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; β is a ($k \times 1$) vector of unknown parameters capturing the effect of various covariates on the natural log wage rate (W); μ 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.

Acknowledgements

This research was carried out with financial and technical support from the Cambodia Development Resource Institute (CDRI) with funding from the government of Canada through the International Development Research Centre (IDRC). We thank Dr Philippe Doneys for comments and advice. We would like to express our gratitude to government officials from the Ministry of Planning and Investment, Ministry of Industry and Commerce and Ministry of Energy and Mines, as well as to several business leaders, for sharing their valuable views and inputs.

References

Asian Development Bank. 2016. *Key Indicators for Asia and the Pacific 2016*. Manila: ADB.

Asian Development Bank. 2017. *Basic Statistics 2017*. www.adb.org/publications/basic-statistics-2017.

Blinder, Alan S. 1973. "Wage Discrimination: Reduced Form and Structural Estimates." *Journal of Human Resources* 8 (4): 436–455.

D' Hoore, Alain W., Somneuk Davading and Keomanivone Phimmahasay. 2015. Lao PDR *Economic Monitor: Towards Restoring Macroeconomic Stability and Building Inclusive Growth*. Washington, DC: World Bank.

Food and Agriculture Organization. 2015. FAOSTAT Online Database. www.fao.org/faostat /en/#home.

Food and Agriculture Organization and Ministry of Agriculture and Forestry. 2010. *National Gender Profile of Agricultural Households*. www.fao.org/docrep/012/k8496e/k8496e 00.pdf.

Government of Laos and the United Nations. 2008. *Millennium Development Goals Progress Report Lao PDR 2008*. Vientiane. www.la.one.un.org/images/publications/MDG_ progress_report_2008_EN.pdf.

Government of Laos and the United Nations. 2010. *Accelerating Progress Towards the MDGs*. Vientiane.

LSB (Lao Statistics Bureau). 2003. *Expenditure and Consumption Survey 2002–2003*. Vientiane: Ministry of Planning and Investment.

LSB. 2009a. *Expenditure and Consumption Survey 2007–2008*. Vientiane: Ministry of Planning and Investment.

LSB. 2009b. *Statistical Year Book 2008*. Vientiane: Ministry of Planning and Investment.

LSB. 2012. *Labor Force Survey 2012.* Vientiane: Ministry of Planning and Investment.

LSB. 2013a. *Economic Census 2013*. Vientiane: Ministry of Planning and Investment.

LSB. 2013b. *Lao Expenditure and Consumption Survey 2012–2013*. Vientiane: Ministry of Planning and Investment.

LSB. 2016. *Results of the Population and Housing Census 2015*. Vientiane: Ministry of Planning and Investment. https://lao.unfpa.org/en/publications/results-population-and-housing-census-2015-english-version.

Mincer, Jacob. 1974. *Schooling, Experience, and Earnings*. New York: National Bureau of Economic Research and Columbia University Press.

Ministry of Agriculture and Forestry. 2014. *Lao Census of Agriculture 2010/11: Analysis of Selected Themes*. Vientiane: MAF.

Najdov, Evgenij, and Keomanivone Phimmahasay. 2016. *Lao PDR Economic Monitor – Challenges in Promoting More Inclusive Growth and Shared Prosperity*. Washington, DC: World Bank.

Oaxaca, Ronald. 1973. "Male-Female Wage Differentials in Urban Labor Markets." *International Economic Review* 14 (3): 693–709.

Onphandala, Phanhpakit, and Terukazu Suruga. 2006. *Education and Earnings in Lao PDR: Regional and Gender Differences.* GSICS Working Paper Series No. 4. Graduate School of International Cooperation Studies Kobe University.

Pham, Hung T., and Barry Reilly. 2007. *The Gender Pay Gap in Vietnam, 1993–2002: A Quantile Regression Approach*. MPRA Paper No. 6475. http://mpra.ub.uni-muenchen .de/6475/.

Scheaffer, Richard L., William Mendenhall and R. Lyman Ott. 1996. *Elementary Survey Sampling*. Fifth Edition. Belmont, CA: Duxbury Press.

SODA (Social Development Alliance Association). 2015. *Poverty in Lao PDR: Poverty, Gender and Ethnicity in Agriculture Sector in the Nam Ngum River Basin*. SODA Poverty Report. Vientiane: SODA.

United Nations Development Programme. 2001. *National Human Development Report Lao PDR 2001: Advancing Rural Development*. Vientiane: UNDP.

Verghis, Mathew, Alain W. D'Hoore, Richard Record, Keomanivone Phimmahasay, Somneuk Davading, Saysanith Vongviengkham, April Leah, et al. 2014. *Lao Economic Monitor: Managing Risks for Macroeconomic Stability*. Washington, DC: World Bank.

World Bank. 2012. Lao PDR – *Labor Standards and Productivity in the Garments Export Sector: A Survey of Managers and Workers*. Washington, DC: World Bank.

World Bank. 2014. *Poverty Profile in Lao PDR: Poverty Report for the Lao Consumption and Expenditure Survey 2012–2013*. Ministry of Planning and Investment, Lao Statistics Bureau.

World Bank. 2016. *Enterprise Surveys: Lao PDR Country Profile 2016 (English)*. Washington, DC: World Bank. http://documents.worldbank.org/curated/en/2146414827 31818886/Enterprise-surveys-Lao-PDR-country-profile-2016.

World Bank. 2017a. "Survey Methodology." Enterprise Surveys. www.enterprisesurveys.org/ Methodology.

World Bank. 2017b. *World Development Indicators 2017.*Washington, DC: World Bank. https://openknowledge.worldbank.org/handle/10986/2644.

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