Gender and Women of Eligible Couple’s Decision Entering the Job Market in Central Java

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Abstract

This research aims to analyze the factors that influence the decision of women of eligible couple to enter the labor market. The research method used is quantitative methods using statistical analysis techniques Binary Logistic Regression. The research data used is primary data with cross section data type. The number of respondents in this study was 1200 observations determined by the multistage random sampling method. Sampling was carried out in stages from the scope of Central Java Province, one district/city per residency was selected. The results of the study stated that the variables of education level and family planning participation did not significantly influence the decision of women of eligible couple to enter the labor market. Meanwhile, the family welfare variable was influential but not significant with a statistical Z value of 1.62 but still smaller than the Z table value of 1.645. Then the variables of age, number of children and understanding of gender have a significant effect on the decision of women of eligible couple to enter the labor market. Based on the results of the probability estimation, it is stated that the increasing age of an eligible couple woman, the higher the probability of an eligible couple woman entering the labor market, the more children an eligible couple woman has, the lower the probability of an eligible couple woman entering the labor market. The probability of an woman of eligible couple who has one child to enter the labor market is 43.68%, while the probability of having 5 children or more is only 21.93%. And the higher the value of understanding about the gender of women of eligible couple, the higher the chances of entering the labor market. Women of eligible couple with an average gender score of 1, have a probability of entering the labor market of 0.5 or 50%. Meanwhile, women of eligible couple with an average gender score of 5 have a probability of entering the labor market of 0.5915 or 59.15%. The policy implications that need to be implemented are increasing IEC and promoting birth control through family
planning programs, increasing the socialization of gender concepts and gender mainstreaming and increasing women's empowerment programs, especially in the economic sector.

Keywords


Introduction

Indonesia is currently entering the demographic bonus stage, an opportunity to gain economic benefits due to changes in population structure following a decline in the birth rate (Adioetomo, 2011; Adioetomo and Pardede, 2018; Cuaresma et al, 2010). This condition can be attributed to the long-term impact of the family planning program which was implemented nationally since the 1970s. The high birth rate in the 60s and 70s led to an increase in the proportion of the population of the young age group (15 years and over) starting in the 90s. The success of the family planning program began to be felt in the 80s when there was a decline in the proportion of the population under 15 years of age. The dynamics of changes in the age structure have an impact on decreasing the proportion of the non-productive population and increasing the proportion of the productive age population (Khairuunnisa & Supriatna, 2018; Putranti, 2020; Nupus & Ichwanudin, 2021).

Based on the 2020 population census, the total population is 270,203,917 million. The male population is 136,661,899 million, while the female population is 133,542,018 million. With the proportion of the population of Generation Z (age 0-7 years) of 10.88% or 29.17 million people, Generation Z (age 8-23 years) of 27.94% or 74.93 million people, millennial generation (age 24-24 years) 9 years) by 25.87% or 69.38 million people, generation X (age 40-55 years) by 21.88% or 58.65 million people, baby boomer generation (age 56-74 years) by 11.56 % or 31.01 million people and the pre-boomer generation (age 75+ years) was 1.87% or 5.03 million people.

The increasing population growth shows that the supply of labor in Indonesia has increased. In 2019 the number of male workforce (population aged 15 years and over) was 82,124,126 million, while the number of female work force was 51,436,754 million. Compared to the previous year, the male workforce was 80,399,421 million and the female workforce was 50,606,220 million. If seen from the data, the number of female labor force exceeds 50% of the total male workforce. The large number of female
workforce is a potential human resource for economic development (Ulwan, 2021; Wibowo, 2021).

The role of women as equal partners with men at this time is not something new. This has been recognized by the government since the inclusion of the role of women in development which has been implied in the five basic philosophies of the Indonesian nation, namely Pancasila, the 1945 Constitution, and the Outlines of State Policy. Women have the opportunity to participate in development in all fields, both economic, social and cultural. At this time women want to actualize themselves in development. Women carry out their transitional role, namely as workers who are actively involved in earning a living in accordance with their education and skills. Based on gender statistical data for Central Java Province, in 2019 Central Java Province still has several gender problems that must be faced. For example, the percentage of women's illiteracy rate is higher than that of men, the involvement of women in the world of work with working hours under 35 hours a week and their status as unpaid workers. This study aims to analyze the decision of women of eligible couple to enter the labor market, in Central Java Province. Based on the study, it is expected to be able to answer the following research questions:

RQ1. How does age affect women's decision to enter the labor market in Central Java?
RQ2. How does the level of education affect the decisions of EC women to enter the labor market in Central Java?
RQ3. How is the influence of fertility factors (number of children and participation in family planning) on women's decision to enter the labor market in Central Java?
RQ4. How does the factor of understanding gender affect the decision of EC women to enter the labor market in Central Java?

Literature Review

Klasen and Pieters (2012) used the probit model to determine the causes of female labor force participation in rural India, between 1987-2004. They argue that the participation of women with low education is driven by income and insurance considerations, while that of women with higher education is driven by opportunities reflected in market wages. So, at a low level of education, participation increases due to push factors, while in higher education participation increases due to pull factors.

A cross-provincial study by Psacharopoulos and Tzannatos (1991; 2008) in Turkey states that education has a positive effect on women's labor force participation. Meanwhile, Ince's research (2010) which uses time series data also shows that the effect of positive
education is the strongest on women's labor force participation in Turkey. Furthermore, evidence from research by Contreas (2010) for Chile also states that education is the most dominant determinant of labor force participation, both male and female. The results of the logit model in Punjab, Pakistan by Shaheen et al (2011) indicate that household coconut education is negatively associated with female labor force participation.

Faridi et al (2009) stated that there was a positive trend between education and female labor force participation in Pakistan using the logit model. The empirical study by Cho and Cho (2014) shows an interesting phenomenon, where among Korean women, the level of education is inversely proportional to their participation in the job market. While Khatun (2015) states that there is an association between education level and female labor force participation, it is also found that low-income family heads are the driving force for entering the labor market.

Tanaka et al (2021) examined the impact of educational attainment on Bangladeshi women's participation in the labor market. Their findings suggest that women's schools enhance women's roles and well-being through marriage and household activities, rather than their activities in the labor market. The relationship between female LFPR and birth rate (Total Fertility Rate / TFR) has been found in the demographic and economic literature. To date, most studies that have determined the relationship between female LFPR and TFR have used correlation-based methods, which did not address the issue of causation. However, it may be the case that the 2 variables are highly correlated, but not causally related. The problem is that the model assumes a static frame over a period of time, while the effect of women's TFR and LFPR on each is not instantaneous. This fact makes it necessary to model female LFPR and TFR not only on dynamic problems, but also on autoregressive processes. As a result, the question of 'what causes what' has received renewed attention in the demographic and economic literature.

According to Mishra et al (2010) an increase in TFR can have 2 opposite effects on female LFPR. On the one hand, the presence of children under five can increase working time at home, which reduces a mother's desire to find work in the labor market. This is consistent with the role - incompatibility hypothesis which states that there is a negative relationship between TFR and female LFPR. However, on the one hand the presence of children also increases the household's need for more income so that it can increase the need for women to look for work outside.

In summary, if causation begins with TFR in female LFPR, and TFR negatively affects female LFPR, then this supports the role incompatibility hypothesis. Likewise, if the
cause and effect starts from female LFPR on TFR, and female LFPR has a negative effect on TFR, it also supports the role incompatibility hypothesis. However, if the cause and effect starts from TFR in female LFPR, and TFR has a positive effect on female LFPR, then this is consistent with the social response hypothesis where it can be concluded that social change behavior towards mothers in the workplace will make it easier for women to re-enter the workforce.

Meanwhile, Bloom, Canning & Fink (2009) examined the effect of fertility on women's LFPR in a number of countries using abortion legislation as a fertility instrument. By removing the prohibition on abortion, it significantly reduces the birth rate and estimates that a single birth reduces a woman's labor supply by approximately 2 years of her reproductive life. This results in behavioral changes, in the form of an increase in the supply of female labor.

Several other studies related to female LFPR and fertility were also conducted by Lee and Lee (2014) who related it to the availability of time to care for children in Japan. The results show no causal relationship between availability of child care and fertility in married women aged 30 – 39. In the long term, these results suggest that having more children at home does not prevent women from working. There is no evidence that working women tend to have fewer children. Meanwhile, Veda (2008) has previously compared the dynamic model of childbearing with the LFPR of married women in South Korea and Japan. Many studies have stated that fertility has a negative effect on women's labor force participation. A study by Khatun (2015), found that the number of children was a barrier for women to participate in the labor market. Research by Borck (2014) states that there is a positive relationship between fertility, women's labor force participation and child rearing. This is different from the findings of Kofi et al (2003) which stated that the presence of children under five had no significant effect on women's participation in the labor market in Ghana and Zimbabwe. A study covering 6 countries in Asia by Bakar et al (2014) using a cointegration panel and long-run structural estimation, resulted that LFPR and Total Fertility Rate (TFR, Total Birth Rate) were cointegrated in 6 Asian countries, and the results stated that the granger causality of TFR affecting LFPR. The negative effect of TFR on LFPR is highest in Indonesia, and lowest in Thailand. Meanwhile, according to Nanfosso and Akono (2010) who conducted a study on urbanites in Cameroon, the results were different from the literature in general. They state that fertility has a positive effect on the probability of female labor force participation in Cameroon.
Chiquero (2014) explores the impact of unwanted births on women's labor force participation and earnings. Unwanted births (as a result of not using contraceptives, even though they don't want any more children) significantly reduce women's labor force participation. Another interesting finding was that women with high work force engagement were more likely to use contraception or to have spontaneous abortions if contraception failed. Using panel data on mothers in Japan, Griffen et al (2015) estimated the impact of fertility on maternal labor supply using twins as an instrument for number of children. The resulting finding is that having twins has a long-term positive impact on maternal labor force participation.

According to Hwang et al (2018), the correlation between the birth rate and the female labor force participation rate has shifted from negative to positive in some developed countries. The dynamic relationship depends on the relative strength and effects of behavior and composition, where a larger substitution effect allows working women to have more children. Meanwhile, Chen and Chen (2021), who conducted research in Taiwan and mainland China, found that an increase in family size (due to the number of children) had a negative effect on the mother's labor supply, but not on the father.

**Theoretical Framework**

The level of participation of women in the labor market in Central Java is still not optimal. Based on gender statistics, the Central Java Provincial Statistics Agency, the participation of the male population in work is higher than that of women. The labor force participation rate of the male population is 82.43% while the female population is only 55.33%. This problem can be caused by several things such as age, education level, number of children, family planning participation, level of family welfare and gender prioritization.

![Figure 1 Theoretical Framework](http://www.webology.org)
Based on the research framework in Figure 1, the following hypothesis is drawn:

Hypothesis 1: There is a positive and significant influence of the individual factors of EC women on the probability of an EC woman's decision to enter the labor market.
Hypothesis 2: There is a positive and significant influence of individual factors on the level of education of EC women on the probability of an EC woman's decision to enter the labor market.
Hypothesis 3: There is a negative and significant influence on the fertility factor. The number of EC girls on the probability of an EC woman's decision to enter the labor market.
Hypothesis 4: There is a positive and significant influence of the fertility factor on the participation of FP women in PUS on the probability of an EC woman's decision to enter the labor market.
Hypothesis 5: There is a negative and significant influence of economic factors on the family welfare of EC women on the probability of an EC woman's decision to enter the labor market.
Hypothesis 6: There is a positive and significant effect of gender mainstreaming of EC women on the probability of an EC woman's decision to enter the labor market.

**Methodology**

This study uses primary data taken by survey methods and interviews using a questionnaire instrument. The population of this study were all women of eligible couple (PUS) in Central Java. Eligible couples or EC are married couples who are bound in a legal marriage, where the wife (the woman) is still of childbearing age or still has the potential to have children (age 15 - 49 years. The determination of the sample in this study used the method multistage random sampling, the sampling carried out gradually from the scope of Central Java province have a district / city per residency, with a total sample of 1200 respondents. The variables used in this study is the decision of women of fertile couples (PUS) enter the job market, as the dependent variable, while the independent variables are age, education level, number of children, family planning status, family welfare, and understanding of gender.

This study uses quantitative methods using logistic regression analysis. The data was processed using STATA data processing software version 14, for windows. The logistic regression model is expressed in a probability form. This model is a model in which the dependent variable is the logarithm of the probability of a situation or attribute that will apply on the condition that certain independent variables exist. The word logit is based on
an assumption regarding the function of the random variable under study in the form of a Logistic Distribution.

Results

1. Demographic Characteristics of Respondents

Respondents in this study were women of eligible couple (PUS) in 6 districts/cities in Central Java, namely Pati Regency, Banyumas Regency, Magelang Regency, Semarang City, Pekalongan City and Surakarta City. Eligible Couples or EC are married couples who are bound in a legal marriage, where the wife (the woman) is still of childbearing age or still has the potential to have children (age 15 – 49 years). Overall, from the 6 regencies/cities, the total number of respondents was 1200 people. The profiles of respondents involved in this study are shown in the following table:

<table>
<thead>
<tr>
<th>Job status</th>
<th>Age</th>
<th>Education</th>
<th>Number of Children</th>
<th>KB Status</th>
<th>Family Welfare</th>
<th>Gender Understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>15-19</td>
<td>no sec</td>
<td>0.17</td>
<td>0</td>
<td>noKB</td>
<td>Pre KS</td>
</tr>
<tr>
<td></td>
<td>20-24</td>
<td>SD</td>
<td>20.42</td>
<td>1</td>
<td>KB</td>
<td>KS</td>
</tr>
<tr>
<td></td>
<td>25-29</td>
<td>junior high school</td>
<td>31.00</td>
<td>2</td>
<td>KB</td>
<td>KS</td>
</tr>
<tr>
<td></td>
<td>30-34</td>
<td>senior High School</td>
<td>36.50</td>
<td>3</td>
<td>KB</td>
<td>KS</td>
</tr>
<tr>
<td></td>
<td>35-39</td>
<td>D3/S1</td>
<td>24.75</td>
<td>4</td>
<td>KB</td>
<td>KS</td>
</tr>
<tr>
<td></td>
<td>40-44</td>
<td>S2/S3</td>
<td>19.67</td>
<td>5</td>
<td>KB</td>
<td>KS</td>
</tr>
<tr>
<td></td>
<td>45-49</td>
<td></td>
<td>12.25</td>
<td></td>
<td>KB</td>
<td>KS</td>
</tr>
</tbody>
</table>

Source: Primary Data (processed Stata14), 2019.

Table 1 shows that, from 1200 research respondents, the largest proportion of EC women aged 34-39 years (24.75%), education level at the high school level (36.50%), the number of children 2 (43.08%). The lowest proportion of respondents were women in EC aged 15-19 years (0.17%), did not go to school (0.17%), and did not have children.
(1.42%). Most of them, namely 69.25% are family planning acceptors, but the largest proportion is still in the Pre-Family Prosperous stage, as much as 60.42%. Regarding gender understanding, the largest proportion has a score of 30, as many as 46.67%, which means that they already have a good understanding of gender. In terms of employment status, 55.00% of them have entered the job market, and 45.00% decided not to work.

2. Logistics Regression

Before further discussion, this research has previously met the data quality test, namely the validity and reliability tests. Validity test is conducted to measure whether a questionnaire is valid or not. A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that is measured by the questionnaire. The validity test was carried out by conducting a bivariate correlation between each indicator score and the total construct score (Ghozali, 2018). In this study, the validity test was seen from the Pearson correlation value. The results of testing the data obtained that the Pearson correlation value of all constructs is greater than alpha. That is, all the indicator constructs of the gender mainstreaming variable question are valid.

This research has also been through a reliability test. To measure reliability, Cronbach Alpha statistical test was used. The Cronbach Alpha value of the gender mainstreaming variable is 0.620 which is greater than 0.60. This proves that the construct of the question indicator on the gender variable is reliable or constant and stable.

The equation model used with this logistic method has several independent variables, namely age, education, number of children, family planning participation, family welfare and PUG. The following are the results of the analysis carried out, the following results are obtained (Table 2).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coef.</th>
<th>z</th>
<th>P &gt;</th>
<th>z</th>
<th>VIF</th>
<th>1/ VIF</th>
<th>Odds-Rattio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.0499856</td>
<td>5.06</td>
<td>0.000</td>
<td>1.28</td>
<td>0.782284</td>
<td>1.051256</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-0.000222</td>
<td>0.000</td>
<td>0.997</td>
<td>1.17</td>
<td>0.856691</td>
<td>0.999778</td>
<td></td>
</tr>
<tr>
<td>Number of children</td>
<td>-0.2538462</td>
<td>-3.61</td>
<td>0.000</td>
<td>1.30</td>
<td>0.771912</td>
<td>0.775811</td>
<td></td>
</tr>
<tr>
<td>Praksks</td>
<td>0.2011578</td>
<td>1.62</td>
<td>0.105</td>
<td>1.05</td>
<td>0.950348</td>
<td>1.222818</td>
<td></td>
</tr>
<tr>
<td>Kb</td>
<td>0.1158998</td>
<td>0.88</td>
<td>0.381</td>
<td>1.07</td>
<td>0.936482</td>
<td>1.122883</td>
<td></td>
</tr>
<tr>
<td>PUG</td>
<td>0.0741031</td>
<td>2.28</td>
<td>0.023</td>
<td>1.09</td>
<td>0.920281</td>
<td>1.076918</td>
<td></td>
</tr>
</tbody>
</table>

Ztable = 1.645
Number of obs = 1,200
LR chi2(6) = 39.91
Prob > chi2 = 0.0000
Log likelihood = -805.1086
R2 = 0.0242
HL- Statistics = 5.77 Prob. Chi-Sq = 0.6725
3. Logistics Regression Analysis

Based on the estimation results in Table 2, it shows that the variables of age, number of children and gender have a lower probability of error margin of 5%. Where the probability value of the age variable is 0.000, the probability value of the number of children variable is 0.000 and the probability value of the gender variable is 0.023. This indicates that the variables of age, number of children and gender have a significant effect on the probability of the decision of women of eligible couple to work with a 95% confidence level.

The following is the resulting equation based on the estimation of the decision equation for women of eligible couple to enter the labor market:

female of eligible couple decision = (P/(1-P)) = -2.848599 + 0.049986 X1.Age - 0.000222 X2.Education - 0.253846 X3. Number of Children + 0.1158 X4. KS + 0.1159 X5.KB + 0.074103 X6.GENDER (Equation 1)

Based on the above equation generated from logistic regression, it can be used to interpret the effect of the independent variables on the dependent variable. Based on the probability values obtained from each research variable, it can be concluded that the variables used as leading indicators of the probability of women of eligible couple entering the labor market are age, number of children and gender variables. Each coefficient generated by the variables of age, education, number of children, family welfare, family planning and gender can be interpreted as the opportunity for women of eligible couple to enter the labor market due to changes in the value of one variable. The impetus of each variable on the probability of the decision of women of eligible couple to enter the labor market can also be seen from the value of the odds ratio. In summary, the statistical results using the logistic regression method can be seen in Table 2.

The age variable has a coefficient of 0.0499856. This means that if other variables are held constant, an increase in the age of an EC woman by 1 unit will cause an increase in the log of odds for an EC woman to enter the labor market by 0.0499856. The odds ratio for this variable is 1.051256. This means that, if other variables are held constant, then women of reproductive age who enter the productive age are 1.051256 times more likely to enter the labor market. Then the education variable has a coefficient of -0.000222. This means that if other variables are held constant, an increase in the education level of EC women by 1 unit will cause a decrease in the log of odds for PUS women entering the labor market by -0.000222. The odds ratio of this variable is 0.999778. This means, if
other variables are held constant, then EC women with higher education levels are 0.999778 times more likely to enter the labor market.

Furthermore, the variable number of children has a coefficient of -0.2538462. This means that if other variables are held constant, an increase in the number of children by 1 unit will cause a decrease in the log of odds for women entering the labor market by 0.2538462. Odds the ratio of this variable is 0.7758. This means that if other variables are held constant, the more children an EC woman has 0.999778 times the more likely she is to enter the labor market.

Family planning participation variable has a coefficient of 0.1158998. This means that if other variables are held constant then EC women who participate in the family planning program will cause an increase in the log of odds for PUS women entering the labor market by 0.1158998. The odds ratio of this variable is 1.122883. This means, if other variables are held constant, then EC women who participate in the family planning program are 1.122883 times more likely to enter the labor market.

The family welfare variable has a coefficient of 0.2011578. This means that if other variables are held constant then EC women who are included in the category of prosperous families will cause an increase in the log of odds for PUS women entering the labor market by 0.2011578. The odds ratio of this variable is 1.222818. This means that, if other variables are held constant, then EC women who fall into the category of prosperous families are 1.222818 times more likely to enter the labor market.

The gender variable in equation 5.1 has a coefficient of 0.0741031. This means that if other variables are held constant, EC women who have a good understanding of gender mainstreaming will cause an increase in the log of odds for PUS women to enter the labor market by 0.0741031. The odds ratio of this variable is 1.076918. This means, if other variables are held constant, then EC women who have a good understanding of gender mainstreaming are 1.076918 times more likely to enter the labor market.

The results are in accordance with previous research. Vu et al (2021) examined the effect of fertility on women's participation in the labor market in Vietnam. Their findings indicate that the number of children has a negative effect on maternal participation in the labor market and working hours, but not on income. The findings were significant in young women (21-35 years old) but not significant for older women aged 36-50 years. The older group responded by reducing their working hours rather than leaving their jobs. The influence of religion, social norms and conservatism on women's labor
force participation in Turkey is the topic of study from an article from (2013). The result is that these factors have a negative effect on women's work in urban areas, but have no significant effect in rural areas. Meanwhile, in 2016, Atasoy continued his study by identifying the influence of traditionalism on women's participation in the labor market in Turkey. It was found that women who grew up under traditional cultures had higher rates of participation in the workforce and looking for work. This negative influence is stronger in the service sector.

An interesting finding was presented by Assaad (2017) who conducted a study on women's participation in the relatively stagnant labor market in Egypt, Jordan and Tunisia despite a large increase in education. The phenomenon that often occurs in the Middle East and North Africa is thought to be due to the influence of the gender gap. Chen and Ge in 2018 examined the impact of social norms on labor supply decisions in urban China. An interesting finding is that men raised by non-working mothers tend to be more supportive of traditional gender roles, reject working wives, and tend to be less willing to do household chores. As a result, the labor force participation rate of married women with non-working mothers-in-law is 5-8 points lower than those with working mothers-in-law. Furthermore, Cavapozzi et al (2021) examined the impact of gender roles on female labor force participation in the UK. The findings of this study are that having friends with gender equality norms makes mothers more likely to have paid jobs, and to have a larger share of the total number of hours they work.

Conclusion

The results showed that statistically, the age factor has a significant positive effect on the decision of an EC women to enter the labor market. However, statistically, the education factor has a negative (although not significant) effect on the decisions of women in female reproductive age to enter the labor market. There is a tendency that the more children there are, the lower the proportion entering the labor market. This is also in accordance with the results of statistical analysis, where the fertility factor (number of children) has a significant negative effect on the decision of an EC woman to enter the labor market. Moreover, statistically, the factor of participation in family planning also does not have a significant effect on the decision of women who have sex with women to enter the labor market. However, the data is significant, when juxtaposed with the age factor and the number of children.

Meanwhile, from the results of statistical analysis, family welfare factors have a positive, but not significant, effect on the decisions of women in female reproductive age to enter
the labor market. Lastly, the factor of understanding gender has a significant positive effect on the decision of EC women to enter the labor market.

References


