The determinants of youth participation for school, work, or other activities based on social demographic characteristics in Indonesia

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Abstract. Youth as an economic actor is also a rational agent. Youth are always faced with various alternative choices, one of which is entering the labor market (working), attending school, going to school while working, or not both. The findings of this paper suggested that youth have become a major part of the workforce, also a determinant of economic conditions, in addition to the demographic posture of a large population of young people. Youth are faced with a variety of economic challenges including the need to increase productivity in increasingly competitive global markets. They must be creative, innovative, and productive with increased capacity to compete, not only in the global market but also in the domestic market.

1. Introduction

Youth as an economic agents always face the choice to enter the labor market or not. Every choice taken is expected to provide maximum benefits for the individual. For young adults, both choices are to continue school or work. But not all individuals in the workforce are in the working category. In 2013, the individual population of young adults reached 17.2 percent or equivalent to 42 million people where 4.5 million did not work [1]. This condition is caused by young adult individuals tend to be more vulnerable than adult individuals to lose their jobs because they generally do not have the skills and work experience. In addition, the majority of young adult individuals who do not work are usually looking for work or entering the labor market for the first time [2]. Besides, one thing that must not be forgotten, Indonesia is currently experiencing demographic bonus benefits. Demographic bonuses are conditions where more productive age populations compared with nonproductive populations. Indonesia is predicted to experience a peak demographic bonus in the next 2030. The demographic bonus can be defined as the emergence of a large number of young people who are assumed to be productive forces (16-30 years) in the year 2025 – 2045. Talking about the advantages of Indonesia's demographic bonus in the coming 2045, Indonesia seems to have to be prepared to create various opportunities to take advantage of the demographic bonus [3].

Based on previous research, youth are often faced with various challenges, one of which is social demographic factors such as education, for example, has an important role in determining individuals to attend school and enter the workforce. The higher the level of education tends to increase the chances
of young people getting jobs. Although, the education system in Indonesia has established a nine-year compulsory education (elementary / equivalent level for six years and junior high school level / equivalent for three years), but almost two-thirds of young individuals in Indonesia have not completed the minimum education level [4]. Next, the role of the household becomes increasingly important for young people, because in contrast to older workers, young people generally are not too burdened with various obligations and still get financial assistance from the family [5]. On the other hand, attachment to the family causes the decision-making of a young individual to participate, both by going to school and entering the labor market, regardless of the background of the young individual's household. Budget constraints owned by households are often the main cause of the disconnection of young individual schools and the entry of young individuals into the labor market, along with other household factors such as parental education and the composition of household members [4,6]. Based on the background above, this paper tries to see how the influence of social demographic factors on youth participation in school, work, or other activities in Indonesia.

2. Methods

2.1 Data

The data used in this paper are National Socio-Economic Survey (called susenas data) year 2012 for modules and cor. Module surveys are a subset of the core survey where some respondents from the core survey were re-interviewed to find out more about information on housing and health.

In this paper, we use the Central Statistics Agency's concept of the work force of young individuals is the population aged 16-30 years who for a week before enumeration have a job or are looking for work. A person is defined as working when doing work with the intention of obtaining or helping to get the longest one hour of income without interruption in the week before the enumeration, including unpaid family workers. While those who are included as unemployed are those who currently do not work and are looking for work, preparing a business, as well as those who are desperate because they feel it is impossible to get a job, but would accept if given a job [1].

2.2 Model and Estimation Method

This study uses a multinomial logit regression approach where this method is used to analyze the probability of an event occurring if the dependent variable in the model has more than two ordinal choices. In general, the multinomial logit model is stated as follows [7,8]

$$ Y_i^* = \alpha X_i + \varepsilon_i \sim N(0,1), \forall i = 1, ..., N $$

where $Y_i^*$ is a discrete dependent variable that has more than two categories, $X_i$ is an independent variable that is estimated to affect the dependent variable, and $\varepsilon_i$ is a normal distributed variable. The multinomial logit model with $j$ choice categories will produce an equation of a number of $j-1$, making it possible to see comparisons with the reference categories.

The youth participation is classified into four categories of activities, with the category "not attending school and not working" as a reference, where if young individuals do not attend school and do not work ($y_i = 0$), young people work only ($y_i = 1$), young individuals go to school and work ($y_i = 2$), and young individuals go to school ($y_i = 3$). Then the model of participation choices that young individuals might face as follows:

$$ y_i = \alpha_i + \beta_{10} HHGEN_i + \beta_{11} HHEUC_i + \beta_{12} HYEAREDC_i + \beta_{13} HSIZE_i + \beta_{14} HWORK_i + \beta_{15} HMWORK_i + \beta_{16} CHILD_i + \beta_{17} URBANRURAL_i + \varepsilon_i $$

The dependent variable for the participation of young individuals $Y_i^*$ is influenced by groups of social demographic independent variables, with an explanation as in Table 1.
### Table 1. Variable description for regression estimation

| Variable   | Description                                                                 |
|------------|-----------------------------------------------------------------------------|
| youthpart  | youth participation for school, work, school and work, or not attending school & working |
| hhgen      | the sex of the head of the household, 1=if female and 0=others              |
| hheduc     | the length of schooling the head of the household                           |
| hhyearseduc| the length of school in average for all household members                   |
| hhsize     | the number of household members                                            |
| hhmwork    | the ratio of household members working for all household members            |
| hhmomwork  | working mother status, 1=if work and 0=others                               |
| child      | the number of children aged 0-15 years in the household                     |
| Urbanrural | the type of place of residence, 1=urban and 0=rural                         |

### 3. Results And Discussions

Based on the estimation output, we found that the social demographic factors that influence the participation of young people for school compared to other activities (not attending school and not working) are female heads of household (hhgen), school heads of households (hheduc), the ratio of household members working to the whole household member (hhmwork), and residential area (urbanrural). While the social demographic factors that influence the participation of young people to work compared to other activities (not schooling and not working) are the number of household members (hhsize). In other hand, the social demographic factors that influence the participation of young people for school and work compared to other activities (not attending school and not working) are the average length of schooling for all household members (hhyearseduc), the status of working mothers (hhmomwork), and the number of children aged 0 - 15 years in a household (child).

### Table 2. Regression results and marginal effect

| Independent Variable | Option 1 | Option 2 | Option 3 |
|----------------------|----------|----------|----------|
|                      | Coef.   | Sig      | ME       | Coef.   | Sig      | ME       | Coef.   | Sig      | ME       | Sig      |
| hhgen                | -0.106  | **       | -0.076   | ***      | -0.030  | -0.003   | 0.586   | ***      | 0.100    | ***      |
| hheduc               | -0.006  | **       | -0.006   | ***      | 0.040   | ***      | 0.001   | ***      | 0.054    | ***      |
| hhyearseduc         | 0.045   | ***      | -0.020   | ***      | 0.376   | ***      | 0.009   | ***      | 0.348    | ***      |
| hhsizem              | 0.076   | ***      | 0.026    | ***      | -0.107  | ***      | -0.004  | ***      | -0.074   | ***      |
| hhmwork              | -1.314  | ***      | -0.441   | ***      | 0.540   | ***      | 0.028   | ***      | 1.424    | ***      |
| hhmomwork            | 0.507   | ***      | 0.135    | ***      | 0.769   | ***      | 0.020   | ***      | -0.407   | ***      |
| child                | -0.269  | ***      | -0.083   | ***      | 0.209   | ***      | 0.009   | ***      | 0.171    | ***      |
| urbanrural           | 0.080   | ***      | 0.017    | ***      | -0.346  | ***      | -0.012  | ***      | 0.104    | ***      |
| cons                 | 0.337   | ***      | -4.380   | ***      | -3.185  | ***      | -3.185  | ***      |

Number of Obs 59771
LR Chi2 8772.180
Prob. Chi2 0.000
Pseudo R2 0.064

Next we want to interpret the regression results and the marginal effect between the independent variables on the dependent variable. The independent variables selected are categorical and non-categorical. This interpretation shows the average probability of choosing a particular choice when one of the independent variables changes; presented in Table 2. In the household head variable (hhgen), if
the sex of the head of the household is female, the log ratio to the probability of youth choosing school is higher than the other choices; in other words, the choice to go to school is preferred by the youth. In addition, these variables are in the third choice statistically significant. Regarding marginal effects, on average youth choose to go to school only (option 3) is higher when the head of the household is female than other options, which is 0.10 percent.

The average variable of school head of household period (hheduc), each additional average length of school head of household, log ratio to the probability of youth choosing school alone is higher than the other choices; in other words, the choice to go to school is preferred by the youth when the average length of schooling for household heads tends to increase. The marginal effect of this variable is that if the average length of school life of the household head increases then the probability of youth choosing school alone will increase by 0.007.

Based on Table 3, we will present interpretations for each variable that has the highest odd ratio value in each choice where this interpretation assumes other independent variables are constant. The results show that all parameter values are positive for choice 1 (work only), choice 2 (school and work), and choice 3 (school only). We can say that for the sex variable the head of the household (hhgen) is significant for choices 1 and 3, where if the head of the household is female, the risk is relative to the youth to choose option 3 (school only) compared to reference choices (not attending school and not working) for 1.79. The value of this choice is higher than the other choices and reference options. The same interpretation, if the head of the household is female, the relative risk is for the youth to choose option 1 (school only) compared to the reference option (not attending school and not working) at 0.89.

| Independent Variable | Option 1 | Option 2 | Option 3 |
|----------------------|----------|----------|----------|
| hhgen                | 0.8992   | *        | 0.9708   | 1.7974   | ***      |
| hheduc               | 0.9943   | *        | 1.0409   | ***      | 1.0559   |
| hhyearseduc         | 1.0456   | ***      | 1.4559   | ***      | 1.4157   |
| hhsize               | 1.0789   | ***      | 0.8989   | ***      | 0.9284   |
| hhwork              | 0.2686   | ***      | 1.7158   | ***      | 4.1524   |
| hhmomwork            | 1.6598   | ***      | 2.1567   | ***      | 0.6657   |
| child                | 0.7638   | ***      | 1.2329   | ***      | 1.1865   |
| urbanrural           | 1.0829   | ***      | 0.7078   | ***      | 1.1093   |

Number of Obs 59771 Prob Chi2 0.0000
LR Chi2 8772.180 Pseudo R2 0.064

Sign. ***=1%; **=5%; *=10%

For the school duration variable the head of the household (hheduc), shows that the higher the length of schooling of the head of the household is expected the relative risk of youth choosing option 3 (school only) compared to reference choice (not schooling and not working) tends to increase by 1.05; in other words, the relative risk of young people to go to school is higher in heads of households who have more average schools. From the empirical results above, we can say that youth are required to be more reflective in order to survive in uncertainty and risk in various aspects of life. One of the factors that can influence the achievement of youth is the condition of demographic factors, especially in the household environment. Youth who were raised in good households, education of both parents supported, and the number of household members working quite a lot tended to encourage young people to choose to go to school. School as a representation of education becomes important as an asset for the future of youth, it is hoped that young people like this can become educated youth labor.

Various fields that can be played by youth such as fisheries, agriculture, maritime affairs, forestry, creative industries, and technology [9]. In the context of the “now” era, young people cannot be
separated from gadgets or cellphones, it has a broad impact not only in education and work but also other aspects of their life. The positive aspects of creating new livelihoods (online transportation, online shopping, etc.), help the poor (charity applications), in addition to creating informal jobs (selling telephone accessories; renting and charging mobile phones), and strengthening social capital (increased skills, increasing women's participation, etc.) [10]. Youth must be given access so that young people can actualize themselves freely in accordance with the expectations of development today. They should be given space to try various alternative choices in social and economic contexts [11].

In addition, educated youth will be very important for Indonesia's competitiveness in the future. The demand for skilled workers will increase as technology-oriented changes in skills. In addition, most skills also facilitate spillover of knowledge and attract technology imports. In the past few decades, changes in the Indonesian labor market have undergone significant changes. Non-agricultural employment is increasing, and there is a higher demand for skilled labor in the non-agricultural sector. The high number of professional and managerial jobs also tends to increase. Conversely, there is lower demand for unskilled, agricultural and administrative workers. Overall, there is a significant variation in income between people with different levels of education [12].

One important thing that needs to be addressed in the future is the increasing mobility of youth who tend to leave their parents' homes, develop skills, form families independently and work independently [13]. This condition does not only occur in rural areas but also in urban areas. In rural areas, efforts to maintain young people are very necessary, especially educated young people so that they can help aging populations and fill the gap in the workforce. By keeping young people from migrating to cities, both to find work, education and lifestyle [14].

4. Conclusion
The paper concludes that the factors that significantly influence on youth participation for school compared to other activities are the head of the household who are female, the length of school head of the household, the ratio of household members working to all household members (hhmwork), and the area of residence. This finding confirms that youth are quite vulnerable to social demographic conditions. For example, in rural areas there are still young people who have not or have never attended school as well as no access to education because households that are categorized as poor. In addition, factors that significantly influence on youth participation for work compared to other activities are the number of household member.

This paper suggests that the Indonesian government must give extra attention to youth when in other parts of the world, as countries in East Asia have been able to capture the opportunities for demographic dividends. One thing that is not less important is the ability of Indonesia to capture the potential for demographic bonuses so that Indonesia can go to a high-income country, encourage acceleration towards an industrialized country. But there is the most important thing is preparing human resources that have competitiveness, namely through education and training.

The government also needs to pay attention to the brain drain phenomenon, because it is one of the trigger factors for migration, whether back migration or vice versa. One way that can be done, such as creating job opportunities that allow teleworking or more flexible locations that are usually preferred by young people. Then, creating network opportunities between start-up companies and young people to encourage knowledge transfer. In essence, the government needs to take policy choices that give young people flexibility in choosing individual locations and careers both between regions and between countries [15].

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