

The Household Level Determinants in the Choice and Level of Migration: A Micro Study in West Bengal

Environment and Urbanization ASIA
8(1) 94–104

© 2017 National Institute
of Urban Affairs (NIUA)

SAGE Publications

sagepub.in/home.nav

DOI: 10.1177/0975425316683864

<http://eua.sagepub.com>



Debasis Chakraborty¹
Pravat Kumar Kuri²

Abstract

Migration decision making of the household is an important dimension in migration literature as it involves the socio-economic factors of both source and destination places. This study is an endeavour to conceptualize the determinants of choice and level of migration in household migration decision making. It captures both the single location and multiple locations destination option that a prospective migrating family faces while taking migration decision. Applying Heckman two-step technique and McFadden's maximum likelihood multinomial logit model, the study found that factors like experience of the family head, schooling level of the family, income of the family, income differences in post- and pre-migration situation, village networking etc., are the major factors in family migration decision making.

在移民选择和水平中家庭层面的决定因素：来自西孟加拉的微观研究

家庭的迁移决策是移民研究文献中的一个重要方面，因为它同时涉及了迁出地和迁入地的社会经济因素。本文致力于概念化家庭移民决策中移民选择和水平的决定因素。研究同时关注潜在移民家庭做出迁移决策时面临的单个位置和多个位置的目的地选择。通过应用赫克曼两步技术和麦克法登的最大似然多项Logit模型，研究发现，一家之主的经验、家庭教育水平、家庭收入、移民前后的收入差异情况、乡村网络等因素是家庭迁移决策的主要因素。

Keywords

Migration decision, single location, multiple locations

Introduction

Migration, from very beginning of civilization, has been one of the most important phenomena in shaping population distribution across the world. As a result, it has been a major focus of both sociological as well as demographical studies. Though migration theories get its root from the famous article of

¹ Assistant Professor of Economics, Durgapur Government College, Jawaharlal Nehru Road, Durgapur, West Bengal, India.

² Professor, Department of Economics, Burdwan University, Golapbag, Burdwan, West Bengal, India.

Corresponding author:

Debasis Chakraborty, Assistant Professor of Economics, Durgapur Government College, Jawaharlal Nehru Road, Durgapur 713214, West Bengal, India.

E-mail: debasischakraborty2@gmail.com

Ravenstein (1889), but most of the modern migration studies so far have centred around the conventional approach of migration known as the Harris–Todaro model of migration (Harris & Todaro, 1970), which is considered as one of the cornerstones of migration studies. But recent studies in migration have criticized this Harris–Todaro model saying that it deals solely with the migration decision of an individual, ignoring the role of family as a whole.

The major breakthrough in migration literature where ‘family’ became the sole matter of concern rather than the ‘individual’ came into existence when Jacob Mincer (1978) wrote his famous paper of ‘Family Migration Decisions’. After that, a spurt of literature came into existence to explore the role of family in migration decision (Harbison, 1981; Stark, 1991; Tcha, 1996 etc.). Thereafter, attempts have been made in the literatures to identify the socio-economic–demographic factors explaining the rural–urban migration decision at the family level (Chattopadhyay, 2000; De Jong, 2000; Root & Jong, 1991). Gender issue, job opportunities, income differences, family welfare, remittances, temporary versus permanent migration, destination, networks etc. are some of the considerations at the family level which get pivotal importance while taking migration decision (Chattopadhyay, 2000; Joarder & Hasanuzzaman, 2008; Winters, Janvry, & Sadoulet, 2001).

Once the decision of migration is made, the next is the choice of location that comes forth. Location specificity or choice of location depends on many factors. For example, presence of school going children can result into locational specificity as study shows that presence of school-age children influences family migration (Long, 1975). Similarly, since more than one destination is generally open to potential migrants, gain of the family should be defined as the maximum gain over all possible destinations. Among the available destinations, a potential migrant migrates to that destination where this gain of the family is maximum. It is the case of multiple locations for rural–urban migration.

Migration decision made by the family demands a separate study in migration literature in India. Past studies of migration on India at the micro level did not take into account the perspective of decision of migration at the family level. Under this backdrop, this study explores the role of ‘family’ in migration decision. The broad questions those have been addressed here are when and why does family decide to migrate? If migrate, what would be the levels of migration? The broad objectives of this study are to investigate the role of family in migration decision and to explore the determinants of both choice and level of migration using field data from Burdwan district of West Bengal.

Data Sources, Sampling Design and Methodology

Data Sources and Sampling Design

The study is mainly based on primary survey conducted during 2012–2013. The primary survey has been conducted through the multi-stage sampling technique. This multi-stage sampling technique involves following steps. There are 19 districts in West Bengal among which few are fertile in land, few are industry dominated, where some districts lack both. The study chooses Burdwan district purposively due to the existence of vast disparity between its rural and urban areas. The rural part of Burdwan has dominant agricultural sector and is major supplier of both food and cash crops in West Bengal. Whereas the urban centres of the district are mainly industry dominated having immense non-farm employment opportunities. Once the selection of district is done, the next step involves selection of block. There are total 31 blocks, 277 gram panchayats and 2,438 villages in district. For rural sample, out of these 31 blocks the two blocks that are selected are Raina-I and Raina-II. Raina-I block of the district of Burdwan is composed of eight gram panchayats, namely Hijalna, Mugura, Natu, Narugram,

Sehara, Palashan, Shyamsundar and Raina. Gram panchayats of Raina-II block are Arui, Barabainan, Gotan, Kaiti, Pahalanpur, Painta-I, Painta-II and Uchalan. The motto behind the selection of these two blocks is that in these two blocks agriculture is the dominant economic activity. Once the blocks are selected, next step is associated with selection of panchayats and villages. Three villages out of these two blocks have been selected. They are namely Kaiti, Gunar and Salgacha. Kaiti is in Raina-II block and the name of the gram panchayat is Kaiti. Gunar comes from Raina-I block and the name of gram panchayat is Mugura. Salgacha is also from Raina-I block and it is under Hijalna Gram Panchayat. Among these three villages, Kaiti and Gunar are comparatively better off in agricultural production whereas Salgacha is relatively backward in agriculture.

Once villages and wards are selected, the households from each village have been selected following the technique of random sampling using random number table. Household is the basic unit of the study. Altogether, 150 rural households have been canvassed through a structured questionnaire.

Methodology

Under single location model as decision of choice of migration and decision of level of migration takes place simultaneously, a two-stage technique suggested by Heckman has been applied here (Heckman, 1979). In the Heckman two-step technique the first stage is estimated using a 'maximum likelihood probit' model. Here the probit model takes care of 'decision to migrate' from rural-urban which in migration theories are named as 'choice of migration'. Once the decision to migrate is made, the next problem is to how many family members a family can allow to migrate. This relates to the question of 'level of migration'. In the second stage of the Heckman two-step technique, this later question is answered by fitting a 'least squares regression'.

An attempt has been made to estimate the choice and level of migration under multiple locations destination following DaVanzo (1972). The model tells that the probability that the family chooses one place j as its destination over another place i , given that there are X_{ij} facilities, depends on the ratio of benefit acquired by moving to j th place to sum of benefits accrued from other places except j . Though DaVanzo's model basically deals with the choice of migration of individual, still this model can easily be extended to a family decision-making framework. This multinomial logit model has been estimated following McFadden's maximum likelihood method.

Household Decision and the Choice of Migration

Household migration decision is bit different from that of the individual migration decision in the sense that when the latter centres around one's own benefit, the former takes into account the gain of the family as a whole. Thus, in household migration, characteristics of the household do play vital role in determining both choice and level of migration. The family or household migration decision is more complex than individual migration decision, which needs more comprehensive study as well. The present study conceptualizes the family migration decision making at the micro level involving both choice and level of migration. The study intends to see the case of family migration decision when there is both single location destination as well as multiple locations destination. Our conceptualization moves around the question that what happens to the family migration decision of the choice and level of migration when the family is left with both single location destination as well as multiple locations destination.

Single Location Destination Model: Results and Discussion

Migration decision involving single location is the most basic form. Here there is only one location for the prospective migrant to choose from. There are no other alternative destinations to migrate. Following Rossi (1980) the migration decision can be viewed as evolving in three stages. The first stage of migration decision deals with the aspect when a perspective migrant decides whether to move or not. This arises due to lower expectation about the native place. The second stage deals with accumulation of relevant information about the alternative places where one can migrate. This involves information regarding the employment opportunities, availability of basic amenities etc. In the last stage, that place is selected out of the various alternative places which gives the best possible benefits.

Attempts have been made in this section to examine the determinants of migration decision at the household level. A probit regression model has been fitted to explore the socio-economic and economic factors affecting the migration decisions taking 'probability of migration' as the dependent variable.

The regression results as regards the decision of migration are depicted in Table 1.

Agricultural status has a profound impact on the level of rural outmigration. As a rural area becomes more and more agriculturally develop, rural outmigration drops. The reason is an economic one, as rural farm sector develops, people can depend more on that sector in terms of food and employment. So their intention to migrate out from rural base decreases. On the other hand, rural outmigration increases if the rural farm sector is of poor standard. The study reveals that as total cropped area or yield increases, rural–urban migration falls and vice versa.

Similar is the case with rural farm sector job. As the job opportunities in the rural agriculture sector reduces peoples' migration out of rural areas increase. It justifies the findings in the regression that number of persons engaged in primary sector in the village has a negative and significant impact on the decision of migration.

Status of house (given by 'own house') is a variable which can be approximated as the economic status of a rural household. The hypothesis is that owning to a house reduces migration rate. A negative and significant value of this variable justifies the findings which imply a family having a house of its own in the rural area has lower probability to migrate. It is because a house of its own implies a strong rural economic base and that impede their movement to urban areas.

The present study found that there is a direct and significant relationship between age of head of household and decision of migration but negative relationship with its square which is in conformity with other authors (Winters et al., 2001). It implies that age of head is inversely proportional to the extent of migration. Field data reveal that as the head of the house grows older, his probability of getting job in urban settlement becomes less. Our field survey experience reveals the fact that as people engaged in farm grows older they gather more experience in farming and thus capable of allocating inputs efficiently in agriculture. This increases their attachment to land and agricultural practices and thus, it sluggish the extent of migration. This finding is in conformity with Perloff et al. (1998).

There are mixed results regarding the impact of education on migration rate. While most of the studies have revealed a positive association between level of education and rural outmigration, there are few set of studies which have shown a reverse one (Akhter and Bauer, 2014; Germenji & Swinnen, 2009; Vijverberg, 1993). In our study as well the coefficient of education is found to be negative and insignificant. Thus, in our study area, the level of education of the family approximated by 'Avg schooling' fails to explain the extent of rural–urban migration. This is mainly because of the fact that in our study area most of the migrants are tend to have availed job in the urban informal sector which is not much sensitive to the level of education. Broadly, urban informal sector absorbs migrant with lower level of education.

It has repeatedly been seen that migration has positive relation with 'expected gain'. This gain describes the aspect of gain of the family due to migration. Expected gain is defined as the difference

Table 1. Results of Probit Regression

| Variables | Model-1 | Model-2 | Model-3 | Model-4 |
|---------------------------|--------------------------|-------------------------|-------------------------|-------------------------|
| Agehead | 0.180063 (0.0015)* | 0.175024 (0.0031)* | 0.394618 (0.0005)* | 0.221884 (0.0014)* |
| Ageheadsq | -0.001724 (0.0019)* | -0.001676 (0.0038)* | -0.003871 (0.0006)* | -0.002228 (0.0012)* |
| Avg schooling | -0.075609 (0.1373) | -0.059572 (0.2176) | -0.123426 (0.1570) | -0.101717 (0.0694) |
| Empfarm | -0.594333 (0.0032)* | -0.484432 (0.0031)* | -1.078066 (0.0002)* | -0.636359 (0.0041)* |
| Empnonfarm | -0.294315 (0.3495) | -0.145722 (0.6138) | -0.550260 (0.3319) | -0.372953 (0.2746) |
| Famincm | 3.76E-05 (0.3971) | 3.65E-05 (0.3946) | 8.24E-05 (0.3464) | 7.80E-05 (0.1321) |
| Fsize | -0.070764 (0.6332) | -0.053897 (0.6030) | - | -0.143547 (0.6124) |
| Housestat | -0.185595 (0.3225) | - | -0.461346 (0.1877) | -0.284774 (0.1683) |
| Male | 0.192463 (0.3849) | - | - | 0.111309 (0.6443) |
| Marwomen | -0.029461 (0.9211) | - | - | -0.135378 (0.6668) |
| Ownhouse | -2.265750 (0.0953)*** | -2.687111 (0.0577)** | -5.616792 (0.0246)** | -2.592244 (0.1017) |
| Sevenpluspop | - | - | - | 0.072091 (0.8111) |
| TCA | 0.079914 (0.2152) | 0.096395 (0.1093) | -0.476628 (0.2196) | -0.435356 (0.0217)** |
| Yield | - | - | - | -0.000420 (0.0275)** |
| Totland | - | - | 0.633707 (0.1036) | 0.302270 (0.0787)*** |
| G _f | 0.014524 (0.0184)* | 0.014319 (0.0182)* | 0.027509 (0.0064)* | 0.014478 (0.0187)* |
| Total no. of observations | 300 | 300 | 300 | 300 |
| Hannan–Quinn criter. | 0.588788 | 0.559169 | 0.551376 | 0.585126 |
| Log likelihood | -65.68352 | -66.46401 | -63.55393 | -59.91080 |
| Avg. log likelihood | -0.218945 | -0.221547 | -0.211846 | -0.199703 |

Source: Estimated on the basis of Primary Survey, 2012–13.

Notes: *Significant at 1 per cent level. ** Significant at 5 per cent level. *** Significant at 10 per cent level. In the parentheses we have p-value.

between post-migration and pre-migration earnings of the family. Post-migration earnings of the family are defined as the sum of total earnings of the migrated family members. Similarly pre-migration earnings of the family are defined as the sum of total earnings of the same set of migrated family members before migration. If it is found that this gain is positive then family decides to migrate or let its member to migrate and vice versa. The result shows a positive and significant impact of this 'gain from migration on the decision of choice of migration' has been shown in many other studies (Mincer, 1978; Sandell, 1975; Teilhet-Waldorf & Waldorf, 1983). This implies a better economic perspective in urban areas will always encourage rural–urban migration.

The main determinants of level of migration are age of head, age of head square, level of schooling of the family (measured by 'Avgschooling'), family income and gain from migration (Table 2). Here gain

Table 2. Results of Least Square Regression

| Variables | Model-1 | Model-2 | Model-3 | Model-4 |
|------------------------------------|----------------------|-----------------------|-----------------------|-----------------------|
| Agehead | −0.591531 (0.012) | −0.0023203 (0.007) | −0.0233337 (0.009) | −0.0094429 (0.008) |
| Ageheadsq | 0.0006077 (0.000) | 0.000296 (0.000) | 0.0002611 (0.000) | 0.0001058 (0.000) |
| Avgschooling | 0.132137 (0.007) | −0.0012256 (0.004) | 0.0081413 (0.005) | −0.0064137 (0.004) |
| Housestat | 0.008575 (0.033) | | −0.0088013 (0.023) | −0.0134661 (0.018) |
| Fsize | | −0.210715 (0.011) | | −0.1797285 (0.022) |
| Marwomen | | | | −0.1261612 (0.031) |
| Sevenpluspop | | | −0.2112759 (0.016) | 0.0162047 (0.025) |
| Famincm | | 0.0000119 (0.000) | | 0.0000103 (0.000) |
| Ownhouse | | −0.0453725 (0.022) | | −0.0207888 (0.025) |
| Male | | | | 0.0230295 (0.029) |
| Empronfarmu | 0.2976277 (0.049) | 0.3673073 (0.025) | 0.3818203 (0.035) | 0.3329683 (0.029) |
| G _r | 0.0008707 (0.000) | 0.0003012 (0.000) | −0.0001315 (0.000) | −0.002118 (0.000) |
| Constant | 1.500852 (0.257) | 0.7208649 (0.131) | 1.055002 (0.184) | 0.8966578 (0.173) |
| Inverse Mills' Ratio (λ) | 0.0393861 (0.226) | −0.1169641 (0.105) | −0.0847257 (0.144) | −0.1293417 (0.117) |
| Total no. of observations | 150 | 150 | 150 | 150 |

Source: Estimated on the basis of Primary Survey, 2012–13.

Note: In the parentheses we have standard error.

from migration is interchangeably used with the term expected gain which has been discussed earlier. There can be seen some notable differences between the two regression of 'choice of migration' and 'level of migration'. Compare between 'age head' and 'age head square' in two equations. In probit model, there is a positive and significant impact of age head in decision of migration and a negative but significant impact of age head square on migration decision. This shows a diminishing and non-linear relationship between age of head and decision to participate in migration. But they are giving opposite but significant results while taking the decision about level of migration. These differences suggest that 'using two separate equations instead of one censored regression equation is useful' (Melenberg & van Soest, 1996). All other three variables like level of schooling of the family, family income and gain from migration are having significant and usual relationship with the level of migration.

Multiple Locations Destination Model: Results and Discussion

Until now the study has taken the simplest form of family migration where the option relating to the destination is very limited to the family, that is, where it has to consider only one destination. But in reality it is not the case which a family often faces. Often it comes up with a problem where it has to choose between two or more than two alternative destinations. Clearly in these cases, the migration decision making of the family does not remain simple enough rather it takes a little complex form. Generally, it is the case that the family has certain alternative destinations as different person of the family possesses different skills and depending on that their choice of destinations differs. The problem of the family, in such scenario, is that it has to choose that destination which will optimize family's well-being rather than maximizing utility of each potential migrant of the family separately. As in single location model, here also, the family has to take both the decisions of choice and level of migration. The main difference between single location model and multiple locations model is that in the later model deals with more than two outcomes of the binary choice variable. One of sole features of these models is that choices of destination depend on the characteristics of migrants. On the basis of these characteristics one migrant choose to migrate to a place rather than the other. These variables are specific to choosers.

We have used McFadden's maximum likelihood multinomial logit to estimate such models. The results are represented in Table 3. SPSS software has been used to analyze the model.

Here, all the destination places of the rural migrants have been segregated into three groups: within the district (intra-district), outside the district but within the state (inter-district) and outside the state. Here migration 'outside the district but within the state' has been taken as the base.

Table 3 shows that most of the variables like experience of the head of the family (ageheadsq), average schooling of the family (avgschool) (measured by dividing total year of schooling of the family by its number of members), per capita monthly income of the family (pcifam), income differences between post and pre-migration (incmdiff), village network effect (network) (see Table 4 for clarification) etc., have shown significant result. Age of head square has significant negative result when inter-district migration is compared with intra-district and inter-state migration. It reveals, just like few other studies (Sarwar & Sial, 2011; Zhu, 2002), that as the age of the head of household increases then initially people tend to migrate. But as they grow older, the mobility of those people reduces. This may be due to the reason that with the increase in age, probability of getting job in the urban sector reduces considerably. On the contrary, their experiences become valuable in rural farm sector and their movement out of rural

Table 3. Result of Multinomial Logit Regression

| Destination ^a | | B | Std. Error | Wald | df | Sig. | Exp(B) | 95% Confidence Interval for Exp(B) | |
|--------------------------|----------------|----------------|------------|-------|----|------|----------|------------------------------------|----------------|
| | | | | | | | | Lower Bound | Upper Bound |
| WITHIN DISTRICT | Intercept | 10.448 | 1523.641 | .000 | 1 | .995 | | | |
| | AGEHEAD | .268 | .171 | 2.456 | 1 | .117 | 1.307 | .935 | 1.827 |
| | AGEHEADSQ | -.003 | .002 | 3.141 | 1 | .076 | .997 | .993 | 1.000 |
| | AVGSCHOOL | -.105 | .066 | 2.519 | 1 | .112 | .900 | .791 | 1.025 |
| | PCIFAM | .000 | .000 | 1.324 | 1 | .250 | 1.000 | 1.000 | 1.001 |
| | INCMDIFF | .000 | .000 | .047 | 1 | .828 | .999 | .994 | 1.005 |
| | [NETWORK=.00] | -15.550 | 1523.635 | .000 | 1 | .992 | 1.765E-7 | .000 | . ^b |
| | [NETWORK=.00] | 0 ^c | . | . | 1 | . | . | . | . |
| | [HOUSTAT=1.00] | -.876 | .842 | 1.081 | 0 | .298 | .416 | .080 | 2.170 |
| | [HOUSTAT=2.00] | -.255 | .489 | .273 | 1 | .601 | .775 | .297 | 2.019 |
| [HOUSTAT=3.00] | 0 ^c | . | . | 0 | . | . | . | . | |
| INTER STATE | Intercept | -15.338 | 8.971 | 2.923 | 1 | .087 | | | |
| | AGEHEAD | .530 | .328 | 2.610 | 1 | .106 | 1.698 | .893 | 3.229 |
| | AGEHEADSQ | -.004 | .003 | 2.119 | 1 | .146 | .996 | .990 | 1.001 |
| | AVGSCHOOL | .143 | .085 | 2.836 | 1 | .092 | 1.154 | .977 | 1.363 |
| | PCIFAM | .000 | .000 | 1.631 | 1 | .202 | .999 | .999 | 1.000 |
| | INCMDIFF | .005 | .004 | 1.862 | 1 | .172 | 1.005 | .998 | 1.013 |
| | [NETWORK=.00] | -1.478 | .000 | . | 1 | . | .228 | .228 | .228 |
| | [NETWORK=.00] | 0 ^c | . | . | 1 | . | . | . | . |
| | [HOUSTAT=1.00] | -2.107 | 1.436 | 2.153 | 0 | .142 | .122 | .007 | 2.028 |
| | [HOUSTAT=2.00] | .583 | .591 | .973 | 1 | .324 | .558 | .175 | 1.779 |
| [HOUSTAT=3.00] | 0 ^c | . | . | 0 | . | . | . | . | |

Sources: Estimated on the basis of Primary Survey, 2012–13.

Notes: a. The reference category is: OUT DISTRICT INTRA STATE.

b. Floating point overflow occurred while computing this statistic. Its value is therefore set to system missing.

c. This parameter is set to zero because it is redundant.

sector is considered to be a loss to the rural family income. Per capita family income has given significant positive result when intra-district migration is compared with inter-district migration. This implies increase in income of the family results into more intra-district movement compared to inter-district movement. As the income of the family increases, people tries to move within the district as by this they are always connected with their rural family to support them. Income differences of the family between post- and pre-migration situation has always a significant positive impact in choosing migration destination whether intra-district, inter-district or inter-state. It reestablishes the fact that income is one of the major determinants in migration decision making. Studies have found that income differences do play a

Table 4. Definition of Variables

| Variables | Definition | Unit |
|---------------|---|---------------------------------------|
| Agehead | Age of head | Year |
| Ageheadsq | Age of head square | Year |
| Avg schooling | Average years of schooling of the family members = total year of schooling of the family/number of family members | Year |
| Empfarm | Number of family members employed in farm sector | Number |
| Empnonfarm | Number of family members employed in non-farm sector | Number |
| Famincm | Monthly income of the family | Rupees |
| Fsize | Size of the family | Number |
| Housestat | Status of house | Pucca-1, semi-pucca-2, katcha-3 |
| Male | Number of male in the family | Number |
| Marwomen | Number of married women in the family | Number |
| Ownhouse | Owning of a house | Dummy Yes = 1 No = 0 |
| Sevenpluspop | Number of people having age seven plus | Number |
| TCA | Total cropped area that the family holds | Bigha |
| Yield | Total crop production/total crop area | – |
| Totland | Total land that the family holds | Bigha |
| G_f | Gain from migration | Rupees |
| PCIFAM | Per capita monthly income of the family | Rupees |
| NETWORK | If the family or any member has any connection with the native village | Dummy Yes = 1 No = 0 |

Source: Primary Survey, 2012–13.

Note: G_f and INCMDIFF both are same.

vital role in determining distance of migration (Widerstedt, 1998). Intra-district migration is affected by this income differences as in this type of migration the individual can keep the old job within a commuting distance. This is reflected more by the village networking effect as the studies has incorporated. A strong village network helps the migrant search for job in the urban sector as well as keeps the old job available. Intra-district migration keeps both these job opportunities alive. In case of long-distance migration (e.g., inter-state), income difference becomes more important as in this case one has to leave the job in the native village, permanently. Only a significant increase in the earnings in the new urban area will attract inter-state rural–urban migration.

Choice of migration for the family in multiple location destinations is different from that of the single location destination in the sense that in the latter part the member is bound to migrate in the destination area. Choice of migration is unique in multiple location destinations model in a way that here the migrants have the option to choose among the alternatives. As the study found that rural migrants move primarily to nearby, high population density urban areas where many people share their language background.

Better access to amenities has significant impact in migration decision as well. Choosing an area depends highly on the distance from their native place along with the communication facilities that are prevailing in the area. Along with this disparity in job availability in different locations trigger migration. A place with higher probability of jobs attracts further migration. Places with higher degree of village network attract migrants into that place compare to other destinations. Network factors are less important in single location destination as the prospect migrant has to move in the single location destination without having prior information whether the place is well equipped with desired jobs. So the chance of successful migration is higher in case of multiple location destinations rather than single location destination.

Conclusion

This study deals with the question of how migration decisions are made in the rural household and what factors are responsible for rural–urban migration. It also identifies the factors that determine intra-district, inter-district and inter-state migration. Truly, the movement from rural–urban occurs in two phase. First depending on the socio-economic factors the family decides if at all it is beneficiary to migrate or not. Once they decide in favour of it, then they are up to the question ‘how much to be sent’, that is, how many family members they want to send into urban area so that the rural family remains in favourable position even after the migration. Again these two set of questions are associated with the pattern of location as well. It may be the case that the family members are faced with a single location where they are bound to move. The other case is more general, where they have to choose among some alternative destinations. The present study deals with both these options.

Applying the Heckman two-step technique and McFadden’s maximum likelihood multinomial logit model, the study tries to find out the determinants of choice and level of migration in case of single location model as well as multiple locations model. The choice of locations of the migrants designating to intra-district, inter-district or intra-state migration is determined by a number of socio-economic and demographic factors namely age of head and age of head square; per capita family income; total cropped area; yield; wage difference in pre- and post-migration etc. at the family level. Thus, the family plays the key role in migration decision especially as regards the extent and locations of migration.

References

- Akhter, S., & Bauer, S. (2014). Household level determinants of rural-urban migration in Bangladesh. *International Journal of Social, Human Science and Engineering*, 8(1), 24–27. World Academy of Science, Engineering and Technology.
- Chattopadhyay, A. (2000). Gender differences in socioeconomic returns to family migration in Malaysia: The role of family decision making versus labor market stratification. *Gender Issues*, 18(2), March, 29–48.
- DaVanzo, J. (1972). *An analytical framework for studying the potential effects of an income maintenance program on U.S. interregional migration*. Santa Monica, CA: Rand Corporation, (R-1081-EDA).
- De Jong, G.F. (2000). Expectations, gender, and norms in migration decision-making. *Population Studies*, 54(3), November, 307–319.
- Germenji, E., & Swinnen, J.F.M. (2009). Human capital, market imperfections, poverty, and migration: Evidence from rural Albania. *Review of Business and Economics*, LIV(1), 22–45.
- Harbison, S.F. (1981). Family structure and family strategy in migration decision making. In G. D. Jong & R. Gardner (Eds), *Migration decision making* (pp. 225–251). New York: Pergamon Press.
- Harris, J.R., & Todaro, M.P. (1970). Migration, unemployment and development: A two-sector analysis. *American Economic Review*, 60(1), 126–142.

- Heckman, J.J. (1979). Sample bias as a specification error. *Econometrica*, 47(1), 153–161.
- Joarder, M.A.M., & Hasanuzzaman, S. (2008). Migration decision from Bangladesh: Permanent versus temporary. *Asia Europe Journal*, Springer, 6(3), November, 531–545.
- Long, L.H. (1975). Does migration interfere with children's progress at school? *Sociology of Education*, 48(3), 369–381.
- Melenberg, B., & van Soest, A. (1996). Parametric and semi-parametric modelling of vacation expenditures. *Journal of Applied Econometrics*, 11(1), 59–76.
- Mincer, J. (1978). Family migration decisions. *Journal of Political Economy*, 86(5), 749–773.
- Perloff, J.M., Lynch, L., & Gabbard, S.M. (1998). Migration of seasonal agricultural workers. *American Journal of Agricultural Economics*, 80(1), 154–164.
- Ravenstein, E. (1889). The laws of migration. *Journal of the Statistical Society*, 52(2), 214–301.
- Root, B.D., & De Jong, G. (1991). Family migration in a developing country. *Population Studies*, 45(2), 2212–2233.
- Rossi, P.H. (1980). *Why people move?* (2nd ed.). Beverly Hill, California: Sage Publications.
- Sandell, S.H. (1975). Women and the economics of family migration. *Review of Economics and Statistics*, 59(4), 406–414.
- Sarwar, G., & Sial, M.H. (2011). Nexus between education, migration and earnings of migrants in Pakistan. *International Journal of Business and Social Science*, 2(4), 253–259.
- Stark, O. (1991). *The migration of labour*. Oxford: Blackwell Publishers.
- Tcha, M. (1996). Altruism and migration: Evidence from Korea and the United States. *Economic Development and Cultural Change*, 44(4), 859–878.
- Teilhet-Waldorf, S., & Waldorf, W.H. (1983). Earnings of self-employed in an informal sector: A case study of Bangkok. *Economic Development and Cultural Change*, 31(3), 587–607.
- Vijverberg, W.P.M. (1993). Labour market performance as a determinant of migration. *Economica*, London School of Economics and Political Science, 60(238), 143–60.
- Widerstedt, B. (1998). Determinants of long and short distance migration in Sweden. Retrieved from <https://www.diva-portal.org/smash/get/diva2:766265/FULLTEXT01.pdf>
- Winters, P., De Janvry, A., & Sadoulet, E. (2001). Family and community networks in Mexico-US migration. *Journal of Human Resources*, 36(1), 159–184.
- Zhu, N. (2002). The impacts of income gaps on migration decisions in China. *China Economic Review*, 13(2/3), 213–230.