

Do Internal Household Factors Affect Poverty Status? Evidence From Indonesia

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ABSTRACT

Many factors affect poverty status. The purpose of this paper is to assess the determinants of poverty status in Indonesia, especially for internal household factors. By employing binary logistic regression using poverty status as the dependent variable, this study finds that internal household factors are significantly affecting poverty status in Indonesia. However, due to Yogyakarta's socio-economics characteristics, some findings are different from several previous studies. This study finds that age, education, and employment sectors of household heads and their spouse affect poverty status significantly. Gender, as well as the number of children and household size, also have a significant impact on poverty status in Indonesia. The implication of this result encourages investment not only for the household head but also for their spouse, as well as for all household members, enhance women's capability to get a better job and reduce dependency ratio..

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1. Introduction

Poverty is one of the problems in economic development. Every country tries to alleviate poverty with various programs. As an institution that released the official poverty rate in Indonesia, BPS (2018) defines poverty as the inability to satisfy the basic needs from an economic perspective, both food and non-food, which is measured in terms of expenditure.

Many factors influence poverty so that poverty alleviation must be systematic and inclusive. Generally, people believe that the environment will greatly affect a person's economic status. However, there are allegations that not only the environment, but personal choices also play a major role in determining their welfare. As almost of household members determine household's economic condition, the internal factors of the household are estimated to have a large influence on the household's poverty status. The internal factors are the spouse's characteristics, number of children, education as well as the work of the head of the household and his spouse, and their residence. Research conducted by Sigle-Rushton and McLanahan (2002) shows that building a family through a marriage will minimize the risk of poverty, especially the risk of child poverty. Another study conducted by Anyanwu (2014) shows that monogamous and small-sized households have a lower tendency to be poor. Not only personal factors such as the spouse's characteristics and the number of children, but the educational background of the head of household and their partners also play a role in determining the socio-economic status of the household. In all parts of the world, gender relations influence employment opportunities, type of employment, income, education, and access to public services. In most societies, women tend to work longer hours, receive lower wages, receive less priority in education and have more limited access to information and credit, and often are not involved in the decision making (SMERU, 2005). Education is an important component of opportunities and empowerment. A number of empirical studies find that increase in women's education boost their wages and finally will avoid her becoming poor. The well informed and educated spouses usually change their behavior in a way that substantially contributes to poverty alleviation (CARM, MAGELI, BERRYMAN, & SMITH, 2003). It is not only the education, but the opportunity of women accessing the market (labor, land, and credit) will also determine their household's economic status. Using panel data for 16 Indian states over the 1961-1991 period, Esteve-Volart (2004) examined the impact of sex ratios in employment (both in all type of employment and managerial employment) on per capita state domestic product. She found that the increase in both ratios



is associated with increased levels of per capita output, but that the impact of the total ratio is larger: an increase of 10 percent in the female-to-male ratio of total workers will raise per capita product by eight percent, while a ten percent increase in the female-to-male ratio of managers will increase per capita output by only 2 percent. Women's ability to work acts as a critical "buffer" for households. The ability to increase labor supply is the most critical for poor households, given that they tend to have low savings, own few physical assets, and are credit-constrained (Morrison, Raju, & Sinha, 2007).

The age influences people's job opportunities. Therefore, the age of the head of the family and their spouses are expected to affect the chances of individuals and households to be poor. However, the influence of age on poverty status differs depending on time and region. Research conducted in Nigeria in 2009/2010 showed that there is an inverse U-patterned relationship between age and opportunity for poverty (Anyanwu, 2014). The OECD report (2015) states that in most countries, the risk of poverty increases with age. On average, the poverty rate for people over 75 years, in all OECD countries is 14.7 percent, which is 3.5 percent higher than the poverty rate between the ages of 66 and 75 years.

The majority of people do not live alone, and it is reasonable to assume that members of a household or family share their resources and cover their expenses together. Therefore, internal household factors are predicted to have a great impact to household's economic status. Generally, internal household factors related to poverty are more often focused on gender equality in the household. Poverty and gender are concepts that have historically been treated in a fairly independent fashion, which explains the specific importance each has been afforded on the political and research agendas. In her book, Amartya Sen (1999) interpreted poverty as a lack of resources impeding people from engaging in certain basic activities such as staying alive and enjoying a long and healthy life, reproducing and transmitting their culture to future generations, interacting socially, having access to knowledge and enjoying freedom of expression and thought. In European Union, research by Bennet and Daly (2014) shows that men are more likely to live in 'in-work' poverty because of their family situation, including having a partner with no income of her own. Women are more likely to be in 'in-work' poverty due to their own employment situation (low pay, part-time work, etc.). This result is also supported by the fact that families with children depend heavily on the income of men (European Institute for Gender Equality (EIGE), 2016).

In order to enrich their families, not only men, but women also need more than just money to improve themselves. Therefore, poverty alleviation consists of identifying and increasing people's capabilities to improve their wellbeing. On the other hand, as well as materials, non-material things such as involvement in social networks also affect poverty. Clert (1998) said that social networks lead to exclusion in which means a relational concept inasmuch as the emphasis is not laid on monetary resources but on the individual's relationship with the family, the community and the State in the form of exclusion from labour, goods and services markets; political and institutional exclusion, i.e. from participation and representation; cultural exclusion, or exclusion from identity, knowledge and values; and spatial exclusion, that is to say from territory and geographic location.

Talking about participation and representation, women participation, as well as men's participation, need to be measured well. With respect to the family, the gender perspective improves the understanding of how the household functions, since it reveals the hierarchies and the distribution of resources, and thereby calls into question the idea that resources within the household are distributed equitably and that the needs of its members are the same (ECLAC, 2004). The gender perspective also imparts a multidimensional perspective because it takes into account the multiple roles played by men and women in the household, the labour market and society, as well as factors that interrelate with gender, such as age and ethnic group (Clert, 1998). Furthermore, not only to fulfill their needs, women also need a job to increase their confidence. Jobs are related to economic autonomy in which is a fundamental dimension of poverty. The inequality of opportunities regarding women's access to paid employment is prejudicial to their chances of achieving economic autonomy. Such is the situation of a great number of married women living in either poor or non-poor households who, due to their predominantly domestic activity, are placed in a position of dependence as regards the head of household (ECLAC, 2004). Many women choose to stay in toxic household because they have no proper job to fulfill their daily needs. As they have no proper job, they are afraid they cannot live well without their husband. This condition leads to domestic violence. As a result of domestic violence, most of abused women are less productive in the workplace, which causes a direct loss in national production (Day, McKenna, & Bowlus, 2005).

Not only education and employment equality, but age also affects the correlation between gender and poverty. In relatively the same age, men and women have different risks of being poor. In EU, poverty is highest for young women and men (18-24) and children and lowest for retired people. However, while there is a clear life trend for men — poverty decreases with age — women's poverty risk increases prior to

retirement (aged 55-64) and in the latter years of their lives (75 and older) (European Institute for Gender Equality (EIGE), 2016). Another research by Boudet, et al (2018) girls and women of reproductive age are more likely to live in poor households (below the international poverty line) than boys and men.

Another factor is household size. There is considerable evidence of a strong negative correlation between household size and consumption (or income) per person in developing countries (Lanjouw&Ravallion, 1995). However, some contradictions are found in some countries in Africa due to its degree of modernization. Meyer and Nishimwe-Niyimbanira (2016) found that The Pearson’s chi-square test indicated a positive relationship between household size and poverty in eleven of the twelve low-income communities. Households below the poverty line tend to have more household’s members than those households above the poverty line. This finding is in contradiction with some findings in other African countries due to the fact that South Africa has higher levels of modernization with less access to land for subsistence farming. Several factors that affect poverty make the control of poverty becomes more challenging. This research is expected to produce a solution to make the program priority scale in efforts to alleviate poverty. Note: The discussion in introduction section seems to be very extensive that may lead to difficulty of finding the main idea and identifying what the specific problem is. It looks like a compilation of reference substances without presenting the important contents to present.

2. METHODOLOGY

This study uses cross-sectional data, which includes data from 34 provinces in Indonesia. The household data used in this study came from the National Socio-Economic Survey (Susenas) March 2018 conducted by BPS-Statistics Indonesia. Authors classified some indicators into several categories to simplify the models. The classification as below:

Table 1. Variables' Classification

Variables	Indicator	Classification
Y	Poverty Status	0 = not poor 1 = poor
X1	Household Head spouses' Age	none
X2	Household Head Age	none
X3	Sex	0 = male 1 = female
X4	Number of children	none
X5	Household size	none
X6	Educational status of household head	0 = junior high school and lower 1 = senior high school and higher
X7	Educational status of household head's spouse	0 = junior high school and lower 1 = senior high school and higher
X8	Employment sector of household head	0= unemployment 1 = primary sector 2 = secondary sector 3 = tertiary sector
X9	Employment sector of household head's spouse	0= unemployment 1 = primary sector 2 = secondary sector 3 = tertiary sector

In order to estimate the determinants of poverty status, the study employs a binary logistic regression estimation. Logistic regression is a statistical for analyzing a dataset in which there are one or more independent variables that determine an outcome. The outcome is measured with a dichotomous variable (Hosmer, Lemeshow, & Sturdivant, 2013).



This study selects nine explanatory variables: age (both household head and their spouse), household head's sex, number of children and household members, education (both household head and their spouse), and employment (both household head and their spouse), as determinants of the poverty status. The binary logistic regression model is as follows:

$$\ln\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_9 X_9$$

3. Result And Discussion

As a preliminary analysis, the researchers looked at the general profile of households in Indonesia with the following descriptive analysis in Table 2.

The average number of household size in Indonesia is 4. In general, it means that household size in Indonesia is relatively small. The number of children is also small, only about 2 in average. However, some families still have many children due to some condition. On the other hand, on average, the household's leader and their couples are in working age. This table also shows that there are still several numbers of early marriage in Indonesia, although its proportion is not large enough.

Table 2. Households' Profiles

	Minimum	Maximum	Mean	Std. Deviation
household size	2	14	4.05	1.601
number of children	0.00	11.00	1.68	1.25
leader's age	12.00	97.00	48.05	12.99
couples' age	10.00	97.00	42.65	11.75

To find real determinants of poverty in Indonesia, logistic regression is used. Table 3 below shows the result of poverty analysis using logistic regression in Indonesia.

Table 3. Logistic Regression Result

VARIABLES	(1) poverty
umur_KRT	0.00857*** (1.01)
umur_pasangan_max	-0.0150*** (0.98)
r405_jk	0.511*** (1.667)
jumlah_anak	0.111*** (1.12)
jumlah_ART	0.278*** (1.32)
jumlah_pasangan	0.669*** (1.95)
pendidikan_KRT_sum	-0.750*** (0.47)
pendidikan_pasangan_sum	-0.606*** (0.54)
1.lapus_KRT	-0.271*** (0.56)
2.lapus_KRT	-0.550*** (0.57)
3.lapus_KRT	-0.857*** (0.42)
1.lapus_pasangan_max	0.121*** (1.12)
2.lapus_pasangan_max	0.0218 (1.02)
3.lapus_pasangan_max	-0.538*** (0.58)
Constant	-2.458*** (0.08)

Odd ratios in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

The estimation results show that household internal factors have a significant effect on the poverty status of the household. As an initial description, head of household's age and their spouses' age affect poverty differently. The risk to be poor raise as the age of household head increases. The variation in the risk of poverty between different age groups indicates a lifecycle effect in many countries (Lelkes, Medgyesi, & Tóth, 2009). This result is in line with OECD research that said the risk of poverty increases with age (OECD, 2015). In contrast, the models show that spouses' age has negative correlation with poverty status. It means that the higher the spouses' age, the lower their risk to be poor.

Regarding gender factors, households with women as a household leader are 1,667 times more vulnerable to being poor compared to households that have a man as head of household. This is in line with the World Bank (2011) that said poverty data shows the existence of specific gender gaps in poverty reduction, especially those involving families with female household heads. Another research by Utomo and Rahani(2013) also supported this result by said that In general, compared to men, the role of women as the head of the household in fulfilling their family needs will usually experience more obstacles. This is related to the nature of women who must play a dual role in the household as breadwinners and mothers who have to give birth, care for, and raise their children. As the number of children increases, mothers will be busier. As a result, a single mother will be more difficult to elevate their capability to get a better job.

Based on the estimation above, the number of children has a positive correlation with poverty status. It means that the probability to be poor increases as the number of children increases. The findings on the correlation of poverty and household size indicate that the burden of poverty fall disproportionately on children, affecting childhood nutrition and education, perpetuating the institution of child labour and eventually passing on the legacy of poverty to future generations. Vandenbroucke(2016) said that a child may require more education to be successful, therefore they need more money to raise children. In another developing countries which has similar characteristics as Indonesia, such as India, Gupta and Dubey (2003) found that fertility significantly positively affects poverty, but that the effect is halved when endogeneity is allowed for. Meanwhile, research by Takdir, Hamzah, and Syechalad(2013) in Aceh Barat Daya, a municipality in Indonesia, found that one addition child will add 24.684 rupiah to household consumption.

Not only the number of children, the total of households members also affect poverty. As the household size inclines, the probability to be poor also incline significantly. The greater the number of household members, the more burden that must be borne by the head of the household. Larger families, especially those with larger numbers of children, are likely to have a lower per capita income simply because of the high dependency ratio (Gupta & Dubey, 2003). Furthermore, Quibria(1993) also stressed that based on research in Southeast Asia and South Asia, there was a positive correlation between household size and poverty.

Regarding another internal household factor, the number of spouses also significantly affect the poverty status of household. In Indonesia, actually, it is not too common to have more than one spouse. Based on Susenas dataset, only less than 1 percent of respondent have more than one spouse. Moreover, based on the estimation, the more the spouses, the higher probability to be poor. Generally, polygynous countries are also on average poorer than monogamous countries (Tertilt, 2003), and Anyanwu (2014) also finds that monogamous households have a lower tendency to be poor. Polygamy can affect fertility and aggregate output and as a result it will affect poverty status of household. It is not only because of economics reasons, but also social reasons.

With regard to social factors, the equality between male and female also affect poverty status. Both of household leader and spouses' education affect poverty, significantly. Households that have a low-educated household head have the opportunity to fall into poverty 2.13 times greater than households that have a well-educated household head. This result is in line with Prabowo, Probokawuryan, and Mutiara (2017) which states that the length of schooling of the head of the family has a significant effect on poverty. Tadjuddin(1995) also said that the education owned by the head of the household affects the income generated thus also influencing the poverty status of the household. A close look at the educational level of household heads reveals that poverty reduces with improved educational level of household head (Akerle & Adewuyi, 2011). Meanwhile, spouses' education also affects poverty status as well. Households with low educated spouses tend to be poor 1.85 times higher than those with highly-educated spouses. This result is in line with Tertilt(2003) that said the greater the schooling level of the mother, the lower the chances of poverty. Also, Akerle and Adewuyi(2011) found that educational levels of household head and spouse are factors that exact significance influence on household welfare.

Similar to education, job types also affect poverty. For household head, it does not matter in which sectors he or she works, as long as they work, their chance to be poor will be smaller than those who are unemployed. However, it does not work for their spouses. If spouses work on primary sectors, such as agriculture or mining industry, their probability to be poor is 1,12 times higher than those who work on other sectors. Meanwhile, for those who work on tertiary sectors, such as service or hotel industries, their chance to be not poor is 1,72 times higher than those who work on other sectors.

Note: The analyses are based on the method that simplifies the problem of poverty. It is therefore necessary to describe how good the model is, and how accurate the generated calculation results. Validity of the relation among independent variables with poverty needs to be presented. More deterministic description of variable relation should be given. For the term “significantly affect”, an exact description is necessary to clearly indicate ‘how significant is significant’. Extended discussion may improve the paper by giving some further treatment for the problem in hand.

4. Conclusion

The ramifying objective of the study was to examine the poverty status of household by personal relationship and demographic characteristics. The study indicates evidence of the relationship between household internal factors and poverty. Households with old household head, female as household head, polygamous family, larger size (members), more children, low-educated household head, and farmer or miner spouses are more susceptible to poverty. Improved educational level of household head and spouse as well as lower level of dependency ratio would help reduce risk of poverty. The implication of the findings is that efforts to investment in education of household head, spouse as well as that of household members; enhance women status and reduce the dependency ratio are crucial for poverty alleviation in Indonesia.

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