insurance and union fees per firm. Both the total number of workers and the number of workers paying SI went up over the years, while the average number of workers per firm fell. Firms tended to recruit more seasonal workers instead of permanent workers or those on long-term contracts in order to reduce labour costs. However, annual contributions to social and health insurance and union fees per firm went up in 2006–13 because the contribution rate and minimum wage increased.

5 Seasonal workers are paid on an hourly, piece-work or seasonal basis.

6 Full-time employment equivalent is calculated based on 26 working days per month. The full-time employment equivalent is used to calculate the average wage.

The average SI participation rate for registered firms increased from 56.59 percent in 2006 to 58.27 percent in 2013 (Figure 8.1), a mere 1.68 percentage points over eight years. In 2009, the figure dropped due to the global financial crisis, which affected Vietnam's economy. A number of firms went bankrupt and closed. The shortfall in employee coverage from firms' participation in the SI program can be explained by the presence of more temporary workers and/or workers without employment contracts in almost all firms, as the Social Insurance Law at that time covered only workers with contracts of at least three months. Firms also tended to recruit workers on short-term contracts in order to cut costs.

Figure 8.1: SI coverage rate at firm level (percent)




Source: Authors' calculations using data from GSO surveys 2006–13

The low SI coverage in the surveyed sectors also reflects the current issues of the whole country. Compulsory SI has so far been extended to just 15 million people, or 20 percent of the total employed. Compared with OECD, East Asian and Southeast Asian countries, where the coverage rate of SI schemes is 84.3 percent, 42.6 percent and 38.8 percent, respectively, Vietnam's rate seems very modest. Since the main objective of the SI program is to protect the working population, the low coverage rate may threaten its viability.

Employees of SOEs and FIEs overwhelmingly dominate SI coverage, resulting in disproportionately unequal treatment. Participation in voluntary SI is modest, approximately 150,000 people (MOLISA 2013) as shown in Annex Table 4. Participation in the SI program varies across types of employment. Coverage is almost non-existent for agricultural and informal

sector employees. By contrast, in the formal sector, coverage is almost universal for SOE employees, very high for FIE employees, but low for workers in domestic private firms, most of which are small and medium enterprises (SMEs).

As the Social Insurance Law applies only to companies of 10 or more employees, SMEs have an incentive not to increase the number of employees as they would then have to pay social security contributions. This rigid or unprogressive system provides a specific disincentive for the formalisation of SMEs, which can be clearly seen in Annex Table A5. The firm participation rate in the SOE sector is extremely high, close to 90 percent in 2013. Almost all SOEs, whether of central or local level, participate in the SI program. The FIE sector, which includes all foreign investment firms, joint ventures with state capital and joint ventures with other types of ownership, also has a high rate of participation, though it decreased slightly from 2006 to 2013. The private sector has the lowest participation rate.

Firms with higher percentages (more than 50 percent) of females in their workforce have a higher SI contribution rate than those with smaller proportions of females in their workforce. This implies that enterprises employing more female workers are more SI policy compliant. However, female employees work mainly in the leather and shoe, textile and garment sectors. These sectors have higher SI rates than other sectors (discussed later).

As shown, the average number of workers per firm participating in SI is highest for SOEs. In general, the average number of workers per firm of all sectors decreased in 2006–2013 although firms' SI contributions continued to increase. The reason for the decrease in the amount of formal employment was the hiring of temporary workers to avoid paying compulsory SI.

### *8.4.2 Social insurance contributions and changes in wages*

Using GSO survey data, the average annual income per worker is calculated for the four firm ownership types. The average annual wage is calculated based on the wage-similar income, as defined in GSO survey questionnaires. This average wage is paid by the firm to each full-time employee equivalent. As seen in Table 8.4, the total average wage increased steadily year by year, except for 2011 due to the financial crisis. This reflects the minimum wage policy.

Workers from FIEs received the highest nominal wages among sectors. Their average wage gradually rose from VND42.5 million per year in 2006 to nearly VND130 million in 2013, whereas the sector's SI participation rate decreased (Annex Table 5). Although the wage rate in the SOE sector was lower than in the FIE sector, the SI participation rate was higher. This may

be because the SOE sector complies better with regulations. Wages in the private sector were the lowest, as were SI participation rates. Some poor practices have been blamed for this result. For instance, a study conducted by the Vietnam Academy of Social Sciences showed that fewer than 10 percent of firms paid SI contributions on employees' wages (VASS 2011). Fraudulent practice is reportedly prevalent among SMEs, with employers paying higher wages than those specified in the labour contract but paying SI contributions on the wage base, which on average represented 42.7 percent of actual wages. Other earnings manipulations often used by firms include lowering per-hour wages while raising overtime payments, or converting part of the wage into a bonus to lower SI contributions.

Table 8.4: Average annual nominal wage, by firm ownership type (VND million)

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|
| Total | 19.10 | 23.64 | 31.52 | 40.58 | 45.16 | 43.54 | 52.70 | 53.80 |
| SOEs | 27.95 | 34.25 | 42.32 | 52.00 | 84.03 | 74.38 | 79.66 | 86.70 |
| Private enterprises | 18.25 | 22.84 | 30.37 | 33.69 | 43.65 | 38.16 | 50.76 | 51.44 |
| FIE | 42.50 | 46.14 | 62.76 | 70.21 | 89.56 | 110.36 | 114.93 | 129.97 |

Source: Authors' calculations using data from GSO surveys 2006–13

Among the studied firms, those with fewer than 10 employees have the lowest SI participation rates and average wages (Annex Table A7). Clearly, bigger firms are more SI policy compliant than smaller firms. Apart from popular anecdotal evidence on firms' evasion of SI contributions, a report by the VSI Office (2014) states that firms' SI contributions remain low often due to under-reporting of wages. In order to minimise SI contributions, some private sector firms collude with their employees to understate wages in the labour contract or keep the reported wage unchanged over time despite an increase in actual wages paid.

On the other hand, the shortfall in SI contributions by small private firms can be explained by the fact that the average worker values additional current earnings considerably more than future social security benefits. A study by Castel and Thanh (2009) finds some evidence from the data collected by Enterprise Census 2007, that the highest wage earners are most likely to be found in firms that do not pay social security contributions on current wages, while the lowest net wage earners are most likely to be found in firms that do pay contributions on current wages. This means that the shortfall in

social security payments from current wage-based contributions is captured by employees in the form of increased net wages. Again, this is roughly in line with the results of the recent VASS survey to monitor the impacts of the global economic crisis on Vietnamese firms and workers (VASS 2011). The interviews revealed that workers may quickly move across firms because of wage differentials of as low as VND100,000 per month, even at the expense of losing their health insurance and other social security benefits. This unfortunate preference could come from workers' severe cash constraints, but could also reflect the lack of public appreciation or awareness of the important role of social security benefits in reducing the risks associated with old age or unforeseen circumstances.

Firm and employee participation in compulsory SI also vary across different industries. The textile and garment, shoe and leather industries are the major export sectors and are also labour extensive. In 2013, according to GSO data, Vietnam's apparel products were exported to more than 180 countries and territories, with a turnover of USD17.9 billion accounting for 13.6 percent of total exports and 10.5 percent of GDP. Currently there are about 6,000 textile and apparel enterprises in the country, employing more than 2.5 million workers or about 25 percent of labour in the industry sector. There are almost 800 shoe and leather firms, employing nearly 1 million workers (about 10 percent of total industrial labour). Women make up about 80 percent of the total shoe and leather workforce. Therefore, these sectors play an important role in the economy as well as social security.

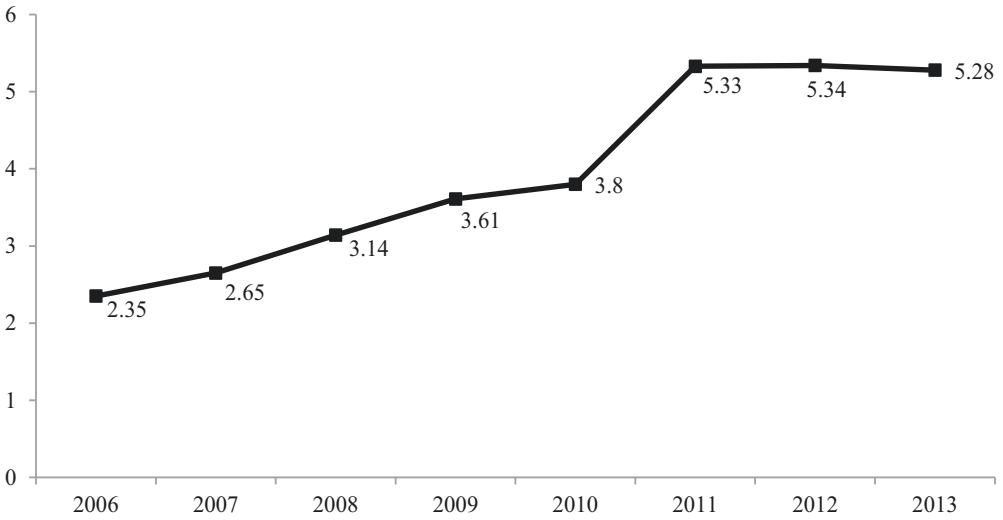
As seen in Annex Table A8, the SI contribution rates in the textile and garment, shoe and leather industries are higher than in the country overall. This can be explained by the fact that most firms in these sectors are medium or big, which often achieve greater levels of regulatory compliance. The contribution rate of other industries is low compared with the country total. This is because most firms in these industries are small, and the proportion of temporary/short-term contract workers is larger. Another explanation is that most firms in these sectors are quite new (under 10 years old). Very often, newly established firms need some time to comply with various government regulations, or they deliberately delay compliance for as long as possible in order to cut costs during their start-up.

Generally, the SI coverage rate is low in business. This situation will negatively affect the social security system in the long term, especially when the majority of textile, garment and shoe workers are women, who often retire early (under 40 years old) because these sectors usually demand younger workers. Therefore, workers retiring from these sectors do not receive pensions and face challenges in securing their livelihoods. Moreover, as the average

wages in these sectors are also lower than the average for the whole country, the workers cannot save money for retirement.

Figure 8.2 shows that in 2013 firms made SI contributions equal to 5.28 percent of wages, a slight decrease compared to 2011 and 2012. This result is consistent with the findings of VASS (2011), that more than 34 percent of workers were in firms that make social security contributions of between 1 and 5 percent of wages, and 33 percent in firms that contribute between 5 and 10 percent.

Figure 8.2: Ratio of firms' SI contributions to wages (percent)




Source: Authors' calculations using data from GSO surveys 2006–13

In short, for the overwhelming majority of participating employees, SI coverage is only partial, falling noticeably short of the statutory contribution rate because firms either do not register all their employees or do not report all the wages they actually pay.

### *8.4.3 Regression results*

The data used for regression analyses are panel data from Vietnam Enterprise Surveys 2006–13. This official database is the most important source for all estimations on business. This is also one of the best databases for assessing the efficiency of SI policy due to its rich information on enterprises, including SI contributions. Based on the database, the relationship between SI contributions and other enterprise performance indicators is estimated.

### *8.4.3.1 All enterprises and by firm ownership*

Estimations for models (1) and (2) were performed using Stata software with corresponding regression models. The sample comprises all registered enterprises, giving a huge sample size of 197,599[7] enterprises (the largest sample). The results are presented in Table 8.5.

Table 8.5: Impact of SI contributions on average wage and workers per firm

| | Average wage per firm | average workers per firm |
|---|---|---|
| All firms | -0.00075*** | 0.00131*** |
| | (0.00010) | (0.00018) |
| SOEs | -0.00018*** | -0.00027* |
| | (0.00025) | (0.00052) |
| Private enterprises | -0.00023 *** | 0.00019*** |
| | (0.00024) | (0.00050) |
| FDI firms | -0.00098* | 0.00008 |
| | (0.00004) | (0.00091) |

Notes: * 10%, ** 5%, *** 1% statistical significance level. Standard errors are in brackets.
Source: Authors' calculations using data from GSO surveys 2006–13

The estimation results for equation (1) show that the average wage per firm (ω) is negatively correlated to the ratio of total SI contribution to total wage fund (variable t). The estimation results for equation (2) reveal that the average number of workers per firm is positively correlated to the ratio of total SI contribution to total wage fund. These two variables are statistically significant at the 1 percent level. The magnitudes of coefficients show the degree of the impact of independent variable (t) and the corresponding dependent variables (ω and *E*). Accordingly, a 1 percent increase in the ratio of total SI contribution to total wage fund would result in a 0.0751 percent reduction in the average wage per firm.

This result implies that an SI contribution increase would induce firms to reduce the average wage. Although the magnitude of this impact is not very high, it suggests that the SI contribution rate should not be raised too much because firms could react negatively to SI rules by using lower quality labour, thus lowering social productivity. Experience from OECD countries shows that fiscal cost "can also be reduced by targeting social security contributions relief to specific groups, such as low-skilled or youth,

[7] The sample size here is 197,599, which is much smaller than the observations of the panel dataset because of some missing values; besides, when running the fixed-effects regression, invariant-time variables such as gender were excluded.

where the unemployment problem is generally more severe" (IMF 2014, 35). Firms would therefore be induced to have more concerns for short-term rather than long-term efficiency.

In contrast, a 1 percent increase in the ratio of total SI contribution to total wage fund would result in a 0.131 percent increase in the average number of workers per firm. In terms of absolute impact, this impact is minor. However, the change is in the same direction as SI contributions. Although the impact of the main independent variable is also significant in this case, it suggests the possible behaviour of firms – that an SI contribution increase would induce them to increase their workforce.

We also estimate the impact of SI contributions on employment and average wages for SOEs, FDI and domestic private firms. The calculation uses regression equations (4) and (7), estimated using an ownership dummy variable for each ownership sector. The objective of these estimations is to compare the extent of impact of SI contributions on labour demand and wages in different ownership types.

The results in Table 8.5 show that the average wage per firm is negatively affected by SI contributions in all ownership sectors. However, the relationship in SOE and domestic private sectors has higher statistical significance than in the FDI sector (1 percent compared to 10 percent). However, the absolute value of corresponding coefficients of variable t for SOE and FDI sectors is greater than that of the domestic private sector, showing greater impact on average wage per firm in these two sectors. In the SOE sector, a 1 percent increase in the ratio of total SI contribution to total wage fund seems to decrease the average wage per firm by 0.181 percent. The corresponding figures for private and FDI sectors are 0.0225 percent and 0.0984 percent, respectively, which are much smaller. In other words, the impact of an SI contribution increase on average wage per firm is stronger in the SOE sector.

The impact of SI contributions on labour demand is also different among ownership sectors. While the increased share of SI contributions in total wage fund negatively affects labour demand in SOE and FDI sectors, it positively affects employment in the private sector. This fact may indicate the situation in which private businesses are more concerned about their profitability than an increase in SI contributions. As long as its impact on total production costs is small, private firms would still want to employ more workers to drive profitability. That is, a 1 percent increase in the share of SI contributions in the total wage fund would result in a mere 0.011 percent increase in labour demand in private sector firms. In contrast, a 1 percent increase in this variable would cause a 0.027 percent decrease in employment in the SOE sector. Again, these facts show that the magnitudes of these impacts in all three sectors are

minimal, meaning that SI contribution is not a major factor affecting firms' labour demand in Vietnam.

*8.4.3.2 By industries*

Different industries have different labour structures; thus, the impact of SI contributions on firms' labour demand and average wages within these industries has specific features. In this study, the impact is estimated in three industry groups: textile and garments, shoes and others. The first two industries are very labour intensive and play an important role in employment creation. SI contributions and pensions are of great concern to workers as well as employers in these industries.

For econometric estimations, equations (7) and (9) were estimated with a dummy variable representing whether the firm belongs to a specific industry. The objective of these estimations is to compare the level of impact of SI contributions on labour demand and average wages in these three industries.

Table 8.6: Impact of SI contributions by industry

| | Textile and garments | | Shoes | | Other | |
|---|---|---|---|---|---|---|
| | Average wage per firm | Average workers per firm | Average wage per firm | Average workers per firm | Average wage per firm | Average workers per firm |
| Coefficient<br>Level of sig. | -0.00016**<br>(0.00025) | 0.00038<br>(0.00054) | -0.00016***<br>(0.00025) | 0.00390***<br>(0.00054) | -0.00155***<br>(0.00026) | 0.00041**<br>(0.00006) |
| Observations | 2,367 | 2,367 | 1,922 | 1,922 | 124,293 | 124,293 |

Notes: * 10%, ** 5%, *** 1% statistical significance level. Standard errors are in brackets.
Source: Authors' calculations using GSO survey data (2006–13)

The results in Table 8.6 show that the average wage per firm is negatively affected by SI contributions in all three industries. The levels of significance in all three groups are relatively high at 5 percent and 1 percent. As we consider the effects in specific industries, the number of firms in the sample drops to 2,367 in garments and textiles and 1,922 in shoes. The absolute values of corresponding coefficients of variable t for shoes are significantly higher than those for textile and garments, as well as other industries, showing a much greater impact of SI contribution on average wage per firm in this sector. In the shoe industry, a 1 percent increase in the ratio of total SI contribution to total wage fund would cause a 0.016 percent decrease in the average wage per firm. This industry is therefore very sensitive to the SI contribution rate. Shoe enterprises seem to adjust much more than their counterparts in textile and garments and other industries.

The impact of SI contributions on labour demand has a similar pattern in the shoe industry, with a significantly higher coefficient of variable t. While an increase in the ratio of total SI contribution to total wage fund positively affects firms' labour demand in the other two groups at very modest levels, it positively affects employment in the shoe industry much more. In all industries, in the event of an SI contribution increase, firms want to employ more workers. This means that this factor does not harm their production very much. Numerically, a 1 percent increase in the ratio of total SI contribution to total wage fund would result in a 0.390 percent increase in labour demand in the shoe industry. In contrast, a 1 percent increase of this variable would cause a mere 0.038 percent increase in employment in textiles and garments. Firms in the surveyed industries react differently even though all are labour intensive.

In general, an increase in SI contribution does not have a negative impact on labour demand; even a slight increase in demand is observed. This may be because the investigated industries are all labour intensive. Firms in labour-intensive sectors often find it easier to switch from higher skilled to lower skilled labour or from long-term to short-term contract labour. Schmillen and Packard (2016) point out that, although lower skilled labour implies higher training costs for businesses, the lower total payment is attractive enough for employers to replace higher skilled labour with lower skilled. In contrast, the highest skilled employees are an exception: firms always try to retain them with higher pay. However, the number of very highly skilled workers is often not very big. Therefore, keeping high pay for this category of labour does not cause significantly higher costs for businesses. Shorter contracts would help firms achieve more flexibility in their employment strategies.

#### *8.4.3.3 By firm size*

The impact of SI contributions on labour demand and average wage per firm can also be seen from another important angle: firm size. The behaviour of larger firms is expected to be different from that of smaller ones.

The results were obtained by estimating equations (6) and (8) in which the firm size variable is included to measure the impact of SI contributions on average wage and labour demand. Again, firms are grouped into four distinct sizes by number of workers.

The estimation results in Table 8.7 show that the ratio of SI contribution to total wage fund negatively affects average wage per firm for all firm sizes. All the estimated coefficients are significant at the 1 percent level (5 percent for firms with more than 100 workers). However, the impact on smaller firms is larger, with the largest impact on micro-enterprises. For the 15,458 micro-

enterprises in the Enterprise Surveys, a 1 percent increase in the ratio of SI contribution to total wage fund would result in a 0.0178 percent reduction in the average wage per firm. Clearly, micro-enterprises react more strongly to an increase in SI contributions. This could be because they are more vulnerable to increased non-wage labour costs induced by the SI contribution. This impact declines as the size of enterprises increases. For enterprises with more than 100 workers, the impact is minimal (only 0.01 percent).

Table 8.7: Impact of SI contributions by firm size

| | **average wage per firm** | | | |
|---|---|---|---|---|
| | < 10 workers | 10 to 50 | 51 to 100 | >100 workers |
| Coefficient | -0.000178***<br>(0.000245) | -0.000171***<br>(0.0000246) | -0.0001631***<br>(0.0047607) | -0.0001051**<br>(0.0000325) |
| Observations | 15,458 | 46,733 | 21,756 | 44,635 |
| | **average workers per firm** | | | |
| | Fewer than 10 | 10 to 50 | 51 to 100 | More than 100 |
| Coefficient | 0.00517***<br>(0.0005062) | 0.0003327***<br>(0.0000589) | -0.0000199*<br>(0.000012) | -0.0000232<br>(0.0000437) |
| Observations | 15,458 | 46,733 | 21,756 | 44,635 |

Notes: * 10%, ** 5%, *** 1% statistical significance level. Standard errors are in brackets.
Source: Authors' calculations using data from GSO surveys 2006–13

At the same time, an increase in the ratio of SI contribution to total wage fund positively affects labour demand in all firm sizes. However, for micro-enterprises and those with 10–50 workers, the impact is greater. For micro-enterprises, a 1 percent increase in the ratio of SI contribution to total wage fund causes a 0.517 percent increase in labour demand. The corresponding figure for enterprises with 10–50 workers falls to only 0.033 percent. The coefficient for enterprises with 51–100 workers is very minor, and for firms with more than 100 workers, the coefficient of variable t is even insignificant.

*8.4.3.4 By gender*

To capture the effects of SI contributions on the share of female workers in firms' total workforce, the regression models were modified. This variable is added to the estimation model along with firm ownership, workforce size and sector. The estimation results are presented in Table 8.8.

The coefficients of the ratio of SI contribution to total wage fund are statistically significant at the 1 percent level. However, their magnitudes are very small, showing minor impact. All other independent variables are also statistically significant. However, the corresponding coefficient for the share of female workers in total labour is minimal: -0.0010348 for equation (1), -0.000785 for equation (2) and -0.000747 for equation (3). This suggests that, in the event of an SI contribution increase, this factor will barely affect the average wage per firm. This clearly implies that firms with different shares of female workers do not exhibit considerably different behaviours in setting wages or recruitment policies.

Table 8.8: Impact of SI contributions on the average wage (whole sample)

| | | average wage | | |
|---|---|---|---|---|
| Coefficient | | -0.00075*** | -0.00075*** | -0.00074*** |
| | | (0.00002) | (0.00010) | (0.00010) |
| dnnn | | 0.22943*** | | |
| | | (0.00076) | | |
| | dndm | | | 0.04608*** |
| | | | | (0.00903) |
| DNSN | | | 0.012771*** | |
| | | | (0.0032696) | |
| | Fem | -0.00103**** | -0.0007851 | -0.00075*** |
| | | (0.00000083) | (0.0000826) | (0.00008) |
| Observations | | 197,441 | 197,441 | 197,441 |

Notes: The sample size here is smaller than the number of observations of panel dataset because of some missing value. * 10%, ** 5%, *** 1% statistical significance level. Standard errors are in brackets.
Source: Authors' calculations using data from GSO surveys 2006–13

When we control for fixed effects of ownership type, sector and firm size, the results appear to be similar to the previously stated results, and the signs of coefficients for both dependent variables remain unchanged.

Overall, the estimation results show that the ratio of total SI contribution to total wage fund is negatively correlated to the average wage per firm (ω) and positively correlated to the average number of workers per firm. Accordingly, with the fixed effects of ownership type, industry and firm size, a 1 percent increase in the ratio of total SI contribution to total wage fund would result in reductions of 0.091 percent, 0.074 percent and 0.075 percent, respectively, in average wage per firm. This implies that an increase in SI contributions would induce firms to reduce the average wage. In contrast, adding the fixed effects,

a 1 percent increase in the ratio of total SI contribution to total wage fund would result in increases of 0.0706 percent, 0.013 percent and 0.054 percent, respectively, in the average number of workers per firm. In terms of absolute impact, this is trivial.

Table 8.9: Impact of rise in SI contributions on firms' wages and employment (fixed effects)

| | Average wage per firm | Average workers per firm | Average wage per firm | Average workers per firm | Average wage per firm | Average workers per firm |
|---|---|---|---|---|---|---|
| Coefficient | -0.00091*** | 0.00071*** | -0.00074*** | 0.00128*** | -0.00075*** | 0.00053*** |
| | (0.00010) | (0.00018) | (0.00010) | (0.00018) | (0.00010) | (0.00013) |
| Female | -0.00124*** | | -0.00073*** | | -0.00078*** | |
| **Other control variables** | | | | | | |
| Firm type fixed effects | Yes | Yes | | | | |
| Sector fixed effects | | | Yes | Yes | | |
| Firm size fixed effect | | | | | Yes | Yes |
| Observations | 197,559 | 197,559 | 197,559 | 197,559 | 197,559 | 197,559 |

Notes: * 10%, ** 5%, *** 1% statistical significance level. Standard errors are in brackets.
Source: Authors' calculations using data from GSO surveys 2006–13

## 8.5 Conclusions and policy implications

Using data from Enterprise Surveys 2006 to 2013, both descriptive and econometric analyses were carried out to find evidence of the impact of SI contributions on labour demand and average wages. As expected, the results indicate that compulsory SI contributions do have an impact on wages and employment.

As stated, the impact of SI contributions on labour demand and wages was studied by quantitative analysis and is explained by the ratio of firms' total SI contribution to total wage fund. The results indicate that the average wage per firm is negatively correlated to the ratio of total SI contribution to total wage fund. On the other hand, the average number of workers per firm is positively correlated to that ratio.

The impact was also examined from other perspectives such as ownership type, the proportion of female workers, firm size and industrial sector. The analysis shows that the average wage per firm is negatively affected by SI contributions in all ownership sectors. The impact is stronger in the SOE sector than in FDI and domestic private sectors. These results suggest that for SOEs,

the impact of any SI contribution increase should be carefully examined. The results also show that an increased share of SI contributions in the total wage fund negatively affects labour demand in SOE and FDI sectors, but positively affects employment in the private sector. However, all of these impacts are small, showing that labour demand is hardly affected by SI contributions. This may be due to a number of reasons, such as the SI contribution accounting for a small share of total production costs or labour demand being affected by many other factors. Another explanation may be the small size of enterprises. The policy implication here is that the government cannot use SI policy to influence demand in the labour market.

The situation is a little different when it comes to the impact on firms within different industries. The results indicate that the average wage per firm is negatively affected by the SI contribution in all three studied industries, and this direction of impact is very similar to the results for "all firms". However, the impact of an SI contribution increase is significantly higher in the shoe industry than in the textile and garment sector and other industries. This implies that the reaction of labour-intensive industries to the SI contribution is not the same. The impact of SI contributions on labour demand is also much higher in the shoe industry. This suggests that SI policies may have different employment effects in different industries. This leads to the thought that to achieve policy targets, the government can rely on industrial development priorities to adjust these policies.

Firm size also affects behaviour in response to an increase in the SI contribution. Microenterprises react more strongly. This may be because they are more vulnerable to the increased non-wage labour cost. The extent of this impact declines as the scale of enterprises increases. The impact of the SI contribution on labour demand is positive for the two groups of smaller enterprises, perhaps because small firms can choose to expand business to compensate for the increased SI contribution. However, to prevent an adverse impact on wages caused by the negative reactions of employers, this effect should not be underestimated.

The impact of gender was revealed by the results indicating that, in the event of an SI contribution increase, the proportion of female workers barely affects the average wage per firm. This implies that firms with different gender shares of labour do not show significantly different behaviour in setting wages or recruitment policies. It is therefore recommended that SI policy does not need to have specific stipulations for female labour-intensive industries.

There is good evidence from previous studies indicating that an SI contribution increase has induced firms, especially in the private sector, to react in different ways. Wage cutting and using less labour under compulsory

SI, tax fraud and under-reporting of wages are reportedly quite widespread among firms. Given the big changes in government policy that increased the base for SI and health contributions (requiring a larger contribution from both employers and employees), effective since January 2016, these practices may become more prevalent. Thus it is strongly recommended that, to increase participation and ensure SI system viability, broader and more fundamental reforms, not just in SI but also in other policies, should be undertaken. If employees are not aware of their legal rights and employers do not respect the law, then stronger law enforcement and more frequent public advocacy campaigns should be conducted. Close cooperation with the Tax Inspectorate could help significantly in this matter.

In sum, the policy on increased SI contributions in Vietnam has different impacts on wages and labour demand in various firm types. While the impact on employment is positive, the increase in SI contribution negatively affects the price of labour. These differences are found in enterprises of different ownership types, industrial sectors, firm sizes and gender proportions. As the population of Vietnam is ageing, the SI fund needs to be supplemented, and SI contributions will need to be increased accordingly. However, because of the possible adverse effects and practices outlined above, any change to SI policy should be carefully examined and evaluated to consider potential unintended consequences and to predict more accurately which policy responses are most appropriate so that a more optimal SI contribution level is identified and effectively implemented.

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## Annex

Table A1: Variable definitions

| Variables | Definition |
|---|---|
| *Lnw* | Natural logarithms of average wage |
| *Ts* | Share of total SI contribution to total wage fund (%) |
| *dnnn* | Firm type: dnnn=1 if enterprises are SOEs, =2 if enterprises are private sectors, =3 if enterprises are FIEs. |
| *dndm* | Sector: dndm= 1 if textile and garment sector, =2 if leather and shoes sector, otherwise =3. |
| *DNSN* | Firm size: DNSN =0 if enterprises have fewer than 10 workers, =1 if 10 to 50 workers, =2 if 51 to 100 and =3 if more than 100 workers. |
| *ldBHXH* | Rate of labour SI contribution compared to firm's total labour income (%) |
| *ttBHXH* | Total amount of firms SI contribution for labour (VND million) |
| *E* | Total labour of firms at the end of year |
| *Fem* | Share of female workers in firms (%) |

Table A2: Descriptive statistics for SI contribution rate, average wage and average total employment

| Year | Observations | SI contribution rate | Log of average wage | Log of average total employment |
|---|---|---|---|---|
| 2006 | 29,820 | 6.26<br>(9.94) | 2.92<br>(0.75) | 3.62<br>(1.4) |
| 2007 | 29,820 | 7.20<br>(20.20) | 3.10<br>(0.73) | 3.70<br>(1.40) |
| 2008 | 29,820 | 7.00<br>(10.32) | 3.73<br>(1.39) | 3.32<br>(0.73) |
| 2009 | 29,820 | 8.92<br>(56.32) | 3.49<br>(0.68) | 3.72<br>(1.40) |
| 2010 | 29,820 | 7.72<br>(68.16) | 3.61<br>(0.68) | 3.68<br>(1.45) |
| 2011 | 29,820 | 9.50<br>(123.86) | 3.59<br>(0.74) | 3.62<br>(1.47) |
| 2012 | 29,820 | 9.55<br>(118.77) | 3.73<br>(0.73) | 3.55<br>(1.52) |
| 2013 | 29,820 | 7.74<br>(6.78) | 3.82<br>(0.70) | 3.46<br>(1.57) |

Note: Standard deviations are in brackets.

Table A3: Average rate of SI contribution, number of workers contributing and total contribution of firms, by type of enterprise, size of workforce and industrial sector

| Enterprises | Average rate of SI contribution (%) compared to wage | Average rate of workers contributing to SI (%) | Average total contribution to SI (million dong) |
|---|---|---|---|
| SOEs | 12.90 | 89.85 | 2187.19 |
| Private enterprises | 7.06 | 51.30 | 329.72 |
| FIEs | 10.38 | 84.79 | 2246.98 |
| <10 workers | 5.01 | 39.40 | 12.94 |
| 10 to 50 workers | 7.29 | 55.80 | 79.76 |
| 51 to 100 workers | 9.68 | 62.33 | 288.05 |
| >100 workers | 9.60 | 70.75 | 2,191.53 |
| Textile and garment enterprises | 13.41 | 72.84 | 1,037.23 |
| Shoe and leather enterprises | 8.72 | 76.97 | 6,481.95 |
| Other enterprises | 8.12 | 59.50 | 713.25 |

Source: GSO surveys 2006–13

Table A4: Coverage by components of SI system

| Scheme | Persons covered | Issues |
|---|---|---|
| Compulsory | 15 million (20% of total force) | Participation rate low in non-state enterprises (evasion of SI contributions, loose sanctions and insufficient awareness of workers) |
| Voluntary | 150,000 | Low participation; monthly contributions too high compared to willingness to pay; communication is weak |

Source: MOLISA 2013

Table A5: Coverage of SI by ownership type (%)

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|
| SOEs | 87.96 | 88.89 | 89.63 | 90.10 | 88.50 | 88.98 | 90.05 | 89.92 |
| Private enterprises | 34.66 | 37.73 | 39.28 | 33.08 | 40.73 | 39.44 | 41.11 | 41.60 |
| FIEs | 77.29 | 78.92 | 80.89 | 79.69 | 78.69 | 72.56 | 77.44 | 76.51 |
| Enterprises with more than 50% female workers | 65.85 | 68.12 | 69.28 | 55.55 | 71.19 | 70.52 | 74.58 | 73.31 |
| Enterprises with fewer than 50% female workers | 50.19 | 50.03 | 50.66 | 53.56 | 47.81 | 48.80 | 49.13 | 48.00 |

Source: Author's calculations using data from GSO surveys 2006–2013

Table A6: Total labour and annual SI contributions per firm (VND million) by ownership

| | Unit | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|
| SOEs | Workers/firm | 491.48 | 401.12 | 423.77 | 470.82 | 391.01 | 485.61 | 496.20 | 450.22 |
| | SI/firm | 854.62 | 920.74 | 1264.71 | 1,728.38 | 3,675.94 | 3,075.96 | 3,268.97 | 3,396.81 |
| Private enterprises | Workers/firm | 27.48 | 26.90 | 24.05 | 22.04 | 22.23 | 21.41 | 20.20 | 19.14 |
| | SI/firm | 20.29 | 28.09 | 32.41 | 40.45 | 46.75 | 98.54 | 110.65 | 72.28 |
| FIEs | Workers/firm | 342.51 | 339.82 | 325.33 | 293.25 | 297.32 | 251.68 | 303.23 | 303.81 |
| | SI/firm | 625.81 | 672.12 | 917.24 | 997.76 | 1,562.34 | 1,429.23 | 2,128.67 | 2,432.48 |

Source: Authors' calculations using data from GSO surveys 2006–2013

Table A7: Average SI participation rate and average wage, by firm size

| Size of firm | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|
| **fewer than 10 workers** | | | | | | | | |
| SI participation rate (%) | 14.73 | 16.73 | 27.50 | 34.42 | 32.95 | 17.81 | 30.94 | 32.52 |
| Average wage (VND million) | 17.86 | 22.54 | 29.88 | 35.02 | 43.54 | 36.21 | 52.02 | 51.53 |
| **10–49 workers** | | | | | | | | |
| SI participation rate (%) | 39.23 | 45.31 | 45.37 | 55.39 | 40.20 | 40.93 | 37.91 | 38.44 |
| Average wage (VND million) | 22.51 | 26.99 | 34.42 | 41.84 | 47.57 | 45.26 | 52.4 | 55.96 |
| **50–100 workers** | | | | | | | | |
| SI participation rate (%) | 53.68 | 56.97 | 58.16 | 57.49 | 56.45 | 51.04 | 54.51 | 51.32 |
| Average wage (VND million) | 23.57 | 28.07 | 39.39 | 45.18 | 56.82 | 51.99 | 56.68 | 63.09 |
| **more than 100 workers** | | | | | | | | |
| SI participation rate (%) | 64.81 | 67.06 | 68.17 | 62.28 | 64.97 | 63.15 | 64.55 | 65.59 |
| Average wage (VND million) | 23.49 | 27.97 | 35.13 | 41.55 | 51.11 | 57.44 | 60.67 | 67.37 |

Source: Authors' calculations using data from GSO surveys 2006–13

Table A8: Average SI participation rate and average wage, by industry

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|
| **all industries** | | | | | | | | |
| SI participation rate (%) | 56.59 | 57.68 | 58.03 | 54.50 | 56.74 | 57.54 | 58.96 | 58.27 |
| Average wage (VND million) | 19.10 | 23.64 | 31.52 | 40.58 | 45.16 | 43.54 | 52.70 | 53.80 |
| **textile and garments** | | | | | | | | |
| SI participation rate (%) | 69.53 | 73.05 | 71.91 | 67.65 | 68.33 | 71.38 | 74.82 | 74.62 |
| Average wage (VND million) | 17.88 | 21.09 | 34.88 | 32.23 | 30.71 | 36.66 | 73.18 | 50.50 |
| **shoes and leather** | | | | | | | | |
| SI participation rate (%) | 81.13 | 83.93 | 86.25 | 85.60 | 88.10 | 86.23 | 90.41 | 91.04 |
| Average wage (VND million) | 15.28 | 18.52 | 41.70 | 26.33 | 33.85 | 35.76 | 44.72 | 48.93 |
| **other** | | | | | | | | |
| SI participation rate (%) | 53.75 | 54.69 | 55.26 | 51.85 | 53.95 | 54.93 | 56.10 | 55.07 |
| Average wage (VND million) | 19.44 | 24.01 | 31.45 | 40.93 | 45.30 | 40.60 | 52.60 | 53.84 |

Source: Authors' calculations using data from GSO surveys 2006–13

# Part 3:

# Skills and Training

# 9
# Vocational Training and Labour Market Transitions: A Randomised Experiment Among Cambodian Disadvantaged Young Adults

Ouch Chandarany

We use a randomised experiment to provide evidence on the effects of vocational training programs for economically disadvantaged young adults in Cambodia. Individuals aged between 15 and 30 were randomly offered a two-month full-time training course in housekeeping; we find that the program has positive but statistically insignificant effects on employment outcomes. We track program dropouts and find that their participation was mainly constrained by family obligations, lack of transport to the training centre, and temporary job opportunities. We also document the experience of working with disadvantaged young people. We observe that they need other support in addition to training. Job-readiness training, job placement assistance, career guidance and counselling might be needed to help them break into the labour market.

## 9.1 Introduction

Lack of skills is considered a key determinant of unemployment, poverty and crime, and a key limitation on growth in developing countries. To increase the number of young adults in formal employment, it is crucial that they are well equipped with labour market relevant skills. Vocational training is a promising approach to help young people, especially those from economically disadvantaged backgrounds or who left formal schooling prematurely, to develop job skills. Training also offers them a second chance to differentiate themselves from other dropouts in the labour market.

In many developing countries, the labour force is often characterised by a large number of low-skilled young people aged between 15 and 30 (the youth cohort). However, the majority are either unemployed or in low-paying informal jobs (Elder 2014). Thus, one of the targets of Sustainable Development Goal 8 is to ensure that by 2020 the proportion of youth not in employment, education or training is substantially reduced. In Cambodia, in 2014, about 23 percent of youth were not in work. In its effort to mobilise more youth into employment, the Cambodian government has put in place several policies such as the Rectangular Strategy for Growth, Employment, Equity and Efficiency and the Technical and Vocational Education and Training (TVET) Strategic Development Plan 2014–18, incorporated social protection schemes into labour law and ratified international treaties such as the ILO Labour Conventions and similar policy instruments.

The Rectangular Strategy encapsulates the national vision for productivity improvement, agricultural diversification, private sector development, employment generation, capacity building and human resource development. To speed up its implementation, infrastructure investments and industrial policies have been established. The vocational training programs implemented by the Ministry of Vocational Training and Labour aim to improve the job skills of young people in rural areas with a view to increasing the incomes and living standards of rural families, especially the poor. Further concerted efforts are needed, however, if Cambodia is to catch up with its peers in the Association of Southeast Asian Nations (ASEAN) in the context of the ASEAN Economic Community, especially in improving workforce skills. Alongside export-led industrial growth, TVET could be a crucial development tool for Cambodia. TVET is also considered a win-win approach to creating better work opportunities for young people and providing a skilled workforce for industry. As private sector demand for skills in the working-age population has increased, skills training has been prioritised in national development agenda.

Training programs are increasingly recognised as a potential solution to building the skills of young adults, yet there is scant evidence on the

effectiveness of training in improving labour market transitions among youth in developing countries. Experimental evidence is particularly scarce, and findings from recent randomised evaluations of vocational training programs are not clear-cut. Attanasio, Kugler and Meghir (2011), for instance, find that a vocational training program for disadvantaged youth in Colombia increased earnings and employment for women. In contrast, Card et al. (2011) find that a government-subsidised training program for low-income youth in urban areas of the Dominican Republic had no significant effect on employment outcomes, though they note some improvement in earnings and the probability of health insurance cover, conditional on employment. A study by Cho et al. (2013) on the effects of vocational and entrepreneurial training for Malawian youth finds that, although the training led to skills development, continued investment in human capital and improved wellbeing for men, there were no effects on labour market outcomes in the short run, and women gained nothing at all from the training. Recent research by Hirshleifer et al. (2016) shows that a vocational training program for the unemployed in Turkey has a positive average impact on employment; however, the effect is small and statistically insignificant.

Experimental impact evaluation studies of vocational training programs are a new research approach in Cambodia. This paper uses a randomised experiment to examine the effects of participating in a vocational training program targeted at young adults from low-income households. We focus on the impacts of the program on employment and barriers to taking up and completing the training. The intervention in this study was to provide two months' training in housekeeping for disadvantaged young people living in the capital, Phnom Penh. The program randomly offered training to about 70 percent of the registered participants, and the remaining participants were assigned to the control group.

This study makes several important contributions – to the literature, to policy development and formulation and to local researchers' capacity development. First, little is known about the impact of vocational training programs in Cambodia. Regional economic integration and skill shortages make it an important setting in which to evaluate the effectiveness of labour market training programs. Second, randomised field experiments can give clear insights into both short- and medium-term training program impacts. The use of a randomised experimental design allows us to provide straightforward evidence for policy recommendations. Third, we also examine barriers to program take-up and completion. A better understanding of dropout behaviour can be useful for improving completion rates and easing constraints as part of more effective labour market policy. Finally, our research adds to the stock of

studies on vocational training in developing countries, builds local capacity for conducting evaluation studies and complements experimental evidence with survey data.

We combine pre-training and post-training data, collected five months after program completion, to estimate the impact of offering the training program (intention-to-treat effects) on employment outcomes. Then we use an instrumental variable two-stage least squares approach to identify the effect of receiving the training program (treatment-on-treated effects). The results show positive but statistically insignificant effects of both offering and completing the program on the likelihood of obtaining employment and hours worked. Because there was a notable dropout rate, we included self-reported and social behavioural questions in the follow-up survey to identify individual barriers to program take-up and completion and to examine the association between the likelihood of completing the program and individual personality traits, self-esteem, and risk and time preferences. Among the dropouts surveyed, the three main reasons for dropping out are family obligations, lack of transport to the training venue and short-term work opportunities. We find that personality traits and risk and time preferences do not influence the completion rate. Finally, we document the challenges and lessons from working with economically disadvantaged young people and households in this randomised experiment, which might provide useful information and implications for more effective training programs and labour market policies in developing countries.

## 9.2 Background

### *9.2.1 Youth, education and employment in Cambodia*[1]

Youth (aged 15–30 years) made up 33 percent of Cambodia's total population in 2014. Despite the huge potential of this youth bulge, it also presents a major employment challenge.

Youth with higher education are likely to obtain better and higher-paid jobs than less educated youth because education can provide skills the market needs and make people more productive in their work. In Cambodia, lower and upper secondary completion rates are relatively low. Youth have 7.3 years on schooling on average (NIS 2015). Low-income students are most at risk of dropping out of school, either to work at home or to earn money to support their families; the opportunity cost of going to school is simply too high. Young people thus often enter the labour force without basic skills. Most of the time, they work in low-paid, hazardous and short-term jobs.

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[1] We acknowledge the contribution of Phann Dalis to this section.

The labour force participation rate for youth in 2014 was about 77 percent. About 60 percent of total youth employed in 2014 were in waged jobs. Garments, construction and services play a crucial role in absorbing large numbers of young Cambodian workers.

### *9.2.2 Training in the hospitality sector*

The rapid growth of tourism during the last decade has led to a high demand for tourism products and services, including transport, travel agencies, entertainment and accommodation. The number of international tourist arrivals almost tripled between 2006 and 2016, from 1.7 million to 5 million (Ministry of Tourism 2017). The total number of hotels in Phnom Penh, Sihanoukville, Siem Reap and Battambang, the main tourist areas, rose from 724 (32,486 rooms) in 2014 to 914 (39,382 rooms) in 2015 (Bonna Realty Group 2016).

Hotel industry growth creates job opportunities for young people, especially those living in popular tourist areas. The share of employment in the services sector rose from 26.5 percent in 2009 to 30.4 percent in 2014 (National Institute of Statistics 2015). Still, there are skill shortages and gaps in services. Job-specific skills and foreign language proficiency have been identified as the two most serious skill gaps in tourism (Khieng, Madhur and Chhem 2015). For instance, among job applicants in hospitality, hotel, catering and tourism, 85 percent lack the required skills. Specifically, in hotels, guest houses, restaurants, recreation and entertainment businesses, 15.1 percent of room attendants/laundry workers and 31.8 percent of waiters reportedly lack the necessary skills (National Employment Agency 2013).

Some of the schools and centres providing vocational training in hospitality include Pour un Sourire d'Enfant (PSE), Sala Bai, Don Bosco School, EGBOK (Everything's Gonna Be OK) and Feeding Dreams Cambodia. PSE, an NGO working with underprivileged children from the Stung Meanchey dump in Phnom Penh, provides a two-year training course in hospitality, including housekeeping. Ninety-eight percent of students graduating from PSE vocational training find employment. This is mainly due to its job placement program. Sala Bai, based in Siem Reap province and founded in 2002 by the French NGO Agir pour le Cambodge, has provided training in hospitality to more than 1,000 young people (of whom 70 percent are girls) from underprivileged families since it was established. Don Bosco Hotel School, created and managed by the Don Bosco Foundation, trains disadvantaged youth for the hospitality industry. Since its establishment in 2007, about 400 students have graduated. Most managed to find jobs in hospitality after finishing their two-year training course. EGBOK, located in Siem Reap province, offers underprivileged young people training and employment opportunities in

hospitality, including housekeeping. It also provides an internship program, life-skills training, social support and monthly student sponsorships. Feeding Dreams Cambodia has provided hospitality training and free meals to more than 800 students in Siem Reap since it was set up. Students are trained in housekeeping, guest service, and food and beverage service for six months, followed by four months' internship in high-end hotels and restaurants and two more months' training until they get a job placement.

## 9.3 Research design

### *9.3.1 Intervention description*

The intervention in this study was to provide two months of training in housekeeping. It targeted economically disadvantaged youth aged 15–30 residing in Phnom Penh, able to read and write and willing to participate in the training. We collaborated with PSE, one of the most well-known vocational training institutes in Cambodia, to design and implement the program. PSE played a fundamental role in identifying and designing the training based on project timeline and our target population.[2] Housekeeping was selected because there is a demand for it in tourism. It also enables low-educated individuals to participate and suits both men and women.

The two-month course consisted of two main components: 180 hours of classroom lectures and 180 hours of practical work at the PSE vocational training institute.[3] Class sessions included lectures, demonstrations, simulations and role-play, and practical sessions provided opportunities for students to practise hotel-style room service. Classes ran from Monday to Friday from 7:00 am to noon and from 2:00 pm to 5:00 pm, and on Saturday from 7:00 am to noon.

The training course was run four times between June and September 2016 because it was more convenient for PSE to facilitate training classes and practical work for small groups. Participants in all four rounds had the same teachers, curriculum and learning environment. They received a uniform, lunch, study materials and 3.5 kg of rice per week, but no stipend. PSE offered a free shuttle bus service for participants who lived along its bus routes, though students in

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2 PSE usually provides two years of training in various fields, including hospitality. For this study, PSE designed a two-month program in housekeeping.

3 The program initially included a one-month hotel/apartment internship. However, internships took time to arrange. PSE sent students to hotels/apartments with which it has built good relations and partnerships, and students had to undergo tests and interviews by the hotel/apartment. Also, PSE proposed extending the internship to two or three months to meet the requirements of hotels/apartments and improve students' chances of employment afterwards. Thus, the internship program was not within the two-month training period. Only 18 students in the program were offered a paid internship, though four of them declined the offer.

rounds 3 and 4 received a transport allowance of USD1 per attendance.[4] Those who completed the program received a certificate from PSE.

### *9.3.2 Recruitment and treatment assignment*

Our target recruitment areas were slums in nine of 12 districts in Phnom Penh. We consulted PSE on the target villages as it works very closely with disadvantaged youth and their families. PSE provided a list of villages in each district and a contact person in each village.

In the recruitment phase, enumerators contacted village chiefs or community heads for village guidance and visits. The program advertisement was distributed to households and posted in prime locations in the target areas for about three weeks before the training started. The flyer was in Khmer and included associated information such as the name of the training institute, training venue, training topic (housekeeping), training duration and commitment required. Individuals were invited to register to have a chance of being selected for the program and informed that they would receive a certificate of achievement at the end of the program.

We received registrations both during the village visits and by telephone. We asked individuals to provide their name, age, gender, educational attainment and contact details when they registered. A total of 231 people registered for the training. For each training round, the registrees were randomly assigned in 70:30 proportion to treatment and control groups, giving a total of 162 in the treatment group and 69 in the control group.[5] Then we informed the registrees about the outcome of their application, and those in the treatment group were told the training start date.

### *9.3.3 Data collection*

We conducted two surveys – baseline and follow up. Baseline data was collected either before the beginning of each course or during the first week of classes between June and September 2016. The baseline survey collected information on individual and household demographic characteristics, education, training experience and general labour market information. We were able to interview only 181 individuals for the baseline, 120 in the treatment group and 61 in the control group.

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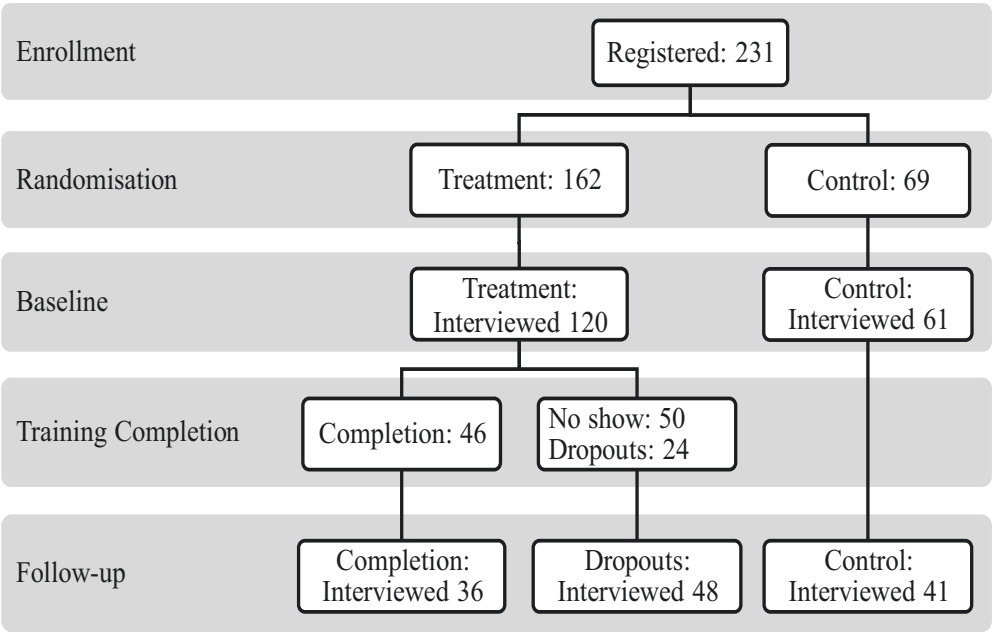
4 Participants in rounds 3 and 4 received a transport allowance because of the high absence rates in rounds 1 and 2 and because most students in rounds 3 and 4 were living far from the PSE centre where there was no PSE shuttle bus service. The project covered training tuition fees.

5 We control for recruitment effects in our analysis to eliminate any potential differences in each round of recruitment and training.

Of the baseline sample, 38.3 percent of those in the treatment group completed the program, 20 percent dropped out during the training and 41.7 percent did not show up from the first day of training (Figure 9.1). The majority of dropouts occurred at the beginning of the program. We therefore combine the no shows and the dropouts in our analysis. Together, they make up about 62 percent of the treatment group. They were from the older age cohort, married and reportedly worked more hours per week and earned more money per month than completers. We investigate dropout behaviour further in Section 4.3.

Figure 9.1: Study sample




Source: Author's preparation

The follow-up survey was carried out five months after the conclusion of training, between January and March 2017, using the list of individuals interviewed in the baseline with updated contact information received during the training. The follow-up survey gathered information on labour market outcomes, training attendance, reasons for dropping out, program evaluation, personality traits, self-esteem, and time and risk preferences. In total, 125 participants were interviewed in the follow-up survey, corresponding to 69 percent of the total sample in the baseline survey. Some participants had migrated to work in other provinces or Thailand, and we could not contact them for a telephone interview. A few participants had been in a rehabilitation

centre while a few others, who dropped out of training or did not show up at all, declined to participate in the follow-up survey.[6] The attrition rate of 31 percent is comparable to attrition rates of between 18 and 36 percent from other impact evaluations of vocational training programs in other developing countries (Attanasio et al. 2011; Maitra and Mani 2017; Card et al. 2011). The highest attrition rate documented is 46 percent (Cho et al. 2013).

Table 9.1: Impact of treatment on likelihood of attrition

| | Attrition (1) | Attrition (2) | Attrition (3) | Attrition (4) | Attrition (5) |
|---|---|---|---|---|---|
| Treatment | 0.020 | 0.034 | 0.035 | 0.033 | 0.030 |
| | (0.071) | (0.073) | (0.074) | (0.073) | (0.073) |
| Age | | 0.011 | 0.027 | 0.012 | 0.011 |
| | | (0.010) | (0.096) | (0.010) | (0.010) |
| Age^2 | | | -0.0004 | | |
| | | | (0.002) | | |
| Education (years) | | -0.006 | -0.006 | -0.003 | -0.003 |
| | | (0.011) | (0.011) | (0.011) | (0.011) |
| Male (=1) | | 0.042 | 0.040 | 0.045 | 0.029 |
| | | (0.074) | (0.075) | (0.074) | (0.076) |
| Married (=1) | | 0.037 | 0.035 | 0.030 | 0.019 |
| | | (0.089) | (0.090) | (0.089) | (0.089) |
| Work experience (months) | | | | 0.0004 | 0.0003 |
| | | | | (0.002) | (0.002) |
| Training experience (=1) | | | | -0.068 | -0.059 |
| | | | | (0.088) | (0.087) |
| Employed | | | | | -0.050 |
| | | | | | (0.227) |
| Hours worked | | | | | -0.002 |
| | | | | | (0.004) |
| Monthly earnings (0000 riels) | | | | | 0.003 |
| | | | | | (0.004) |
| Observations | 181 | 181 | 181 | 181 | 181 |

Notes: This table reports marginal effects from the probit estimations. The dependent variable is attrition, which takes a value 1 if the participants could not be traced during the follow-up survey and 0 otherwise. Regressions include recruitment round dummies. Robust standard errors are reported in parentheses.
Source: Author's calculations

[6] We also excluded three individuals in the control group who overreported their hours worked per week in the follow-up survey. When we include these observations in our analyses, the magnitudes, sign and significance levels of the coefficients are similar to those reported in Tables 3 and 4.

We check for the absence of differential attrition. We examine whether treatment and control individuals are attrited differentially in the follow-up survey and whether baseline characteristics predict attrition. Table 9.1 presents the marginal effects from probit regression, where the dependent variable is attrition, which takes a value 1 if the participants could not be traced during the follow-up survey and 0 otherwise. The result shows that being assigned to the treatment group does not have a statistically significant effect on the likelihood of attrition (column 1). We also include baseline characteristics and labour market outcomes in the regression and find no relation between an offer of training and the likelihood of attrition (columns 2 to 5). We also find that baseline socioeconomic characteristics have no influence on attrition.

### *9.3.4 Baseline characteristics*

Table 9.2 presents the basic descriptive statistics of baseline characteristics and labour market outcomes for our final sample of 125 participants. It also reports the differences in the mean values of these variables between the treatment and control groups at baseline.

The average age of participants is 21 years, and males make up 58 percent of the total sample. Participants have completed 7.4 years of schooling on average, and 24 percent of them are married. They have little work experience (less than 1 year on average), and only 22 percent had attended training courses before joining the program.

The primary outcome of interest is whether individuals are employed. We also observe other measures of labour market outcomes, including employment status, hours worked and monthly earnings. Employment status includes dummy variables "full-time/casual employment" and "self-employment" that take the value 1 if the characteristics are true and 0 otherwise. The variable "hours worked" indicates the number of hours worked during the last week, and "monthly earnings (0000 riels)" the total earnings in the last month. We impute zero for hours worked and monthly earnings if a participant was unemployed, an unpaid family worker, housewife/househusband or student. Table A1 in Annex A describes how we constructed the key variables.

Employment participation is very low at baseline. Nineteen percent of our sample are in paid employment and about 6 percent are self-employed. The average hours worked per week and monthly earnings for the entire sample are about 10.3 hours and KHR118,600, (about USD30), respectively.

Table 9.2: Baseline characteristics

| | Total sample | Treatment | Control | Difference |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4 = 2 - 3) |
| **Basic characteristics** | | | | |
| Age | 20.86 | 20.70 | 21.20 | -0.49 |
| | [3.63] | [3.73] | [3.43] | (0.69) |
| Male (=1) | 0.58 | 0.61 | 0.51 | 0.09 |
| | [0.50] | [0.49] | [0.51] | (0.09) |
| Education (years) | 7.39 | 7.49 | 7.20 | 0.29 |
| | [3.15] | [2.96] | [3.54] | (0.60) |
| Married (=1) | 0.24 | 0.17 | 0.39 | -0.22** |
| | [0.43] | [0.37] | [0.49] | (0.08) |
| Work experience (months) | 8.97 | 8.41 | 10.12 | -1.71 |
| | [20.81] | [22.33] | [17.49] | (3.98) |
| Training experience (=1) | 0.22 | 0.23 | 0.20 | 0.03 |
| | [0.41] | [0.42] | [0.40] | (0.08) |
| **Labour market outcomes** | | | | |
| Employed | 0.25 | 0.23 | 0.29 | -0.07 |
| | [0.43] | [0.42] | [0.46] | (0.08) |
| Full-time/casual employment | 0.19 | 0.18 | 0.22 | -0.04 |
| | [0.40] | [0.39] | [0.42] | (0.08) |
| Self-employment | 0.06 | 0.05 | 0.07 | -0.03 |
| | [0.23] | [0.21] | [0.26] | (0.04) |
| Hours worked | 10.31 | 9.48 | 12.02 | -2.55 |
| | [19.38] | [19.08] | [20.13] | (3.70) |
| Monthly earnings (0000 riels) | 11.86 | 11.58 | 12.44 | -0.86 |
| | [22.25] | [23.06] | [20.76] | (4.26) |
| Observations | 125 | 84 | 41 | |

Notes: Standard deviation reported in brackets and standard errors in parentheses. ** significant at 5%.
Source: Author's calculations

Given the nature of the randomised experiment, we also check whether any differences in the means of demographic characteristics and labour market outcomes between the treatment and control groups are significantly different. Column 4 in Table 9.2 shows that the baseline characteristics of participants in treatment and control groups do not differ, except for marital status. About 17 percent of the participants in the treatment group and 39 percent in the control group are married. In our regression analysis, we control for marital status to account for this difference.

## 9.4 Results

In this section, we estimate the effects of offering the program (intention-to-treat) and receiving the program (treatment-on-treated). We show the mean differences in the follow-up survey in Annex A Table A2. We also discuss

whether individual differences in personality traits, self-esteem, and risk and time preferences are correlated with the dropout rate.

### *9.4.1 Intention-to-treat effects*

We measure the intention-to-treat (ITT) effects of the program using the following empirical specification:

$$Y_{ijt} = \beta_0 + \beta_1 TRAINING_i + \beta_2 t + \beta_3 TRAINING_i * t + \beta_4 X_i + \tau_j + \varepsilon_{ijt} \quad (1)$$

where $Y_{ijt}$ is the outcome of interest for individual $i$ in recruitment round $j$ at time $t$. $TRAINING_i$ is a dummy variable that takes the value 1 if the individual was offered the training, 0 if the individual was assigned to the control group. $t$ is a dummy variable that takes a value 1 if time is 2017 (post-training), 0 otherwise. A set of control variables $X_i$ includes age, education, gender and marital status for individual $i$. $\tau_j$ is a fixed effect that captures differences in recruitment round and transport allowance and $\varepsilon_{ijt}$ is an error term. In all regressions, standard errors are clustered at the individual level. We are particularly interested in examining the effect of being offered the training program. Thus, the coefficient of the interaction term ($\beta_3$) gives us the estimate of ITT.

Table 9.3: Intention-to-treat effects of the program

| | LPM | | Probit | |
|---|---|---|---|---|
| Dependent variables | (1) | (2) | (3) | (4) |
| Employed | 0.085 | 0.082 | 0.085 | 0.066 |
| | (0.109) | (0.111) | (0.108) | (0.108) |
| Full-time/ casual employment | 0.073 | 0.071 | 0.073 | 0.070 |
| | (0.109) | (0.110) | (0.108) | (0.107) |
| Self-employment | 0.012 | 0.011 | 0.012 | 0.010 |
| | (0.056) | (0.057) | (0.056) | (0.054) |
| Hours worked | 2.966 | 2.834 | | |
| | (6.397) | (6.502) | | |
| Monthly earnings (0000 riels) | -4.787 | -5.020 | | |
| | (6.352) | (6.456) | | |
| Controls | No | Yes | No | Yes |
| Observations | 250 | 250 | 250 | 250 |

Notes: This table reports the coefficients of variable ($TRAINING_i * t$). Regressions control for age, education, gender, marital status and recruitment round dummies. For probit regressions in columns 3 and 4, we use margins with contrast operator in Stata 14 to estimate the average interaction effects. Robust standard errors clustered at the individual level are reported in parentheses.
Source: Author's calculations

In Table 9.3, we report results from the linear probability model (LPM) and the probit regressions with and without control variables.[7] The results demonstrate that the program has no significant treatment effect on employment, hours worked or earnings in both LPM and probit regressions. Being assigned to the treatment group increases the likelihood of employment by around 8 percentage points and hours worked by about 3 hours, relative to the control group (columns 1 and 2). However, the differences are not significantly different from zero. For earnings, the participants assigned to the treatment group earn about KHR50,000 (USD12.50) per month less than those in the control group, but this marginal difference is also not significantly different from zero. It is likely that those in the control group had more time to look for work while those in the treatment group underwent training.

### *9.4.2 Treatment-on-treated effects*

To estimate the treatment-on-treated effects, we use an instrumental variable two-stage least squares approach. Specifically, we use assignment to treatment as an instrument for vocational training attended to identify the effects of receiving the training on employment outcomes as follows:

$$R_i = \gamma_0 + \gamma_1 TRAINING_i * t + \gamma_2 t + \gamma_3 X_i + \delta_i + \tau_j + u_{ijt} \quad (2a)$$

$$Y_{ijt} = \alpha_0 + \alpha_1 \tilde{R}_i + \alpha_2 X_i + \tau_j + v_{ijt} \quad (2b)$$

where $R_i$ is a dummy variable that takes the value 1 if the individual received/completed training, 0 if otherwise. $Y_{it}$ is the outcome of interest for individual i in time t. $t$ is a dummy variable that takes the value 1 if time is 2017 (post-training), 0 otherwise. A set of control variables $X_i$ includes age, education, gender and marital status for individual i. $\delta_i$ is individual fixed effect. $u_{it}$ and $v_{it}$ are error terms. The coefficient ($\alpha_1$) gives us the estimate of the effects of receiving the training.

Table 9.4 shows the results from instrumental variable (IV) estimation with and without control variables (columns 1 and 2) on employment outcomes, where training participation is instrumented by the random assignment to training. Undergoing the training increases the likelihood of getting employment, including the likelihood of obtaining waged employment and being self-employed, and hours worked. Nevertheless, the impacts are not statistically significant. There is a small and insignificant negative impact of receiving the training on monthly earnings.

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[7] For probit regressions, we use margins with contrast operator in Stata 14 to estimate the average interaction effects ($TRAINING_i*t$). This is to alleviate the concern that the interaction effect in probit regressions does not equal the marginal effect of the interaction term.

We also check whether the control group and the dropouts had attended other training programs during our study period. Only two individuals in the control group and one dropout reported attending other courses. When we exclude them from the estimation, the results are unchanged (columns 3 and 4).

Table 9.4: Treatment-on-treated effects of the program

| | IV | | IV | |
|---|---|---|---|---|
| Dependent variables | (1) | (2) | (3) | (4) |
| Employed | 0.199 | 0.193 | 0.193 | 0.190 |
| | (0.250) | (0.268) | (0.253) | (0.267) |
| Full-time/casual employment | 0.171 | 0.160 | 0.165 | 0.157 |
| | (0.250) | (0.262) | (0.253) | (0.261) |
| Self-employment | 0.028 | 0.033 | 0.028 | 0.033 |
| | (0.130) | (0.129) | (0.133) | (0.131) |
| Hours worked | 6.922 | 6.689 | 5.995 | 5.942 |
| | (14.724) | (16.384) | (14.806) | (16.228) |
| Monthly earnings (0000 riels) | -11.169 | -13.494 | -11.051 | -12.875 |
| | (14.882) | (15.783) | (15.045) | (15.705) |
| Controls | No | Yes | No | Yes |
| First-stage F stat. | 62.245*** | 54.067*** | 62.794*** | 55.026*** |
| Observations | 250 | 250 | 244 | 244 |

Notes: Regressions control for age, education and marital status. Columns 3 and 4 report the results after excluding individuals in the control group and the dropouts who had attended other training programs during the study period. Two individuals in the control group and one dropout reported having attended other training courses. Robust standard errors clustered at the individual level are reported in parentheses.
*** significant at 1%.
Source: Author's calculations

### *9.4.3 Dropout behaviour*

In the follow-up survey, we included some questions on why participants dropped out. As shown in Table 9.5, the main reasons reported include: household/family obligations (31.9 percent), no transport to the training institute (23.4 percent), found work (17.0 percent), no monetary incentive for participating in the training (8.5 percent), lost interest in/dissatisfied with training (6.4 percent); other reasons include sickness and migration (12.8 percent). We also report the reasons for dropout by gender.

Given the high dropout rate, we are interested in exploring whether the differences among individuals, including personality traits, self-esteem, and risk and time preferences, influenced the completion rate. The personality traits encompass behaviours and attitudes that can explain individual commitment, self-discipline and ability to work in a team. Psychological

studies have documented the relationship between these traits and a range of labour market outcomes and educational trajectories.[8] Risk and time preferences can measure an individual's attitude towards risk and the degree of patience that an individual has. The follow-up survey included questions on self-reported attitudes to measure personality traits and self-esteem and behavioural measures for risk and time preferences (Annex B). Thus, we use linear probit regression of completion on behavioural measures to examine the differences.

Table 9.5: Reasons for dropping out of the program

| | Dropouts (%) | | |
|---|---|---|---|
| Reasons | Total | Female | Male |
| Household/family obligations (including taking care of children/family members) | 31.91 | 35.00 | 29.63 |
| Had no transport to training institute | 23.40 | 10.00 | 33.33 |
| Found work opportunities | 17.02 | 30.00 | 7.41 |
| No monetary incentive for participating in training | 8.51 | 10.00 | 7.41 |
| Lost interest in training/ dissatisfied with training | 6.38 | 0.00 | 11.11 |
| Other (got married, migration, sick) | 12.80 | 15.00 | 11.11 |
| Observations | 47 | 20 | 27 |

Notes: Response of one dropout is missing.
Source: Author's calculations

We use questionnaire items from the World Bank's STEP Skills Measurement Program, which contains 26 questions designed to categorise people in terms of personality traits (openness to experience, conscientiousness, extraversion, agreeableness, neuroticism and grit), behaviours and attitudes (decision making and hostile attribution bias). Broadly, openness to experience reflects appreciation for the arts, learning, intellectual curiosity and variety of experience. Conscientiousness describes the tendency to be organised, responsible and hardworking. Extraversion reflects sociability, tendency to seek stimulation in the company of others and talkativeness. Agreeableness reflects the tendency to act in a cooperative and unselfish manner. Neuroticism (emotional stability) refers to predictability and consistency in emotional reactions, with absence of rapid mood changes. Grit measures perseverance with long-term goals. Decision making refers to the manner in which individuals approach decision situations and hostile attribution bias describes the tendency to perceive hostile intent in others.

[8] Acosta, Muller and Sarzosa (2015) discuss the role of socio-emotional skills (personality traits and behaviours) in labour market outcomes and schooling decisions.

Table 9.6: Differences in personality traits, self-esteem, and risk and time preferences between completers and dropouts

**Panel A: Personality traits and self-esteem**

| | Openness | Conscientiousness | Extraversion | Agreeableness | Neuroticism | Grit | Hostile | Decision | Self-esteem |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Completers vs dropouts | 0.111 | 0.087 | 0.171* | 0.134 | 0.171 | -0.040 | -0.112 | -0.019 | 0.249* |
| | (0.099) | (0.108) | (0.094) | (0.101) | (0.112) | (0.107) | (0.076) | (0.094) | (0.147) |
| Observations | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 |

**Panel B: Risk and time preferences**

| | Switching row in risk | Switching row in time |
|---|---|---|
| | (1) | (2) |
| Completers vs dropouts | -0.007 | -0.007 |
| | (0.016) | (0.024) |
| Observations | 80 | 82 |

Notes: This table reports marginal effects from the probit estimations. The number of observations is from the follow-up survey. Regression controls for age, gender, education, marital status, and recruitment round dummies. Robust standard errors clustered at the individual level are reported in parentheses. * significant at 10%.
Source: Author's calculations

We examine self-esteem using the Rosenberg self-esteem index and we play a simple one-player game using multiple price lists to measure risk and time preferences. For risk preference, we present participants with a choice between risky and safe options, on 10 different rows or decisions. From row 1 to row 10, the chance of receiving a larger amount of money under both options increases. For time preference, participants can choose either the amount they are paid today or the amount paid two days later.

The results in Panel A of Table 9.6 indicate that there is a marginal difference in extraversion and self-esteem. Those who are more extraverted and have higher self-esteem are more likely to complete the program. However, overall results show no strong differences for the differences in personality traits between completers and dropouts. We also find that individual risk and time preferences (Panel B of Table 9.6) have no association with program completion.

## 9.5 Lessons and policy implications

From this experiment we can draw many lessons learned that can help both improve similar vocational training programs in the future, especially retention and completion rates, and achieve more effective labour market policies. The following lessons and implications for policy should be considered.

1. At the recruitment stage, some disadvantaged young people were reluctant to lose daily earnings (e.g. from collecting garbage and selling it), despite the potential to earn a higher income in the long term. Some young people also migrated to other provinces for short-term and temporary jobs both during and after training.

   Financial incentives, such as savings or income generation activities, could be incorporated into training programs. This would enable trainees to gain real-life experience and learn while overcoming their financial problems and difficulties. Realising their earning potential would encourage trainees to take skills training more seriously.
2. Accessibility to training programs is also a challenge. Economically disadvantaged young people need support to travel to the training centre as we found that lack of transport is a main reason for dropout. Providing transport subsidies may help boost attendance and completion rates.
3. Some young people's lack of life and work experience led to absenteeism and lack of responsibility when they were recruited after completing the training. Disadvantaged youth also seem unwilling to spend time or put much effort into searching for jobs.

Training providers should not only focus on imparting high-quality skills but also demonstrate their commitment to trainees' personal development and wellbeing. Job-readiness training, job placement assistance, career guidance and counselling may be needed to help graduates break into the labour market, although our study does not test this.

4. Strong industry linkages or training provider-industry partnerships are also needed to ensure graduates' smooth transition into the labour market after completing training.
5. Training should respond to actual labour market needs. Training curricula and pedagogies should constantly evolve to keep pace with economic structural change and to ensure labour supply matches demand.
6. Although the training program and training providers are important aspects of good training outcomes, the significance of participants' family background should not be ignored. Some disadvantaged youth have been exposed to violence, illegal drugs and crime. Some young married women have to abide by their husband's decision when it comes to training and work choices. It is also crucial to consider increasing public awareness of the potential benefits of investing in children's education and training.

## 9.6 Conclusions

Expanding labour market opportunities for youth through vocational education is widely considered a potentially effective approach. In this study, we use a randomised experiment to examine the effects of training on employment, hours worked per week and monthly earnings.

The results indicate that the program has no significant treatment effects on different employment outcomes. To address non-compliance issues, we use a two-stage least squares approach to estimate the effects of receiving the training. Still, there are no statistically significant positive impacts of program completion. This might be because of the small sample size of the study. We also track program dropouts and find that lack of transport and family obligations are main barriers to male participants' take up and completion of training, while family obligations and job opportunities are major constraints for female participants. And we also find that personality traits and risk and time preferences have no association with dropout rates.

Further research with a larger sample size is needed to explore the generalisability of our findings to other contexts. Even so, we expect our results to improve understanding of the short-term effects of vocational training on labour market outcomes for economically disadvantaged youth in Cambodia as well in other developing countries. To our knowledge, this randomised experiment in short-term vocational training for economically disadvantaged

youth is the first study of its kind in Cambodia. We observe some scaling-up possibilities, though the design would need to be adjusted.

In sum, the lessons described in Section 5 could be useful for improving completion rates in other training programs and easing constraints to design more effective labour market policies. Family support, transport assistance, and income/savings generation activities during training are important to encourage disadvantaged youth to remain in or return to education and vocational training. Moreover, in addition to skills training, job-readiness training, job placement assistance, career guidance and counselling are needed to help them break into the labour market.

It is hard to conclude that the usual two-year hospitality training programs run by various NGOs are better and can promote improved labour market outcomes, especially in the long run, as that was not within the scope of our study. Tracking the impacts of training over longer time periods is also needed to examine retention rates and to develop more specific policy recommendations.

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## Annex A

Table A1: Definition of outcome variables

| Variables | Definition |
|---|---|
| Employed | = 1 if the participant is employed (full-time, casual or self-employed), 0 otherwise |
| Full-time/casual employment | = 1 if the participant is a full-time or for casual wage worker, 0 otherwise |
| Self-employment | = 1 if the participant is self-employed/own-account worker |
| Hours worked | Number of hours worked during the last week |
| Monthly earnings (0000 riels) | Total earnings during the last month |

Source: Author's preparation

Table A2: Mean differences in follow-up survey

| | Treatment | Control | Difference | Completion | Control | Difference | Completion | Dropouts | Difference |
|---|---|---|---|---|---|---|---|---|---|
| Main Variables | (1) | (2) | (3=1-2) | (4) | (5) | (6=4-5) | (7) | (8) | (9=7-8) |
| **Basic characteristics** | | | | | | | | | |
| Age | 21.26 | 21.66 | -0.40 | 19.81 | 21.66 | -1.85* | 19.81 | 22.35 | -2.55** |
| | [3.72] | [3.45] | (0.69) | [3.82] | [3.45] | (0.83) | [3.82] | [3.27] | (0.77) |
| Male (=1) | 0.61 | 0.51 | 0.09 | 0.64 | 0.51 | 0.13 | 0.64 | 0.58 | 0.06 |
| | [0.49] | [0.51] | (0.09) | [0.49] | [0.51] | (0.11) | [0.49] | [0.50] | (0.11) |
| Education (years) | 7.50 | 7.24 | 0.26 | 7.53 | 7.24 | 0.28 | 7.53 | 7.48 | 0.05 |
| | [2.98] | [3.62] | (0.61) | [2.76] | [3.62] | (0.74) | [2.76] | [3.16] | (0.66) |
| Married (=1) | 0.18 | 0.37 | -0.19* | 0.06 | 0.37 | -0.31*** | 0.06 | 0.27 | -0.22* |
| | [0.39] | [0.49] | (0.08) | [0.23] | [0.49] | (0.09) | [0.23] | [0.45] | (0.08) |
| **Labour market outcomes** | | | | | | | | | |
| Employed | 0.73 | 0.71 | 0.02 | 0.72 | 0.71 | 0.01 | 0.72 | 0.73 | -0.01 |
| | [0.45] | [0.46] | (0.09) | [0.45] | [0.46] | (0.10) | [0.45] | [0.45] | (0.10) |
| Full-time/casual employment | 0.67 | 0.63 | 0.03 | 0.67 | 0.63 | 0.03 | 0.67 | 0.67 | 0.00 |
| | [0.47] | [0.49] | (0.09) | [0.48] | [0.49] | (0.11) | [0.48] | [0.48] | (0.11) |
| Self-employment | 0.06 | 0.07 | -0.01 | 0.06 | 0.07 | -0.02 | 0.06 | 0.06 | -0.01 |
| | [0.24] | [0.26] | (0.05) | [0.23] | [0.26] | (0.06) | [0.23] | [0.24] | (0.05) |
| Hours worked | 36.10 | 35.68 | 0.42 | 37.21 | 35.68 | 1.53 | 37.21 | 35.27 | 1.94 |
| | [28.61] | [27.48] | (5.38) | [27.46] | [27.48] | (6.27) | [27.46] | [29.70] | (6.34) |
| Monthly earnings (0000 riels) | 35.04 | 40.68 | -5.64 | 34.75 | 40.68 | -5.93 | 34.75 | 35.25 | -0.50 |
| | [25.76] | [32.63] | (5.37) | [24.77] | [32.63] | (6.68) | [24.77] | [26.74] | (5.71) |
| **Observations** | **84** | **41** | | **36** | **41** | | **36** | **48** | |

Notes: Standard deviations reported in brackets and standard errors in parentheses. *** significant at 1%, ** significant at 5%, * significant at 10%.
Source: Author's calculations

## Annex B: Behaviour questions

Personality traits

| | **Please circle the one number for each question that comes closest to reflecting your opinion about it. (Circle one answer only)** | Almost never | Some of the time | Most of the time | Almost always |
|---|---|---|---|---|---|
| 1 | Are you talkative? | 1 | 2 | 3 | 4 |
| 2 | When doing a task, are you very careful? | 1 | 2 | 3 | 4 |
| 3 | Do you come up with ideas other people haven't thought of before? | 1 | 2 | 3 | 4 |
| 4 | Do you like to keep your opinions to yourself? Do you prefer to keep quiet when you have an opinion? | 1 | 2 | 3 | 4 |
| 5 | Are you relaxed during stressful situations? | 1 | 2 | 3 | 4 |
| 6 | Do you finish whatever you begin? | 1 | 2 | 3 | 4 |
| 7 | Do people take advantage of you? | 1 | 2 | 3 | 4 |
| 8 | Do you work very hard? For example, do you keep working when others stop to take a break? | 1 | 2 | 3 | 4 |
| 9 | Do you forgive other people easily? | 1 | 2 | 3 | 4 |
| 10 | Do you tend to worry? | 1 | 2 | 3 | 4 |
| 11 | Are you very interested in learning new things? | 1 | 2 | 3 | 4 |
| 12 | Do you prefer relaxation more than hard work? | 1 | 2 | 3 | 4 |
| 13 | Do you enjoy working on things that take a very long time (at least several months) to complete? | 1 | 2 | 3 | 4 |
| 14 | Do you enjoy beautiful things, like nature, art and music? | 1 | 2 | 3 | 4 |
| 15 | Do you think about how the things you do will affect you in the future? | 1 | 2 | 3 | 4 |
| 16 | Are you very polite to other people? | 1 | 2 | 3 | 4 |
| 17 | Do you work very well and quickly? | 1 | 2 | 3 | 4 |
| 18 | Do you get nervous easily? | 1 | 2 | 3 | 4 |
| 19 | Are you generous to other people with your time or money? | 1 | 2 | 3 | 4 |
| 20 | Are you outgoing and sociable, for example, do you make friends very easily? | 1 | 2 | 3 | 4 |
| 21 | Do you think carefully before you make an important decision? | 1 | 2 | 3 | 4 |
| 22 | Are people mean/not nice to you? | 1 | 2 | 3 | 4 |
| 23 | Do you ask for help when you don't understand something? | 1 | 2 | 3 | 4 |
| 24 | Do you think about how the things you do will affect others? | 1 | 2 | 3 | 4 |
| 25 | Do you like to share your thoughts and opinions with other people, even if you don't know them very well? | 1 | 2 | 3 | 4 |
| 26 | Do you get very upset in stressful situations? | 1 | 2 | 3 | 4 |

## Self-esteem evaluation

| | **Please circle the one number for each question that comes closest to reflecting your opinion (circle one answer only)** | Strongly disagree | Disagree | Agree | Strongly agree |
|---|---|---|---|---|---|
| 1 | On the whole, I am satisfied with myself. | 1 | 2 | 3 | 4 |
| 2 | At times I think I am no good at all. | 1 | 2 | 3 | 4 |
| 3 | I feel that I have a number of good qualities. | 1 | 2 | 3 | 4 |
| 4 | I am able to do things as well as most other people. | 1 | 2 | 3 | 4 |
| 5 | I feel I do not have much to be proud of. | 1 | 2 | 3 | 4 |
| 6 | I certainly feel useless at times. | 1 | 2 | 3 | 4 |
| 7 | I feel that I'm a person of worth, at least on an equal plane with others. | 1 | 2 | 3 | 4 |
| 8 | I wish I could have more respect for myself. | 1 | 2 | 3 | 4 |
| 9 | All in all, I am inclined to feel that I am a failure. | 1 | 2 | 3 | 4 |
| 10 | I take a positive attitude toward myself. | 1 | 2 | 3 | 4 |

## Time preference

For each decision number (1 to 10) below, decide the AMOUNTS you would like for sure today AND in 2 days by circling A or B.

| No. | Option A (paid amount below today) | Option B (paid amount below in 2 days) | Your choice (circle A or B) |
|---|---|---|---|
| 1 | 2,000 riels +10% interest= Today | 2,200 riels Next 2 days | A B |
| 2 | 2,000 +20% interest= Today | 2,400 Next 2 days | A B |
| 3 | 2,000 +30% interest= Today | 2,600 Next 2 days | A B |
| 4 | 2,000 +40% interest= Today | 2,800 Next 2 days | A B |
| 5 | 2,000 +50% interest= Today | 3,000 Next 2 days | A B |
| 6 | 2,000 +60% interest= Today | 3,200 Next 2 days | A B |
| 7 | 2,000 +70% interest= Today | 3,400 Next 2 days | A B |
| 8 | 2,000 +80% interest= Today | 3,600 Next 2 days | A B |
| 9 | 2,000 +90% interest= Today | 3,800 Next 2 days | A B |
| 10 | 2,000 +100% interest= Today | 4,000 Next 2 days | A B |

Decision switching line: _____ (completed by interviewer)

Risk preference

| No. | Option A | Option B | Your choice (circle A or B) |
|---|---|---|---|
| 1 | R 3,000 if card shows ❶<br>R 2,000 if card shows ❷❸❹❺❻❼❽❾❿ | R 5,000 if card shows ❶<br>R 500 if card shows ❷❸❹❺❻❼❽❾❿ | A B |
| 2 | R 3,000 if card shows ❶❷<br>R 2,000 if card shows ❸❹❺❻❼❽❾❿ | R 5,000 if card shows ❶❷<br>R 500 if card shows ❸❹❺❻❼❽❾❿ | A B |
| 3 | R 3,000 if card shows ❶❷❸<br>R 2,000 if card shows ❹❺❻❼❽❾❿ | R 5,000 if card shows ❶❷❸<br>R 500 if card shows ❹❺❻❼❽❾❿ | A B |
| 4 | R 3,000 if card shows ❶❷❸❹<br>R 2,000 if card shows ❺❻❼❽❾❿ | R 5,000 if card shows ❶❷❸❹<br>R 500 if card shows ❺❻❼❽❾❿ | A B |
| 5 | R 3,000 if card shows ❶❷❸❹❺<br>R 2,000 if card shows ❻❼❽❾❿ | R 5,000 if card shows ❶❷❸❹❺<br>R 500 if card shows ❻❼❽❾❿ | A B |
| 6 | R 3,000 if card shows ❶❷❸❹❺❻<br>R 2,000 if card shows ❼❽❾❿ | R 5,000 if card shows ❶❷❸❹❺❻<br>R 500 if card shows ❼❽❾❿ | A B |
| 7 | R 3,000 if card shows ❶❷❸❹❺❻❼<br>R 2,000 if card shows ❽❾❿ | R 5,000 if card shows ❶❷❸❹❺❻❼<br>R 500 if card shows ❽❾❿ | A B |
| 8 | R 3,000 if card shows ❶❷❸❹❺❻❼❽<br>R 2,000 if card shows ❾❿ | R 5,000 if card shows ❶❷❸❹❺❻❼❽<br>R 500 if card shows ❾❿ | A B |
| 9 | R 3,000 if card shows ❶❷❸❹❺❻❼❽❾<br>R 2,000 if card shows ❿ | R 5,000 if card shows ❶❷❸❹❺❻❼❽❾<br>R 500 if card shows ❿ | A B |
| 10 | R 3,000 if card shows ❶❷❸❹❺❻❼❽❾❿ | R 5,000 if card shows ❶❷❸❹❺❻❼❽❾❿ | A B |

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# 10
# On School-to-Work Transitions in Cambodia: Young People Navigating Opportunity Structures and the World of Work

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Young people's transitions into working life are critical to their individual life courses but also to the political and economic development of Cambodia. Embracing a rapidly growing economy but challenged by weak state institutions in managing school-to-work transitions, the country needs to better understand its young people's experiences of entering and coping with the world of work. This paper contributes an analysis of how young working Cambodians navigate the differentiated opportunity structures when entering the labour market by drawing on Cambodia School-to-Work Transition Survey 2014, qualitative interviews with policymakers and program administrators and focus group interviews with young people across Cambodia. It demonstrates that family resources, particularly economic, are critical to the timing, preparation, employment outcomes and future perspectives of young people. The differentiated beginnings set young people onto different paths of accessing and building different types of resources upon transition into working life and beyond. The paper concludes with a remark on how social context, differentiated beginnings and patterns of accessing and using resources are likely to widen wealth and social gaps.

## 10.1 Introduction

Young people's transitions into the world of work are critical to their individual life courses but also to political and economic development, especially in transforming or reproducing social inequality structures (Furlong and Cartmel 2007). This is even more pronounced in many developing economies given their situation of youth bulge, raising generalised concern about whether they can grow rich before growing old (Du and Yang 2006; Qiao 2006; Hou 2011; OECD 2013). For Cambodia, a large youth population and rapid economic growth but weak institutions and poorly educated workforce (Peou and Zinn 2015) pose crucial issues for young people, particularly regarding their education, employment and well-being. This paper complements existing understanding of the situation of Cambodian young people, and of youth research more broadly, by contributing an analysis of how young Cambodians navigate differentiated "opportunity structures" – interrelationships among family and societal factors (Roberts 1968; 2009) – in the working world and the country's volatile social space.

In youth sociology, school-to-work transition is a prominent focus. Generally drawing on Esping-Andersen's (1990) typology of welfare capitalism, literature in this area has documented how education, labour market experience and welfare support shape young people's transitions into working life in nationally specific ways (see, for example, Allmendinger 1989; Shavit and Müller 1998; Raffe 2009). More broadly, the interest in transition into work and assumption of "successful" transition into adulthood hinge on the tripartite training-working-retiring "normal" life course of modern Western societies (Kohli 1986). In education and labour market research, interests are often directed at how social mobility and socioeconomic background, such as gender, family wealth and educational attainment, affect labour market and later life outcomes (Graham, Shier and Eisenstat 2014).

Knowledge of Cambodian youth in relation to education and labour market outcomes generally draws on large-scale socioeconomic surveys, particularly the Cambodia Socio-Economic Surveys, for policy analysis and development program design. The only large-scale data specifically focused on education-to-employment transitions comes from the School-to-Work Transition Surveys (SWTS) conducted by the International Labour Organization (ILO) in 2012 and 2014. The SWTS 2012 results reported by Heang, Khieu and Elder (2013) give a broad picture of the ways in which young Cambodians experience their transitions into work. Up to 74 percent of Cambodians aged 15–29 are in employment. Although the youth unemployment rate is low at about 2.1 percent, vulnerable and poor-quality employment is concerning given the substantial proportions of young workers earning below the average

wage, working in informal and/or irregular employment, underqualified for their job and working excessively long hours. Surprisingly, 90 percent of them are reportedly "satisfied" with their current job. The results also indicate a strong connection between education and transition outcomes of young Cambodians, including a shorter transition period and higher likelihood of stable employment among the relatively better educated. With an average school leaving age of 16, many young Cambodians enter the labour market early and poorly equipped with appropriate skills.

The SWTS 2012 results suggest transition inequality along gender and educational lines, the latter linked to family economic situation and area of residence: young men having a significantly shorter average school-to-work transition than young women, better educated youth experiencing shorter transition periods than their less educated peers, and urban residence and greater household wealth resulting in better transition outcomes (Heang, Khieu and Elder 2013). The employment-to-population ratio among people aged 15–24 is higher among young women than among young men, and higher among rural than urban youth (ADB and ILO 2015), suggesting female and rural youth are more likely to work and less likely to have the opportunity to build knowledge and skills necessary for working life.

The aim of this paper is to complement this broad knowledge of young Cambodians' experiences of school-to-work transition by focusing on how they navigate such experiences and the contexts they experience, mainly through qualitative data. In youth studies, the changing nature of youth transitions, especially the increasingly complex transition patterns and uncertain transition outcomes (Shanahan 2000; Settersten and Ray 2010; Buchmann and Kriesi 2011), has increased interest in understanding how young people subjectively understand and deal with changing social conditions, that is, how they negotiate emerging opportunity structures (Furlong 2009; Furlong, Woodman and Wyn 2011). These individual experiences can help shed light on not only the structural conditions but also the institutional settings that shape young people's understanding and experiences.

The analytical strategy in this paper draws on a sociological life course approach that takes into consideration individual agency, linked lives and larger societal context (Elder 1994; Heinz et al. 2009). This approach gives importance to individual agency and lifelong progression, such as ageing and cumulative (dis)advantages on the one hand, and the structural, institutional and normative context of Cambodia on the other (see Peou 2016 for elaboration). The paper therefore emphasises qualitative insights and experiences expressed by young people themselves while attempting to construct the social conditions of such insights and experiences through quantitative data and interviews with key

informants. In the following, we describe the data used for the analysis. We then demonstrate how three analytically distinct social contexts shape school-to-work transitions: socio-structural, institutional and normative contexts. We next analyse how young Cambodians navigate the opportunity structures in their early working life based on the resources accessible to them, focusing on their entry into full-time work, appreciation of work and aspirations, and future perspectives. This demonstrates that family resources, particularly economic, are critical to the timing, preparation, employment outcomes and future perspectives of young people. The differentiated beginnings set young people onto different paths of accessing and building different types of resources upon transition into working life and beyond. The paper concludes with a remark on school-to-work transitions in Cambodia in relation to cumulative (dis)advantages experienced by young Cambodians.

## 10.2 The data

The paper draws on three datasets. The first is the Cambodia School-to-Work Transition Survey 2014 developed by the ILO and conducted by the National Institute of Statistics (NIS) from July to August 2014 with a representative sample of 3,396 people aged 15 to 29 in all provinces of Cambodia.[1] All analyses of SWTS 2014 data in this paper are based on weight count to represent the whole population.

The second set comes from interviews with 23 policymakers and program administrators at state, public and non-government institutions (see Table 10.1), conducted between September 2016 and February 2017. These interviews provide insights and information often inaccessible to the public and researchers outside policy and program circles. The data was used to aid the analysis of the social and institutional contexts of school-to-work transitions, as well as to understand the structural conditions of young people's individual experiences.

The third set comes from focus group interviews with 20 groups of people aged between 15 and 30 (Table 10.2), conducted between September 2016 and February 2017: 6 in industry, 10 in services and 4 in agriculture. Each focus group comprised 4 to 9 people, totalling 139 participants. Six groups were classified as in "professional" or "highly skilled" jobs, including engineer, auditor, economist, lawyer, university lecturer, journalist, designer and medical professional. Fourteen groups were classified as in "low-" or "non-skilled" jobs, including smallholder farmer, construction worker,

[1] The explanation of the survey methodology and measures of key concepts can be found on the ILO website: www.ilo.org/employment/areas/ youth-employment/work-for-youth/WCMS_191853/lang--ja/index.htm.

factory worker, restaurant worker, salesperson, receptionist, secretary, bank teller and cashier.

Table 10.1: Institutions of interviewees

| Government and public | NGO | International development partner |
|---|---|---|
| National Employment Agency (1)<br>Directorate General of Youth, MOEYS (1)<br>Dept. of Youth, MOEYS (1)<br>Dept. of Labour Information, MOLVT (1)<br>Dept. of Training, MOLVT (1)<br>Dept. of Policies and Strategies, MOLVT (1)<br>Dept. of Vocational Orientation, MOEYS (1)<br>National Polytechnic Institute of Cambodia (1)<br>Battambang Institute of Technology (1)<br>Regional Polytechnic Institute, Battambang (1)<br>National Vocational Institute of Battambang (1)<br>Regional Polytechnic Institute, Takeo (2) | Plan International (1)<br>Kampuchean Action for Primary Education (1)<br>Don Bosco Technical School (1)<br>Pour un Sourire d'Enfant Institute (1)<br>Passerelles Numériques Cambodia (1) | UNDP (3)<br>UNESCO (1)<br>ILO (1) |

Note: Number of interviewees in brackets. MOLVT: Ministry of Labour and Vocational Training; MOEYS: Ministry of Education, Youth and Sport.

Table 10.2: Groups of people interviewed (aged 15–30)

| Broad skill category | Industry | | Services | | Agriculture | |
|---|---|---|---|---|---|---|
| | Number of groups | Main occupation | Number of groups | Main occupation | Number of groups | Main occupation |
| Highly skilled or Professional | 1 Female<br>1 Male | Engineer | 2 Female<br>2 Male | Auditor<br>Economist<br>Journalist<br>Lecturer<br>Trainer<br>Designer<br>Lawyer<br>Medical professional | N/A | N/A |
| Low-skilled or Non-skilled | 2 Female<br>2 Male | Construction worker<br>Factory worker | 3 Female<br>3 Male | Receptionist<br>Teaching assistant<br>Cashier<br>Secretary<br>Bank teller<br>Salesperson<br>Merchandiser<br>Masseuse<br>Restaurant worker<br>Manual workers at various facilities | 2 Female<br>2 Male | Smallholding farmer |

The participants were recruited through the professional and personal networks of the research team. Each focus group interview took between two and three hours, with one member of the research team facilitating the session. The facilitator opened each session with an invitation for the participants to reflect on their life stories from childhood or school years to the present. Subsequent questions were mainly open ended to get them to describe their experience of schooling, transition into work, employment and future perspectives; follow-up questions were used to probe specific issues of interest as well as to encourage the participants to compare and contrast their experiences. The group interviews were subsequently transcribed and analysed to identify emerging subthemes within the broad, predetermined themes of education, school leaving, entry into employment, experience and meaning of work, and thoughts about the future.

Among the 139 participants, education ranged from incomplete primary schooling to university completion, working experience from a few months to 15 years, and number of jobs worked from one to seven. Fourteen of the participants were working full time and studying at university at the time of data collection. The diversity in socioeconomic background, schooling and work life provided a diverse picture of transitions and employment experiences. Instead of providing a representative picture mirroring the patterns of transition shown in the SWTS data, this qualitative data is meant to add insights into lived experiences and complexities, thereby supplementing the SWTS data.

## 10.3 Social and institutional shaping of school-to-work transitions

Diverse transition and employment experiences are shaped by multiple factors, which can analytically be categorised as socio-structural, institutional and normative contexts. These contexts are interrelated and mutually influencing but are distinctive in the nature of their influence on transitions into working life. Socio-structural context distributes resources, choices and risks to young people, such as employment opportunities, based on their social position. Institutional context refers to regulations within laws, policies and programs that enable or restrict options for young people, including those on wages, work eligibility and social protection. Normative context includes values and usual expectations of the society and community that provide reference for families and individuals in forming transition choices and meanings.

### *10.3.1 Socio-structural context: economic and labour market structure*

Changes in economic structure and related developments, such as urbanisation and labour market shifts, shape options for transitions into work for young people. The shifting economic structure of Cambodia directs the path of

transitions. The decreased contribution of agriculture in both GDP and employment share and the offset of this decrease by industry and service sector growth in the past 15 years (Table 10.3) have directed large numbers of rural young people into the industry and service sectors. The quick growth of urban population, from 16 percent in 1998 to 21 percent in 2013, partly supports such rural-urban channelling of young people during their transition into working life (Table 10.3).

Table 10.3: Change in economic and labour market structure in Cambodia (percent)

| Indicator | | 1998 | 2013 |
|---|---|---|---|
| Agriculture | % of GDP | 46.3 | 33.5 |
| | % of employment | 77.5 | 48.7 |
| Industry | % of GDP | 17.4 | 25.6 |
| | % of employment | 4.2 | 19.9 |
| Services | % of GDP | 36.3 | 40.8 |
| | % of employment | 18.2 | 31.5 |
| Urban population | | 15.7 | 21.4 |

Sources: Cambodia Population Census 1998, Cambodia Inter-Censal Population Survey 2013, World Bank Development Indicators 2016

The SWTS 2014 shows that less than half of the youth population worked in agriculture, 22 percent in industry and 31 percent services (Table 10.4). Compared to 2004, the figures suggest that young people are turning away from agriculture during their transition into working life.

Table 10.4: Youth (15–29) employment by economic sector (percent)

| | 2004 | 2014 |
|---|---|---|
| Agriculture | 60 | 47 |
| Industry | 17 | 22 |
| Services | 23 | 31 |

Sources: Authors' calculation of Cambodia Socio-Economic Survey 2004 and SWTS Cambodia 2014

Coupled with this structural shift, the sustained GDP and GDP per capita growth rates over the past two decades have also meant increased opportunities for young people during their growing up, ranging from consumption to improved livelihoods. However, the current context has created pressure on families and young people in rural areas for teenagers to quit school early in order to earn money (Bylander 2015; Peou 2016). This is corroborated by the life stories from many of the focus group participants, remarks from

several program administrators interviewed and data from SWTS Cambodia 2014. A large majority of Cambodian youth are employed, with a very low unemployment rate and relatively low "inactive" rate (Table 10.5). Given the lack of state welfare support, unemployment is a luxury and remaining labour-inactive to pursue education is a privilege, more often afforded to urban youth.

Table 10.5: Youth labour market indicators, by sex and birthplace (percent)

| | Youth population | | | Youth labour force | Youth |
|---|---|---|---|---|---|
| | Employed | Unemployed | Inactive | participation rate | unemployment rate |
| ***Sex*** | | | | | |
| Female | 80.1 | 2.0 | 17.9 | 82.2 | 2.5 |
| Male | 86.9 | 2.1 | 11.0 | 89.0 | 2.4 |
| **Average** | **83.1** | **2.1** | **14.9** | **85.2** | **2.4** |
| ***Birthplace*** | | | | | |
| Rural | 86.5 | 1.5 | 12.0 | 88.0 | 1.7 |
| Urban | 69.5 | 4.4 | 26.2 | 73.8 | 5.9 |
| **Average** | **83.1** | **2.1** | **14.9** | **85.2** | **2.4** |

Source: Authors' calculations using SWTS Cambodia 2014

Poverty is a critical problem, especially for people in rural areas. Although the national poverty rate has declined significantly, from 45 percent in 2007 to 17.7 percent in 2012, up to 40 percent of Cambodians still have to survive on less than USD2 per day (ADB and ILO 2015). The large majority of the poor reside in the countryside. The predicament of rural livelihoods is further pressed by small and insecure landholdings (Pilgrim, Ngin and Diepart 2012; ADHOC 2014). For many rural young people, moving into full-time work also means emigrating to find labour (Peou 2016), a common experience shared across Asia (Yeung and Alipio 2013).

Two significant trends pertaining to youth transition are noticeable with this labour and economic shift: increased physical mobility by subsistence agricultural workers to become employed in labour-intensive and informal economic activities in urban areas or even abroad (CDRI 2007; Morris 2007; Hing et al. 2012; Peou 2016); and upward social mobility to become skilled, professional or office workers in the private sector, government bureaucracy and non-government sector through increased formal qualifications (UNDP 2011; World Bank 2012; Peou 2017). These trends reflect the expansion of the new working and middle classes, towards which youth transitions into working life and associated identities are increasingly shaped.

At a general level, based on the life trajectories of focus group participants and existing literature, it has become apparent that those with few family resources take up the former path and those with substantial family resources

the latter (although some exceptions and other options exist). This emergent stratification will become even more established as the national economic pursuit is geared towards industrialisation and services to accommodate diversification and sustained economic growth, as evidenced by recent policy initiatives, especially the Industrial Development Policy and National Employment Policy.

Overall, the Cambodian labour market is characterised by vulnerable employment, defined as being an own-account worker or family contributor as opposed to the presumably less vulnerable salaried or waged employment. Data from SWTS Cambodia 2014 shows that nearly 70 percent of Cambodian youth (15–29) are in vulnerable employment. Rural youth in particular (69 percent, compared to 55 percent of urban youth) fall into this category (Table 10.6).

Table 10.6: Youth employment by occupational status (percent)

| | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Waged and salaried workers | 31.1 | 34.3 | 30.2 | 44.3 | 32.5 |
| Employers | 0.1 | 0.6 | 0.3 | 0.4 | 0.4 |
| Own-account workers | 17.7 | 14.7 | 16.4 | 15.5 | 16.3 |
| Contributing family workers | 51.2 | 50.3 | 53.0 | 39.5 | 50.8 |
| Not classified | - | 0.1 | - | 0.3 | 0.01 |

Source: Authors' calculations using SWTS Cambodia 2014

### *10.3.2 Institutional context: education, training, employment and social protection*

Policies, programs and structures of education, training, employment and welfare systems are influential in shaping the transition paths and options of young people (Leisering 2003; Blossfeld et al. 2005). The current policy orientation involving youth transition into working life is twofold: (1) promoting human capital through formal qualifications for skilled and professional employment as well as lifelong learning and entrepreneurial attitudes, and (2) upgrading the basic social security net and remedial (institutionalised) skills training programs for the large vulnerable youth population in labour-intensive or unskilled or low-skilled employment. Policies and institutional initiatives are aplenty, for instance National Policy on Youth Development, National Employment Policy, Labour Migration Policy, Women Development Centres, National Employment Agency, Provincial Youth Centres and National Youth Development Council. However, interviews with key informants across government and non-government sectors show that implementation of institutional mechanisms is lacking due to institutional and individual incapacity as well as a lack of coordination and political will.

### *10.3.2.1 Education system*

The Cambodian education system is characterised by fragmentation and deficits due to its historical development. Over the last 30 years, the structure and content of the educational system have frequently changed to suit political and structural realities (Ayres 2000; Duggan 1996; 1997; Dy 2004; Pellini 2005), and continuing changes are likely due to the rapidly shifting economic and technological context. The overall condition of Cambodia's education has therefore been unable to provide established educational and career pathways. Such fragmentation and deficits generate weaknesses in providing guidelines for transition into working life.

A major issue with general education is its inability to provide high-quality training and to retain young people in school due to infrastructure and institutional limitations. National assessments of grade 3, 6 and 9 students also show disappointing results in cognitive skills in language and mathematics. While the net enrolment in 6-year primary school is 94 percent, the net enrolment rates for lower secondary and upper secondary school (or high school) are only 39 and 17 percent, respectively, according to data from the Ministry of Education, Youth and Sport (MOEYS). As a result, young people leaving school are poorly prepared for work in terms of skills and knowledge.

The SWTS Cambodia 2014 gives an overview of educational attainment among Cambodian youth. The majority of young people leave school before completion (Table 10.7). A significantly higher proportion of rural youth do so than their urban peers, and a slightly higher proportion of female than male.

Table 10.7: Educational attainment, by sex and birthplace (percent)

| Educational attainment | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Currently in school | 24 | 33 | 24 | 41 | 28 |
| Completed school | 16 | 16 | 15 | 21 | 16 |
| Left before completion | 56 | 49 | 57 | 35 | 53 |
| Never attended school | 3 | 2 | 3 | 2 | 3 |

Source: Authors' calculations using SWTS Cambodia 2014

A further issue is the lack of vocational orientation and stratification within Cambodian general education. In 2008, the government attempted to restructure the upper secondary level into two different tracks – science and non-science – by forcing students to choose one track upon entering high school. However, the pilot stratification program was abandoned two years later because it was not able to finance the human and financial resources needed for proper implementation. In recent years, MOEYS has attempted

to provide more vocational focus in the school curriculum by emphasising entrepreneurial and soft skills. Using the Community-Based Enterprise Development and Know About Business curricula developed by the ILO, MOEYS has also launched provincial youth centres, as well as the province-based Youth Development Councils. However, the coverage remains marginal, and little impact assessment has been done.

Higher education has been in a paradoxical situation. With rapid growth in the past 20 years, it has been credited for preparing large numbers of young people for employment, with gross enrolment rates rising from 5 percent in 2004 to 20 percent in 2014, according to the Cambodia Socio-Economic Surveys. However, the lack of regulatory oversight has left higher education ineffective in producing skills and qualified professionals. Skill gaps and employment uncertainty upon graduation are high (Peou 2017).

#### *10.3.2.2 Technical and vocational education and training (TVET)*

TVET has been a major focus of policy attention in recent years, the Ministry of Labour and Vocational Training leading the agenda with substantial support from the Asian Development Bank and ILO. The National Employment Policy was produced to set framework and strategy, and an interministerial committee set up to implement it. The National Employment Agency was created to help ease transition into work by providing employment information and skills training and connecting job seekers and employers. Thirty-nine TVET establishments are now in place across the country to train youth, mainly school dropouts, in vocational skills. Several non-government organisations have been implementing their own initiatives in this sector. However, TVET still plays a marginal role in facilitating school-to-work transitions due to its limited coverage (Table 10.11) and institutional capacity.

TVET is seen across the board as a second-class option, according to interviews with policymakers, program administrators, representatives of major development partners and young people. First, degree programs at TVET institutions are tailored for economically disadvantaged youth, with lower fees and inferior resources compared to universities. Second, secondary-level TVET programs are aimed at school dropouts and focused on traditional skills associated with “second-class” occupations such as farming, tailoring and mechanical repair. Third, curricula and training equipment have failed to catch up with developments in the labour market and are not directly informed by overarching policies such as the Industrial Development Policy and National Employment Policy. Fourth, TVET leadership is limited, either due to internal incapacity or constraints on the

effective exercise of leadership, in undertaking initiatives and enhancing TVET programs.

A particular challenge for public TVET institutions is the focus on financial sustainability. With limited financial support from the government, offering degree programs is seen as a must to generate necessary funds. This has transformed many TVET institutions into competitors with universities. Scholarships exist to waive tuition fees for degree and non-degree programs, and sometimes to provide minimal living allowances. However, TVET institutions remain unable to attract significant numbers of disadvantaged young people due to the focus on degree programs and absence of a strategic approach to reach them. As the leader at one TVET centre put it when asked about the effort to reach out to disadvantaged rural youth:

> It's normal for inequality to exist in the development process. It's like flowing water. The area close to the water source gets wet first. TVET opportunities are no different. People living in town will get them first.

#### *10.3.2.3 Employment practices and social protection*

The Cambodian labour market is weakly regulated due to the existence of a large informal economy, the absence of a welfare state and a lack of institutionalised contract security. The unemployment rate is low due to the absence of a welfare state and stigma associated with joblessness (World Bank 2012). Employment practices can be discussed in terms of three different types: state employment, professional or clerical occupations in the private and non-government sectors, and labour-intensive employment.

State employment, despite low salaries, remains an aspirational category for those hoping for job security or attempting to move up into an elite circle, mainly through personal connections and/or opportunistic profitability. Many state employees have to engage in other income-generating activities through moonlighting or corrupt practices. In state employment, recruiting is carried out for entry-level positions and competition varies from strong to weak, depending on the area of work. Although poorly paid, state employment can provide a relatively clear framework of upward mobility within the career trajectory. However, it is common knowledge that entry and upward mobility into prestigious or lucrative positions depend largely on practices such as nepotism and bribery. Some also enter state employment to enhance connections and political status in order to gain advantages in their other endeavours, such as entrepreneurial and social activities (Peou 2017). In terms of non-salary benefits, civil service pensions and service-related cash benefits have long existed. However, pensions and benefits

are far from meeting the basic needs of decent livelihoods. Attempts to better insure state employees have been discussed in recent years, although implementation is far from satisfactory. The National Social Security Fund for civil servants was established in 2008 and started operating in 2009, attempting to cover 180,000 civil servants and their families for disability, maternity, occupational injury and funerals in addition to providing pensions. However, the implementation of the scheme has been neither well received nor effective due to state institutions' structural deficits.

Professional or clerical employment, generally attained through higher educational qualifications, in the private and non-government sectors has become important and popular. The private sector has grown rapidly over the past two decades, and, in the absence of strong state institutional capacity, the non-government sector has thrived in numbers and importance. Although some degree of nepotistic hiring is common, employment relationships in this group are open to competition and characterised by wage competition. The movement of professional or clerical workers between firms and organisations is frequent due to prospects of higher wages and other incentives, and recruitment is open to all levels of positions. In-house training is frequent to upgrade productivity, and employment may be either fixed-term or casual due to labour market volatility and program-based funding in the non-government sector.

For labour-intensive workers, in both waged and non-waged employment, job insecurity is high due to the abundance of available labour and weak state capacity to ensure contractual employment practices. There are, however, exceptions in a few industries, garment manufacturing in particular. The economic and political importance of garment manufacturing has created some unionisation (Beresford 2009; Arnold and Toh 2010), resulting in constant contract renegotiation and relatively high employment benefits compared to other industries (though generally long hours of repetitive work with constant supervision may be discouraging). Overall, however, this group of workers is diverse and very vulnerable to job and social insecurity. In addition, reliance on informal networks of friends, neighbours and relatives to ensure or find a job is strong. Formal welfare support remains almost invisible despite a lot of pressure to develop the institution for this group of workers. The National Social Security Fund was set up to provide benefits for retirement and occupational accidents and disabilities through employer contributions. However, the program is only partially operational, and its coverage is marginal and focused mainly on garment workers.

SWTS Cambodia 2014 does not provide figures for these three main employment groups. However, standardised categories of formal versus

informal and skill-based occupations suggest that the large majority of young Cambodians are employed in labour-intensive jobs.

Excluding agriculture, more than 90 percent of young people are informally employed (Table 10.8). In terms of skill-based occupations, using ILO categories, more than 60 percent of young people work in manual-labour-intensive occupations, mainly in agricultural and fishery work and crafts and related trades (Table 10.9).

Table 10.8: Informal/formal sectors (excluding agriculture), by sex and birthplace (percent)

| Informal/formal | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Formal employed | 7.0 | 6.6 | 6.7 | 6.8 | 6.8 |
| Informal employed | 93.0 | 93.4 | 93.3 | 93.2 | 93.2 |

Source: Authors' calculations using SWTS Cambodia 2014

Table 10.9: Youth employment by occupation (ISCO-08) (percent)

| Occupation | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Legislator, senior official and manager | 0.5 | 0.4 | 0.4 | 0.6 | 0.4 |
| Professional | 3.4 | 2.9 | 2.7 | 5.5 | 3.2 |
| Technician and associated professional | 1.6 | 1.5 | 1.4 | 2.1 | 1.5 |
| Clerk | 2.1 | 1.0 | 1.2 | 3.6 | 1.6 |
| Service, shop and market worker | 25.8 | 13.6 | 14.9 | 46.9 | 20.2 |
| Agricultural and fishery worker | 42.8 | 47.8 | 51.2 | 14.7 | 45.1 |
| Crafts and related trade worker | 18.7 | 17.3 | 18.3 | 17.0 | 18.1 |
| Plant/machine operator and assembler | 0.4 | 4.5 | 2.1 | 3.2 | 2.3 |
| Elementary occupations | 4.7 | 10.4 | 7.5 | 6.3 | 7.3 |
| Armed forces | - | 0.6 | 0.3 | 0.2 | 0.3 |

Source: Authors' calculations using SWTS Cambodia 2014

Overall, employment is characterised by insecurity due to a lack of long-term work contracts, economic restructuring and labour market developments, as well as the absence of established career paths. State institutional capacity to improve the situation remains limited, and unemployment benefits are absent. The lack of employment security, established career paths and institutionalised social protection also means that rural youth and young women are particularly challenged.

### *10.3.3 Normative context*

Norms and values also shape transitions of young people into working life by providing them and their families with knowledge, preferences and resources. In Cambodia, a number of normative expectations inform young people's

perspectives on transitions and anticipation of life course outcomes, including the ideal of education and upward mobility, particularly for rural people, and the sociocultural expectations for women.

Particularly relevant for rural people and those with few resources are a deep sense of place within a given social order and a deep-rooted perception of hierarchy and mobility. Ingrained lopsided relations can be attributed to the powerlessness of people's living experiences, but one can also point to the Buddhist understanding of "merit making" in the Cambodian context, whereby "people thought that they owed their position, viewed in vertical terms, to the meritoriousness of their former lives" (Chandler 1979, 415). Despite such a deep sense of place and fate, upward mobility through personal industry is also cherished in both religious and secular terms. While the merit-making ideal of Buddhism can be fateful in one sense, it can also encourage personal industry as an ethical principle for life conduct (Steinberg 1959). With the expansion of modern education and bureaucratic careers in the 1950s and 1960s, upward mobility through education became an emergent ideal for Cambodians and their children (Ebihara 1973; Martin 1994). The political and social upheavals of the 1970s and 1980s brought a hiatus in such social mobility but turned it into an idealised path. This sociocultural orientation is still prevalent and has propelled rapid growth in participation in tertiary education despite its insufficient vocational orientation. The desire for higher education is so strong that sometimes it does not have to link to employment outcomes. As a TVET leader working in the sector for over 30 years remarked, "Cambodian people really desire higher degrees. It is even okay to do low-level jobs as long as they hold a high degree." Such ideal notions of education and upward mobility can become a basis for (rural) people to justify their poor employment – or "fate" – through their lack of education and formal qualifications (Peou and Zinn 2015).

Young women can be particularly disadvantaged in their transition experience by sociocultural expectations. While such expectations may have shifted to some extent in recent times, the literature suggests they continue to constrain young women's experience of work (Brickell 2011b). Constraints are often linked to the expectation of women's ties to domestic work and the upholding of female moral virtues (Heng et al. 2016). Cambodian women are often expected to be responsible for keeping the household in order (Ledgerwood 1994; Brickell 2011a), so it is socially acceptable for them not to "work" for income, and income-generation activities can create a double burden. Recent studies on young migrant women show their double burden of care work and earning, subtly for spousal legitimacy and communal respect (Derks 2008; Peou 2016). In

addition, mobility and work outside the domestic sphere still often cause anxiety about young women's physical and moral safety (Derks 2008; Brickell 2011b), limiting their economic options.

Certain expectations broadly shared in the society also serve as normative references for decisions regarding life and work. One particular instance is expectations regarding career choice for TVET programs. While TVET programs are considered a second-class option for quality and career prospects, there is a broader social value at play. As a TVET program administrator put it, "Cambodian society gives less value to technicians than to generalists with high academic qualifications". In addition, entry paths into work shared by social groups also create a transition reference or pressure for young people to follow suit.

## 10.4 Navigating working life

The above socio-structural, institutional and normative contexts, together with the immediate conditions of young people's family and community, form the "opportunity structures" (Roberts 1968, 2009) they navigate during their transition into working life. These structures present resources but also constraints and risks. From a life course perspective, how young people deal with them depends on individual agency but also on the accessibility of resources. Resources can be classified into three types of capital: economic (basically, wealth and material possessions), cultural (in both embodied forms of knowledge and appreciation, and institutionalised forms of qualifications) and social (real or potential, within social networks) (Bourdieu 1986). These different forms of capital are cumulative and inter-convertible. The following analysis focuses on how such resources are used by young people and lead to employment consequences.

### *10.4.1 Transition into full-time work*

Although "transition" is a contentious term, with debates about its conceptual and practical utility highly visible in youth literature (Woodman and Wyn 2013), the SWTS uses the following working definition of school-to-work transition:

- "Transited" refers to someone currently employed in (1) a stable and (subjectively reported) satisfactory job, (2) a stable but non-satisfactory job, (3) a satisfactory but temporary job or (4) satisfactory self-employment.
- "In transition" refers to someone currently (1) unemployed, (2) employed in a temporary and non-satisfactory job, (3) in non-satisfactory self-employment or (4) inactive and not in school with an aim to look for work later.

- "Transition not yet started" refers to someone either (1) still in school and inactive or (2) currently inactive and not in school, with no intention of looking for work.

Although, as Table 10.10 shows, up to 80 percent of youth have transited by the above definition – a positive sign – two aspects of transition stages point to the disadvantages of rural and female youth. First, urban youth are afforded more time – supposedly mainly to prepare themselves – before making the transition into work, with about 21 percent of urban youth but only 5 percent of rural youth not yet started their transition. Second, a higher proportion of males than females have transited.

Table 10.10: Transition status, by sex and birthplace (percent)

| Occupation | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| **Transited** | **77.0** | **83.6** | **82.9** | **67.7** | **79.9** |
| Stable and satisfactory job | 19.6 | 23.5 | 19.8 | 27.6 | 21.3 |
| Stable and non-satisfactory job | 0.8 | 2.2 | 1.5 | 1.3 | 1.4 |
| Temporary and satisfactory job | 4.2 | 3.8 | 4.7 | 1.6 | 4.0 |
| Satisfactory self-employment | 52.4 | 54.0 | 57.1 | 37.2 | 53.1 |
| **In transition** | **14.9** | **7.9** | **11.9** | **11.6** | **11.8** |
| Unemployed youth | 3.6 | 2.9 | 2.8 | 5.5 | 3.3 |
| Temporary and non-satisfactory job | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 |
| Non-satisfactory self-employment | 2.9 | 3.1 | 3.3 | 1.5 | 3.0 |
| Inactive non-student with future work aspiration | 8.2 | 1.7 | 5.6 | 4.4 | 5.3 |
| **Transition not yet started** | **8.1** | **8.6** | **5.2** | **20.7** | **8.3** |
| Inactive student | 7.7 | 8.4 | 4.9 | 20.4 | 8.0 |
| Inactive non-student without future work aspiration | 0.4 | 0.2 | 0.3 | 0.3 | 0.3 |

Source: Authors' calculations using SWTS Cambodia 2014

Given weak institutional support to keep young people in school, the family plays a crucial role as an enabler or restrictor of their transition. The enabling and restricting character of the family mainly refers to the economic resources accessible through the family, but also relates to social and cultural resources, such as networks and advice, used by young people.

*10.4.1.1 Timing and preparation for working life*

The family has a strong impact on young people's entry into full-time work in terms of timing, preparation for working life and nature of work-study combination. Young people from a resource-poor family enter full-time work

faster than those from a resource-rich family. As the SWTS Cambodia 2014 shows (Table 10.10), a substantially higher proportion of rural youth, who are generally relatively resource poor, than urban youth have already transited (83 percent versus 68 percent). A higher proportion of urban youth than rural youth can afford to delay the start of their transition (21 percent versus 5 percent).

This quantitative picture might suggest that young people from rural or poor families quit school to work simply out of economic necessity. Although that is generally true, our qualitative data suggests a more complex interplay between family economic shortage, family structure and individual agency:

> **Deun**: They [other families] had resources. They had everything. When their children needed a bicycle, they could buy it. When the school was far away, they could afford to buy a motorbike for them to go to school. When I saw them ride a motorbike to school, I felt embarrassed. So I didn't feel like going to school. Also, I pitied my parents. They were poor and in debt. And when I went to school I had to take money from them. That's why I quit. (*Focus Group 14, male, construction worker)*

> **Lida**: My family was in a tough [financial] situation. We didn't have the head of family [father] to support us. My siblings were all studying, so my mom alone couldn't do it. I sacrificed and helped her to support my siblings to go to school … Boys couldn't do it. They weren't good at doing [helping my mother with] business. I was a girl so I could help my mom better. (*Focus Group 17, female, waitress)*

These two young people quitting school at grade seven and nine, respectively, pointed out that their tough family economy was a main reason for them to start working full time. For the first case, the financial situation at home was tough, but he emphasised it was he who made the call to quit. In the second case, rationalisation about gender and family responsibility made her quit. In both cases, they quit to help shoulder the family burden when coming of age.

Table 10.11: Completed formal education/training, by sex and birthplace (percent)

| Education level | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Not completed elementary level | 1.8 | 1.5 | 1.7 | 1.7 | 1.7 |
| Elementary level (primary) | 43.9 | 39.3 | 44.5 | 29.3 | 42.0 |
| Vocational school (secondary) | 1.8 | 0.8 | 1 | 3.1 | 1.4 |
| Secondary level | 46.7 | 51.7 | 48.1 | 52.1 | 48.8 |
| Vocational school (postsecondary) | 2 | 1.4 | 1.8 | 1.8 | 1.8 |
| University (undergraduate) | 3.8 | 5.2 | 2.9 | 12 | 4.4 |
| Postgraduate, postdoctoral | - | 0.1 | 0.1 | 0.1 | 0.1 |

Source: Authors' calculations using SWTS Cambodia 2014

Family economic situation clearly is linked to how a young person is prepared for working life. Previous studies show that going to university is normal for young people from families that have the resources to support them, especially in a context where university entrance often has virtually no selection requirement (Peou 2017). The SWTS Cambodia 2014 shows that a larger proportion of urban youth than rural youth completed higher education (12 percent versus 3 percent; Table 10.11).

Presumably, higher education gives young people knowledge and skills for higher paid jobs. Our qualitative data further investigates the utility of higher education beyond the knowledge and skills it may provide. Rather than a straightforward experience of obtaining knowledge and skills necessary for work, university experience generally gives time and space for young people to develop and/or refine a career perspective and a sense of competence for a working life, a privileged transition preparation available to only a minority:

> **Socheat**: I think university is a big turning point for everyone. The most important aspect of university probably is practical skills and internship … After graduation, we felt that we had a real experience and were confident enough to move to working life … It built my confidence in myself. *(Focus Group 1, female, journalist)*

> **Sarun**: I worked hard on my English because there was a guy from my home town who did well to get a scholarship to Germany … [at university] I chose finance and banking at UC. I didn't know why I chose it or what I really wanted to study. [But] I passed to study at both UC and IFL [majoring in English teaching]. After six months, I reassessed [the situation]. I knew I didn't like maths, so why finance and banking? … My friend told me to study international relations because I could become a diplomat. I started to think it would be interesting to travel a lot. So I switched [from finance] to international relations. Now I threw it away. I'm not using [that degree]. I discovered I don't have a passion for that. My passion is education now. *(Focus Group 2, male, English lecturer)*

While many agree with the first extract, which emphasises the skills and knowledge imparted by university, the second extract illustrates the extended benefits of university education in preparing young people for working life. While school subjects and internships give practical and technical preparation, many participants explained that friends, role models in the form of lecturers and seniors, travelling, community service and time to reflect on their interests and competence have given them the space needed to discover what they can or would like to do in their working life.

### *10.4.1.2 Work-study combination*

Work-study combination can be harmful for schooling given competing demands for time and attention. A case in point is that of Ousa, who finally quit work-study during her lower secondary school because she lost concentration on study:

> **Ousa**: It was tough when I was young. After school, I went around the village to do things for others to get paid … [I quit] since I couldn't study well. My parents wanted me to continue but I didn't want to … My mind wasn't focused anymore and I was last in the class. When I liked studying, I was among the top five. (*Focus Group 18, female, masseuse)*

The negative effect of work-study in general education is perhaps most felt among rural young people, whose family economic conditions demand shared responsibility in earning. The SWTS Cambodia 2014 supports such an assessment (Table 10.12).

Table 10.12: Work-study combination and attending school/training, by sex and birthplace (percent)

| Work-study combination | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Work during school season | 6.7 | 6.0 | 7.2 | 3.2 | 6.4 |
| Work outside school season | 9.2 | 8.4 | 9.0 | 8.1 | 8.8 |
| Work during and outside school season | 62.4 | 64.9 | 67.0 | 49.7 | 63.5 |
| Not working during schooling | 21.8 | 20.8 | 16.9 | 39.1 | 21.3 |

Source: Authors' calculations using SWTS Cambodia 2014

Work-study also reflects family economic disparity among university students. Fourteen of the focus group participants were working full time while studying at university at the time of interview. For them, working affected their academic performance as their job demanded the majority of their time and effort. In contrast, those free of financial needs described the privilege of not having to work parttime and/or of pursuing academically or professionally enriching work or volunteer opportunities:

> **Daly**: My dad was the only one earning income, so it was quite tough. We had to pay tuition fees. If I had had to rent a house, he wouldn't have been able to afford it. So I had to live with my aunt … I wanted to work part time. But my father said that if I worked, it could affect my study. He wouldn't allow me to work. *(Focus Group 3, female, engineer)*

> **Ryna**: I found a [part-time] research job with my friend. I felt I liked it. I could meet people and travel to places … I also started to do social work and event management … I also got selected for an exchange program overseas. *(Focus Group 1, female, National Bank officer)*

### *10.4.1.3 Beyond family economic resources*

Family-based resources facilitating the transition into work go beyond the financial. In a context of weak institutional mechanisms to ease transition, especially by linking skills training to employment, school leavers (from dropouts to university graduates) rely heavily on their networks for introduction to jobs, knowledge about jobs and career advice.

The SWTS Cambodia 2014 confirms the importance of informal networks in job searching among young Cambodians, the majority relying on personal networks and the family to find employment (Table 10.13). The data also shows that rural youth rely more heavily on relatives, friends and acquaintances than do their urban peers.

For those dropping out of school to find unskilled or low-skilled work, relatives and fellow villagers are almost always used for information or to take them to a job. Such social resources are critical because the types of jobs accessible to them have few skill barriers, making personal introduction most effective. In addition, social networks also provide a sense of security, especially for women's physical and moral security when finding work involves moving away from home.

Table 10.13: Employed youth's job search method, by sex and birthplace (percent)

| Work-study combination | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Registered at an employment centre | 0.52 | 0.93 | 0.59 | 1.32 | 0.71 |
| Placed/answered job advertisement | 2.24 | 3.07 | 1.85 | 6.58 | 2.62 |
| Inquired directly at factories | 4.58 | 2.64 | 4.06 | 1.81 | 3.70 |
| Took a test or interview | 7.75 | 3.05 | 4.11 | 13.37 | 5.62 |
| **Asked friends, relatives, acquaintances** | **27.85** | **41.26** | **35.18** | **27.61** | **33.94** |
| Waited on the street to be recruited for casual work | - | 0.08 | 0.04 | - | 0.04 |
| Sought financial assistance to seek work or start business | 2.02 | 1.48 | 1.77 | 1.78 | 1.77 |
| Looked for land to start own business or farming | 6.79 | 4.88 | 6.20 | 4.50 | 5.92 |
| Applied for permit or licence to start a business | 0.11 | 0.11 | 0.09 | 0.17 | 0.11 |
| **Joined the family establishment** | **48.15** | **42.41** | **46.06** | **42.87** | **45.54** |
| Others | - | 0.08 | 0.05 | - | 0.04 |

Source: Authors' calculations using SWTS Cambodia 2014

For those finishing university, formal job search channels such as job announcements are more common, but referral to a job through relatives and networks is also common. Family and relatives can also provide knowledge resources such as advice on job expectations.

### *10.4.2 Appreciating work*

To assess how young people appreciate their work, pay and satisfaction are important aspects. Three out of four workers aged 15–29 are paid below the national average (Table 10.14). Rural and female youth are particularly worse off. In addition, almost half of employed youth expressed the desire to change their job (Table 10.15), the biggest reason being "to earn higher pay" (Table 10.16).

Table 10.14: Youth employment pay compared to national average (percent)

| | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Above national average | 19.6 | 32.0 | 22.7 | 35.8 | 25.4 |
| Below national average | 80.4 | 68.0 | 77.3 | 64.2 | 74.6 |

Source: Authors' calculations using SWTS Cambodia 2014

Table 10.15: Want to change current job or activity (percent)

| | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Yes | 50.7 | 55.7 | 53.3 | 51.3 | 53.0 |
| No | 49.4 | 44.3 | 46.7 | 48.7 | 47.0 |

Source: Authors' calculations using SWTS Cambodia 2014

Table 10.16: Motivation for desire to change job (percent)

| | Total |
|---|---|
| To earn higher pay per hour | 44.1 |
| Present job is temporary | 26.6 |
| To improve working conditions | 12.7 |
| To use better your qualifications/skills | 6.1 |
| To work more hours paid at your current rate | 4.6 |
| Others | 5.6 |

Source: Authors' calculations using SWTS Cambodia 2014

Ironically, according to SWTS Cambodia 2014, almost all young workers (94 percent) reported being satisfied with their current job (Table 10.17).

Table 10.17: Youth satisfaction with current job (percent)

| Work-study combination | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Very satisfied | 51.3 | 45.9 | 49.4 | 46.0 | 48.8 |
| Somewhat satisfied | 43.8 | 47.7 | 44.8 | 49.6 | 45.6 |
| Somewhat unsatisfied | 4.4 | 5.3 | 5.1 | 3.8 | 4.8 |
| Very unsatisfied | 0.5 | 1.0 | 0.8 | 0.7 | 0.7 |

Source: Authors' calculation using SWTS Cambodia 2014

Among young workers in labour-intensive jobs, given the high level of satisfaction with work and relatively high level of intention to change jobs, "satisfaction" should be interpreted as feeling grateful to have a job and income. Participants from low- and non-skilled discussion groups often expressed a mixture of contentment about being able to earn and resignation about work:

> **Ty**: At home, I depended on my parents. Here, I don't. I can earn money and support myself … In Phnom Penh, people look good and cool. I want to be like them. So I need to earn … In my province, there are just a few job opportunities, unlike in Phnom Penh. *(Focus Group 20, male, waiter)*
>
> **Deun**: People who got to continue their studies further have knowledge. So they don't have to do physical work. They can use their knowledge to earn a lot of money … I don't have any knowledge. If I don't rely on my physical strength, I won't have anything to do. *(Focus Group 14, male, construction worker)*

These extracts show that youth may or may not be satisfied with their current work situation, but they are grateful to have a job and an income given their circumstances. Hence, assessment of job satisfaction needs to include the larger life course context, such as qualifications, self-efficacy, sense of identity, and family well-being.

### *10.4.3 Aspirations and future perspectives*

Young people's experiences of school-to-work transition and early working life are meaningfully linked to their aspirations and future perspectives about jobs and careers. In addition, future aspirations can also suggest the unequal resources and circumstances encountered by young people. Particularly in Cambodia and many Asian societies, family livelihoods and a sense of family security – in both economic and psycho-social senses – are often prioritised or tied to individual thoughts and goals (Peou and Zinn 2015). A good future, for example, can be equated with a good family life, which includes a decent livelihood and being physically together, and this can also sometimes counsel moderation in forming a future goal, given constrained circumstances (Peou 2016).

Table 10.18: Future aspirations, by sex and birthplace (percent)

| Main life goal | Sex | | Birthplace | | Total |
|---|---|---|---|---|---|
| | Female | Male | Rural | Urban | |
| Being successful in work | 13.3 | 18.5 | 13.7 | 23.3 | 15.6 |
| Making a contribution to society | 5.8 | 7.5 | 6.2 | 8.2 | 6.6 |
| Having lots of money | 26.9 | 27.9 | 26.8 | 29.6 | 27.4 |
| Having a good family life | 53.9 | 46.1 | 53.3 | 39.0 | 50.5 |

Source: Authors' calculations using SWTS Cambodia 2014

The SWTS Cambodia 2014 found that half of Cambodian youth – more rural than urban and more female than male – identified their main life goal as a good family life (Table 10.18). In addition, more urban and male youth identified being successful in work as their main life goal, which suggests a stronger sense of capacity to develop a stable and successful career.

Gendered perspectives regarding future careers are also evident in focus group interviews. For many of the young female unskilled workers interviewed, their future thoughts are focused on returning to their home village or that of their future spouse and running a small business at or near home. This is to reconcile domestic obligations for care work with income generation:

> **Da**: I want to earn enough money and will do business. I want to save enough money to run a business … He [her fiancé] wants to bring me to his home village … My mom also wants me to learn hairdressing … I also want to. I haven't decided yet. If I can run a grocery business at home, I'll do it. But if I can run a hairdressing salon, I'll do it too. I can be close to home. *(Focus Group 18, female, guard)*

For highly skilled female professionals, this perspective is uncommon but possible. The case of Moniroth, an engineer at a large manufacturing plant, is an example:

> **Moniroth**: I'm not sure. I have two different ideas. If I continue to work, I could be promoted to engineering supervisor. It'll depend on how hard I work and how well I perform. If I'm not working here, in five years I want to run my own business and have a family. If I have a family, it'll be very hard to continue working here because it's far [from Phnom Penh] … ***(Facilitator**: Why run a business at home?)* ... So that I can stay at home looking after my children … I'm willing to sacrifice for my family. *(Focus Group 3, female, plant engineer)*

The two extracts above point to another interesting aspect of future perspectives and early working life experience, that is, the lack of established career paths to which young workers can refer. For highly skilled workers, future career perspectives are generalised in terms of success in their area of specialisation or in entrepreneurial activity. For low- and non-skilled workers, career perspectives are limited to saving enough for a financially and socially improved life or learning a common skill or trade to achieve that.

Previous research links absence of career paths to uncertainty and unequal access by young people to resources. A lack of established career paths, due to economic structural and labour market changes, and weak institutional framework, means future careers are uncertain. Those with substantial family resources, both financial and social, are more likely to feel more secure and

become more resilient in the face of an uncertain future. Those with few family resources are more likely to face a future relying on an outdated framework for action and solutions (Peou and Zinn 2015). The following two extracts exemplify such contrasting perspectives:

> **Kosal**: I chose to work at KPMG after my graduation because the work was related to law and English, my two majors … I'm now waiting for a position to be available in the government so that I can apply. My parents can still support me financially if I get a government job. Working there [at KPMG] has made me realise how big the world is … I've learned the way business operates. If I have the capability, I'll do my own business. But switching to a local company would be great to learn more too. *(Focus Group 2, male, legal translator)*

> **Keak**: I'll continue earning money for now … In the future, I think I can sell groceries at home, so I can be with my family. I don't want to have to go far. But going to Thailand, I can learn some skills. ***(Facilitator**: What kind of skills?)* ... Mechanic. In Thailand, we can learn and get salary … But it's too far from home. I want to stay near home. *(Focus Group 19, male, labourer)*

## 10.5 Conclusion

Family resources are critical to young people negotiating their transition into the world of work. These resources are often economic, financial support to obtain the highest possible qualifications and a sense of financial security to pursue career interests, but also social and cultural, in terms of networks and knowledge to minimise risks and enhance prospects. From a life course perspective, these types of resources or capitals create advantages and disadvantages that accumulate over a life. These cumulative (dis)advantages are critical to the reproduction of social inequality (DiPrete and Eirich (2006).

The socioeconomic conditions of the family during children's schooling play a major role in deciding whether they leave school and enter full-time work in their late teenage years. Well-resourced families are able to delay their children's transition into work by supporting them through high school and university, allowing them to accumulate knowledge, skills, ideas, a sense of competence and networks to better manage their transitions into working life.

Economically differentiated beginnings have long-lasting effects on school-to-work transitions and life course outcomes. Young people from families with few economic resources, especially rural ones, are limited in their knowledge and networks, which pulls them into labour-intensive jobs. Over the early working life, these jobs offer young workers little sense of a career or occupational path, and they very often feel that returning to the village at some point, often after marriage and parenthood, is the most likely scenario. In contrast, young people supported financially through university by

their family often build knowledge, connections and confidence, which stand them in good stead for getting better-paid jobs with better conditions. These experiences are further converted into additional knowledge, confidence and networks for career ladder climbing or switching to even better options.

Throughout the early life course of the participants in this study, these different types of capitals are inter-converted by young people when negotiating the opportunity structures surrounding their lives. For the resource poor, the lack of economic capital prevents them from harnessing cultural capital, that is, knowledge and skills, through education and employment. It hastens their transition into full-time work and limits their early working life to earning a livelihood by using only their social capital, or networks of family, friends and fellow villagers. For the resource rich, economic capital allows them to delay transition into full-time work and enhance social and cultural capital in expanded networks, knowledge and skills through university study. Upon entry into working life, they translate these social and cultural resources into better-paid jobs with better conditions, upon which they continue to expand their base of economic, social and cultural capitals.

Young people in Cambodia are perhaps satisfied with their current work, as reported in the SWTS Cambodia 2014, or more accurately, grateful for their current work situation. However, many face a future of uncertain work (Peou and Zinn 2015). This makes the family extremely critical in young people's transition into work. This also has a larger implication for social reproduction. Given the absence of a welfare state, wealth and social gaps are likely to widen over the life courses of young people.

The Cambodian case presented in this paper reflects the weak state institutions that manage school-to-work transition. TVET is still playing a marginal role and struggling to improve. State welfare support is extremely limited. Career paths are only just emerging. In this context, state institutions need to prioritise policies and programs that reduce not only inequality in life outcomes but also uncertainty in transition and career pathways, including a well-defined vocational focus in the education system, systematic incentive schemes for targeted skills and careers guided by an overarching national development plan, and social security mechanisms to support skill-based career paths.

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# 11
# Skills Shortage: Chinese Firms and Labour Market in Laos

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Foreign direct investment has been an important driving force for the economic growth of Laos in the past 10 years, and direct investment from Chinese firms has been a crucial element of the country's economic structural change. However, Chinese firms continue to face shortages of skilled local labour. They try to employ more local labour, but the low productivity of underskilled Lao workers keeps labour costs stubbornly high. Although they have paid attention to training Lao employees, it has not had the desired effect; the core problem is the underskilled labour force. Our survey data indicates that workers' educational attainment tends to be overestimated by Chinese firms and Lao workers alike. Analysis of skill distribution shows that cognitive abilities have more important effects on skills shortages than non-cognitive abilities, but it is difficult to improve cognitive abilities through workplace training. Lao workers score poorly in literacy and numeracy skills and highly in conscientiousness and extraversion. Their strengths lie in non-cognitive skills, which Chinese firms need to give full rein to in their management. Estimation results show that skill inefficiency directly affects the incomes of Lao workers. First, shortages in general cognitive skills, especially reading and writing, significantly reduce income, while excesses in those skills have no significant effect on income. Second, non-cognitive skills have no significant effect on income. In addition, return to education is not significant, while return to experience is significant. Consequently, foreign-funded (including Chinese-funded) enterprises face the dual challenge of cognitive ability training and work skills improvement. For this purpose, this report puts forward policy measures and suggestions.

## 11.1 Introduction

Laos has sustained high economic growth averaging 7.8 percent over the last decade, driven in recent years by a large inflow of foreign direct investment (FDI). China's FDI in the Greater Mekong Subregion (GMS) has increased rapidly, almost tripling from USD0.457 billion in 2008 to USD1.281 billion in 2013 (National Bureau of Statistics of China 2013). China is now the top investor in Laos, which receives 31 percent of total Chinese investment in the GMS.

In a 2012 World Bank survey, firms in Laos complained that not enough workers were applying for jobs (World Bank 2014). Nearly half of them reported having no or few applicants even for unskilled jobs. Conversely, the country has large numbers of youth entering the labour market each year, but a large cohort of young people cannot find a job. Chinese firms, however, face different problems in the Lao labour market from those identified by the World Bank survey.

Chinese investors have mostly focused on energy, minerals and other natural resources, though in recent years have gradually shifted towards manufacturing and services. A survey of Chinese firms (Xiong 2017) found that the main motives of Chinese investors in Laos are market potential, availability of natural resources, and low-cost labour. Recruitment was not a problem, according to about 100 interviewed Chinese firms; the main problem they faced was stubbornly high labour costs due to the low productivity of local workers. Most of the firms reported a lack of qualified skilled Lao labour. Another observation was that Chinese skilled workers accounted for more than 50 percent of the workforce in some Chinese construction firms even though, according to Lao Foreign Investment Promotion Management Law, the ratio of skilled foreign workers to a firm's total workforce must not exceed 20 percent.

Skills shortages arise in a situation in which employers in specific sectors cannot find suitably qualified workers (Desjardins and Rubenson 2011). Simply put, skills shortage is a mismatch between supply and demand in the labour market. Labour economists use search and matching theory to study the labour market. If equilibrium is reached between the number of unemployed seeking jobs and the quantity of labour demanded by firms, the labour market realises the ideal person-job fit. But person-job mismatch is a more common phenomenon, usually including skills shortage and overmatched skills. In developing countries, foreign-funded firms have great difficulty recruiting suitable workers because applicants lack education and production skills (Bruni, Luch and Kouch 2013; World Bank 2014). Skill shortage is caused by excess demand, that is, the demand for skilled labour is greater than the supply

of skilled labour for a sustained period. If employers are unable to convert their labour demand composition, or if workers have asymmetric information on the demand for skills, substitution for factor of production could become a problem in the short term (e.g. the labour force is from different positions or departments) (Shah and Burke 2003; UKCES 2011). For firms, skill shortages appear as a lack of skilled labour and difficulties recruiting for the positions they need to fill. Skill shortage may be a direct result of job applicants' lack of skills, job qualifications or work experience; other reasons include applicants' general attitude, work ethic or personality traits, or insufficient applicants for a post. Another possible cause is the competency of the firm's human resources department.

Based on data from the Lao Skills Towards Employability and Productivity (STEP) Household Survey and STEP Enterprise Survey 2011–12 (Carpio, Ikeda and Zini 2013), the World Bank's latest assessment of skill needs identified two distinct problems: labour quality and labour quantity (World Bank 2014). Job applicants and workers lack critical job skills; even skilled workers do not have the right skills to match employers' expectations and only a small proportion of employers train their employees. Firms do not have sufficient available workers and have to hire workers with much lower qualifications than needed, even for elementary jobs.

Labour and skills shortages clearly represent a bottleneck for the development of many Chinese firms in Laos. But it is unclear exactly what skills are demanded by Chinese firms and lacking in the Lao labour force. Identifying skills shortages will contribute to the growth of Chinese firms and the skills development of Lao workers.

Assessment of the effects of skills mismatch on firm productivity and individual workers can help to evaluate losses. However, identification of exogenous factors resulting in skills match will enable policymakers and employers to understand the issue better. This paper aims to identify the gap between the skills demanded by Chinese firms and those offered by the Lao labour force. Exogenous factors resulting in such mismatches are analysed and the consequences assessed through micro-level analysis of the impacts on firm productivity and worker behaviour.

## 11.2 The research context

Laos has maintained rapid and stable economic growth over the last 10 years and is one of the fastest growing economies in Asia. Agriculture continued to play a major role in economic development even as the contributions of industry and service sectors grew, from 25 percent in 2005 to 31 percent in 2014 for industry and from 39 percent to 42 percent for services in the same

period. Rapidly rising FDI, especially in mineral extraction, hydropower development, construction, manufacturing and services, is the driving force of Lao economic structural transformation. China is the country's biggest investor, with cumulative investment between 1989 and 2014 of USD53.97 billion, accounting for 33 percent of total FDI inflows. In 2015 alone, new Chinese investments accounted for 7 percent of the increase in FDI, ranking third after Vietnam and Malaysia (Ministry of Planning and Investment 2015). As well as creating opportunities for structural transformation, Chinese firms investing in Laos are also creating new jobs: every 1 percent increase in China's FDI is estimated to stimulate GDP by 2.67 percent and improve unskilled workers' incomes by 2.39 percent and skilled workers' incomes by 0.56 percent (Xiong 2017).

Since Laos opened up to foreign investments in 1988, large numbers of Chinese firms have been investing and expanding their presence in mining, agriculture, electricity, rubber, and engineering construction. According to the Laos Investment Promotion Agency (Ministry of Planning and Investment 2015), total approved Chinese investments between January 2000 and June 2003 amounted to about USD4.85 billion. Mining ranked first, accounting for over 50 percent of total investment approvals, followed by hydropower development, agriculture and manufacturing, together accounting for less than 10 percent with a total investment stock of USD0.39 billion. Although the ratio of Chinese firms' investment in mineral extraction and hydropower development remains high, the types of investment have been changing quietly in recent years, gradually extending to processing and manufacturing, construction, hotel catering and other industries. China's main investments in 2014 were in leasing and services, construction, farming, forestry, livestock production and fisheries. These trends have transferred the labour absorption effect of China's FDI to labour-intensive industry, while the shift to manufacturing requires more skilled production workers.

According to the World Bank Enterprise Survey in 2012, a main complaint of firms in Laos was the lack of applicants even for unskilled jobs (Figure 11.1). Almost half of the firms surveyed indicated that they could not or rarely hired unskilled workers. Conversely, a large proportion of the youth cohort could not find a job. In addition, low-cost labour is what attracts Chinese firms to invest in Laos, according to a survey in 2014 (Xiong 2017). However, the firms surveyed complained that labour costs were not as low as expected because of the inefficiency of labour, mainly as a result of high employee turnover and skills shortages. The same survey (Xiong 2017) found that some Chinese construction firms were noncompliant with Lao Foreign Investment Promotion Management Law, which stipulates that the ratio of skilled foreign

workers to a firm's total workforce must be no more 20 percent, with Chinese employees accounting for more than half of their workforce. To meet project deadlines, Chinese firms have had to resort to hiring foreign workers, mainly from China and neighbouring countries, and shoulder higher-than-expected labour costs. In fact, because of time constraints and the shortage of qualified Lao welders and steel benders, the Yunnan Construction Group received support from the Lao government to employ skilled workers from Yunnan province while constructing the ASEAN Stadium.

Figure 11.1: Percentage of firms complaining of no or few applicants, by skill level

Source: World Bank Enterprise Surveys in Laos, Vietnam and China (2012)

Despite Laos' accelerated structural transformation, the share of the working-age population in agriculture is declining slowly. In 2010, the sector accounted for about 2.3 million or nearly 70 percent of the total labour force, industry about 17 percent and services about 13 percent (World Bank 2014). In 2013, agriculture still accounted for roughly the same number of workers though a slightly smaller share at 66.06 percent of total employment, construction and services 26.25 percent, manufacturing 7.07 percent, and power and mining 0.63 percent (World Bank 2014). The latter figure belies the sector's importance in the Lao economy: in 2013, it contributed about 18 percent of GDP with a workforce of just 22,000. Although the energy and mining sector attracts FDI, it generates relatively few jobs (World Bank 2014, 17). This partially explains why the employment structure is lagging behind

economic structural change. Two other reasons are the quality and quantity of labour. First, although resources have been poured into formal education to improve labour skills, one-third of the working-age population have limited formal education and basic skills. Net primary enrolments have increased, but grade-1 and grade-2 dropout rates have not improved, lowering human capital accumulation and resulting in a shortfall of labour efficiency (World Bank 2014). Second, skilled workers and tertiary graduates are in short supply, and most trained workers take up non-skilled positions. Without basic education and job skills, it is difficult for workers to move out of agriculture to better employment opportunities in industry and services.

To sum up, the sustainability of Laos' economic growth is increasingly tied to skill supply, which is essential both in its pursuit of economic structural change to absorb new labour market entrants and to develop and upskill the labour force for future economic growth. For Chinese firms in Laos, particularly those in construction, furniture manufacturing, rubber manufacturing, automobile and motorcycle maintenance and other labour-intensive industries, the negative impacts of local skills shortages are concerning.

## 11.3 Conceptual and empirical framework

### *11.3.1 Concepts on skills*

"Skill" as a term in economics comes from human capital theory, which regards the knowledge, abilities, education and attributes of labour as human capital. The term is variously defined in the literature (see, for example, Heckman, Stixrud and Urzúa 2006). The current research defines skill as the ability to execute the tasks and duties of a given job. Skills can be obtained and developed through learning. For individuals, skills provide opportunities for job hunting, job reservation, career promotion and decent salary. For employers, skilled workers are those who either have the necessary job skills or the capacity to learn those job skills.

Labour market relevant skills can be measured using various means. The most reliable and accurate, but also the most expensive, method is to directly observe work skills and use skills tests (via individual interviews), with identified standards as benchmarks. In addition, because it is difficult to measure skill directly, substitutes for skill measurement are required. Job skills can be assessed indirectly based on professional experience and qualifications. Personal skills and abilities are recognised via formal professional or trade certification, professional qualification or certificate of competence. More and more jobs require formal qualifications, and qualifications are prerequisite for formal employment. But such qualifications are not always on a par with skill. The most widely used substitute variable

for skill is formal education. Formal education is not the only way to improve skills, however; skills are also developed through work, training, personal experience and informal learning.

### *11.3.2 Econometric modelling*

The study of skills mismatch has a long history and has provided a fruitful analytical framework. Drawing on studies in developed countries such as the United States and Germany, Gibbons et al. (2005), Gervais et al. (2014) and Sanders (2014) find that workers maximise their comparative advantages through transfer between departments to promote the upgrading of skills. These studies also find that the longer workers can match their jobs, the faster the growth of their wages in line with their tenure, and the sooner mismatch problems can be eased. Guvenen et al. (2018) and Lise and Postel-Vinay (2015) used the Dictionary of Occupational Titles[1] to research skills mismatch from a multi-dimensional perspective and, using micro-data on worker-occupation match, decomposed mismatches into a collection of various tasks needed to perform the job.

Many studies focus on the economic impact of skill mismatches. Leuven and Osterbeek (2011) and Quintini (2011) analyse the consequences of mismatches for individual workers, such as income loss, job dissatisfaction, mobility and skill obsolescence. Fewer studies on the economic impact of skills mismatch on firm productivity exist. Kampelmann (2012) and Maida (2014) argue that over-skilling has a positive impact on productivity and under-skilling hinders productivity improvement. Other researchers believe that education/skills mismatch might have a positive impact on productivity improvement. Mahy, Rycx and Vermeylen (2015) found that the positive impact of overeducation/over-skilling in high-tech and knowledge-intensive sectors is much more significant than in other sectors.

Skills mismatch not only affects the individual worker, but also slows productivity of the firm. Many studies explore the relationship between education or skill mismatch and income (see, for example, Bourdet and Persson 2008). In fact, education mismatch, especially overeducation, has received most attention in the literature. Although taking education as a substitute variable for ability reflects a worker's skill, formal education is not the only way for people to accumulate skills, which can be improved through work, training, life experience and informal learning. It is necessary to consider the relationship between education and income and between skill mismatch and income.

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[1] Refer to https://occupationalinfo.org/ for more details.

Because of the difficulty of obtaining direct measurements, this project attempted to measure the skill levels of the Chinese firms and some employees before the formal survey. The firms said this might affect normal production and required shortening the interview time, which led to difficulty in conducting direct skill measurement. Therefore, in this project, the skill level of employees is obtained by synthesising direct and indirect skill measurements. In this research, skill mismatch is when personal skills fall short of or exceed those required for the job. Skill mismatch therefore refers to imbalances between skill supply and demand in the labour market.[2] In reality, skill mismatch is more common than skill match: workers may be either over-skilled or under-skilled (Quintini 2011). See Annex Table A1 for a glossary of skill mismatch terms.

Duncan and Hoffman (1981) decomposed educational attainment into three parts related to work requirements, expressed as Educ=Edur+Over-Under. In this decomposition, Educ is educational attainment, Edur is the required educational level, Over means that education exceeds that required by the job, Under means that education is lower than that required; it denotes a match if both Over and Under are 0. This decomposition is introduced in the expanded Mincer wage equation to show the ORU (overeducation–required–undereducation) model:

$$\begin{aligned}\ln(wage_i) &= \alpha_0 + \alpha_1 EduR_i + \alpha_2 Over_i + \alpha_3 Under_i + \alpha_4 Smis + X_i b + u_i \\ &= \alpha_0 + \alpha_1 EduC_i + (\alpha_2 - \alpha_1) Over_i + (\alpha_1 - \alpha_3) Under_i + \alpha_4 Smis + X_i b + u_i\end{aligned}$$

We measure the skill mismatch of Lao workers in Chinese firms based on the ability level required by each career in O*NET, then take wage level, employee turnover rate and employee job satisfaction as dependent variables to observe the impact of skill mismatch on Lao workers.

Employer evaluation, vacancy rate, wage growth and comparison with international labour standards on wages, and firm data are commonly used as measurements of skill shortages.

## 11.4 Data

### *11.4.1 Questionnaire design*

This project explores labour and skills shortages in Chinese firms in Laos. Because it is difficult to collect long-term data on workers' skills and abilities,

[2] Guvenen et al. (2018) argue that skill mismatch is a contradiction between skill sets based on a job (a task that can produce a result) and a skill combination owned by a worker. In other words, the skills required for a job may be higher or lower than the skill level possessed by the worker, and the result is a conflict between the worker's skill and the job requirement skills.

studies often neglect educational attainment, skills acquisition, and learning through work (formal or informal) and life experiences and use education as a substitute variable for ability. Researchers often attribute this to dependence on what is most easily measured, rather than on what should be measured or the feasibility of doing so (OECD 2013). A separate and possibly more substantial reason restricting the understanding of skills mismatch and shortages is that the supplier's and the demander's effects on the labour market have not been carefully considered.

The project involved a survey of Chinese firms and their Lao employees. Two Lao-language questionnaires, one for firms and the other for employees, were designed based on the templates of the World Bank STEP survey. The firm questionnaire collected information on firms' basic characteristics, workforce skill composition, and skills shortages to determine the retention and turnover rates. It was divided into six parts: basic information on the interviewee and firm, workforce size and structure of the firm, training input and content, skills of different employee types, subjective performance evaluation of the firm, and interviewer's observations. The employee questionnaire collected data on employee mobility and skill composition and basic employee characteristics. It comprised five parts: basic personal characteristics, education, job type, cognitive and non-cognitive abilities used at work, and interviewer's observations. Both questionnaires were pretested at five firms to ensure the wording and order of the questions were understandable. The questionnaires were modified several times before the surveys were rolled out.

### *11.4.2 Sampling frame and sample distribution*

This project attempts to collect data on skill requirements and supply. Through collecting basic information on firms, employee composition and changes in the past 12 months, the project can compile data on occupations and turnover rates, as well as rough information on skill requirements for the next 12 months. The data collection involved: (1) firms' basic profile, including ownership, sector, production type and location; (2) deciding which type of firm should be included in the survey; (3) identifying the level of firms' regulatory compliance; (4) building a list of sample firms. The project collected data from firms engaged in mining, manufacturing and services. Before conducting the survey, the project team obtained a list of 172 Chinese firms in Laos and their contact information from the Chinese Ministry of Commerce. We contacted 86 enterprises for interview. Given that Chinese firms are switching from resources to manufacturing and services, the survey placed extra emphasis on manufacturing and services-based firms. Luang Namtha, Luang Prabang and Vientiane, and two southern areas, Khammouane and Savannakhet, were chosen as the survey areas.

This is the first study of the labour force of Chinese firms in Southeast Asia. Some of these firms had offices only but no production base, some had withdrawn from Laos, and some refused to be interviewed. The team could survey only 43 firms, 25 percent of those on the list. Borrowed from the STEP survey standard, the firms are divided into three groups by workforce size. Size stratification was defined in accordance with the standardised definition: small (five to 19 employees), medium (20 to 99 employees) and large (more than 99 employees) (World Bank 2014). The sampling frame for the employee survey was designed based on the firm size: 2–3 employees were interviewed in small firms, 5–10 in medium firms, and 11–20 in large firms. Because most large resource-based firms were remote and the survey cost would exceed our budget, the project could not cover all Chinese firms, but the sample is representative of Chinese firms in industry and scale.

### *11.4.3 Field survey*

The firm survey was administered through face-to-face interviews with firm managers – the owner, human resource manager, director or a senior executive. The advantage of face-to-face interviews was that both quantitative and qualitative information could be collected. The survey was conducted from 26 July to 10 August 2016, and the average interview duration was 60 minutes.

The number of Lao employees selected for interview in each firm was based on firm size. The number of interviews was adjusted slightly during the actual survey depending on the production and operational status of the firm. As a result, 259 Lao employees were surveyed. The interviews were conducted by Lao interviewers. The average interview duration was 30 minutes. The employee survey was also conducted from 26 July to 10 August 2016. Employee composition is shown in Annex Table A3. Compared to the sample used for the STEP survey (2012), this survey paid more attention to Lao workers and therefore involved more production workers, process workers and service and sales workers.

### *11.4.4 Skill shortage*

Skill shortage is important in skill mismatch. Measuring skill mismatch is challenging, mostly due to the lack of direct information about workers' skills and job requirements. Because existing skills measures imply different proportions of mismatched workers and lead to different conclusions regarding the relationship between skill mismatch and labour market outcomes, they entail different political implications.

Some researchers construct indicators using surveys asking employees whether they have the skills to do a more demanding job than their current one or whether they need training to carry out their tasks satisfactorily (Allen and van der Velden 2001; Green and McIntosh 2007). The advantage of self-reporting is that it is easy to survey, but it is prone to deviations. Respondents are likely to overestimate the skill requirements of the job.

Other researchers use direct measure, also known as objective measure. Direct measure usually compares a worker's skills with those required by the job. But this method also has deviations since respondents may overestimate their skills. The skills required by a firm can be obtained as a general or specific level of vocational skill (Pelizzari and Fichen 2013), but it is difficult to acquire this data. Direct measure also requires obtaining the actual skills possessed by workers. Skills have been investigated in some large surveys, such as the International Adult Literacy Survey, the Adult Literacy and Life Skills Survey, the Programme for the International Assessment of Adult Competencies, and STEP. However, the cost of large-scale measurement and determination of skills is high, so skill data on workers is scarce and can be obtained only for limited countries and limited times.

We synthesise the direct and indirect measurements of skill/education-job match. Skill matching usually has three outcomes: undermatched, matched and overmatched. The research adopted the questions of the STEP skills measurement study to obtain information about the skills of workers in the firms investigated, but data on the production and management skills required by those firms is limited. Because the skill level of a specific job or task is similar in the same area, and the skill requirements for specific jobs/tasks have been developed internationally, this research adopts three standards to measure skills/tasks at the firm level: sample occupational criterion, O*NET occupational criterion and STEP occupational criterion. O*NET provides the education/skill average value and standard deviation of each career.[3] The STEP study offers rich information about the education and skills of workers.

Skills/education-job matching involves two stages. First, we calculate the education/skill average value and the standard deviation of the workers of a certain career according to the occupation, which is taken as the average

[3] The O*NET program is the nation's primary source of occupational information. The O*NET database contains information on hundreds of standardised and occupation-specific descriptors. It is continually updated by surveying a broad range of workers from each occupation. Information from this freely available database forms the heart of O*NET OnLine, the interactive application for exploring and searching occupations. The database also provides the basis for our career exploration tools, a set of valuable assessment instruments for workers and students looking to find or change careers.

value of education/skills and the standard deviation of the career. Second, we build the education/skill matching interval of a career using the average value of education/skills and the standard deviation of a career. If a worker's education/skill falls into the matching interval, it is matched; if a worker's education/skill is lower than the left endpoint of the matching interval, it is undermatched; if a worker's education/skill is higher than the right endpoint of the matching interval, it is overmatched. In this research, undermatched education/skill represents education/skill shortage.

## 11.5 Results and discussion

### *11.5.1 The workforce composition of Chinese firms: native employment and skill gap*

Chinese firms in Laos are gradually shifting to labour-intensive manufacturing and services. The company representatives interviewed concurred that Chinese firms commonly have trouble hiring skilled workers and tend to suffer from high turnover of unskilled workers.

#### *11.5.1.1 The labour force structure in Chinese firms*

Lao Foreign Investment Promotion Management Law stipulates that the proportion of foreign long-term production workers employed in FDI firms must not exceed 10 percent of total employees and the proportion of intellectual workers (managers, technicians, sales and administrative staff) must not exceed 20 percent of total employees. Lao employees therefore account for the bulk of the production workforce in Chinese firms. Few of them become high-level managers. Foreign employees hold the majority of the core high-level management and technical positions.

As shown in Table 11.1, Lao employees account for 86.39 percent of total (4, 652) workers in the 43 surveyed Chinese firms. Disaggregated by employee type, production workers make up 64.66 percent of the total workforce followed by administrative staff (7.30 percent), qualified elementary workers (7.19 percent), technicians (6.39 percent) and managers (5.91 percent). Female employees account for 38.67 percent of the total workforce. Foreign employees account for 13.61 percent of the total workforce and are mainly intellectual workers: managers (34.60 percent), technicians (24.64 percent), administrative (11.22 percent) and sales (8.69 percent) staff. The survey team noted that managers, technical and sales staff are often multitaskers, so the proportions of these four employee types cannot be summed. After excluding this factor, Chinese firms are found to be compliant with legal requirements concerning the employment of foreign workers. Qualified elementary Lao workers were employed in five of the surveyed firms. These firms were

engaged in auto parts, tobacco products, clothing and leather goods, and printing, which need skilled production workers.

Table 11.1: Workforce composition in the 43 surveyed Chinese firms (percent)

| Employee type | Total workers (n=4,652) | Lao workers (n=4,019) | Foreign workers (n=633) |
|---|---|---|---|
| Total workforce | 100.00 | 86.39 | 13.61 |
| Manager | 5.91 | 1.34 | 34.60 |
| Administrative staff | 7.30 | 7.12 | 11.22 |
| Technician | 6.39 | 3.41 | 24.64 |
| Sales person | 4.05 | 3.28 | 8.69 |
| Production worker | 64.66 | 67.40 | 12.64 |
| Qualified elementary worker | 7.19 | 8.04 | 2.21 |
| Other | 4.46 | 2.34 | 6.01 |
| Female | 38.67 | 42.35 | 14.85 |

Note: Due to missing observations, the sum of Lao workers is not 100%.
Source: Authors' calculation using survey data

Although Chinese firms comply with applicable Lao investment law and regulation, they are still mistakenly thought to hire Chinese employees and to replace Lao employees with "skill imports".

*11.5.1.2 The objective and outcome of Chinese firms' training*

The above analysis shows that most Lao workers in the surveyed firms are employed on the production line, and foreign workers mainly in management and technical positions. This is consistent with employee distribution in FDI enterprises generally. Survey observations and data show that Chinese firms pay attention to employees' training and development. The main purpose of training is to impart and improve the skills workers need to perform job tasks, while safety training and enterprise-related skills training aim to improve workers' personal skills and job efficiency, thereby increasing the firm's productivity. Rubber Product Co., Ltd., for example, reported that its Lao workers have to learn from scratch because they lack basic skills. Every year since 2005, the firm has sent local workers to Xishuangbanna in China for rubber tapping and processing training. Even so, there are usually not enough skilled rubber tappers available at the start of the tapping season. By contrast, a tobacco company initially brought in experienced Chinese technicians and improved Lao workers' skills through workplace apprenticeship. However, although Lao workers are now responsible for basic technical or quality control, they still work on the production line. In the Chinese bank we surveyed, the

Lao employees were mostly tertiary graduates and postgraduates who had studied in China; besides needing professional skills training, their basic skills satisfy the bank's requirements.

The vast majority (94.36 percent) of the surveyed Lao employees received training from their employer in the three years before survey. On average, 70 workers per firm received training, ranging from 3 to 1,000 workers per firm. Training frequency in the same period was 4.75 times per person. Production workers account for 90.39 percent of total trainees and managers for 3.97 percent. Training mainly focused on safety and quality control, specialised skills (e.g. rubber tapping technology, metal grinding, ingredient composition, colour sorting, trouble shooting, furniture making, gear operation, customer service and service etiquette), and language skills. Only four of the surveyed firms sent their employees abroad for training. The mean number of workers trained abroad is 12 per firm (10 production workers and two managers), and the training frequency is 1.25 times per employee in three years. The training mainly covered safety management, financial management, corporate belonging, product design, corporate culture, control technology experience and skills promotion.

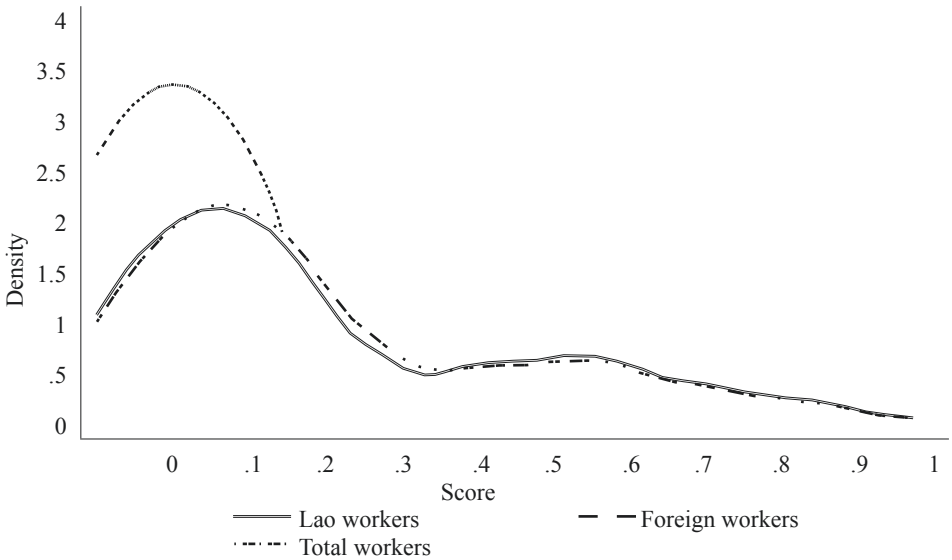
The impact of training on workers' productivity and efficiency is not satisfactory, according to the surveyed firms. They pointed to three common training challenges: high employee turnover, as workers are likely to leave the firm they trained with; the low level of human capital in the Lao labour force; and workers' little or no conscious effort to improve their abilities and lack of enthusiasm for learning.

High employee turnover directly affects firm productivity. The high mobility of Lao employees' means that the Chinese firms have high employee turnover rates. The high turnover of production workers is a problem, but a steady inflow of technical staff and senior managers should help Chinese enterprises to stabilise their local workforce.

Maintaining a stable workforce and a steady rate of output is the basis of continuous production. Workforce stability implies a relatively stable employee turnover rate. But that does not mean that staff mobility should be kept as low as possible. Without some staff mobility, firms will lack "fresh blood", resulting in an irrational human resource structure and ultimately affecting firm survival and development. Conversely, excessive employee turnover will lead directly to production instability, which can also affect a firm's survival and development. The average employee turnover rate of the surveyed firms in 2015 was 21.48 percent, with nearly half of the firms having

a turnover rate of 20.00 percent or lower. [4] The employee turnover rate in small firms was 30.73 percent, in medium firms 23.22 percent and in large firms 12.21 percent.

Figure 11.2: Kernel density estimate of employee turnover in Chinese firms

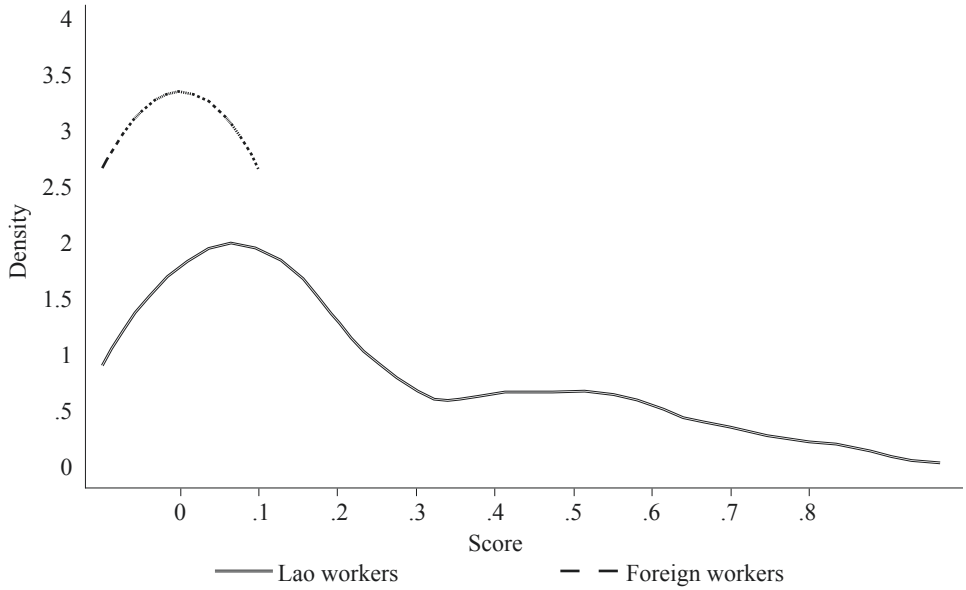



Source: Authors' calculations using survey data

Figure 11.2 shows that the trend of turnover rate kernel density is affected by Lao employees' turnover rate. The figure shows that the foreign employee turnover rate is far lower. From Figure 11.3, there is a thick tail for Lao workers. This means that there is high turnover rate for Lao workers. Further, we give the distribution of turnover rate of production workers (Figure 11.3), and find that the distribution is similar to that presented in Figure 11.3. This implies that Chinese enterprises' high turnover rate is mainly caused by production employee turnover.

[4] The current study and literature show that an employee turnover of between 10 percent and 20 percent favours long-term business development. Turnover rate = number of employees leaving/(additional employees + starting employees).

Figure 11.3: Kernel density estimate of production worker turnover in Chinese firms




Source: Authors' calculations using survey data

In an interview with a China-funded rubber enterprise, we learned that the enterprise had its Lao employees trained in Xishuangbanna, China. However, those employees did not take the training seriously enough, so they did not learn how to tap correctly. As a result, the economic life span of rubber trees tapped by Lao workers is 10 years at most, compared with at least 30 years for those tapped by Chinese workers. A China-funded coffee enterprise in Phôngsali provided training in coffee tree planting for local workers. However, the local workers did not realise the importance of the planting method; they had other family members take part in the training and another person plant the coffee trees.

According to interviews and surveys, China-funded enterprises usually tried to employ Lao workers because this is specified in FDI law and regulations. However, they found their Lao employees had low productivity. To solve this problem, they trained them. However, the training did not have the desired effects because of Lao employees' high mobility, lack of awareness about long-term improvement of work skills, and low human capital. The biggest problem faced by firms lies in the skills of Lao workers.

### *11.5.2 Distribution of skills in Chinese firms*

Chinese firms hire young people who have comparatively high levels of educational attainment. According to our survey of Chinese firms, the average age of Lao employees is 30.7 years, lower than the average age of 35.8 years in the World Bank's STEP survey (Carpio, Ikeda and Zini 2013). The average education for Lao workers in Chinese firms is 9.2 years. Among these workers, 9.21 percent are illiterate, 74 percent have at least primary education, and 47 percent have secondary (including junior secondary and high school) education, and around 12.0 percent have a tertiary degree or professional qualification.

STEP survey data shows that the average education in Laos is 7.78 years; 19.54 percent of workers interviewed are illiterate or have not completed primary education, and 30 percent of those in the second grade cannot read words, and 57 percent of those who can read do not understand the meaning. Comparison with our survey data suggests that Chinese firms hire a relatively higher quality labour force. However, the labour supply is slightly below the demand for higher quality. The Laos Business Survey (World Bank 2014) found that recruitment difficulties affect 49 percent of Lao firms and 41 percent of foreign firms, and skills shortages affect 65 percent of Lao firms and 71 percent of foreign firms. This section uses the survey data on Lao workers to explore this issue.

#### *11.5.2.1 Distribution of cognitive skills of Lao employees in Chinese firms: disadvantages*

Researchers often assess the abilities of workers by measuring basic cognitive and non-cognitive skills directly. Workers in the labour market have finished or quit the formal education system. In spite of a possibly low level of human capital acquisition, they have stopped basic cognitive skill accumulation. Ability can be measured through listening, speaking, reading and writing. However, it is difficult for both Chinese firms and the Lao government to deliver basic skills training to workers in the labour market. Work-related skills are more important for both firms and workers. These skills can be acquired from learning by doing. "Learning by doing" can result in Lao workers meeting the needs of firms and being loyal to their firms, improving firms' productivity. On the one hand, personal traits, such as work attention, mathematical ability and work seriousness, are important embodiments of learning by doing. On the other, if workers use basic skills in life more frequently, their abilities will be greater; if they use basic skills in work more frequently, their skills accumulated in work will be greater and their ability will increase more quickly and the productivity of their enterprises will be more

improved. Thus, the frequency of listening, speaking, reading and writing, the memory levels indicating attention, calculation ability and response speed, and the non-cognitive skills indicating seriousness of Lao workers in their work and life are used as the ability variables of Lao workers in Chinese firms in this project.

Table 11.2: Difficulty recruiting workers and finding skilled job applicants by occupation (percent)

| Occupation | % of enterprises finding it difficult to recruit workers | % of enterprises struggling to find skilled job applicants |
|---|---|---|
| Manager | 44 (33) | 60 (67) |
| Professional | 36 (50) | 57 (75) |
| Technician and associate professional | 57 (40) | 80 (80) |
| Clerical support worker | 39 (27) | 70 (73) |
| Service worker | 42 (38) | 62 (88) |
| Sales worker | 28 (29) | 66 (71) |
| Skilled agriculture, forestry and fishery worker | 67 (-) | 67 (-) |
| Crafts and related trades worker | 62 (64) | 73 (64) |
| Plant and machine operator, assembler | 63 (29) | 67 (57) |
| Elementary occupation | 47 (55) | 47 (64) |

Note: Bracketed figures indicate foreign enterprises only.
Source: Authors' calculation based on data from www.enterprisesurveys.org

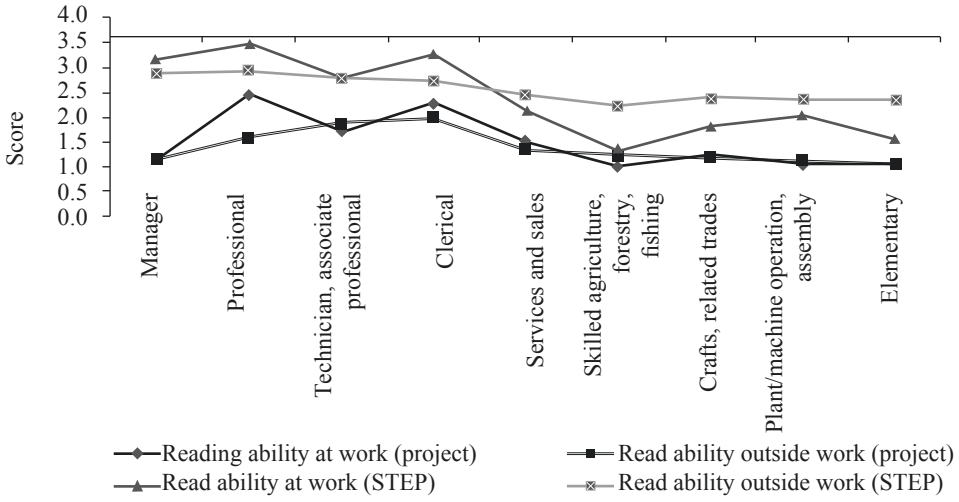
People accumulate basic listening, speaking, reading and writing skills in work and life after leaving formal education. The STEP survey of households (World Bank 2014) measured the cognitive and non-cognitive skills of Lao workers directly[5] (personal traits) and found that numeracy skills are the most used among the cognitive skills in daily work and life (World Bank 2014). These skills are accumulated dynamically and need to be used frequently, maintained and strengthened to adapt to technical and structural changes in the economy.

After detailing reading and writing skills, investigating their degree of use in work and life and comparing project data and STEP survey data, it was found that Lao workers' average use of reading skills in work was 1.5 (on a scale of 1 to 7 where 7 represents the highest use and 1 the lowest) or, after

[5] According to the STEP survey, people finishing primary education have basic word recognition skills; however, they rarely use the skill. Approximately 60 percent of the interviewees failed the reading comprehension test or were unable to understand the texts.

sampling weight, 0.61 in the STEP survey. If the pass mark is 60 (out of a full score of 100), the average degree of use of reading skills is expected to be 4.2. However, it was only 2.1 among Lao workers, much lower than the pass mark and almost half of the average score of 3.36 obtained in the O*NET test. We can therefore assume that Lao workers have low reading skills at work. According to ISCO-08 (International Standard Classification of Occupations), the use of reading skills in and out of work by Lao workers in Chinese firms was a little lower than the result in the STEP survey, which is more concerned with managers, professionals and technicians. Almost all senior managers and senior technicians in Chinese firms are recruited from China (Figure 11.4).

Figure 11.4: Reading ability scores of Lao workers in Chinese firms and STEP survey by occupation

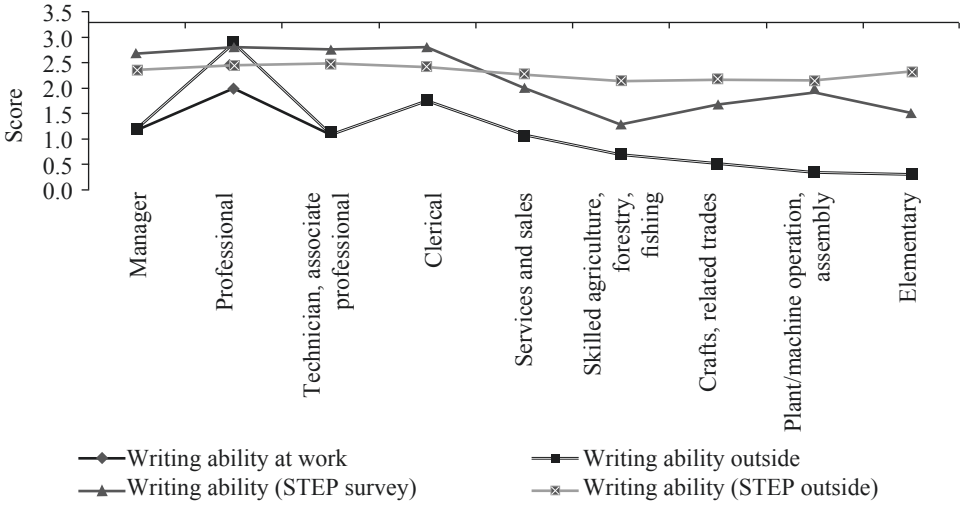



Note: The blue horizontal line refers to the average score obtained in the O*NET reading skill test.
Source: O*NET OnLine (www.onetonline.org/)

The average degree of use of writing skills by Lao workers in Chinese firms was 0.9 in work and 1.27 out of work.[6] These were 1.81 and 2.22, respectively, in the STEP survey or 3.28 in the O*NET test. The use of writing skills by Lao workers in Chinese firms was very low: only half of the figure in the STEP survey or one fourth of that in the O*NET test. The low use of writing skills is common among Lao workers in Chinese firms: both professionals and Lao workers of other occupations (including management) do not fill out many forms or reports at work (Figure 11.5).

[6] The scale is same as for STEP and O*NET: the lowest score is 1 and the highest is 7.

Figure 11.5: Writing ability scores of Lao workers in Chinese firms and STEP survey by occupation




Notes: The blue horizontal line refers to average obtained in the O*NET writing skill test.

The project team also tested Lao workers' memory and numeracy skills and their use of numeracy skills. As shown in Table 11.3, out of a possible score of 100, the mean memory test score was lower than 60 in the first test. Some specific articles or events can be memorised without careful observation, but generally speaking, things can be better memorised if they are observed carefully and for a long time. The memory tests conducted by the project team could indicate to some extent the level of Lao workers' attention or concentration. Suppose the average score for attention was 60. The attention scores of Lao workers (including managers, professionals and technicians) were lower than that but high enough to suggest potential for improvement. On the other hand, numeracy test scores were too low: the mean score for all the Lao workers tested was 23.49 points. Production workers and machine operators/assembly workers had scores of 8.42 and 15.83, respectively. Clerical workers and skilled farming, forestry and fishing workers had the highest scores, at 41.05 and 40.00 points, respectively. To our surprise, the numeracy scores of managers and professionals were 32.00 and 38.18 points, respectively. According to the World Bank Skills Survey, among all basic cognitive skills, numeracy is the most commonly used at home and work by people of all educational levels.

Table 11.3: Memory and numeracy skill test scores for Lao workers in Chinese firms

| Occupation | Memory 1 | Memory 2 | Numeracy |
|---|---|---|---|
| Manager | 47.50 | 47.50 | 32.00 |
| Professional | 53.81 | 56.88 | 38.18 |
| Technician and associate professional | 39.57 | 43.57 | 26.45 |
| Clerical support worker | 56.44 | 57.78 | 41.05 |
| Services and sales worker | 46.05 | 50.77 | 20.00 |
| Skilled agricultural, forestry and fishery worker | 55.00 | 55.00 | 40.00 |
| Craft and related trades worker | 41.10 | 43.95 | 27.90 |
| Plant/machine operator and assembler | 39.27 | 42.61 | 15.83 |
| Production workers | 33.38 | 38.00 | 8.42 |
| Mean | 42.82 | 46.39 | 23.49 |

Notes: The highest possible score is 100. Participants took two memory tests with an interval of five minutes.
Source: Authors' preparation using survey data

Combining the skill levels and the occupation classifications of Lao workers and calculating the results according to the occupational status scores, 61.85 percent of the workers interviewed work at jobs with the score below 50, and 68.5 percent of them worked at the jobs with the score below 50 in their last jobs; thus most Lao workers are at the occupational bottom. Comparing their occupational status in Chinese firms with their last jobs, the occupational status of about 23.16 percent of Lao workers had risen, while that of about 54.45 percent of Lao workers had fallen.

In sum, the average reading, writing and numeracy skills of Lao workers in Chinese firms is lower than the international average and the average in the World Bank Labour Market Survey in Laos; the average reading, writing and numeracy skills of Lao managers and professionals are only slightly higher than those of general workers. There are four possible reasons. First, the surveyed Chinese firms are new on the Lao market, with an average history of 7.64 years. Only 10 of the 43 firms had been established for more than 10 years. As new investors, they tend to have new employees. Second, in recent years Chinese firms have been investing in labour-intensive manufacturing and services, so our survey aimed at studying the skills of Lao workers in those industries. Third, Chinese firms and the samples in our survey are mainly located to the north of Vientiane, which is a largely mountainous area where educational levels are generally low (for example, the people in

Luangnamtha have only completed 6.5 years of education on average[7]). Thus, our survey covered those at the tail end of the cognitive distribution of the total population, meaning skill acquisition is lower than the national average. Fourth, our survey may have test errors because the skill tests were not done strictly within the specified test methods.

### *11.5.2.2 Distribution of non-cognitive abilities among Lao workers in Chinese firms: advantages*

The cognitive skills of Lao workers in Chinese firms are generally low, posing a constraint on production efficiency. Because it is difficult to improve cognitive skills in a short time, this represents a human resource shortage. Non-cognitive ability plays a more important role than cognitive ability in determining occupation and social status. Heckman and Lochner (2006) found that non-cognitive ability was easier to train than cognitive ability. At the same time, more and more studies have found that cognitive ability plays a significant part in determining economic and social success. Non-cognitive ability is critical for workers to adapt to the environment and to perform tasks with a more professional attitude. Many studies have found a clear relationship between employment, career status and non-cognitive ability. In the long run, comparing the soft skills of non-cognitive ability with the hard skills of cognitive ability, improvement of non-cognitive skills can compensate for the loss of efficiency caused by lack of cognitive skills and can promote the production efficiency of firms through their direct impact on labour productivity and on education and work experience.

Non-cognitive ability is usually divided into big five personality[8] traits in the literature. In the project survey, traits are measured on a scale of 1 (the least frequently used in work) to 5 (the most frequently used). A person's job performance can be determined by status and personality factors. The working environment is an example of status. A person's actions and reactions to specific circumstances at work, including resourcefulness, dealing with problems, ability to fulfil tasks and getting along with others are factors

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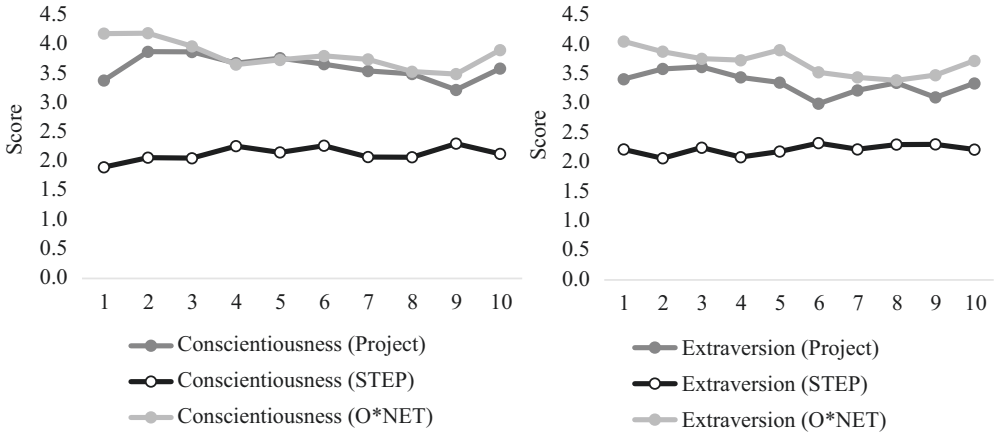
7 Calculated by the project team based on STEP survey data (Carpio, Ikeda and Zini 2013).

8 The "big five personality" model of McCrae and Costa (1997) includes five personal traits: emotional stability, extraversion, openness, agreeableness and conscientiousness. These traits are independent stable behaviour patterns or tendencies. Neuroticism is the tendency to experience negative emotions such as anxiety, depression and anger; extraversion refers to higher vigour, self-confidence and social behaviour; openness represents participation in intellectual activities and preference for new ideas and experiences; agreeableness includes friendliness, consideration, modesty and other behaviours; conscientiousness is related to effectiveness, determination, responsibility and persistence (Chamorro-Premuzic and Furnham 2004).

related to the person's personality (Boshoff and Arnolds 1995). Studies in the United States and Europe show that conscientiousness is the best predictor of job performance (Salgado 1997). Other studies emphasise extraversion and conscientiousness as predictors of job success in different occupational categories. Although conscientiousness is often taken as a good predictor, the relationship among other the big five traits still cannot be clearly defined and discussed.

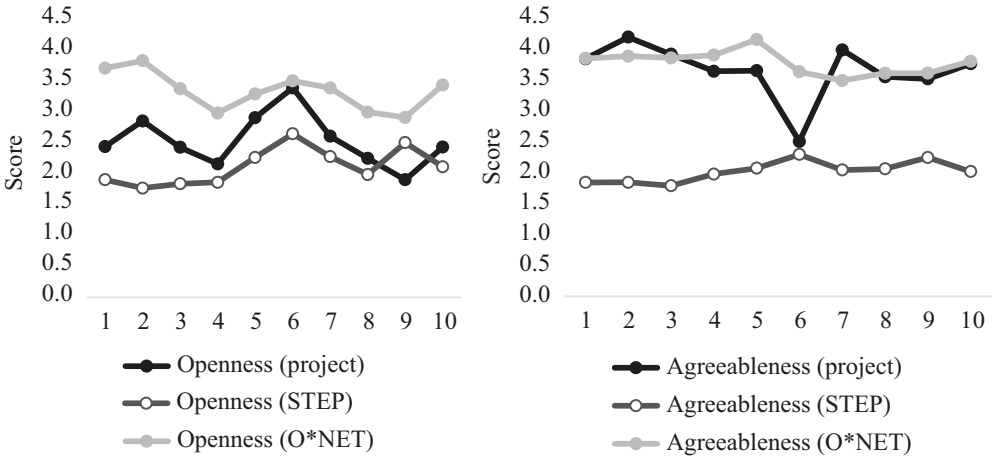
Conscientiousness refers to self-control. It is associated with dependability, being careful, thorough, responsible, organised and resourceful. A conscientious person is focused on achieving a goal, making such an employee indispensable or important. The conscientiousness score of Lao workers in Chinese firms is much higher than that in the World Bank Laos Household Survey and is close to the O*NET standard, except for managers, whose score is slightly lower. As shown in Figure 11.6, the conscientiousness score of Lao workers in Chinese firms is 3–4 on the whole. The conscientiousness of Lao workers with a tertiary degree is slightly higher (mean value is 4.1), but there is no significant difference with conscientiousness of other educational backgrounds (the mean value is 3.3–3.8).

Figure 11.6: Non-cognitive ability scores of workers




Extraversion usually refers to sociality, self-confidence and being easy going. An extraverted person shows a positive outlook and consequently produces positive results. Therefore, some researchers believe that this trait is most suitable for managers and customer service suppliers who must motivate others. The extraversion score of Lao workers in Chinese firms is higher than the survey result of STEP, but slightly lower than the O*NET result, especially in service and sales occupations.

Figure 11.7: Non-cognitive ability scores of workers

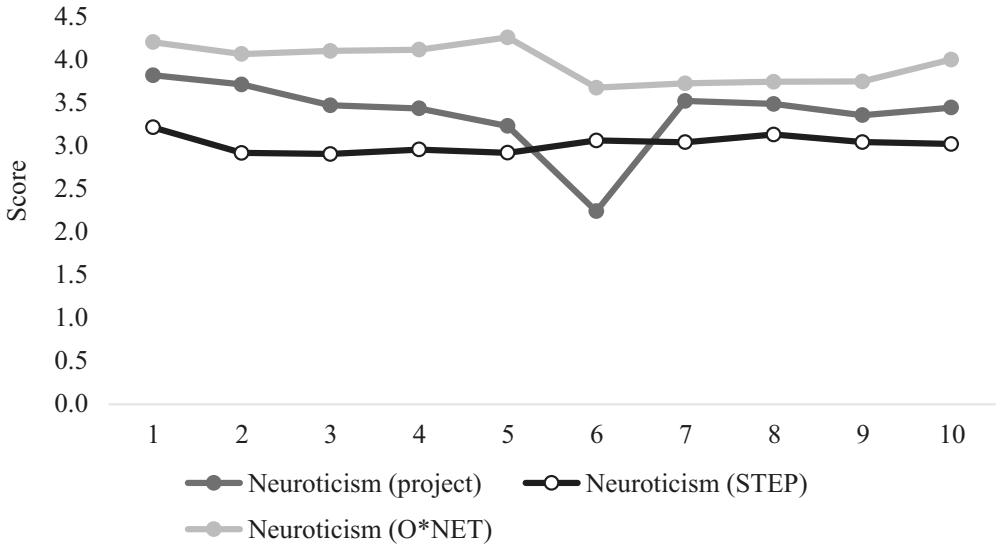



A person who is open to new experiences and ideas is often associated with innovativeness. Openness is defined as a thirst for knowledge. An open person is interested in change, willing to try new things and welcomes change. The relationship between openness and individual success is mixed. Johnson (1997) and other studies have found that successful employees have lower scores for openness. On the other hand, some studies have found that openness plays a role in personal success in specific occupations (e.g. as a coach) (Vinchur et al. 1998). People in manufacturing and agriculture, for example, especially those who engage in repetitive, low-skilled jobs, may not face as much change as those in services. As shown in Figure 11.7, the overall openness score of Lao workers in Chinese firms is higher than the STEP and lower than the O*NET results. The openness score of service and sales staff, skilled workers in agriculture, forestry, animal husbandry and fishing, technical and industrial workers is high; the openness score of other occupations is not very different from, and the score of production workers is lower than, the STEP result.

Agreeableness shows friendliness and considerateness. An amiable person is sympathetic and willing to help others, accepts others and believes they have good intentions; on the other hand, an unfriendly person may be suspicious of others' opinions and intentions. Some studies have found that because easygoing people prefer to cooperate rather than compete, they are advantageous members in a team and can succeed in team-oriented tasks and environments (Judge et al. 1999). As shown in Figure 11.7, the agreeableness of Lao workers in Chinese firms basically coincides with the O*NET result and is much higher than the STEP result. Except for skilled workers in agriculture, forestry, animal husbandry and fishing, the agreeableness of Lao workers is

high. Only two observed values for skilled workers in agriculture, forestry, animal husbandry and fishing in the project survey are not representative. Employees high in agreeableness help to create a good working atmosphere and promote a firm's production efficiency.

Figure 11.8: Non-cognitive ability scores of workers




Note : 1= manager, 2=professional, 3=technician/associate professional, 4=clerical worker, 5=services/sales worker, 6=skilled agricultural/forestry/fishery worker，7=crafts/trades worker，8=plant/machine operator and assembler, 9=elementary，10=sample mean.

Finally, the emotional stability of Lao workers in Chinese firms is better than the STEP result and slightly lower than the O*NET result, similarly to the distribution of other non-cognitive skills.

### *11.5.3 Analysis of skills mismatch in Chinese firms: shortage or surplus?*

The educational attainments and educational level required for Lao employees in Chinese firms are obviously mismatched. According to their self-evaluations, 63.32 percent of workers' education exceeded the requirements of their current job, 12.36 percent believed their educational levels did not meet requirements, and 24.32 percent believed their education met requirements. According to the Chinese firms, 56.76 percent of employees were overeducated, 39.38 percent were undereducated, and only 3.86 percent were match-educated. However, according to O*NET, 56.69 percent of Lao employees in Chinese firms were match-educated, 31.50 percent were undereducated and only 11.81 percent were overeducated (Table 11.4).

Compared with the O*NET study, in Chinese firms, both managers and employees overestimated the overeducation of Lao employees by 20 to 30 percent and underestimated the mismatch between educational levels and educational requirements; Lao employees underestimated their undereducation by 19.14 percent. However, Chinese firms realised the undereducation of their Lao employees and their estimate was close to the O*NET figure. Thus, Chinese firms overestimated the educational levels of their Lao employees, and the Lao employees overestimated their educational levels. These misunderstandings have two possible reasons. One is described in World Bank (2014, x): "One reason for skill shortage and mismatch of the labours in Laos is that there were no enough workers with a higher educational level and the labours finishing occupational education or higher education do not acquire the skills that the firm required [sic]". Another reason is that managers of Chinese firms were not aware of the education needed by employees; in other words, HR managers of Chinese firms, particularly SMEs, were incompetent.

Table 11.4: Educational mismatch results based on different estimation methods

| Mismatch type | Self-reported | | Firms' estimate | | O*NET estimate | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| Undereducated | 32 | 12.36 | 102 | 39.38 | 80 | 31.50 |
| Matched | 63 | 24.32 | 10 | 3.86 | 144 | 56.69 |
| Overeducated | 164 | 63.32 | 147 | 56.76 | 30 | 11.81 |

Source: Authors' preparation using survey data

### *11.5.4 Structure of skill shortage*

#### *11.5.4.1 Cognitive skill mismatch*

It is difficult to judge whether an individual has a skills deficiency or surplus. The key is to select an appropriate criterion of comparison. In this project, the expected value for an occupational skill is the sum or difference between the use of the skill according to the O*NET criterion and a standard deviation. Compared with the expected values, reading, writing and numeracy skills all had a large percentage of mismatch. Shortage is the main form (Table 11.5).[9] Even when the skill mismatch of the Lao employees was measured with the looser O*NET criterion, skills shortage, particularly of reading and writing, was the greatest problem. One reason for shortage of the three skills was that

[9] Each standard value was added or deducted by a matching interval of a standard deviation in the comparison in the project. Even with this method, Lao employees have large skill gaps compared to O*NET standards.

137 Lao interviewed employees had not used these skills in their work, 65 percent of them being manual workers.

Table 11.5: Mismatch of use of skills tested with O*NET criterion

| Mismatch type | Reading | | Writing | | Numeracy | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| Under-skilled | 231 | 90.94 | 222 | 87.40 | 190 | 74.80 |
| Matched | 3 | 1.18 | 9 | 3.54 | 26 | 10.24 |
| Over-skilled | 20 | 7.87 | 23 | 9.06 | 38 | 14.96 |

Source: Authors' preparation using survey data

Lao employees' understanding of skills depends on skill usage. Work skills are classified as either "not used or used little" or "used frequently". The significance of skills was underestimated or overestimated according to how much they used them (Table 11.6).

Table 11.6: Use of skills in work and understanding of their significance (percent)

| | Reading | | | Writing | | | Numeracy | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mismatch | Under-estimated | Over-estimated | Mismatch | Under-estimated | Over-estimated | Mismatch | Under-estimated | Over-estimated |
| Not used or used little | 74.52 | 38.22 | 36.29 | 77.99 | 33.59 | 44.40 | 83.78 | 63.71 | 20.08 |
| Used frequently | 12.74 | 6.56 | 6.18 | 13.51 | 5.02 | 8.49 | 16.22 | 3.86 | 12.36 |

Source: Authors' preparation using survey data

### *11.5.4.2 Non-cognitive skill mismatch*

The results of non-cognitive skills mismatch calculated for the big five traits are shown by the three criteria in Table 11.7. First, comparing the three criteria, the matching of non-cognitive ability of Lao workers is higher in the similar results of the self-reported and O*NET criteria than in the Lao household survey. This confirms that the non-cognitive ability of Lao workers in Chinese firms is generally higher than the average level in Laos and closer to international criteria. The following judgments are based on a comparison between the self-reported standard and the O*NET criterion.

Second, the matching of conscientiousness and extraversion is basically consistent between the two criteria, and the matching ratio is high. Thus a

preliminary judgment can be made that the conscientiousness and extraversion of Lao workers in Chinese firms are mostly in line with their occupations. For openness, agreeableness and emotional stability, self-reported matched skill is higher than for the O*NET criterion, possibly reflecting subjective overestimation in self-reporting.

Third, the estimates of overmatched skills may indicate that Lao workers in Chinese firms overestimate their non-cognitive abilities. The result of the O*NET criterion shows a shortage in Lao workers' openness and emotional stability.

Table 11.7: Matching of non-cognitive ability of Lao workers in Chinese firms

| Non-cognitive ability | Measure | Undermatched | Matched | Overmatched | Undermatched | Matched | Overmatched |
|---|---|---|---|---|---|---|---|
| | | Number | | | % | | |
| Openness | Self-reported | 58 | 162 | 39 | 22.39 | 62.55 | 15.06 |
| | STEP | 111 | 92 | 56 | 42.86 | 35.52 | 21.62 |
| | O*NET | 124 | 94 | 41 | 47.88 | 36.29 | 15.83 |
| Conscientiousness | Self-reported | 46 | 166 | 47 | 17.76 | 64.09 | 18.15 |
| | STEP | 17 | 96 | 146 | 6.56 | 37.07 | 56.37 |
| | O*NET | 73 | 153 | 33 | 28.19 | 59.07 | 12.74 |
| Extraversion | Self-reported | 39 | 180 | 40 | 15.06 | 69.50 | 15.44 |
| | STEP | 13 | 129 | 117 | 5.02 | 49.81 | 45.17 |
| | O*NET | 65 | 177 | 17 | 25.10 | 68.34 | 6.56 |
| Agreeableness | Self-reported | 25 | 189 | 45 | 9.65 | 72.97 | 17.37 |
| | STEP | 17 | 93 | 149 | 6.56 | 35.91 | 57.53 |
| | O*NET | 65 | 110 | 17 | 25.10 | 42.47 | 6.56 |
| Emotional stability | Self-reported | 31 | 177 | 51 | 11.97 | 68.34 | 19.69 |
| | STEP | 56 | 136 | 67 | 21.62 | 52.51 | 25.87 |
| | O*NET | 121 | 88 | 50 | 46.72 | 33.98 | 19.31 |

Source: Authors' preparation using survey data

### *11.5.5 Effect of skill shortages on Lao workers' income*

The analysis in Section 4.3 shows that skills shortage is a common problem for Lao workers in Chinese firms, which need to understand what effects will follow. This part tests the effects on incomes of Lao workers using the project survey data.

### *11.5.5.1 Effects of education mismatch on income*

Studies have focused on income loss due to overmatched education or skills in developed countries. In a developing country like Laos, undermatched education or skills can have far greater effects. Perry, Wiederhold and Ackermann-Piek (2014) claimed that the income of underskilled workers could increase due to pay premium or decrease due to wage punishment. This conclusion does not apply to developing countries, but whether skills are matched is a decisive factor for wages in all economic entities. This part compares educational level and cognitive skills in the project survey with those required by the O*NET criterion and calculates the degree of overmatched and undermatched education/skills.

First, education mismatch can affect income, as shown in Table 11.8. Model 1, which considers only the effects of education and experience, shows that the number of years of completed education does not have a significant impact on the wage of Lao workers in Chinese firms, while experience has a significant impact, which conforms to the characteristics of an inverted U curve. After considering education mismatch, experience still has a great impact on income. Education still has no significant impact on income, but unlike the findings for other countries, overmatched or undermatched education has no significant impact.

Table 11.8: Effects of education mismatch on workers' incomes dependent variable: Ln (Wage

| | Model 1<br>Baseline | Model 2<br>Education mismatch |
|---|---|---|
| Undereducation | - | -0.221 |
| | | (0.175) |
| Overeducation | - | -0.135 |
| | | (0.215) |
| Schooling | 0.02629 | 0.0168 |
| | (0.0168) | (0.0210) |
| Experience | 0.046764** | 0.0447* |
| | (0.02316) | (0.0243) |
| Experience squared | -.00106*** | -0.00101** |
| | (0.00048) | (0.000415) |
| Constant | 7.5156*** | 7.778*** |
| | (0.4301) | (0.577) |
| Observations | 236 | 236 |
| R-squared | 0.114 | 0.145 |

Notes: We control for gender, marital status, insurance and country. Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

### *11.5.5.2 Effect of cognitive skills mismatch on income*

The effects of cognitive ability mismatch on income are shown in Table 11.9. Considering that strong reading ability is often related to good writing ability but is rarely related to numeracy, we introduced mismatched reading ability and writing ability in Model 3 and Model 4. As shown, overskilled numeracy has significantly positive effects on Lao workers in Chinese firms in both models, while underskilled numeracy has no significant impact. In other words, workers with good numeracy can have a higher income but reading ability has no significant impact. The results for Models 3 and 4 indicate that the income of workers under-skilled in reading decreases by 77.1 percent and of workers underskilled in writing decreases 28.1 percent. Experience still has significant effects.

Table 11.9: Effects of skill mismatch on workers' incomes

| | Model 3 | Model 4 |
|---|---|---|
| | Skill mismatch | Skill mismatch |
| Dependent variable | Ln(Wage) | |
| Under-skilled numeracy | 0.0418 | 0.00115 |
| | (0.177) | (0.182) |
| Overskilled numeracy | 0.476* | 0.447* |
| | (0.256) | (0.261) |
| Underskilled reading | -0.771*** | - |
| | (0.206) | |
| Overskilled reading | -0.0888 | - |
| | (0.249) | |
| Underskilled writing | - | -0.281* |
| | | (0.169) |
| Overskilled writing | - | 0.306 |
| | | (0.195) |
| Schooling | 0.0290 | 0.0255 |
| | (0.0199) | (0.0197) |
| Experience | 0.0512*** | 0.0592*** |
| | (0.0155) | (0.0146) |
| Experience squared | -0.00103*** | -0.00123*** |
| | (0.000306) | (0.000283) |
| Constant | 7.462*** | 6.900*** |
| | (0.397) | (0.323) |
| Observations | 234 | 234 |
| R-squared | 0.113 | 0.126 |

Notes: We control for gender, marriage, insurance, and country. Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

An obvious inverted U-shape relationship exists between experience and labour income, which is different from the experience and research of developed countries. In China-funded enterprises in Laos, the level and mismatched education of Lao workers have no significant impact on income. Cognitive ability mismatch can largely affect income, and better numeracy can bring higher income although underskilled numeracy has no impact on earning ability, while underskilled reading and writing will reduce Lao workers' incomes, reading playing a more important role. A possible explanation is that employees who can understand forms and financial statements used in a firm's production and operation will have a higher income.

*11.5.5.3 Effects of non-cognitive skill mismatch on income*

The impact of non-cognitive ability mismatch on Lao workers' incomes is shown in Table 11.10. The impact of education on income is still unremarkable, and, similarly, the impact of experience on income is still significant. The impact of the non-cognitive ability mismatch on Lao workers' income is mostly not significant, except that excessive openness has a significant negative impact at the 10 percent level, the income level of Lao workers with excessive openness is lower by about 37.7 percent.

Table 11.10: The impact of skill mismatch on Lao workers' income: non-cognitive ability mismatch

| Variable | Model 5 |
|---|---|
| Dependent variable | Ln(Wage) |
| Insufficient openness | -0.0135 |
| | (0.147) |
| Excessive openness | -0.377* |
| | (0.204) |
| Insufficient conscientiousness | -0.0859 |
| | (0.175) |
| Excessive conscientiousness | 0.275 |
| | (0.225) |
| Insufficient extraversion | 0.117 |
| | (0.172) |
| Excessive extraversion | 0.214 |
| | (0.372) |
| Insufficient agreeableness | -0.172 |
| | (0.157) |
| Excessive agreeableness | 0.0272 |
| | (0.172) |

| | |
|---|---|
| Insufficient emotional stability | -0.00942 |
| | (0.150) |
| Excessive emotional stability | -0.199 |
| | (0.198) |
| Education level | 0.0473 |
| | (0.0280) |
| Experience | 0.0523*** |
| | (0.0155) |
| Experience squared | -0.00102*** |
| | (0.000312) |
| Constant term | 6.748*** |
| | (0.317) |
| Sample size | 236 |
| $R^2$ | 0.089 |

Note: The model controls for gender, marriage, region and other variables. The standard deviation is in brackets. *** p<0.01, ** p<0.05, * p<0.1.

## 11.6 Conclusion

Although there is a long history of investment and trade between Chinese and Lao firms, most investments have been made in the past 10 years. Rapidly growing investment from Chinese firms not only plays a key role in the economic growth of Laos but, along with other foreign investment, has also become a major driving force of economic structural transformation. Chinese firms face many problems while they are profiting from their investments, enhancing local employment and promoting local workers' incomes. The first difficulty concerns workers' skills. As pinpointed by the World Bank in Lao Development 2014, the first issue Laos faces in economic development is to develop and skill its labour force. Inevitably, the efficiency of Chinese firms in Laos is directly affected by this labour issue.

In August 2016, this project collected data from 259 Lao workers in 43 Chinese firms on skill deficiency and interviewed 6 companies' executive managers in five provinces. The following are the findings from the survey data:

1. Chinese firms try to realise full local employment. Lao workers are the main labour source of Chinese firms. Chinese firms are considering hiring or training middle and senior managers or professional technicians from Laos, but this needs to be further improved.

2. Chinese firms have engaged in a variety of employee training, but the effect is not satisfactory. Lao workers have poor education and low skills, and their enthusiasm for training is not high. Furthermore, high employee turnover has led to higher training costs and more difficulties in improving the overall skill level of Lao workers.
3. Lao workers' educational level tends to be overestimated by Chinese firms and Lao workers. Lao workers in Chinese firms are underskilled, and few Lao workers realise the low level of their education.
4. The cognitive ability of Lao workers is seriously low, especially in reading, writing and numeracy. Memory and numeracy tests for Lao workers in Chinese firms show that attention and mathematical logic are all below average. It is difficult to improve cognitive ability through enterprise training;
5. Non-cognitive abilities, especially conscientiousness and extraversion, are Lao workers' advantages, and Chinese firms need to optimise this advantage; however, a lack of openness and emotional stability are common problems for Lao workers. Team spirit (agreeableness) is not only most needed in Chinese firms, but also a common ability of Lao workers.
6. Skill deficiency directly affects the incomes of Lao workers. Deficient cognitive ability directly reduces workers' incomes, and the impact of illiteracy is more prominent. Excessive openness may reduce incomes of Lao workers in Chinese firms, while other non-cognitive abilities have no significant impact on income.
7. Education level has no significant effect on income in our samples, which is not in line with the Mincer equation. On the other hand, experience has significant effect on incomes, which is in line with the Mincer equation.

Lao employees in the Chinese firms surveyed cannot meet the educational levels and occupational skills that the firms have formulated in recruitment. One important reason is that most of them do not finish compulsory schooling. This means that Chinese firms have a long way to go to improve the currently low occupational skills of their Lao employees. Compared with foreign-funded enterprises in developed countries and emerging economies, the foreign-funded enterprises in Laos need to improve vigorously the cognitive and work skills of their Lao employees. Therefore, Chinese firms need to pinpoint the skill requirements for different industries, occupations and jobs and implement targeted flexible and detailed training policies.

First, an action effective in both the short and the long run against the skills deficiency of Lao employees is to employ a number of foreigners by stages. New foreign-funded enterprises need to increase moderately their

foreign technical employees, particularly skilled technicians and production workers. One-to-one on-site training is feasible for solving skills deficiency in the short term. To make this policy effective in the long term, the foreign employees can be reduced year by year until the maximum percentage of foreign employees specified in foreign investment law is reached. Coupled with "learning by doing" assisted by foreign employees, this method could solve skills deficiencies of Lao employees and improve their cognitive and work skills. Further more, it could solve skills deficiencies in the labour market in the short run and guarantee sustainable development for foreign-funded enterprises in the long run.

Second, reducing or eliminating the barriers to skill acquisition and skill upgrading of Lao workers is a must for the long-term sustainable development of Chinese firms.

Moreover, the Lao government, Chinese firms and local training institutions should optimise the skills Lao workers already process. Although the project survey focused on Lao workers' skills, it was also obvious that the managers of Chinese firms were making the most of current workforce skills. The project team observed in some medium and small firms that efficiency was low and the management slack, lacking detailed and effective human resources management. Chinese firms need more worker-oriented management as they could curb turnover rates by drawing on Loa workers.

Finally, strengthening international cooperation in the area of skill policies should be a win-win situation for Chinese and Laos firms. Although the cognitive ability of Lao workers is insufficient, their work attitude is highly conscientious. The low level of cognitive abilities is mainly due to the lack of opportunities in the national education system, so Chinese firms should cooperate with the vocational schools and parent firms' human resources departments in China to provide more on-the-job training in professional skills.

This project is the first to collect matching data between overseas Chinese firms and their employees. Due to sampling difficulties, language barriers, accommodation of the firms and other limitations, there are discrepancies between the datasets obtained and our original research design, such as the sample size, the quality of datasets and the depth of problems that could be probed. During the survey, some firms refused to provide information about skill requirements; some firms and workers worried about the survey slowing down production and were reluctant to take part in time-consuming surveys. All these factors make it difficult to develop further analysis. These limitations will be dealt with in future research with more consideration of investigation sampling, questionnaire design and other factors.

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## Annex

Table A1: Glossary of some skill mismatch terms

| | |
|---|---|
| Overeducation | A situation in which an individual has more education than the current job requires. |
| Undereducation | A situation in which an individual has less education than the current job requires. |
| Overskilling | A situation in which an individual is not able to fully utilise his or her skills and abilities in the current job. |
| Underskilling | A situation in which an individual lacks the skills and abilities necessary to perform on the current job to acceptable standards. |
| Skill shortage | A situation in which the demand for a particular type of skill exceeds the supply of available people with that skill |
| Skill surplus | A situation in which the supply of available people with a particular skill exceeds the demand for it. |
| Skill gap | A situation in which the level of skills possessed by those currently employed is less than that required to adequately perform the job or the type of skill does not match the requirements of the job. |
| Economic skills obsolescence | A situation in which skills previously utilised in a job are no longer required or have diminished in importance. |

Source: Cedefop (2010, 13)

Table A2: Sampling frame for the survey of Chinese firms by workforce size

| | Small (10–19) | Medium (20–99) | Large (>100) | Total |
|---|---|---|---|---|
| Agriculture | 0 | 1 | 1 | 2 |
| Mining | 0 | 1 | 1 | 2 |
| Industry | 5 | 15 | 7 | 27 |
| Services | 5 | 5 | 2 | 12 |
| Total | 10 | 22 | 11 | 43 |

Source: Authors' preparation

Table A3: Composition of interviewees by occupation

| Occupation | Project survey (Chinese firms) | | STEP study (2012) | |
|---|---|---|---|---|
| | Number | % | Number | % |
| Manager | 6 | 2.32 | 71 | 2.95 |
| Professional | 33 | 12.74 | 114 | 4.73 |
| Technician and associate professional | 32 | 12.36 | 92 | 3.82 |
| Clerical support | 19 | 7.34 | 38 | 1.58 |
| Services and sales | 39 | 15.06 | 521 | 21.64 |
| Skilled agricultural, forestry and fishery | 2 | 0.77 | 1,076 | 44.68 |
| Crafts and related trades | 43 | 16.60 | 210 | 8.72 |
| Plant and machine operation and assembly | 24 | 9.27 | 47 | 1.95 |
| Elementary occupation | 61 | 23.55 | 239 | 9.93 |
| Total | 259 | 100.00 | 2,408 | 100.00 |

Source: Authors' preparation using survey data and STEP 2012

Table A4: Workforce composition in the 43 surveyed Chinese firms, by workforce size (percent)

| Firm size | | Total workforce | Manager | Administrator | Technician | Sales person | Production worker | Qualified production worker | Other | Female |
|---|---|---|---|---|---|---|---|---|---|---|
| Small (<20) | Total employees | 100.00 | 14.57 | 8.61 | 16.56 | 11.92 | 37.75 | 3.31 | 7.28 | 25.17 |
| | Lao employees | 56.95 | 3.49 | 10.47 | 9.30 | 4.65 | 60.47 | 5.81 | 5.81 | 27.91 |
| | Foreign employees | 43.05 | 34.55 | 7.27 | 30.91 | 25.45 | 0.00 | 0.00 | 1.82 | 14.55 |
| Medium (20–99) | Total employees | 100.00 | 10.40 | 4.03 | 10.93 | 6.05 | 62.00 | 1.59 | 4.78 | 50.11 |
| | Lao employees | 75.58 | 1.97 | 5.02 | 2.25 | 3.79 | 79.21 | 1.83 | 5.90 | 61.80 |
| | Foreign employees | 24.42 | 36.52 | 9.57 | 36.96 | 13.04 | 1.74 | 0.87 | 1.30 | 18.26 |
| Large (>100) | Total employees | 100.00 | 4.56 | 8.53 | 4.98 | 3.34 | 69.92 | 9.30 | 4.47 | 38.04 |
| | Lao employees | 89.62 | 1.23 | 8.02 | 3.76 | 3.36 | 69.62 | 10.15 | 3.86 | 41.05 |
| | Foreign employees | 10.38 | 33.33 | 12.93 | 15.52 | 3.16 | 1.84 | 3.45 | 9.77 | 12.65 |

Note: small firms n=10; medium firms n=22, large firms n=11.
Source: Authors' compilation using survey data

## List of GMS-Net publications

GMS-Net 9b: *Health and Education in the Greater Mekong Subregion: Policies, Institutions and Practices* (2015)

GMS-Net 9a: *Inclusive Development in the Greater Mekong Subregion: An Assessment* (2014)

GMS-Net 8: *Assessing China's Impact on Poverty Reduction In the Greater Mekong Subregion* (2013)

GMS-Net 7: *Agricultural Trade in the Greater Mekong SubRegion* (2012)

GMS-Net 6: *Cost and Benefits of Cross-Country Labour Migration in the GMS* (2012)

GMS-Net 5: *Pro-Poor Tourism in the Greater Mekong SubRegion* (2007)

GMS-Net 4: *The Cross Border Economies of Cambodia, Laos, Thailand and Vietnam* (2005)

GMS-Net 3: *Off-farm and Non-farm Employment in Southeast Asian Transitional Economies and Thailand* (2003)

GMS-Net 2: *Labour Markets in Transitional Economies in Southeast Asia and Thailand: A Study in Four Countries* (2001)

GMS-Net 1: *Impact of the Asian Financial Crisis On the Southeast Asian Transitional Economies* (1999)

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