Analysis of Factors that Influence Migration in Alian and Ayah Subdistrict, Kebumen Regency, Central Java

By:
Diah Tiara Rahmasari[1], Abdul Aziz Ahmad[2]
[1,2,3]Faculty of Economics an Business, Universitas Jenderal Soedirman
[2]Email: rekan.aziz@gmail.com

ABSTRACT

This research aimed to analyses migrants' income contribution to income of the family at hometown, the influences of income, age, numbers of family to be responsible to, education, and marriage status on decision about migration in Kebumen. The method used in the research was survey of primary data which is gained through interviews and questionnaires. The data in this research were 91 migrants in Alian and Ayah Districts. Data analysis techniques used were binary logistic regression. The results showed that the contribution of migrants' income to family's income after migrating to the two districts was in medium level. It showed that the needs to live in migration place were expensive. Consequently, the income obtained in migration place could not give enough contribution to the family in hometown. Based on the analysis, the variable of the numbers of people the migrants had positive and significant effect for migration. Income and marriage variables status had negative and significant effect. While age and education variables had no contribution to the migration. Income is the most influential factor in migration, so the government or related organizations should give attentions to the citizen's prosperity by creating making the job activities. The government and the society should cooperate in developing the economic potential in each area. It is also by giving the society some loans and work-skill coaching or education to increase their income. Those are to encourage the society to be more creative and autonomous.

Keywords: Binary Logistic Regression, Citizen's Prosperity, Marriage Status.

ABSTRAK

Penelitian ini bertujuan untuk menganalisis kontribusi pendapatan migran terhadap pendapatan keluarga di kota kelahiran, pengaruh pendapatan, usia, jumlah keluarga yang harus bertanggung jawab, pendidikan, dan status pernikahan pada keputusan tentang migrasi di Kebumen. Metode yang digunakan dalam penelitian ini adalah survei data primer yang diperoleh melalui wawancara dan kuesioner. Data dalam penelitian ini adalah 91 migran di Kecamatan Alian dan Ayah. Teknik analisis data yang digunakan adalah regresi logistik biner. Hasil penelitian menunjukkan bahwa kontribusi pendapatan para migran terhadap pendapatan keluarga setelah bermigrasi ke dua kabupaten berada di tingkat menengah. Ini menunjukkan bahwa kebutuhan untuk tinggal di tempat migrasi mahal. Akibatnya, pendapatan yang diperoleh di tempat migrasi tidak bisa memberikan kontribusi yang cukup kepada keluarga di kampung halaman. Berdasarkan analisis, variabel jumlah orang migran memiliki pengaruh positif dan signifikan untuk migrasi. Status pendapatan dan variabel pernikahan memiliki pengaruh negatif dan signifikan. Variabel usia dan variabel pendidikan tidak memiliki kontribusi terhadap migrasi. Pendapatan adalah faktor yang paling berpengaruh dalam migrasi, jadi pemerintah atau organisasi terkait harus memberikan perhatian pada kemakmuran warga dengan menciptakan kegiatan pekerjaan. Pemerintah dan masyarakat harus bekerja sama dalam mengembangkan potensi ekonomi di masing-masing daerah. Juga dengan memberi masyarakat pinjaman dan pembinaan keterampilan kerja atau pendidikan untuk meningkatkan penghasilan mereka. Itu untuk mendorong masyarakat agar lebih kreatif dan otonom.

Kata Kunci: Regresi Logistik Biner, Kemakmuran Warga, Status Pernikahan.

INTRODUCTION

The problem of inequality in population distribution is one of the topics that still continues to be a conversation today. This is due to the mobility of the population from one region to another. One of their goals is to do mobility, namely to be able to improve the quality of life, namely by fulfilling food needs (primary), as well as other secondary needs. In simple terms, residents do mobility to get better jobs and income. Thus, the area of population mobility is an area that has a greater chance of getting a better job, or an increase in income.

Compared to the surrounding districts, the minimum wage rate in Kebumen is low, even though it is higher than Banjarnegara District (Table 1). The low level of the Kebumen wage is expected to be a driving factor for population movements outside Kebumen.

Table 1. Minimum Wages of Kebumen Regency and its surroundings 2013 - 2014 (Rupiah)

No.	Regency	2013 (Rp)	2014 (Rp)
1	Cilacap	986,000	1,125,000
2	Banyumas	877,500	1,000,000
3	Purbalingga	896,500	1,023,000
4	Banjarnegara	835,000	920,000
5	Kebumen	835,000	975,000

Source: Biro Pusat Statistik Jawa Tengah, 2015, Data Processed

The number of people doing mobility out of Kebumen Regency from 2012 to 2014 continued to increase. In 2012 the total population of outgoing services was 2,878 people, in 2013 it was 4,989 people and 2014 was 8,137 people (Population and Civil Registration Service of Kebumen Regency, 2015).

Of the 26 sub-districts in Kebumen District, two sub-districts will be taken as research samples that have six criteria. These criteria are based on the population, the distance from the subdistrict capital to the district capital, the level of education completed in 2012 (High school), the number of people of working age (10 years and over), the level of the labor force, GRDP according to the business field, namely agriculture, and economic growth. Based on these criteria, sub-districts that meet the criteria to be used as research objects are Alian and Ayah Subdistricts.

There are many factors that can influence the population to move out of their area. Hasyasya and Setiawan (2012) show that age factors have an important influence on migration decisions, while marital status contributes negatively to migration decisions. Maulida (2013) concludes that Wages have a positive effect on the decision to migrate to the city. Likewise, research from Martini and Sudibia (2013) resulted in the identification that income factors, types of work in the village, level of education, marital status, land ownership and number of family dependents had important effects in the decision to march into urban areas.

From some previous studies, the factors that are thought to influence the decision to make mobility in this study are income, age, number of family dependents, education level and marital status. Thus this study aims to analyze how the income contribution of migrants to family income in the area of origin and how the influence of income, age, number of family dependents, education level and marital status on population mobility in Kebumen Regency.

RESEARCH METHOD

This type of research is survey research located in Alian Subdistrict and Ayah Subdistrict, Kebumen District, Central Java. The data in this study uses primary data. In addition, it also uses secondary data obtained from the Central Statistics Agency (BPS) of Central Java and Kebumen, the Population and Civil Registration Service of Kebumen Regency, the Manpower, Transmigration and Social Service Office of Kebumen Regency.

The population in this study were migrants in Alian and Ayah Subdistrict, Kebumen Regency. In this study the population is 1,627 people. Assuming a homogeneous population, the Slovin formula

(Umar, 2005) can be applied to calculate the number of research samples. Using α 10%, the sample size is 94. Distribution of sampling based on area as follows on Table 2:

Table 2. Population of Moving and Exit in Alian and Ayah Subdistricts as well as the Number of Samples for Each Sub-district

Sub-District	The Population Moved and Left	Sampel
Alian	704	72
Ayah	217	22
Total	921	94

Source: Head of Alian and Ayah Subdistrict Village Governance Section 2015, Data Processed

Operational definition:
(1) Population mobility is the movement of people from one place to another. Y is measured by a Binary Logistic model with two categories [1 = The decision to settle somewhere; 0 = migration]
(2) Revenue (X1) is the average income obtained by respondents in one month in rupiah (Rp).
(3) Age (X2) is the age of the respondent when the respondent carries out mobility in years.
(4) Number of Family Dependents (X3) are members in one family including the respondent's husband / wife, children, parents, siblings and other respondent's family members who are still dependent or must still be financed by the respondent.
(5) Education (X4) is the last level of education that has been completed by elementary school (6 years), junior high school (9 years), and so on.
(6) Marital status (X5) is a married status or not by using a dummy variable (1 = married, 0 = not yet married).

DATA ANALYSIS TECHNIQUE
Determination Coefficient (Nagelkerke R Square)
In the Binary Logistic regression model to do a feasibility test the model is not used the Classic Assumption Test because the Classical assumption model is only valid for OLS (Ordinary Least Square). The magnitude of the coefficient of determination in the logistic regression model is indicated by the value of Nagelkerke R square. In the linear regression model, R square illustrates the ability of the model in explaining the effect of independent variable changes on the dependent variable. The more R square value approaches 1 meal the better. For regression models with dependent variables in the form of categories, it is not possible to use R square. Therefore, Nagelkerke R square was used instead of R square.

Logistics Regression
Logistic regresion is used when the Dependent Variable in the study is a dummy variable. Complete model formulation can be written in the following equation:

$$\text{Migrate} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e_i$$

Where:
Y : Decision to carry out population mobilization (1 = settling, 0 = migration)
X1 : Income
X2 : Age
X3 : Number of Family Dependents
X4 : Level of Education
X5 : Marital status (1=Married, 0=Single)
ei : Standar error

To get a better modeling because there are differences in units and the magnitude of the independent variables and not free, the regression equation needs to be made a natural logarithm (ln) model (Nachrowi and Usman, 2005). From the mathematical equation can be written econometric models as follows:

$$Ln\ Y = \beta_0 + \beta_1 ln\ X_1 + \beta_2 ln\ X_2 + \beta_3 ln\ X_3 + \beta_4\ ln\ X_4 + \beta_5 X_5 + ei$$

Where:
Ln Y   = Decision on population mobility (1 = stay, 0 = migrate)

The method for estimating unknown parameters in this logistic regression model, is the maximum likelihood method with more practical reasons (Nachrowi and Usman, 2002). This maximum likelihood method suspects a parameter with a value that maximizes the likelihood function.

RESULT
Contribution of Migrant Income of Family Income
Estimation of the contribution of migrant workers to the income of the majority of families on a scale of 34-66%. The following table 3 presents the information. This can be caused by several things such as the amount of income received, the amount of living costs in the overseas area, the needs that need to be fulfilled, the need for funds to save, or they also carry out other activities such as joining the gathering, and others. The high contribution of migrant income to family income as a result of Yuli's (2011) study which states that more than 50 percent of the income of household workers comes from their income working in industry.

Table 3. Contribution of Respondents' Income to Overall Family Income After Migration

Contribution on total family income (%)	Alian Subdistrict		Ayah Subdistrict	
	People	(%)	People	(%)
1%-33%	15	21,43	5	23,81
34%-66%	54	77	16	76,19
67%-100%	1	1,43	0	0
Jumlah	70	100	21	100

Determination Coefficient (Nagelkerke R Square)
The Nagelkerke R Square model explains the effect of changes in the independent variables on the dependent variable. The interpretation of Nagelkerke R Square is almost the same as the correlation of determination (R Square). There are two types of R Square calculations on this model, first using Cox & Snell R Square, the value of Cox & Snell R Square in the table of 0.477 or 47.7 percent. And the second is Nagelkerke R Square of 0.664 can be seen the magnitude of the influence of the independent variable on the migration rate of 66.4 percent. This means that variations in migration can be predicted from income, age, number of family dependents, education and marital status with an opportunity of 66.4 percent. Whereas the remaining 33.6 percent is explained by other variables that are not included in the model such as variable wage rates, ownership of agricultural land in the area of origin and employment status in the area of origin.

By relating the questionnaire questions related to the decision to remain permanent or remain high, information is obtained as shown in Table 4.

Table 4. Test of Classification of Respondents Classification

Observation	Prediction: Decision to migrate from or stay in Kebumen		Persentage Accuray
	Migrate	Stay	
Decision to migrate	22	6	78.6
Decision to stay	7	50	87.7
Total percentage			84.7

Table 4 shows that the logistic model used was able to correctly guess 84.7% of the conditions that occurred. The table above also shows that as many as 50 respondents chose to settle in Kebumen Regency.

Logistics Regression

To determine the effect of the independent variables on the non-independent variables together (overall) in the model, can use the Likelihood Ratio test. From the output, it is known that the omnibus test table has a value of α = 0.000, which means that the value of α is less than 0.05, so the decision H0 is rejected. The conclusion shows that the value of $G^2 > c^2$ (α, p) or equal to 55.093> 11.070 with p value <0.05 or [0.000 <0.05].

For the t-wald test, the results in table 5 are as follows.

Table 4. t-Wald Test Results

Variable	Coefisient	*t-Wald Test*	p. Value
Constant	110.853	7.771	0.005
Income (X_1)	-7.868	5.513	0.019
Age (X_2)	1.336	0.392	0.531
Number of family member (X_3)	3.064	10.761	0.001
Education Level (X_4)	-3.134	0.462	0.497
Marital Status (X_5)	-3.075	13.287	0.005

Formally, Table 4 can be rewritten as follows:

$$\text{Ln } \hat{Y} = \text{Ln } [Pi / (1 - Pi)] = 110,853 - 7,868 X1 + 1,336 X2 + 3,064 X3 - 3,134 X4 - 3,075 X5$$

DISCUSSION

From the output above, it can be shown that of the five variables, there are variables that significantly affect migration. The income variable has a negative slope coefficient which means that there is a negative relationship between income variables and one's decision to settle or migrate out of Kebumen Regency. Data processing results show that the income variable has a significant influence on the decision to settle or migrate out of Kebumen Regency because it has a statistical error rate of 19 percent. Variable income is significant because the decision to migrate out of the region is driven by low levels of income in the blood of origin. The low income of respondents in the destination area, they tend to decide to migrate and leave the area of origin. This condition explains that they are less satisfied with their work in the area of origin that only provides a small income. so they prefer to migrate.

Life needs that are increasingly increasing day by day also become a driver of someone to migrate, because the greater the costs needed to fulfill it. In addition, the price level of goods and services is increasingly expensive, so there is a need to spend a lot of money to meet these needs. If they are satisfied with their work in the destination area, they will choose to settle there rather than return to their place of origin. This is the same as the results of research from Purnomo (2004) where income variables in the area of origin significantly influence the migration pattern of circular migrants from Wonogiri to Jakarta.

Age variables have a positive slope coefficient which means that there is a positive relationship between age variables and one's decision to settle or not to migrate out of Kebumen Regency. Data processing results show that age variables have no significant effect on the decision to settle or migrate out of Kebumen Regency because it has a statistical error rate of 53.1 percent. The age variable is not significant because if someone's age increases the tendency to migrate will decrease. This happens because, the more the age of physical strength will be reduced so that productivity will also decrease. Workers with old age groups tend to choose to work in the area of origin, and do not migrate, while people aged over 50 years depend on children, their retirement salaries or the results of investments made. The increasing age of 85 respondents approaching non-productive age, then the decision of respondents to migrate will decrease. The results of this study are similar to Listyarini's (2011) study which states that age variables do not have a significant influence on migration interest.

The variable number of family dependents is significant because, on average, respondents with a large number of families will choose to stay in the area of origin. This is because if all family members are taken to the destination of migration, they will feel hassles. In addition, to carry out the transfer requires time and costs that are not small in the transfer process which is considered to be burdensome. Another thing that is not less important is that the cost of living in large cities that are high will also affect their decision to take their families to move or remain in the original area. Most of the relatives / families of the respondents also live in the area of origin, with these various considerations migrant families will prefer to live in the area of origin. However, the results of this study are different from Feronica's (2014) study entitled Decisions of Someone Becoming Female Workers (TKW) and Remittance Usage Patterns in Banyumas District which states that if there are many dependents in the area of origin, the decision of someone wanting to become a migrant worker is greater, on the contrary if the keluraga dependents in the area of origin are few will reduce one's interest in working.

Education variables are not significant because the population who migrate is not only a population with a high educational background, but many people with low levels of education are migrating. This is because the work available in the destination is more diverse with the criteria requested by a company not only for someone who is highly educated and the income offered is greater according to what is done. The availability of jobs that are less diverse in the area of origin is not like in a big city that is perceived to offer a better job. The results of this study are similar to previous studies, namely in the research of Hasyasya (2012), that education variables do not significantly influence a person's decision to migrate.

Variable marital status has a negative slope coefficient meaning that there is a negative relationship between the variables of marital status with one's decision to settle or to migrate out of Kebumen Regency. The results of data processing indicate that the variables of marital status have a significant effect on the decision to settle or not to migrate out of Kebumen Regency. In this study if someone is married then the number of families that must be borne will increase, the need to be fulfilled will be more and more. Therefore, they would prefer to migrate with the aim of getting a higher income so that they can meet the needs of the family compared to remaining in the area of origin. From the estimation results it can be concluded that migration is preferred by residents with married marital status.

CONCLUSION

Based on the results and discussions that have been carried out in analyzing the factors that influence migration in Alian and Ayah Subdistricts of Kebumen Regency, it can be concluded that the magnitude of the contribution of migrant income to family income after migrating in the two sub-districts occupies a middle position or 34 percent to 66 This shows that there are a lot of needs that need to be fulfilled by migrants in the destination area, so that there is a need to spend quite a bit. In addition to the many needs that need to be met, the prices of goods and services in the destination area of migration are also higher. Therefore, the amount of income provided by migrants to families cannot reach high contributions.

Based on the results that have been carried out, the variable number of family dependents has a positive and significant effect on population migration, with the increasing number of family dependents, someone will choose to settle in the area of origin. Income and marital status variables have a negative and significant effect. While the variables that have no effect on population migration are age and level of education.

The amount of contribution given by respondents to families who are in the middle position on average, so it cannot be concluded that the income given is high, while the needs that need to be fulfilled the more days the respondent family should be able to use the income well and wisely. This can be done in a way other than used to meet the needs of the family, the income can also be used for productive activities or activities that can provide additional income for the family. Productive activities can be done by opening a business either individually or in groups with fellow communities so that it can increase income. In addition, if the money earned is already quite a lot, they can also use it for investment activities such as buying land or rice fields.

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