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# Forced migration and household welfare in Indonesia

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#### **Abstract**

Forced migration has a long-lasting impact on future generations. This study involves the application of logistic regression with marginal effect on data from the Indonesia Family Life Survey (IFLS) to find out the impact of forced migration on the welfare of parent and child households. The study findings show that forced migration can reduce the likelihood of a parent household becoming poor by 7.3%. For children who follow their parents migrating, the probability of becoming poor is also decreased by 9.82%. A decrease in household consumption of education and health, as well as the lack of asset ownership, can reduce human capital components. This finding shows the importance of supporting investment in human capital and physical capital for households experiencing forced migration to avoid intergenerational transmission of poverty.

Keywords: Forced migration; poverty; intergenerational mobility

## Introduction

Changing the location of residence of individuals and community groups due to political instability, conflict, natural disasters, and other negative reasons is a form of forced migration. Forced migration has a long-lasting impact on future generations. Children who experience forced migration face the threat of infectious diseases, mental health, and difficulty in obtaining access to health services (Salami et al., 2020). On the other hand, they have a higher education level than their parents (Becker et al., 2020). The objective of this study is to determine the impact forced migration has on changes in the future welfare of children. Analyzing the impact of forced migration, especially the effect on children, is essential to identify policies that can minimize the risks of the adverse effects of forced migration and optimize the opportunities that arise in this context.

The literature on forced migration was initially limited to studies on refugees; thus, studies on the economic impact are still minimal (Ruiz & Vargas-Silva, 2013). Studies on forced migration that are currently developing are more focused on the context of short- and long-term impacts, such as education (S. O. Becker et al., 2020) and health (Salami et al., 2020), as well as expectations about socio-economic mobility in the future (Andrés Moya & Carter, 2019). However, the research has not explicitly shown the contributive extent forced migration to both short-term and long-term impacts. Several forced migration studies examine intergenerational effects (Wang Sonne & Verme, 2019; Sarvimäki, 2019). Research about the intergenerational effects of forced migration allows further research on how transmission of impacts occurs from parents to children through cultural transmission or interactions between genetics and the environment (Branje et al., 2020).

Indonesia is one of the most active disaster zones with high vulnerability to natural disasters (World Bank, 2014) and conflict (McLaughlin & Perdana, 2010). However, studies of forced migration in Indonesia have focused more on studies of scale and pattern (Hugo, 2006), frequency of disasters (Tse, 2012), processes and differences in mobility (Gray et al., 2015), and the effects of changing environmental conditions (Goldbach, 2017). Due to data limitations, there is a deficiency of studies on the impact of forced

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migration in the short and long term, especially in developing countries such as Indonesia. Studies from Fatimah & Kofol (2019) show the effect of parental internal migration on children's education level and their per capita expenditure. However, this study focuses on voluntary internal migration. Therefore, in this study, we involve a different type of migration (forced migration) to determine the impact it has on changes in the future welfare of children. We refer to S. O. Becker et al. (2020) and Andrés Moya & Carter (2019), who argues that forced migration affects education and household economic mobility. This research contributes to the absence of literature on the impact of forced migration of parents on the fate of future generations.

There is a dominant emphasis in studies on the long-term impact of forced migration on the attributes of human capital formation, namely education and health. The economic downturn due to forced migration in the long term has resulted in a shift in investment preferences in schooling for children compared to ownership of physical assets (S. O. Becker et al., 2020). Pre-migration and post-migration factors contribute to the health problems experienced by children (Salami et al., 2020). Not many researchers have studied the welfare of children who experience forced migration as adults, especially in developing countries. Sarvimäki et al. (2019) used the income level of children as adults to determine their level of welfare after experiencing forced migration.

Meanwhile, Moya & Carter (2019) examined the level of optimism and perceptions of forced migrant families who experienced violent conflict to escape the chronic poverty trap. Household trauma due to violent conflict positively correlates with household pessimism toward escaping poverty. High worthlessness, powerlessness, and low self-esteem are the characteristics of a culture of poverty that can hinder the motivation of this generation to seek higher levels of income (McDermott & Vossoughi, 2020). This study fills a gap in the literature that explores the long-term impact of forced migration from previous generations on changes in the level of household welfare of children.

Existing studies have not examined how forced migration affects children's future, especially in developing countries. We investigate whether there is a long-term impact of forced migration of parents on the well-being of children as adults and household formation. In particular, we examine how forced migration affects the per capita expenditures of children as adults as an indicator of intergenerational mobility. We also explore the possibility of poverty transmission and the mechanisms that explain the relationship. This study can fill in the scarcity of literature on the impact of forced migration of parent households on the future welfare of their children. This paper has the following structure: Section 2 contains a study of forced migration related to this research, and Section 3 discusses the used data and the applied empirical approach. Section 4 presents the results as well as a discussion of some specific points that require further elaboration, and Section 5 is a summary of the results of the study.

## **Literature Review**

There are two approaches to determining poverty indicators: the monetary and non-monetary approaches. The monetary approach assumes that the value of expenditures is better than income. Consumption expenditure has better regard in its capability of showing the level of household welfare and its usage in comparing living standards (Pradhan, 2009) as well as its ease of calculation (Hill, 2021). Many studies have examined the characteristics of households that fall below poverty. The education level of the household head consistently emerges as the most important factor. Household size, assets, employment status, and health status are other factors that also affect household poverty (Hill, 2021). Those factors are closely related to the labor market. Households increase the chances of obtaining higher income and improving their welfare by moving to another location. A study has shown that migrants experience a more significant poverty reduction than non-migrants (Jayanthakumaran, Verma, Wan, & Wilson, 2020).

Forced migration may occur due to climate change, natural disasters, and conflict (Abel et al., 2019). Migrants must be able to adapt to a new environment with limited job opportunities (Dadush & Niebuhr, 2016). An increase in the number of displaced people in an area in the short term can reduce wages for workers, especially female workers (Morales, 2018). Findings have indicated that in the long term, future generations of households experiencing forced migration have higher levels of education (S. O. Becker et al., 2020). On the other hand, forced migrant households experiencing violent conflict, according to Moya & Carter (2019), tend to be pessimistic about their future and their chances of escaping poverty. The pessimistic attitude of households to escape poverty will form a culture of poverty. This condition also hinders the motivation of households and the next generation to increase their income to a higher level (McDermott & Vossoughi, 2020).

Economic studies on intergenerational mobility initially look at how income transitions from one generation to the next. Apart from income, consumption can also be utilized to measure intergenerational mobility (Beegle, 2011). Meanwhile, G. S. Becker et al. (2018) explain the transmission mechanism

through income and human capital distribution from parents to children. Besides being able to increase productivity in the labor market, the increase of human capital from parent households will also increase human capital in children. This is what causes differences in socioeconomic status to persist across generations.

The primary focus of intergenerational mobility studies is on the transmission of poverty and income/consumption inequality between generations (Behrman et al., 2017). Parents pass on various attributes to their children, broadly falling into the two categories of human capital and economic resources (D'Addario, 2007). The components that make up human capital formation include income, education, and health. Parental income has a positive effect on the education level of children (Ajefu, 2018). The additional education level positively correlates with the probability of a household being non-poor (Dartanto et al., 2020).

Meanwhile, health also affects the output of the workforce (Kumara & Samaratunge, 2018). The level of education and investment in health are the two main factors that drive the economic mobility of poor households (Dartanto et al., 2020). Changes in the rate of return on investment in human capital affect intergenerational mobility (G. S. Becker et al., 2018).

Obstacles may hinder transmission when the parent household experiences economic or non-economic shocks (Bird, 2007). Several studies have shown the effect of non-economic shocks such as natural disasters (Caruso, 2017), disease (Viinikainen et al., 2020), and conflict (Bird et al., 2010) on poverty transmission. However, studies on the relationship between forced migration and child household welfare are still minimal to our knowledge. The expectation is that this study on the impact of forced migration of parent households on the welfare of children households will lead to further research on the transmission of poverty in families experiencing forced migration.

#### **Research Method**

This research adopted the intergenerational poverty transmission model and a sustainable livelihood framework consisting of components of natural capital, physical capital, human capital, social capital, and financial capital to find out the pattern of the relationship between the frequency of forced migration by households and poverty transmission. This study used data from the Indonesia Family Life Survey (IFLS) to examine the impact of forced migration on the welfare of the households of parents and their children. The data from IFLS represents the most comprehensive longitudinal survey data on households, communities, and individuals in Indonesia, with a recontact rate of 90.5%. The data used in this study came from two waves of IFLS, Wave 4 (IFLS 2007) and Wave 5 (IFLS 2014). IFLS 4 contains more data on the causes of forced migration, such as disasters, conflicts, and other negative reasons, than other IFLS waves.

Referring to Dartanto et al. (2020), the dependent variable in this study is the household's poverty status as a proxy for the level of household welfare. This study used household expenditure per capita (PCE) to assess poverty status. We calculated household expenditure per capita and used international poverty limits to determine household poverty status. The utilized global poverty limit was that of the World Bank, which has been tested for consistency based on the BPS poverty limit of spending of \$3.2 per day, equivalent to Rp. 334,382 per month in 2007 and Rp. 440,670 per month in 2014. The decision to categorize poverty status within certain limits was to avoid the bias of increasing or decreasing expenditure per capita but exceeding the poor or non-poor limit. This study used per capita household expenditure data as the basis for determining household poverty status due to the limitations of IFLS household income data.

Since the dependent variable consists of two categories, the chosen regression was the logistic model. The marginal effect becomes the way to express the magnitude of the change in the dependent variable due to changes in the independent variable. The reference category for the dependent variable is households of poor status. The model in this study refers to Becker and Tomes (1979). They stated that the welfare of children as adults has the determinant factors of parent income, the income of children as adults, inheritance (endowment), and luck. In this study, we include the forced migration of parents in two models:

$$y_i^1 = \beta_0 + HHdem_i\beta + HHpov_i\gamma + DMig_i\delta + \varepsilon_i$$
 (1)  
$$y_{jt}^2 = \beta_0 + HHdem_j\beta + HHpov_j\gamma + NHHpov_i\delta + \mu DMig_i + \varepsilon_j$$
 (2)

In where,  $y_i^1$  is poverty status of the parents' household in 2007 and  $y_{jt}^2$  is poverty status of the child's household in 2014; HHpov is a vector of household characteristic, consisting of income, education level, asset ownership, household participation in social institutions, household perceptions of the future, and household poverty status dummy at the beginning of the survey; HHdem is a vector of household

demograpichs including age, gender, family size, the influence of customs, religion, and marital status; *DMig* is dummy variable; the frequency of forced relocation is the number of migrations carried out for negative reasons, including natural disasters, dry/drought seasons, political disturbances, and evictions.

Analysis of parent household data involved the first model while analysis of children households involved the second model, with  $y_i^1$  being the poverty status of the parent household in 2007 and  $y_{jt}^2$  being the poverty status of children household in 2014. Child households refer to migrant and non-migrant children who have become adults and formed a household. Next, we conducted Z-test to answer whether there was transmission of poverty from parent households with forced migration to children households. The hypotheses used are:

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H_0: x_1 - x_2 = 0 (There is no transmission of poverty)

H_1: x_1 - x_2 > 0 (Poverty transmission/persistence occurs)
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The independent variables used in this study comprise the sub-variables of household characteristics (*HHpov*), household demographics (*HHdem*) and frequency of moving (forced) as dummy variables (*DMig*).

The vector variables of household characteristics (*HHpov*) consist of several pieces of information related to the households. Income refers to the earning of the head of household per month. Education level is the length (in years) of formal education taken by the head of the household. Asset ownership is the total value of owned assets, which consists of occupied houses and land, houses and buildings for rent, empty land, poultry, non-poultry livestock, perennials, and motor vehicles. Household participation in social institutions is the involvement of the household in community activity programs at all (village) levels in the past 12 months. The household perception variable in this study is the respondent view of the welfare condition that the household will achieve in the next 5 years, represented by numbers 1 to 6. A higher value of household perception means a better perception of the economic condition for the household in the next 5 years. Household poverty status is a dummy variabat the beginning of the survey period. The data is available in the SW section of book 3A.

The vector variables of household demography (*HHdem*) include age, gender, family size (number of household member). The influence of customs represents the traditional values adopted by a household (Javanese and Balinese). We include six religions in the religion variable: Islam, Protestant Christianity, Catholic Christianity, Hinduism, Buddhism and Confucianism. Marital status consists of five categories: single, married, separated, divorce, and widowed. The dummy variable (*DMig*) represents the frequency of forced relocation, as the number of migrations carried out for negative reasons, including natural disasters, dry/drought seasons, political disturbances, and evictions.

The minimum length of time considered as a permanent migration for a residence change by IFLS households is six months. This study uses the definition of forced migration as outlined by Abel et al. (2019), which is the process of relocating individuals or groups of people due to political instability, conflict, disaster, and other negative reasons. Based on these categories, we matched the number of migrations by households. The process of merging and tidying IFLS data indirectly resulted in the deletion of incompletely filled data. For example, not all categories of the customs influence in this study are present, and neither is the category of religion. However, the expectation is that the obtained data can still provide a complete picture of the determinants of household poverty status.

#### **Result and Discussion**

The results in Tables 1 and 2 confirm all models that the size and poverty status of households are the two most consistent and significant factors influencing poverty in households. If household income is fixed, increasing the number of family members can encourage a decrease in per capita consumption because households must share their income with all family members. In this way, poor households will tend to remain in that status. These results support studies by Fernández-Ramos et al. (2016) and Dartanto et al. (2020).

Meanwhile, households with a male head with a high education level have a lower probability of being stuck in poverty. In parents' households, a higher education equivalent to Diploma III (D3) negatively correlated to the poverty status of households. Increasing the level of education to the equivalent of D3 can reduce the probability of a household becoming poor by 20.9%. Meanwhile, higher education levels equivalent to bachelor's degrees up to master's degrees negatively correlated with child household poverty. An increase in children's education level to the undergraduate level will reduce the probability of a child's

household becoming poor by 17.7%, and the percentage will be even more significant when the child completes a master's education by 31.2%. This is because the achievement of higher education can increase opportunities for employment as well as income. These results are consistent with the findings of studies from Behrman et al. (2017) and Dartanto et al. (2020), who showed that increased education could substantially reduce poverty.

Table 1. Results of Logistic Regression and Marginal Effect of Parents' Household

Variable Variable	gression and Marginal Effect of Parents' Household  Marginal Effect	
<del></del>	AME	p
Age	0.0010	0.1451
6	(0.0007)	
Gender	-0.0183	0.6078
(1=female;0=male)	(0.0356)	
Parents household size	0.0664***	0.0000
	(0.0044)	
Customs (Bali)	0.0920***	0.0006
` ,	(0.0269)	
Total Income	0.0000	0.7418
	(0.0000)	
Edu level	-0.0147	0.5360
Junior High School	(0.0238)	
Edu level	-0.2098***	0.0000
Diploma	(0.0467)	
Edu level	-0.2011***	0.0000
Bachelor	(0.0390)	
Edu level	-0.3988***	0.0000
Master	(0.0092)	
Edu level	-0.3988***	0.0000
Doctor	(0.0092)	
Asset Ownership	0.2444***	0.0000
	(0.0178)	
Society Participation	0.0093	0.5689
, 1	(0.0163)	
Future Perception (poor)	-0.0545	0.2926
<b>1</b>	(0.0518)	
Future Perception (not so poor)	-0.0320	0.5140
• • • • • • • • • • • • • • • • • • • •	(0.0490)	
Future Perception (Rich)	-0.0730	0.1429
• • •	(0.0498)	
Future Perception (Rich	-0.1548**	0.0050
enough)	(0.0552)	
Future Perception (Very rich)	-0.2489**	0.0024
•	(0.0820)	
Dummy Migration	-0.0737**	0.0013
•	(0.0229)	
Dummy	0.1954***	0.0000
Initial poor status	(0.0185)	

Signif. codes: 0 '\*\*\*', 0.001 '\*\*', 0.01 '\*', 0.05 '.' 0.1 ''.

Tabel 2. Results of Logistic Regression and Marginal Effect of Parents' Househo		
Variabel	Marginal Effect	
	AME	p
Age	0.0045	0.0676
	(0.0024)	
Gender	-0.0239	0.3677
(1=female;0=male)	(0.0266)	
Children household size	0.0242***	0.0000
	(0.0058)	
Customs (Bali)	0.0499	0.1821
	(0.0374)	
Marital status	0.0160	0.5958
(married)	(0.0301)	
Marital status	0.2129	0.1797
(separate)	(0.1587)	
Marital status	0.0460	0.5602
(divorced)	(0.0790)	
Marital status	0.0181	0.8734
(widow)	(0.1137)	
Income	-0.0000***	0.0024
	(0.0000)	
Edu level	-0.0021	0.9623
Junior High School	(0.0442)	
Edu level	-0.0810*	0.0395
Senior High School	(0.0393)	
Edu level	-0.1490*	0.0232
Diploma	(0.0656)	
Edu level	-0.1778***	0.0003
Bachelor	(0.0488)	
Edu level	-0.3123	0.0000
Master	(0.0336)	
Asset ownership	0.0978***	0.0011
•	(0.0300)	
Society participation	-0.0112	0.6558
	(0.0251)	
Future Perception (poor)	0.0405	0.7281
1 1	(0.1166)	
Future Perception (not so poor)	0.0114	0.9171
1 , 1 ,	(0.1092)	
Future Perception (Rich)	-0.0621	0.5649
•	(0.1080)	
Future Perception (Rich enough)	-0.0092	0.9322
1 ( 3 3 3 6 )	(0.1082)	
Future Perception (Very rich)	-0.0542	0.6303
· · · · · · · · · · · · · · · · · · ·	(0.1127)	
Dummy migration	-0.0982*	0.0126
, ,	(0.0394)	
Dummy parents poverty	0.1097***	0.0001
7 F F	(0.0277)	

Signif. codes: 0 '\*\*\*', 0.001 '\*\*', 0.01 '\*', 0.05 '.' 0.1 ''.

Children who experience forced migration have a higher education level than their parents. In Figure 1, the majority of children of parents with elementary education (45%) have a high school education level. Meanwhile, children of parents with middle (junior high) school education mostly (44%) have (senior) high school education. These results confirm the findings of S.O.Becker et al. (2020); they showed that forced migration in the long term would shift the preferences of parental investment in education for children over the inheritance of physical assets. Based on these results, we can most likely conclude that the forced migrants prefer away from investment in physical assets and toward investment in human capital.

A policy recommendation emerging from our study is that governments in areas receiving displaced people foster their access to education.

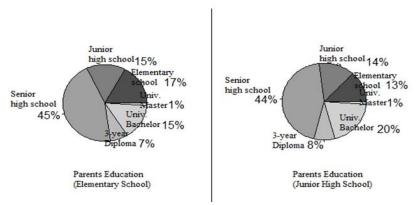


Figure 1. Comparison of Education Levels of Children and Parents

Meanwhile, a household with a male household head will reduce the probability of the household being poor by 1.83%. Male heads of households also tend to keep their jobs compared to women, who must be willing not to work when married and have children (Schaner & Das, 2016). This result contradicts the findings of Sarvimäki et al. (2019), where forced migration increased the long-term income both for men and women. Different participation in the labor market between men and women arises as the returns to human capital investment differ (D'Addario, 2007). This finding shows that women, especially those with low education, need to get priority when they experience forced migration.

In terms of asset ownership, parental households with total assets of less than 50 million rupiahs will have an increased probability of becoming poor by 24.4%. In child households, asset ownership of fewer than 50 million rupiahs will also increase the likelihood of being impoverished by 9.78%. This result follows Andres Moya & Ibáñez (2011), where asset ownership is not always sufficient to overcome poverty in forced migration households. Assets in the form of houses and land (both urban and agricultural) are vulnerable to abandonment by owners who experience forced migration. In the short term, these assets will not be able to provide the additional income that households need when experiencing forced migration.

The optimistic attitude of the parent household towards the future reduces the probability of the household becoming poor by 24.89%. This result contradicts the findings of Andrés Moya & Carter (2019), where displaced people have a pessimistic tendency about their future and their chances of escaping poverty when they suffer trauma due to violent conflict. Although the optimistic attitude of children towards the end also showed a negative correlation with poverty status, this finding is only significant in the parent household and not the eventual ones of the children. This finding indicates that handling a group of people experiencing forced migration needs to be done as soon as possible to prevent trauma that can lead to pessimism. The high sense of worthlessness, powerlessness, and low self-esteem experienced by parent households are characteristics of a culture of poverty that can hinder the motivation of this generation to seek to move income to a higher level (McDermott & Vossoughi, 2020).

We found that forced migration by parent households with a greater frequency than once showed a negative correlation with household poverty status. The same is true for the poverty status of children in households experiencing forced migration. Parent households that perform forced migration more than once have a decreased probability of becoming poor by 7.3%, compared to households that remain. Meanwhile, children who participate in forced migration with their parents are less likely (by 9.82%) to become poor when married. The result confirms that even with the forced migration of households due to natural disasters, dry seasons or droughts, political disturbances, and evictions, the migration can reduce the likelihood of households becoming poor. By the research results of Sarvimäki et al. (2019), forced migration can increase household income, especially for households of people working in the agricultural sector. A decrease in the probability of becoming poor for households undergoing forced migration can occur if their members can adapt to a new environment, even with limited job opportunities (Dadush & Niebuhr, 2016).

The results of our study show that education level, gender, and forced migration negatively correlate with poverty status in the households of parents and children. Education is one of the components that make up the human capital formation. An additional education level positively impacts the probability of a household being non-poor (Dartanto et al., 2020). This means that further education can affect household economic mobility. Education is an essential factor that encourages households to avoid poverty.

When households experience forced migration, having a higher education can increase the chances of finding a better job and income.

Furthermore, male household heads tend to be able to keep their jobs compared to women, who must be unwilling to work when caring for their families and children. Household members who continue to possess employment will have a source of income for improving education and family health. Households will prefer to invest in education or health rather than assets. Referring to the calculation results, ownership of assets of less than 50 million rupiahs will increase the probability of being poor by 9.78%. As such, a greater allocation of income for human capital investment means a more significant impact on intergenerational mobility (G. S. Becker et al., 2018). Forced migration by households can reduce the possibility of becoming poor for these households. This is possible if the household can adapt economically to the new location. The level of education of the household members supports their ability to adapt, one way of which is by obtaining new jobs.

Based on the results of the Z test with = 5%, the Z value of  $3.75*10^{-27}$  means that with a 95% confidence level, this study rejects  $H_0$ . These results indicate that poverty transmission has occurred in the households of parents and children who undergo forced migration. Furthermore, the calculations support these findings by showing that household size, initial poverty status, and minimal asset ownership positively correlate with household poverty status. These three variables can increase the opportunity for the transmission of poverty across generations. Additional family members can indirectly reduce household consumption per capita. Poor households will tend to reduce spending or distribute their income for education and health to meet the basic needs of new family members. This reduction in expenditure will become more prominent when households do not have assets that become their income reserves. Even with possession of assets, when households must move to another place or undergo forced migration, less productive assets will not be able to cover the shortage of expenses. Poor households that experience this, in the long run, will create a later generation lacking in human capital. When there is a deficiency in the components that make up human capital formation, including education and health, the mechanism for transmitting poverty from parents to children can occur (G. S. Becker et al., 2018). As such, children from poor households tend to remain poor as they form their households.

## **Conclusion, Suggestions and Limitations**

Forced migration has a long-lasting impact on future generations. Studying the impact of forced migration, especially the effect on children, is essential to identify policies that can minimize the risks of the negative impact of forced migration and optimize the opportunities that arise in this context. Not many researchers have studied the welfare of children who experience forced migration as adults, especially in developing countries. Although Indonesia is highly vulnerable to natural disasters and conflict, data limitations have hindered studies on the impact of forced migration in the short and long term.

Based on the analysis of two waves of the IFLS (2007 and 2014), this study has resulted in several findings. First, gender, education level, and forced migration negatively correlate with poverty status in the households of parents and children. Specifically, forced migration can reduce the probability of becoming poor for a parent household by 7.3%. For children who follow their parents migrating, the likelihood of becoming poor decreases by 9.82%. Education is essential for families to support the adaptation process in new migration locations. Higher education can increase the chances of obtaining better jobs and incomes. Second, household size, initial poverty status, and minimal asset ownership positively correlate with household poverty status. These results support the intergenerational transmission of poverty in the households of parents and children who experienced forced migration. Poor households will distribute incomes to meet the basic needs of new family members. The consequence of income distribution is decreased consumption for education and health. The increase in or addition of family members, the ownership of less productive assets, and the poverty of households that perform forced migration can increase the likelihood of becoming poor for children's households. Poor households try to distribute income. However, the decrease in consumption for education and health, as well as the absence of support from assets, will result in a reduction in the components that make up the formation of human capital. As a result, children from poor households tend to remain poor when they form their households.

The findings of this study indicate the importance of supporting investment in human capital and physical capital for households experiencing forced migration to avoid the intergenerational transmission of poverty. Expanding community access to non-formal education and entrepreneurship services also becomes necessary to increase work capacity and adaptability, especially for women. A policy recommendation emerging from our study is that governments in the area receiving displaced people foster their access to education. In addition, increasing public access to financial services (financial literacy)

through schools and community institutions or organizations also becomes necessary to raise awareness of the management of assets owned by households.

#### References

- Abel, G. J., Brottrager, M., Crespo Cuaresma, J., & Muttarak, R. (2019). Climate, conflict and forced migration. *Global Environmental Change*, 54(November 2018), 239–249. https://doi.org/10.1016/j.gloenvcha.2018.12.003
- Ajefu, J. B. (2018). Parental income, child labour, and human capital accumulation: evidence from trade liberalisation in India. *Development in Practice*, 28(8), 1071–1082. https://doi.org/10.1080/09614524.2018.1505828
- Becker, G. S., Kominers, S. D., Murphy, K. M., & Spenkuch, J. L. (2018). A theory of intergenerational mobility. *Journal of Political Economy*, *126*, S7–S25. https://doi.org/10.1086/698759
- Becker Gary, N. T. (1979). An equilibrium theory of the distribution of income and intergenerational mobility. *The Journal of Political Economy*, 87.
- Becker, S. O., Grosfeld, I., Grosjean, P., Voigtländer, N., & Zhuravskaya, E. (2020). Forced migration and human capital: Evidence from post-WWII population transfers†. *American Economic Review*, 110(5), 1430–1463. https://doi.org/10.1257/aer.20181518
- Beegle, K., de Weerdt, J., & Dercon, S. (2011). Migration and economic mobility in Tanzania: Evidence from a tracking survey. *Review of Economics and Statistics*, 93(3), 1010–1033. https://doi.org/10.1162/REST\_a\_00105
- Behrman, J. R., Schott, W., Duc, L. T., Mani, S., Fernald, L. C. H., Crookston, B. T., ... Dearden, K. (2017). Intergenerational transmission of poverty and inequality: Parental resources and schooling attainment and Children's Human Capital in Ethiopia, India, Peru, and Vietnam. *Economic Development and Cultural Change*, 65(4), 657–697. https://doi.org/10.1086/691971
- Bird, K. (2007). *ODI Working Paper 286 CPRC Working Paper 99 The intergenerational transmission of poverty : An overview.* (December).
- Bird, K., Higgins, K., & McKay, A. (2010). Conflict, education and the intergenerational transmission of poverty in Northern Uganda. *Journal of International Development*, 22(8), 1183–1196. https://doi.org/https://doi.org/10.1002/jid.1754
- Branje, S., Geeraerts, S., de Zeeuw, E. L., Oerlemans, A. M., Koopman-Verhoeff, M. E., Schulz, S., ... Boomsma, D. I. (2020). Intergenerational transmission: Theoretical and methodological issues and an introduction to four Dutch cohorts. *Developmental Cognitive Neuroscience*, 45(August), 100835. https://doi.org/10.1016/j.dcn.2020.100835
- Caruso, G. D. (2017). The legacy of natural disasters: The intergenerational impact of 100 years of disasters in Latin America. *Journal of Development Economics*, 127, 209–233. https://doi.org/10.1016/j.jdeveco.2017.03.007
- Dadush, U., & Niebuhr, M. (2016). *RP-16/03 The Economic Impact of Forced Migration Research Paper*. (April). Retrieved from www.ocppc.ma
- Dartanto, T., Moeis, F. R., & Otsubo, S. (2020). Intragenerational economic mobility in Indonesia: A transition from poverty to the middle class in 1993–2014. *Bulletin of Indonesian Economic Studies*, 56(2), 193–224. https://doi.org/10.1080/00074918.2019.1657795
- Fatimah, A. M., & Kofol, C. (2019). Migrating for Children's Better Future: Intergenerational Mobility of Internal Migrants' Children in Indonesia. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3498195
- Fernández-Ramos, J., Garcia-Guerra, A. K., Garza-Rodriguez, J., & Morales-Ramirez, G. (2016). The dynamics of poverty transitions in Mexico. *International Journal of Social Economics*, 43(11), 1082–1095. https://doi.org/10.1108/IJSE-04-2015-0084
- Goldbach, C. (2017). Out-migration from coastal areas in Ghana and Indonesia-the role of environmental factors. *CESifo Economic Studies*, 63(4), 529–559. https://doi.org/10.1093/cesifo/ifx007
- Gray, C., Nc, H., Frankenberg, E., Gillespie, T., & Thomas, D. (2015). *Survey methods: Sumatra after the 2004 tsunami.* 104(109), 594–612. https://doi.org/10.1080/00045608.2014.892351.Studying
- Hill, H. (2021). What's happened to poverty and inequality in indonesia over half a century? *Asian Development Review*, 38(1), 68–97. https://doi.org/10.1162/adev\_a\_00158
- Hugo, G. (2006). Forced migration in Indonesia: Historical perspectives. *Asian and Pacific Migration Journal*, 15(1), 53–92. https://doi.org/10.1177/011719680601500104
- Jayanthakumaran, K., Verma, R., Wan, G., & Wilson, E. (2020). Correction to: Internal Migration, Urbanization, and Poverty in Asia: Dynamics and Interrelationships. In *Internal Migration*,

- *Urbanization and Poverty in Asia: Dynamics and Interrelationships.* https://doi.org/10.1007/978-981-13-1537-4 13
- McDermott, R., & Vossoughi, S. (2020). The culture of poverty. *Diaspora, Indigenous, and Minority Education*, 14(2), 60–69. https://doi.org/10.1080/15595692.2020.1733960
- McLaughlin, K., & Perdana, A. (2010). Conflict and dispute resolution in Indonesia. *Social Development Paper*. Retrieved from http://documents1.worldbank.org/curated/en/492901468040487843/pdf/537160NWP0ISDP10B ox345623B01PUBLIC1.pdf
- Morales, J. S. (2018). The impact of internal displacement on destination communities: Evidence from the Colombian conflict. *Journal of Development Economics*, 131, 132–150. https://doi.org/10.1016/j.jdeveco.2017.10.003
- Moya, Andrés, & Carter, M. R. (2019). Violence and the formation of hopelessness: Evidence from internally displaced persons in Colombia. *World Development*, 113, 100–115. https://doi.org/10.1016/j.worlddev.2018.08.015
- Moya, Andres, & Ibáñez, A. M. (2011). Do Conflicts Create Poverty Traps? Asset Losses and Recovery for Displaced Households in Colombia. In SSRN Electronic Journal. https://doi.org/10.2139/ssrn.1356817
- Pradhan, M. (2009). Welfare analysis with a proxy consumption measure: Evidence from a repeated experiment in Indonesia. *Fiscal Studies*, 30(3–4), 391–417. https://doi.org/10.1111/j.1475-5890.2009.00101.x
- Ruiz, I., & Vargas-Silva, C. (2013). The Economics of Forced Migration. *Journal of Development Studies*, 49(6), 772–784. https://doi.org/10.1080/00220388.2013.777707
- Salami, B., Iwuagwu, S., Amodu, O., Tulli, M., Ndikom, C., Gommaa, H., ... Kariwo, M. (2020). The health of internally displaced children in sub-Saharan Africa: a scoping review. *BMJ Global Health*, *5*(8), e002584. https://doi.org/10.1136/bmjgh-2020-002584
- Sarvimäki, M., Uusitalo, R., & Jäntti, M. (2019). Habit formation and the misallocation of labor: Evidence from forced migrations. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3361356
- Schaner, S., & Das, S. (2016). Female Labor Force Participation in Asia: Indonesia Country Study. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2737842
- Tse, C. (2012). Do natural disasters lead to more migration? evidence from Indonesia. 02215(November), 1–42.
- Viinikainen, J., Bryson, A., Böckerman, P., Elovainio, M., Hutri-Kähönen, N., Juonala, M., ... Pehkonen, J. (2020). Do childhood infections affect labour market outcomes in adulthood and, if so, how? *Economics and Human Biology*, *37*. https://doi.org/10.1016/j.ehb.2020.100857
- Wang Sonne, S. E., & Verme, P. (2019). Intergenerational impact of population shocks on children's health: Evidence from the 1993–2001 refugee crisis in Tanzania. *Intergenerational Impact of Population Shocks on Children's Health: Evidence from the 1993–2001 Refugee Crisis in Tanzania*, (December). https://doi.org/10.1596/1813-9450-9075
- World Bank. (2014). Indonesia: Avoiding the trap Chapter IX: Managing disaster risk, building resilience.
  Development Policy Review 2014 Indonesia:, 147–153. Retrieved from http://www.worldbank.org/content/dam/Worldbank/document/EAP/Indonesia/Indonesia-development-policy-review-2014-english.pdf