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A Multi-Industry Study in Myanmar

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Abstract

This study analyses the effects of owner's gender on the gender composition of the firm's workforce by using the firm-level survey data (World Bank Enterprise Survey data) of Myanmar's firms. We find that gender of the owner strongly influences the gender composition of the firm's workforce. Female employers employ significantly more female workers even in the predominantly female-working industries. Most of the difference in the share of female employment in male-owned vs female-owned firms can be explained by covariates effects, specifically, if the firm is in garment industry, has female top-level manager, and is located in Yangon. The study also finds a significant association of having top-level female managers in the firms with employment of female workers especially when the owner is a male. Duflo (2012) states that women empowerment and economic development are strongly related possibly in both directions. Though our findings does not identify causation directly, it can still be interpreted that increasing female leaders will lead to women empowerment in Myanmar.

Keywords: gender equality, Myanmar, Blinder-Oaxaca decomposition

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1 Introduction

The purpose of this study is twofold. First, it identifies factors that are relevant in predicting the female employment shares for both female-owned and male-owned firms in Myanmar. Second, it aims to quantify the extent to which the gender gap in the labor force between Myanmar's female-owned and male-owned firms is explained by firm's and owner's characteristics to see if the gender of a firm's owner itself is essentially relevant factor for female employment in Myanmar. Our analysis finds inter-alia that female-owned firms in Myanmar employ more female workers than male-owned firms, and 96 percent of such difference in the share of female employment between male-owned and female-owned firms can be explained by the covariate effect, i.e., the firm's and owner's characteristics. Moreover, the study finds that having a top-level female manager has a positive and significant association with female labor market outcomes. As discussed by Duflo (2012), women empowerment and economic development are mutually related. Though our research design is not to identify causation, our findings suggest that increasing female leaders will lead to women empowerment in Myanmar.

Despite the implementation of education and gender equality-promoting programs globally, a gender gap still exists in labor markets across the world. In many countries, women have fewer employment opportunities and a higher chance of being unemployed, while they are also more likely to work in low-quality, low-paid professions than men. Moreover, the gender gap in developing countries in Asia is greater than those in other regions. Most Asian women either manage the household or work in low-paid jobs in the informal sector. Indeed, although average growth in the real GDP per capita of developing Asian countries was 5.6 percent from 1990 to 2014, female labor force participation in the region fell from 56 percent in 1990 to 49 percent in 2013 (Asian Development Bank, 2015).

After a long but successful political reform, Myanmar has become one of the world's fastest-growing economies under female leader, Daw Aung San Suu Kyi. Its real GDP growth rate was 7.2 percent in 2015 and it is estimated to reach 8.4 percent in 2016 (Asian Development Bank, 2016). However, such rapid economic development cannot be sustained if a country's inhabitants contribute unequally. In Myanmar, women who represent 50.7 percent of the total population, as discussed below, still contribute far less than men to the domestic economy as employees, employers, leaders, and stakeholders. Therefore, encouraging women to equally participate in the economy can enhance the momentum of economic growth in the country.

Many studies indeed found that employers often decide to employ whether male or female workers based on their own preferences or characteristics. In a comparative study of female-owned and male-owned businesses, Johnson and Storey (1994) found that female-owned businesses are smaller in size but provide a larger share of female employment than male-owned businesses. The analysis of female-led firms across countries by using the World Bank Enterprise Survey, Cirera and Qasim (2014) reported that female-led firms in 51 percent of the countries in the sample tend to have a larger share of female

workers than their male counterparts.

Becker (1971) noted that the discrimination can occur due to employees and customers even when there is no employer's discrimination. For example, some employees might be concerned about the race of their coworkers and customers might take into account the race and gender of the sellers. Discrimination is not only linked with the seeming characteristics such as sex and race but also the intangible characteristics such as human capital. In general, female workers have less investment in human capital than male workers. Mincer and Polacheck (1974) maintain that this differential in human capital investment attributable to female workers lead to fewer employment opportunities and lower earnings than male workers.

However, even among the equally skilled workers who are working in the same jobs, the differences in earnings and employment opportunities can occur due to the worker's physical characteristics such as race, gender, nationality and other physically irrelevant characteristics. These kinds of differences are known as labor market discrimination. In the theory of employer discrimination, Becker stated that even if female and male workers are perfectly substitutive in production, the discriminated hiring decision can occur due to employer's prejudice against female workers. Some studies of sociology and psychology (for example, Kanter 1977, Ferber and Huber 1975) found that both male and female have prejudice against female but male employers are more likely to discriminate against female workers. Carrington and Troske (1995) showed that there is a strong link between observable characteristics of firm's owner such as gender and education and the gender composition of the firm's workforce. Their results of empirical analysis proved that male owners have a relative preference for hiring male workers. And they also found that education of the firm's owner also strongly influenced on the gender composition of the firm's workforce; the more educated male owner tends to employ more female workers.

Therefore, the gender composition of the firm's workforce will be strongly influenced by the difference in gender-role attitudes or sex stereotypes of the employers. Female workers will be more concentrated in the less discriminated firms. Based on these studies, we can assume that the share of female employment will be lower in male-owned firms than female-owned firms. It is in this backdrop that this study focuses on employers' discriminatory behavior arising from their gender and its association with the gender composition of the firm's workforce. The study uses Blinder-Oaxaca decomposition to analyze the effect of owner's gender on the gender composition of the firms in Myanmar. We start by hypothesizing that the participation of female workers will be larger in female-owned firms than male-owned firms. We also inform how this kind of gender composition is explained by types of the owner and other relevant factors for causing this difference.

The remainder of this paper is organized as follows. In Section 2, the gender gap in Myanmar's labor markets in terms of the share of employees as well as firm ownership by industry is overviewed. Section 3 presents the source and context of data and variables used in the study. Section 4 describes

the Blinder–Oaxaca decomposition method that is utilized as our estimation strategy to analyze the differences in the gender composition. Section 5 presents the regression and decomposition results as well as their interpretations with respect to relevant contributors. Finally, Section 6 concludes.

2 Gender Gap in Myanmar

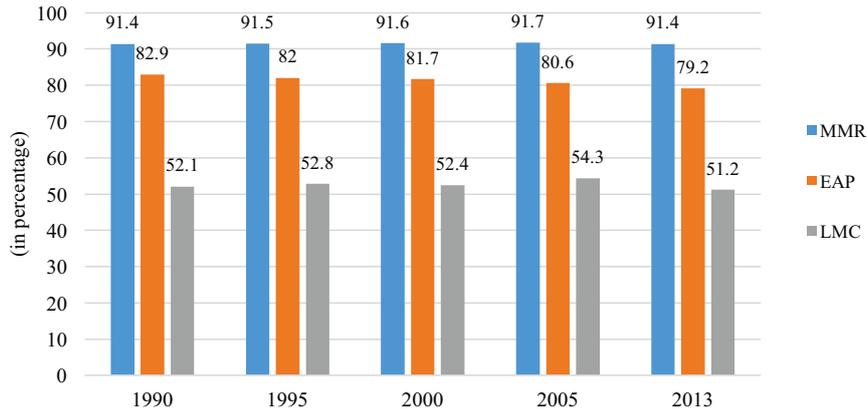
Among others, employer’s discrimination is one of the main reasons behind gender gap in the labor market. According to the theory of employer’s discrimination, employer’s decisions of demand for workers is strongly based on his or her perceptions of gender-role or sex-stereotypes. Even if female and male workers are perfectly substitutive in production, the discriminated hiring decision can occur due to owner’s preferences and discriminatory behavior. Becker (1971) predicted that gender composition of the firm is strongly influenced by the different attitudes toward gender role or sex stereotypes of the employers. Most of the empirical researches indeed proved that gender of the employer has a strong influence on the gender composition of the workforce and female employers have a strong and positive impact on the employment of female workers (Johnson and Storey 1994, Carrington and Troske 1995, Cirera and Qasim 2014).

The gender gap in the labor market produces a significant cost for the country. It has been estimated that Asia-Pacific region suffers more than \$40 billion per year losses due to limited employment for women (UNESCAP 2007). Besides, the studies in Africa found out that gender gap in employment and education is the main reason for region’s poor economic performance and if there is no gender inequality, GDP will increase by 4.3 percent in Uganda (Ellis et al. 2006).

Reducing gender gap in employment can directly increase the employment opportunities for women which in turn increase the income. The benefit of an increase in income improves the well-being of women as well as health, nutrition and education status of their children, so that the whole society can benefit this positive spillover effect (Morrison et al. 2007, Schultz 2002). Another important reason for reducing the gender gap in employment is that giving equal chances for women to participate in the labor market leads to the private sector development. McKinsey (2014) stated that gender diversity in organizations increases all level of organizational effectiveness which encourage the progress of the private sector.

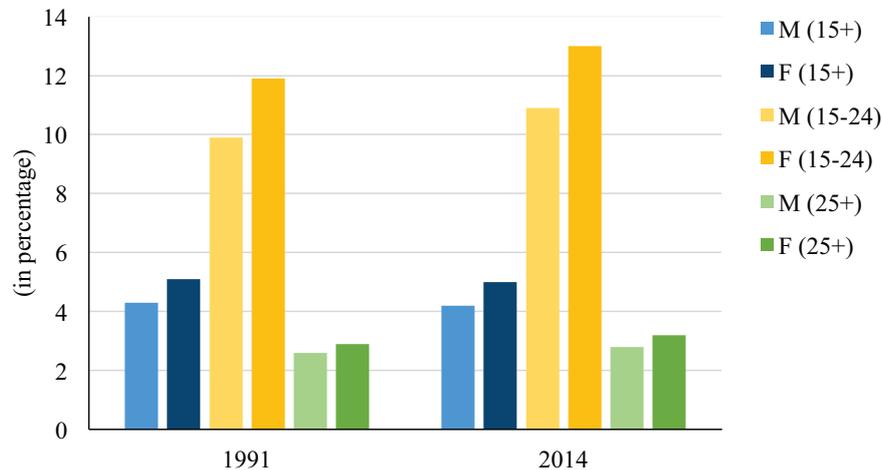
Female workers in Myanmar

Myanmar is a moderate gender-equal society. According to the 2014 gender equality index, it ranked 85 out of 189 countries. In 2014, women participation accounted for nearly half of the labor market (United Nations Population Funds, 2015). Figure 1 shows that the female to male labor force participation rate of Myanmar is above 90 percent, which is significantly higher compared with East Asian and Pacific countries and other lower/middle-income countries. Therefore, compared with other countries, it is likely



Note: MMR is Myanmar, while EAP is East Asia and Pacific developing countries and LMC is Lower Middle-Income countries defined by The World Bank.

Figure 1: Female-to-male labor force participation rates in Myanmar, as well as east Asia and Pacific countries and other lower middle-income countries.



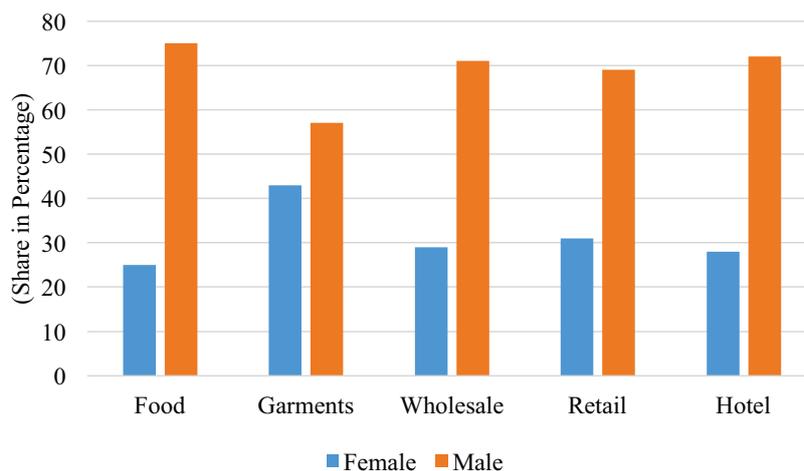
Source: International Labor Organization, 2016.

Figure 2: Unemployment rates by sex and age, 1991 and 2014

that female workers in Myanmar have nearly equal chances of participating in every sector of the country's economy.

However, these facts do not mean that there is no discrimination in the country's labor market. As shown in Figure 2, women are more likely to be unemployed than men in every age group, with the unemployment rate more serious for women in the 15–24 years group and getting worse. In addition, according to the Interim Country Partnership Strategy, Myanmar 2012-2014, a wider gender gap persists in senior positions, with most women working in low-skilled jobs. For example, although female staff provide half of the employment in the public sector, they occupy only 31.7 percent of senior posts such as deputy director and above. Moreover, the participation of women in the private and public sectors is still significantly lower than that of men (Stiftung, 2009).

The situation of underemployed and unemployed female workers is worse in rural areas of Myanmar.



Source: Firm-level survey data, Myanmar, 2014.

Figure 3: Gender decomposition of firm ownership by industry

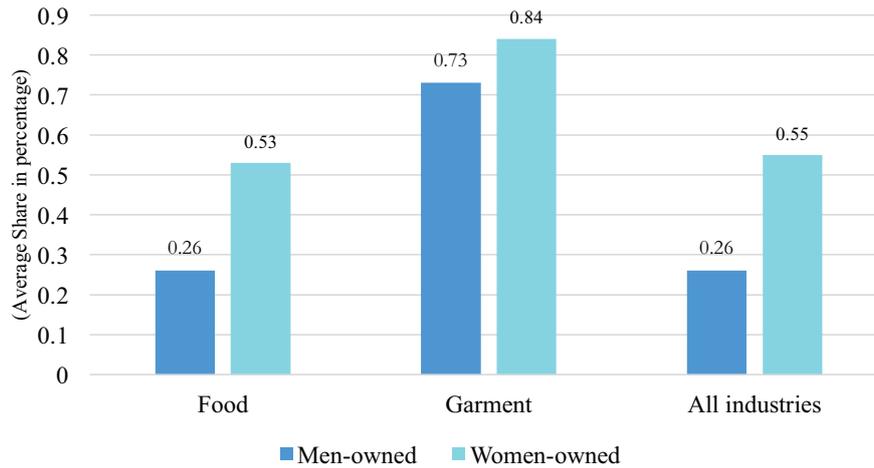
Owing to the scarcity of better-paid jobs and employment opportunities for women in rural areas, the migration rate of female workers to urban areas and neighboring countries is very high. According to Myanmar's census in 2014, 53 percent of rural to urban migrants searching for jobs are women, who often fail to get the jobs they expected and may even be forced to work in exploitative workplaces because of their insufficient education and skills.

Female-owned firms in Myanmar

As Myanmar opens up its economy and tries to reintegrate into regional and international markets, the government is encouraging a favorable business environment for firms in the country. Moreover, the widespread effect of globalization is also improving the business networks of firms in the private sector. These trends are encouraging female-owned firms to operate in the manufacturing and service sectors. Indeed, improvements in networking ability are allowing female entrepreneurs to enter regional and global business networks such as the garment and hotel and tourism industries.

In addition, the leading role of women in the business sector and in professional services is increasing over time, and some female-owned firms have achieved great success in the country (USAID, 2016). For example, City Mart, the largest supermarket in the country with 19 branches, is owned and operated by a woman, while the Mango Group, Myanmar's leading advertising and public relations company, was also founded and is run by two women.

In our sample, 280 of the 1,088 firms were owned by women. Figure 3 shows the distribution of female-owned firms in Myanmar by firm type. The figure presents the shares of female-owned and male-owned firms in more female-favorable industries in Myanmar such as the hotel, food, garment, and wholesale and retail sectors. For all industries, the share of male-owned firms is larger than that of female-owned.



Note: Figure represents the average share of female employment in male-owned vs female-owned firms in Myanmar, comparing differences in the average share of female employment for overall industries, food industries, and garment industry.

Source: Firm-level survey data, Myanmar, 2014.

Figure 4: Female shares of employees by owner’s gender for food and garment industries as well as all industries

However, the highest share of female-owned firms can be found in the garment industry, representing 43 percent of all garment firms.

The garment industry favors female-owned firms for a number of reasons. First, it is a traditionally female-dominated industry in which nearly 90 percent of workers are women and the initial investment is lower than that in other types of businesses. Second, it has easy and simple production processes, which are more favorable for women. Finally, it can integrate into the global market and is a critical industry for the country’s export strategy; therefore, government support is significant.

Gender composition in male-owned and female-owned firms

Differences in the preferences of employers related to hiring female workers is leading into a different gender composition between firms. Empirical research suggests that this preference-related discrimination of employers is positively linked with demographic characteristics, especially gender. Konrad and Pfeffer (1991) found that employers consider the sex of applicants for open position jobs. Kanter (1977) and Ferber and Huber (1975) suggested that male employers are more likely to discriminate against female workers. Therefore, in general, female-owned firms have a relative preference for hiring female workers.

The same situation is found in Myanmar’s firms. Figure 4 shows the gender composition of Myanmar’s firms by the gender of the owner. For all industries, the average share of female employment in female-owned firms is 0.55 compared with 0.26 in male-owned firms. This shows that female-owned firms have twice the share of female workers compared with male-owned firms. Even in the garment and food sectors, which are known as female-dominated industries, the average share of female employment is still

higher in female-owned than in male-owned firms. Therefore, on average, female workers are employed by female-owned firms compared with male-owned firms, while the gender of the firm’s owner is an important matter for female employment in Myanmar.

3 Data and Variables

Data sources

This study uses firm-level survey data on Myanmar provided by the World Bank’s Enterprise Surveys in 2014. The data are collected by using the stratified random sampling method based on three stratifications: firm size, business sector, and geographical region in the country. Firm size is determined as micro (<5 employees), small (5–19 employees), medium (20–99 employees), and large (100+ employees). Business sectors are classified as manufacturing, wholesale and retail, and other services. For geographical region, five cities that have major economic activities are selected: Yangon, Mandalay, Bago, Monywa, and Taunggyi. The data are gathered by using face-to-face interviews with the owners and managers of firms to garner qualitative and quantitative information on the firm’s internal and external business conditions.

Context of data

Our sample includes 1,088 micro, small, medium, and large firms in the manufacturing, services, and retail sectors of Myanmar. All the firms in the sample operate in the formal sector. Among the sample population, 280 firms are owned by women and 808 are male-owned firms. In this study, we examine the effect of the owner’s gender by analyzing the difference in the share of female employment between male-owned and female-owned firms in Myanmar.

Table 1 describes the descriptive statistics of the sample. The outcome variable is the share of female workers in the total labor force (i.e., male-owned and female-owned firms). In addition to the effect of the owner’s gender, firm-level characteristics such as firm age and size, location, and sector may influence female employment. Therefore, the following eight control variables are chosen based on both firms’ and owners’ characteristics: urban location, industry, firm size, firm age, foreign shareholding, top-level female manager, education of the firm’s owner, and experience of owner/top-level manager.

Urban location (a dummy) Yangon is the largest and most urbanized city in Myanmar with more than four million inhabitants according to the country’s 2014 census. Many studies (e.g., Bloom and Freeman, 1988, Dao, 2012) have stated that a higher population means more economic growth and employment opportunities. Therefore, we control for the effect of Yangon as one of the binary control variables.

Table 1: Descriptive statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
Share of female workers	463	0.33	0.36	0	1
Urban location	1,088	0.49	0.50	0	1
Garment industry	1,088	0.08	0.27	0	1
Food industry	1,088	0.11	0.32	0	1
Firm age	1,084	12.38	10.34	1	89
Firm size	1,088	54.50	213.25	1	3,500
Foreign shareholding	1,088	1.97	13.43	0	100
Top-level female manager	1,088	0.33	0.47	0	1
Education of the firm's owner	1,088	0.56	0.50	0	1
Experience of owner/top-level manager	1,056	11.28	8.20	1	50

Female-dominated industry (a dummy) Given that predominantly female-dominated industries provide more employment for female workers, we control for two female-dominated industries by using dummy variables: the garment industry dummy and food industry dummy.

Education of the firm's owner (a dummy) According to Carrington and Troske (1995), more educated male owners tend to employ more female workers. Therefore, we include an education dummy based on whether the owner is a university graduate.

Top-level female manager (a dummy) Top-level female manager: Based on the revolving door hypothesis, women in top-level positions can help other women find jobs. Therefore, having top-level female managers in the firm may influence female employment.

Foreign shareholding Abe, Javorcik, and Kodama (2016) stated that foreign companies are an unexpected ally in promoting female labor force participation. Hence, we use foreign shareholding as a control variable, which ranges from 0 to 100 percent.

Experiences of owner/top-level manager In line with employer discrimination theory, we consider that the discriminatory behavior of owner/top-level managers varies according to his or her previous working experience. Therefore, we control for the experience of the owner/top manager, ranging from one year to 50 years of working experience.

Table 2 shows the mean differences between the control variables. The first two columns describe the mean values of each variable for male-owned and female-owned firms, respectively, while the last column

Table 2: Comparison of relevant variables between male- and female-owned firms

Variables	Male-owned Firms	Female-owned Firms	Differences
Share of female workers	0.265	0.550	0.285***
Urban location	0.599	0.808	0.209***
Garment industry	0.134	0.356	0.222***
Food industry	0.262	0.288	0.027
Firm age	14.05	14.37	0.318
Firm size	2.87	2.92	0.049
Foreign shareholding	5.36	0.865	-4.497*
Top-level female Manager	0.114	0.856	0.742***
Education of the firm's Owner	0.577	0.683	0.106
Experience of owner/top-level manager	13.355	12.621	-0.733
<i>No. of Obs.</i>	359	104	463

Note: Robust standard errors are reported as *** p<0.01, ** p<0.05, *p<0.1.

shows the differences between these mean values. We find that female-owned firms are significantly more likely to employ female workers. The share of female employment is 28 percent higher in female-owned firms than in male-owned firms. Moreover, female-owned firms have more top-level female managers than male-owned firms. These results support a common hypothesis that female leaders help bring women into the highest ranks of firms.

At the industry level, a significant difference between male-owned and female-owned firms is found in the garment industry. As also shown by previous studies of female-owned firms, Myanmar's female-owned firms are more dominant in the garment industry compared with male-owned firms. Foreign shareholding is also statistically significant, suggesting that foreign partners are less likely to invest in female-owned firms compared with male-owned firms. Finally, female owners are more likely to be university graduates than male owners.

4 Methodology

This study uses the Blinder–Oaxaca decomposition method to analyze the differences in the gender composition of the labor force of male-owned and female-owned firms in Myanmar. Oaxaca (1973) and Blinder (1973) presented their decomposition method, which can explain why there is a difference between two groups and suggest which variables derive this difference. The difference in employment shares of female workers in male- and female-owned firms is driven by explained and unexplained factors. The former is caused by the firm's characteristics (i.e., the covariate effect), whereas the latter is driven by unobserved factors not included as control variables. First, to estimate the effects of the owner's gender

on the share of female workers in the total labor force, we use an ordinary least squares (OLS) regression for each subsample of male-owned and female-owned firms. We suppose the following linear population model for each subsample:

$$Y_i^M = \beta_0^M + \beta_1^M X_i^M + u_i^M \quad (1)$$

$$Y_i^F = \beta_0^F + \beta_1^F X_i^F + u_i^F \quad (2)$$

where, Y_i^M and Y_i^F are the share of female workers in male-owned and female-owned firms, respectively, β_0^M and β_0^F are the coefficients of the gender dummy for male-owned and female-owned firms, X_i^M and X_i^F are the vectors of control variables for male-owned and female-owned firms, and u_i^M and u_i^F are the effects of other factors for male-owned and female-owned firms, respectively.

We assume zero conditional mean as $E[u_i^j | X_i^j] = 0$ for $j \in \{M, F\}$. Then, we find the average share of female employment for both subsamples as follows:

$$E[Y_i^M] = \beta_0^M + \beta_1^M E[X_i^M] \quad (3)$$

$$E[Y_i^F] = \beta_0^F + \beta_1^F E[X_i^F]. \quad (4)$$

We here construct the counterfactual as a hypothetical value of the outcome when female-owned firms are treated as male-owned firms. This value, say $E[Y_i^C]$ represents the expected share of female workers if female-owned firms had the same coefficient of covariates and the constant term as male-owned firms and can be obtained from the following equation:

$$E[Y_i^C] = \beta_0^M + \beta_1^M E[X_i^F]. \quad (5)$$

By using the above equations, we then decompose the mean difference in the share of female employment into two components:

$$\begin{aligned} & E[Y_i^M] - E[Y_i^F] \\ = & E[Y_i^M] - E[Y_i^C] + E[Y_i^C] - E[Y_i^F] \end{aligned} \quad (6)$$

$$= \beta_1^M (E[X_i^M] - E[X_i^F]) + \{(\beta_0^M - \beta_0^F) + (\beta_1^M - \beta_1^F) E[X_i^F]\} \quad (7)$$

where, in equation (7), the first term represents the explained effect while the second term in the curly brackets is the unexplained effect.

Table 3: Results for Regression Analysis

Independent Variables	Male-owned Firms	Female-owned Firms
Urban	-0.0069 (0.027)	0.2195*** (0.0729)
Garment industry	0.2687*** (0.0514)	0.5543*** (0.066)
Food industry	0.0328 (0.03002)	0.2499*** (0.0746)
Firm age	0.0002 (0.0013)	0.0059** (0.0027)
Firm size (log of Employment)	0.0801*** (0.0115)	-0.0205 (0.0173)
Foreign shareholding	0.0008 (0.0005)	0.00008 (0.0012)
Top-level female manager	0.2071*** (0.0477)	0.1213 (0.0732)
Education of the firm's owner	0.0256 (0.0295)	-0.0065 (0.0604)
Experience of Owner/ Top Manager	-0.0013 (0.0015)	-0.0159*** (0.005)
Constant	-0.0362 (0.0325)	0.181 (0.1283)
Observations	357	103
R-Squared	0.5423	0.5099

Note: Robust standard errors ***p<0.01, ** p<0.05, *p<0.1.

5 Empirical Results

Regression results

Table 3 presents the results of the regression analysis for the share of female workers in male-owned and female-owned firms. The first column represents the regression results for male-owned firms and the second is for female-owned firms. For male-owned firms, garment industry and top-level female manager dummies and firm size are significant determinants of the share of female employment. For female-owned firms, urban location, garment and food industry dummies, firm age, and the experience of owner/top-level manager are significantly related to gender composition of employment.

As expected, the regression results show that the garment industry is a relevant factor of the employment of female workers for both female-owned and male-owned firms. Female-owned firms have a coefficient for the garment industry nearly double that of male-owned firms, and the coefficient for the food industry is significantly positive only with female-owned firms. This confirms that even in female-dominated industries, the owner's gender is a relevant factor for a higher employment share of female

Table 4: Decomposition results of the total mean difference

	Mean	Share in total difference (%)
Share of female workers in		
Male-owned firms	0.262	
Female-owned firms	0.548	
<hr/>		
Total difference	0.286***	
Covariate effect/explained part	0.275***	96.1
Coefficient effect/unexplained part	0.0111	3.9

Note: Robust standard errors ***p<0.01, ** p<0.05, *p<0.1.

workers. Further, compared with male-owned firms, the urban location of female-owned firms is a significantly positively associated with female workers' employment. If a female-owned firm is located in Yangon, it tends to provide about 22 percent more employment for female workers. We also find that older female-owned firms have significantly more female workers unlike male-owned firms, while firm size influences the employment of women in male-owned firms but not in female-owned firms. This latter result supports the finding of Carrington and Troske (1995) that the larger the size of male-owned firms, the lower is the gender segregation. Another finding here is the significant association of top-level female managers and the employment of female workers for male-owned firms. Male-owned firms with top-level female managers have 20 percent higher share of female workers. In terms of experience of firm's owner, statistically significant negative results are found only for female-owned firms such that if the owner/top manager has more experience, other things being equal, those firms employ fewer female workers.

In summary, the implication of regression results is twofold. First, a large difference in the way that firm's and owner's characteristics are related to the female employment share according to the owner's gender exist in Myanmar. Female-owned firms employ more female workers than male-owned firms in female-dominant industries. Second, we find that firms with female top-level managers have a significantly more female employment than those with male managers when the firm is male-owned.

Decomposition results

This section presents the results of the decomposition analysis of the difference in the share of female employment between male-owned and female-owned firms. Table 4 reports the total mean difference in the female employment shares between these subsamples and the contribution of the explained and unexplained parts. It shows that the average share of female employment in female-owned firms is 29

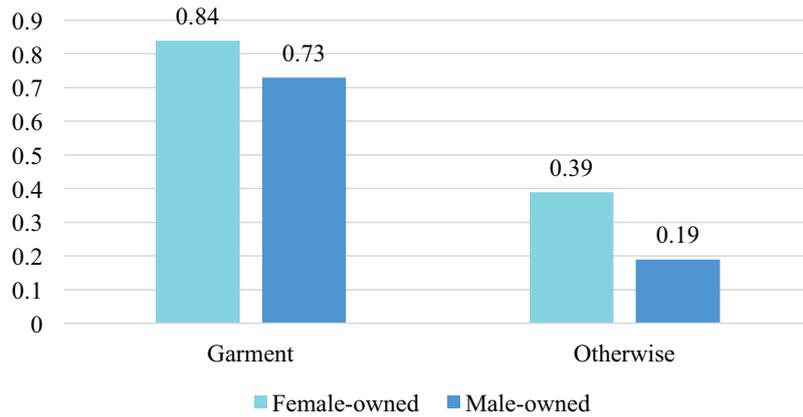
Table 5: Contributions of control variables in explained and unexplained parts

	Mean	Share of total difference (%)
Explained Total	0.27483	96.1
Urban location	0.04531**	15.8
Garment industry	0.12075***	42.2
Food industry	0.00769	2.7
Firm age	0.00231	0.8
Firm size	-0.00143	-0.5
Foreign shareholding	-0.00035	-0.1
Top-level female manager	0.08969*	31.4
Education of the firm's owner	-0.00069	-0.2
Experience of owner/top-level manager	0.01156	4
Unexplained Total	0.01106	3.87
Urban	0.1357	47.47
Garment Industry	0.0376	13.15
Food Industry	0.05659	19.79
Age of Firm	0.07913	27.68
Size (log of Employment)	-0.28784	-100.68
Foreign shareholding	-0.00404	-1.41
Top-level female manager	-0.00985	-3.45
Education of the firm's owner	-0.01842	-6.44
Experience of owner/top-level manager	-0.19499	-68.20

Note: Robust standard errors ***p<0.01, ** p<0.05, *p<0.1.

percent larger than that in male-owned firms. After controlling for some of the variables related to the firm's and owner's characteristics, we find that 96 percent of the total mean difference is explained by the covariate effect. A gender gap in employment in male-owned and female-owned firms does exist in Myanmar, however, vast majority of the gap is derived by the firm's and owner's characteristics, namely, firm's location, industry, age, size, foreign shareholding, gender of top-level manager, education of the owner, and experience of owner/top-level manager.

The contributions of each control variable to both the explained and the unexplained parts are shown in Table 5. This table shows that variables such as urban location, the garment industry, and top-level female manager especially make significant and large contribution with respect to the explained gap, each contributing 15.8, 42.2, and 31.4 percent of the total difference in the share of female employment between male-owned and female-owned firms in Myanmar, respectively. Overall, this study finds that female-



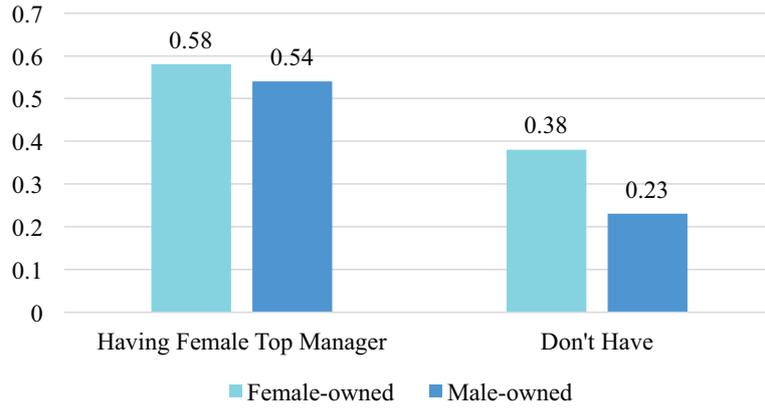
Source: Firm-level survey data, 2014.

Figure 5: Average share of female employment by types of firms and gender of owner

owned firms employ 29 percent points more female workers than male-owned firms. After controlling for the firm's and owner's characteristics, we find that most of the total difference in the share of female employment is driven away by explained factors. Those factors that are relevant in explaining the gender gap in employment between male-owned and female-owned firms in Myanmar, namely, garment industry, top-level female manager, and urban location are discussed more in depth here.

Garment industry In this study, the garment industry variable explains 42.2 percent of the gap in the share of female employment between male-owned and female-owned firms in Myanmar. In Myanmar, 80 percent of the labor force in this industry are female. Further, unlike other types of businesses, start-up investment in the garment industry is comparatively low (Kudo, 2009). Moreover, simple production processes and tax exceptions support the garment industry among other export industries. Indeed, between 1999 and 2001, Myanmar's garment industry became the largest export sector in the country; however, this rapid growth stagnated because of the implementation of sanctions by western countries in 2003. After 2011, political reform in Myanmar released some of these sanctions and the garment sector is redeveloping again. As shown in Figure 5, compared with other types of firms, garment firms have a higher share of female workers on average whether they are owned by a woman or not. However, if the garment firm is owned by a woman, then the average share of female employment rises further, making it 45 percent larger than that in other female-owned firms. If the owner is a man, the average female share is 54 percent larger. Therefore, this sector is important for creating jobs and providing employment opportunities to female workers in Myanmar.

Top-level female manager The revolving door hypothesis suggests a positive influence of female leaders on the labor market outcomes of other women. Though not directly identifying the causality, the presented regression results are in support of this hypothesis that having a top-level female manager can



Source: Firm-level survey data, 2014.

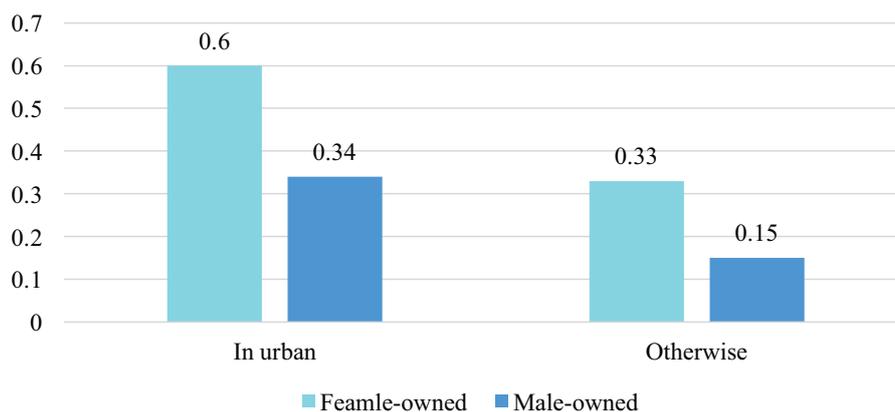
Figure 6: Spillover effect of top-level female manager in male-owned and female-owned firms

improve female employment. In female-owned firms with the top-level manager also being female have female employment share higher by 20 percent points than those with male managers, and in male-owned firms it is higher by more than 30 percent points. Figure 6 shows this association of having a female leader and the average share of female employment between male-owned and female-owned firms. Given that female top-level managers are more likely with female-owned firms, as large as 31.4 percent of the gender gap between male-owned and female-owned firms in Myanmar can be explained by the gender of the top-level manager.

Urban location In Myanmar, rural areas lag urban areas from a socioeconomic development perspective. In rural areas, agriculture is the main sector; however, it cannot provide sufficient job opportunities for the increasing population. Reflecting that urban areas have more job opportunities, urbanization rate is rapidly increasing in the country, involving migration of women as slight majority. As shown in Figure 7, when a firm is located in an urban area, the average employment share of female workers is higher by 27 percent points in female-owned firms and by 19 percent points in male-owned firms. This apparently shows that alternative job opportunities are unavailable in rural area especially for women, compared to urban and suburban areas.

6 Conclusions

This study decomposes the difference in gender composition of employment between the female owned and male-owned firms in Myanmar by using firm-level survey data. We find that the large gap in gender composition such that female-owned firms employ significantly more female workers than male-owned firms, is explained mostly by three factors, namely, the female-owned firms tend to belong to garment industry, have top-level female managers, and are located urban location. We also confirm that firms



Note: figure shows the average share of female employment in male-owned and female-owned firms located in the largest business city, Yangon and other cities which are included in the sample.

Source: Firm-level survey data, 2014.

Figure 7: Location effect on average share of female employment in female-owned and male-owned firms in predominantly female-dominated industries namely, food and garment industries employ more female workers. However, the presented regression results find that even for firms in female-dominated industries, the gender of the owner is still associated with the higher employment share of female workers. Moreover, if the firm's top-level manager is a woman, a higher share of female workers can be found. Our results support that female ownership and a top-level female manager are distinct feature of the firms with higher employment shares of female workers.

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