AN ANALYSIS OF FACTORS AFFECTING CIRCULAR MIGRATION INTEREST OF RESIDENTS IN NEGARA SUB-DISTRICT OF JEMBRANA REGENCY OF BALI PROVINCE

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Abstract

Imbalance of economic development between city to cities in Indonesia creates unequal economic development especially in human migration.This research attempts to find out the factor that influence of human migration among cities. The commuter theory behind the research has being used as the based point to evaluate the significant level of influencing factors. Population on the research is the community of Negara Sub-district of Jembrana Regency Denpasar Bali. Cluster random sampling was used to develop profile of respondents both commuter and non-commuter residence. Logistic Regression Analysis. Some variables, such as age, income, education, and marital status to the circular migration interest are employed. The result of logistic regression model of analysis confirmed that the variable of age, income, education, and marital status has affected significantly to the circular migration interest of the residents in Negara Sub-district of Jembrana Regency. Overall logistic regression model used in this research could confirm the factors affecting the respondents' interest to perform circular migration. It showed thatthe respondents' behavior in this research was likely to have an interest of migration due to their desire to improve their family quality of life.

Keywords: Circular Migration interest, Logistic regression model, family quality of life

INTRODUCTION

The rapidly growing population growth in the countryside has driven most of the rural population to move mobility into cities with better economic growth rates. with the aim of earning a better livelihood. In general Job opportunities in the city more and more diverse,. Someone who does the mobility wishes a decent life with a greater income than in the origin [1]

The concept of national development is essentially human development of Indonesia as a whole in order to create a prosperous Indonesian human with a high quality of life, has a harmonious relationship with the environment, both natural environment, social and harmonious relationship with the Creator. To achieve these objectives, national development needs to be directed to three core objectives: (1) availability and extension of the distribution of basic necessities of life (2) improving the standard of living in the form of income generation, the addition of employment provision, improving the quality of education, on cultural values and humanity (3) the expansion of economic and social choices for each individual and nation as a whole

In essence, the main purpose of economic development is the effort to create a state toward a better living conditions, materially and spiritually [2]. The main economic development issues are increasing poverty, inequality of income distribution and unemployment problem.

An important phenomenon of poverty shows that more than two-thirds of the world's poorest people live in rural areas. The description of the poverty condition suggests that if the country wants a solution to the core problem, it must start from the rural areas. The main livelihoods of most of the rural poor are generally in subsistence agriculture and other activities closely linked to the traditional economic sector. It is estimated that more than 800 million people can not afford enough food to meet basic nutritional needs [2].

Rapid population growth in the villages has made the comparison between the population and employment opportunities in the villages to be fewer. Thus, the small population increase has made life difficult. The limited number of employment in the villages has resulted in real and uninhibited unemployment. Migration by migrants has a way of improving their quality of life [3] Rapid population increase in the villages makes the comparison between the population and employment opportunities in rural areas smaller. Thus, the small population increase makes life difficult. The limited number of job opportunities in the villages has resulted in real unemployment and no real increase. Migration by migrants has a way to improve the quality of life [3].

According to the 2010 population census, the labor force in Jembrana District State reached 3,211 people, with 37,783 people already employed. This means that 4.00% of the population of the Sub-distric Negara is the labor force and 1,176.6% of the workforce are residents already employed. The amount will be very possible if the labor force in sub-disstric Negara to migrate in large numbers as well. The following is the condition of the number of labor force in Jembrana District by the year 2010 reached number 321.008. The five sub-districts that have the largest number of workforce are State Districts with 93,070 people, followed by Mendoyo District with 70,023 people [4].

According to the population census in 2010, the number of labor force in Jembrana District reached 321,008 inhabitants. Jembrana District consists of 5 districts. Of the five districts, Negare district has the highest number of labor force of 93,070 people or 29 percent [4]. This condition causes the tendency of migration from Sub-distric Negara to the surrounding area. The following data of population, area and population density in Jembrana District based on each District can be seen in Table 1.1 below:

Table 1. The Number of Residents in Jembrana District Based on Sub-distric

No.	Sub-distric	Population	Wide-area (Km²)	Density (Per Km²)
1	Negara	80.200	126,50	633,99
2	Mendoyo	57.120	294,49	193,96
3	Pekutatan	25.990	129,65	200,46
4	Melaya	51.590	197,19	261,62
5	Jembrana	53.110	93,97	565,18
	Total	**268.010**	**841,80**	**318,32**

Source: Jembrana Statistic

Many migrations made by the people of the sub-district of Jembrana District are non-permanent or circular migration. Employment originating from the Sub-distric Negara is expected to perform non-permanent migration activities to the surrounding areas that have wider employment. The potential of the inhabitants of Sub-distric Negara is inadequate with the density of the population in the area, therefore one of the driving force of the population of the Sub-distric Negara to migrate, it is because the number of employment in the Sub-distric Negara is greater than the employment exist, so that unemployed workers find employment in other areas that have wider employment.

According to Todaro (1998), the factors that influence a person to do a circular migration are diverse and complex. This is because in addition to economic factors that play a role in making decisions to migrate, the decision is also influenced by many other factors namely:

1) Social factors, including the desire of the migrants themselves to escape from the traditional constraints that previously confined them.
2) Physical factors, including climate influences and natural disasters such as floods and droughts.
3) Demographic factors, including a decline in mortality rate that then accelerate the rate of growth of rural populations.
4) Cultural factors, including the fostering of "big family" relationships in urban settings and the attractiveness of "bright city lights".
5) Communication factors. Including the quality of transportation facilities, education system, and the impact of modernization caused by urban areas.

Based on this background, the authors are interested in analyzing and researching more about the interest of the residents of Kecamtan Negara to migrate, which is poured in the thesis entitled "Factors Affecting the Interest of Circular Migration of People of Jembrana District State".

This study aims among other things to analyze: The influence of age factors, income factors, educational factors, and marital status factors to the decision of interest to migrate circular residents of the District of the State of Kabuapaten Jembrana.

REVIEW OF LITERATURE

The concept of Labor Migration.
Factors that affect a person in migrating nature is very complex and diverse, because migration is a selektip process that affects each individual with certain economic, social, educational and demographic characteristics, then the influence of economic and non economic factors are very different , not only between one nation and another and between one region and another, but also within certain geographical and population areas (Bakir, 1983).

According to [4]the factors that affect migration 1) the decrease of natural resources, especially land due to the increasingly crowded population. This will have an impact on the narrowness of employment, especially in the agricultural sector, 2) better income and livelihood opportunities

According to (Lee, 1987) and [4]there are four factors that cause migration:

1. Factor in the area of origin
2. Factor contained in the destination area
3. Intermediate barrier
4. Personal Factor

Migration is also influenced by the development of a region. Migration generally takes place toward the center, so in general there is a migration of migratory directional migrants to important industrial and trading centers that can absorb migrants the inhabitants will migrate to areas that are experiencing growth or growth more rapidly, because the growing region generally promises wider and more exciting job opportunities.

Increased means of transportation, industrial development and trade development, led to increased migration. Skill motives also affect a person's migration. Poor, oppressive laws, high taxes, unattractive advertising, unpleasant public environments as well as slavery and transportation coercion may generate migration flows.

Needs and Stress Theory

According to this theoretical concept, every manusis has several necessities of life that must be fulfilled. Such needs can be non economic economic needs. If the need can not be met, causing a person to experience stress and distress. The amount of stress level inversely proportional to the fulfillment of needs. The more needs that can not be met, the greater the level of stress experienced by someone. There are two consequences of the stress. If the amount of stress is still within the limits of tolerance, then somebody is not likely to pass through the work mobility.

Conversely, if the amount of stress above the limit of tolelansi, one's tendency will do the work mobility. Mobility of work is strongly influenced by the value of a wi.layah / tempat. Someone will do the tendency of mobility from region to more advanced region (Pull And Push Theory). (Mantra, 1999)

RESEARCH METHODS

Types of research

This research uses the type of research that is exsplonatory research, that is the type of research that explains systematically, factually, and accurately about an object being studied and aims to find whether there is a relationship pattern and the nature of the relationship between two variables or more, and to test the hypothesis.

Time and Location Research

This research was conducted in Jembrana District State and conducted in October 2015.

Types and Data Sources

Primary data is data that comes directly from the source and has not been processed by other parties. This primary data was obtained by conducting a direct survey to the research area and conducting interviews based on questionnaires that have been compiled on eligible respondents. Secondary data is data taken from another party or is data that has been processed second party. Secondary data are literature studies from various literatures, journals or books, data obtained from the office of the Central Statistics Agency (BPS) of Jembrana District.

Data Analyst Method

The analysis used in this study is logistic regression analysis. Logistic regression analysis is a statistical method that describes the prediction between a change of response that has two or more categories with one or more changes in category or interval explorers. The meaning of the categorical variable is the variable in the form nominal and ordinal data. Logistic regression models are regression models whose variables are bound or the respondent requires a categorical variable. The respondent variable that has two categories of regression model is called binary logistics [6]. If the observed data with X1, X2, ..., XP with the respondent variable Y, with Y having two possible values 0 and 1, Y = 1 represents the specified response and vice versa Y = 0 has no criterion then Y following the distribution of Bernoulli with parameters then the linear model of logistic regression.The equation of the logistic regression model;

Logit model:

$$\frac{\text{Ln P}}{1 - \text{P}} = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4$$

Where:
Ln   = natural Logaritm
P   = probability to migrate
X1   = age
X2   = income
X3   = education
X4   = merriage
B0   = intersep
β1,2,3,4,5 = regression coeficient

1. Test Hosmer and Lemeshow
    Test Hosmer and Lemeshow. The fit model is known by comparing Hosmer and Lemeshow> Chisquare tables (at df and a = 5%) and comparing the Hosmer and Lemeshow value signatures (Sig.> 0.05) (Baroroh, 2013).

2. Likelihood Fit Model
    The likelihood fit model is by comparing the Log Likelihood number in the initial model (Block = 0) with the Likelihood Log-2 number in the final model (Block = 1), "if there is a Decrease -2 Log Likelihood" it is concluded that the model shows the fit model [8]

Hypothesis testing
1) Wald Test
    The wald test test is used for individual testing that indicates whether a significant independent variable is significant to Y. To test it is used Wald Test Homster and Lameshow [7] with the following hypothesis:
    H0: βj = 0 (the coefficient βj is statistically significant)
    H1: βj ≠ 0 (the coefficient βj is not statistically significant), j = 1,2,3 ... ..p
    The statistical calculation of the wald test is as follows:

$$w = \frac{\beta j}{\text{SE }(\beta j)}$$

Where ;
βj   = parameter estimator βj
SE (βj)   = predicted standard error of βj
p   = number of predictor variables
Decision-making is based on accepted H0 and H1 is rejected, if statistic value if Sig <α (0,05) which means βj significant to independent variable.

2) Omnimbus Test
    Omnimbus test test is used for simultaneous test that shows whether a independent variable significant to Y. To test it is used Omnimbus Test [13] with the hypothesis as below:
    H0: βj = 0 (the coefficient βj is statistically significant)
    H1: βj ≠ 0 (the coefficient βj is not significant

$$X^2 = \sum_{k1}^{g} \frac{O_k - n'k\pi k}{n'k - \pi k \ 1 - \pi_k} \ 2$$

With,

$$O_k = \sum_{j=1}^{n'k} yj$$

Sum of respon variables at group k^{th}

$$\Pi_k = \sum_{j=1}^{n'k} \frac{mj\pi j}{n'k}$$

Average probability estimates,

Mj the number of observations that have the value of πjn "k = number of observations in the group

3) Nagelkerke R Square
   This coefficient is used to determine the amount of variability that can be explained by the model [13]. The use of Nagelkerke R Square coefficient with R2 boundary is 0 <R2 <1, in this logistic model we use functional accuracy measure which is different from regression because the dependent variable is dummy or binary. The size of R^2 in logistic method is known from Nagelkerke R Square value based on estimation technique likelihood with values varying from zero (0) to 1 (one).

DISCUSSION

Logistic Registrations Model
Factors influencing interest in circular migration of Sub-distric Negara residents are analyzed using logistic regression, where the dependent variable is qualitative data in the form of nominal data in dummy form. The dummy of this dependent variable is yes (migrate to know the age, income, education, and marital status, to the decisions of the State of the population in performing circular (non-permanent) migration.In this case the circular migration decision variable (Y) is measured using dummy value of "1" if the community indicated "will remain", while the value "0" if the community indicated "will not settle" in secular migration 4. Table 4.13 presents the results of logistic regression analysis;

Table 2. Results of Logistic Regression

Independent Variables	B	SE	Wald	Sig	Exp (B)
(Constant)	-23,156	11.038	4,401	0,036	0,000
Usia (X_1)	-0,470	0,683	2,809	0,014	-1,933
Income (X_2)	0,687	0,836	2,924	0,006	3,000
education (X_3)	0,818	0,972	3,028	0,000	4,835
merriage (X_4)	-0,372	0,582	1,743	0,025	-1,137

Negelkerke R-Square= 0,483
Omnimbus Test = 13,313

Based on the results of calculation of logistic regression analysis of factors that influence the interest of the circular migration of residents of the District of the State obtained the following equation:

$$\hat{Y} = -23.156 + (-0.470) X_1 + 0.687 X_2 + 0.818 X_3 + (-0.372) X_4$$

Information:
$\hat{Y}$ = The probability of occurrence of the event of a binery-scale and distributed dependent variable (dependent) variable.
   1. Intercept of -23.156 means that if there is no age, income, education, marital status, and then the value of circular migration opportunities is;
   2. Ln (p / 1-p) = -23.156
   3. (p / 1-p) = e -23,156
   4. P = e -23.156 / (1 + e -23,156) = 8.77 / (1 + 8.77) = 89%
   5. Age variable with coefficient (B), means "in odds ratio". This means that every 1 year increase in the age variable, then the odds ratio will decrease by -0.470.
   6. Revenue variable with coefficient (B), means "in odds ratio". This means that every increase of 100,000 rupiah income variable, then in raso odds will increase by 0.687
   7. Educational variable with coefficient (B), means "in odds ratio". This means that every increase of 1 level of education variables, then in raso odds will increase by 0.818
   8. Marital Status Variables with coefficient (B), means "in odds ratio". This means that every marital status variable is unmarried, then in odds ratio will be reduced by 0.372.

With the value of Exp (B) on factors influencing the interest of doing the circular migration of residents of Sub-distric Negara, the following equations are obtained:
   1) Exp value (B) variable age (X1) equal to -1,933 which means that every age value increase annually (1 year), hence odds ratio is equal to -1,933. This means the possibility of a chance to migrate by -1.933 times.
   2) The value of Exp (B) income variable (X2) is 3,000, which means that each income value rises 100,000 rupiah, then the odds ratio is 3,000. This means a possible opportunity to migrate 3,000 times.
   3) The value of Exp (B) of educational variables (X3) is 4,835, which means that every educational value rises 1 level, then the odds ratio is 4,835. This means a possible opportunity to migrate by 4,835 times.

4) The value of Exp (B) variable marital status (X4) is -1.137 which means that every marital status status is unmarried, the odds ratio is -1.137. This means the possibility of a chance to migrate -1.137 times.

Fit Model Assumption

1. Hosmer and Lemeshow Test

The fit model can be tested using Hosmer and Lemeshow test. The fit model is known by comparing the Hosmer and Lemeshow <Chisquare tables (at df = 8 (15,50731) and a = 5%) and comparing the Hosmer and Lemeshow value signatures (Sig.> 0,05) [7] . The following in Table 4.14 is the result of Hosmer and Lemeshow test;

Table 3. Hosmer and Lemeshow Test

Hosmer and Lemeshow Test							
Step	Chi-square		Cutt Off	Sig.		a	Keterangan
1	6,713	<	15,50731	0,568	>	0,05	Baik

Based on the analysis, the result shows that logistic regression model has fulfilled the model feasibility assumption, it can be seen from the value of 6,713 <15,50731 and 0,568> 0,05.

2. Likelihood Fit Model

The likelihood fit model test is by comparing the Log Likelihood number in the initial model (Block = 0) with the Likelihood Log-2 number in the final model (Block = 1), "if there is a Decrease -2 Log Likelihood", then it can be deduced that the model shows the fit model [7]. The following in Table 4.4 is the result of Likelihood fit model;

Table 3. Result of Likelihood Fit Model

Likelihood Fit Model				
Step	-2 Log Likelihood	Step	-2 Log Likelihood	Note
0	114,611	1	101,298	Baik

Based on the analysis, the result shows that logistic regression model has fulfilled the model feasibility assumption, it can be seen from the decrease of Log Likelihood value in the initial model (114,611) with the Log Likelihood number in the final model (101,298).

Hypothesis

1. Wald Test Homster and Lameshow Test

This test is conducted to determine whether the independent variables affect the dependent variable partially. The ability of independent variables in predicting or influencing the dependent variable can be seen from the significance level of the wald test of each variable "if the significance level> 0.05, then the independent variable does not have the ability to predict the likelihood of the dependent variable, otherwise if the level of significance <0.05 then independent variables have the ability to predict or influence the probability of dependent variables [6]. Based on the results of logistic regression analysis, the following test results wald test to determine the ability of the dependent variable in predicting or affecting the independent variable;

1) The age variable (X1) has an odds ratio of -1.933 and significance of 0.004 <0.05, then Ho is accepted and Ha is rejected, which means partially the age variable can predict a circular migration decision that would indicate the decision of the Sub-distric Negara population to migrate. The odds ratio is -1,933, this indicates that the better the person's age, the greater the chance of circular migration decision -1,933 times, when compared with not migrating at all. The odds ratio -1,933 means that if the change is made in age, the likelihood of circular migration decisions in the community will decrease by -0.011%, if the respondent is in a region of 100 respondents.

2) Monthly income variables (X2) have an odds ratio of 3,000 and a significance of 0.006 <0.05, then Ho is accepted and Ha is rejected, which means partially monthly income variables can predict the existence of circular migration decisions of residents of Sub-distric Negara to migrate. The odds ratio is 3,000, this indicates that the better one's monthly income, the greater the chance of circular migration decisions is 3,000 times, when compared with not migrating at all. An odds ratio of 3,000 means that if a change in monthly income is made, the likelihood of a circular migration decision in the community will increase by 0.03%, if the respondent is in a region of 100 respondents.

3) The education variable (X3) has an odds ratio of 4,835 and the significance of 0,000 <0.05, hence Ho is accepted and Ha is rejected, which means partially educational variables can predict a circular migration decision which would indicate the decision of the Sub-distric Negara population to migrate. The odds ratio is 4.835, this indicates that the better a person's level of education, the greater the chance for circular migration decisions 4,835 times, when compared with not migrating at all. The odds ratio of

4,835 means that if a change in educational level is made, the likelihood of a circular migration decision in the community will increase by 0.048%, if the respondent is in a region of 100 respondents.

4) Marital status variable (X4) has an odds ratio of -1.137 and significance of 0.025 <0.05, hence Ho is accepted and Ha is rejected, which means partially variable of marital status can predict circular migration decision which will indicate decision of resident of Sub-distric Negara to migrate . The odds ratio is -1.137, this indicates that the better the marital status of a person, the greater the chance of circular migration decision -1,137 times, when compared with not migrating at all. The odds ratio -1.137 means that if a change in marital status is made, the likelihood of a circular migration decision in the community will decrease by -0.011%, if the respondent is in a region of 100 respondents.

2. Omnimbus Test Test

The Omnimbus Test Test is used to test the hypothesis simultaneously or simultaneously, with the greatest significance of 0 (= zero), with df = 4 (7,81473), "degress of fridom or as many independent variables" following the Chi-square distribution (Omnimbus Test> X2). The value of Omnimbus Statistic in logistic model is 13,313> 7,81473 with significance level equal to zero, hence Ho is accepted and Ha is rejected, meaning simultaneously variable of age, monthly income, education, and marital status can predict decision to do circular migration residents of Jembrana District State.

3. Variability Nagelkerke R Square

This coefficient is used to determine the amount of variability that can be explained by the model [13]. Independent variable, that is age, monthly income, education, and marital status to dependent variable that is decision to do circular migration resident of Sub District Jembrana State. The use of Nagelkerke R Square coefficient with R2 boundary is 0 <R2 <1, in this logistic model we use functional accuracy measure which is different from regression because the dependent variable is dummy or binary. The size of R^2 in logistic method is known from Nagelkerke R Square value based on estimation technique likelihood with values varying from zero (0) to 1 (one). Based on the value of Nagelkerke R Square of 0.483 or 48.3%, which means that the model has been designed to explain 48.3% in the circumstances or the decision to perform circular migration of the population of Jembrana District State.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on data analysis and research discussion there are influence of age, income, education level, marital status, to decree of labor to do circular migration in District Country of Jembrana, hence can be concluded as follows:

1. Income and education have a positive and significant effect on labor decision in conducting circular migration in Jembrana District State.

3. While age and marital status have a significant negative and significant effect on labor decisions in conducting circular migration in the District State Jembrana District. This study has independent variables, namely age, income, pendidika, and marital status in silmultan significant effect on the dependent variable that is interest to do circular migration.

2. The most influential factor on this research is the income factor because the main factor of a person migrating because of economic factors. Revenue earned in the city is better than in the village, so more people migrate to a better place of origin.

Based on the results of research and conclusions, then the suggestions that can be given are;

1. That income has a significant effect on labor decisions to conduct circular migration.
Therefore, the government needs to develop the potential in various regions so that the welfare of the community can also increase, because almost all respondents say that the income factor in the destination area is greater so that they think to work outside the region in hopes of getting better income.
2. Whereas marital status significantly affects labor decisions migrating migration.
This marital status will make the burden of life of the respondents increased so as to encourage them to leave the area of origin and switch to other areas if there are differences in income in other areas. Therefore, the government needs to increase the program of family planning extension to the population so that it can make their marriage more planned. Thus the interest of the population to conduct circular migration can be controlled also.
3. Whereas age has a significant effect on labor decisions in a circular migration.
This is relevant considering when a person feels he has been able to work then he will find a job that can improve the standard of living of the family in the area of origin then he will migrate out of the area oforigin. Local governments need to modernize the agricultural sector which is the main sector of rural areas in order

to increase the production and productivity of agricultural products and in the hope that this can increase employment opportunities in villages so that young people in rural areas do not need to leave their areas to work outside their home regions.

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