MEASURING INTERGENERATIONAL INCOME MOBILITY:
A CASE STUDY OF INDONESIA

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ABSTRACT

In the past decade, Indonesia has experienced a remarkable growth in GDP per capita, but also have an increasing trend of inequality. To address the economic inequality, this study figures out the equality of opportunity possessed by individuals through estimating the degree of intergenerational income mobility using data from Indonesia Family Life Survey (IFLS) from 1993-2014 and find out that intergenerational income elasticity (IGE) of Indonesia to be 0.166, which suggests that children's income is affected by their father's economic statuses in a low extent. A transition probabilities indicate that there is upward and downward mobility among income groups of Indonesian. Then, this study also finds that education has a power to affect the intergenerational income mobility. Education can be mentioned as one of the transmission channels which can describe as much as 73.49% of IGE.

Keywords: intergenerational income mobility; inequality of opportunity; transition probabilities; transmission channel; social equality

INTRODUCTION

After the monetary crisis that occurred in 1998, Indonesia has shown remarkable performance in improving its economic condition. This can be seen from the trend of GDP per

capita which more than doubled, from US$ 2,084 in 1998 to US$ 4,285 in 2018. The World Bank also recorded Indonesia's annual GDP growth is consistent at 5-6% in the past decade. This number is above the world average GDP growth which is at 3% in 2018. The number of impoverished Indonesians has also decreased with increasing Indonesian GDP per capita. When compared with the conditions in 1998, there were 24.2% of the population of Indonesia's total population living below the poverty line. While data from the Central Bureau of Statistics shows that in 2017, Indonesia has succeeded in eradicating the number of underprivileged people to 10.12%. However, apparently, an increase in GDP per capita and a decrease in poverty have not been able to represent the welfare of the people in this fourth most populous country as a whole. Because, when viewed using other indicators, there is an increasing trend at the level of inequality in this country. In 2017, the gap was at a higher level (0.39) than in 1998 (0.31), even though, the Gini ratio in 2017 has been lower than in 2012 and 2014 which reached 41%.

The gap that occurs indicates an imbalance in the distribution of income received by the community. There is a significant difference in the proportion of income among societies in several tiers. This income difference can have implications for the level of consumption which of course has an impact on the quality of life of each individual. In 2015, the total consumption of the people in the lowest income level was only 7% of the total consumption of the Indonesian people. This is very far when compared to consumption from the highest quintile which reaches 49%, almost half of the total consumption of all Indonesian people. The government has seen inequality as a problem that impedes economic growth. The government also targets the decline in the Gini ratio in 2019 to be in the range of 0.385 (Azka, 2018). Since certainly, the increase in state wealth will not mean if not all people get the opportunity to feel the prosperity.

To date, the discussion of inequality is still limited to the static inequality index based on the Gini ratio, where the distribution of income is measured at a certain point in time. Whereas

to take appropriate action, a deeper understanding is needed of why such inequality can increase. The World Bank in collaboration with the Government of Indonesia conducts research that investigates the problem of inequality and mentions at least four main factors causing inequality, namely inequality of opportunity, uneven employment, high concentration of wealth, and low economic resilience (World Bank, 2016). Among those four factors, in the same study, the World Bank stated that almost one-third of the rapid increase in income inequality originated from inequality of opportunity. Inequality of opportunity can lead to inequality of employment that can produce wealth concentrated at a certain point. E. Black and Devereux (2011) also revealed that the more ideal measurement of inequality of income distribution is equality of opportunity, where children of the poor and children of the rich can have equal opportunities for success. Without equal opportunity, poor children often do not have the opportunity to have a fair start in life, thereby reducing their ability to succeed in the future.

Then, one indicator of equality of opportunity is the degree of intergenerational mobility as measured by intergenerational elasticity rates. Communities with high intergenerational mobility are likely to offer economic opportunities more evenly (Ueda, 2013). The study of intergenerational mobility in Indonesia is still very limited. Existing studies are still limited to certain community groups or less long timeframes. As research conducted by Pakpahan, Suryadarma, and Suryahadi (2010) who estimated the persistence of intergenerational poverty limited to the poor. Wong (2019) also conducted research related to the intergenerational mobility of people living in the slums of Jakarta only. Research on intergenerational mobility for Indonesia has been carried out (Purbowati, 2018) but with a span of only 14 years (2000-2014).

This study estimates the intergenerational income elasticity of Indonesia more deeply by adding information on the differences in IGE between men and women, as well as IGE in urban

and rural areas. This study will also use data with a longer lag of time, 21 years, from 1993 to 2014. Mobility among community income groups is also identified using transition probabilities to see the possibility of upward and downward mobility that occurs. In addition, this study will discuss the influence of education on IGE to analyse whether education can be a transmission channel to increase opportunities for individuals to succeed.

LITERATURE REVIEW

Income is an economics terminology which has various subjective definitions depends on the context and scope of the discussion. However, in language, referring to the Great Dictionary of Indonesian Language, income is defined as the result of work (business and so on). As from the point of view of economics, income is the maximum value that can be consumed by a person in a certain period (Wild, 2003). From that definition, it can be derived that the calculation of income is not only limited to what is obtained but also can be done by calculating the total value of goods and services consumed (Sukirno, 2002). Then, income becomes an indicator which is most often used to determine the economic position of individuals, families, communities, and a state. Thus far, income is considered capable of representing the degree of welfare of a person.

Marbun (2003) defines income as money received by individuals, companies, and other organizations in the form of wages, salaries, rent, interest, commissions, fees and profits. This is relevant when referring to the Circular Flow Diagram which describes the interactions among economic actors which obtain different forms of income from producing different products. Thus, there are many forms of income received by each sector. Such as salaries which become household income, taxes as government income, dividends as household income from companies, etc. Hence, once talking about personal income, the total income of an individual is the total of all forms of income that he receives either from the government, company or

other business he does. For this reason, a person's income at any time can be quite volatile, depending on what he is trying to do at that time. In economics theory, there is a hypothesis assumes that measuring one's income level with only one income at one time is not adequate to reflect the economic condition of that person.

The permanent income hypothesis (Friedman, 1957) states that a person will tend to have a relatively fixed expenditure on his permanent income. While, the definition of permanent income is the average level of income expected in the long run. Sources of income can come from expected labour income and expected income from assets. Permanent income will increase when an individual experiences an increase in his quality. Because improving self-quality can increase the expected labour income. Expectations about permanent income will also increase if individuals find growth in their wealth. Because that condition can also increase the expected income from assets.

Current income is not always the same as permanent income. There are times when current income is greater than permanent income, or the contrary. Therefore, the current income is usually called as transitional income and transitional income is assumed cannot properly describe one's economic condition.

Sorokin (1959) argues that one's social strata are usually rated based on the economic criteria, which focus on the differences between rich and poor, and also on political and occupational criteria. Intergenerational mobility compares the social strata from one generation to another, such as the generation of fathers to children, which will be carried out in this study. High intergenerational mobility, indicates that parents have less influence on the social strata of the child. This implies a good thing as children from families with lower social strata can get the same access to seize the opportunity to achieve success. Social mobility is important to distinguish the extent to which level of accessibility that the community has to the opportunities spread. If the level of social mobility is high, it can be interpreted that every individual in the

community has the same opportunity to move social strata in a better direction. Conversely, if mobility is low, it means that opportunities (for instance to get a job, get an education, etc.) are only available to certain individuals or groups.

Then, Franco Modigliani explained that the pattern of income and expenditure of a person are generally influenced by their life cycle because an individual will tend to receive low income at a young age, high in middle age and low in old age (Tama, 2014). Therefore, in intergenerational study, as pointed out in Grawe (2004), noise in measured earnings (whether due to mistaken reporting or transitory earnings components) produces an attenuation bias that reduces persistence estimates. In particular, increases in earnings variance over the life cycle lead to smaller estimates of earnings persistence when fathers are observed late in life rather than early; earnings persistence estimates decrease by roughly 50% when fathers are observed at age 55 rather than at age 40. Similarly, as the age at which sons are observed increases, we can expect persistence estimates to increase. Accordingly, due to the fact that lifetime earnings may not be derived with the data at hand, the most important control variable in the matrix is the age of an individual (Altzinger & Schnetzer, 2010).

In discussing intergenerational income, it is also important to look at Overlapping Generations (OLG) model which acccording to (Silva, 1989), was first formulated by Maurice Allais in 1947. The OLG model has basic assumption, in which each individual lives in two periods. The first period is the period of work, where the Young will receive income and allocate it to obtain satisfaction or individual utility by consuming a portion of his income. However, not only consuming but in the Young period, he also does the saving, where his saving will be used as consumption in the second period when they have become the Old (John & Pecchenino, 1994). In the context of intergenerational mobility, the Young is assumed to not only do saving and consumption but also to invest in his Old period and next-generation. It makes the income level of the Young in the working period becomes influential to the value or

amount of human capital given to their children later. Practically speaking, the income of the father can determine what and how much human capital will be invested to his children which can be in the form of education, training, courses, and many more. Qin, Wang, & Zhuang (2016) added that, before the Young period, individuals went through the childhood period. At this time an individual accumulates human capital provided by older people in his family. Therefore, after entering the first period called the Young, he will use the accumulated results of human capital invested to get jobs and earn income. Where, if you look a little at the theory of Human Capital, the capital which is owned by each individual will affect the ability of the individual to adapt to and survive in generating income (McCracken, McIvor, Treacy, & Wall, 2017).

Further, the Great Gatsby Curve shows a trend in the relationship between the inequality of income distribution and the economic mobility of a country. Where there is a negative relationship between the two variables. The higher the inequality index—indicated by the Gini Coefficient, the lower the country's economic mobility—indicated by the increase in IGE value. The first curve released by The White House showed the relationship between the Gini Coefficient and IGE from 9 countries where the United States occupies the worst position among the others.

In 2018, the World Bank Group released a publication written by Narayan et al. which justifies the Great Gatsby curve concept by displaying an updated curve including 75 countries. The trend on the curve shows the same principle with what Krueger explained in his speech. Thus, the concept of the Great Gatsby Curve about the relationship between inequality and economic mobility is still relevant to use. Where a low economic mobility can cause economic inequality, or on another hand, economic inequality can worsen a country's economic mobility.

Lastly, taking into account the transmission mechanism, the role of education is important. By the inclusion of education as an indicator of the human development index, it

shows that education is considered to have a function as a social escalator, which not only provides theoretical knowledge but also escalate one's ability to achieve a higher social position in society. Improving the quality of education has been recognized to be able to improve one's well-being, and even be able to bring the person out of poverty (Himaz & Aturupane, 2011). Indonesia's constitution has supported this idea by allocating a minimum of 20% of the national and regional budget for the education sector. It refers to The 1945 State Constitution article 31 paragraph 4 and The Law number 20 Year 2003. The Indonesian government has also implemented a 9-year compulsory education program since 1984.

EMPIRICAL STRATEGY

Secondary data used is from Indonesian Family Life Survey (IFLS) which is a longitudinal survey conducted by a non-profit organisation, RAND Corporation, for study the behaviour of Indonesian households and communities. Through the stratified sampling scheme, samples from 13 Indonesian provinces were collected since 1993 (Strauss et al., 2016). Until IFLS 5 in 2014, the number of samples reach 16,204 of households or 50,148 of individuals. The data are provided for the same individuals from time to time. It makes the study of behavioural dynamics of each individual, household or community is feasible to do, including the study of intergenerational income mobility in Indonesia.

Using the five waves of available IFLS data (1993-2014), we collected sample size of 1,011 father-child pairs from respective cencus. As for Grawe (2004), the age limit for the most appropriate measurement is the forties for father and twenty to mid-thirty for children. We restrict the observations to only use data of fathers and children with ages between 40-49 and 20-35 years old.

Therefore, variables considered are including: permanent income of fathers and children, children's education, age, children's gender, and area of living. Permanent income is the average income in multiple years. It is used to minimize bias as refer to Solon (1992), if only

using one-year income, the estimated IGE value obtained will be reduced. The income referred to includes all annual income from the primary job and side job of children. Not including earnings in the form of social fund assistance such as government funding, zakat and alms, or other similar assistance. Educational variables represent the years of schooling taken from the highest level of education attained or completed which is quantified with a value of 1-18 years. The grouping of education level based on years of schooling used in this study refers to Law No. 20 Year 2003 about the National Education System of Indonesia.

Gender variables will participate as a control variable to determine the difference in intergenerational income mobility between male and female. Father's living area also will act as control to differentiate the IGE in rural and urban areas.

Then, multiple linear regression is intended to examine the effect of two or more independent variables (explanatory) on one dependent variable. This model assumes the existence of a straight line or linear relationship between the dependent variable and each predictor. In this study, multiple linear regression was carried out to find the estimated value of IGE to review the responsiveness of children's incomes to their fathers' income. Referring to previous studies conducted in the United States (Solon, 1992), Australia (Mendolia, Siminski, & Mendolia, 2015), China (Jin, Bai, Li, & Shi, 2019), Italy (Piraino, 2006) and the Netherlands (Moonen & Van den Brakel, 2011), IGE can be deriived by estimating below equation:

$$log(Y_{child}) = \alpha + \beta_1 log(Y_{father}) + \beta_2 Z_{child} + \beta_3 Z^2_{child} + \beta_4 Z_{father} + \beta_5 Z^2_{father} + \varepsilon \qquad (1)$$

where $log(Y_{child})$ is the log of children's permanent income; $log(Y_{father})$ is the log of fathers' permanent income; and the regression coefficient β_1 is the elasticity of intergenerational income. The value of elasticity reflects the fraction of income that is on average transmitted across generations. The degree of IGE tend to lie between 0 and 1. The higher the value of the IGE, the lower the degree of intergenerational income mobility of Indonesia accross

generations, and vice versa. An adjustment for life-cycle bias is conducted by incorporating the age (Z) and squared age of both fathers and children (Solon, 1992).

Then, the data of both fathers and children are divided into four groups where the first group is for those whose income is in the first quartile (lower than 25th percentile), the second group is for those whose income is in the second quartile, and so on. It is managed to execute the *xttrans* command in Stata to get the report of transition probabilities. Calculating transition probabilities to measure the mobility of income across generation was also used by Moonen & Van den Brakel in 2011.

The explanatory power of education towards IGE is firstly measured by finding the influence of education as an intermediate variable for the permanent income of father and children. To estimate this, author uses the Two-stage Least Square (2SLS) method. The 2SLS method is a single method for solving simultaneous equations where there is a correlation between the error variable and its endogenous variables. In the 2SLS method, endogenous variables that are correlated with an error variable are replaced with the estimation of its own values.

In this study, the education variable acts as an endogenous variable instrumented by the log of father's permanent income with the log child's permanent income as the dependent (endogenous) variable. Two-stage Least Square (2SLS) is used to asses the explanatory power of education in this study. A set of simultaneous equations which also used by Jin et al. (2019), are as follows.

$$X = \theta_1 + \theta_2 \, log(Y_{father}) + \varepsilon_1 \tag{2}$$

$$log(Y_{child}) = \omega_1 + \omega_2(X) + \varepsilon_2 \tag{3}$$

The θ_2 indicates the rate of return for every one year increase in children education (X). After getting the results from 2SLS, the second step is to calculate the explanatory power value using the following formula (Jin et al., 2019).

$$Explanatory\ Power = \frac{\omega_1}{\beta_2} \tag{4}$$

RESULT AND DISCUSSION

Intergenerational Income Mobility

The estimated elasticity of intergenerational income (IGE) in general (without restrictions on gender or living area) is 0.166. This IGE calculation usually generates values between 0 and 1 (Moonen & Van den Brakel, 2011). According to the IGE value generated, it implies that 16.6% of the father's permanent income will be passed on to the children. Although the literature discussing IGE of Indonesia, in particular, is still very limited, there is one study written by Purbowati (2018) found that IGE of Indonesia ranges between 0.087-0.118, which is quite close to the results obtained in this research. These differences in IGE results might be caused by the use of samples from different age ranges, considering that research on IGE is very close to the issue of life-cycle bias, which can be attenuate by including the children's and fathers' age square as a control variable in the regression model (Jin et al., 2019).

Table 1. Linear Regression Result Adjusted To Life-Cycle Bias

	IGE	Standard error	R^2	P>|t|
Father-child				
Adjusted	0.166	0.030	0.037	0.000
Unadjusted	0.170	0.030	0.032	0.000

This study also provide the unadjusted result for each category of IGE estimation. Then, averagely, the unadjusted result showing higher value of IGE but with little differences. The

similar case also happened to the research conducted by Moonen & Van den Brakel (2011) when comparing the IGE estimated between the adjusted and unadjusted. The difference are vary from 0.045 for father-child pairs, 0.096 for father-son pairs, and 0.005 for father-daughter pairs. It is not so far different with what is found in this study where the differences are 0.004 for father-child pairs, 0.004 for father-son pairs, and 0.015 for father-daughter pairs. However, although the differences are not much different, Nybom & Stuhler (2016) notes that life-cycle variation had to be accounted for was recognized in unadjusted model, but it was generally assumed that including age controls in the regression equation would suffice. The models, which account for life-cycle stage with individual-invariant age coefficients, assume that different individuals do not have systematically different age profiles for earnings, wages, or income (Solon, 1992).

Then, the low IGE values implying a relatively high degree of mobility across generation. Then, a higher degree of mobility across generation represents the condition of a country where the members of society, regardless of their backgrounds, have more equal opportunities to become high-income individuals than before. It means that personal resources and abilities, rather than parental economic status, play a primary role in determining their incomes (Fortin & Lefebvre, 1998). Therefore, the results of the IGE estimation in this study can also illustrate the low inequality of opportunity which gives the possibility to also reduce the inequality of outcomes (such as income and wealth) in the future.

Table 2. Linear Regression Result Adjusted To Life-Cycle Bias

	IGE	Standard error	R^2	P>|t|
Father-son				
Adjusted	0.182	0.033	0.050	0.000
Unadjusted	0.178	0.033	0.042	0.000

Father-daughter				
Adjusted	0.191	0.059	0.059	0.000
Unadjusted	0.206	0.059	0.037	0.000

In discussing the likelihood to gain equal opportunities, the gap issue within genders becomes relevant to study. Significantly, the estimated IGE of male (0.182) shows a lower value than female (0.191) where females have a 19.1% chance of being on the same level of income as the father, whereas males have greater mobility and opportunity to determine their own destiny as boys are only 18.2% more likely to be at the same level of income as the father. Nevertheless, the difference in income mobility between genders is complicated to eliminate. It is in line with an empirical evidence pointing out that from the phenomenon of wage differences received by men and women, 93.3% of them cannot be explained by socio-economic variables, in other words, 93.3% of the wage differential that occurs in society comes from gender discrimination (Taniguchi & Tuwo, 2014). However, the gap between IGE for female and male does not only occur in Indonesia. Since Qin, Wang, & Zhuang (2016) also distinguished IGE of males and females in China and found that IGE of female (0.464) were higher than IGE of male (0.415).

The fathers' area of living also produces different outcomes. IGE of children whose fathers from rural areas (0.109) is smaller than those whose fathers living in urban areas (0.201). It signifies that the income mobility of children from rural areas is higher than in urban areas. It possibly caused by opportunities for urbanization had by children from rural. Urbanization certainly can provide a greater possibility of getting a higher income than the father. However, failure is also able to make them fall back into poverty cannot be avoided after their migration to the city. As urbanization, a ubiquitous phenomenon in a developing world, can be a convincing component of the national poverty reduction as long as the right

conditions are met and the appropriate policies are placed (UNPF, 2008). For this reason, distinguishing the right transmission channel becomes so important, to advance the opportunities until it gives a positive impact on each individual of the society.

Table 3. Linear Regression Result Adjusted To Life-Cycle Bias

	IGE	Standard error	R^2	P>|t|
Urban				
Adjusted	0.201	0.043	0.056	0.000
Unadjusted	0.211	0.042	0.052	0.000
Rural				
Adjusted	0.109	0.045	0.024	0.000
Unadjusted	0.117	0.044	0.013	0.000

Child and Parental Income Transitions

Table 4. Transition Probability

Father	Children			
	1st 25%-group	2nd 25%-group	3rd 25%-group	4th 25%-group
1st 25% group	28.68%	32.35%	24.26%	14.71%
2nd 25% group	38.35%	24.81%	22.56%	14.29%
3rd 25% group	16.54%	24.06%	30.83%	28.57%
4th 25% group	17.16%	18.66%	21.64%	42.54%

The results of the transition probability in Table 4 show the nonlinearity of the relationship between father and child income. Children from underprivileged families do not

always befall into the poverty line with the low-income position. So do children from prosperous families, they will not always naturally wander in wealth after they have grown up. Even though the study certainly indicates that the mobility of middle-low income society is higher than the middle-up income society. Roughly speaking, poverty is less likely to be inherited than wealth. In numbers, the fathers in the fourth group have higher probability (42.54%) to have children stay in the fourth group than the fathers in the first group to have children trapped in the first group (28.68%).

The transition probability result is further aligned with the results of IGE, showing a relatively high degree of mobility. Since the transition probability of income from father to children within the same group is not more than 50%. The chance of fathers in the first group to have children keep in the first group is 28.68%, the chance of fathers in the second group to have children also in the second group is 24.81%, and so forth.

However, there is a weakness in the analysis of transition probability as it cannot show the upward and downward mobility of income for the floor and ceiling group (Atkinson, 1983). It is not viable to know the probability of father in the fourth group to have children with a higher income than the fourth group. As well as fathers in the first group, there is also no probability value pointing the chance to have children with income lower than the income amount in the first group.

Education as Transmission Channel of Intergenerational Income Elasticity

According to the result of the analysis, education is significantly influenced by the father's permanent income. By dividing the TSLS results to the IGE, it is found that education has a power to influence children's permanent income and simultaneously can describe the rate of IGE by 73.49%. This number signifies an essential role of education in influencing employment opportunities, social outcomes, and individual earnings, to boost long-term income mobility (Mocetti, 2007). This number also can explain the phenomenon in nowadays

world, where individuals with higher education tend to have higher opportunity to get higher level of job which could give higher level of salary. Practically speaking, many companies and prestigious companies promising a higher level of income for a newcomers with higher education background compared to, for instance, secondary education background.

Table 5. The Result of Two-stages Least Square

	Coefficient	Standard error	R2	P>|t|
Education	0.122	0.020	0.093	0.000

Moreover, unlike low-income families, high-income fathers have more ability and willingness to invest more in children's education (Jin et al., 2019). As a consequence, children who grew up in impoverished families are improbable to attend school until a higher level of education (Crosnoe, Mistry, & Elder, 2002). Whereas, the persistence of educational attainment will be able to encourage an increase in the permanent income of the children itself. Based on the result of this study, every one year increase in children's schooling, it can increase as much as 0.122% in children's permanent income.

However, unfortunately, according to Central Bureau Statistic of Indonesia (Indonesia, 2019), there is a high gap between the highest and lowest quintile of income groups for the gross participation rate of Indonesian people who continue their education up to university level. In fact, in the last four years, around 60% of university participants are from the highest quintile of income group. Whereas the people in the lowest quintile of income group only contributed less than 10%. This justifies that the income inequality occurring in Indonesia, based on intergenerational income elasticity figures in this study, is not caused by opportunities that are not evenly distributed, but rather because there are differences in human capital owned by people from low-income groups and high-income groups. Hence, without an adequate

competitive value, even though the opportunity has been equally shared, individuals will not be able to compete in the labour market to get a better job to better off their wellbeing.

Therefore, the improvement in children's educational attainment cannot solely be surrendered to the father as parents. Given that there are still 25.67 million people of Indonesia (9.66% of the population) who live under the poverty line with income less than IDR 410,670 per month (Central Bureau of Statistics, 2019). Government presence and intervention is needed on the development of Indonesian children's education, which is statistically proven to have the ability to effectively increase children's permanent income and explain IGE of Indonesia.

CONCLUSION

Indonesia has a relatively low intergenerational income elasticity (IGE), equal to 0.166. It means that only 16.6% of father's permanent income might be transmitted to his child. This indicates a high degree of intergenerational income mobility. Father's permanent income is limited to determine the child's permanent income. There is a fairly equal opportunity spread to Indonesian people from any circle. However, there are still differences in IGE between male and female, as well as urban and rural area. IGE of females (0.191) is higher than males (0.182), indicating that opportunities for males tend to be further equal than females because of relatively lower income mobility. Likewise, rural IGE (0.109) is lower than urban areas (0.201), which can be caused by the opportunity to migrate to the city, which makes rural community's income mobility greater than urban communities'.

Transition probabilities that occur among income groups support the value of IGE that has been estimated. Children living in families with low-income fathers have a high probability of earning a higher income than their fathers. However, as well as children from high-income fathers, he still has the possibility of falling into poverty and having lower income from his father.

Children's permanent income is significantly determined by children's education, which is also influenced by the father's permanent income. Children's permanent income can increase as much as 0.122% every time they increase their schooling by one year. Thus, education can be mentioned as one of the transmission channels for IGE which can describe as much as 73.49% of IGE.

Last, there are a number of limitations that cannot be neglected from this study, some of which are caused by the limitations of data panels in Indonesia. First, intergenerational elasticity is an intergenerational mobility indicator with a long lag. This study uses data from the sample from 1993-2014 which means the latest data is not really updated since it was 5 years ago relative to the time this study is conducted. For this reason, it is possible that intergenerational mobility has experienced a change caused by changes in circumstances that might occur in Indonesia after 2014. Second, income data from IFLS comes from direct reports by the respondent in question. This certainly raises the possibility of inaccurate answers compared to the actual conditions which can be caused by errors in memorising, a humble culture that makes the respondent not want to mention the actual nominal, etc. Finally, the considerable influence estimated from education on IGE can be caused by IFLS data which takes more samples from regions that have better access to education, such as Java. Thus, there is no sample representing respondents from disadvantaged areas such as Papua, etc.

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