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Factors That Affect the Economic Participation of Female Labor with Married Status in Central Java (Analysis of Sakernas Data 2017)

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Abstract

Central Java is one of the provinces in Java Island with the lowest economic growth rate and has the third rank for the number of female labor with married status from six provinces in Java Island in 2017. Therefore this study aims to analyse the factors which affect the economic participation of female labor with married status in Central Java using Sakernas data of August 2017. The result of analysis by binary logistic regression method shows that the variable of residence (rural), age, and education have a significant positive effect on the economic participation of female labor with married status (as labor force) while the number of toddlers and the existence of toddlers have a significant negative effect on the economic participation of female labor with married status (as labor force). Therefore, efforts are needed from all parties, especially the government as policy maker with availability of daycare center, equal employment opportunities without being limited by age, and giving motivation to women for getting higher education to increase economic growth rate in Central Java by utilizing the availability of labor especially women with married status.

Keywords: economic growth, female labor, logistic regression, labor force

1. Introduction

Indonesia with a population of 260,580,739 people ranks fourth in the world with a percentage of female population of 49.96 percent [1]. In essence, economic development is one indicator of the success of development that can be known from the level of labor participation or better known as the Labor Force Participation Rate (TPAK). TPAK is the ratio between the number of labor force and the working age population. Based on data from the National Labor Force Survey (Sakernas) in 2013-2017, female TPAK in Indonesia always tend to be lower (around 50 percentage points) compared to male TPAK (around 80 percent percentage) [2]. (see Figure 1)
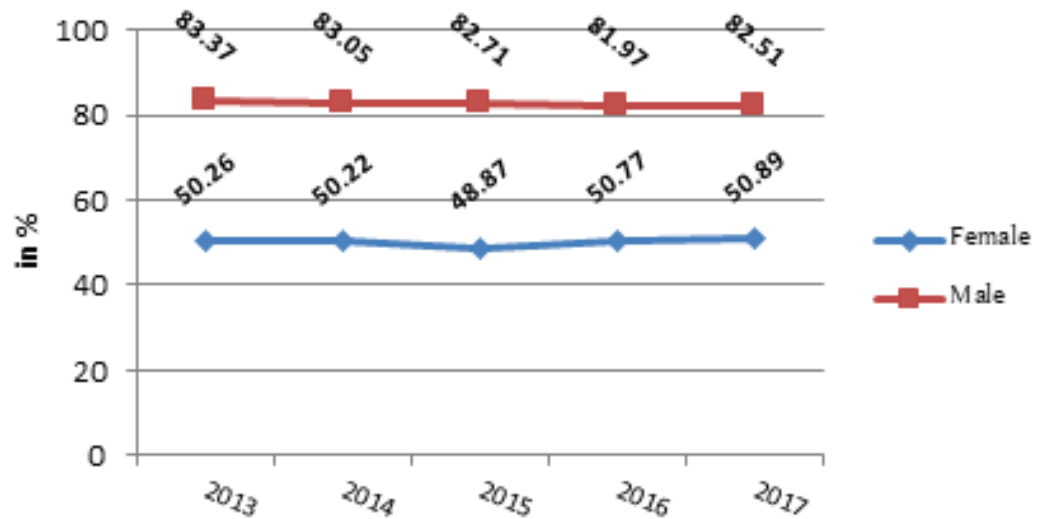
Figure 1: TPAK in Indonesia Year 2013-2017.

With the increasingly diverse needs of life, the current role of women in meeting the needs of the economy is needed. Especially in families with low economic circumstances to force family members, especially women with married status to participate in economic activities. But women with middle to upper economic condition not a few also participate in economic activity [3]. In contrast to Lee et al's research, the economic participation of female labor in Korea with unmarried status will be greater than that of male labor economy participation; but the economic participation of female labor with married status is less than male labor economic participation [4].

The lowest economic growth rate of central Java is 5.13 percent. Based on data Sakernas Central Java ranked third for the number of female labor with married status that is equal to 9,109,377 people when compared with six provinces located in Java. This shows that the economic participation of female labor with married status in Central Java is still quite low. This fact is certainly a homework to be solved by the Central Java provincial government to study what factors influence and determine policy in order to increase the economic participation of female labor with married status in Central Java.

Many factors influence the economic participation of labor. Sayyida stated that almost all of the women residing in the urban work in non-agricultural sector with normal working hours while those who live in rural area are more than half of them working in the agricultural sector with abnormal working hours [4]. Simanjuntak also explained that in a household it is necessary to regulate who is in school, working, and taking care of households depending on the number of family dependents. The more the number of family dependents, the higher the probability of married women

to work [5]. This is supported by Eliana and Ratina stating that the more the number of family dependents, the higher the amount of time the workforce of women to work [6]. Tumanggor and Effendi also stated that the number of family dependents variables has the effect that the greater the number of dependents, the greater the participation of women to work [7].

Faridi et al, in his research stated that the number of children aged 0-11 years has a significant positive effect on the participation of women to work while the number of children aged 0-6 years has a significant negative effect on the participation of women to work [8]. According to Munoz one of the factors that have a significant positive effect on the participation of female labor force in the formal sector is the status as head of household [9].

According Simanjuntak and Sumarsono there are several factors that can affect the amount of TPAK as follows education level, have a positive influence on one's decision to work. The higher a person's education will make the time owned become expensive, and the desire to work will be higher. Especially for women who have a high education, they will choose to work rather than just stay home to take care of children and households, so that TPAK are getting bigger too. In the age structure, younger residents generally do not have such a big responsibility as a breadwinner for the family. Residents at the age of 25-55 years, especially men are generally required to earn a living, so that the TPAK is relatively large [5, 10].

2. Theoretical Basis

2.1. The theory of female labor on the gender perspective

According to Simanjuntak, manpower is a resident who has a job, is looking for a job and does other activities, such as school and housekeeping who are deemed able to work at a time without age limit [5]. Law of the Republic of Indonesia No.13 of 2003 concerning Manpower explains that the workforce is any male or female who is in and / or will do the work, both inside and outside the working relationship to produce goods or services to meet the needs of the community.

When talking about women it will be linked to gender gap. The gender concept according to BPS is the difference between men and women in terms of roles, positions, responsibilities, and divisions of work defined by the community based on the nature of men and women adapted to the norms, customs, beliefs or customs community. Indirectly gender has created an injustice between the role of men and women

in the world of work. This is due to the social systems and structures created by the community itself, so that men and women become victims of the system.

Increasingly women's involvement in economic activity is characterized by two processes. First, the number of women engaged in out-of-home employment has increased, which can be seen from the increase in women's TPAK over time. Secondly, the number of work areas women can work on improves, where areas previously dominated by men are gradually being worked on or even begin to be dominated by women. Many female labors are employed in places where gender stereotypes are those that require careful and labor-intensive [11].

2.2. Decision making theory for work / not working

According to Ananta, essentially economic theory is a select theorizing theory that aims to maximize the satisfaction of various needs based on limited resources [12]. One's choice to determine the number of hours worked depends on his preferences. If the length of time spent working and relaxing is equally appropriate to his tastes, it is said that this person is unwilling to know both combinations of time. Consumer choices can be described in a curve of indifference curves (indifference curves) [13]. (see Figure 2)
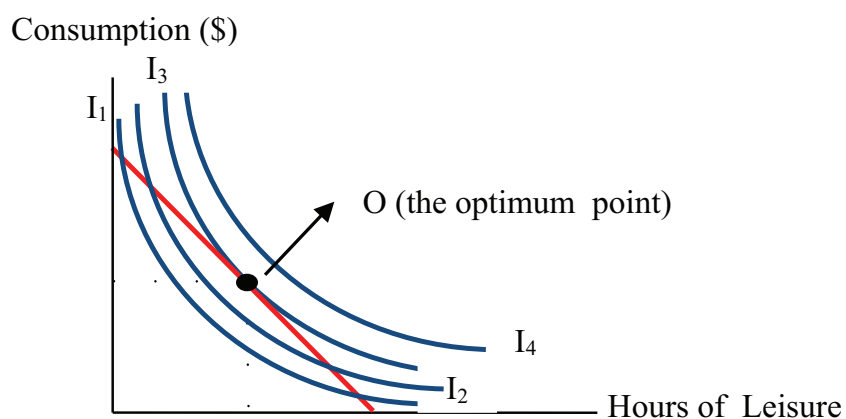

Figure 2: Indifference Curves.

This curve shows a person's budget constraints in deciding how long (hours) he has to work. I1, I2, I3 and I4 are indifference curves for consumption and leisure time. Consumption in question is the time used to work for the achievement of consumption needs. Point O is the optimum point. In this curve, it is assumed that the maximum working time of the week is 100 hours. For every 1 hour he works earning $ 50, which is then used to consume goods or services. This can mean that every 1 hour of leisure

time will sacrifice the $ 50 wage. At point O (the optimum point), the highest limit of indifference curve that can be reached is I3. The highest indifference curve (highest utility) is I4 but unable to obtain the combination of I4 due to time limitation in a week. In contrast, curves I1 and I2 are indifferent indifference curves, so do not choose them because there is no optimal utilization for consumption and leisure time. Mankiw also said that between the time of leisure and consumption determines the supply of labor because the more leisure time he enjoys, the less time he has left to work. This means also influencing the decision to work [13].

2.3. Indonesia employment

As a guideline in the implementation of the survey and its census, Statistics Indonesia (BPS) uses the concept and definition of Indonesian employment issued by the International Labor Organization (ILO) known as The Labor Force Concept, where labor is meant to be Working Age Population (PUK) that is persons of 15 years and over. In the PUK is divided into two namely the Labor Force and Not in Labor Force. Labor Force is PUK that work or have job but temporarily not work and unemployment while Not in Labor Force is PUK who students, housekeepers or do activity outside of personal activity [14]. For more details can be seen in Figure 3.

3. Research Methods

The data used in this research is derived from the results of Sakernas 2017 conducted by BPS with the number of respondents of 17,155 respondents and data from other literary sources where the economic participation of female labor with married status (as labor force) variable is the dependent variable while the variable of residence (rural), the number of toddlers, status in the household (as head of household) and age (age and age square), education, and the existence of toddlers (exists) are independent variables.

The method of analysis used in this research is descriptive analysis and binary logistic regression analysis. Descriptive analysis shows cross tabulation between dependent variable and independent variable. Binary logistic regression analysis shows the estimation model used to determine the relationship of the dependent variable (y)
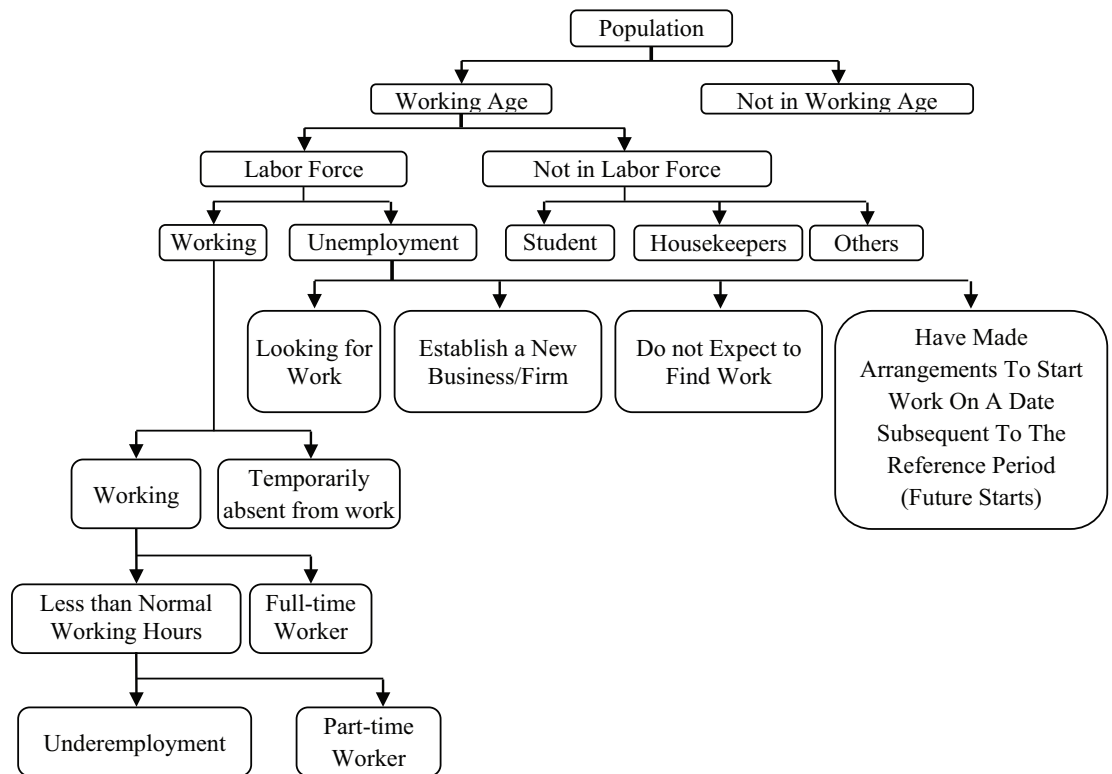
Figure 3: Diagram of Indonesia Employment.

which is binary (denoted by 0 and 1) with independent variable (x) [15], to form the logistic distribution function as follows:

$$P_i = \frac{1}{1 + e^{-(\alpha + \beta x_i)}} \tag{1}$$

When simplified to:

$$P_i = \frac{1}{1 + e^{-z_i}} = \frac{e^{z_i}}{1 + e^{z_i}} \tag{2}$$

where $Z_i = \alpha + \beta X_i$

If it is assumed that the P_i equation as an occurrence of the economic participation of female labor with married status (as labor force) it is necessary to determine the event not as the labor force (1- P_i), to obtain the following equation:

$$1 - P_1 = 1 - \frac{e^{z_i}}{1 + e^{z_i}} = \frac{1}{1 + e^{z_i}} \tag{3}$$

Having obtained equation (3), an Odds Ratio of the probability ratio of the economic participation of female labor with married status (as labor force) to probability is not as labor force, as follows:

$$\frac{P_i}{1 - P_i} = \frac{\frac{e^{z_i}}{1 + e^{z_i}}}{\frac{1}{1 + e^{z_i}}} = e^{z_i} \tag{4}$$

To make equation (4) to be linear it needs to be multiplied by Natural Logarithm so that it becomes equation form as follows:

$$\ln\left(\frac{P_i}{1-P_i}\right) = Z_i = \alpha + \beta X_i \tag{5}$$

The natural logarithm or ln of equation (5) is linear in X and the parameter so that this equation (5) is known as the logit model [16].

From the above description, a model of probability estimation of the economic participation of female labor with married status (as labor force) in Central Java is as follows:

$$\ln\left(\frac{P_i}{1-P_i}\right) = \alpha + \beta_1 \text{LOC}(1) + \beta_2 \text{FML} + \beta_3 \text{NTOD} + \beta_4 \text{HHOLD}(1)$$

$$+ \beta_5 \text{AGE} + \beta_6 \text{AGE2} + \beta_7 \text{EDUC} + \beta_8 \text{TOD}(1)$$

4. Results

In table 1 it can be seen that the value of significance in the number of family dependents variable and status in the household more than the level of significance of 0.05. This means that the variable is not significant so that the variable does not affect the economic participation of female labor with married status (as labor force). While the other variables have a significance value less than the level of significance of 0.05. So it can be concluded that variable of residence (rural), age, and education have a significant positive effect on the economic participation of female labor with married status (as labor force) while the number of toddlers and the existence of toddlers have a significant negative effect on the labor economy participation women with married status (as labor force). From table 1 can be formed binary logistic regression equation as follows:

The magnitude of the influence of the economic participation of female labor with married status (as labor force) is shown by the value of Exp (B) with the following explanation:

1. Married women who live in rural are 1.082 time more likely to to participate in economic activities than those live in urban area.

2. There is no difference in the economic participation of married women regardless of the number of family dependents (number of household members).

3. The economic participation of female labor with married status will fall by 0.809 times for each addition of 1 toddler in the household.

TABLE 1: Estimated Probability Results Economic Participation of Female Labor With Married Status (As Labor Force).

Variabel	Notation	B	Sig.	Exp(B)	Information
residence (rural)	LOC	0.081	0.016	1.085	significant
the number of family dependents	FML	0.013	0.294	1.013	not significant
the number of toddlers	NTOD	-0.212	0.007	0.809	significant
status in the household (as head of household)	HHOLD	0.140	0.179	1.151	not significant
age	AGE	0.164	0.000	1.178	significant
age square	AGE2	-0.002	0.000	0.998	significant
education	EDUC	0.025	0.000	1.026	significant
the existence of toddlers (exists)	TOD	-0.272	0.004	0.762	significant
constant		-3.067	0.000	0.047	significant

4. There is no difference in economic participation between married women as heads of households with married women not as head of households.

5. For age, its effect on economic participation is a quadratic function and from the regression equation obtained a maximum value of 41 years. This means that the economic participation of married woman will increase with age until reaching age 41 years, and after passing the age of 41 years, the economic participation of married woman will turn down with age. The magnitude of the effect of age on proprability for a particular age point is the amount of $\exp\{(0.164 \times age) - (0.002 \times age^2)\}$. If the age increases r years then the influence of age on the probability of female labor participation with married status will be equal to $\exp\{(0{,}164 \times (age + r) - (0{,}002 \times (age + r)^2)\}$ or increase by $\exp((0.164 \times r) - (0.004 \times age \times r) - (0.002 \times r^2))$.

6. The economic participation of female labor with married status will rise by 1,026 times for every average increase in the length of education for 1 year.

7. The economic participation of female labor with married status who in their household exist toddler, smaller 0.762 times compared to married women who in their household not have a toddler.

5. Conclusions and Policy Implication

This research gives little idea about the factors that affect the economic participation of female labor with married status (as labor force) in Central Java seen from the

probability value of the economic participation of female labor with married status (as labor force) by using binary logistic regression analysis.

The result of the analysis of binary logistic regression is the variable of residence (rural), age, and education have a significant positive effect on the economic participation of female labor with married status (as labor force) while the number of toddlers and the existence of toddlers have a significant negative effect on the labor economic participation women with married status (as labor force). Therefore, efforts are needed from all parties, especially from the government as policy makers with availability of daycare center, equal employment opportunities without being limited by age, and giving motivation to women for getting higher education to increase economic growth rate in Central Java by utilizing the availability of labor especially women with married status.

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