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The Effect of Net Migration on the Population-Growth Relationship in Indonesia

Suyanto and Koji Kotani

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Author (s) Suyanto and Koji Kotani

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Abstract

This paper empirically examines the relationship between population growth and economic growth in Indonesia by considering lagged fertility and net migration as potential explanatory variables. In this way, we successfully differentiate the short-run and long-run effects of population growth on economic growth. In particular, our focus is on the effect of net migrants on the correlation between the two variables, since extensive migration policies have been taken nationwide in Indonesia. The results suggest that lagged fertility does not affect the two-variable analysis. In contrast, once net-migrants are incorporated into the regression model, we obtain the significance of both its coefficient and negative correlation between population growth and economic growth. The results not only support both Malthusian and Non-Malthusian schools of thought but also suggest that net migration is a key determinant of economic growth in Indonesia.

Keywords: Economic Growth, Population Growth, Lagged Fertility, Net-Migrants Growth

Introduction

This paper examines the correlation between population growth and economic growth using data from Indonesia. The relationship between population growth and economic growth has been debated for more than one century. It is well known that there are two main schools of thought on this issue: (i) Malthusian and (ii) Non-Malthusian (Boserupian) schools. The Malthusian school claims that while population increases at a geometric rate, the food-supply grows at an arithmetic rate. Therefore, the school concludes that population growth has adverse effects on economic growth. Non-Malthusians (Boserupians) assert that population may have a scale effect that enhances economic growth. In particular, Boserup (1981)studies the longterm interrelationship between demographic trends and technological development, and concludes that technological innovation and diffusion respond substantially to demandpulls generated by population growth. Boserup insists that population growth is beneficial, rather than harmful, to society.

Following his argument, several studies also suggest that population growth stimulates economic growth (see, e.g., Simon (1989), Bloom & Williamson (1998) and Bloom & Canning (2008)). Although the debate has a long history, systematic research on the impact of population growth on economic growth has been scattered. A crucial point on this debate is that negative correlation between population growth and economic growth could hold when the latter is unaffected by the former. More precisely, a rise in the rate of population growth would entail a corresponding reduction in the growth of per capita output. The scientific community generally accepts the conjecture that population growth hinders economic development. Several past studies also find this negative relationship between the two variables, such as Jackman (1982); McNicoll (1984):Bloom & Freeman (1988): Kelley & Schmidt (1995) and Barlow (1994). On the other hand, several empirical analyses, such as Easterlin (1967); Kuznets (1967); Firebaugh (1983); Simon (1989); Darrat & Al-Yousif (1999) and Tsen & Furuoka (2005), find no, or even a positive, correlation between

population and development.¹ In other words, a negative causal effect of population growth on economic growth was not statistically identified from their data. One of the distinct studies isCrenshaw et al. (1997), which cover 75 developing countries and analyze the annual average percentage change in real gross domestic product per capita from 1965 to 1990 using demographic models. They find that an increase in the child population hinders economic progress, while an increase in the adult population fosters economic development.

The most influential work in this vein of research is Simon (1989), in which he claims that one of the reasons why many studies yield different conclusions on the relationship between population growth and economic growth is that most of past studiescover only a quarter of a century, or a century at most. He further argues that, in the short run, population growth affects the standard of living mainly through capital dilution, including the public costs of raising more children and the costs of providing production capital for more persons in the work place. He also claims that the most important positive effects of an increase in population can be realized only in the long run through productivity growth, innovations and learning by doing resulting from increased production.

Simon mentions that the absence of correlation between two variables can be interpreted as a strong indication that neither variable is influencing the other. In other words, slower population growth does not cause faster economic development. More specifically, his argument goes as follows. The only persuasive argument against the conclusion as a plausible scenario in which one or more specified variables that have been omitted from the analysis would, if included, lead to a negative partial relationship between population growth and conomic development. The variables must be named by the critic, and they must seem reasonable.

Barlow (1994) responds to Simon's argument by using lagged fertility as an omitted variable in his research. This variable is added to the current population growth as a predictor of current per capita income growth, because this enables us to disentangle short-run and longrun effects of population growth, which otherwise are statistically confused. He argues that in the short run, an increase in fertility tends to have negative effects on per capita income growth and in the long run, its partial effects tend to be positive due to an increase in labor force or other causes. Since current fertility is highly correlated with past fertility, current population growth rates include both the negative short-run effects and the positive long-run effects without controlling lagged fertility.

Utilizing the data of 86 countries, he finds that if lagged fertility is added to the current rate of population growth, the correlation between current economic growth and current population growth becomes significantly negative, while a simple two variables model without lagged fertility exhibits no correlation or even positive one. In his paper, a laggedfertility variable is operationally defined as the net fertility rate averaged over the six-year period beginning 17 years before the year from which economic growth is measured. His regression results were considered salient since his study was the first empirical investigation which demonstrates that, without controlling lagged fertility in the regression, current population growth appears to have a zero impact on current per capita income growth, even when it really has a negative short-run effect.

In this paper, we extend Barlow's analysis to examine the impact of population growth on economic growth in Indonesia. We consider net migration as a new independent variable, drawing on province-level data in Indonesia. Since extensive migration policies have been implemented nationwide in Indonesia, we are motivated to add net migration in the regression in addition to lagged fertility. In

¹ The two works of Darrat and Al-Yousif(1999)andTsen and Furuoka(2005) apply time series analysis with national level data. However, they do not consider net migration and lagged fertility in their analysis, each of which is a key variable in our work. Furthermore, our work analyzes regional data in which a cross sectional unit is provincial.

particular, we hypothesize that net migrants not only significantly affect the relationship between population growth and economic growth, but also partially capture the long-run positive effect of the former on the latter. Furthermore, of our particular interest is whether our result is consistent with the Barlow's analysis of cross-country data.

Indonesian people have traditionally been in constant movement. Migration within and across the regions or provinces has been both involuntary. voluntary and Through transmigration policy implemented by the government, many Indonesian families who resided in the densely settled regions were resettled to regions with lower population density (Rogers et al. (2004). Since 1950, transmigration policy has moved 6,271,240 individuals from 1,223,892 families. Migration contributes to demographic changes in Indonesia and influences economic development in both the home regions and destination regions. Because of its significant role in population change, we add net-migrants to population growth as a predictor of economic growth.

Our results suggest that lagged fertility does not affect the two-variable analysis. Once netmigrants are incorporated into a regression model, we find that negative association between population growth and economic growth becomes statistically significant. Our results not only support both the Malthusian and Non-Malthusian schools of thought but also suggest that net migrants are key determinants that should be controlled when analyzing economic growth in Indonesia. Furthermore, these results provide an answer to Simon's argument. Here, net-migrants are the variable mentioned by Simon, especially in the case of Indonesia, which make the correlation between population growth and economic become negative significantly. Overall, we can say that our results are consistent with Barlow's claim.

The remainder of the paper is organized as follows. Chapter 2 discusses economic growth, population growth, fertility trends and migration in Indonesia. Chapter 3 presents methodology and results. Chapter 4 concludes the paper.

Economy and Population of Indonesia

Indonesia's population is estimated to be more than 218 million in 2005, which makes the country the fourth most populous in the world. With 124 million people, or some 945 persons per square kilometer, the Java Island becomes one of the most densely populated areas in the world. The least densely populated Outer Islands have 90 persons or fewer per square Indonesia experienced kilometer. an impressive decline in population growth from 2.42 percent in 1971-1980 to 1.98 percent in 1981-1990. With such a decreasing trend in population growth in the past, Indonesia has increased living standards in terms of per capita gross domestic product as well as social welfare around the decade.





Economic Development

In 1994, Indonesia was at the end of the first long-term (25 years) phase of development

Year

which started in 1969, and entered the second one. The first phase has exhibited an improvement in people's welfare to an extent that most of the basic needs for the majority of people were satisfied. An increase in both per capita income and economic growth have contributed to a significant reduction in the number people living in poverty and improvements of some basic social indicators,

such as health, nutrition and education (World Bank (1998)).

Although Indonesia successfully improved the standard of living in the past, 15 percent of people still live in absolute poverty. The disparity in the rates of economic growth among regions is getting larger with economic growth. And the labor force is still growing at an alarming rate of 2.3 million per year. Thus a strong need to improve living standards and the quality of education, health and nutrition remained. These challenges must be solved with sustainable, long-lasting economic growth.



Figure-2: Population in Indonesia

After recovering from unstable political and economic situations in the early 1960s, Indonesia has maintained a high growth rate of about 7 percent per annum until 1997. However, in the 1997-98 economic crises, it experienced the largest decline in growth among the neighboring East Asian countries. During 1998-2000, Indonesia also fell behind other Asian countries in recovering from the economic crisis. These yield a set of new problems, namely, intense unemployment and higher population density.

Indonesia's growth remains modest in 2003, but the economy has performed better than expected. The year 2003 was marked by various external and internal threats. Contrary to the speculations of many economic observers, the war in Aceh has not had a significant impact on the Indonesian economy so far. After the economic crisis, Indonesia's fertility and migration in the analysis on the relationship between population growth and economic growth in Indonesia. Given the gross domestic product (GDP) grew constantly; at 3.7 percent in 2002, 4.1 percent in 2003, and 4.9 percent in 2005 (Kuncoro& Resosudarmo (2006) and see figure 1 for annual GDP growth rate of Indonesia in 1993-2005).

Population of Indonesia

The population of Indonesia sharply increased from 119,208,229 in 1971 to 218,868,791 in 2005 (See figure 2). While such a drastic population increase could be a serious obstacle to keep the people's living standards, it could also be a potential resource to increase production activity in the future. Although a past change and distribution in population could be characterized by many factors, such as fertility, mortality, migration, public health, labor force and family planning, we focus on

empirical data, population growth at the province level appears to be influenced by both fertility and migration.

Fertility

Indonesian government has implemented a family planning policy, which significantly contributed to fertility decline. Figure 3 shows the conceptual framework for Indonesia's fertility reduction in 1950-1985. Fertility rates have decreased by 40 percent due to a combination of family planning, the use of modern contraceptives, economic development and improved education for women. The decline. which fertility even reached replacement level in some parts of Java, has led to fewer risky births and better infants' health.

The contribution of the Indonesian family planning program can be confirmed from the fact that annual population growth rates decline from 2.32 percent in 1971-1980 to 1.97 percent in 1980-1990 (Source: Central Bureau Statistic of Indonesia).

We also find that the key factor in reducing Indonesia's fertility is the availability of modern contraceptive methods. The Government by the National Family Planning Coordination Board has developed an efficient logistics system to provide a seamless supply of modern contraceptive methods to clinics, among other places. A large proportion of Indonesian women in their reproductive ages have adopted reversible contraceptive methods, such as the IUD, pills and Norplant. This policy encouraged men to take more responsibilities for fertility control, and has spurred the use of condoms.

Figure-3: A conceptual framework for Indonesia's fertility reduction, 1950-1985



Migration

Migration is defined as the number of people moving from one locality to another, sometimes over a long distance or in large group. Interregional migration in Indonesia has been dominated by movements from the densely settled rural areas of Java to the outer islands, such as Sumatra, Kalimantan and Sulawesi. In 1990, more than 60 percent of Indonesians resided in Java and Bali, two islands that comprise just 7 percent of the nation's land area. The high population densities made a sharp contrast with vast, much less-densely-populated outer islands of Sumatra, Kalimantan, Sulawesi and Papua. Indonesian Government implemented a policy to separate people from densely populated areas to less populated ones. This policy is well-known as transmigration. Transmigration was initiated under Dutch colonial rule during the early 20th century and taken over by the Indonesian Government. The major goal of the transmigration program in Indonesia was to stimulate regional development and create employment opportunities. The government finances movements of landless people from the crowded inner islands of Java, Bali, Madura and Lombok to agricultural based, less crowded settlements in the outer islands of Sumatra, Kalimantan, Sulawesi and Irian (Papua). It is now believed that this program alleviated poverty and provided land and new income earning opportunities for poor landless settlers (Arndt and Sundrum (1977)).

Transmigration in Indonesia encompasses three different groups. First, a group of sponsored transmigrants, which receives extensive support from the government during the initial five years of settlement in the form of transport, land, housing, and social services. Second, a group of local transmigrants, which originates in or near the settlement areas and receives the same benefits as the sponsored transmigrants. Third, a group of spontaneous transmigrants, which migrates at their own expense and settles in a site of their choice. Migration from rural to urban areas in Indonesia has increased especially in Java Island. The data on urbanization in Indonesia is as follows: 1950 (12.4 percent); 1960 (14.6 percent); 1970 (17.4 percent), 1980 (22.2 percent), 1990 (30.6 percent) and 2000(35.8 percent). Java, in particular its urban areas like Jakarta, Surabaya (East Java),

Bandung (West Java), Semarang (Central Java) and Yogyakarta (Baiquni), is one of the most densely populated areas in the world. In 1961, Sumatra Island (Medan-North Sumatra Province, Palembang-South Sumatra Province). Kalimantan Island (Pontianak-West Kalimantan Province. Banjarmasin-South Kalimantan Province) and Sulawesi Island (Manado-North Sulawesi Province), which have more than 100.000 people, acted as a multi-purpose center for each island, and fulfilled the classic primate role for other cities in their respective regions to a greater extent than did Jakarta to the other large cities in Indonesia (Milone (1964)). Hugo (2000) summarizes the effects of the economic crisis on internal migration in Indonesia. The effects of the crisis are severe in urban areas, in particular the areas that have seen substantial retrenchment as a result of capital flight, the cutback of factory output, and the reduction of construction activities and consumer demand. During the crisis, much was made of the potential for displaced workers in the major urban areas of Java to return to their home areas in the hinterland to obtain work and support from their communities of origin. Table1 summarizes seven Kabupaten/Regency study showing population of in-migrants returning as well as circular migrants who had stopped migrating in response to the crisis (Hugo (2000)). It suggests a substantial movement into the village. In particular, in the case of return migrants, almost half of them appeared to be affected by the crisis.

Table-1: Population of in-migrants returning and circular migrants.²

Type of Migrant	No.	Migration Response		
		due to Crisis		
		No.	%	
Return migrants	792	354	44.7	
Recently arrived	848	131	15.4	
migrants				
Circular migrants	1,053	48	4.6	

Methodology and Results

Throughout this paper, economic growth is represented by the average annual growth of per

²Note that 'No.' in the table represents the number of people.

capita real Gross Domestic Product (GDP) during 1993-1999 and 1999-2005, which is denoted by ECGR. Population growth is represented by the average annual growth of population over five years of 1993-1999 and 1999-2005 denoted by POPGR. Lagged fertility is defined as the net fertility rate averaged over the six-year period beginning 17 years before the start of the period over which economic growth is measured. Thus if economic growth is measured for 1993-1999, lagged fertility is the average net fertility rate over 1976-1982 denoted by LGFER.

Net-migration is defined as the difference between immigrants and emigrants of an area in a certain period of time denoted by NETMIG. A positive value of it shows that more people have entered the region than those who have left there, while a negative value means that more people left the region than those who entered there. The net fertility rate is defined as the total fertility rate adjusted for infant mortality. The growth rate of net-migration is the average annual growth rate over 1993-1999 and 1999-2005. Central Bureau of Statistic in Indonesia provides the data of 26 provinces for those two periods, so we have 52 observations.

Our analysis is simple. We run three types of regression models to analyze correlation between population growth and economic growth in Indonesia.³ The first model consists of two variables, economic growth (ECGR) and population growth (POPGR):

$\text{ECGR}_{i,t} = \beta_0 + \beta_1 \text{POPGR}_{i,t} + \epsilon_{i,t}$

where subscript i represents the identity of 26 provinces and subscript t represents two time periods of 1993-1999 and 1999-2005. In the same way, the second model consists of three variables, economic growth, population growth and lagged fertility:

$$ECGR_{i,t} = \beta_0 + \beta_1 POPGR_{i,t} + \beta_2 LGFTR_{i,t} + \epsilon_{i,t}.$$

The third model consists of four variables, economic growth, population growth, lagged fertility and net-migration growth:

$$\begin{aligned} \text{ECGR}_{i,t} &= \beta_0 + \beta_1 \text{POPGR}_{i,t} + \beta_2 \text{LGFTR}_{i,t} \\ &+ \beta_3 \text{NETMIG}_{i,t} + \epsilon_{i,t}. \end{aligned}$$

Note that the dependent variable is economic growth in all the models. These procedures follow a series of suggestions by Simon (1989) and Barlow (1994). Here, economic and demographic data is in the provincial level and is utilized in regression analysis. The summary is given in Table 2.

Table-2: Statistics of variables.⁴

Variable	Ν	Mean	Median	Standard Deviation
. 1	50	2.02	0.10	
Annual	52	2.82	3.13	2.74
Economic				
Growth				
Annual	52	1.77	1.60	0.96
Population				
Growth				
Lagged	52	4.76	4.71	0.80
Fertility				
Annual	52	-1.47	0.03	12.21
Net				
Migrants				
Growth				

First, we analyze the correlation between economic growth and population growth. The regression result shows zero correlation between two variables (See No.1 regression result in Table 3). Thus, we could say that there is no strong correlation between population growth and economic growth. Such absence of correlation between two variables can usually be interpreted as an indication that neither variable is influencing the other (Simon (1989)). Based on this result, we may be able to say that higher population growth does not cause slower economic development. However, we will

³ We have run several diagnostic tests for heteroskedasticity and multicolinearity. For heteroskedasticity, Breusch-Pagan and White tests show no heteroskedasticity for all three types of regression. Correlation and covariance tables of the samples show that the highest correlation among the variables is 0.45 between population growth and net migration. Given these results, we proceed with the analysis described in what follows.

⁴ 'N' represents the number of observations.

further test whether it is true or not by running additional regression models.

Next, we add lagged fertility to the above twovariable model. The result suggests that there is still no correlation between economic growth and population growth (Table 3, No.2). Thus, lagged fertility doesn't influence current economic growth, which contradicts with Barlow's results. This could be interpreted as follows. The highest rates of per capita GDP growth were not enjoyed by provinces with high lagged fertility and low current fertility. Thus net migrants may be critical in explaining economic growth in Indonesia since migration is so popular and regions who receive high immigrants are hypothesized to have high economic growth.

Finally, net-migration growth is added to the above regression model. Then our results show that the correlation between current economic growth and current population growth is significantly negative (Table 3, No.3). The reason why lagged fertility does not affect the correlation between population growth and economic growth and why net migrants does is as follows. By the transmigration program, a majority of Indonesians who were born 17 years ago migrated to other regions and became employed. Therefore, there is no wonder that lagged fertility does not contribute to current economic growth. However, net migrants could exhibit positive correlation with economic growth and thus change the sign of the coefficient of population growth. In summary, our results suggest that economic growth is positively related to net-migration growth, but negatively related to population growth. The positive effect of current net-migration growth on current economic growth could be made clear by the fact that higher growth rates of netmigration induce higher growth rates of labor force and consumption in a region.

Discussion

Bloom and Freeman (1988)investigate the relationship between population growth and labor supply in developing countries for the period 1960-80 and conclude that there is a time lag between changes in population growth and labor supply. In particular, they claimthat an

acceleration of population growth increases net immigration. Migrants tend to be working-age, so population growth in the urban areas will have an immediate effect on growth of an increase in labor force. Therefore, our results are in line with this argument. The association between netmigration growth and population growth is significantly positive (Table 3, No.4). This high correlation gives an answer and support to our observation that population growth has no effect on current economic growth in the two-variable model, while the effect is negative in the fourvariable model.

Migration in Indonesia consists of urbanization, migration caused by conflict, and transmigration. Migration into the cities is composed mainly of young men, single persons, and job searchers who might or might not intend to stay permanently. The number of people who migrated across provinces was 5,703,037 in 1971, 9,971,785 in 1980, 14,643,333 in 1990, and 20.161.012 in 2000 (Source: Central Bureau Statistic of Indonesia). Indonesia has been urbanizing rapidly. The population of urban areas had grown at 4.4 percent per annum between 1990 and 1999, which is approximately three times as high as the national population growth rate (1.5 percent). Java is by far the most populated island, and 65 percent of the people there, or 78 million, are living in the cities. Jakarta, the capital of Indonesia, anchoring an extended urban region of 17 million people. More than one million people are living in eight major cities, five of themin Java.

Net rural-urban migration accounts for 25-30 percent of urban demographic growth, while natural increase accounts for the rest. Some urban areas, namely large coastal cities on Java island as well as Batam and Riau which are part of the Singapore anchored development triangle, have become the center for manufacture. The agro-processing holds sector considerable potential in other cities such as Kendari (Southeast Sulawesi), Jayapura (Papua), Ambon (Maluku) and Kupang (East Nusa Tenggara). The government of Indonesia has taken a policy called transmigration, which removes homeless people from most densely-populated areas to less crowded ones.

The transmigration program has long played an important role in population growth and economic growth. Table 4 presents the number of migrants affected by the government' policy. It is seen that, during 50 years, more than six million people have migrated as a result of the policy. During the period 1979-1984, the government reallocated 2,469,560 individuals. The major goal of transmigration is to stimulate economic development and create employment opportunities, but much of the success of migrants is clearly linked to their participation in off-farm employment (Leinbach et al. (1992)). The purpose of transmigration has been to reduce the considerable poverty and overpopulation in Java, to provide working opportunities for hard working people, and to provide workforce to better utilize the natural resources of the outer islands.

The regression results for the four-variable model clearly show that various components of population growth, such as fertility and migration, have different implications for economic growth. There are many important determinants of economic growth, including governmental policy, political disruption, past investments in human capital and external circumstances like foreign demand. Our analysis shows that there can be a negative partial correlation between population growth and economic growth even when no correlation is found in the two-variable model.

Conclusion

This paper empirically explores the correlation between economic growth and population growth in Indonesia. We first find that population growth has no significant effect on economic growth in a simple two-variable model. Adding lagged fertility does not change the result. This result indicates that the highest rates of economic growth are not enjoyed by the provinces with high lagged fertility and low current fertility. However, the correlation between population growth and economic growth becomes significantly negative when netmigration growth is taken into account.

The correlation between net-migration growth and population growth is significantly positive. The result gives us the reason why population growth has no impact on current economic growth in the two-variable model, when the correlation between the two variables is negative if we include lagged fertility and net-migration growth. Since net migration is correlated with population growth, omitting net migration in the regression model confounds the result in the two-variable model. Once this is controlled, we can successfully differentiate the short-run and long-run effects of population growth on economic growth, which is reflected in the coefficients of population growth and net migrants, respectively.

With these results, we can conclude that, because of migration, people who were born 17 years ago positively affect the economic growth in destination regions of the migration, not in their home ones. Furthermore, our results support both Malthusian and non-Malthusian schools of thought in the following sense. In the short run, population growth has a negative effect on economic growth. However, in the long run, an increase in population has a positive effect on economic development through an increase innet migration, since it is identified to be positively associated with population growth and leads to an increase in labor supply.

In a case of Indonesia, transmigration policies have been implemented so that many Indonesians whose age was over 17 years old migrated to other regions and became employed. This could be considered a main reason why lagged fertility exhibits insignificance, but net migration shows significance of positive association with economic growth. Recall that our regression result is consistent with this line of stories with transmigration policies, and also it is an evidence that in the long run, population growth could be positive on economic growth, since a rise in net migration is usually caused by population growth.

We hope that this study contributes to development policy in Indonesia. In the case of Indonesia, migration seems to have significant impacts on domestic regional labor supply, which in turn could facilitate economic growth in Indonesia. Thus, an appropriate migration policy able to stimulate economic should be development and create employment opportunities.

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Families

actually

Number of

moved

people

100,00

500,00

0

0

36,483

174,00

0

118,00

544,00

0

0

			Coefficient			t-Statistic		
Model	Dependent	Constant	(Standard Error)			(P-Value)		
	Variable	term	POPGR	LGFER	NEMIG	POPGR	LGFER	NEMIG
1	ECGR	3.563**	0.423			-1.05		
		(0.804)	(0.401)			(0.297)		
2	ECGR	4.258*	-0.368	-0.166		-0.85	-0.30	
		(2.410)	(0.440)	(0.528)		(0.400)	(0.767)	
3	ECGR	2 946	-1.005*	0 371	0.080**	-1.93	0.65	2.09
		(2.419)	(0.524)	(0.572)	(0.039)	(0.060)	(0.516)	(0.042)
4	NEMIG	-	5.751***			3.48		
		11.629***	(1.654)			(0.001)		
		(4.104)						

Table-3: Regression results

*, **, *** indicates the differences from zero at the 10%, 5%, and 1% significance levels, respectively.

	1950-	1969-	1974-	1979-	1984-	1989-	1994-		
	1969	1974	1979	1984	1989	1994	1999		
Target	-	38,700	250,00	500,000	750,000	550,000	600,000		
(families)			0						

535,000

2,469,56

0

230,000

1,061,68

0

n/a

n/a

Table-4: Transmigration figures 1950-2000.⁵

1999-2000 16,235

4,409

22,000

300,000

1,500,00

0

⁵Source: Department Transmigrasidan PPH of Indonesia