



Migration and Social Networks: Evidence from Bangladesh

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Abstract

Social networks play a key role in mitigating the risks of migration, with migrants typically making use of network and kinship capital in the decision of whether to migrate and to which destination. This paper adds to the empirical literature on the role of networks in migration decisions in Bangladesh using household survey data collected in Bangladesh in 2013. Our survey captures information on households and their migrant and resident members, migrant destinations and contacts at their destination. We distinguish between internal networks and international networks and analyse the importance of these in affecting the migration decision and destination choice. We also explore the gender dimensions of these decisions, finding that while male migration decisions are very sensitive to the existence and nature (internal or international), and even suggestive of a step-migration patterns of rural to urban to international destinations, women's migration decisions are much more influenced by household characteristics, such as household wealth.

Executive summary

Migration, like many decisions taken by households and individuals, can be risky. Uncertainties exist around travel safety, finding paid work and adequate housing at the destination, how remittances might be sent back home and how relationships might be maintained between the migrant and her family. Social networks that link home to often multiple destinations can be important in reducing these uncertainties, and may be useful predictors of how migration patterns might develop.

This paper draws on household survey data collected in Bangladesh in 2013 of a sample of 1200 households and over 6000 individuals, of whom around 1500 are current migrants. We use our data to construct a number of network variables at origin and destination, including the ratio of current migrants from each village, the number and share of previous migrants from their origin *upazila* at the same destination (internal or international) as the migrant, and whether the migrant had a contact and/or a job arranged at their destination prior to migrating. We also exploit data at the household and individual level on age, gender, education, household assets and location.

First we model the decision to migrate using a probit model of the probability that an individual in our sample is a migrant, and include in this model networks at the origin. We find that the higher is the stock of current migrants relative to the regional population, the more likely an individual is to be a migrant. The difference in the size of the effect by gender: for men the effect is about 50% higher than that for women, suggesting that networks are much more important factors in the decision process for men than for women. We also find that household wealth has opposite impacts on male and female migration decisions: women from wealthier households (measured by the value of land owned by the household) are less likely to migrate, while men are more likely to migrate if their households are poorer.

Second, we model destination choices, distinguishing very simply between internal and international destinations, and augmenting our model with three variables capturing networks at the destination, namely the share of internal migrants from each *upazila*, and two dummy variables which capture whether the migrant had a contact at the destination and whether s/he had a job arranged prior to migration. We find that the probability of a migrant choosing an internal destination rises as their *upazila* experiences more out-migration but reaches a turning point, at which migrants shift towards international destinations. This result is statistically significant for the whole sample, and for the sample of male migrants, but not for the sample of female migrants. This finding of an inverse U-shaped relationship most plausibly captures the positive effects of networks in reducing costs, risks and uncertainties of migration and also the possibility that internal migration may be a precursor to international migration. Contacts at destination and jobs arranged prior to migration are equally important for men and women, but while having a contact is associated with remaining in Bangladesh rather than going abroad, having a job arranged prior to migration is associated with international migration. In addition, we find that women's decisions over destination are affected by household wealth; women from poorer households are more likely to migrate abroad. This possibly reflects opportunities for domestic workers in the Gulf states and beyond. Rather than physical capital, human capital works in similar ways for men: better educated men are more likely to remain in Bangladesh, while those with fewer years of education are more likely to move abroad.

Our findings are preliminary in that there is a potentially important source of bias so far not addressed in this paper, that the results from our second model are biased as we have controlled for the potential effect of selection bias on our estimates in model 2. To the extent that migration is not a random decision, our estimates will be biased. Given we find evidence that decisions made by men and women about whether to migrate are influenced in different magnitudes and different directions, further research is needed to derive more reliable estimates of destination choice. Nevertheless, we believe that our results are suggestive of the important role of social networks in influencing migration decisions, and that they may play different roles for men and women.

Introduction

This paper explores the role of social networks in the migration process in Bangladesh. Migration can be costly and can also involve considerable risks around finding adequate housing and employment. Jahan (2012), Farhana et al (2012) and Haque and Islam (2012) found that many migrants moving to large cities in Bangladesh, such as Dhaka, were not able to afford secure housing. Many ended up living in slums, or squatting on footpaths, railways and other insecure places. Furthermore Jahan found that this led to migrants becoming involved in dangerous occupations of prostitution, drug trafficking and begging. Many researchers argue that social networks play a key role in mitigating the risks of migration (Islam and Begum, 1983; Rahman and Lee, 2005). Stark and Bloom (1985) argued that migration decisions typically make use of network and kinship capital, with Kuhn (2003) suggesting that networks at destination act as forms of social insurance. Afsar (2000) and Rakib and Islam (2009) find that these networks reduce the uncertainty of finding work, enable migrants to secure work and accommodation prior to moving.

This paper aims to add to the empirical literature on the role of networks in migration decisions in Bangladesh using household survey data collected in Bangladesh in 2013. Our survey captures information on households and their migrant and resident members, migrant destinations and contacts at their destination.

1. Motivation and contribution to literature

There is a growing literature on the role of social networks in migration decisions and remittance behaviour. Munshi (2003, 2015) and other researchers have shown that networks among migrants at the destination affect the labour market outcomes of newly arriving migrants at these destinations. Networks can reduce migration costs and thus change the selection patterns of migrants (McKenzie and Rapoport 2012). Other studies have explored the interplay between migration and inequality in the sending community and how a network at the destination can reduce this inequality through successful migration resulting in higher and regular remittances to the origin (e.g. McKenzie and Rapoport 2007, Mishra 2007).

Thus, a network not only increases the likelihood of finding a job but also the likelihood of remittances being sent home, because the migrant network also works as a control and a support mechanism. It puts pressure on the migrant in form of social control to send remittances and it eases this process by providing infrastructure to easily and securely send the money back home. Remittances are often understood as an indicator how strongly connected migrants are still to their family and – in the context of networks – to their origin community (McKenzie and Rapoport 2007).

On the other hand, the role of networks at the origin community for migration is scarcely explored in the literature mainly due to data issues. Household surveys do not cover every household in a community and most times the questionnaires do not include the size of a community nor do they ask about the number of blood relatives or social connections, e.g. through marriage, within the same community in order to get an idea of the size of the

network. Networks at the origin can function as insurance and finance support to make migration possible. But they can also restrict migration in order to not lose too many workers. In a rural context, the origin communities rely heavily on labour force and thus might aim to control the number of migrants leaving.

Munshi and Rosenzweig (2014) look at origin networks and their effect on migrant sending theoretically and empirically. They model how the 'control' of a community network can restrict migration and lead to inefficient outcomes. They find that strong origin networks functioning as insurance in rural communities in India discourage male migration to higher income areas, where insurance is limited. Our data does not allow us to identify networks at origin in the same way as Munshi and Rosenzweig. Instead we use the migration experience at the village level to proxy for the likely level of control at the village (greater overall migration from the village would suggest weaker insurance networks) and for information flows on costs, risks and opportunities of migration.

From the literature, we can posit that networks at the origin and/or destination are expected to affect four stages of migration decision making:

1. The decision to migrate, controlling for individual, household and local characteristics
2. The decision of where to migrate to, i.e. destination
3. The decision to remit, controlling for individual, household and local characteristics
4. The decision of how much (and/or in which way) to remit, controlling for individual, household and local characteristics

In this paper we present preliminary results on the first of these two decisions using data from a household survey in Bangladesh, purposely designed to capture rich data on migration processes, and one of a set of comparable household surveys carried out in a number of different countries.¹ Therefore this paper contributes to understanding the role of networks both at the origin and destination for migration in order to shed some light on the relative importance of these two types of networks in the migration process. Future work will explore the role of networks in decisions around remittances, as well as aiming to draw comparisons across the countries in the MOOP research programme.

2. Data and variables

The MOOP household survey from 2012 of 1,205 households, of which 905 have at least one migrant (current and/or returned), contains rich data on individual and household characteristics important to the migration decision. It also covers detailed information on the migrant history, such as the year and destination of migration, the existence of contacts at the destination for the migrants' job search as well as data on remittances (amount, frequency and mode of sending).

The MOOP survey covers 51 villages in six Upazilas (districts) of the country: Gumastapur, in Rajshahi province, and Kolarao, in Khulna province, both in the west, and located close to the

¹ See <http://migratingoutofpoverty.dfid.gov.uk/>

border with India; Shagata, in Rangpur province in the north, and also closer to India than to Dhaka; Kalihati in Dhaka province, Agaijhara in Barisal province in the south, and Anwara in Chittagong province in the south east. The main destinations of migrants are the country's two largest cities, its capital Dhaka and the harbour city Chittagong, or the region (India, Malaysia and Singapore) as well as the Gulf States. Network size is expected to vary both by origin and destination. We purposefully over-sample households with migrants in order to provide large enough sub-samples for statistical analysis.

We define a current migrant as an individual who has left the household within the last ten years for a period of 3 months or more (following Bilsborrow et al, 1987). We do not restrict our sample to work-related migration and our data captures migration for a variety of reasons, including to seek work, continue education and marriage. Our sample of 1,200 households yields a total of 6,104 individuals, of whom 1,056 are current migrants. Approximately 5% of these migrants are young, aged under 16, and 1% are aged over 60, and are individuals more likely to migrate for family reasons with other members of their family. We restrict our sample to those aged between 16 and 64 inclusive, which gives us a sample of 3,330 individuals, of whom 1,023, i.e. 30%, are current migrants. Table 1 shows the composition of the sample by upazila. Gumastapur and Kolaroa, both located close to the border with India, have high rates of migration, and Anwara, located on the coast of Chittagong, and relatively close to the province main city, has relatively low rates of migration.

Upazila	N	% current migrants
Gumastapur	600	32.33
Kalihati	522	27.96
Kolaroa	536	33.21
Shaghata	465	32.26
Anwara	578	25.26
Agaijhar	629	33.23
Total	3330	30.72

Regarding destination, our survey collects data on specific destinations of each migrant: country of destination is outside of Bangladesh and named town or city if within Bangladesh. While we have large numbers of migrants who migrate outside of Bangladesh, the majority of these go to the Gulf states of United Arab Emirates (UAE), Saudi Arabia, Kuwait and Oman and to India, Malaysia and Singapore, with relatively few recording a destination outside of the region. Table A1 in the Appendix shows the breakdown of destinations of internal and international migrants. Frequencies by upazila therefore become very small and unreliable for statistical analysis. For this paper we adopt a simple classification of internal versus international destination. Table 2 shows the migrant sample by destination and upazila of origin. Overall, just over half (54%) of the current migrants are internal. Interestingly, comparing migration from Gumastapur and Kolaroa, both located in the west and close to the border with India, we see very different patterns of migration, with migrants from Kolaroa much more likely to be international migrants than those from the more northern upazila of Gumastapur. Migrants from Kolaroa are heavily concentrated in India, Malaysia and Singapore, with migration to India mirroring informal trade patterns across the border. Furthermore, Anwara in close proximity to Chittagong, the second most common internal destination, has a much greater share of international migrants, and all of these are currently located in the Gulf.

Upazila	Number of current migrants	Number of International Migrants	Number of Internal Migrants
Gumastapur	194	24	170
Kalihati	146	103	43
Kolaroa	178	138	40
Shaghata	150	12	138
Anwara	146	113	33
Agaijhar	209	84	125
Total	1023	474	549

We define the following network variables:

Network at destination: N_k^D

- Whether the migrant knew anyone at their destination prior to moving. Our data shows that just over half of current migrants had a contact at the destination prior to moving, and that among internal migrants this rises to 56%, compared to 48% of international migrants. In both cases these are most commonly family members or friends. Agents are not commonly identified in our sample, despite recent literature on the role of recruitment agents in regional migration.²
- Whether the migrant had arranged a job at the destination prior to moving. Overall 48% of migrants had a job arranged before they migrated. 54% of international migrants had arranged a job before they migrate, despite only 48% of them apparently having a contact at the destination. It is possible that these jobs are arranged via returnee migrants, although mis-reporting by household respondents is also likely to be a factor here. When we explore with households who helped the migrant find a job, almost half of the international migrants respond with an agent at destination. It is possible that households regard a family member or friend as the migrant's primary contact even though their employment was obtained by purchasing a work permit or visa from an agent. This would certainly fit more closely with the evidence provided by Baey and Yeoh (2015). Many of our sample of migrants (which is mostly male) were employed in agriculture prior to migration. The majority of these secured jobs in construction and production at their destination, activities strongly associated with the recruitment industry.
- Number and share of previous migrants³ from their origin upazila at the same destination (internal or international) as the migrant. We estimate this at upazila level rather than at the village level because frequencies of internal versus international migrants at the village level become very small.

Network at origin: N_k^O

- Ratio of current migrants to resident village sample, independent of destination of migrant or age of any individual.⁴

Table 3 shows the network at origin and destination variables by upazila. The inclusion of the entire village sample in our network at origin reveals lower rates than when we restrict the sample to adults but the qualitative picture is very similar to that shown in Table 1.

² For example Baey and Yeoh (2015) in their work on Bangladeshi construction workers in Singapore find that almost all of their sample used a recruitment agency prior to migration.

³ In future work with other surveys we might distinguish between earlier and later migrants. Unfortunately very few of the respondents in the Bangladesh survey record the year of migration.

⁴ Note that this is not the same as the estimation of the proportion of current migrants because here we include the entire village sample, not just those aged 16-64.

	Network at Origin	Network at Destination		
Upazila	Ratio of current migrants to village sample (%)	% of migrants who had a contact at destination prior to moving	% of migrants who had a job arranged at destination prior to moving	% share of current migrants from upazila who are internal migrants
Gumastapur	24.17	JL to complete		88.24
Kalihati	21.23			32.03
Kolaroa	26.36			22.99
Shaghata	22.60			92.26
Anwara	17.08			22.60
Agajjhar	22.17			60.19
Total	22.22	52.75	48.39	54.35

3. Methodology

Each of the migration decisions are modelled at the individual level, rather than at the household or district level:

1. Decision to migrate: $P(M = 1)_{ijk} = N_k^O + I_i + H_j + \varepsilon_{ijk}$ Probability model (Probit) with the outcome variable Migrate = 1 if individual is a current⁵ migrant, 0 otherwise. To model the decision to migrate, our sample includes both migrants and non-migrants. Hence we restrict our network variables to just that at the origin as we cannot construct data on networks at destination for individuals who have not migrated (at least not with our data).
2. Decision of destination: $P(D = 1)_{ijk} = N_k^D + N_k^O + I_i + H_j + \varepsilon_{ijk}$ Probability model (Probit) with the outcome variable Destination = 1 if the current migrant has remained within Bangladesh, i.e. is an internal migrant, 0 if the migrant is international. This is estimated with the sample of current migrants.

The estimation of model 2 yields a selection issue. The decision to be an internal or international migrant may be taken either simultaneously or consecutively with the decision to migrate. However we present here the two models as if they are independent decisions. This is partly because we lack data on useful variables such as year and frequency of migration in the Bangladesh survey which might plausibly be useful for identifying the decision process.

Another issue of bias arises from the endogeneity between migration and the network variables. This paper would ideally identify the unbiased effect of networks on migration decisions, but these in reverse affect the size of networks: an individual who migrates contributes to the existence and size of a network at either destination or origin. Therefore,

⁵ Return migrants will not be treated as current migrants. We will explore whether the presence of return migrants (and their reported networks) affects migration or remittance decisions of current migration in later work.

our estimates of the effect of network variables will be biased. Nevertheless, as long as one is cautious in interpretation, the analysis presented here provides useful insights into the nature of the migration decision-making process in Bangladesh.

We estimate each model for the whole sample of adults, or of current migrants in the case of model 2, and then repeat the estimation for men and women separately in order to explore whether there are different patterns by gender. Our sample for model 1 contains roughly equal proportions of men and women but relatively few of the current migrants are women. Of the 1,023 current migrants, only 159 are women and 107 of these are internal migrants. Recall that overall, around 54% of migrants are internal, but clearly this masks a considerable difference between genders, as our data suggests that only 40% of male migrants are internal compared to 67% of women.

In addition to our network variables, we include a set of individual characteristics, I_i , specifically age, gender and years of education completed and a set of household characteristics, H_j , including household size (number of resident members of the household); dependency ratio (number of children and elderly as a share of household size); age, gender and education of the household head; the total value of land owned by the household, including homestead, agricultural and commercial land. Tables A2 and A3 in the appendix show summary statistics of all the key variables in each model.

4. Modelling the migration decision.

Here we explore the characteristics of individuals and their households which make them more likely to be a current migrant. Although we adopt an econometric approach, caution must be exercised in interpreting the results as suggesting a causal relationship. This is because while we observe whether a person is currently a migrant or not, we do not observe their characteristics, or those of their household, at the time the decision to migrate was taken. Indeed, current migrants may have migrated as long ago as ten years prior to the survey, and in that time their own characteristics and those of their household may have changed significantly.

Our focus here is on the origin and our network at origin variable measures, the ratio of the stock of current migrants from each of the 51 villages to its current population. This variable is motivated by Munshi and Rosenzweig's work on caste-based insurance networks in India and their hypothesis that migration weakens an individual's membership (and that of their family) in this network. Thus weak insurance networks would not offer households an effective mechanism for smoothing consumption, and therefore villages with weaker networks would see more out-migration. Our data does not allow us to test this hypothesis in the same way, not least because of the difference in social structures between India and Bangladesh, but more practically because we lack panel data. Instead we posit that our network at origin variable captures the size of the network linking migrants to their origin households thus facilitates the flow of information on costs and risks of migration and on employment and other opportunities outside of the village.

The purpose here is to test first whether this ratio affects the probability of an individual being a migrant (which for reasons given above, we would be surprised if we did not observe a positive relationship) and second, whether the size of the effect is different by gender. The trivial result however is not a forgone conclusion because our village population includes children and elderly and our migrant stock has accumulated over a ten year period. Comparing migrants and non-migrants, we find that the mean ratio of migrants is 21.8% for non-migrants and 23.2% for migrants, a small difference which is nevertheless statistically significantly different at the 5% level. The kernel density plots in Figure 1 show the similar distribution of the share of migrants in villages but also reveals the variation in this variable: some villages have ratios as high as 45%.

Figure 1 Kernel Density plots for network at origin

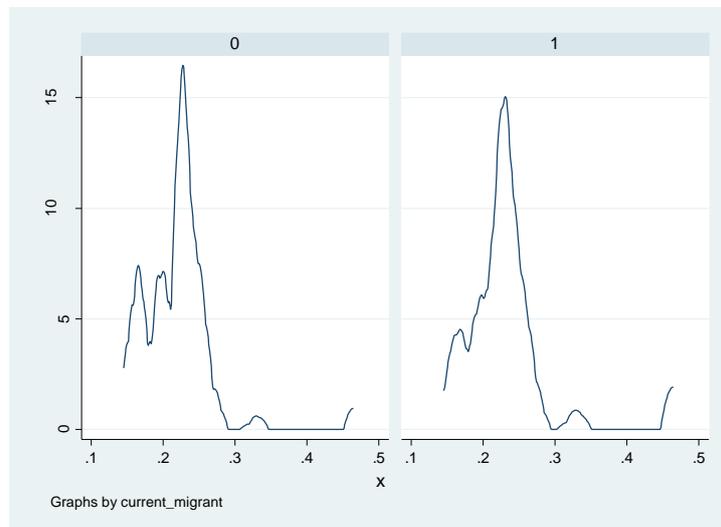


Table 4 shows the results of our probit model, for the whole sample and form men and women separately.

The results for the network at origin variable, the ratio of current migrants to the village population, suggest a strong positive and statistically significant relationship: the higher is the stock of current migrants relative to the population left at home, the more likely an individual is to be a migrant. In some ways this is a trivial result given the construction of the variable – we would be surprised if we found otherwise. What is interesting however the difference in the size of the effect by gender: for men the effect is about 50% higher than that for women.

Table 4: Model 1 Estimates of decision to migrate			
Dep var=1 if current migrant, 0 otherwise	All sample	Male	Female
	Marginal effects (<i>standard errors</i>)		
Age (years)	-0.0082***	-0.0103***	-0.0060***
	0.0006	0.0009	0.0009
Female	-0.3654***		
	0.0106		
Education (years)	0.0090***	0.0118***	0.0062***
	0.0018	0.0028	0.0021
Upazila (ref category is Gumastapur)			
Kalihati	-0.0341	-0.0896***	0.0516*
	0.0236	0.0363	0.0286
Kolaroa	-0.0095	-0.0802***	0.0797***
	0.0226	0.0356	0.0252
Shaghata	-0.0137	-0.0365	0.0249
	0.0235	0.0374	0.0269
Anwara	0.0038	-0.0927***	0.1031***
	0.0239	0.0376	0.0270
Agaijhara	0.0101	-0.0595*	0.0888***
	0.0217	0.0342	0.0249
Age of head (years)	0.0023***	0.0025***	0.0022***
	0.0005	0.0009	0.0006
Gender of head (female=1)	0.0639***	0.1463***	-0.0255
	0.0146	0.0223	0.0153
Education of head (years)	-0.0023	0.0031	-0.0066***
	0.0018	0.0028	0.0022
Dependency ratio	0.3624***	0.5843***	0.1389***
	0.0279	0.0444	0.0278
Household size	-0.0422***	-0.0531***	-0.0348***
	0.0033	0.0050	0.0045
Value of total land owned ('00,000s BDT)	0.0002	0.0005**	-0.0009**
	0.0000	0.0000	0.0000
Migrant ratio of village	0.5773***	0.5564**	0.3467***
	0.1422	0.2468	0.1323
N	3330	1781	1549
Pseudo R ²	0.3191	0.2191	0.2723

Notes to Table 4: Table shows marginal effects and standard errors. *** indicates statistically significant at 1%; ** indicates statistically significant at 5%; * indicates statistically significant at 10%.

While the network results might not be very surprising, we do observe some interesting results for the other variables. The probability of being a migrant declines with age and increases with education, suggesting a migration pattern of young and relatively better educated people. The dependency ratio has a positive and significant effect on the probability

of being a migrant, although is smaller for women. Assets, in the form of land and education of the household head, seem to play a different role for men and women. If we can take these as proxies of living standards we might conclude that female migrants are more likely to come from better off families, whereas male migrants form poorer households, holding other factors constant.

5. Modelling the destination decision

We adopt a similar approach to modelling the determinants of destination. We distinguish only between internal and international destinations, rather than, say, internal, regional and international migration, because the numbers who migrate outside of the region are very small. In this analysis we exploit data provided by the households on their migrant members in terms of destination as well as contacts at the destination but have to restrict our sample to current migrants.

We retain the network at origin variable and now expect a non-trivial result of the effect of the stock of migrants on destination choice. We augment the model with three variables capturing networks at the destination, namely the share of internal migrants from each upazila, and two dummy variables which capture whether the migrant had a contact at the destination and whether s/he had a job arranged prior or migration. We estimate the model for the whole sample and for male and female migrants separately. We hypothesise that these variables proxy for the reduction in costs, risks and uncertainties associated with migration and hypothesise that their effects may vary by gender. Table 5 shows our results.

Beginning with the network at origin variables, here we enter the ratio of current migrants to the village population in quadratic form, and capture an inverted U-shaped relationship. The probability of a migrant choosing an internal destinations rises as their village experiences more out-migration but reaches a turning point, at which migrants shift towards international destinations. This result is statistically significant for the whole sample, and for the sample of male migrants, but not for the sample of female migrants, most likely because relatively few women in our sample are migrants and of those, the majority are internal migrants. This finding of an inverse U-shaped relationship most plausibly captures the positive effects of networks in reducing costs, risks and uncertainties of migration and also the possibility that internal migration may be a precursor to international migration.

Table 5: Model 2 Estimates of destination decision			
Dep var=1 if internal, 0 international	All sample	Male	Female
	Marginal effects (<i>standard errors</i>)		
Age (years)	-0.0050***	-0.0031*	-0.0121***
	0.0015	0.0016	0.0032
Education (years)	0.0150***	0.0154***	0.0028
	0.0030	0.0033	0.0066
Female	0.2823***		
	0.0341		
Age of head (years)	0.0007	0.0014	-0.0009
	0.0009	0.0010	0.0021
Gender of head (female=1)	0.0376	0.0426	0.0035
	0.0271	0.0300	0.0502
Education of head (years)	0.0030	0.0038	-0.0082
	0.0032	0.0034	0.0079
Dependency ratio	0.0275	0.0521	0.0345
	0.0443	0.0485	0.0863
Household size	-0.0105*	-0.0153**	-0.0134
	0.0059	0.0062	0.0165
Value of total land owned ('00,000s BDT)	-0.0003	-0.0003	0.0064*
	0.0000	0.0000	0.0000
Share of internal migrants at upazila	0.7873***	0.8056***	0.4086***
	0.0276	0.0260	0.1290
Migrant ratio of village	3.8290***	3.8299***	-0.0750
	1.1889	1.3297	2.6196
Migrant ratio of village Squared	-7.0703***	-5.9117**	-2.1261
	1.9968	2.2805	4.0502
Contact at Destination (Yes=1)	0.0921***	0.0947***	0.0959*
	0.0240	0.0259	0.0560
Job at Destination (Yes=1)	-0.1633***	-0.1494***	-0.1525***
	0.0236	0.0256	0.0516
N	1023	864	159
Pseudo R2	0.4107	0.4196	0.5107

Notes to Table 5: Table shows marginal effects and standard errors. *** indicates statistically significant at 1%; ** indicates statistically significant at 5%; * indicates statistically significant at 10%.

In terms of the network at destination we see that increases in the share of migrants in each upazila who are internal is positively associated with the probability of an individual from that upazila being an internal migrant, and this is statistically significant for both men and women. Contacts at destination are positively associated with being an internal migrant, while having arranged a job prior to migration is associated with international migration.

Assets in the form of land do not appear to influence the internal versus international decision for men, although women from wealthier households are more likely to be internal than international migrants. However, better educated men are more likely to be internal migrants, rather than international, suggesting that international male migrants are likely to be drawn from the lower end of the skill distribution. This is a significant finding which contrasts with a commonly held view that international migrants are more likely to be better educated than internal migrants.

6. Conclusions

This paper presents preliminary research on the role of networks in migration decisions in Bangladesh. The literature suggest that social networks facilitate migration by reducing risks and uncertainties and that members of networks support migrants to find housing, work and business opportunities. We find evidence of a strong role of networks in encouraging migration and in influencing destination choice. Notably our results suggest an inverse U-shaped relationship between village out-migration rates and destination choice with a shift from internal to international destinations as out-migration continues, most likely reflecting step-migration patterns. This result holds for male migrants but not for women migrants. Given that we also find that women's decision to migrate is less sensitive to overall out-migration rates and that their decision of where to migrate to is less sensitive to the overall destination choices of other migrants from their upazila, this suggests that women's migration decisions are more sensitive to out-migration of other women, i.e. that they look to different migrant networks from men when deciding to migrate and to where. This would suggest that future research might usefully explore gender-specific migrant networks.

Other results reveal that women's migration is sensitive to the household assets: both land holdings and education of the heads of their households are negatively associated with their likelihood to migrate, suggesting that women from wealthier households are less likely to migrate than those from poorer households. Wealth also affects their destination choice, with women from wealthier households more likely to be internal than international migrants, holding other factors constant. This contrasts with the male story, where land holdings are positively associated with migration, although we observe no significant effect on destination choice. These results suggest an interesting difference in motives for migration between men and women. Around 75% of the women female migrants in our sample report that the main reasons for migrating are work-related. Although high, this is much lower than the corresponding 92% of male migrants who move for work-related reasons. Migration for marriage and other family reasons accounts for 10% of female migration but is negligible for the men in our sample. Finally, our results challenge conventional views that male international migrants are better educated than those who remain in Bangladesh: our research finds the opposite suggesting that the international opportunities Bangladeshi men face are limited to lower-skill occupations.

These are preliminary results which we aim to build on in further work. One area is on implementing a more robust methodology which address the endogeneity bias issues we

discuss earlier. It is clear that while social networks may increase migration and affect destination decisions, it is also clear that past migration adds to the size of the network. In the literature a common method to avoid these problems is the use of an instrumental variable, i.e. a variable that is directly related to networks, but affects migration and remittance decisions only through the networks and not directly. Examples from the literature are past rainfall at the origin (Munshi 2003) or distance to historical transportation routes (Woodruff and Zenteno 2007). The distance to roads which lead to the two largest cities, Dhaka and Chittagong, could be used to estimate the size of networks at destination, as better connected villages are expected to have more migrants due to lower migration costs, although as we have seen in the case of Anwara, proximity to a large city does not necessarily mean that this is the most likely destination for migrants.

Additionally, we aim to include variables at the local level, i.e. the Upazila, that capture the demographic composition, economic situation and the geographic location of the households' environment independently of our sample. The IPUMS International data project of the University of Minnesota provides household and individual level variables of the 2001 and 2011 Census of Bangladesh including the upazila identifier.⁶ The years of the Census enable us to control for local characteristics in the past, when older migrants have left these places and built a network for recent migrants.

Finally, further work will aim to tease out the differences we observe by gender and to explore these issues with data from other countries that form part of the MOOP research programme.

⁶ This data is publically available and would allow us to create independent data at the Upazilla level, either as additional control/context variables or as potential instrumental variables as we extend the econometric analysis to be more robust.

Appendix Tables

Table A1: Destinations of current Migrants						
International Destinations	N	% of current International migrants		Internal Destinations	N	% of current Internal migrants
UAE	126	26.58		Dhaka	408	74.32
KSA	86	18.14		Chittagong	56	10.2
Malaysia	78	16.46		Rajshahi	14	2.55
India	54	11.39		Nawabganj	10	1.82
Oman	40	8.44		Jessore	6	1.09
Singapore	29	6.12		Barishal	5	0.91
Kuwait	15	3.16		Gazipur	5	0.91
Qatar	7	1.48		Khulna	5	0.91
Maldives	7	1.48		Tangail	5	0.91
Mauritius	5	1.05		Narayanganj	3	0.55
Lebanon	3	0.63		Pabna	3	0.55
Jordan	3	0.63		Rangpur	3	0.55
Bahrain	2	0.42		Bhola	2	0.36
Libya	2	0.42		Bogra	2	0.36
Italy	2	0.42		Comilla	2	0.36
Brunei	2	0.42		Kushtia	2	0.36
South Africa	1	0.21		Rangamati	2	0.36
Japan	1	0.21		Sylhet	2	0.36
Egypt	1	0.21				
Iraq	1	0.21				
Other destinations outside of Bangladesh	9	1.90		Other destinations within Bangladesh	14	0.026
Total	474				549	

Table A2: Summary Statistics for Model 1 Decision to Migrate

	All Sample		Men		Women	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Current migrant	0.31	0.46	0.49	0.50	0.10	0.30
Age (years)	33.77	12.79	33.95	12.78	33.56	12.81
Female	0.47	0.50				
Education (years)	6.18	4.92	6.87	5.00	5.40	4.70
Age of head (years)	44.97	14.48	44.94	14.45	45.00	14.53
Gender of head (female=1)	0.47	0.50	0.44	0.50	0.50	0.50
Education of head (years)	4.21	4.71	4.24	4.74	4.17	4.68
Dependency ratio	0.33	0.25	0.32	0.25	0.35	0.24
Household size	4.65	2.21	4.63	2.22	4.67	2.21
Value of total land owned (BDT)	1768426	4189490	1819959	4272652	1709174	4092359
Migrant share of village	0.22	0.05	0.22	0.05	0.22	0.05
N	3330		1781		1549	

Table A3. Summary Statistics for Model 2 Destination Decision

	All sample		Men		Women	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Destination (1=Internal)	0.54	0.02	0.40	0.02	0.67	0.04
Age (years)	29.26	8.73	29.97	8.77	25.44	7.48
Female	0.16	0.36	0.00	0.00	1.00	0.00
Education (years)	7.73	4.68	7.85	4.63	7.09	4.89
Age of head (years)	45.57	15.25	44.83	15.39	49.58	13.86
Gender of head (female=1)	0.55	0.50	0.55	0.50	0.51	0.50
Education of head (years)	4.03	4.63	4.29	4.70	2.65	3.95
Dependency ratio	0.39	0.29	0.38	0.28	0.44	0.36
Household size	4.10	2.09	4.20	2.15	3.60	1.68
Value of total land owned (BDT)	1698810	4289936	1837320	4596974	946151	1715011
Migrant share of village	0.23	0.06	0.23	0.05	0.25	0.09
Internal migrant share of upazila	0.54	0.29	0.56	0.29	0.48	0.28
Contact at destination (Yes=1)	0.53	0.50	0.52	0.50	0.57	0.50
Job at Destination (Yes=1)	0.48	0.50	0.51	0.50	0.35	0.48
N	1023		864		159	

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About the Migrating out of Poverty Research Programme Consortium

Migrating out of Poverty is a research programme consortium (RPC) funded by the UK's Department for International Development (DFID). It focuses on the relationship between migration and poverty – especially migration within countries and regions - and is located in five regions across Asia and Africa. The main goal of **Migrating out of Poverty** is to provide robust evidence on the drivers and impacts of migration in order to contribute to improving policies affecting the lives and well-being of impoverished migrants, their communities and countries, through a programme of innovative research, capacity building and policy engagement. The RPC will also conduct analysis in order to understand the migration policy process in developing regions and will supplement the world renowned migration databases at the University of Sussex with data on internal migration.

The **Migrating out of Poverty** consortium is coordinated by the University of Sussex, and led by CEO Professor L. Alan Winters with Dr Priya Deshingkar as the Research Director. Core partners are: the Refugee and Migratory Movements Research Unit (RMMRU) in Bangladesh; the Centre for Migration Studies (CMS) at the University of Ghana; the Asia Research Institute (ARI) at the National University of Singapore; the African Centre for Migration & Society (ACMS) at the University of the Witwatersrand in South Africa; and the African Migration and Development Policy Centre (AMADPOC) in Kenya.

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