

The Role of Female Workers in Developing Entrepreneurship in West Sumatra: A Decent Work Indicator Approach

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ABSTRACT : From a macro perspective, access to the labor market is increasingly open for female workers with increasingly diverse incentives for women to enter the labor market, however, data shows that there has not been a significant increase in the Labor Force Participation Rate (LFPR) of women in Indonesia, especially in West Sumatra. The purpose of this study is to analyze the role of female workers in the development of entrepreneurship in West Sumatra using SAKERNAS (National Labor Force Survey) data in 2023, where the dependent variable is working hours according to decent work as determined by the ILO and the independent variables analyzed are job characteristics, income level, education level, status of Head of Household and Age. By using logistic regression analysis tools, this study found that women's participation in entrepreneurship development seen from weekly working hours is significantly influenced by job characteristics, education level and income variables.

KEYWORDS: *Female Workers, Head of household, Job Characteristics, Education, and Income*

I. INTRODUCTION

Studies on the female workforce have evolved in line with the dynamics of societal life. Although studies on the female workforce have flourished since the 1960s, driven by studies by Mincer (1962) and Becker (1965), where Becker's (1965) time allocation theory became the basis for research related to women, particularly in estimating labor supply. However, the conflicts women face in deciding to work outside the home are increasingly complex, partly due to the rapid development of information technology. Consequently, women are required to be able to adapt to technological developments. [1] [2]

The ability to adapt to the digital economy is increasingly necessary to encourage and open access for entrepreneurs and workers, especially women, to develop their businesses more competitively and increase their scale. It is hoped that by mastering digital technology, female entrepreneurs and workers will be equipped to adapt to the dynamics of business and global competition, ultimately leading to employment or business opportunities in the workforce that contribute to the regional and national economy. [3]

The high rate of absorption of workers with the status of self-employed (entrepreneurs) is a consequence of the government's limited ability to create jobs in the economy, so that becoming a self-employed worker (entrepreneur) is an alternative employment field that is expected to be able to absorb workers and improve welfare for business actors and the surrounding community. [4] [5] [6] [7]

The study of the supply of female labor as independent workers (entrepreneurs) has an important role in providing an overview and empirical evidence of the conditions of independent workers as measured by decent work indicators based on working hours/week and factors that influence women working in this business sector, considering that female workers are classified as vulnerable workers who are vulnerable to exploitation in work and business. [3]

The attention and study of women has not only attracted the attention of researchers and governments, but also of global bodies such as the United Nations and the World Bank. In 1979, the UN General Assembly adopted the Convention on the Elimination of All Forms of Discrimination Against Women, which became the legal basis for women's human rights, better known as the Women's Convention or CEDAW (Committee on the Elimination of Discrimination Against Women). In 1995, women's human rights were re-declared at the Fourth World Conference on Women in Beijing. This conference noted 12 areas of concern for countries worldwide due to the persistence of discrimination against women in economic, social, and political activities. [4]; [5]

In the future, with the advancement of technology and information, studies on the female workforce will undoubtedly continue to develop. Determining effective policies to encourage women's participation by maintaining a balance between public and domestic work and addressing the various challenges faced is not something that can be achieved overnight. Conditions will vary greatly depending on the economic, social, political, and even cultural conditions of a region or country. [5]; [6]; [7]; [8]

In the Indonesian context, cultural diversity and socioeconomic conditions will also influence the level of women's participation in the workforce in general and in independent workers (entrepreneurship), which is strongly influenced by cultural elements, arts, and regional socioeconomic conditions. While Indonesia has a high level of cultural, artistic, and socioeconomic diversity throughout the archipelago, West Sumatra is one of the provinces that has a unique culture with matriarchal characteristics, which is the only one in Indonesia. In this system, the role of women in the household and social life is crucial in determining the welfare of families and local communities. [9]; [10]; [11]; [12]

Increasing women's participation in the labor market needs to be balanced with attention to the quality of the jobs they obtain. One indicator that can be used is the proportion of women working in white-collar jobs—namely, managerial, professional, and professional assistant positions. Based on 2023 data, most provinces in Indonesia recorded the proportion of women in white-collar jobs below 10 percent of the total female workforce. West Sumatra province, with a score of 8.69, ranks 12th out of 38 provinces in Indonesia. [13]

This study examines the role of female workers in the development of entrepreneurship in West Sumatra, where the potential for independent work (entrepreneurship) is spread across almost all cities/regencies and various economic sectors in this region. [14]. The focus of the problem to be analyzed is related to the socio-economic and demographic factors that influence female workers to work independently (entrepreneurship) in West Sumatra, both working alone or working with the help of paid or unpaid workers.

This study has an important role in supporting government policies in developing entrepreneurship. From this study, factors that influence women working as entrepreneurs and the characteristics of the female workforce who work independently (entrepreneurs) can be found. From the results of this study, more effective policies can be formulated in absorbing the female workforce, especially for independent workers (entrepreneurs) as an effort to overcome the government's limitations in creating formal employment.

II. RESEARCH METHODOLOGY

This research uses a quantitative approach that emphasizes testing theories through measuring research variables measured with numbers or quantitative indicators. Furthermore, the research variables will be analyzed using statistical procedures, to describe the characteristics of the variables studied and achieve the research objectives. The main variables studied using a quantitative approach are demographic variables (age and household status), social variables (education and health), and economic variables (income and employment status) of female workers who work as self-employed (entrepreneurs) in West Sumatra.

The main data to be analyzed is the 2023 National Labor Force Survey (SAKERNAS). Supporting data from various scientific publications complement this study to obtain a comprehensive description and quality analysis results. The research respondents were self-employed women, including those working alone and those assisted by paid or unpaid workers. From the Sakernas data it was found 5,552 respondents .

An econometric approach will be used for quantitative analysis. Using a logistic regression research equation model, this approach aims to test the probability of achieving workforce absorption in accordance with wage labor standards, using the working hours indicator as the dependent variable, while the independent variables are demographic, economic, and social variables. The research equation refers to research by (Kohara, 2008); (Maryati, Elfindri, & Bachtar, 2018; Devianto, Maryati, & Rahman, 2021) [15] [16]. The research equation is;

$$Li = \ln \left[\frac{pi}{1-pi} \right] = \beta_o + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_3 (X_{1i} X_{3i}) + U_i \quad (1)$$

Where: Li = Absorption of the Workforce of self-employed female workers (entrepreneurs) measured by working hours/week; X_{1i} = Demographic Variables (age and status in the household); X_{2i} = Social Variables (education level); X_{3i} = Economic Variables (employment status and income), X_{1i} X_{3i} = Interaction Variables between status in the household and employment status; and U_i is a confounding variable.

The main statistical tests for logistic regression are the Wald Test and the Chi-Square Test (for overall model significance), and the Hosmer-Lemeshow Test for model fit. The Wald Test is used to test the significance of each independent variable partially, while the Chi-Square and Hosmer-Lemeshow Tests are used to assess whether the overall model fits the data.

III. RESULT AND DISCUSSION

Characteristics of the West Sumatra Workforce

One of the goals that the International Labour Organization (ILO) wants to achieve in achieving sustainable development goals is to open up the widest possible employment opportunities for all people, both men and women, to get decent work, so that they can work productively in conditions that guarantee equality, freedom, security and dignity as well as adequate income as a human being. [22]

Decent Work is a key aspect of poverty alleviation efforts and a crucial strategy for achieving sustainable development goals. The ILO, through its Decent Work Agenda, campaigns for the importance of decent work, ensuring that everyone worldwide has the opportunity to find work that ensures a sustainable livelihood.

Based on the results of the 2024 National Labor Force Survey (SAKERNAS), the Employment to Population Ratio (EPR) as a benchmark for job creation; West Sumatra Province has a value of 66.24, an increase of 0.77 points compared to 2023. This value indicates an increase in the absorption of the working population compared to 2023. Viewed from gender, labor absorption in West Sumatra Province is still dominated by men both in 2023 and 2024. There is a difference of around 24.97 points in labor absorption between men and women in 2024, where male labor absorption is 78.70 while female labor absorption is 53.72. This condition reflects the inequality of employment opportunities for women in this region. [6]

In terms of working hours, the 2024 SUSENAS data shows that 25.98 percent of workers in West Sumatra work more than 48 hours per week, an increase of 1.44% compared to 25.61 percent in 2023. This indicates that workers are seeking to increase their income by increasing their working hours, but this situation requires attention as excessive working hours can negatively impact worker health and productivity.

The Open Unemployment Rate in West Sumatra Province in 2024 was 5.75 percent. Compared to 2023, the Open Unemployment Rate decreased by 0.19 percentage points. When analyzed by gender, the Open Unemployment Rate for women was higher than for men in both 2023 and 2024. Meanwhile, the underemployment rate increased from 9.81 percent in 2023 to 11.11 percent in 2024. The underemployment rate for men is higher than for women. High underemployment rates will have significant negative impacts on individuals, society, and the economy. This is because underemployed workers work below their capacity or skill level, often for low or inadequate wages. According to the Central Statistics Agency, underemployment is defined as people who work less than normal working hours (less than 35 hours per week) but are still looking for work or willing to accept other employment. This concept was introduced to measure underemployment and includes those who voluntarily do not work full-time.

The population of West Sumatra working in informal activities in 2024 experienced a decrease of 1.64 percentage points compared to 2023 and the percentage of women working in the informal sector is higher than men. Based on wage levels, the average wage of male workers/employees/staff in West Sumatra is higher than that of women in both 2023 and 2024. The average wage for male workers in 2024 was 2.91 million rupiah while for women it was 2.56 million rupiah. This condition reflects the existence of inequality in wage and income levels between male and female workers.

The largest share of informal workers by sector is in agriculture, at 46.93 percent in 2023, rising to 47.20 percent in 2024. Furthermore, the service sector accounts for 39.96 percent of informal workers in 2023, decreasing to 38.62 percent in 2024. The lowest share is in industry, at 13.11 percent in 2023, rising to 14.18 percent in 2024.

The distribution pattern of the working population by employment status in 2023 and 2024 remained the same, dominated by laborers/employees/staff, and self-employed. A significant difference occurred in the status of family workers/unpaid workers, with women accounting for 21.86 percent in 2024, compared to only around 6 percent for men.

Jobs with a high risk of economic vulnerability are an important indicator that must be considered in achieving decent work. This type of work includes self-employed workers, those assisted by casual/unpaid workers, and family workers. Their presence must be considered because of the high risk of falling into a decent work deficit, a condition characterized by insufficient job opportunities, inadequate social protection, denial of the right to work, and a lack of social dialogue.

The population of West Sumatra is quite large, comprising more than half of the workforce in West Sumatra. This significant proportion reflects the increasing risks experienced by those employed, and also the turnover of workers in the labor market. The percentage of the working population with a high risk of vulnerability reached 51.96 percent in 2024.

The number of residents of West Sumatra Province who work excessive hours (more than 48 hours per week) is 759,830 people, or 25.98 percent. The International Labor Organization (ILO) Convention stipulates that healthy working hours are less than 48 hours per week. Working beyond this limit is considered hazardous to workers' health. Male workers who have working hours of more than 48 hours a week are higher than female workers, the percentage of male workers with excessive hours is 28.72 percent while female workers are 21.94 percent.

Based on employment indicators in 2024, there appears to be an increase in labor absorption in West Sumatra Province, with an increase in the Employment-to-Population Ratio (EPR) and a decrease in the Open Unemployment Rate (TPT). However, employment conditions in this region face significant challenges, particularly in terms of gender equality, protection of informal workers, and job quality.

Based on the employment indicators outlined above, there has been an increase in labor absorption in West Sumatra, with an increase in the Employment-to-Population Ratio (EPR) and a decrease in the Open

Unemployment Rate (TPT). However, employment conditions in this region face significant challenges, particularly in terms of gender equality, protection of informal workers, and job quality.

Towards achieving the 2030 SDGs on decent work, West Sumatra Province faces the urgent challenge of creating an employment ecosystem that is not only quantitatively inclusive but also qualitatively and equitably distributed to all levels of society, without exception, as stated in the SDGs slogan, "No one left behind." [23]

Factors determining the supply of female entrepreneurs; The decent working hours approach

This study analyzed 5,552 female respondents based on the 2023 National Labor Force Survey (SAKERNAS) data, and the estimation results show that the age variable has a positive coefficient of 0.003 with a marginal effect of 0.001, but it is not statistically significant. This indicates that age differences do not significantly influence the likelihood of working during normal working hours. This means that age is not the primary factor determining whether self-employed women, who are potential entrepreneurs in West Sumatra, will work during normal working hours or not.

Theoretically, the relationship between age and female labor supply is often assumed to form an inverted U-shaped curve, where participation increases during the productive years and declines after a certain age. However, in modern empirical practice, this pattern is increasingly unclear due to socioeconomic dynamics and changes in the occupational structure. Many older women remain active in the workforce, both for economic reasons and due to the availability of more flexible employment opportunities in the informal or digital sectors. This condition causes the age variable to lose its explanatory power as a primary determinant of female employment.

Table 1 Estimation Results Of Determining Factors Of Female Entrepreneurial Labor Supply

Variables	Estimate	Marginal Effect
Age	0.003	0.001
	(0.002)	(0.001)
Status in the household	-0.300**	-0.062**
	(0.121)	(0.025)
Education	0.183***	0.038***
	(0.070)	(0.015)
Income	0.472***	0.098***
	(0.034)	(0.007)
Employment Status	-1.012***	-0.211***
	(0.069)	(0.013)
Interaction of Status in household and work	0.359**	0.075**
	(0.157)	(0.033)
Constant	-6.962***	
	(0.478)	
Numbers	5,552	5,552
Prob > chi 2	0.0000	
Pseudo R2	0.0863	
Log Pseudolikelihood	-33.511.464	
Goodness of Fit	Prob > chi2 = 0.0600	
*** p<0.01, ** p<0.05, * p<0.1		

The insignificant effect of age also reflects shifting social roles and cultural norms. In the past, older women tended to withdraw from the labor market due to household responsibilities or traditional norms. However, many women now continue to work into middle and later life due to increased education levels, lifestyle changes, and family economic incentives. As a result, age variation no longer makes a significant difference in employment decisions.

The status of women in the household as Head of Household has a significant negative effect on the chances of women working during normal working hours. The coefficient of -0.300 with a marginal effect of -0.062 indicates that women who are heads of households have a 6.2% lower chance of working during normal working hours compared to women who are not heads of households. This may be due to the greater burden of domestic responsibilities on the head of household, thereby reducing their flexibility to work during normal working hours. This finding is in line with the theory of household economics proposed by Becker (1981), where the allocation of working time of household members is influenced by a combination of economic needs and domestic responsibilities, so that women heads of households tend to choose more flexible working hours (not normal working hours that are bound by working hours) to balance their roles as breadwinners and as those responsible for the household.

Education has a significant positive effect on the supply of working hours, with a coefficient of 0.183 and a marginal effect of 0.038. This means that women with a high school education or above are 3.8% more likely to work normal working hours than women with a high school education or below. This indicates that women with higher levels of education are more likely to have jobs with normal working hours. Income also has a significant positive effect, with a coefficient of 0.472 and a marginal effect of 0.098, indicating that a 1% increase in income increases the probability of working normal working hours by 9.8%. This finding indicates that higher-paying jobs in West Sumatra tend to follow working hours that align with the ILO's standard of normal working hours. [17]

Furthermore, the interaction between head of household status and self-employment actually had a significant positive effect, with a coefficient of 0.359 and a marginal effect of 0.075. This means that women who are both heads of household and self-employed are 7.5% more likely to work regular hours than those who are not, likely due to the need to maintain income stability and manage their responsibilities as head of household and domestic affairs. This forces women with dual roles and workloads to strive to allocate their time effectively between work outside and inside the home.

Based on theoretical studies and empirical findings, it can be concluded that women's decisions to participate in the labor market as self workers, which represents a potential source of women's entrepreneurship in West Sumatra, are the result of a complex interaction between demographic, economic, and social factors.

Socio-culturally, the matrilineal system implemented by West Sumatran society contributes to the growth and development of values of economic independence and social responsibility in women. West Sumatran women are taught to be independent, educated, and capable of managing family resources. Therefore, the decision to work for women in West Sumatra is not solely driven by economic needs, but also by cultural incentives to demonstrate their abilities and contribute to their families and communities.

IV. CONCLUSION

Women's decisions to work are the result of a complex interaction between economic, social, cultural, and public policy factors. In the future, increasing women's labor force participation requires not only job creation but also an inclusive, flexible, and equitable work environment.

- 1) Some strategic steps that can be taken include:
- 2) Strengthening access to education and digital skills training for women.
- 3) Employment policies that support work-family balance.
- 4) Women's economic empowerment programs in the informal sector and MSMEs.
- 5) Increasing public awareness of gender equality and the economic value of women's work.

The government's role is crucial through a cross-sectoral approach that integrates employment, education, and social protection policies for female workers. Interventions such as incentives for companies that employ women in strategic positions, strengthening job training based on market needs, and expanding support services such as childcare and equal parental leave are crucial for expanding employment and business opportunities and narrowing the gender gap in employment and business in particular, as well as in social and economic participation more broadly.

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