DOES GENDER-BASED OCCUPATIONAL SEGREGATION AFFECT EMPLOYEES' EARNINGS AND LABOUR SUPPLY IN SRI LANKA?

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Received: March 2025
Revised: May 2025
Accepted: May 2025

Abstract

As a result of gender dominance in various occupations, each job becomes a job that is occupied more or less by the respective gender. It can be interpreted as a situation of occupational segregation based on gender. The main objective of the study is to identify how earnings and working hours of employees are affected due to gender based occupational segregation. Human Capital theory, Becker's model, discrimination, and other feminist theories were grounded for the study. It uses an endogenous switching regression model to examine how the monthly earnings and weekly working hours of employees in male-dominated and female-dominated jobs differ with changes in selected variables. The study uses 29170 data to represent employees in Male-dominated, female-dominated, and gender-integrated jobs classified according to the percentage of men and women in each occupation. The findings show that there are significant earnings differentials and labour supply differences in terms of working hours due to occupational segregation. To promote the equality of labour market participation, organizations should give priority to gender-neutral recruitment opportunities, supporting parents in continuing work-life balance through adjustable work arrangements with the government career guidance support. In future research direction, it's important to focus more on vertical occupational segregation.

Keywords: Adjustable Work Arrangements, Gender Dominance, Gender-Neutral Recruitments, Monthly Earnings, Weekly Working Hours

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1. Introduction

Addressing gender equality in occupational attainment is crucial for fostering a more equitable labor market in any country because it helps economic growth by ensuring that individuals have equal opportunities to fulfill in the workforce. But in the same way, can identify labour market inefficiencies due to gender based occupational segregation that can exist in any economy and is detrimental to gender equality. In other words, it can also be described as a challenge in the labour market that different people face when attaining a job due to their gender. Gender dominance in occupations significantly affects career choices and people still show a greater interest in choosing occupations, where their gender is represented to a higher extent and gender-dominated occupations are deeply rooted in the society where young people stereotype occupations as feminine and masculine further (Dias & Gamage, 2021). Studying the phenomenon of gender-based occupational segregation along with its determinants and impacts provides a greater understanding of gender equality by addressing socio-cultural, economic and policy-related aspects (Smyth & Steinmetz, 2008). This type of gender dominance in occupations negatively impacts on employees' earnings and Labour supply.

Economic theories suggest many explanations that can again be added to the demand and supply sides regarding the issue of occupational segregation (Dolado et al., 2002). Employers' perception about women is not good and they think women are generally less qualified than men; that kind of discrimination against women can contribute to segregation through the demand side. On the supply side, there is the standard explanation based on the human capital theory, as women generally expect shorter and less continuous careers and are forced to choose jobs that fit with their household tasks due to discrimination in society, and their preference is for occupations that require less human capital investment and have fewer penalties for career breaks (Dolado et al., 2002). This type of factor leads to gender dominance in particular occupations. As well, Gunawardena (2006); Gunewardena et al. (2008); Premarathna (2018); Polachek (1987); Hegewisch & Hartmann (2013); Ismail et al. (2017) have discussed how earnings can be affected by occupational segregation.

Men strongly dominate agricultural occupations, plant and machine operations, and crafts-related jobs. Among the legislators and managers, on average only 1 out of 3 workers are women (Carazo, 2020). Further, Buchmann & Kriesi (2009), explained the features of female-typed jobs such as lower salaries, worse advancement prospects, fewer opportunities for further education, and worse working conditions, horizontal segregation and those can be the causes of vertical inequality between men and women, it further shows that horizontal gender segregation or the men and women working in different occupations does not necessarily imply inequality between the genders. It is necessary to change the demand structure in the labor market to raise the significance and the status of positions occupied by women because it is not sufficient to provide equal participation of men and women in the labor force (Roshchin, 2005) and it's important to identify women as the valuable human resource. Gunatilaka (2013) suggests that labor force-led economic growth in the future will be heavily

dependent on a greater number of women engaged in the labor market and needs policies to encourage women to join the workforce more and more.

Employment segregation discourages the women's participation in the labor market in various aspects. Factors such as 'social norms', 'stereotypical perceptions', 'family life', 'family responsibilities', 'work-life', 'Education and vocational training', 'Taxation, and social security', 'Structure of the labor market', 'Discrimination at entry and in work' can be identified as obstacles for women (and sometimes men) (Anker et al., 2003). Accordingly, women can be identified as the most aggrieved party when choosing to work in different occupations. Women are in a disadvantaged position relative to men and inequality is larger when the vertical dimension is measured by a social stratification scale other than pay, as well, women are more likely to be employed in lower-paid and lower-ranked occupations across society, factors such as norms, cultural attitudes, institutional context, and how they all hinder gender equality are interlinked and they affect the expansion of occupational gender segregation (Gedikli, 2019). Women are excluded from high-income occupations and it obstructs upward career mobility to the highest- positions as a result of horizontal and vertical gender discrimination in the labor market (Asian Development Bank & Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), 2015). There are reasons to believe that female employment rates depend heavily on the overall occupational structure of employment and the possible existence of gender segregation of work (Dolado et al., 2002). Devaluation of activities performed by women has changed little, even though women have a strong incentive to enter male jobs, men have little incentive to take on female jobs (England, 2010).

Segregation of occupations by sex adversely affects women and their status and income (Anker, 1997).Male-dominated jobs are characterized by more unfavorable working conditions than female-dominated jobs and these differences translate into wage differentials. Jobs dominated by men are likelier to be risky than female-dominated jobs. Jobs are varied with their productivity-related content as well. White male- dominated jobs such as "managerial", "supervisory", and "fiscal responsibilities" are connected with greater productivity levels (Jacobs & Steinberg, 1990). Gunewardena (2006) and Gunewardena et al. (2008) explored the gender wage gaps as an impact of occupational segregation in the Sri Lankan context and those are limited to one or two sectors (public and private). It's important to identify the gender wage gaps in Sri Lanka between women and men because it helps to enhance gender equality, employee morale, and productivity.

As well as, It is essential to study the determinants and impacts of gender-based occupational segregation, because, First it has an important negative effect on how men see women as well as how women see themselves by reinforcing and perpetuating gender stereotypes, second it has a negative effect on the labor market efficiency and labor market functioning, third it is a major labor market rigidity, reducing a labor market's ability to respond to change, fourth it negatively affects the education and training of future generations, fifth it probably keeps many women out of wage employment altogether, sixth it is a major determinant of male-female wage differentials(Anker, 1998).

Furthermore, this study attempts to provide knowledge on how labor supply changes due to gender-based occupational segregation, which is special in the Sri Lankan context as not enough research has been found to show the relationship between these two. Many occupational segregation-related researches have used different indices to measure segregation, but in this study, it is special that multinomial Logit regression has been used to examine changes in three occupational types. It is also special that the endogenous switching regression analysis was used to measure the effect of gender-based occupational segregation on earnings and working hours. As well, this study is not limited to one sector or several occupations; it covers all the measures using national-level data.

Most of the occupational segregation-related articles cover two occupational categories (female-dominated occupations and male-dominated occupations) but from this study hopes to study three occupational categories such as male-dominated, female-dominated and mix/ integrated occupations. Also, occupational segregation findings are covered in European countries and other developed countries such as the US, UK, etc. even in the South Asian context, they mostly consider India and Pakistan. However, no sufficient studies can be seen in Sri Lanka. These literature gaps emphasize the need for this kind of scholarly discussion in the Sri Lankan context.

Research Problem

How gender-based Occupational Segregation impacts on earnings and Labor Supply in Sri Lanka? (Labor supply in terms of hours of work).

Research Objective

To Study the impact of Gender-based Occupational Segregation on earnings and labor supply in Sri Lanka (Labor supply in terms of hours of work).

2. Literature Review

2.1 Theoretical Literature

Human Capital Theory

The abilities and skills of people who have gone through education, training, and experience can be considered the basis for their earnings according to the human capital theory. Especially, it explains women's lower incentives to invest in formal education and on-the-job training as small human capital investments, and they are likely to work part-time because they usually withdraw from the labor market for a while after having children, they have to spend longer hours for housework and try to control hour's worked (Grybaitė, 2006). Due to the long-term rational choices among women, they choose female-dominant sector jobs (Jacobs, 1995). Duncan (1992) explained the fact of occupational choice in explaining segregation as rooted in human capital theory.

Becker's Model and discrimination

According to the becker's model, there are tastes among employees, co-workers, and customers for discrimination against women leads to a segregated workforce (Grybaitė, 2006). Employers with discriminatory interests against women will only hire female workers at a wage discount large enough to compensate for the inconvenience of employing women. As well male workers with discriminating tastes against women will only work with them at a wage premium sufficient to compensate for the women's disadvantage (Blau, 1984).

Feminist Theories

Feminist or gender theories discuss the challenges women face and the disadvantaged party position of women in the society and family. It says women are responsible for housework and childcare whereas the men work as breadwinners of their families. These kinds of differences in responsibilities and the patriarchal order of society are the reasons for women tend to get less human capital, have less desire to study craft and science, and have less need for labor skills are instruments for women to acquire less experience in the labor market than men (Anker, 1997).

2.2 Empirical Literature

Earnings

Kurniawan et al. (2021) measured the differences in gender-based occupational segregation and wage inequalities based on overall segregation (Vertical & Horizontal) considering the differences in wage, work hours, age, education level, and mobility. The study shows that there is a high segregation among women based on their wages and education level. Xu & Leffler (1992) examined how occupational segregation, prestige, and earnings differ based on gender and race. Results suggest that, for occupational segregation effects of gender are more powerful, but on occupational prestige main impact is racial and the gender effect is greater in earning than the racial effect.

Banerjee (2014) examined how earnings differ among males and females as a role of occupational segregation. The results find that women's lower earnings can't be explained by gender differences, but in accessing occupations gender differences matter (most of the women work as 'professionals', 'technicians' and 'associate professionals', and 'clerks' whereas men work as 'managers', 'plant and machine operators'. Also, Gauchat et al. (2012) found that still earning inequalities are the result of gender-based occupational segregation and explained the way different aspects of the global economy affect the earning gaps. Further, as proved by Hegewisch & Liepmann (2013), people are inefficiently allocated between jobs and low wages are a salient feature in female-dominated occupations than in male- dominated and integrated occupations.

He & Wu (2017) explained the significant role of occupational segregation on gender earning inequalities. Busch & Holst (2011) revealed that when women working in female-typed jobs can have a negative impact on their wages. As well, England et al. (1988) said that pay discrimination against both males and females can be seen in female-dominated jobs. El-Hamidi & Said

(2014) explained the seriousness of occupational segregation and pay differences for both professional and blue-collar jobs because many women crowded into those jobs. There is a gender pay gap and females are being paid low than men in the following occupations such as 'management', 'professionals', 'office and administrative', 'sales and service', and 'farming', 'fishing', and 'forestry' (Xiu & Gunderson, 2015).

Working hours

Cha (2013) explained the trend of working long hours and occupational segregation by sex as its consequence. The study further points out that due to the long hours in male-dominated occupations and family responsibilities, women cannot adapt to those long working schedules. Usui (2015) explored gender asymmetry in different occupations according to the equilibrium search model and suggests that women are less likely to work long hours and tend to work in occupations with lower wages and shorter working hours (lower productivity jobs) than men. In addition to that, Sparreboom (2018) quantified the segregation levels between full-time and part-time work between employed men, women, youth, and adults in 15 European countries. Findings suggest that hours of work for males are higher than for females, and part- time payments are more suitable for men than women.

As well, because of the long work hours in the technology careers, as many women do not enter the technology field as men do (Fuchs, 2016). Cha (2013) articulated that overwork or working long hours is a salient feature of many male-typed occupations and due to that reason, women who have children are likely to leave male-dominated jobs or exit the labor force. Women are more likely to work in jobs that have short working hours and lower pay (Usui, 2015). On the other hand, Ballesteros et al. (2021) said that because of the short working hours in many female-dominated occupations or industries can limit the desire to work long hours for women.

2.3 Methodological Literature

Even though the research methods (qualitative and quantitative) differ in research objectives, always quantitative methods give numerical explanations about the research findings. Due to that reason, most of the studies related to occupational segregation have been done using econometric models and indices as their analyzing techniques. Here the econometric models estimate the economic relationship between variables whereas indices (index) measure changes in particular variables over time or between different categories/groups. The use of Human capital attributes (Education, training, etc.) and demographic variables such as age, gender, ethnicity, residential area, and marital status can be seen in the studies.

Couppié et al. (2014) used the Oaxaca-Blinder decomposition statistical measurement tool to quantify job-level segregation with two groups; gender composition and educational segregation. As well, Gutierrez (2018) studied occupational segregation over the life-cycle and the chances of getting high-paying jobs in the US with the sample consisting of all workers with positive

earnings who are in the age 25 to 64 categories. Here occupational segregation evolution decomposition into early-career workers who are in 25 to 29 age and for late-career workers who are in 55 to 59 age for the easiness of two-stage decomposition technique.

Hanson & Pratt (1991) have measured the changes in 'average hourly wage' and 'median hourly wage' between workers in male-dominated, female-dominated, and gender-integrated occupations. Maume (1999) used a 'log of hourly wages' to measure the wage changes of the workers in segregated occupations. As well, Pearlman (2018) has measured the voluntary inter-firm mobility within female and male-dominated occupations and its impact on 'log hourly wages'. Barón and Cobb-clark (2010) have studied the role of gender segregation within sector-specific occupations and its impact on 'hourly wage' (current weekly gross wage and salary of main occupation divided by hours per week, usually in the same occupation). Hegewisch, et al. (2014) measured the changes in the index of occupational segregation with the 'weekly gender earnings ratio'. Full-time workers aged 15 and older were taken to calculate the gender earnings. For this study used both primary job earnings and secondary job earnings for a month of employees in male-dominated and female-dominated jobs as total earnings and convert it to log of monthly earnings. It helps to reduce skewness and stabilize the variance facilitating more meaningful comparison.

Maume (1999) measured differences in 'annual work hours' during the year between men and women in segregated occupations. Cha (2013) in her study considered two hours of work as 'less than 35 hours' and 'more than or equal to 50 hours of work'. In addition, Roos & Stevens (2018) used two other components under 'hours worked' such as '35 hours or more' and 'worked 50-52 weeks' to measure differences in occupational segregation between men and women in the United States. Most scholars have used 'the usual working hours per week' to measure the changes in segregated occupations. For this study to measure the working hour differences used Weekly working hours of employees who are in male-dominated and female-dominated jobs.

3. Methodology

This study adopts a quantitative approach using data from the 2022 Labour Force Survey, released by the Department of Census and Statistics of Sri Lanka. The dataset includes 78,275 individual records. However, the analysis focuses exclusively on the employed population, as the objective is to examine changes in earnings and working hours specifically among employed people. Finally, 29170 data were used for the analysis. It consists of 19955 employed people belonging to male-dominate occupations, 6024 for female-dominated occupations and 3191 in gender mixed occupations. All the occupations listed and categorized in the Annual Labour Force Survey report in 2022 were classified into male-dominated jobs, female-dominated jobs, and non-segregated jobs based on the popular classification used by Lidwall (2021); Klimova (2012); Bächmann (2022); Anker (1998); Kraus & Yonay (2000).

This study uses the ‘Endogenous Switching Regression Model’ to assess the objective of the study. Gang et al. (1999) say that in measuring the impact of something (Especially earning differentials) between two groups, Endogenous

switching regression can be used as a more appropriate model. According to this study, the outcome function estimates the effect of gender-based occupational segregation on workers' earnings and hours of work for those who doing male-dominated occupations and female-dominated occupations. Male-dominated occupations and female-dominated occupations act as regimes. Regimes are distinct catergories or groups within separate wage and hours of work equations. It predicts the probability of being in a particular regime based on explanatory variables. Earnings and hours of work act as dependent variables in each outcome function and it describes the relationship between dependent variables and independent variables (factors influence both earnings and hours of work). Some of the variables used by Barón & Cobb-clark ; Ismail et al. (2017); Fuchs, (2016); Strawinski et al. (2018); Cha (2013); Samaraweera & Wijesinghe (2021), and Samaraweera (2023) to measure changes in occupational segregation with earnings and hours of work in their studies have been used as variables of the 'Earning function' and 'Hours of work function' in this study.

Earning function,

$$\ln Y = \alpha O + \alpha 1 EXP + \alpha 2 EXP^2/100 + \alpha 3 WH + \alpha 4 GEN + \alpha 5 YE + \alpha 6 VT \quad (eq.06)$$

Where;

Ln Y= log of monthly earnings, EXP= Years of experience, EXPSQ/100= Experience square/100, WH= Weekly working house, GEN= Gender, YE=Years of education, VT= Vocational training

Hours of work function,

$$Y = \alpha 0 + \alpha 1 AGE + \alpha 2 AGE^2 + \alpha 3 MS + \alpha 4 GEN + \alpha 5 RS \quad (eq.07)$$

Where;

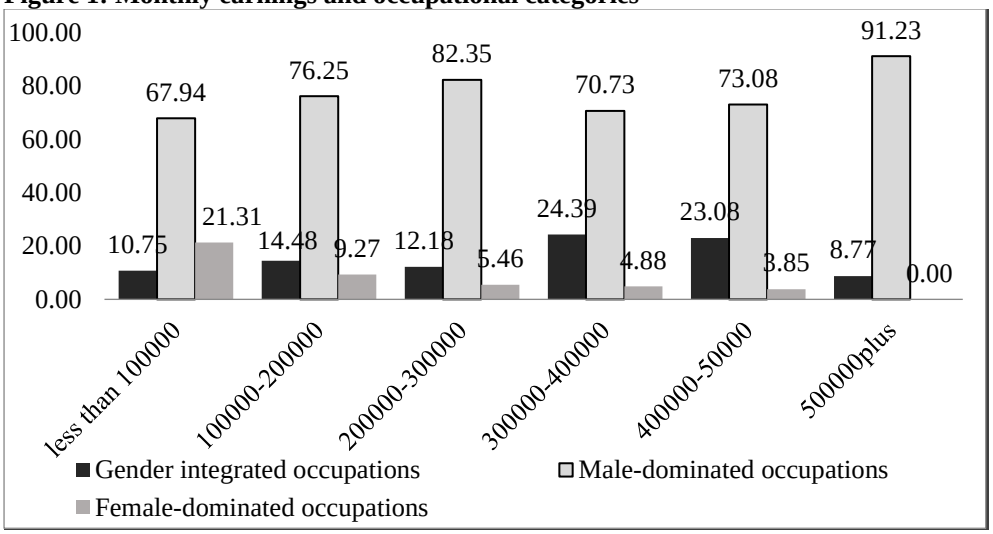
Y= Weekly working hours, AGE= age, AGE^2= Square of age, MS= marital status, GEN= gender, RS= Residual sector

The selection function includes the variables that influence male-dominated occupations. These selection functions address the endogeneity issues and outcome functions estimate the causal effects within each regime. It helps to make unbiased and reliable estimates of the model. To get the output result STATA software is used with the 'movestay' command, because it allows correct the selection bias and comparison between two distinct groups.

4. Results & Discussion

This study examines the impact of gender based occupational segregation in Sri Lanka. Basically study seeks how monthly Earnings and weekly working hours can affected by the gender based occupational segregation. Here Study observes the impact on earnings and labour supply of employees who are in Gender-integrated, Male-dominated and Female-dominated occupations.

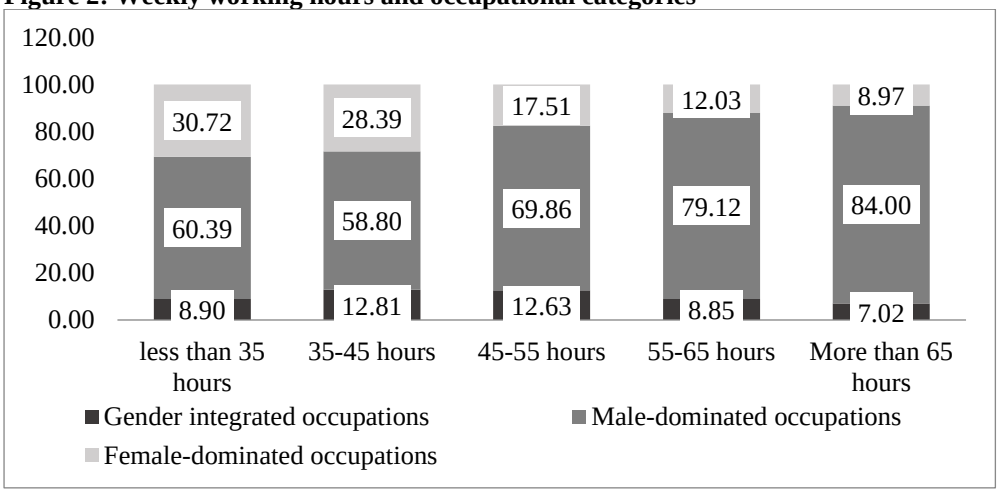
Figure 1: Monthly earnings and occupational categories



Source: Developed by Author using LFS, 2022

According to Figure 1, employees who are in male-dominated occupations earn more compared to employees in other occupations. That means overall workers in male-dominated occupations can benefit. There are no workers who earn 500,000 or more per month in female-dominated occupations. Among the female-dominated occupations, most employees earn less than 100,000 per month. The number of workers in female-dominated occupations who are in the category of earning more than 100,000 per month is less compared to others. That means workers in female-dominated occupations earn less compared to others. Larger earning gaps are found between workers in male-dominated occupations and female-dominated occupations than the gender-integrated occupations. That means earnings are significantly affected by gender-based occupational segregation.

Figure 2: Weekly working hours and occupational categories



Source: Developed by Author using LFS, 2022

According to Figure 2, among the workers in male-dominated occupations, a high percentage of 84% work more than 65 hours per week. But only 8.97% of workers in female-dominated occupations are working more than 65 hours per week. Most of the workers in female-dominated occupations work less than 35 hours a week. Also, many of the workers in gender-integrated occupations work an average of 35 to 45 hours per week. Most of the workers in male-dominated occupations work more hours per week, but workers in female-dominated occupations work less hours per week. Table 1 shows the descriptive statistics for the selected variables for two occupational categories (male-dominated and female-dominated occupations) of Endogenous Switching Model.

Table 1: Descriptive Statistics for the variables of Endogenous Switching model

Total observations per one occupational category	Male-dominated Occupations		
	19,955		
Variables	Obs.	Mean/Proportion	Std.Dev.
Years of Experience	19,955	30.5621	0.1080
Experience Square /100	19,955	11.6682	0.0708
Log of earnings per month	19,955	9.5244	0.0204
Weekly working hours	19,955	49.0637	0.1222
Being a Female(d)	3,533	0.1770	0.0027
Years of Education	19,955	9.4421	0.0233
Have Training(d)	1,416	0.0710	0.0018
Age	19,955	45.0042	0.0975
Age square	19,955	2215.087	9.0191
Being a non- Sinhalese(d)	5,412	0.2712	0.0031
Being a never married(d)	3,350	0.1679	0.0026
Being in an urban(d)	2,887	0.1447	0.0025
Being in an Estate(d)	775	0.0388	0.0014
Total observations per one occupational category	Female-dominated occupations		
	6,024		
Variables	Obs.	Mean/Proportion	Std.Dev.
Years of Experience	6,024	26.6609	0.1908
Experience Square /100	6,024	9.3017	0.1181
Log of earnings per month	6,024	9.5934	0.0324
Weekly working hours	6,024	41.6174	0.1874
Being a Female(d)	4,730	0.7852	0.0053
Years of Education	6,024	11.0913	0.0506
Have Training(d)	764	0.1268	0.0043
Age	6,024	42.7522	0.1682
Age square	6,024	1998.1150	15.0997
Being a non- Sinhalese(d)	1,748	0.2902	0.0058
Being a never married(d)	1,059	0.1758	0.0049
Being in an urban(d)	996	0.1653	0.0048
Being in an Estate(d)	481	0.0798	0.0035

Source: Developed by author, 2024

Notes: (d) denotes dummy variables; proportions were calculated for all dummy variables. Mean/proportion represents the simple average of values in a given distribution. Standard deviation shows the way values are clustered around the mean.

Table 2: Results of Endogenous Switching Regression for Earnings

	log of earnings 1 (Male-dominated occupations)		
Variables	Coef.	Std. Err.	P>|z|
Years of Experience (continuous)	0.0419	0.0047	0.000
Experience square/100(continuous)	-0.0649	0.0073	0.000
Weekly hours of work(continuous)	0.0296	0.0011	0.000
Being a female(d)	-2.3605	0.0598	0.000
Years of Education(continuous)	0.0692	0.0069	0.000
Have Vocational training(d)	0.3157	0.0747	0.000
Constant	7.2724	0.1198	0.000
	log of earnings 0 (Female-dominated occupations)		
Variables	Coef.	Std. Err.	P>|z|
Years of Experience (continuous)	0.0265	0.0041	0.000
Experience square/100(continuous)	-0.0328	0.0059	0.000
Weekly hours of work(continuous)	0.0221	0.0012	0.000
Being a female(d)	-4.3441	0.0717	0.000
Years of Education(continuous)	-0.0243	0.0098	0.013
Have Vocational training(d)	0.0499	0.0984	0.612
Constant	14.5408	0.1797	0.000
Selection Function (Male dominance)			
Age(continuous)	0.0002	0.0008	0.840
Non Sinhalese(d)	-0.0460	0.0113	0.000
Being a never married(d)	0.0033	0.0137	0.808
Being in an Urban Sector(d)	-0.0747	0.0128	0.000
Being in an Estate Sector(d)	-0.0946	0.0268	0.000
Being a Female (d)	-1.4627	0.0193	0.000
Years of Education (continuous)	-0.0373	0.0028	0.000
Have vocational training(d)	-0.0458	0.0323	0.155
Constant	1.8758	0.0537	0.000
/lns0	1.1354	0.0104	0.000
/lns1	0.9695	0.0050	0.000
/r0	2.9557	0.0342	0.000
/r1	0.0262	0.0197	0.184
sigma0	3.1123	0.0322	
sigma1	2.6366	0.0132	
rho0	0.9946	0.0004	
rho1	0.0262	0.0197	
LR test of indep. eqns. : chi2(2)	= 4574.30	Prob > chi2 = 0.0000	
Wald chi2(6)	= 4313.51		
Prob > chi2	= 0.0000		

Notes: n= 25979

Source: Compiled by the author, 2024

Dependent variable: log of monthly earnings for employees, (d) Indicates dummy variables. The omitted categories in earning function: male, no vocational training and the omitted categories for selection function: being Sinhalese, ever married, rural, male, no vocational training, years of Experience: Age- (Years of education+5)
Earnings=Primary job earnings+ Secondary job earnings

Table 2 shows the output results which are derived by using the endogenous switching regression model to explore the effect of occupational segregation on earning differences of employees. This model purpose is to compare the earning differences between employees in the male-dominated occupations and employees in female-dominated occupations under the different factors of occupational segregation. According to Samaraweera (2023), the endogenous switching model adjusts the selectivity bias arising from non-random behaviors. Therefore, this model helps to adjust the selectivity bias of male-dominated occupations and female-dominated occupations and compare earnings between these two groups.

The LR statistic and p-value of 0.0000 indicate that the model fits well. Table 2 includes seven dummy variables; Ethnicity (being a non-Sinhalese=1), Gender (being a female=1), Marital status (Never married=1), Residential sector (being in an urban sector=1, being in an estate sector=1), Vocational training (have training=1).

According to the results, the log of monthly earnings of workers in male-dominated occupations and female-dominated occupations increases as every additional year of experience increases. Although both coefficients show a positive direction toward the log of monthly earnings, the coefficient value of male-dominated occupations is much higher. It suggests that there is a higher tendency for the earnings of male-dominated occupations to increase than the earnings of female-dominated occupations. As well, there is a positive relationship between monthly working hours and log of earnings in both typical male jobs and typical female jobs. Apart from the people who work overtime, especially the number of working hours of professionals (nurses) in female-dominated occupations and thus their earnings can also increase. Kodagoda (2018) and Leuze & Strauß (2016) provide supporting evidence to prove the results derived from the model by explaining the close positive relationship between professional workers who work in female-dominated occupations and their earnings and hours of work. However, earnings are more likely to increase in male-dominated occupations than in female-dominated occupations.

According to the points in Table 2, the logs of monthly earnings of workers in male-dominated occupations increase as every additional year of education increases. That means earnings have a greater influence if people are more educated, especially in typical male jobs. However, there is a significant negative relationship between years of education and the monthly log of earnings of workers in female-dominated occupations, which means despite increasing years of education, there is no increase in workers' salaries in female-dominated occupations. Most of the time, this is due to the low productivity of women. Productivity varies according to the number of hours they work. Most probably they tend to work fewer hours because many women spend more time on their housework and taking care of their children.

With that employers do not prefer to pay high for female workers. As pointed out in Anker (1997), statistical discrimination theory explains that although women have the same or higher education levels and abilities than men, they are discriminated against in choosing occupations.

Vocational training is a qualification that has a significant positive relationship between the logs of monthly earnings and workers in male-dominated occupations. The human capital theory emphasizes the importance of investing in education, training, and experiences to increase the economic value of labor. Otherwise, people with low education and training have to engage in occupations that have low earnings (Anker, 1997, 1998).

Being female has a significant negative relationship with the log of monthly earnings in male-dominated occupations and female-dominated occupations. From that, there is a greater negative impact on the earnings of workers in female-dominated occupations. Due to family responsibilities and gender-stereotyped ideologies, females find jobs with flexible hours to maintain their work-life balance. Samaraweera (2023) explained the reasons such as marriage, childbirth, and childcare for having low earning profiles among women. Women get low wages and suffer from the gender wage gaps compared to men because they always choose flexible jobs by avoiding time-consuming work (Magnusson, 2019). Feminist theories explain women's role as a disadvantaged party in society and the working environment.

The selection function of the endogenous switching regression model shows a significant negative relationship between factors of non-Sinhalese, being in an urban and being in an estate sector, being a female, and having years of education with the occupations of male dominance.

Table 3: Post Estimations of Endogenous Switching Regression for Earnings

Post estimations	Obs	Mean	Std. Dev.	Min	Max
xb1	25,979	9.1512	1.3437	4.9218	13.1691
xb0	25,979	14.3929	2.1713	10.0245	18.0652
yc1_1	19,955	9.5244	1.1640	4.9624	13.1824
yc1_0	6,024	7.9026	1.1518	4.8561	12.8668
yc0_1	19,955	15.8419	1.0645	12.3085	18.5189
yc0_0	6,024	9.0440	0.5869	7.4098	12.1173
mills1	25,979	0.3517	0.3124	0.0691	1.0824
mills0	25,979	1.5740	0.5396	0.5516	2.2747

Source: Compiled by the author, 2024

Post estimations of the endogenous switching model facilitate making predictions with conditions. Xb1 depicts the unconditional average log of earnings of workers in male-dominated occupations and Xb0 denotes the unconditional average log of earnings of workers in female-dominated occupations. Yc1_1 shows how the average log of monthly earnings differs when an employee moves to a male-dominated occupation from another male-dominated occupation. The average log of earnings of a worker in a male-dominated occupation decreases when he or she moves to a female-dominated occupation, which is depicted by yc1_0 in the

Table 3. If a worker in a female-dominated occupation becomes a worker in a male-dominated occupation his or her conditional estimate of earnings could increase as a result of giving up the female-dominated occupation as shown in the yc0_1. If workers continue their work in female-dominated occupations their average log of monthly earnings will be reduced as denoted by point yc0_0. Hence, the study found that the average log of earnings per month increases in workers in typical male jobs than the workers in typical female jobs.

Table 4: Results of Endogenous Switching Regression for working hours

	Weekly working hours 1 (Male-dominated occupations)		
Variables	Coef.	Std. Err.	P>|z|
Age (continuous)	0.6089	0.0583	0.000
Age square(continuous)	-0.0081	0.0006	0.000
Being a never married(d)	-1.9254	0.4231	0.000
Being a female(d)	-19.4621	0.3771	0.000
Being in an urban sector(d)	0.3245	0.3555	0.361
Being in an estate sector(d)	1.4152	0.6352	0.026
Constant	39.5009	1.3825	0.000
	Weekly working hours 0 (Female-dominated occupations)		
Variables	Coef.	Std. Err.	P>|z|
Age (continuous)	0.4173	0.0924	0.000
Age square(continuous)	-0.0068	0.0010	0.000
Being a never married(d)	3.6231	0.6273	0.000
Being a female(d)	7.7504	0.8371	0.000
Being in an urban sector(d)	2.6655	0.5378	0.000
Being in an estate sector(d)	6.4962	0.7625	0.000
Constant	18.6631	2.4239	0.000
Selection Function (Male dominance)			
Age (continuous)	0.0016	0.0009	0.058
Non Sinhalese(d)	-0.1985	0.0204	0.000
Being a never married(d)	-0.1211	0.0288	0.000
Being in an urban sector(d)	-0.1455	0.0271	0.000
Being in an estate sector(d)	-0.5107	0.0439	0.000
Being a female(d)	-1.5340	0.0206	0.000
Years of Education (continuous)	-0.0559	0.0030	0.000
Have vocational training(d)	-0.1404	0.0283	0.000
Constant	2.0215	0.0616	0.000
/lns0	2.8334	0.0185	0.000
/lns1	2.9070	0.0063	0.000
/r0	-0.9046	0.0479	0.000
/r1	1.0104	0.0267	0.000
sigma0	17.0025	0.3143	
sigma1	18.3020	0.1160	
rho0	-0.7185	0.0232	
rho1	0.7659	0.0111	
LR test of indep. eqns. :	chi2(2) = 447.10	Prob > chi2 = 0.0000	
	Wald chi2(6) = 345.64		
	Prob > chi2 = 0.0000		

Notes: n= 25979

Source: Compiled by the author, 2024
Dependent variable: Weekly working hours for employees, (d) Indicates dummy variables. The omitted categories in hours of work function: ever married, male, rural and the Omitted categories for selection function: Sinhalese, ever married, rural, male, no vocational training

Table 4 shows the output results which are derived by using the endogenous switching regression model to explore the effect of occupational segregation on the hours of work. The purpose is to compare the differences in hours of work concerning labor supply between employees in male-dominated occupations and employees in female-dominated occupations. The LR statistic and p-value of 0.0000 indicate that the model fits well. Ethnicity (being a non-Sinhalese=1), Gender (being a female=1), Marital status (Never married=1), Residential sector (being in an urban sector=1, being in an estate sector=1), Vocational training (have training=1) are the dummies of Table 4.

Weekly working hours of workers in male-dominated occupations and female-dominated occupations increase as age increases. Due to seniority, an older person has more responsibilities than a younger person; with that, they tend to work long hours. However, working hours of workers in male-dominated occupations and female-dominated occupations decrease with increasing age at a decreasing rate.

A significant positive relationship exists between ‘never married’ workers and weekly working hours in female-dominated occupations. However, there is an inverse relationship between a ‘never married’ worker and working hours per week in male-dominated occupations, which means 'ever married' people are working more hours than a ‘never married’ worker in a male-dominated occupation. Married workers have to bear their additional family expenses (raising children). Zafaranchi, & Goldani, M. (2021) have given supporting evidence about the positive association between the number of children and hours of work of married men. As well, they also have other financial goals (building a house, buying a vehicle), and with that, they prefer to work additional hours and earn more. Especially married males act as the main income earners of their families. As pointed out in the household model of labor supply, spouses jointly make working hour decisions in terms of labor supply to maximize their families' utility. Within the family, both spouses have bargaining powers, and those bargaining effects raised married men’s labor supply by about 2.1 weekly hours (Knowles, 2005) compared to the ‘never married’ person.

There is a significant positive relationship between being an urban sector worker and weekly working hours in female-dominated occupations relative to the rural worker. Since the limited access to jobs in cities and metropolitan areas, rural workers are discouraged from supplying their labor in terms of working hours. As well, there is a positive association between being an estate sector worker and working hours in both male-dominated occupations and female-dominated occupations.

According to the points in Table 4, being female has a significant negative relationship with the weekly working hours of workers in male-dominated occupations whereas significant positive relationship between workers in female-dominated occupations. Inflexible or long working hours are a salient feature of

most of the male-dominated occupations whereas flexible working hours in female-dominated occupations. Since the powerful social norms impose a household burden on women, they have to take responsibility for caring for children and elderly people; on the other hand, they have no sufficient institutional support. With that, their labor supply has been reduced (Gunatilaka, 2013). They tend to work traditionally female-dominated occupations and try to leave male-dominated occupations with long working hours. Women have to face time constraints as one of the important supply-side barriers in terms of their labor supply (Chowdhury, 2013). These provide supporting evidence to prove the negative relationship between being a female and labor supply in male-type occupations in terms of hours of work.

The selection function of the endogenous switching regression model shows a significant negative relationship between factors of non-Sinhalese, never married, non-rural, being in an urban sector, being in an estate sector, being a female, years of education, and having training with the occupations of male dominance.

Table 5: Post Estimations of Endogenous Switching Regression for working hours

Post estimations	Obs	Mean	Std. Dev.	Min	Max
xb1	25,979	42.6013	9.2888	13.1036	52.3252
xb0	25,979	26.2874	5.4743	3.4667	42.9113
yc1_1	19,955	49.2265	4.8985	20.9601	58.3357
yc1_0	6,024	21.1221	4.2042	-0.5934	36.2339
yc0_1	19,955	21.5178	3.5962	1.7504	32.3108
yc0_0	6,024	41.6799	3.8574	24.9554	56.3774
mills1	25,979	0.4014	0.3655	0.0400	1.6569
mills0	25,979	1.5078	0.5814	0.2313	2.5086

Source: Compiled by Author, 2024

Xb1 depicts the unconditional average hours of work per week in male-dominated occupations and Xb0 denotes the unconditional average working hours of workers in female-dominated occupations. If a worker in a male-dominated occupation becomes a worker in a female-dominated occupation his or her conditional estimate of working hours could decrease as shown in the yc1_0. ; Whereas if they continue working in male-type jobs, hours of work increase as shown in point yc1_1 in Table 5. Point yc0_1 shows the average weekly working hours of workers in male-dominated occupations could increase as a result of giving up female-dominated occupations; whereas if they continue their work in a female-dominated occupation he or she has to work an average 41.6799 of working hours per week as depicted by yc0_0, which is lesser than the people who are continuing their work in male-dominated occupations.

Overall, the Log of monthly earnings and weekly working hours increased in male-dominated occupations than the female type occupations. Piore (2018) has identified male-dominated jobs as primary sector jobs and higher wages in these jobs as a salient feature in explaining dual labor market theory. Especially, long and

inflexible working hours are features of male-dominated jobs such as construction and transport fields (Wright, 2014). These have the potential to confirm the estimations obtained from the study.

5. Policy implications

Organizational Level

Human resource managers and employers can encourage policies that support flexible work schedules in male-dominated occupations to attract capable workers regardless of gender. Human resource management and other senior officials of the organization should take steps to create policies that help build a good environment (ex: Kids play area) for their employee's children within the organization and surrounding the organization's premises. Organizations should implement more favorable policies for employee parents like parental leave, and paternity leave, so that it helps to maintain a good connection with the organization. When recruiting employees for their organization, the Human resource department of an organization is responsible for preparing proper recruitment processes that prioritize their talent and skills regardless their gender. Necessary policies should be formulated in an organization to train its appropriate employees regardless of their gender.Favorable wage policies should be implement within organizations regardless their gender.

Government Level

The Career Guidance and Counseling unit of the National Apprentice and Industrial Training Authority can promote gender-balanced career opportunities for both males and females. Programs should be organized at the divisional secretariat level to create awareness about career opportunities for young men and women.The National Apprentice and Training Authority in conjunction with the Ministry of Education can launch programs to increase female participation in STEM fields through the universities or other vocational training institutes. Sri Lanka Training and Development Institute can introduce new vocational training programs and should implement policies to train women, especially in male-dominated fields. National Child Protection Authority and the Department of Elder Affairs have the responsibility to promote policies to care for children and elders, especially in daycare centers and elderly care centers which facilitate for women to balance career life and household responsibilities. Estate management boards in Sri Lanka are empowered to make favorable policies regarding flexible working schedules as well as increasing minimum wages for women working in female-dominated occupations in the estate sector. The Ministry of Labour and Employment should implement favorable wage policies and working schedules for women who are in both male-dominated occupations and female-dominated occupations.

6. Future research directions

In addition to the factors examined in this study, it is important to focus on other social factors such as personal gender ideologies, future perspectives, and personal opinions related to parental influence in the family using primary data. In future research, researchers could measure how worker productivity and performance

differ due to gender-based occupational segregation in addition to earnings and hours worked. In future research directions it is important to focus mostly on vertical occupational segregation (inter-occupational segregation and intra-occupational segregation).

7. Conclusion

This study concludes that employees' monthly earnings and weekly working hours are significantly affected by occupational segregation based on their gender dominance. Increasing years of experience and hours worked increase earnings in male-dominated occupations and female-dominated occupations, but have a greater effect on earnings growth for individuals in male-dominated occupations. The results show that when human capital investments such as education and training increase, the earnings of male-dominated occupations increase, but this is not the case for female-dominated occupations. The results also show how earnings are reduced especially due to being a female. Overall, it's clear that male-dominated occupations have higher earnings than female-dominated occupations. It emphasizes that still there is a significant gender pay gap in the labor market and it leads to increased gender inequality in occupations.

Although the number of working hours of workers in both female-dominated jobs and male-dominated jobs increases with age, however, the number of hours of 'never married' employees and females increase only in female-dominated occupations. Also, the number of working hours per week of people in female-dominated occupations will increase only if they are in the urban sector and estate sector. However, estate sector workers are more likely to be engaging in female-dominated occupations (ex: tea plucking) that have lower social status, lower wages, and longer working hours. Apart from that, the influence of all other factors explains the flexible working schedules in female-dominated occupations. It also leads to a significant 'working hour' difference between employees in male-dominated occupations and female-dominated occupations.

The study found the wider gender pay gaps and working hours differences between employees in male-dominated occupations and female-dominated occupations. At every level, whether as individuals, organizations or government actionable policies should be implemented to eliminate gender inequalities in occupational attainment.

Acknowledgment

The authors would like to acknowledge the department of Census and Statistics Sri Lanka for providing micro level secondary data from the Sri Lanka Labour Force Survey 2022 for this study.

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