Draft, March 2004

Answering the Research Challenge on Family Migration in the Developing Country: The Case of Indonesia[1]

Salut S. Muhidin

Population Studies and Training Center (PSTC)
Brown University
(S.Muhidin@Brown.Edu)

Abstract. While research on migration has been extensive, there have been little studies focused on family migration in developing countries. In fact, family has been mainly considered both the causes and effects of migration. The paucity of data is often mentioned as one of the challenges in this research. Using Indonesia as a case study, this paper attempts to demonstrate that the research on family migration can be done by using common available data (e.g. census) as well as special collected data (e.g. IFLS, Indonesia Family Life Survey). Once the two data sets are available, therefore, the limitation findings from one data set can be supported by the findings from another data set. In the case of Indonesia, the study shows that family migration has changed over time in relation with the changes in the family (including its size and structures) as a result of the modernization process and enhancement in economic opportunities.

1. Background

Migration studies done for developing countries have concluded that population mobility or migration within and across the countries would likely to become an increasingly important issue toward 21st century. Explanations for this may be because of the socioeconomic and political changes in many of these countries, globalization, which meant that the importance of national boundaries is likely fast decreasing, improvement in transportation and communication, and proliferation of migration networks. It will therefore be interesting to study the population mobility in the context of developing countries, by considering both individual and family as the unit of analysis.

In contrast with individual migration, however, migration studies in developing countries have given little attention to the context of family. In fact, family matters play a

[1] Paper is prepared for Session 61 (Internal Migration in Developing Countries II), the Population Association of America (PAA) annual meeting in Boston, Massachusetts, 1-3 April 2004.

big role in triggering people to migrate. For example, a common custom in these countries is that soon after a marriage takes place, a married man/woman follows the wife/husband or both of them may move to a place different from their previous residences. In addition, a typical of these societies is the economical dependency of family members to the head of a household or the parents. Yet, the social security schemes that are prevalent in the developed societies do not, unfortunately, exist in most of developing countries. As a result, family reunion is most likely to occur once the earning member of the family, i.e. the parents or the head of household, migrates.

In the context of Indonesia, evidences from statistical figures show that family reasons are a foundation for most Indonesian people to migrate (Muhidin, 2002). Economic reason takes place in the second position for triggering people to migrate. At regional level, however, the proportion of migrants motivated for any triggers varied considerably. As in many developing countries, studies on migration in Indonesia are mostly focused on individual migration. It has been argued that these are mainly due to data constraints. The national census, as theoretically most potent source of migration data, is deficient. The census only records inter-provincial and permanent migrant but not intra-provincial or temporary movements of people.

Nevertheless, the 1995 inter-census population survey and the 2000 population census have provided a question on the reason to migrate. In those data sets, respectively, about eight and nine alternative reasons were addressed (i.e. work, seeking a job, education, marriage, family reunion, follow relatives, housing, security, and others). More over, variables relate to family characteristics (i.e. size, type of family, and socio-economic characteristics) have also been recorded. In practical, those variables have made possible to the analyzing of family migration in the context of Indonesia. In the meantime, Indonesia now has numerous data sets available on population-related features, which make possible and facilitate detailed demographic analysis including family migration. The Indonesian Family Life Survey (IFLS) is one of these examples. The data contain a wealth of information collected, including the histories of socio-economic and demographic variables (e.g. migration, fertility, education, labor outcomes, and transfer and living arrangement).

Based on the facts mentioned above, the present study attempts to contribute to the analysis of family migration in Indonesia. A characteristic feature of this study is that the utilization of variables from both conventional data sources (e.g. the intercensal population survey and census) and advance data source (e.g. IFLS). It focuses on the link between the understanding family migration theory and the variables available in data sources. Naturally, such data sources may also be found in the other developing countries. As a result, the methods and analyses developed in this study can also be utilized for other countries, where the data sources are similar to those in Indonesia. A case study on Indonesia's family migration has, therefore, a wide international relevance in particular for answering the research challenge on family migration in the developing countries.

2. Theoretical Focus

In earlier studies, family migration is often defined as migration of entire family. The use of this definition conceals the potential diversity of migration behavior within the family. During the last two decades, studies on family migration have showed that for developing countries it is quite common for variable numbers of family members to migrate, instead of the entire family (i.e. Bhattacharyya, 1985; Root and De-Jong, 1991; and Spaan, 1999). As migration in developing countries is mostly characterized as circular, commuting seasonal, or permanent, family migration is viewed as a variable event with potentially one or more family members migrating. In the same time, the migrants still keep their (family and social) networks. Even so, the majority of migration studies focusing on migration decisions in Indonesia have adopted three approaches: the behavioral approach, the economic approach, and the structural approach.

The behavioral approach (Wolpert, 1965) and economic approach (Todaro, 1980) view the process of migration decision making in terms of individuals making judgments or choices as a response to stresses posed by the environment or as a perception of the differential between current wage earning and expected wage earning in the future. This is similar to the theory of push-pull or equilibrium proposed by Lee (1966). These approaches, which focus more on individual decisions, have been challenged. Skeldon (1990) argues that these theory overemphasis economic, as well as objective and measurable factors for migration. In fact, some communities in Indonesia are known to be

highly mobile ethnic groups, while the others are not. Therefore, migration decision also depends on cultural and economic contexts.

A complementary model to the behavioral and economic approaches is the new economic approach, which was developed and used to support the family model of migration. The new economic approach (see Stark, 1991) models migration as risk–sharing behavior among family members. According to this model, individuals are not able to diversify their resources as well as households in order to minimize risks to the family income. In order to minimize risks to the family income, it may be more viable for a few family members to work in foreign country, while all wing those who are left behind in the home country to receive remittances.

Working on these theoretical approaches on individual and family migration, Root and De-Jong (1991) developed an inclusive family model of migration in the context of developing countries. For Root and De-Jong (1991), family migration occurs either when the entire family migrates or when only a few members of the family migrate. In this model, six basic factors were generated to explain family migration.

These are:

(1) *Linkage to migration system*

(2) *Ties at place of origin*

(3) *Family pressure*

(4) *Family structure*

(5) *Family socio-economic resources*

(6) *Family previous mobility experience*

First concept on linkage to migration system is represented by exchanges, e.g. information, social assistance, money and emotional supports between family/kin at origin and potential destination region. Using Philippines migration survey data, Root and De-Jong utilized the remittance flows as a variable of linkage to migration system. *Second* concept is referred to as inhibiting factors in predicting migration. Information on perceived closeness to relatives in origin region was used in their study. Following Hugo (1981), in *third* concept, it is argued that families either generate or impose restriction on the expectations for the migration of the family members. Individual perception on family

pressure to migrate was used to represent this concept. *Fourth* concept is family structure. Two types of family structures based on a stage-typology suggested by Castilo (1979) were adopted. These are nuclear family and extended family. It is expected that nuclear family is more likely to migrate as an entire family than extended family. Migration of some members is expected to be high during stages when major life-course transitions are occurring, such as school and marriage. *Fifth* concept family socio-economic resources, is represented as push or pull factors. For example, the lack of adequate land may push family members to find work elsewhere. Lastly, *sixth* concept is expected that previous experiences from some or entire family members would stimulate the first move, or repeated migration of some or entire family members. In order to develop a family migration model for Indonesia, this paper considers the six factors of family migration as developed by Root and De-Jong (1991).

3. Data and Research Methods

The primary data sources in this study are the 1995 Intercensal Population Survey (Survai Penduduk Antar Sensus, SUPAS), and the 1993 Indonesian Family Life Survey (IFLS). The 1995 SUPAS, which was held in September-October 1995, covered all geographical areas (27 provinces[2]) in Indonesia. It consists of 948,380 people interviewed from 216,964 households. The IFLS is an ongoing longitudinal survey of individual, households, families and communities in Indonesia. The 1993 IFLS covered a sample of 33,079 individuals living in 7,224 households spread across 13 out of 27 provinces in Indonesia, which encompass about 83% of the Indonesian population. Yet, a sampling scheme was applied in the 1993 IFLS to randomly select several members (aged 15 years and older) within a household to provide detailed individual information on certain subjects. For example, information on migration history was collected from 39% of the total sample (i.e. 12,990 out of 33,079 respondents). This section starts with the elaboration of variables considered, both dependent and independent variables, then continued with a discussion of the model utilized.

[2] Prior to September 1999, Indonesia had 27 provinces. East Timor has decided to be an independence nation after the referendum and general election had been conducted in East Timor. In this paper those 27 provinces are clustered into 4 main regions based on their geographical position.

3.1. Definition: Family and Migration

This present study uses the family as the unit of analysis. In this case, a family is defined as a group of related persons (i.e. related by blood ties or marital relationship) who reside in the same household. Because of structure in the data sources, which contain detailed information on households as well as the relationship of each household member to the head of household, it allows us to examine the phenomenon of family migration. Using the 1995 SUPAS data, for example, about 5,925 households (2.7%) out of 216,946 household samples are categorized as non-family households that consist of a group of unrelated persons who live in the same house/dwelling unit.

A family is defined as a migrated family if at least one member of the family is defined as a migrant. From the 1995 SUPAS, the migration status of a family member is obtained by comparing the place of residence of the migrant at the time of survey with the migrant's place of residence 5 years ago (i.e. recent migration). A change of residence was recorded when a person had been absent from home for six months or longer, or had left home for the purpose of moving away even when the six months limit had not been reached. For children below 5 years of age at the time of survey, migration status is then obtained by comparing the place of residence at the time of survey with the place of birth. Once the migration status of each family member has been identified then the migration status of a family can also be determined. It is found that most interviewed families in the 1995 SUPAS belong to the non-migrating families (86 percent or 181,128 families). Moreover, about 10 percent (21,967 families) are the families with some members are migrants and 4 percent (7,926 families) are the families in which entire members are migrants.

In the meantime, information on migration status among IFLS samples is derived directly from the migration history section. For comparable reason with the SUPAS data, the present study gives more attention to the recent migration history. Migration here corresponds to a permanent residential movement, which village is utilized as the smallest geographical unit of analysis. Therefore, migration in the IFLS data can be referred as inter-region migration (i.e. inter-village, inter-district, inter-province, and inter-country). After identifying the migration status of adult family members, then the family migration

status was defined. Similar to the definition applied to SUPAS data, a family is called as a migrated family if at least one member of the family members is defined as a migrant.

3.2. Explanatory Variables

Using the SUPAS data, we succeeded in delimiting four factors out of six factors in the family migration system as developed by Root and De-Jong (1991). These are family pressure, family structure, family socio-economic resources, and previous mobility experience. Moreover, the other two factors (i.e. linkage to migration system and ties at place of origin) could be captured in the IFLS data. Considering the fact that Indonesia is a heterogeneous country, regional dimension has also been included as an explanatory variable. Operational definitions of all selected variables analyzed in this study are summarized in Table 1.

Linkage to migration system

A linkage to migration system, which is only found in the IFLS data, is represented by link to the current residence. It was generated from two questions on the last migration (i.e. migration from previous place to the current place of residence). These are: (1) MG41: "Before coming to the current residence, had you ever visited the village/district?" and (2) MG42: "Whom did you know in this village/district before you moved?)".

In this analysis, for those who answered that he/she had visited and knew any person in the destination region was defined as migrants who had link to current residence. In addition, those questions were utilized to capture the support, either in the first year of moving or current time, from the origin regions.

Ties at place of origin

Information on assistances and supports between families at origin and destination regions is used in their study. These are: (1) receiving transfer of funds or support from the origin region (e.g. MG48: "During the first 12 months residing here, did you receive money?" and MG52: "Do you still receive the money from the sender now?") and (2) sending funds or support to the origin region (e.g. MG58: "During the first 12 months residing here, did

you send money to the place of origin?" and MG62: "Do you still send the money to the place origin now?").

Family pressure

In the 1995 SUPAS, the family pressure variable is defined as the number of family members who migrated due to family triggers (i.e. marriage and family reunion). The range of this continues variable is between 0 and 11 members. Among the migrated families in SUPAS data, about 9,127 families (31 percent) have none of their family members triggered by family reasons. This value is 100 percent (181,128 families) for non-migrated families. Meanwhile, family pressure from the IFLS data is described as the frequency of migration (i.e. from the migration history) that triggered by family reasons.

Family structure

Two variables are utilized to define family structure: the size and the type of family. Regarding the size of family member, it varies from a single member family (1 member) to a big family with 19 members (i.e. the 1995 SUPAS) or 8 members (the 1993 IFLS).

Most Indonesian family who were recorded in the 1995 SUPAS had 3 and 4 family members, respectively, about 19 percent (40,550 families) and 21 percent (45,059 families). It is about 6 percent (11,729 families) belong to the single member family. This figure was about X in the 1993 IFLS. In addition, about X percent was a family consisted of 3 or 4 members.

In terms of the type of family, for the analysis, it is clustered into four groups.

1 = if a family consists of the head of household alone with or without spouse.
2 = if a family consists of the head of household and unmarried/single child(ren).
3 = if a family consists of the head of household, spouse, and also unmarried child(ren).
4 = if a family consists of the head of household and other extended family members.

Extended family here includes parents, grand children and grand parents, siblings, married children, and in-laws (i.e. son/daughter, brother/sister, or parents).

Family previous mobility experience

The mobility experience of family members is determined by two variables, namely lifetime migration and previous migration. A person who at the survey time is not living in his/her place of birth is defined as a lifetime migrant. As the fact that the same definition is applied to the children aged 0-4 (i.e. from the SUPAS data), then, this mobility experience is not applied to this age group (children aged 0-4 years).

Previous migration among family members in the IFLS is obtained directly from the migration history of respondents. Yet, information on previous migration in the SUPAS has to be generated. It considers the duration of residence in current village, which has to be less than his/her current age. Moreover, in order to make a distinction between recent migration and previous migration, this duration in current residence should be over than 5 years.

Family socioeconomic resources

With regard to family socioeconomic resources, we consider five factors. These are education, land and dwelling ownership, family's members who involved in farming, and access to media information.

The variable of family education is defined as the mean year of completed school of adult people in a household. In this case, only the household members who aged 18 years and above are eligible to be calculated the mean year of schooling. Suppose a family comprises two adults and three children under 18 years old, then the mean year of schooling will be estimated as the sum of years schooling of adults members divided by two (because only two adults). In addition, it is assumed that it is no possible to spend more than a year at the same grade. In other words, every grade is equal to a year.

Using the 1995 SUPAS, it is found that Indonesian families on average have 6.39 mean year of schooling, while the minimum and maximum values of this variable are 0 and 22 years. Other family socioeconomic variables (dwelling and land ownership, media information) are grouped into several categorized.

Regional dimension

Considering the fact that Indonesia is a fragmented country, regional dimension has also been included as an explanatory variable. Moreover, urban and rural characteristics are taking into consideration. Operational definition of all selected variables used in this paper is summarized in Table 1.

----- Table 1 about here -----

3.3 Statistical Model

The logistic regression model is selected for the analysis since the dependent variable is dichotomous, that is, the value 1 (migrated family) with a probability of success *p*, or value 0 (non-migrated family) with probability of failure1-*p*. In general, the model applied is as follows:

$$\log\left(\frac{p(x)}{1-p(x)}\right) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \ldots$$

where: p(x) = probability of being a migrated family controlled for X characteristics
α = the constant of the equation and
β = the coefficient of the predictor variables

The fit of the models were assessed from the deviation, i.e. the likelihood ratio/degree of freedom, and it should be≈1. We use STATA version 8.0 for statistical analyses. In addition, family migration will also be categorized into two categories: families in which a few members migrate and those whose entire families migrate. As a result, the dependent variable consists of more than two cases (i.e. non-migrated, partially migrated, and entirely migrated family). Therefore, this range of variables has allowed us to use multinomial regression analysis.

It is worthy mentioning here that most information on socioeconomic characteristics from the data sources (i.e. the 1995 SUPAS in particular) refer only to the situation at the time of survey or after migration took place. In reality, characteristics of a family and its members may undergo substantial change during and especially after migration. Very few characteristics are unchangeable (apart from sex) or follow a specific immutable course (apart from age). It is understood that the longer the duration of residence of the migrant at their destination the more likely that their characteristics are

going to become more removed from those at the time of migration. Considering all these limitations from the data source, we limit the logistic regression analysis to few selected variables and assume that those have not much changed within 5 years prior to the survey time. Among these are the compositions of family members, the mean year of completed school of adult people in a household, land and dwelling ownership.

The research question can be formulated here is 'what is the probability of a family to migrate which involve some or entire of family members with regards to selected family background and characteristics?'

Before doing the regression analysis, the explanatory variables that mentioned in Table 1 have been assessed by using bivariate analysis. Based on this analysis, some variables are selected and put into logistic regression models, with the probability of some or entire family members will migrate as dependent variable. In order to see the contribution of regional dimension to family migration, we distinguish the model into four models. In *Model 1, Model 3,* and *Model 5* regional dimension is not included in the control variables for the models of some and entire family members migrating as well as the pool data of family migrating, respectively. In addition, *Model 2, Model 4* and *Model 6* introduce regional dimension in the explanatory variables. The analysis is aimed to see the significant effect of household characteristics to the status of family migration.

For regression analysis, in order to capture the variation of different mean year of school to different type of family migration, the mean year of completed school has been clustered into 5 categories. These are 0 year (no school), 1-5 years (no completed primary school), 6-9 years (completed primary school), 10-13 years (completed high school), and 14 years and over (university). It gives more insight in interpreting the results from regression model than only used a single variable of mean year of completed school.

4. Finding and Discussion

4.1. Bivariate Analysis

Before doing the regression analysis, the explanatory variables that mentioned in Table 1 have been assessed by using bivariate analysis. Based on this analysis, some variables are selected and put into logistic regression models, with the probability of some or entire family members will migrate as dependent variable. Table 2 presents the results of

bivariate analysis from all explanatory variables as defined previously. It shows that those variables have significant effect to the status of family migration in Indonesia. These findings are supported by the logistic regression analysis.

Please note that the first part of these results section is allocated for describing the results from the 1995 SUPAS data. See Table 2. In terms of family household structure, small number of family members in a household is significant for the entire family to migrate. The mean size of family members in those three different families is 4 peoples for non-migrating families, 5 peoples for some family members migrating, and 3 people for entire family members migrating. It is found that an existing of spouse in a household is significant for the entire family to migrate, which is not the case for the household where some family members migrated. Since the family size has already captured in the composition of family, then in the regression analysis only type of family is utilized, instead of using family size. Using this criterion, we assess how the different composition of family will behave to the different types of family migration (some or entire family members migrating).

Family pressure to migrate, which is measured from the proportion of family trigger in the households, is found higher among the households where the entire family members migrating than only some family members migrating. It is 54 percent and 23 percent, respectively. Consider the entire family members migrating. If the household had decided to migrate then half of the total family members would be triggered for family reasons (family reunion or marriage), though the head of a household might trigger for other reasons, i.e. economic reason. Since this variable on family pressure is derived only from the migrants, thus it was not provided in the context of non-migrating families. Hence, variable of family pressure is not included in the regression analysis.

Previous mobility experience from the family members has significantly stimulated the family (some or entire family members) to migrate. More family members have experienced in migration activities, more likely the whole family to migrate. It is found that 67 percent (122,109 families) of non-migrating families has no previous mobility experience. This figure is about 17 percent (1,340 families) among the families in which entire members migrating. This factor will be examined further under the multivariate analysis.

Socio-economic characteristics from the families have also affected the probability of family migration. The mean years of completed school, for example, is lower among adult non-migrating families member than for other families where some or entire family members migrating. If the mean year school can be converted into education level, then the non-migrating households have an average education of primary school (6 years). This figure is junior high school (8 years) for some family members migrating and senior-high school or university (10 years and over) for the entire family migrating.

In general, more family members involved in the agricultural sectors and more land owned by the household, less likely the household to migrate. Among non-migrating families, 35 percent of their adult family members engaged in the agricultural works and 51 percent owned land for the agricultural works. This situation is different to migrating families. For families in which some family members migrating, only 20 percent of their adult family members worked in the agricultural sector and 33 percent families owned agricultural land. This figure is 10 percent and 13 percent, respectively, for families in which entire family members migrating. Nevertheless, in the regression model, the variable of work status is excluded since it refers only to the situation at the time of survey. Variable of land ownership is somehow included in the model. In reality, it may possible that some families owned the land just after the migration took place. Hence, we need to assume that the ownership of the land from these households has not changed within five years prior to the survey time. The same assumption is also applied to the dwelling unit ownership variable, which is highly significant in the family migration analysis.

Proportion of households who own or do not own media information (i.e. radio and television, as proximate variable for information sources) is found slightly different among families who were migrating and not. About 29 percent of non-migrating households have no media information, whereas, it is 20 percent and 22 percent for households in which some and entire family members migrating, respectively. In other words, the ownership of media information such as a radio and/or a television has less influenced the family to migrate, though it is statistically significant. It seems that having a radio or a television become common among Indonesian families. They used those media as an entertainment tools, instead of as the information source. Therefore, this variable is not included in the regression models.

Regarding regional dimension factor, there is significant different situation between non-migrating families and the households in which some or entire family members migrating. Non-migrating families are mostly located in rural areas, both in Java-Bali or the rest of Indonesia. In contrary, the families are currently concentrated in urban areas among households in which entire family members migrating. In the meantime, some-members migrating families are having proportionally distributed in urban and rural areas. This variable will further be examined in the logistic regression analysis.

----- *Table 2 about here* -----

4.2. Multivariate Analyses

Table 3 shows the results of regression analysis for some and entire family members migrating compared with non-migrating families. In every model, all explanatory variables are statistically significant to increase or decrease the probability of family migration, except in land ownership less than 1 HA (i.e. for Model 1), mean years of education between 6-9 years (i.e. for Model 3 and Model 4), and resident in urban areas of Java-Bali (i.e. for Model 4). Introduction of regional dimension in Models 2, 4 and 6 has somehow given little effects to other variables. Having previous mobility experience among family members in a household is more likely increasing the intensity of the family members (for some and entire members) to migrate. Statistically, it is three times higher for family migrating (i.e. see Model 5 and Model 6). This figure is two times higher for some family members migrating and even higher (4 times) for entire family members migrating.

Family structure

Regarding family structure, some family members are more likely to migrate among an extended family. While, entire family members are more likely to migrate among childless households or free unmarried children households. If we see the statistical value of these models, exp(0.985)= 2.68, childless family has 170 percent higher different than extended family types to migrate. Once the unmarried children existent in a household, especially for a single parent family (head of household alone), then family migration becomes less likely to take place. In other words, unmarried children have restrained a family (its

members) to migrate. Education career of the children or engaged to school activity may be one of the reasons. This situation is even worse for the single parent families. For other families who have no unmarried children (i.e. childless family) and extended family (i.e. siblings, parents or other relatives present in the households), these restrictions are getting less. In the case of extended families, though they may have unmarried children, the existence of another family member are sufficient condition for a move to take place.

Education

In comparison with less educated families (0 year for mean year of schooling), similar to the results from bivariate analysis, more educated family members more likely they are going to migrate. In general, it is about 6 times (i.e. *Model 5* and *Model 6*) higher for more educated families (mean year of schooling is 14 years and above) to migrate than the less educated families. Probability of some family members migrating from the highest educated families is around eight times higher than the non-schooling families. Once the regional dimension has been added (*Model 2*), the intensity to migration is even higher (8.6 times higher). For the model of entire family members migrating, statistically, higher educated family is 3 times higher than no schooling family. In other words, education is then said to facilitate migration because it increases employment opportunities.

Ownership

The ownership of agricultural land and dwelling unit is also significant to family migration. More land the households owned less likely the family members from these households will migrate. The probability of family members (some or entire family members) to migrate from the households who owned no land or less than 1 HA land is higher than the families members from the households who owned more land for agricultural works. Family members from the households who rented the dwelling unit are more likely to migrate than the family members from the households who self-owned. Statistically, it is 2 or 3 times higher for family members in which some and entire family members migrating.

Regional dimension

Regional dimension has decreased the intensity of some family members migrating related to the ownership of land for agricultural works. The probability that some family members will migrate is higher for those who reside in rural areas Java-Bali than other regions. On contrary, the probability to migrate is higher among families who live out of rural areas Java-Bali region if the entire family members migrating. Yet, the main effect of Java-Bali urban in Model 3 is insignificantly in Model 3.

----- *Table 3 about here* -----

4.3. Discussions

The findings from this paper support the notion of family migration in the context of Asian countries (i.e. Philippine and Malaysia). Study done by Root and De-Jong (1991), in the context of the Philippine, found that a highly significant predictor of individual or entire family migration was linkage to the migration system in the form of remittance exchanges and the previous mobility experience of family member. Higher educational level and fewer parcels of land further increased the probability of some member migrating. Family pressure to migrate emerged as the most significant predictor of entire family migration. In addition, study from Chandra (1985) found that migration families in Malaysia differ from non-migrant families with respect to age, education, labor force participation, occupational structure, housing conditions and ownership, and family income. Ethnicity as well as size of settlement class also affected the patterns of differentials.

Study from Corner and Tirtosudarmo (1985), used the 1985 National migration survey for study areas of East Java, South Sulawesi, and Bali, showed that migrants were relatively more educated than non-migrants, higher proportion of them were involved in professional status occupations, though these numbers were small. Many migrants decide to migrate to urban areas for job related reason. The first move was dominated by rural-urban individual migration, and the last move was dominated by urban-urban family migration. Relatives and friends played a very important role in mediating information about urban destinations. Unlike the migrants who moved mostly for economic reasons, non-migrants rarely cited economic reason for staying. Non-migrants dominated agricultural activities.

5. Conclusion

It has been showed that empirical studies on family migration in Indonesia can also be derived from the retrospective (intercensal) survey data. The survey provides micro data on individual migration by comparing the place of residence at survey time and place at five years ago prior to survey. Information on migration decision and characteristics of family members and socio-economic of households are deal with the situation after migration took place. Nevertheless, four factors that required in the model of family migration system could be captured. These are family pressure, family structure, family socio-economic resources, and family previous mobility experience. Several factors, such as the existence of family pressure and previous mobility experience, less size of family members, and owned less land area for agricultural works, have increased the probability of family members (some or entire) to migrate. In general, empirical phenomenon of family migration in Indonesia in this study is similar to the family migration in the context of Asian family. Furthermore, this review has been supported by established theoretical frameworks, which deal with migration decision (individual and family migration).

Both empirical analysis and theoretical review on migration studies have shown that many factors may affect individual and family members to migrate. Some of these are more or less constant throughout the life of the individual or households' member, while other are associated with stages in the life cycle of the individual and the family. Motivations to migrate arise from one of the various life domains that develop in parallel to the domain of moves. Family members of a household may have several parallel careers (i.e. education, working, housing, and family careers). The parallel careers may influence the decision of individual or households' member to migrate in two different ways. The progression in one parallel career triggers a move, whereas others condition the actual relocation through their effect on the choices that individuals and family have. The conditioning reasons either generate resources or impose restrictions on the move.

In the near future, the modernity and globalizations systems may affect the concept of family. Family attempts to limit their size, more women participate in the labor force, and people tend to postpone their marriage time (married later) for forming a family. Personal relationships are increasingly based on strategic life planning, individualization, equality and democracy. As a result of this modernization process and enhancement in

economic opportunities along with demographic development, the characteristics of family migration in developing countries in general and in Indonesia in particular may also change significantly. Consequently, there would be a high impact on the patterns of family migration with considerable shift from a traditional family to a modern family.

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Table 1. Operational definition of variables considered for the family migration, Indonesia

Variables	*Operational Definition*
Dependent variable	
Migrant status	Family migrants (coded as 1=Yes, and 0=No)
Independent variables	
1. Linkage to migration system	Had visited the destination before moving (1=Yes and 0=No) Knew someone in the destination before moving (1=Yes and 0=No)
2. Ties at origin	Sending money to the place of origin, even up to now (1=Yes and 0=No) Ever sent money to the place of origin (1=Yes and 0=No) Receiving money from the place of origin, even up to now (Yes and No) Ever received money from the place of origin (1=Yes and 0=No)
3. Family pressure to migrate	SUPAS: Number of family member who migrated triggered for family reasons (marriage and family reunion). 0-11 IFLS: Frequency of migration triggered for family reasons (marriage and family reunion). 0-11
4. Family structure	
Family size	Number of family member: 1-19
Family type	1. If a family consists of a head of household alone with/out spouse 2. If a family consists of a head of household and unmarried/single child(ren) 3. If a family consists of a head of household, spouse and unmarried child(ren) 4. If a family consists of a head of household and other extended family members
5. Family migration experience	Any experienced lifetime or previous migrations among household members (lifetime migration: the place of current residence is different with the place of birth)
6. Socio-economic resources	
Family education	Mean year of schooling completed for family member aged 18 and over
Land ownership	0 = if a family has no land 1 = if a family owned land less than 1 HA 2 = if a family owned land less than 2 HA 3 = if a family owned land more than 2 HA
Family in farming	Proportion of family members aged 18 year and over engaged in the agricultural sector.
Dwelling ownership	0 = self-owned or installment 1 = rent or contract based 2 = others
Media information	0 = if a family has no media information 1 = if a family has a radio or a television alone 2 = if a family has both radio and television
7. Regional dimension	Current residence: Java_Bali urban, Java_Bali rural, Other region urban, and Other region rural

Table 2. Bivariate analysis to the selected characteristics for family migration, Indonesia (Data source: the 1995 SUPAS)

	Characteristics	***Non-Migrating***		***Some family member migrating***				***Entire family members migrating***			
		(%)	*N*	*(%)*	*N*	*LR*	*P*	*(%)*	*N*	*LR*	*P*
A.	***Family pressure to migrate***										
	Family members migrated due to Family triggers	(0)	0	(23)	24,464	32,414	0,000	(54)	11,722	12,722	0,000
B.	***Family household structure***										
	Total household (HH) members	(86)	791197	(11)	104,710	1047	0,000	(2)	21743	6,676	0,000
	Mean family size		4.37		4.77				2.74		
	Composition of HH										
	1. Head HH alone or with spouse	(13)	22,952	(5)	1,140	6,321	0,000	(47)	3,728	4,194	0,000
	2. Head HH & single child(ren)	(6)	11,387	(2)	445			(4)	309		
	3. Head HH, spouse & child(ren)	(59)	106,287	(45)	9,913			(28)	2,248		
	4. Extended family	(22)	40,502	(48)	10,469			(21)	1,641		
C.	***Socio-economic resources***										
	Mean year schooling for member aged 18+ years		5.86		8.38	5,631	0,000		10.14	6,175	0,000
	Adult worked in agricultural sector	(35)	158,088	(20)	13,306	1,022	0,000	(10)	1,512	4,459	0,000
	Agricultural land ownership										
	1. Has no land	(49)	88,072	(67)	14,734	2,006	0,000	(87)	6,923	4,442	0,000
	2. Has land, less than 1 HA	(27)	49,701	(18)	3,916			(6)	466		
	3. Has land, less than 2 HA	(13)	24,100	(8)	1,793			(3)	260		
	4. Has land, more than 2 HA	(11)	19,255	(7)	1,524			(3)	277		
	Dwelling unit ownership										
	1. Self-owned or installment	(87)	157,064	(65)	14,217	3,988	0,000	(29)	2,316	10,930	0,000
	2. Contract or rent	(9)	15,433	(26)	5,690			(63)	4,985		
	3. Others	(5)	8,631	(9)	2,060			(8)	625		
	Possession of media information										
	1. Has no radio/TV	(29)	51,895	(20)	4,400	647	0,000	(22)	1,750	108	0,000
	2. Has only a radio/ television	(37)	66,394	(35)	7,584			(39)	3,056		
	3. Has radio and television	(35)	62,839	(45)	9,983			(39)	3,120		
D.	***Previous mobility experience***										
	family household with previous experience: *Yes*	(33)	59,029	(67)	14,635	7,437	0,000	(83)	6,586	6,667	0,000
	No	(67)	122,109	(33)	7,332			(17)	1,340		
E.	***Regional dimension***										
	Java-Bali Urban	(19)	34,588	(24)	5,349	118	0,000	(38)	3,017	571	0,000
	Java-Bali Rural	(27)	49,580	(20)	4,354			(7)	546		
	Other region Urban	(12)	21,138	(24)	5,284			(32)	2,532		
	Other region Rural	(42)	75,822	(32)	6,980			(23)	1,831		
	Total	(86)	181,128	(10)	21,967			(4)	7,926		

LR = Likelihood ratio value

Table 3. Logistic regression analysis for family migration in Indonesia: the 1995 SUPAS

Variables	*Some family members migrating*				*Entire family members migrating*				*Pool data: Family migrating*			
	Model 1		*Model 2*		*Model 3*		*Model 4*		*Model 5*		*Model 6*	
	b	*Exp.(b)*	*b*	*Exp.(b)*	*b*	*Exp.(b)*	*b*	*Exp.(b)*	*b*	*Exp.(b)*	*b*	*Exp.(b)*
Previous mobility experience												
No	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***
Yes	0.942	2.56 ***	1.017	2.76 ***	1.411	4.10 ***	1.401	4.06 ***	1.036	2.82 ***	1.095	2.99 ***
Composition of households												
Extended family	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***
Head HH with/out spouse	-1.675	0.19 ***	-1.676	0.19 ***	0.985	2.68 ***	1.008	2.74 ***	-0.607	0.54 ***	-0.601	0.55 ***
Head HH and single child(ren)	-1.824	0.16 ***	-1.808	0.16 ***	-0.198	0.82 ***	-0.200	0.82 ***	-1.440	0.24 ***	-1.427	0.24 ***
Head HH, spouse and single child(ren)	-1.251	0.29 ***	-1.265	0.28 ***	-0.902	0.41 ***	-0.899	0.41 ***	-1.223	0.29 ***	-0.230	0.79 ***
Mean year of completed school												
No Schooling	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***
1 - 5 years	1.024	2.78 ***	1.033	2.81 ***	-0.250	0.78 ***	-0.247	0.78 ***	0.597	1.82 ***	0.606	1.83 ***
6 – 9 years	1.495	4.46 ***	1.557	4.75 ***	0.061	1.06	0.054	1.06	1.028	2.80 ***	1.076	2.93 ***
10-13 years	1.820	6.17 ***	1.918	6.81 ***	0.653	1.92 ***	0.632	1.88 ***	1.417	4.13 ***	1.487	4.42 ***
14+ years	2.049	7.76 ***	2.156	8.64 ***	1.148	3.15 ***	1.126	3.08 ***	1.766	5.85 ***	1.841	6.30 ***
Land ownership												
No land	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***
Less than 1 HA	0.019	1.02	-0.142	0.87 ***	-0.574	0.56 ***	-0.589	0.55 ***	-0.063	0.94 *	-0.189	0.83 ***
Less than 2 HA	-0.135	0.87 ***	-0.262	0.77 ***	-0.498	0.61 ***	-0.615	0.54 ***	-0.188	0.83 ***	-0.298	0.74 ***
More than 2 HA	-0.181	0.83 ***	-0.306	0.74 ***	-0.267	0.77 ***	-0.393	0.68 ***	-0.194	0.82 ***	-0.304	0.74 ***
Dwelling ownership												
Self-owned	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***	0.000	1.00 ***
Contract or rent	0.927	2.53 ***	0.959	2.61 ***	1.963	7.12 ***	1.925	6.85 ***	1.255	3.51 ***	1.280	3.60 ***
Others	0.997	2.71 ***	0.984	2.68 ***	1.203	3.33 ***	1.160	3.19 ***	1.021	2.77 ***	1.006	2.73 ***
Current residence												
Java-Bali Urban			-0.591	0.55 ***			0.105	1.11			-0.469	0.63 ***
Java-Bali Rural			0.000	1.00 ***			0.000	1.00 ***			0.000	1.00 ***
Rest of Indonesia (Urban)			-0.277	0.76 ***			0.391	1.48 ***			-0.174	0.84 ***
Rest of Indonesia (Rural)			-0.170	0.84 ***			0.349	1.42 ***			-0.112	0.89 ***
Constant	-3.267	0.04 ***	-3.052	0.05 ***	-4.58	0.01 ***	-4.771	0.01 ***	-2.817	0.06 ***	-2.659	0.07 ***
χ^2	17834		18166		16560		16466		27018		27095	

Note: Stepwise forward conditional method was used for the logistic regression analysis, ***p < 0.001, **p < 0.01, and *p < 0.05.