

**THE EFFECTS OF MIGRATION ON INCOME, HEALTH, AND  
EDUCATION:  
A DATA ANALYSIS OF INDONESIA NATIONAL SOCIAL ECONOMIC  
SURVEY 2018**

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**Abstract**

**Purpose**

This study investigates the influence of migration on Indonesia's income, health, and educational opportunities.

**Design/methodology/approach**

The influence of the network on migration has been included into the model in this research. The National Social Economics Survey 2018, which provided the information for this study, was used to gather the data.

**Findings**

According to the findings of this research, there is a positive relationship between migration and income. On the contrary, it was discovered that migration increases the likelihood of children being ill and that it causes schooling to be interrupted when they should be in high school.

**Research limitations/implications**

To get a better understanding of the impact of migration on the well-being of migrants in Indonesia.

**Originality/value**

This research is using the control variable whereas the other migration studies do not consider to it yet

**Keywords:**

Migration, Network, Instrumental Variables, 2sls, Probit.

## **INTRODUCTION**

Migration, according to the United Nations, is defined as the movement of people from one administrative unit to another administrative unit (or vice versa) (Greenwood, 1997). Migration happens when individuals need to find a better way of life, whether for economic reasons or to have more educational options and facilities available to them (Todaro & Smith, 2011).

Among the main causes for migration, according to Nabila and Pardede (2014), is the migrant's place of origin, namely bad economic circumstances that compel a person to leave the location where they presently dwell. Poverty is a topic that is often brought up in conversation. In Nabila (2014), Stark and Taylor predict that one of the reasons for migration from rural to urban regions is to raise the income of individuals or families, which is supported by other research. It is deemed comparatively poor when an individual perceives that his or her income is lower than the average for a specific demographic. These relatively impoverished individuals would then relocate.

Regardless of the economic climate, the network has an impact on migration as well. The network aimed to lower the cost of migration while also promoting the advantages of migration (McKenzie, 2013). More migration is anticipated to occur as a result of the network's existence. According to Zai (2017), female migrants and younger migrants are more likely than male migrants to rely on well-developed migration networks, whilst the most educated migrants are less likely to rely on well-developed migration networks.

Is it possible for individuals to find what they need when they migrate? According to the findings of a study conducted in Pakistan, being at home might make individuals happier and less psychologically disturbed. Migrants are more likely than the general population to be

dissatisfied, in conflict, and sick. A large number of migrants are in poor mental and physical health. (Chen and colleagues, 2019)

Park and Wang (2010) explore the impact of migration on poverty and urban inequality in ten Chinese cities, using data from the China Urban Labor Survey. According to the findings of this research, there were no statistically significant differences in poverty rates between migrants and locals. Park and Wang also demonstrate that migrants continue to confront challenges in gaining access to non-income-based benefits in cities, such as housing and social insurance programmes.

On the contrary, a growing body of data suggests that migration has a favourable influence on household income and productivity. Galloway (2005) illustrates the outcome in the Norwegian instance by using data from other European Union nations. Immigrants who remain in their new country for a more extended period of time are less likely to be impoverished in their new country because their engagement in the labour force and performance in the workplace grow with time as they become more integrated. According to Pratomo and Jayanthakumaran (2018), migrants are more likely than non-migrants to be classified as non-poverty when compared to other groups. The education of the family's head, the number of dependents, and past job experience in the contemporary sector are all crucial variables in assisting migrants in their efforts to break free from poverty. According to Nurbaiti (2018), the types of migrant workers in Jakarta who are likely to be richer include women migrant workers, older migrant workers, and those with a higher level of educational achievement. Christinawati (2013) demonstrates that relatives had a favourable and statistically significant impact on a migrant who worked in the formal sector, while friends have a statistically significant impact on a migrant who worked in the informal sector in her research of returned migrants in East Java.

In this research, the following are the primary objectives:

To get a better understanding of the impact of migration on the well-being of migrants in Indonesia.

a. To investigate the relationship between a household's income and its migratory status in Indonesia.

b. To investigate the impact of children's health on their parents' migratory status in Indonesia.

c. To investigate the impact of children's migratory status on their educational opportunities in Indonesia.

### **Research Benefit**

The findings of this research are expected to be advantageous to a number of parties, including the following:

1. The findings of this research are intended to be used as input by employment planners and policymakers in order to control internal migration and attempt to create alternative options for the workforce.

2. For researchers, the author anticipates that the findings of this study will provide new information that will aid in future research.

3. This study might provide a fresh viewpoint for potential migrants when deciding whether to remain or move to the most advantageous location.

### **LITERATURE REVIEW.**

The migration of individuals from rural regions to major cities is seen as a blessing in economic development literature because it gradually reduces labour surpluses in rural areas, allowing

labour demands in metropolitan areas to be met as the industrial sector grows (Todaro, 1980). Using a model/theory devised by Arthur Lewis, he advocated for urban settlements to relocate to a blessing (Todaro, 1980). Lewis's method is based on the notion that the economy is divided into two sectors. First and foremost, there is the typical rural substitution sector. Productivity in this industry is very low or non-existent. In the second place, there is the contemporary urban industrial sector with excellent productivity. There are two distinct factors that contribute to the movement of labour from rural to urban regions. After the modern economic sector has absorbed the rural labour surplus in metropolitan areas, the process of modern sector development and expansion of job prospects will be carried on for a while longer.

However, if a country is unable to maintain control over urbanization, it may result in a variety of undesirable consequences such as slums, poverty, unemployment, and crime. Many people in developing nations, particularly in those where the majority of the population still lives in rural regions, wish to relocate to metropolitan areas in order to find better employment and economic opportunities. Because of this, the agricultural sector is being displaced while the industrial sector is expanding. Many nations, including Indonesia, have seen increased migration as a result, making it a significant role in the social economy (Skeldon, 2017).

When opposed to a rural area with its agricultural sector, the urban region often offers a more significant number of job opportunities with a greater diversity of them. As a result, the migrant has a high percentage of engagement in the labour in reality. Nonetheless, not all of them are in a well-established industry. On the contrary, many of them labour in the informal sector, where their working conditions are less than adequate (Christinawati et al., 2013). According to Effendi et al. (2010), over 80 percent of new migrants in Indonesia are employed in the uncreative job sector of the economy. Because of their poor level of education, low degree of adaption to the urban environment, and lack of interest in local society, they are at a

disadvantage when compared to local people. When a person, family, or community wants to live a better life, they might choose to migrate. This is true not just in terms of money (an economic issue), but also in terms of life satisfaction, as a result of better education, health care, and entertainment opportunities.

Nevertheless, all of these variables, which are more likely to generate mobility, are motivated by economic considerations to maximize utility. The idea of welfare is inextricably linked to the general well-being of the population (Widyastuti, 2012). Furthermore, Seal and Bruzy (2012) highlighted that we might quantify welfare by looking at factors such as health, economic situations, happiness, and the overall quality of people's lives.

Improving the well-being of migrant communities starts at the grassroots level and is defined by poverty reduction, improved health and education, as well as increased community production and self-sufficiency (Todaro & Smith, 2011). A variety of variables, including demographic characteristics, such as migration status, health status, age status, and educational level, may have an impact on one's well-being. The focus on demographic characteristics is prompted by the country's demographic circumstances, which are characterized, among other things, by an uneven distribution of population between Java and other areas, an enormous burden of young age dependence, and a poor level of human resource quality in general.

Migration is one method through which a community might rid itself of poverty and enhance the income of its members. According to research done by Rohmah and Sari (2017), when a family member chooses to migrate, the economics of the family improves, and the average monthly income rises compared to the situation before the migrant was selected. Demurger (2015) demonstrates that the status of migration can have a positive impact on the welfare of a community because migration increases a family's income, and increasing a family's income is

beneficial for obtaining a better education for children and improving the overall health of the family.

The state of one's health might also have an impact on one's well-being. It is a successful situation when human existence is secure and pleasant as a result of having met the fundamental demands of nourishment, health, education, housing and income, and it is also a prosperous condition when people are protected from the significant threats that endanger their lives (Chalid & Yusuf, 2014). Researchers Ngamaba et al. (2017) discovered that, in underdeveloped nations, one's socioeconomic level has a strong association with one's health. As a result of the fact that the majority of people in developing nations are still seeking to break out of poverty, individuals are less likely to eat nutritious foods, and it is more challenging to acquire healthcare services.

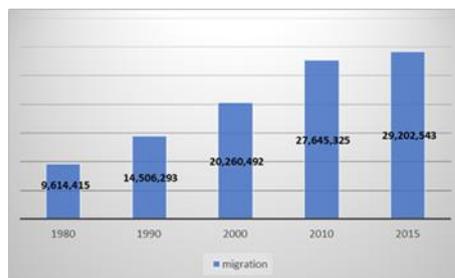
One of the most important things in raising one's level of life is obtaining a good education. Someone may achieve social mobility via education. For example, someone from the lower class can rise to the upper-middle-class as a result of the education he has received in order to get a respectable job. According to Kollé and Bintarto (1989), assessing a person's well-being may be accomplished via the use of welfare indicators, one of which is educational attainment. This education, according to Kollé, includes the mental and spiritual components of determining one's degree of well-being.

## **Overview**

In many nations, including Indonesia, population migration from rural to urban areas is critical to the advancement of social and economic development (Skeldon, 2017). Within certain boundaries, urbanization may spur economic development in destination locations, which implies that migrants who relocate for economic reasons are the ones who supply the

workforce in such places (Tacoli et al., 2015). The presence of this labour has the ability to stimulate economic activity in the surrounding area.

**Figure 2. 1 Internal Migration in Indonesia**

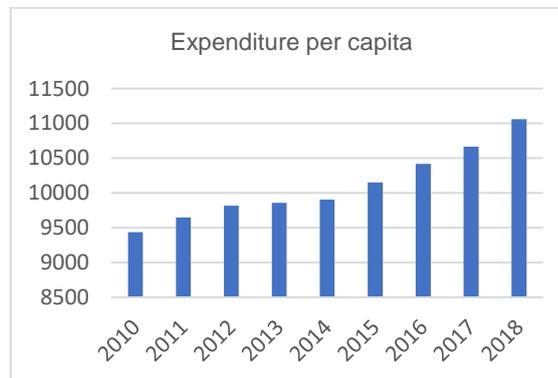


*Source: processed BPS Report*

Migration is now seen as a necessary component of modern civilization. In 1980, there were a total of 9.614.415 internal migrants in Indonesia. Until 2010, the number of migrants increased by 36-50 percent every year on average. The total number of migrants in 2015 was 29.202.543 people. It declined by 5,6 percent from the previous year's total of 27.645.328 migrants. The capital city of Jakarta, West Java, and Riau are among the most popular migration destinations. While this is true, North Kalimantan, West Sulawesi, and North Maluku have smaller numbers of migrants than the rest of the country.

Furthermore, Indonesia, although being a developing nation, has a high degree of urbanization (Yadava, 1989). Furthermore, according to Meng and Manning (2010), 15 percent of Indonesia's urban population is made up of migrants who were born in a country other than their present domicile. Indonesia's migration has recently been spurred on by the expansion of the industrial and service sectors in the country's major cities, such as Jakarta (Guilmoto, 2016).

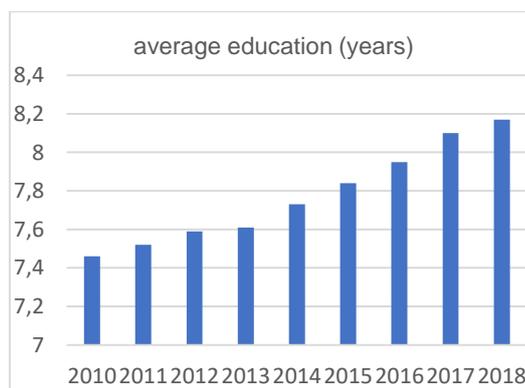
**Figure 2. 2 Per capita expenditure (in thousand IDR)**



*Source: processed BPS Report*

In the context of consumer spending, it is defined as expenditure on goods and services by resident households for the purpose of ultimate consumption. This expense is often utilized in the calculation of revenue. For the last 18 years, according to the statistics, Indonesia's spending per capita has grown. It was roughly IDR 9.5 million in 2010, and the spending per capita has increased to more than IDR 11 million in 2018.

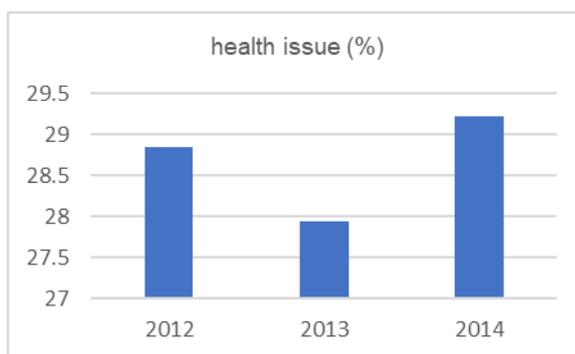
**Figure 2. 3 Average Education**



*Source: processed BPS Report*

Generally speaking, the average level of education in Indonesia is improving. Indonesian residents spent an average of 7.46 years on schooling in 2010, and this figure grew to 7.52 years in 2011. Immediately after 2016, the average year spent in school was more than eight years, averaging 8,1 and 8,17 years in 2017 and 2018, respectively.

**Figure 2. 4 Health issue**



*Source: processed BPS Report*

The proportion of persons who have a health problem is shown in the chart above. According to government statistics, in 2012, 28.8 percent of Indonesians were affected by health problems. It fell by almost 1 percent to 27.94 in 2013, representing a reduction of nearly 1 percent from 2012. In 2014, the proportion of persons suffering from a health problem grew to 29.22 percent.

### **Research Method**

An iv regression 2sls model will be used to investigate the relationship between income and migration in this study. The following is shown by the model:

$$\text{Stage 1: } Migration = \beta_0 + \beta_1 Network + \beta_2 X + \varepsilon$$

$$\text{Stage 2 : } \ln Income = \beta_0 + \beta_1 Migration + \beta_2 X + \varepsilon$$

Where :

Ln income = Household income

Migration = the total number of 15-year-olds and older household members who migrated

Network =

$$\frac{(\text{total household migration in the city from 2008 to 2013})}{\text{total household in the city from 2008 to 2013}}$$

X = Control variable (ratio work, ratio male, avg, education, unhealthy ratio)

Health Model

In order to investigate the relationship between health and migration, an IV probit regression model will be used in this study. The following is shown by the model:

$$\text{Stage 1 : } Migration = \beta_0 + \beta_1 Network + \beta_2 X + \varepsilon$$

$$\text{Stage 2 : } Health = \beta_0 + \beta_1 Migration + \beta_2 X + \varepsilon$$

Where :

Health = If the responder does not have a health concern, the score is 1. If the responder is suffering from a medical condition, the score is zero.

Migration = the total number of 15-year-olds and older household members who migrated.

Network =

$$\frac{(\text{total household migration in the city from 2008 to 2013})}{\text{total household in the city from 2008 to 2013}}$$

X = Control variable (gender, children age, avg, education, work ratio, In income)

Education Model

It will be examined in this research how the link between education and migration is modelled using an IV probit regression model. The following is shown by the model:

$$\text{Stage 1 : } Migration = \beta_0 + \beta_1 Network + \beta_2 X + \varepsilon$$

$$\text{Stage 2: } Education = \beta_0 + \beta_1 Migration + \beta_2 X + \varepsilon$$

Where :

Highschool = If the responder attended high school, the score is 1. If the responder never attended high school, the score is 0

Migration = the total number of 15-year-olds and older household members who migrated.

Network =

$$\frac{(\text{total household migration in the city from 2008 to 2013})}{\text{total household in the city from 2008 to 2013}}$$

X = Control variable (children age, gender, ratio unhealthy, work ratio, In income)

## **METHODOLOGY**

### **Hypothesis**

Based on the previously mentioned difficulties and aims, this research used three models, one for each hypothesis, which was as follows:

The income of a family is affected by its migration status;

The children's health in the family is affected by their family's migration status;

The children's education in the family is affected by their family's migration status.

### **Estimation methods**

This research employs two alternative methodologies to investigate the hypothesis and figures of how migration impacts three dependent variables in this study.

Instrumental variable regression is a kind of regression in which a variable is used to predict another variable. Model one, in which the dependent variable is a ratio scale variable, was subjected to two-stage least squares (2SLS) regression.

In the second and third models, where the dependent variable is a categorical variable, instrumental variable probit regression was used to fit the data.

## **DATA**

### **Population**

An aggregation of all units or instances that meet some predetermined set of criteria of objects that are then converted into particular quantities and characteristics chosen by researchers to be investigated is known as a population (Blaikie, 2011). Along those lines, Margono (2010) discovered that the population is comprised of any facts that we pay attention to within the scope and time frame that we designate. As a result, in this research, the population consisted of all Indonesian residents living in 2018.

### Sample and Sampling Method

Specifically, according to (Blaikie 2011), a sample is a selection of components (members or units) from a population that is used to generate generalizations about the whole population. The ideal sample gives a perfect representation of a population, with all of the important traits of the population contained in the sample in the same proportions as they are in the population. According to this research, the sample is comprised of Indonesian citizens that took part in the National Social Economic Survey 2018.

### Sources of data

Data sources may take the shape of objects, things, or people where researchers can watch, study and ask questions about data that will eventually be utilized as data sources for their research projects. The data sources that were utilized were secondary data. Secondary data is information that is important to the conversation and is collected from a third party that gives information about the subject under investigation. This research uses data from a survey conducted by the Indonesian Statistic Board (BPS), which is included in this study. The information obtained from the official release was derived from an official survey carried out by the Indonesian Statistical Institute (BPS).

### Research Variables

The purpose of this research is to determine the relationship between migration and income, as well as health and education characteristics, in accordance with theoretical aims. Furthermore, this study is being carried out with the backing of past relevant empirical research. The purpose of this research is to investigate and explain the impact of migrant worker status on the well-being of migrant workers in Indonesia. This study is based on the status of migration developed by Ravenstein (1885), who stated that the primary reason for a person to migrate is the difficulty in earning a living in one's place of origin, as opposed to the possibility of obtaining better welfare in one's place of residence in the destination area. The well-being assessment is also described in terms of income, health, and education, among other things.

The income, health, and education variables are the dependent variables in this research. In the first model, Ln Income is computed from the log of per capita income at the household level, as in the second model. The logarithmic transformation is a useful way of changing a variable with an extensive range of values into a more normalized collection of data.

**Table 4. 1 Income and Ln Income**

Variable	Obs	Mean	Std.Dev.	Min	Max
Income	314.964	1184012	1128767	83286.35	6.21e+07
Ln Income	314.964	13.73782	6676072	11.33004	17.94404

The second dependent variable is the health state of the responder, who must be 15 years old or younger, in this study. It is a dummy variable with a value of one when the respondent has no health problem and a value of zero when the respondent has had health issues in the previous seven days at the time of the survey, which is the case in this case. This research restricts the

age range to 15 years and under in order to concentrate on the influence of migration on children's health, with the belief that children are impacted by their parent's choice to move or remain in their home country (Bryant, 2005).

The third dependent variable is the level of education of the members of the family. This variable is used to calculate the responder's age, who is between the ages of 15 and 21. This age restriction moderation assesses whether respondents pursue a higher level of education after completing elementary school or if they do not. Furthermore, the age restriction takes into account the moment of household movement within five years prior to the survey time period. A dummy variable is used to indicate whether or not a household member attended high school in the education variable. If the respondent did attend high school, the variable displays the value 1. If the respondent did not attend high school, the variable displays the value 0.

Migration number is the independent variable that determines the number of household members who move when they reach the working-age threshold (15 years and older). If one or more working-age members of the home relocate, the household is said to be migrating. This study focuses on working-age migrants in the interest of household members who are productive and contribute to the family revenue stream. The term "migration" refers to a person who has moved to a different city during the previous five years.

The migration network calculates the number of households that have migrated from the same city in the previous periods divided by the total number of households present in the city, which is an instrumental variable. Migration by certain members of a community may have a major impact on the chances of other members of the group migrating (McKenzie, 2013). We do not believe that the network has a direct impact on the income, health, or education of migrants, as some have suggested. Therefore, the network is defined as the instrumental variable in this study.

Gender, age, the ratio of work, the average education of working-age members, the ratio of males, and the ratio of working-age members with a health problem are the control variables. These variables are not of particular relevance to the research; nonetheless, it is presumed that they have a relationship with the dependent variable and that this relationship might impact the conclusion of the regression.

In this survey, gender is defined as the sex of the respondent in question. In the gender variable, the respondent is either a man or a female, and the value 1 indicates that the household member is male while the value 0 indicates that the respondent is female. The second control variable is age, which indicates the number of years the responder lives.

The third control variable is the work ratio, which indicates how many people are employed in a certain family. It is computed by dividing the number of workers in a home by the total number of members in the household (including children). If all members of a household are employed, the work ratio should be a maximum of 1, and it should be a minimum of 0 if all members of the home are jobless.

The average educational level of the household's workers is considered the fourth control variable. Education is the amount of time spent studying over a period of years. The ignorant worker has a value of 0 while the PhD degree holder has a value of 20. A household's average education is computed by adding up the education of all of the workers in the family and dividing that total by the number of workers in the household.

The male-to-female ratio is the next control variable. In this example, the gender composition of workers in a home is shown. The male ratio is computed by dividing the number of male workers in a home by the total number of workers in the family. If all of the employees are

male, the male to female ratio is one, and if all of the workers are female, the male to female ratio is zero.

The unhealthy ratio is the last control variable, reflecting the ratio of unhealthy workers in a family. It is calculated by dividing the number of unhealthy workers among a family by the total number of workers in that family. The unhealthy ratio value is 0 when all of the employees are in good health and 1 when all of the workers in the home suffer from a health problem.

### **Unit of Analysis**

This study employs three alternative regression models, each of which makes use of a different unit of analysis. The household serves as the unit of study in the income model. There are 281,707 observations in total in the sample. The person is the unit of analysis in the other models. Individuals who are 15 years old or younger are considered the unit of analysis in the health model. Furthermore, under the education model, the unit of analysis is the person who is between the ages of 15 and 21. Approximately 331 477 and 119 498 observations are included in the sample, respectively.

### **Statistic summary**

Model One incorporates the following variables: ln income, migration number, work ratio, male ratio, average education, unhealthy ratio, and network of ratios. This research makes use of 281,707 observations of the family during the course of the investigation. Income per hour is 13.729, with a range of 11.33 to 17.819 depending on the industry. The number of migrants in a family may range from zero to fourteen, with zero being the bare minimum and fourteen being the highest. Approximately 54 percent of household members are employed, which is the

typical percentage in a household. The average percentage of males in the household is 49.7%. The average amount of time spent in school in the family is 9.6 years. The maximum period is 20 years, which is equivalent to a PhD degree. Ratios that are considered unhealthy fall between zero and one, whereas the ratio network falls between zero and 0.289.

Model two uses a sample of individuals who are 15 years old or younger as the basis for analysis. It offers a list of the variables that were utilized in this study. There are many variables to consider, including health, migration number, average education, gender, age, work ratio, ln income, and network ratio. A total of 331,477 observations were used in this investigation. The average health score is 0.842, with values ranging from 0 to 1. The number of migrants in the respondent's household is zero at the very least, and the most significant number of migrants is fourteen. The average duration of schooling in a family is 9.3 years. The average age of the respondents is 7.7 years old, with 52 percent of them being male. The average worker-to-household member ratio is around 39.6 percent of the total number of household members. The average annual ln income is 13.517, with a range of 11.759 to 17.287 in the range. The average ratio network has a value of 6.1 percent, while the highest ratio network has a value of 28.9 percent.

Model three's summary statistic. Individuals ranging in age from 15 to 21 years are included in the sample. It offers a list of the variables that were utilized in this study. There are other variables to consider, including dummy high school, migration number, ln income, unhealthy ratio, gender, age, work ratio, and ratio network. The total number of observations in this research is 119,498. 74.8 percent of those who answered the survey said they plan to continue their education through high school. The number of migrants living in the household of the respondent is zero, while the number of migrants living in the home of the respondent is fourteen. With a range of 11.777 to 17.031, the average net income is 13.617 dollars per month.

It is between 0 and 1 in the unhealthy ratio range, and between 0 and 0.2889 in the ratio network range. Males account for 52 percent of those that responded, with an average age of 17.7 years. The average worker-to-household member ratio is around 28.2 percent of the total number of household members. The average ratio network has a value of 6.4 percent, while the most significant ratio has a value of 28.9 percent.

## **RESULT**

It is clear from the findings of the first stage regression that the migration network is a significant instrumental variable in this study. The fact that the migration network has a high t-stats value shows that it has a statistically significant association with migration. For the first model, the value of the t-stats of the migration network is 28.36; for the second model, it is 29.70; and for the third model, it is 27.71. It signifies that the IV is statistically significant at the 1 percent level in all models.

Furthermore, the first stage regression result coefficient reveals that increasing the migration network by one unit results in an increase of 0.839 persons who are part of the migration network. More importantly, according to the second model, if the migration network expands by one unit, the total number of persons migrating grows by around 0.475. In the third model, if the migration network grows by one unit, the number of migrants rises by around 0.863.

According to the results of the second stage calculation, the number of migrants aged 15 years or older living in a home has a statistically significant and positively correlated influence on the household's income per capita. According to predictions, if the number of migrants increases, the income per capita will grow by 1.58 times. Also, the proportion of workers in a home has a positive impact on household income (ln income). On the contrary, a rise in the average level

of education, the male to female ratio, and the unhealthy to non-healthy ratio all have a negative impact on income.

**Table 5. 1 Marginal effect calculation results**

Variables	(2) Health	(3) Dummy_highschool
	1	
Mig_number	-0.563 (0.133)	0.417 (0.947)
Observations	331.477	119.498

Robust standard errors in parentheses

According to the results of the second stage estimate, it seems that the presence of a migrant aged 15 years or older in a home has a detrimental influence on the health of children aged 15 years or younger. Furthermore, a more in-depth analysis of probit marginal effects reveals that increasing the number of migrants by just one person increases the risk of the children's health deteriorating by around 56.3 percent. The rise in family income and the presence of a man also increases the likelihood of having unhealthy children in the home. Increases in the average level of education of working-class families, the age of the children, and the worker-to-child ratio in the family may all raise the likelihood of children's health being compromised.

Based on the calculations, it can be concluded that the presence of migrants aged 15 and older in a home has a negative and statistically significant influence on the education of household members aged 15 to 21. According to the calculation of the marginal effects, an increase in migration by one person results in a 41.7 percent increase in the likelihood that the responder

would not continue with their high school education. Increases in affluence reduce the likelihood of students pursuing further education after secondary school. Contrary to this, a rise in the number of children who continue their education as a result of an increase in gender, age, employment, and unhealthy ratios may be expected.

## **DISCUSSION**

Migration, according to this research, has a favourable influence on per capita income. This finding is consistent with research conducted by Pratomo and Jayanthakumaran (2018) as well as Nurbaiti (2018), which demonstrate that migration may increase the living conditions of households. The networking function in migration seems to be beneficial in assisting migrants in locating the most appropriate location with greater employment possibilities.

The second topic addressed in this study was whether or not migration has an impact on health. The outcome of the computation indicates that migration may increase the likelihood of children being ill as a consequence of their circumstances. Migration may have a detrimental impact on children's health if the environment quality in the destination location is worse than the environment quality in the place of origin. For example, if someone chooses to relocate to the city and the air and water quality in the village is better than the air and water quality in the city, the likelihood of being sick increases significantly. The assumption corresponds to the findings of a research performed in Indonesia (Wilonoyudho et al., 2017). According to the report, urbanization encourages people to move to cities in order to find job, which contributes to issues such as environmental deterioration. This accusation in the model, on the other hand, requires more investigation.

The third model investigates the impact of migration on educational outcomes. The results of this study, which used the iv probit regression on this model, reveal that migration increases the

likelihood that children would drop out of school before completing junior high school. If the working family member chooses to relocate, the children in that home have a 38 percent probability of not completing high school. Children deciding to work is one probable cause of this situation. Mckenzie (2013) conducted a research that revealed a similar situation. The children of migrants, who are between the ages of 16 and 18, are more likely to abandon school and travel in order to find employment.

## **CONCLUSION**

Migrants gain from population migrations, which have substantial repercussions for the growth of the country. Even though migration may be utilized as an investment strategy to raise predicted future income and profit from better salaries in other places, such as cities, migration can have negative consequences for migrant families who live in such locations. This thesis investigates the impact of migration on family income, health, and education in Indonesia, using data from the 2018 Indonesian national survey (Susenas). Internal migration in Indonesia seems to have a favourable impact on per capita income, according to the results of the study. The second discovery, on the other hand, was unexpected, and it revealed that migration had a detrimental impact on the health and education of children.

Immigration's potential detrimental influence on health and education should be considered by policymakers. Given the growing trend in migration numbers year after year, the likelihood of this happening will rise as well. It is critical to assess the level of risk and take steps to reduce that level of risk.

Improving the quality of water and air, as well as providing improved sanitation, is a wonderful approach for the government to maintain the health of society. These considerations are fundamental requirements. Water and sanitation development programmes are generally

inexpensive and provide significant social benefits, but lowering carbon emissions to improve air quality is more expensive and provides less social value (Nemat, 1994).

The government may run public education campaigns to raise awareness among the general public about the value of education. The general public must be made aware that education is a necessary investment in order to have a brighter future.

It is necessary to do more research to determine the root cause of the detrimental effect of migration on education and health in order to overcome the limitations of the present study. The new study's findings are likely to be more persuasive as a consequence of this.

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Appendix

**Table 4. 2 Summary Statistic 1**

<b>Variable In Inconme</b>	<b>Obs</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Min</b>	<b>Mean</b>
	281,707	13.729	0.662	11.33	17.819
<b>mig number</b>	281,707	0.154	0.532	0	14
<b>Work Ratio</b>	281,707	0.548	0.261	0.077	1
<b>Male Ratio Avg education</b>	281,707	0.497	0.218	0	1
	281,707	9.628	5.555	0	20
<b>Unhealthy ratio</b>	281,707	0.137	0.319	0	1
Ratio network	281,707	0.046	0.046	0	0.289

**Table 4. 3 Summary Statistic 2**

<b>variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Min</b>	<b>Max</b>
<b>Health</b>	331.477	0.842	0.365	0	1
<b>Mig number</b>	331.477	0.087	0.417	0	14

<b>Avg education</b>	331.477	9.338	4.567	0	20
<b>gender</b>	331.477	0.52	0.5	0	1
<b>Children age</b>	331.477	7.704	4.528	0	15
<b>Work ratio</b>	331.477	0.396	0.175	0	1
<b>In Income</b>	331.477	13.517	0.621	11.759	17.287
<b>Ratio network</b>	331.477	0.061	0.043	0	0.289

**Table 4. 4 Summary Statistic 3**

<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std.dev.</b>	<b>Min</b>	<b>Max</b>
<b>Dummy highschool</b>	119.498	0.748	0.434	0	1
<b>Mig number</b>	119.498	0.11	0.532	0	14
<b>In income</b>	119.498	13.617	0.629	11.777	17.031
<b>Unhealthy ratio</b>	119.498	0.123	0.287	0	1
<b>gender</b>	119.498	0.524	0.499	0	1

<b>Children age</b>	119.498	17.703	1.972	15	21
<b>Work ratio</b>	119.498	0.282	0.45	0	1
<b>Ratio network</b>	119.498	0.064	0.045	0	289

First stage results

**Table 5. 2 First stage result**

VARIABLES	(1)	(2)	(3)
	Mig Number	Mig number	Mig number
<b>Ratio Network</b>	0.839*** (0.0296)	0.475*** (0.0160)	0.863*** (0.0341)
<b>Avg_edu_work</b>	0.378*** (0.000375)	0.279*** (0.000162)	
<b>Gender</b>		0.000265 (0.0136) -0.00246***	-0.0135 (0.00310)
<b>Children age</b>		(0.000150)	0.00583*** (0.000845)
<b>Ratio_work_15up</b>	0.241*** (0.00370)	0.390*** (0.00396)	0.0804*** (0.00375)

<b>In_Income</b>		-0.0637***	0.0611***
		(0.00119)	(0.00246)
<b>Ratio_male_15up</b>	0.124***		
	(0.00515)		
<b>Ratio_work_unhealthy</b>	0.0611***		0.0814***
	(0.00415)		(0.00531)
<b>Constant</b>	-0.465***	0.523***	-0.905***
	(0.00468)	(0.0154)	(0.0357)
<b>Observations</b>	281.707	331.477	119.498
<b>R-squared</b>		0.125	0.020

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5. 3 Second stage result**

<b>VARIABLES</b>	<b>(1) in_income</b>	<b>(2) Health 1</b>	<b>(3) Dummy_highschool</b>
<b>Mig_number</b>	1.580*** (0.0692)	-0.563*** (0.133)	-0.388*** (0.103)
<b>Avg_edu_work</b>	0.0264*** (0.00287)	0.0213*** (0.00385)	
<b>gender</b>		-0.00693 (0.00537)	0.00464 (0.00833)
<b>Children age</b>		0.0439*** (0.000680)	0.110*** (0.00233)

<b>Ration_work15up</b>	0.220*** (0.0184)	0.0562 (0.535)	0.397*** (0.0131)
<b>In_income</b>		-0.0645 (0.00935)	-0.102*** (0.00981)
<b>Ratio_male_15cup</b>	-0.144*** (0.0137)		
<b>Ratio_work_unhealthy</b>	-0.174*** (0.00908)		0.0731*** (0.0163)
<b>Constant</b>	13.71*** (0.0318)	1.388*** (0.0912)	0.0514 (0.139)
	281.707	331.477	119.498

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 1. ....**

No	Variable	Source	Definition
1	Experience	Caroline	Experience is experience refers to conscious events in general, more

No	Variable	Source	Definition
	(X1)	(2020)	specifically to perceptions, or to the practical knowledge and familiarity that is produced by these conscious processes.
2	etc	....	.....