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### **Loan Choice and Indebtedness of Bangladeshi Return Migrants**

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# LOAN CHOICE AND INDEBTEDNESS OF BANGLADESHI RETURN MIGRANTS

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March 24, 2024

## Abstract

Bangladeshi migrant workers face extremely high migrations costs, and often finance their migration episodes by incurring substantial debt. These costs have been found to be associated with persistent indebtedness, even after return. Individuals from poorer households have been found to prefer loans provided by a bank or money lender. At the same time, older individuals who not qualify for formal loans prefer borrowing from family and friends. The size of migration costs and time since return are major determinants of loan repayment. A one percentage point increase in migration costs may reduce the likelihood for full loan repayment by 12.9 percentage points. Early return may reduce the probability of full loan repayment by 7.32 percentage points compared to planned return. Presence of collateral may reduce the already repaid loan amount by around 30 percentage points, but implies that indebted households are putting their productive assets at risk.

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## 1. Introduction

Temporary economic labor migration has been a critical part of Bangladesh's development over the past few decades. Prior to the global COVID-19 pandemic, Bangladesh sent hundreds of thousands of workers overseas every year - on average roughly 597,000 every year in the 2012-17 period (Ahmed and Bossavie 2022). On average, monthly labor earnings of Bangladeshi migrants were almost four times higher in the receiving countries than in their home country, prior to migration (BDT 910).<sup>2</sup> The remittances sent back by these migrants have also helped support the macroeconomy. For example, in 2019, international remittances into Bangladesh were US\$ 13.5 billion – equivalent to about eight percent of GDP – while Overseas Development Assistance (ODA) and Foreign Direct Investment (FDI) were US\$ 6.0 billion combined.<sup>3</sup>

Despite the magnitude of the labor migrant flows, the recruitment costs for migrants from Bangladesh are among the highest in the world, and migration is often financed by debt, with this debt constraining the welfare impact of migration. Migration debt for Bangladeshis tends to be so high that a migration episode of three years is often not enough to pay off all the debt (Rahman 2013). As noted by Hassan et al. (2016), the presence and magnitude of this debt also constrains the impact of international remittances on household welfare. Remittances mostly finance consumption by the migrant family, and the remainder is usually used to repay the migration debt. It is only in later during the migration episode after some debts have been repaid, that the savings from remittances receipts start to become positive and available for productive investment. Thus, a U-shaped relationship between remittances and economic growth is expected.

The COVID-19 pandemic has further highlighted the need to examine how international economic migration from Bangladesh is financed. A rapid survey conducted by the International Organization for Migration (IOM) found that 29 percent of respondents in Bangladesh reported that they had returned to Bangladesh because they were asked to leave the country they were in, 23 percent reported a return due to concerns about COVID-19 and their families, 26 percent reported returning due to requests from their families, and nine percent returned because of fears about border closures (IOM 2020). However, 55 percent of the respondents who had returned from abroad had unpaid debt. Those that owed money to microfinance institutions (MFIs), NGOs and private banks did so at interest rates of 10-15 percent, while the interest rate on 62 percent of debt owed to money lenders being even higher at 50 to 150 percent. 87 percent of migrant workers who returned in the first quarter of 2020 have been found to either lack any source of earnings since returning, or to be dependent on family members or minor agricultural activities (BRAC 2021). Owing to the high levels of debt incurred to finance migration, and the unexpectedly short duration of stay at destination (due to the pandemic), many return migrants reported liquidating savings or taking loans from various formal or informal sources.

An important policy question thus arises: what drives individuals to decide for a specific loan product and what implications do migration loans have for migrants' indebtedness? This paper investigates the determinants of taking out a migration loan, and the impact of migration loan product choice on the individuals' indebtedness once international migrants are back in Bangladesh, addressing a major gap in the empirical literature on international migration financing in developing countries. The findings suggest that high migration costs rather than an individual's socio-economic are the most important drivers of the decision to take out a migration loan. Loans provided by household members/relatives,

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<sup>2</sup> Based on data from the Bangladesh Return Migration Survey (BRMS) 2018/19.

<sup>3</sup> Based on data from the World Development Indicators.

friends, banks/other financial institutions, and money lenders attract different groups of aspiring migrants. While relatively poorer individuals seem to turn to banks and money lenders, it may be older relatively wealthier people who ask family members and friends for a loan to finance their international migration. Among those who indicate that they have not fully repaid the migration loan yet, the collateral that they had put up to get the loan seems to be associated with, on average, smaller repaid amounts.

The following section presents a conceptual framework linking migration costs, financing mechanisms, and impacts of migration-related debt on post-return indebtedness. Section 3 constructs profiles of both labor migrants who borrowed to finance their migration episodes, as well the loans themselves. Section 4 describes the empirical approach taken to examine the determinants of loan choice, and the determinants of loan repayment status upon return. Section 5 discusses the policy implications of the results.

## 2. Conceptualizing migration financing and the borrowing decision

Globally, the literature on migration and debt is relatively thin (Davidson 2013). Some studies suggest that loans can enable individuals to migrate and therefore generate higher income abroad (Goh et al. 2016). However, over-indebtedness may distort the individual's migration-related decisions (Bylander 2014; Heidbrink 2019), cause long-lasting vulnerabilities for migrant-sending households (Johnson and Woodhouse 2018), and undermine migrants' successful reintegration back in their home countries (Surtees 2018).

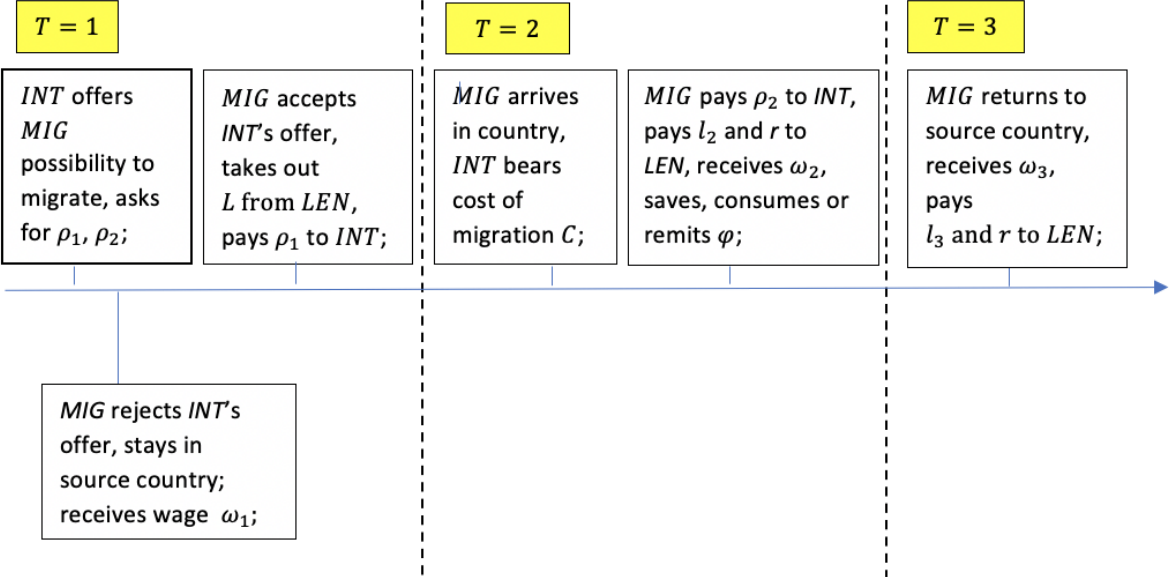
The literature on migration financing and debt in Bangladesh often addresses the various resulting problems that migrants face. Baey and Yeoh (2015) study Bangladeshi labor migrants in the construction sector in Singapore, and conclude that migration-related debt further weakens the migrants' bargaining power at their workplace overseas whose visas are often tied to a single employer who can terminate the contracts at any time. Rahman (2013) shows that indebted migrant families use parts of received remittances to repay migration debt rather than undertake investments in health and education. Another study in four villages in Southern Bangladesh reveals that especially poorer and less-skilled migrants often require several years to clear migration debts which further weakens the economic well-being of the migrant household (Moniruzzaman and Walton-Roberts 2017).

The analysis in this paper is based on a simple theoretical model by Friebel and Guriev (2006) that illustrates the impact of migration loans on the migration cycle of temporary labor migrants. This model illustrates the role of migration debt for the relationship between smuggled migrants and intermediaries to whom migrants pay migration costs and the chances of defaulting on debt repayment. According to the model, it is easier for intermediaries to enforce debt repayment if the migrant works in the illegal sector rather than in the legal one in the host country due to the fear of deportation.

Our model unpacks the relationships between the migrant, the intermediary agents, and the source of the debt. In Friebel and Guriev (2006), the debt relationship is solely between the migrant and the intermediary, where the debt amount is a constant, in their examination of the probability of debt default. However, evidence from Bangladesh, and generally South Asia, shows that migrants usually take out loans from third parties, such as family members or banks (Ahmed and Bossavie 2022). The model we present in this paper, therefore regards the intermediary only as the agent who is initially responsible for the migrant's move abroad. The migrant enters the debt relationship with a third party,

which lasts beyond the migrant’s return to his home country. The model in this paper thus differs from others – such as that of Friebel and Guriev (2006) – in its objective of understanding the factors throughout the migration process that may impact the size of migration debt and the economic well-being of the migrant household.

**Figure 1: Overview of migration debt throughout the migration circle**



Source: Authors.

The simple model consists of three agents, the migrant *MIG*, the intermediary *INT* who makes *MIG*'s migration possible as well as the loan provider *LEN*. The model divides the individual's migration episode into three periods,  $T = 1, T = 2$ , and  $T = 3$ . In  $T = 1$ , *MIG* is located in their home country and wants to move abroad.  $T = 2$  is the migration episode.  $T = 3$  starts after *MIG*'s return to their home country. The theoretic model contains three main determinants of *MIG*'s financial situation, that is total migration cost  $P$ , the migration loan  $L$ , and wages ( $\omega_1, \omega_2, \omega_3$ ) that *MIG* earns in each of the three periods, respectively. We assume that the only income that *MIG* has are the wages  $\omega_1, \omega_2$ , and  $\omega_3$  and that apart from the endowment  $\alpha$  in  $T=1$ , *MIG* has no endowments in the two other periods.

If *MIG* pays the down payment  $\rho_1$  in  $T = 1$  and the remainder  $\rho_2$  while being abroad in  $T = 2$ , *MIG*'s resulting total migration cost is  $P = \rho_1 + \rho_2$ . *MIG* takes out the loan  $L$  in  $T = 1$  to cover total migration costs  $P$ . *MIG* repays *LEN* as amount  $l_2$  in  $T = 2$  with interest  $r$  and  $l_3$  in  $T = 3$  with interest  $r$  after returning to their home country resulting in  $L=l_2 + l_3$ . Let's assume that due to pressure from *INT*, *MIG* completely repays  $P$  by the end of  $T=2$ . Also, let's assume for simplicity that *MIG* can completely repay the loan  $L$  by the end of  $T=3$ . *INT* is a profit seeker, which means that *INT* asks *MIG* to pay an amount that exceeds *INT*'s costs for *MIG*'s migration that is  $P > C$ .

**Period 1**

At the beginning of the first period, *MIG* pays  $\rho_1$  as a down payment that *INT* asks for to cover *MIG*'s migration costs.  $\rho_1$  exceeds *MIG*'s initial wealth  $\alpha$ . *MIG* covers the residual by taking out a loan  $L$ . The sum of the loan  $L$ , the initial endowment  $\alpha$ , and the wage in  $T=1$  i. e.  $\omega_1$  is at least as large as  $\rho_1$  ( $L \geq \rho_1 - \alpha - \omega_1$ ). *LEN* reduces their own endowment by providing the loan  $L$  to *MIG*.

At the end of  $T=1$ , the payoffs for *MIG*, *INT*, and *LEN* are:

$$U_1^{MIG} = a + \omega_1 - \rho_1 + L, \quad \text{with } \rho_1 > a + \omega_1; L \geq \rho_1 - a - \omega_1 \quad (1)$$

$$U_1^{INT} = \rho_1 - C \quad (2)$$

$$U_1^{LEN} = -L \quad (3)$$

*MIG* has a disposable wealth endowment which consists of the initial wealth  $a$ , wage  $\omega_1$  in the home country and the migration loan  $L$  (1). The only reason why *MIG* takes out the loan is that otherwise *MIG* would not be able to cover  $\rho_1$ . If *MIG* meets the financial expectations of *INT*, *MIG* migrates. Migration involves costs of entry into the host country  $C$  that are borne by *INT* (2). To simplify the situation, let's assume that *MIG* spends all their  $a$  and  $\omega_1$  in  $T = 1$  for the migration episode in  $T = 2$ .

## Period 2

In the second period, *MIG* lives abroad. *MIG* earns  $\omega_2$  and needs to pay the remaining migration cost  $\rho_2$  to *INT* and needs to repay the loan  $l_2$  with interest  $r$  to *LEN*. *MIG* keeps  $\phi$  which she can either remit to the left-behind household in the source country or save. Thereby, let's assume that the wage  $\omega_2$  that the migrant earns abroad is at least as large as their financial obligations that she has had since  $T=1$ , that is the remaining migrant cost  $\rho_2$ ,  $l_2$  the interest rate  $r$ . As we said, migration cost needs to be fully paid by the end of  $T=2$ , while the loan can be fully repaid sometime in  $T=3$ . In  $T=2$ , the financial well-being of the migrant and their household largely depends on the remaining migration cost  $\rho_2$  that she still has to pay. If  $\rho_2 = \omega_2$ , *MIG* will not repay the actual loan amount  $l_2$ , and the interest  $r$  in  $T=2$ . In that case, the disposable income would  $\phi$  would be zero. If  $\rho_2 < \omega_2$ , then *MIG* could start repaying the loan  $l_2$  and pay the interest rate  $r$  and/or remit or save  $\phi$ .

At the end of  $T=2$ , the payoffs for *MIG*, *INT*, and *LEN* are:

$$U_2^{MIG} = \omega_2 - \rho_2 - \phi - (l_2 + r), \quad \text{with } \omega_2 > 0; \rho_2 \geq 0; l_2 \geq 0; \phi \geq 0; \quad (4)$$

$$U_2^{INT} = \rho_2 \quad (5)$$

$$U_2^{LEN} = (l_2 + r), \text{ if } \rho_2 < \omega_2 \quad (6)$$

## Period 3

In  $T = 3$ , *MIG* repays the remaining migration debt  $l_3$  to *X* with interest  $r$  and earns wage  $\omega^3$ .  $l_3 = 0$  if  $l_2 < L$ .

The payoffs for *MIG*, *INT*, and *LEN* are:

$$U_3^M = \omega_3 - (l_3 + r), \quad \text{if } l_2 < L \text{ with } \omega_3 > 0 \quad (7)$$

$$U_3^X = (l_3 + r) \quad (8)$$

There are three basic propositions that explain the amount of the migration loan  $L$  and loan repayment:

**Proposition 1:** Migration cost drives migration debt. An increase in costs  $C$  incurred by *INT*, leads to an increase of *MIG*'s total migration costs  $P$ , which forces them to take out a higher loan amount  $L$ , holding all other factors constant.

**Proposition 2:** Debt repayment worsens the economic situation of the migrant and their household during the migration episode. The amount of the disposable income  $\phi$  is the residual of the wage abroad  $\omega_2$  minus the remainder of the migration cost  $\rho_2$  and the loan repayment  $l_2 + r$  (that is  $\omega_2 - \rho_2 - l_2 - r = \phi$ ). Assuming that  $\omega_2$  is a fixed amount and completely repaying migration cost is obligatory, *MIG* faces a trade-off between  $\phi$  and  $l_2 + r$ . The higher the loan amount  $l_2 + r$  to be repaid abroad, the lower the amount of  $\phi$  which *MIG* could remit, consume or save.

**Proposition 3:** Debt repayment negatively affects the economy of the migrant and their household after return to the home country. The higher the remaining migration debt  $l_3$  and interest  $r$  that *MIG*

still needs to repay after return to her home country in T=3, the smaller is *MIG*'s resulting disposable income.

Our theoretical model outlines in what ways migration debt may substantially burden the migrant and their left-behind household throughout the whole migration circle. The model will help inform the following empirical analysis on the determinants and characteristics of migration debt for Bangladeshi labor migrants.

### 3. Profiling indebted labor migrants

The analysis relies on the 2018/19 Bangladesh Return Migrant Survey (BRMS) 2018/19. The 5,000 temporary migrants were surveyed in 2018/19 after they had returned to Bangladesh and finished their most recent migration episode abroad. The survey includes information on personal characteristics of the surveyed labor migrants such as age, education level, and district of origin among others as well as information on household income and size. It also includes the cost of migration and migration debt with detailed information about loans, their source, amount, interest rate, collateral, and repayment status.

The 2018/19 BRMS is a cross-sectional dataset as returned Bangladeshi migrants were surveyed at one single point in time in 2018/19. It contains information about each migrants' migration episode ranging from 1980 to 2018. This variety in years of departure and return adds a pooled cross-sectional component to the dataset. Each returned labor migrant was retrospectively asked about their situation in three periods, that is prior (T=1), during their migration episode overseas (T=2), and after their return (T=3).

#### 3.1 Individual characteristics and borrower status

Indebted migrants and those without migration loans differ in various characteristics (Table 1).<sup>4</sup> According to the 2018/19 BRMS, indebted migrants paid on average 304,916 BDT or about \$3,600 to migrate abroad, and had 8.27 years of schooling. 50 percent of them were employed five years before departure and their household income was on average 9,931 BDT or about \$120. Nine percent lived in Chittagong or Dhaka before departure, and 96.7 percent of the surveyed indebted migrants were male. In comparison, migrants without debt paid on average 261,000 BDT or about \$3,080, and had 8.75 years of schooling. 30 percent of them were employed five years before departure, and their monthly household income was on average 12,695 BDT or about \$150. 15 percent of them lived in Chittagong or Dhaka before departure and 95.6 percent of them were male. Both groups of migrants do not seem to differ in terms of age, the number of household members, personal ownership of land, individual monthly wages, and marriage status.

Bangladeshi labor migrants with and without migration debt differed somewhat in their experience abroad (Table 1). Indebted migrants stayed 5.68 years abroad, on average, which is about 1.5 years shorter than migrants without migration debt (7.32 years). About 50 percent of indebted migrants returned early compared to about 39 percent of migrants without debt. Both migrant groups have similar average monthly salaries abroad and remit similar amounts.

After returning from abroad, the two migrant groups differ in their labor market outcomes (Table 1). After returning to Bangladesh, 49 percent of indebted migrants, and 36 percent of migrants without migration loans found employment. The monthly in-cash average wage was 12,443 BDT or around \$147, for indebted returnees compared to, on average, 13,829 BDT or \$163 for returnees without debt.

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<sup>4</sup> 75 percent of indebted migrants are concentrated in four destination countries, Saudi-Arabia, United Arab Emirates, Oman, and Malaysia (Table A1). Throughout the study, Bangladeshi Taka (BDT) are converted to 2021 USD.

Indebted returnees worked on average two hours more than those who did not take out loans to migrate.

**Table 1: Personal characteristics of labor migrants with and without migration debt.**

Characteristics (mean values)	Borrowers	Non-borrowers	Significance test
<b>** T=1**</b>			
Migration Cost (BDT)	304,916	261,100	***
Age at departure (years)	29.26	29.12	
Schooling (years)	8.27	8.75	***
Personal ownership of land* (yes, %)	25.31	26.41	
Employed in BGD in 5 years before dep. (yes, %)	50.27	30.39	***
Monthly HH income (BDT)	9,931	12,695	**
Monthly average wage (in cash, in BDT)	9,339	9,788	
Monthly average wage (in kind, in BDT)	1,097	987	
Ever married (yes, %)	89.40	90.27	
Lived in Chittagong/Dhaka districts before dep. (%)	8.86	15.38	***
Male (%)	96.7	95.6	**
HH members (number)	2.79	2.82	
<b>**T=2**</b>			
Monthly salary abroad (in BDT)	68,758	72,403	
Sent remittance (in BDT)	546,105	546,151	
Early Return (%)	49.87	39.43	***
Duration abroad (in years)	5.68	7.32	***
<b>**T=3**</b>			
Employed since return (%)	49.34	35.68	***
Monthly average wage (in cash, in BDT)	12,443	13,829	**
Average hours worked per week	60.13	58.23	**

Source: Own calculations using BRMS 2018/19.

Note: Stars indicate whether mean for borrowers and non-borrowers is significantly different. Significance at the \* p<0.1; \*\*p<0.05; \*\*\*p<0.01 level. \*at the last departure. Only the migrant's first employment after return was considered.

### 3.2 Migration cost as the main driver of migration debt

Temporary labor migrants from Bangladesh often take out loans to cover high migration costs. Surveyed returnees incurred migration costs averaging BDT 305,000 (US\$ 3,600), and took out migration loans averaging about BDT 232,000 (US\$ 2,740) (Table A1). The migration costs range between 11,000 BDT (US\$ 130) and BDT 1,700,000 (US\$20,000) and the amount of borrowed money ranges between BDT 5,000 BDT (US\$ 59) and BDT 4,000,000 (US\$ 47,200).<sup>5</sup> Fees for intermediaries and brokers are the largest contributor to the costs, accounting for 52 percent of the costs, on average, with visa-related expenses accounting for another 28 percent of costs (Figure 2).<sup>6</sup> The major reasons

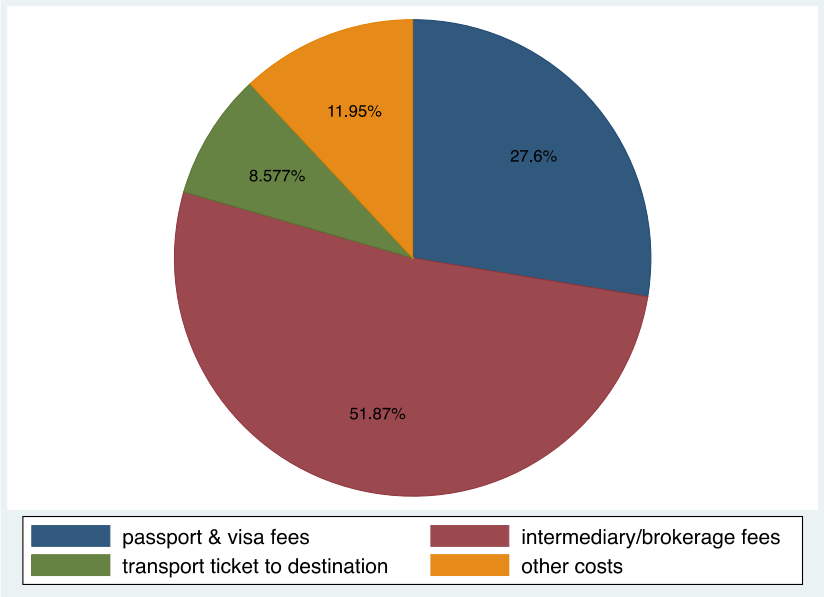
<sup>5</sup> Amounts presented in Bangladeshi Taka are converted in US\$ (approximation) based on current exchange rates.

<sup>6</sup> Migration costs usually include fees for passports and visas, brokers, insurance, domestic and international transportation, medical examinations, and professional placement. Migration costs tend to be high in other parts of the global South as well. For instance, Ethiopians may pay more than US\$7,000 to move to Europe and North



for such high migration costs in Bangladesh may be the excess demand for jobs in foreign markets given the substantial gains in wages, as well irregular practices such as visa-trading in some of the host countries (Ahmed and Bossavie 2022).

**Figure 2: Fees for brokers/intermediaries constitute the largest share of migration costs for borrowers**



Source: Own calculations using BRMS 2018/19.

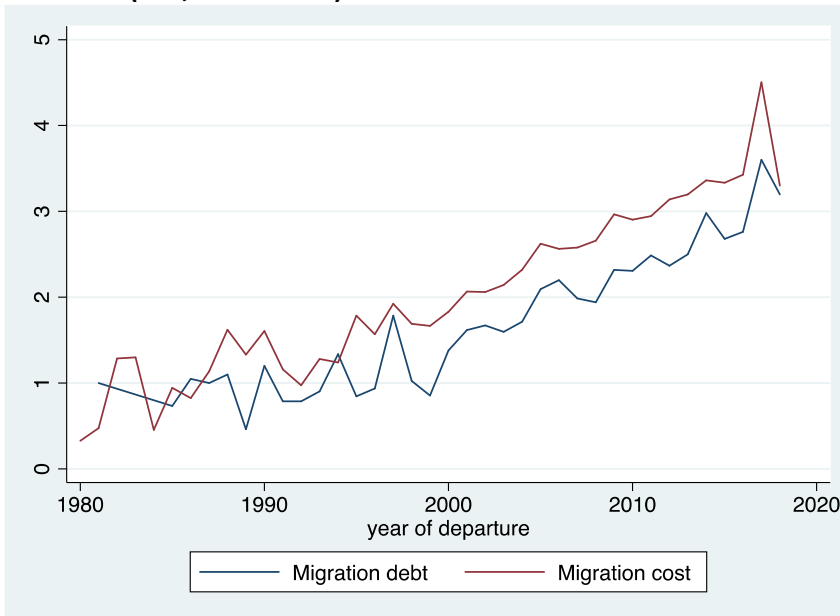
Looking at departures over the 1980-2018 period, migration cost and migration debt evolved in a similar manner (Figure 3). From 2000 to 2010, costs and debt seemed to have more than doubled. The two variables have a strong causal relationship, as it is the migration costs that drive a migrant’s decision to borrow money, not the other way around. The historical development of migration cost and amounts borrowed must be taken with some caution: First, the displayed numbers are not corrected for inflation, meaning that perhaps nominal rather than real changes are shown. Second, those returned migrants who left the county a long time ago may not remember the costs accurately. Because of this “recall bias” the trend shown here may not completely present the real historic changes.

Looking at the different shares of migration cost over the period 1980-2018, agent fees increased substantially, followed by visa costs (Figure 4). At the same time, transport costs only increased slightly.

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America and at least \$ 4,000 to Africa and Asia. It is the lack of job opportunities at home as well as family and peer pressure that forces them to accept such high costs (Gebre-Egziabher 2019).

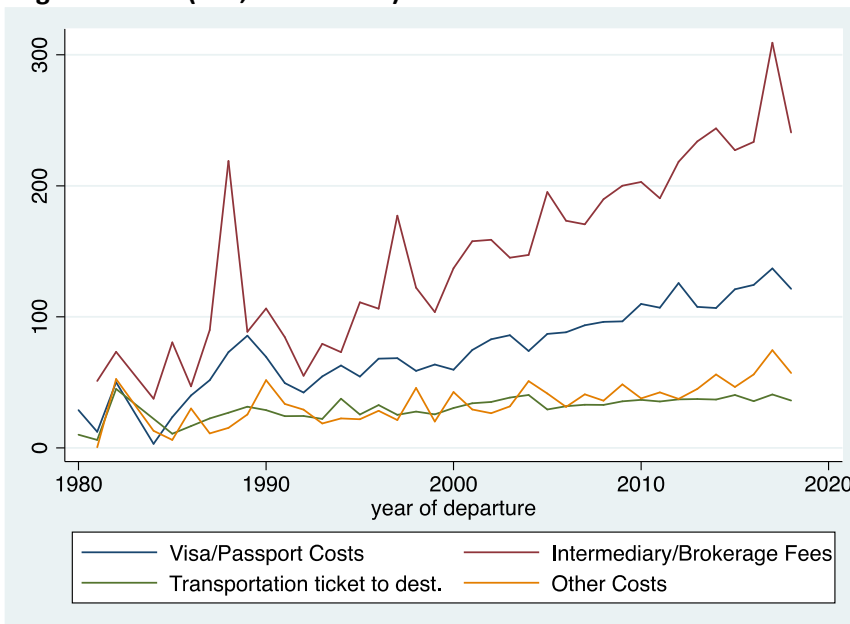
**Figure 3: Development of migration costs and the amounts borrowed over time (100,000s of BDT)**



Source: Own calculations using BRMS 2018/19.

Note: The correlation coefficient is 0.487. Numbers displayed in 100,000s of BDT.

**Figure 4: Intermediary/agent fees constitute the largest share of migration cost (in 1,000s of BDT)**



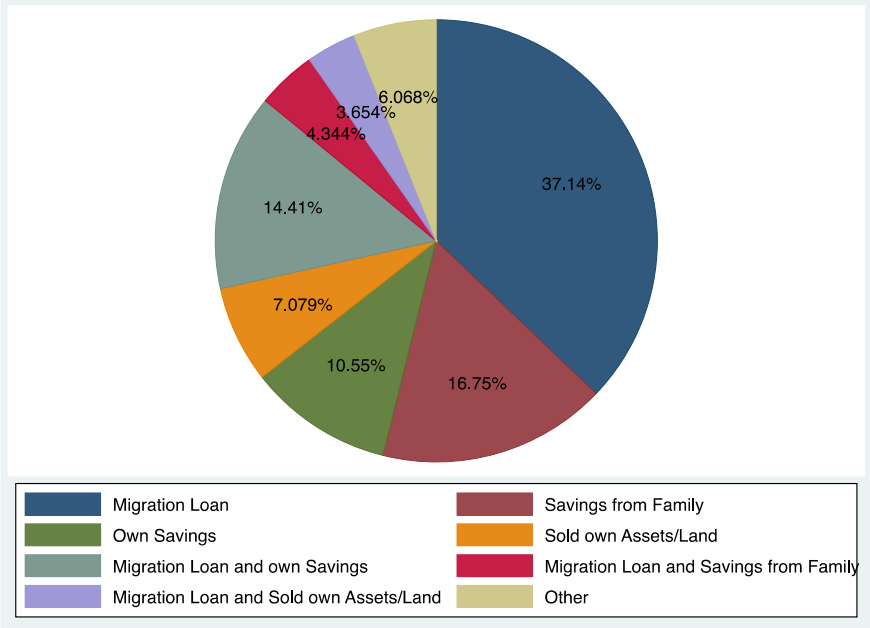
Source: Own calculations using BRMS 2018/19.

Note: Chart displays numbers in 1,000s of BDT.

### 3.3 Key drivers for the decision to take out a loan

Paying for migration upfront through loans is common in Bangladesh (Rahman 2013).<sup>7</sup> A substantial share of individuals indicates to have relied on a single source to finance their migration project: About 37 percent of the surveyed Bangladeshi labor migrants said that they had taken out a loan to cover migration-related costs. About 17 percent financed migration through family savings, 11 percent from own savings, and about 7 percent sold their assets or land (Figure 5). Many other labor migrants combined a loan with another funding source: about 14 percent took out a migration debt and used their own savings, about 4 percent combined a migration loan with savings from family, followed by almost 4 percent who took out a migration loan and sold their own assets or land. These estimates are consistent with Moniruzzaman and Walton-Roberts (2017) who show that 54.56 percent of migrant-sending households in four villages in Comilla and Chandpur districts relied on loans. In comparison, 50.57 percent indicated that they sold land and 15.97 percent said that they used their own savings to cover migration-related costs (Moniruzzaman and Walton-Roberts 2017).

**Figure 5: Loans are the main source for migration-financing (percentage of total cost)**



Source: Own calculations using BRMS 2018/19.

The results of a probit regression suggest that the main factors driving aspiring migrants’ decision to take out a migration loan may be the size of the migration costs, and the migrant’s employment status before departure (Table 3).<sup>8</sup> The findings suggest that a one percentage point increase of migration cost may lead, on average, to a 14.3 percentage point increase in the probability of taking out a migration loan, *ceteris paribus*. A change from having not worked to having worked in the five years before departure increases the probability of taking out a migration loan by, on average, 12.8 percentage points, *ceteris paribus*.

<sup>7</sup> The other debt condition in which international labor migration can take place is when migrants do not pay their recruitment and other expenses upfront but work them off to the employers after having arrived in the host country (Rahman 2013).

<sup>8</sup> A linear probability regression model with the exact same variables leads to very similar coefficients.

**Table 3: Probit regression results of loan dummy on personal characteristics of migrants (marginal effects)**

VARIABLES	(1)
log(cost) <sub>i</sub>	0.143*** (0.0172)
age at departure <sub>i</sub>	0.0190* (0.0110)
age at departure <sup>2</sup> <sub>i</sub>	-0.000359** (0.000172)
education at departure <sub>i</sub>	-0.0166*** (0.00379)
land <sub>i</sub>	-0.0617*** (0.0237)
marriage <sub>i</sub>	-0.0335 (0.0341)
megacity <sub>i</sub>	-0.283*** (0.0337)
employed prior to migrating <sub>i</sub>	0.128*** (0.0212)
log(hh income) <sub>i</sub>	-0.0825*** (0.0156)
HH member <sub>i</sub>	-0.0123** (0.00651)
male <sub>i</sub>	-0.137* (0.00651)
Observations	2,255
Pseudo R-squared	0.0763

Source: Own calculations using BRMS 2018/19.

Note: Regarded sample only contains individuals that used one single source of migration funding out of the choices own savings, sales of assets/land, savings/income from family and borrowed money. Robust standard errors in parentheses; Significance at the \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 level.

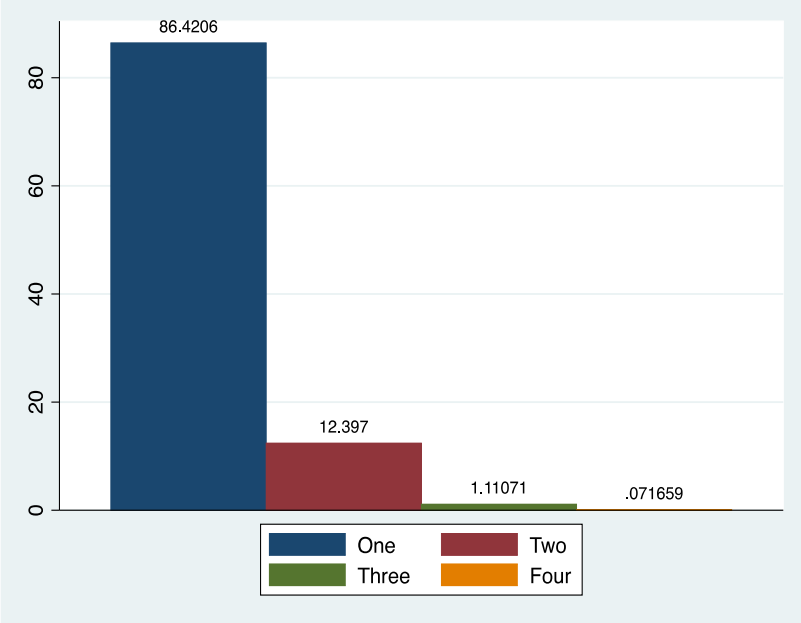
The results also suggest that other characteristics of aspiring migrants may influence the probability of taking out a migration loan. The findings suggest that living outside the two megacities Dhaka and Chittagong before departure may reduce the probability of taking out a migration loan by, on average, 28.3 percentage points, *ceteris paribus*. This may be because aspiring migrants may find more options for migration-financing in Bangladesh's two major urban centers than anywhere else in the country. Besides, being male reduces the likelihood of taking out a migration loan by 13.7 percentage points, on average and *ceteris paribus*. A one percentage point increase in household income before departure reduces the probability of taking out a migration loan by, on average, 8.25 percentage points, *ceteris paribus* (Table 3).<sup>9</sup>

<sup>9</sup> See the appendix for a list of variables that were used in the presented probit model.

### 3.4 Characteristics of the loans themselves

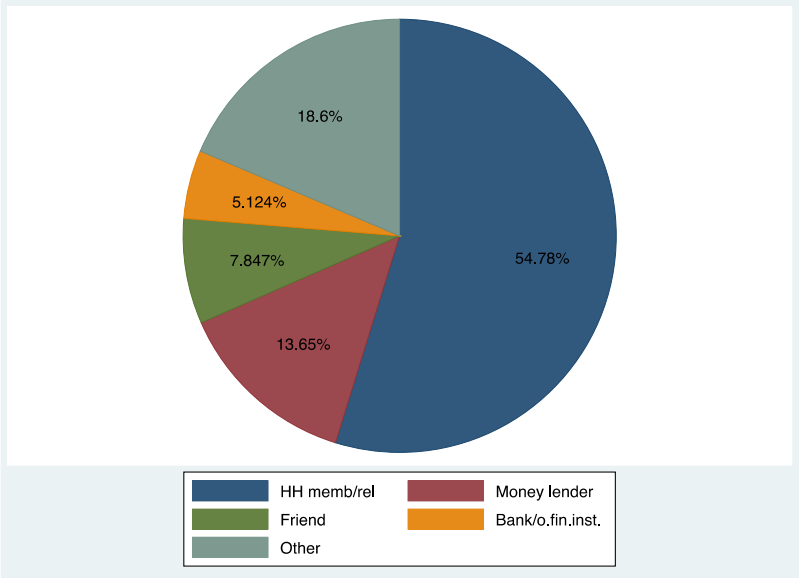
Among those Bangladeshi labor migrants who had borrowed money to cover their migration costs before moving overseas, 86 percent indicated that they borrowed from a single source, 12 percent from two different sources, one percent from three different sources, and less than one percent from four sources (Figure 6). About 55 percent of indebted labor migrants got their loans from other household members and relatives, 12 percent borrowed from moneylenders, 8 percent received loans from friends, and 5 percent borrowed from banks and other financial institutions. About 19 percent of indebted migrants received loans from other sources such as NGOs or from more than one source (Figure 7).

**Figure 6: Most migrants get their loans from a single source**



Source: Own calculations using BRMS 2018/19.  
 Note: Chart displays numbers as percentages.

**Figure 7: Most loans are provided by household members or relatives**



Source: Own calculations using BRMS 2018/19.  
 Note: Top-four loan sources are displayed.

Overall, the borrowed amount varies by loan source. Bangladeshi labor migrants who had received their loans from banks and other financial institutions took out on average about BDT 227,937 (US\$2,660) followed by loans from money lenders at about BDT 227,226 (US\$2,650), other household members/relatives at BDT 224,723 (US\$2,620), on average, and friends at BDT 198,196 (US\$2,310) (Table 4).<sup>10</sup>

The interest rates that were charged to Bangladeshi labor migrants differed by source (Figure 8). Money lenders charged on average 15.4 percent, followed by banks and other financial institutions at 11.31 percent, on average. In comparison, private loan providers charged lower interest rates: Other household members charged around 10.1 percent followed by friends who charged an average of about 9 percent. Rahman (2011) argues that since migration is perceived to yield higher returns than activities in agriculture and business in Bangladesh, higher interest rates are usually charged for migration loans than loans for other purposes (Rahman 2011).

Most Bangladeshi labor migrants repaid interest rates yearly (Figure 9). 73 percent of those with loans from money lenders, 66 percent of those with loans from banks/other financial institutions repaid interest yearly. 61 percent of individuals with loans from other household members repaid interest rates yearly and so did 46 percent of people with loans provided by friends. 53 percent of surveyed individuals with loans from friends repaid interest monthly, compared to 37 percent of those with loans from household members/relatives, 32 percent with loans from banks/other financial institutions, and 27 percent with loans from money lenders. The findings show that a weekly repayment of interest is uncommon. Less than three percent of those with loans from household members/relatives, around two percent and less of those with loans from friends and banks/other financial institutions, and only 0.3 percent of those with loans from money lenders repaid interest rates weekly.

Also, putting up collateral differs by loan source (Figure 10). 10.2 percent put up collateral to get a loan from money lenders, so did about 9 percent who get loans provided by banks and other financial institutions. In comparison, 5 percent of Bangladeshi labor migrants who borrowed from friends put up collateral, so do 4.9 percent of those borrowing from family. The size of the collateral differed across loan sources (Figure 11). The average collateral for loans from banks/other financial institutions was BDT 296,000 (US\$3,450), compared to the collateral size for loans from household members/relatives at BDT 219,000 (US\$2,552), from money lenders at BDT 199,000 (US\$2,320), and friends at BDT 188,000 (US\$2,190).

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<sup>10</sup> Averages calculated for loans from single sources only.

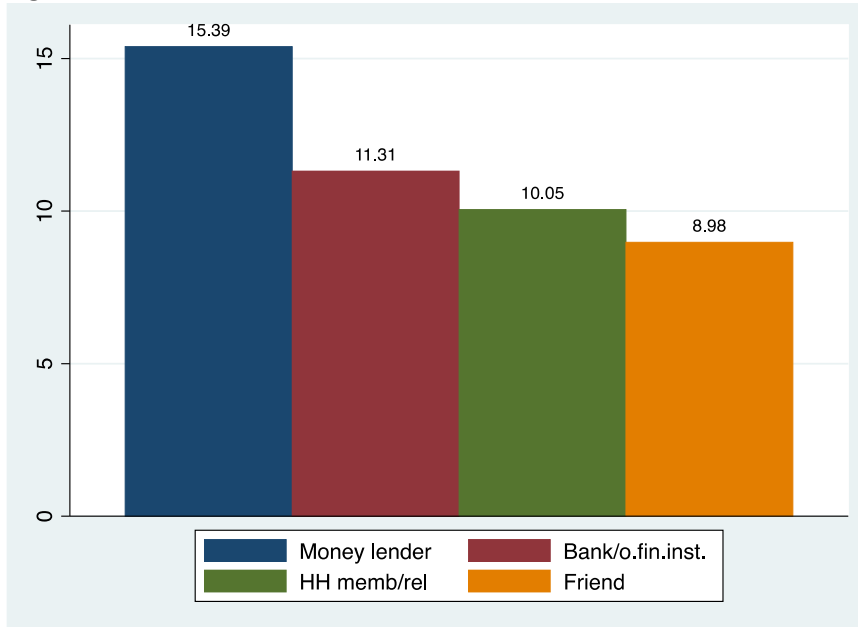
**Table 4: Difference in means of loan characteristics.**

Characteristics	HH memb./rel.	Friends	Bank/oth. fin. Inst.	Money lender	Significance test (1 vs 2)	Significance test (1 vs 3)	Significance test (1 vs 4)	Significance test (2 vs 3)	Significance test (2 vs 4)	Significance test (3 vs 4)	Significance test (1 vs 2 vs 3 vs 4)
Amount of debt (in BDT)	224,723	198,196	227,937	227,226	**	*	*		*	*	
Interest rate (IR) (in %)	10.055	8.98	11.31	15.39	*	*	***	***	***	***	***
Period of IR being repaid	Year	Month	Year	Year	***		***	***	***		***
Collateral (yes) (in %)	4.94	5.02	9.09	10.24		**	***		**		***
Collateral (in BDT)	219,054	188,333	295,833	199,213							

Source: Own calculations using BRMS 2018/19.

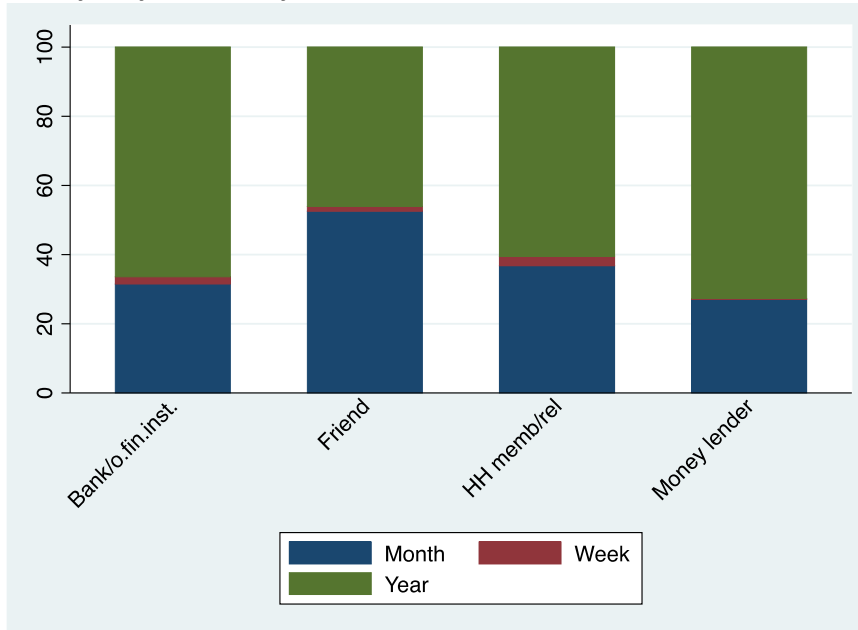
Notes: Stars indicate whether mean of loan characteristics for loan sources is significantly different. Significance at the \*  $p < 0.1$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$  level.

**Figure 8: Interest rates differ across loan sources**



Source: Own calculations using BRMS 2018/19.  
 Note: Chart displays average numbers in percentages which were calculated for loans from single sources only.

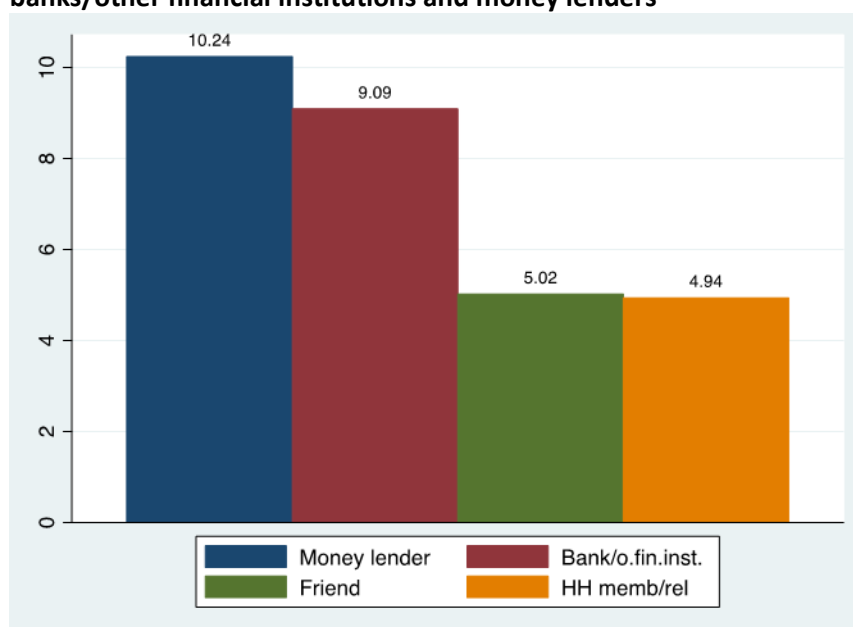
**Figure 9: Across the different loan types, most migrants pay interest rates yearly or monthly**



Source: Own calculations using BRMS 2018/19.  
 Note: Chart displays averages and percentages. Averages calculated for loans from single sources only.



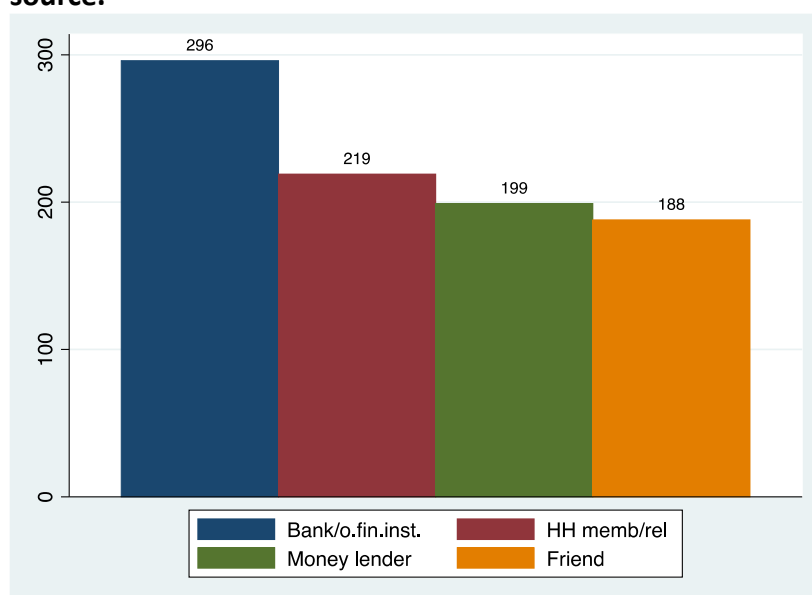
**Figure 10: Collateral is more commonly put up to get loans from banks/other financial institutions and money lenders**



Source: Own calculations using BRMS 2018/19.

Note: Chart displays percentages. Averages calculated for loans from single sources only.

**Figure 11: The amount of collateral depends on the loan source.**



Source: Own calculations using BRMS 2018/19.

Note: Numbers are displayed in 1,000s BDT and are rounded. Averages calculated for loans from single sources only.

Calculating means for various loan characteristics shows that the four different loan types differ statistically in terms of interest rate, period of interest being repaid, and collateral (Table 4). However, the loan types do not differ with regard to the collateral that the migrants put up. In terms of the amount of debt, pairs of loans differ except for loans from friends and banks/other financial institutions.

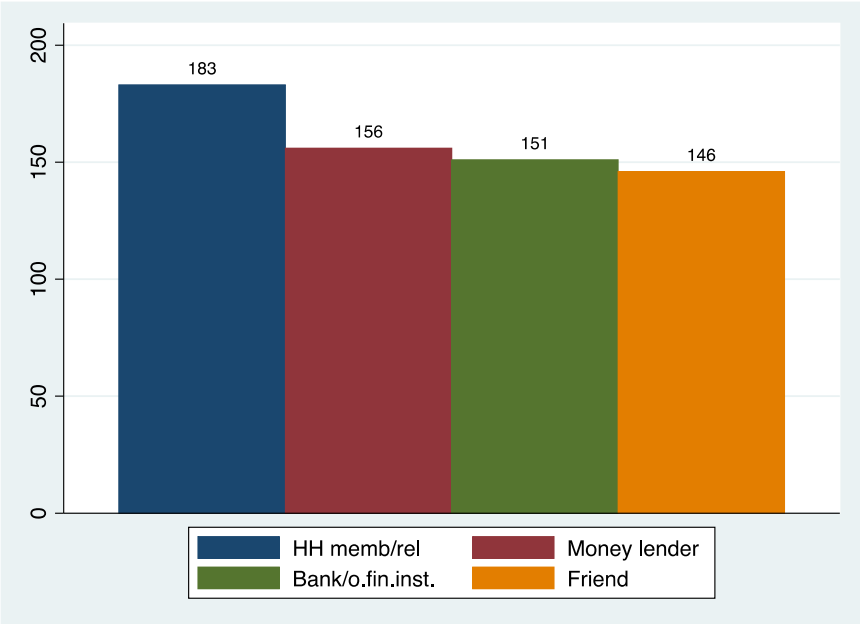
The descriptive statistics show that loans from friends and family members usually offer better terms than those from money lenders. However, aspiring labor migrants often borrow from money lenders despite exorbitant interest rates due to their accessibility and flexibility. In contrast, borrowing from family and friends often entails a mutual exchange of privileges (Moniruzzaman and Walton-Roberts 2017).

### 3.4 Repayment status

Individuals who take out migration-related loans usually need to repay the debt sooner or later. Debt that is not or very slowly repaid may lead to overindebtedness. Two major drivers of overindebtedness are thinkable: First, migrants may get overindebted because the income they gain abroad is smaller than what they had expected. Second, the terms of provided migration loans may be so unfavorable so that migrants struggle to repay the debt.

About 76 percent of return migrants who took out a loan from friends (in T=1) fully repaid their migration debt by the time they were surveyed (T=3), followed by 73 percent with loans from household members, 72 percent from money lenders, and 69 percent from banks/other financial institutions. Those with unpaid migration loans from household members indicate that they still owe BDT 183,000 (US\$2,160), those with loans from money lender BDT 156,000 or about \$1,840, with loans from banks BDT 151,000 (about \$1,780), and with loans from friends BDT 146,000 or about \$1,722 (Figure 12).

**Figure 12: Indebted migrants with loans from household members still owe the highest amounts**



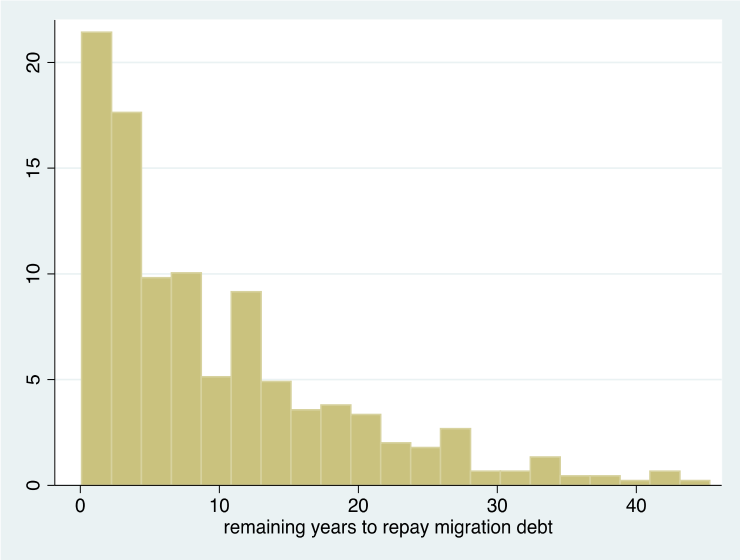
Source: Own calculations using BRMS 2018/19.  
 Note: Numbers displayed in 1,000s BDT. Averages calculated for loans from single sources only.

Overall, it seems to take those returned migrants with unpaid migration loans a long time to fully repay the debt. Upon return to Bangladesh the average duration of full debt repayment is 13.99 years.<sup>11</sup> The

<sup>11</sup> The approximate migration debt is calculated on a yearly and monthly basis based on the amount of already repaid debt that individuals indicated in the survey and the duration of the migration episode. The displayed numbers are approximations.

repayment period ranges from a few months (six percent report repayment period of less than one year) to 266 years (Figure 13). In particular, individuals with loans from family members are estimated to need another 14.7 years to repay their loans (Table 5);<sup>12</sup> repayment of loans from friends is estimated to take 9.4 years, loans from banks 9.5 years, and loans from money lenders 11.8 years. However, there are some individuals who will need several decades to repay their migration-related debt across all loan types.

**Figure 13: Estimated average years that will need to be spent to repay migration debt (distr. in %).**



Source: BRMS 2018/19.

Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 95th percentile.

**Table 5: Repayment indicators**

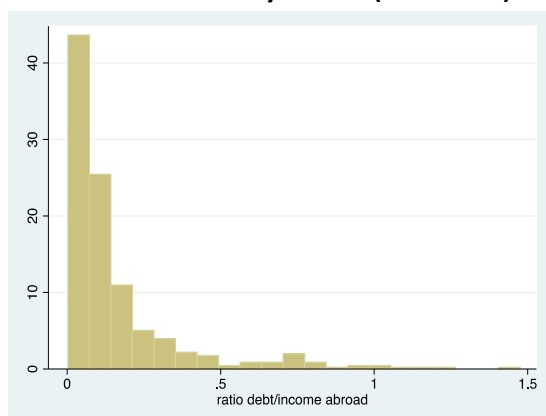
	<b>Total</b>	<b>Family</b>	<b>Friend</b>	<b>Bank</b>	<b>Moneylender</b>
Duration (years)	13.99	14.73	9.44	9.45	11.82
Debt/foreign income (monthly)	1.10	0.61	0.17	0.17	1.87
Debt/post-return income (monthly)	5.20	3.77	4.27	11.09	4.83

Source: Own calculations using BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. Displayed averages may be somewhat distorted due to small numbers of observations.

Apart from how many years it takes migrants to still repay the remaining migration-related debt, it is important to see to what extent remaining debt burdens them. The average monthly income in Bangladesh upon return is substantially lower than the monthly income migrants earn abroad. Consequently, the debt-to-income burden is substantially less favorable after return than during the migration episode. The average debt-to-income ratio during the migration episode is 1.10 and upon return it is 5.20 (Figure 14 and Figure 15). About 50 percent of individuals in the sample have a debt-to-income ratio of larger than 1 for monthly income upon return to Bangladesh (Figure 15).

<sup>12</sup> See Figures A2-A5 in the appendix for the average duration of full loan repayment in the future across the four different loan types.

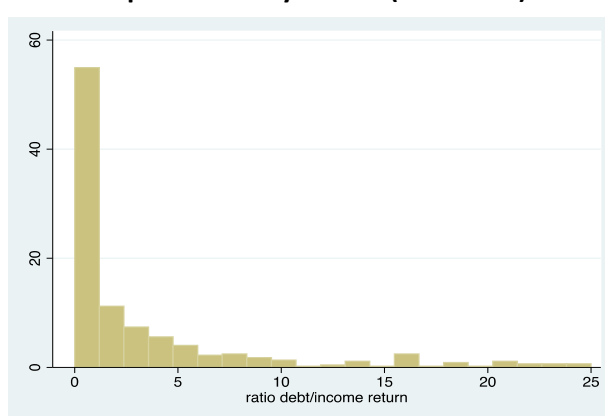
**Figure 14: Estimated ratio of migration debt and income abroad by month (distr. in %)**



Source: BRMS 2018/19.

Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 98th percentile. The debt-to-income ratio ranges up to 192.82.

**Figure 15: Estimated ratio of migration debt and income upon return by month (distr. in %)**



Source: BRMS 2018/19.

Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 96th percentile. The debt-to-income ratio ranges up to 156.

The debt-to-income ratio varies somewhat across the four different loan types (Table 5).<sup>13</sup> The debt-to-income ratio during the migration episode is 0.61 for family loans, 0.17 for loans from friends, 0.17 for loans from banks, and 1.87 for loans from money lenders. The debt-to-income ratio after return to Bangladesh is 3.77 for loans from family, 4.27 for loans from friends, 11.09 for loans from banks, and 4.83 for loans from moneylenders.

The unfavorable debt-to-income ratio upon return to Bangladesh may contribute to the individuals' overindebtedness. While the debt-to-income ratio during the migration episode seems more favorable, one needs to remember that migrants usually remit large parts of their foreign income to their left-behind families. In that case, those individuals may still not be able to repay their loans. Both aforementioned drivers of overindebtedness may be at play here. Migrants may have expected to be able to remit money and repay migration cost for migrating which then did not work out. At the same time, the terms of loans especially provided by banks and moneylenders are often not favorable.

#### 4. Empirical analysis of migrant debt and loan choice

The previous section outlined the characteristics of the most common migration loans that aspiring Bangladeshi labor migrants take out to cover their migration costs. These results should be taken into consideration in the following analysis of the impact of migration loans on the indebtedness of returned Bangladeshi migrants in in T=3. This section will also explore the determinants of loan choice of aspiring migrants in T=1 and its impact on the migrants' indebtedness after their return to Bangladesh in T=3. For the following calculations, only the sub-sample of the surveyed Bangladeshi labor migrants who had taken out a migration loan will be considered.

<sup>13</sup> See Figures A6-A13 in the appendix for the average length of full loan repayment in the future across the four different loan types.

#### 4.1 Empirical strategy

As a first step, to examine what drives the individual  $i$ 's choice for a migration loan from either family members, friends, banks/other financial institutions or moneylenders, we apply a multinomial logistic model with the following functional form:

$$\text{loan type}_i = \alpha_0 + \alpha_1 v_i + \varepsilon_i \quad (9)$$

The dependent variable  $\text{loan type}_i$  can take on four different values, that is 0=family members, 1=friends, 2=banks/other financial institutions, and 3=money lenders. The variable  $v_i$  represents a vector of variables representing migrant characteristics that is migration cost and household income, age, age squared, years of schooling, land ownership at the time of departure, marriage status, gender, the area where the migrant lived at departure, employment status before migrating, and the number of household members at the time of departure.<sup>14</sup>  $\varepsilon_i$  represents the error term.

As a second step, we want to investigate what factors determine returned migrant  $i$ 's loan repayment status in T=3 and whether there are heterogenous effects across the different loan types. To identify what determines a returnee's loan repayment status, we estimate the following econometric model:

$$\text{Repayment status}_i = \alpha_0 + \alpha_1 \mu_i + \alpha_2 \pi_j + \varepsilon_{ij} \quad (10)$$

We run a linear probability model that uses a dummy variable as the dependent variable indicating full loan repayment and a standard OLS regression model with the amount of the already repaid migration debt as the dependent variable. The vector  $\mu_i$  denotes various variables to control for migrants' characteristics, that is migration cost and household income in T=1, the remittance amount and the salary abroad in T=2, and early return, years since their return to Bangladesh, and employment status in T=3.<sup>15</sup> Also, including  $\pi_j$  which denotes a vector for loan characteristics such as loan size, interest rate, and collateral should help to assess to what extent the chosen loan impacts the returned migrants' loan repayment status.  $\varepsilon_{ij}$  denotes the error term.

To identify possible heterogeneous effects on repayment status depending on migrants' loan choice, we apply the same estimation model as before with interactions added for the different loan types:

$$\text{Repayment status}_i = \beta_0 + \beta_1 \mu_i + \beta_2 l_i + \beta_3 l_i \times \mu_i + \varepsilon_i \quad (11)$$

The base category is loans from household members.<sup>16</sup>  $\mu_i$  is a vector that includes controls for migrant's characteristics and  $l_i$  represents a vector of three dummies for loans from friends, banks, and money lenders, respectively.  $\beta_3$  is the coefficient of interest: Each of the just mentioned loan dummies is interacted with various migrant characteristics that are represented as vector  $\mu_i$  to identify potential heterogeneous effects of loan repayment across the four different loan types.<sup>17</sup>

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<sup>14</sup> See appendix for the full description of the used variables. In the multinomial logistic regression, we will also run the Fadden-Hausman test to see whether the independence of irrelevant alternatives (IIA) assumption holds.

<sup>15</sup> See appendix for the full description of the used variables.

<sup>16</sup> As in the previous regression model, we run linear probability regressions with a dummy indicating full loan repayment and OLS regressions with the amount of the already repaid migration debt as independent variable.

<sup>17</sup> To estimate heterogeneous effects in terms of loan characteristics, we apply the following model:

$$\text{Repayment\_status}_i = \beta_0 + \beta_1 \tau_j + \beta_2 l_i \times \tau_j + \varepsilon_{ij}; \tau_j \text{ is a vector representing loan size and a collateral dummy.}$$

## 4.2 The determinants of loan choice

Considering the personal factors that drive Bangladeshi labor migrants to choose a certain loan product over another, it can be seen that older aspiring migrants with lower migration costs, more education, who are less likely to own land, are from smaller households, and with higher household income, tend to get the loans from their family members (Table 6, column 1).<sup>18</sup> Column 2 shows that less-educated individuals who own land, live in the two megacities Chittagong and Dhaka, who are from households with higher income and who have not been employed in the five years before departure seem to get their migration loans from friends.

Aspiring migrants who are from households with lower income and who have worked in the five years before departure seem to take out loans from banks or other financial institutions (column 3). The results in column 4 suggest that younger migrants with higher migration costs, from outside the two megacities, from larger households with lower income, and who have worked in the five years before departure seem to decide for migration loans from money lenders. Thus, the results suggest that the individual's financial and employment situation, age, migration cost, and the place of residence drive the decision between formal loan sources (banks and moneylenders) and informal loan providers (friends and family members).

These results are consistent with the findings of Moniruzzaman and Walton-Roberts (2017), although our results suggest that the determinants of loan choice are more complex. Moniruzzaman and Walton-Roberts (2017) argue that formal loan providers may be attractive due to their accessibility and flexibility despite higher interest rates. However, the results of Table 5 suggest that formal and informal loans with their distinct features may be complementary as they attract different groups of individuals. Individuals from poorer households who possibly need larger loans and whose family members might not be able to lend them money may prefer loans provided by a bank or money lender. At the same time, older individuals who lack work experience might not qualify for formal loans and therefore prefer loans provided by family and friends.

## 4.2 The determinants of loan repayment status

Results in Table 7 suggest that the size of migration costs may be the main determinant for full loan repayment. Column 1 shows that a one percentage point increase in migration costs may reduce the likelihood for full loan repayment by on average 12.9 percentage points, *ceteris paribus*. Besides, early return to Bangladesh and the years passed since return seem to impact full loan repayment. The results reveal that early return may reduce the probability of full loan repayment by on average 7.32 percentage points compared to planned return, *ceteris paribus*. The positive impact of an additional year passed since their return to Bangladesh on full loan repayment is below two percentage points.

Loan size can be seen to negatively impact full loan repayment, when the variable is added to the model. Results in column 3 suggest that a one percentage point increase in loan size may reduce full loan repayment by 12.5 percentage points, on average and *ceteris paribus*. We run the model presented in column 3 without migration cost to avoid multicollinearity.<sup>19</sup> The coefficients of full loan

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<sup>18</sup> The loan choice model follows a classic occupational model. For instance, Boskin (1974) shows that choosing among occupations, a potential worker will weigh the benefits against costs when she decides for a job. Workers choose occupations with the highest discounted present value of potential future earnings, where retraining costs are lowest and where, *ceteris paribus*, the discounted present value of expected earnings forgone due to unemployment is lowest (Boskin 1974).

<sup>19</sup> As shown in Figure 4, migration cost and migration loan size have evolved similarly over time in Bangladesh.

repayment on the interest rate and the collateral dummy are small in magnitude and statistically insignificant.

The results of the linear probability model presented in Table 8 partly reveal heterogeneous effects of migrants' characteristics on full loan repayment across the four different loan types. High migration cost seems to only reduce full repayment of loans from family members and friends. Specifically, the findings in column 1 suggest that a one percentage point increase in migration cost reduces the probability of full repayment of loans from family members by on average 20.9 percentage points but of loans from friends by less. The results presented in columns 4, 6, and 8 in Table 8 suggest that only full repayment of family loans is negatively impacted by early return, and positively affected by the years since return and loan size.

The OLS regression results presented in Table 9 suggest that the migration cost and the loan size are major determinants of the already repaid loan amount. The results also reveal if a borrower has put up collateral, then they it may reduce the already repaid loan amount by around 30 percentage points compared to loans that did not require collateral, on average and *ceteris paribus*. What might explain this seemingly strong correlation is that land is commonly used as collateral for migration loans in Bangladesh (Deshingkar et al 2018). As many Bangladeshi families rely on agricultural activities, using land as collateral to qualify for a migration loan may result in substantially lower income (Moniruzzaman and Walton-Roberts 2017). In this situation of increased economic hardship, repayment of the migration loan may become even more difficult for migrant households in Bangladesh.

The results presented in Table 9 also suggest that the time since return plays only a modest role in the loan repayment amount: an additional year passed since return increases the already repaid loan amount by only around 2.5 to 2.7 percentage points, on average. As shown in section 3.4. the returned Bangladeshi labor migrants seem to repay migration debt rather slowly. Slow migration debt repayment may contribute to over-indebtedness of Bangladeshi labor migrants and their households after the completion of the migration episode especially if they want to re-migrate again, as documented by Rahman (2013). The 2018/19 BRMS reveals that about 47 percent of the surveyed returned migrants who had taken out a migration loan indicated that they plan to re-migrate in the next five years with 93 percent among them saying that they do not have enough funds to do so. To cover migration costs for the future migration episode abroad, individuals would likely need to take out a migration loan again which would worsen the individual's indebtedness.

The results in tables 10a and 10b reveal some heterogeneous effects across loan types. Column 2 shows that a one percent increase in migration cost is associated with a 0.31 percent increase in the repaid amount of a family loan and with a 0.12 percent decrease in the repaid amount of loan from money lenders, on average and *ceteris paribus*. Also, a one percent increase in migration debt is associated with a 0.62 percentage point increase in the repaid amount of a family loan and with a 0.32 percent increase for loans from money lenders, on average and *ceteris paribus* (column 8). Besides, the coefficients of the years passed since return are positive and statistically significant except for loans from friends.

**Table 6. Multinomial logistic regression of loan choice on migrants' characteristics.**

VARIABLES	Average Marginal Effects			
	(1) loan_hh_memb	(2) loan_friends	(3) loan_banks	(4) loan_moneylender
log(cost) <sub>i</sub>	-0.0622*** (0.0232)	-0.0055 (0.0140)	0.0201 (0.01260)	0.04758** (0.01859)
age at departure <sub>i</sub>	0.0554*** (0.0120)	0.0011 (0.0074)	-0.0079 (0.00609)	-0.04856*** (0.00877)
age at departure <sup>2</sup> <sub>i</sub>	-0.0009*** (0.0002)	0.0000 (0.0001)	0.0001 (0.00009)	0.00073*** (0.00014)
education at departure <sub>i</sub>	0.0149*** (0.0041)	-0.0104*** (0.0025)	-0.0018 (0.00221)	-0.00275 (0.00336)
land <sub>i</sub>	-0.0823*** (0.0266)	0.0728*** (0.0154)	-0.0019 (0.01446)	0.01136 (0.02131)
marriage <sub>i</sub>	0.0494 (0.0355)	-0.0066 (0.0238)	-0.0212 (0.01754)	-0.02160 (0.02702)
male <sub>i</sub>	0.1033 (0.0788)	-0.0609 (0.0401)	-0.0077 (0.04513)	-0.03470 (0.06417)
megacity <sub>i</sub>	0.0020 (0.0518)	0.1527*** (0.0179)	-0.0151 (0.02687)	-0.13954*** (0.05087)
log(hh_income) <sub>i</sub>	0.0728*** (0.0199)	0.0346*** (0.0117)	-0.0240** (0.01082)	-0.08341*** (0.01621)
employed prior to migrating <sub>i</sub>	-0.0349 (0.0235)	-0.0443*** (0.0149)	0.0256** (0.01250)	0.05356*** (0.01837)
HH member <sub>i</sub>	-0.0237*** (0.0072)	0.0064 (0.0046)	0.0042 (0.00373)	0.01312** (0.00556)
Observations: 1,688				
Pseudo R2: 0.0813				

Source: Own calculations using BRMS 2018/19. Note: Standard errors in parentheses. In the multinomial logistic regression, the dependent variable is a categorical variable taking on four values representing the four different loan sources, that is other household members, friends, banks/other financial institutions, and money lenders. The independent variables represent migrants' characteristics. For easier interpretation, average marginal effects are displayed. The Fadden-Hausman test shows that for the presented multinomial logistic model, the independence of irrelevant alternatives (IIA) assumption holds. The sample includes only individuals that chose a single loan among the four different loan types displayed in this study. Significance at the \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 level.



**Table 7: Linear Probability model of full loan repayment dummy on migrants' characteristics.**

VARIABLES	(1)	(2)	(3)
log(cost) <sub>i</sub>	-0.129*** (0.0168)	-0.0521* (0.0315)	
employed after return <sub>i</sub>	0.0267 (0.0192)	0.0189 (0.0250)	0.0189 (0.0250)
log(hh income) <sub>i</sub>	0.0197 (0.0152)	0.00236 (0.0210)	-0.000833 (0.0210)
log(pay abroad) <sub>i</sub>	0.0161* (0.00952)	0.0112 (0.0111)	0.0117 (0.0111)
log(remittance) <sub>i</sub>	-0.00828 (0.00513)	-0.00902 (0.00645)	-0.00986 (0.00639)
early return <sub>i</sub>	-0.0732*** (0.0192)	-0.0890*** (0.0250)	-0.0906*** (0.0250)
years since return <sub>i</sub>	0.0183*** (0.00199)	0.0183*** (0.00280)	0.0192*** (0.00276)
log(borrowed) <sub>i</sub>		-0.100*** (0.0229)	-0.125*** (0.0160)
interest rate <sub>i</sub>		0.000810 (0.00163)	0.000680 (0.00163)
collateral <sub>i</sub>		-0.0109 (0.0456)	-0.0110 (0.0455)
Constant	2.024*** (0.252)	2.470*** (0.324)	2.145*** (0.283)
Observations	1,782	1,135	1,135
R-squared	0.121	0.140	0.138

Source: Own calculations using BRMS 2018/19. The reference group is loans from family members. The dependent variable is a dummy indicating full loan repayment. The independent variables represent migrants' personal characteristics as presented in previous regressions and loan characteristics that is the log transformed amount borrowed, loan interest rate, and a dummy whether a collateral was put up for the migration loan. Robust standard errors in parentheses. Significance at the \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 level.

**Table 8: Linear Probability model of full repayment dummy on migrants' characteristics (heterogeneous effects).**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
log(cost) <sub>i</sub>	-0.209*** (0.0199)	-0.0440* (0.0245)		-0.0475** (0.0215)		-0.0475** (0.0216)		-0.0472** (0.0219)
early return <sub>i</sub>		-0.0804*** (0.0180)	-0.151*** (0.0231)	-0.0879*** (0.0221)		-0.0806*** (0.0180)		-0.0807*** (0.0181)
years since return <sub>i</sub>		0.0181*** (0.00175)		0.0183*** (0.00172)	0.0250*** (0.00194)	0.0174*** (0.00202)		0.0183*** (0.00174)
log(borrowed) <sub>i</sub>		-0.0902*** (0.0159)		-0.0893*** (0.0159)		-0.0891*** (0.0159)	-0.160*** (0.0144)	-0.0878*** (0.0172)
loan friend <sub>i</sub>	-1.332*** (0.489)	-0.607 (0.499)	0.0131 (0.0415)	0.0233 (0.0413)	0.0812 (0.0501)	0.0560 (0.0491)	-0.403 (0.357)	-0.00780 (0.354)
loan bank <sub>i</sub>	0.119 (1.309)	0.0673 (1.176)	0.00730 (0.0536)	0.0182 (0.0521)	-0.0158 (0.0589)	0.00639 (0.0584)	0.585 (0.721)	0.265 (0.722)
loan ML <sub>i</sub>	0.711 (0.502)	0.840* (0.477)	0.00977 (0.0343)	0.0176 (0.0335)	-0.0385 (0.0411)	-0.0149 (0.0399)	0.337 (0.429)	0.185 (0.425)
log(cost) <sub>i</sub> *loan friend <sub>i</sub>	0.110*** (0.0399)	0.0527 (0.0405)						
log(cost) <sub>i</sub> *loan bank <sub>i</sub>	-0.00979 (0.104)	-0.00361 (0.0937)						
log(cost) <sub>i</sub> *loan ML <sub>i</sub>	-0.0566 (0.0408)	-0.0654* (0.0387)						
early <sub>i</sub> *loan friend <sub>i</sub>			0.0694 (0.0615)	0.0458 (0.0592)				
early <sub>i</sub> *loan bank <sub>i</sub>			-0.0344 (0.0779)	0.00919 (0.0754)				
early <sub>i</sub> *loan ML <sub>i</sub>			0.0107	0.0109				

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
		(0.0504)	(0.0476)					
years <sub>i</sub> *loan friend <sub>i</sub>				-0.00377 (0.00641)	-0.00193 (0.00653)			
years <sub>i</sub> *loan bank <sub>i</sub>				0.00399 (0.00632)	0.00307 (0.00647)			
years <sub>i</sub> *loan ML <sub>i</sub>				0.00794* (0.00431)	0.00656 (0.00432)			
log(borrowed) <sub>i</sub> *loan friend <sub>i</sub>						0.0349 (0.0308)	0.00461 (0.0303)	
log(borrowed) <sub>i</sub> *loan bank <sub>i</sub>						-0.0493 (0.0598)	-0.0199 (0.0599)	
log(borrowed) <sub>i</sub> *loan ML <sub>i</sub>						-0.0270 (0.0357)	-0.0133 (0.0353)	
Constant	3.332*** (0.246)	2.287*** (0.254)	0.793*** (0.0139)	2.322*** (0.202)	0.572*** (0.0185)	2.321*** (0.204)	2.661*** (0.171)	2.297*** (0.235)
Observations	2,269	2,234	2,270	2,234	2,235	2,234	2,270	2,234
R-squared	0.071	0.140	0.028	0.138	0.098	0.139	0.075	0.138

Source: Own calculations using BRMS 2018/19. The reference group is loans from family members. The dependent variable is a dummy indicating full loan repayment. The independent variables represent migrants' personal characteristics as presented in previous regressions and loan characteristics that is the log transformed amount borrowed, loan interest rate, and a dummy whether a collateral was put up for the migration loan. Robust standard errors in parentheses. Significance at the \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 level.

**Table 9: OLS regression results of the amount of already repaid migration loan on migrants' characteristics.**

VARIABLES	(1)	(2)	(3)
log(cost) <sub>i</sub>	0.709*** (0.0763)	0.183 (0.112)	
employed after return <sub>i</sub>	-0.165* (0.0844)	-0.102 (0.0776)	-0.100 (0.0777)
log(hh income) <sub>i</sub>	-0.0606 (0.0669)	-0.0393 (0.0682)	-0.0278 (0.0671)
log(pay abroad) <sub>i</sub>	0.00922 (0.0350)	0.0350 (0.0341)	0.0357 (0.0344)
log(remittance) <sub>i</sub>	-0.0163 (0.0278)	-0.0543** (0.0220)	-0.0537** (0.0221)
early return <sub>i</sub>	-0.109 (0.0837)	-0.0549 (0.0786)	-0.0465 (0.0783)
years since return <sub>i</sub>	0.0252** (0.0102)	0.0302*** (0.0107)	0.0267** (0.0103)
log(borrowed) <sub>i</sub>		0.568*** (0.0916)	0.644*** (0.0732)
interest rate <sub>i</sub>		0.00472 (0.00447)	0.00519 (0.00447)
collateral <sub>i</sub>		-0.297* (0.174)	-0.307* (0.171)
Constant	3.414*** (1.149)	2.920** (1.349)	4.190*** (1.285)
Observations	422	311	311
R-squared	0.120	0.281	0.274

Source: Own calculations using BRMS 2018/19. The reference group is loans from family members. The dependent variable is log transformed amount of the already repaid migration loan. The independent variables represent migrants' personal characteristics. Robust standard errors in parentheses. Significance at the \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 level.

**Table 10a: OLS regression results of the amount of already repaid migration loan on migrants' characteristics (heterogeneous effects).**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
log(cost) <sub>i</sub>	0.621*** (0.0782)	0.312*** (0.100)		0.266*** (0.0937)		0.234** (0.0922)
log(remittance) <sub>i</sub>		-0.0117 (0.0221)	-0.0215 (0.0377)	-0.0325 (0.0324)		-0.00536 (0.0221)
years since return <sub>i</sub>		0.0426*** (0.00999)		0.0416*** (0.00992)	9.43e-05 (0.0115)	0.0343*** (0.0113)
log(borrowed) <sub>i</sub>		0.565*** (0.0712)		0.556*** (0.0719)		0.567*** (0.0692)
collateral <sub>i</sub>		-0.297* (0.157)		-0.293* (0.158)		-0.266* (0.152)
loan friend <sub>i</sub>	1.243 (1.770)	1.749 (2.449)	-0.907 (0.828)	-0.844 (0.694)	0.147 (0.126)	0.252* (0.146)
loan bank <sub>i</sub>	-2.233 (1.783)	-3.179 (2.429)	-1.284 (1.138)	-1.140 (0.953)	-0.421** (0.183)	-0.263* (0.151)
loan ML <sub>i</sub>	2.562 (2.909)	5.530** (2.791)	-0.125 (0.607)	-0.326 (0.526)	0.0111 (0.124)	-0.129 (0.138)
log(cost) <sub>i</sub> *loan friend <sub>i</sub>	-0.0892 (0.141)	-0.124 (0.195)				
log(cost) <sub>i</sub> *loan bank <sub>i</sub>	0.168 (0.141)	0.247 (0.188)				
log(cost) <sub>i</sub> *loan ML <sub>i</sub>	-0.199 (0.229)	-0.429* (0.220)				
log(remittance) <sub>i</sub> *loan friend <sub>i</sub>			0.0897 (0.0741)	0.0943 (0.0604)		
log(remittance) <sub>i</sub> *loan bank <sub>i</sub>			0.108 (0.0956)	0.0988 (0.0821)		
log(remittance) <sub>i</sub> *loan ML <sub>i</sub>			0.0154 (0.0531)	0.0354 (0.0442)		
years <sub>i</sub> *loan friend <sub>i</sub>					-0.0298 (0.0210)	-0.0206 (0.0208)
years <sub>i</sub> *loan bank <sub>i</sub>					0.116*** (0.0438)	0.0830*** (0.0255)
years <sub>i</sub> *loan ML <sub>i</sub>					0.0255 (0.0222)	0.0574** (0.0264)
Constant	3.872*** (0.996)	0.756 (0.933)	11.98*** (0.438)	1.681* (0.913)	11.76*** (0.0722)	1.681* (0.875)
Observations	610	447	454	447	600	447
R-squared	0.112	0.204	0.004	0.200	0.013	0.207

Source: Own calculations using BRMS 2018/19. The reference group is loans from family members. The dependent variable is log transformed amount of the already repaid migration loan. The independent variables represent migrants' personal characteristics. To see whether there are heterogeneous effects across loan types we add dummy variables for loan from friends, banks, and money lenders, respectively, and include interaction terms between the dummies and other independent variables. Base group is loan from household members. Robust standard errors in parentheses. Significance at the \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 level.

**Table 10b: OLS regression results of the amount of already repaid migration loan on migrants' characteristics (heterogeneous effects)**

VARIABLES	(7)	(8)	(9)	(10)
log(cost) <sub>i</sub>		0.241** (0.0945)		0.260*** (0.0904)
log(remittance) <sub>i</sub>		-0.0119 (0.0221)		-0.0110 (0.0229)
years since return <sub>i</sub>		0.0418*** (0.00966)		0.0407*** (0.00965)
log(borrowed) <sub>i</sub>	0.573*** (0.0651)	0.615*** (0.0855)		0.545*** (0.0709)
collateral <sub>i</sub>		-0.296* (0.157)	0.133 (0.193)	-0.00442 (0.180)
loan friend <sub>i</sub>	-0.595 (1.473)	-0.472 (1.931)	0.0554 (0.105)	0.179 (0.112)
loan bank <sub>i</sub>	-3.142* (1.854)	-0.573 (2.202)	-0.0728 (0.134)	-0.0609 (0.123)
loan ML <sub>i</sub>	1.662 (1.872)	3.750** (1.699)	0.176** (0.0790)	0.172** (0.0815)
log(borrowed) <sub>i</sub> *loan friend <sub>i</sub>	0.0581 (0.122)	0.0537 (0.160)		
log(borrowed) <sub>i</sub> *loan bank <sub>i</sub>	0.246 (0.150)	0.0444 (0.178)		
log(borrowed) <sub>i</sub> *loan ML <sub>i</sub>	-0.129 (0.151)	-0.297** (0.139)		
collateral <sub>i</sub> *loan friend <sub>i</sub>			-0.0851 (0.327)	0.0527 (0.417)
collateral <sub>i</sub> *loan bank <sub>i</sub>			-0.0512 (0.317)	-0.0184 (0.289)
collateral <sub>i</sub> *loan ML <sub>i</sub>			-1.131*** (0.376)	-1.202*** (0.415)
Constant	4.642*** (0.799)	1.035 (0.849)	11.76*** (0.0507)	1.651** (0.836)
Observations	610	447	610	447
R-squared	0.165	0.203	0.021	0.217

Source: Own calculations using BRMS 2018/19. The reference group is loans from family members. The dependent variable is log transformed amount of the already repaid migration loan. The independent variables represent migrants' personal characteristics. To see whether there are heterogeneous effects across loan types we add dummy variables for loan from friends, banks, and money lenders, respectively, and include interaction terms between the dummies and other independent variables. Base group is loan from household members. Robust standard errors in parentheses. Significance at the \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 level.

Finally, these results should be viewed with three caveats. First, the coefficients might be biased due to omitted variables. There is no available data on the length and the possible changes in interest rates of the loans. The BRMS 2018/19 has neither information on the psychological aspects related to indebtedness nor on repayment while abroad. Second, measurement errors might cause downward bias of the results, measurement issues on key variables like migration cost, and salary. Finally, reverse causality might occur if, for instance, the individual's repayment status impacts loan characteristics

rather than the other way around. This may be the case if the analysis included two or more migration episodes for an individual. However, in this study returned migrants were asked about their loan repayment status as of 2018/19 and, retrospectively, about their characteristics and loan features which makes reverse causality quite unlikely. In addition to the sources of potential bias of the presented regression results mentioned above, we want to emphasize that the samples for the various presented regressions are rather small which may reduce the validity of the study.

## 5. Conclusion and Policy Implications

The paper finds that migration costs drive migration-related indebtedness of returnees in Bangladesh. Our findings suggest that it is the migration cost that is a major determinant of relying on a migration loan in T=1 (proposition 1). Second, the paper shows that the migration loan repayment after the migrants' return in T=3 is slow, and this low repayment rate might negatively affect the financial wellbeing of the migrants and their household especially if re-migration is considered a viable option for the future (proposition 3). The results do not provide insights into the implications of migration debt on the migrants and their households during the migration episode in T=2 (proposition 2).

The paper also finds that the choice of migrant-related loan products is driven by the individual characteristics of the migrants themselves. The migrant's individual's financial and employment situation, age, migration cost, and the place of residence have been seen to drive the decision between formal loan sources (banks and moneylenders) and informal loan providers (friends and family members). Migrants from households with lower income and who have worked in the five years before departure seem to take out loans from banks or other financial institutions. Individuals from poorer households who possibly need larger loans and whose family members might not be able to lend them money may prefer loans provided by a bank or money lender. At the same time, older individuals who lack work experience might not qualify for formal loans and therefore prefer loans provided by family and friends.

In terms of the determinants of loan repayment – and subsequently persistent indebtedness of migrants - migration costs and timing of return were found to be important. A one percentage point increase in migration costs were estimated to reduce the likelihood of full loan repayment by 12.9 percentage points, on average. Early return may reduce the probability of full loan repayment 7.32 percentage points, on average, compared to planned return, *ceteris paribus*. Repayment also tends to be slow, with every year passed since return increases the already repaid loan amount by only around 2.5 to 3.0 percentage points, on average. If a borrower has put up collateral, then it may reduce the already repaid loan amount by around 30 percentage points compared to loans that did not require collateral. What might explain this seemingly strong correlation is that land is commonly used as collateral for migration loans. However, this also implies that indebtedness households may be risking productive assets if they are unable to repay their debts.

The first key policy implication of the analysis in this paper is on the importance of more and new loan products with more favorable terms for prospective migrants to avoid the over-indebtedness of migrant households. For instance, BRAC already offers migration loans to aspiring Bangladeshi labor migrants, within its microfinance program, in combination with services such as pre-migration orientation and post-migration re-integration. BRAC also provides visa and document verification services to aspiring labor migrants. The NGO charges higher interest rates than other financial institutions because small loans take longer to process (BRAC 2021). However, as loans with higher

interest rates are often not attractive for many aspiring labor migrants, a main policy goal must be to make loan programs from NGOs like BRAC more appealing. The expansion of such low-cost loan products and therefore the increased supply would make loan products from banks and money lenders with high interest rates less attractive (Hoff and Stiglitz 1998).

The second key policy implication is that the application processes for formal loans need to be revisited. A report from the Bangladesh Bank (Bangladesh Bank 2019) argued that migrant workers' access to formal finance is generally limited, driving them to other sources. It noted that only two state-owned banks — Probashi Kallyan Bank (PKB) and Agrani Bank Ltd (ABL) — offer loans for migration financing. Of the two, the PKB is a bank capitalized using some of the fees paid by outbound migrants, and is meant to be a financial institution catering to the needs of migrants. However, as noted in Bangladesh Bank (2019), the number of loans provided for migration was extremely small - 7,107 in 2018-19, 5,584 in 2017-18, 6,303 in 2016-17, 7,752 in 2015-16, 4,229 in 2014-15, 1126 in 2012-13 and 888 in 2011-12 – relative to the number of migrants leaving the country over those time periods. The paper argues that these low rates of borrowing – even from an institution with a mandate for serving migrants – is due to complicated policy, conservative behavior of bankers, and a range of additional charges.



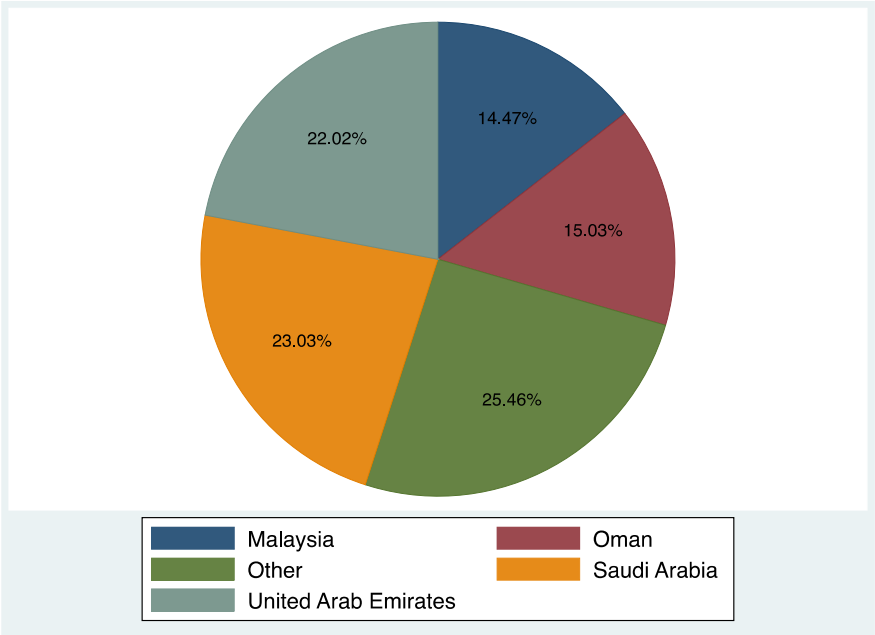
## References

- Ahmed, S. A. and L. Bossavie (eds) 2022. "Towards Safer and More Productive Migration for South Asia." World Bank, Washington, D.C.
- Bangladesh Return Migration Survey (BRMS) 2018/19. World Bank, Washington, D.C.
- Baey, G. and B. S. A. Yeoh. 2015. "Livelihood Strategies Amongst Bangladeshi Migrant Men Working in Singapore's Construction Industry." Working Paper 26. Migrating out of Poverty Research Programme Consortium. University of Sussex.
- Bangladesh Bank. 2019. "A Survey on Loans for Expatriates - Its Uses and Impact. Special Research Work." SRW1903. Bangladesh Bank: Dhaka. Online: [https://www.bb.org.bd/pub/research/sp\\_research\\_work/srw1903.pdf](https://www.bb.org.bd/pub/research/sp_research_work/srw1903.pdf), retrieved July 11, 2021.
- Boskin, M. J. 1974. "A Conditional Logit Model of Occupational Choice." In: *Journal of Political Economy*, 82 (2): 389-98.
- BRAC. 2021. "Loans For Migrant Households." Online: <http://www.brac.net/program/microfinance/loans-for-migrant-households/>, retrieved on 04/30/2021.
- Bylander, M. 2014. „Borrowing Across Borders: Migration and Microcredit in Rural Cambodia.“ In: *Development and Change*, 00(0): 1-24.
- Davidson, J. O'Connell. 2013. "Troubling freedom: Migration, debt, and modern slavery." In: *Migration Studies*, 1(2): 176-195.
- Deshingkar, P, C.R. Abrar, M. T. Sultana, K. N. H. Haque, and Md S. Reza. 2018. "Producing ideal Bangladeshi migrants for precarious construction work in Qatar." In: *Journal of Ethnic and Migration Studies*, 45(14): 2723-2738.
- Friebel, G. and S. Guriev. 2006. „Smuggling Humans: A Theory of Debt-Financed Migration.“ In: *Journal of the European Economic Association*, 4 (6): 1085-1111.
- Gebre-Egziabher, K. A. 2019. All or Nothing: The Costs of Migration from the Horn of Africa – Evidence from Ethiopia." Chapter 2. In: M. Van Reisen, M. Stokmans, and K.A. Gebre-Egziabher (eds.): *Roaming Africa: Migration, Resilience and Social Protection*: 37-54. Langaa Research & Publishing CIG.
- Goh, C., K. Wee, and B. S.A. Yeoh. 2016. „Who's holding the bomb? Debt-financed migration in Singapore's domestic work industry.“ Working Paper 38. Migrating out of Poverty Research Programme Consortium. Sussex University, Brighton, UK.
- Hassan, G.M., Chowdhury, M. and Bhuyan, M., 2016. Growth effects of remittances in Bangladesh: Is there a U-shaped relationship?. In: *International Migration*, 54(5), pp.105-121.
- Heidbrink, L. 2019. „The Coercive Power of Debt: Migration and Deportation of Guatemalan Indigenous Youth.“ In: *The Journal of Latin American and Caribbean Anthropology*, 24 (1): 263-281.
- Hoff, K. and J. Stiglitz. 1998. "Moneylenders and bankers: price-increasing subsidies in a monopolistically competitive market." In: *Journal of Development Economics*, 55 (2): 485-518.

- International Organization of Migration (IOM) 2020. "Rapid Assessment Needs and Vulnerabilities of Internal and International Return Migrants in Bangladesh." International Organization for Migration, Regional Office for Asia and the Pacific, Bangkok.
- Johnson, R. L. and M. Woodhouse. 2018. "Securing the Return: How Enhanced US Border Enforcement Fuels Cycles of Debt Migration." In: *Antipode*, 50 (4): 976-996.
- Moniruzzaman, M. and M. Walton-Roberts. 2018. "Migration, debt and resource backwash: how sustainable is Bangladesh-Gulf circular migration?" In: *Migration and Development*, 7 (1): 85-103.
- Rahman, Md M. 2011. "Emigration and the Family Economy: Bangladeshi Labor Migration to Saudi Arabia." In: *Asian and Pacific Migration Journal*, 20 (3-4): 389-411.
- Rahman Md M. 2013. "Migrant Indebtedness: Bangladeshis in the GCC Countries." In: *International Migration*, 53 (6): 205-219.
- Surtees, R. 2018. "At Home: Family reintegration of trafficked Indonesian men." In: *Anti-Trafficking Review*, 10 (2018): 70-87.
- World Development Indicators. 2021. World Bank, Washington, D.C

# Annex A: Supplementary tables and figures

**Figure A1: Bangladeshi labor migrants are concentrated in a few destination countries.**



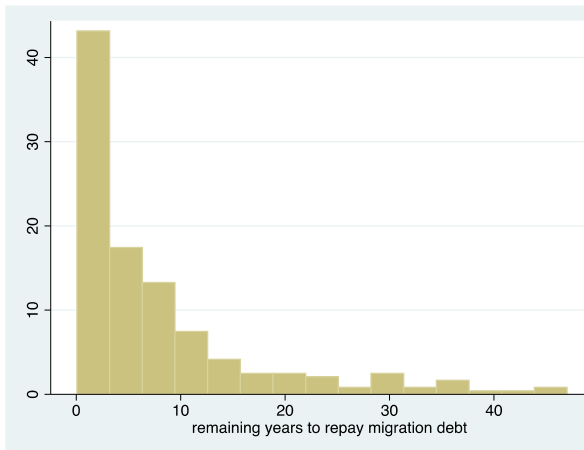
Source: Own calculations using BRMS 2018/19.

**Table A1: High migration costs force aspiring international migrants to borrow money.**

Variable	Obs.	Mean	Std. Dev.	Min	Max
Migration costs	2,787	304,916	156,217	11,000	1,700,000
Money borrowed	2,789	232,287	202,269	5,000	4,000,000

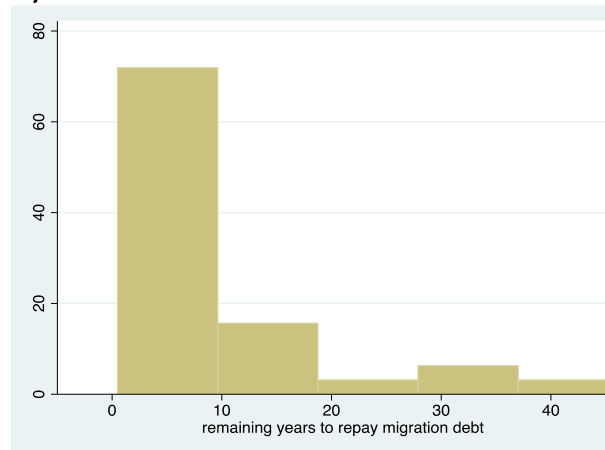
Source: Own calculations using BRMS 2018/19.

**Figure A2: Estimated average years that will need to be spent to repay family loans (distr. in %).**



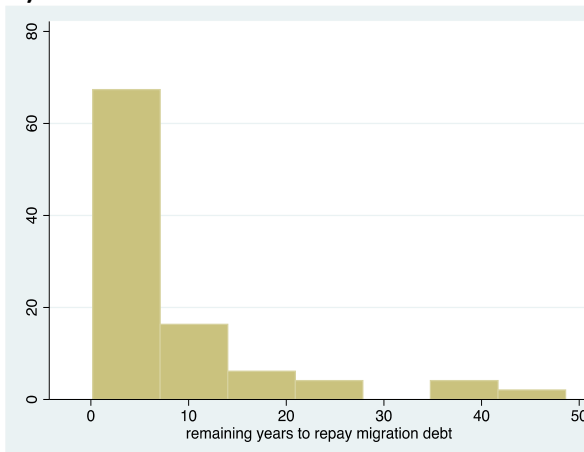
Source: Own calculations using BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 95th percentile. The longest calculated repayment period is 522 years.

**Figure A3: Estimated average years that will need to be spent to repay loans from friends (distr. in %).**



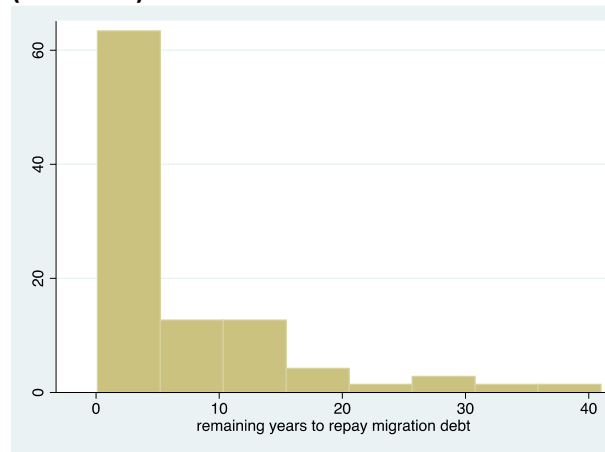
Source: Own calculations using BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The longest calculated repayment period is 46 years.

**Figure A4: Estimated average years that will need to be spent to repay loans from banks (distr. in %).**



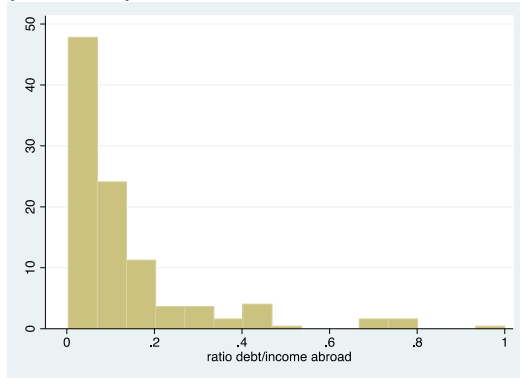
Source: Own calculations using BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 98th percentile. The longest calculated repayment period is 80 years.

**Figure A5: Estimated average years that will need to be spent to repay loan from moneylenders (distr. in %).**



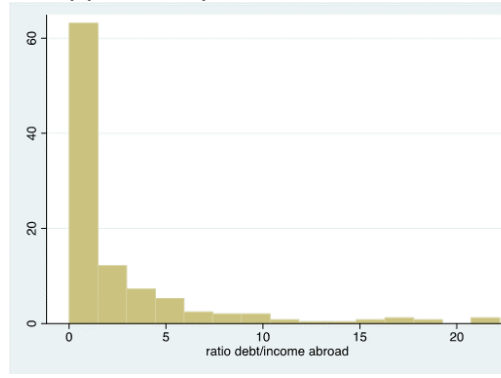
Source: Own calculations using BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 95th percentile. The longest calculated repayment period is 116 years.

**Figure A6: Estimated ratio of migration debt and income abroad by month (family loans) (distr. in %).**



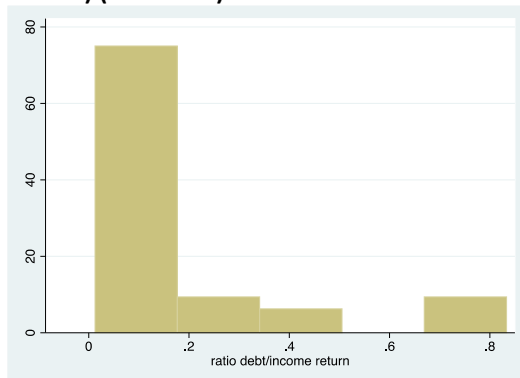
Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 97th percentile. The debt-to-income ratio ranges up to 55.56.

**Figure A7: Estimated ratio of migration debt and income upon return by month (family loans) (distr. in %).**



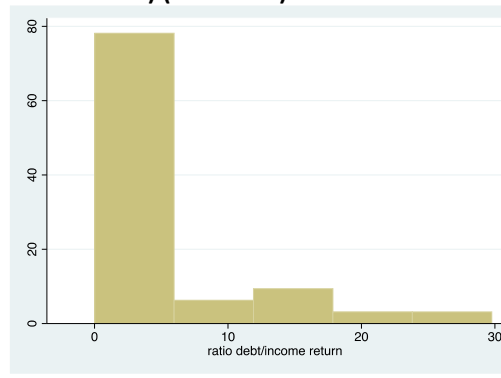
Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 97th percentile. The debt-to-income ratio ranges up to 83.33.

**Figure A8: Estimated ratio of migration debt and income abroad by month (loans from friends) (distr. in %).**



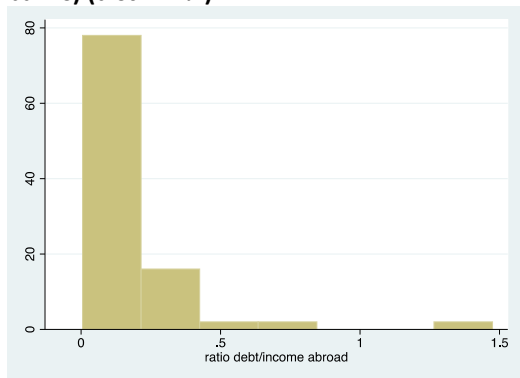
Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The debt-to-income ratio ranges up to 0.83.

**Figure A9: Estimated ratio of migration debt and income upon return by month (loans from friends) (distr. in %).**



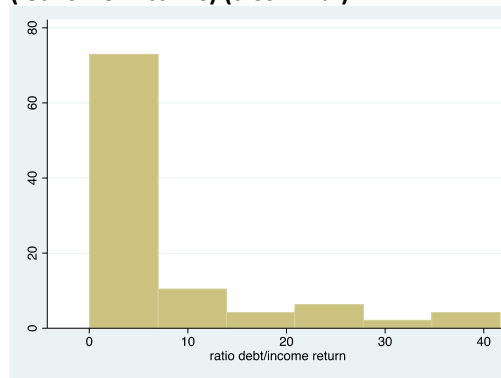
Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The debt-to-income ratio ranges up to 29.76.

**Figure A10: Estimated ratio of migration debt and income abroad by month (loans from banks) (distr. in %).**



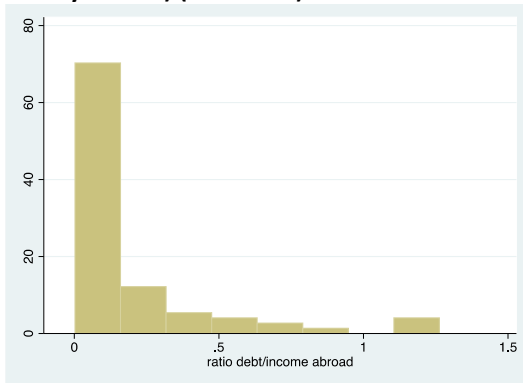
Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The debt-to-income ratio ranges up to 1.47.

**Figure A11: Estimated ratio of migration debt and income upon return by month (loans from banks) (distr. in %).**



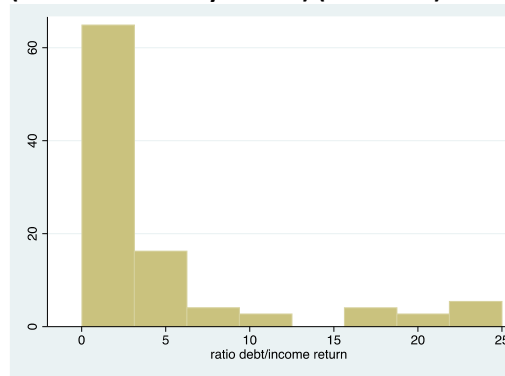
Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 96th percentile. The debt-to-income ratio ranges up to 156.25.

**Figure A12: Estimated ratio of migration debt and income abroad by month (loans from moneylenders) (distr. in %).**



Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 98th percentile. The debt-to-income ratio ranges up to 125.75.

**Figure A13: Estimated ratio of migration debt and income upon return by month (loans from moneylenders) (distr. in %).**



Source: BRMS 2018/19. Note: For this chart only loans of individuals with a single loan source are counted. The displayed data is winsorized at the 98th percentile. The debt-to-income ratio ranges up to 41.67.

## Annex B: Probit regression of migration loan on migrant’s personal characteristics.

To better understand the actors that drive aspiring Bangladeshi labor migrants to take out migrant loans rather than rely on other sources of financing, we run a probit regression model of the following form:

$$\Pr(\text{dummy loan}_i = 1 | X) = \Phi(\alpha_0 + \alpha_1 v_i + \varepsilon_i)$$

with  $v_i$  representing a vector of variables on the individual listed below and the error term  $\varepsilon_i$ . The dependent variable  $\text{dummy loan}_i$  is a dummy variable that takes on 1 if the individual  $i$  takes out a migration loan and 0 if she does not.

## Annex C: Description of variables.

Variable name	Description
$\log(\text{cost})_i$	Migration cost (in BDT) paid by individual $i$ ;
age at departure $_i$	Age of individual (in years) for individual $i$ at departure;
age at departure $^2_i$	Age squared;
education at departure $_i$	Years of schooling completed for individual $i$ at departure;
land $_i$	Dummy variable (1=owned any land at time of departure; 0= did not own land) for individual $i$ ;
marriage $_i$	Dummy variable (1=ever married; 0= not ever married) for individual $i$ ;
megacity $_i$	Dummy variable (1=lived in Dhaka or Chittagong district before departure; 0= did not live in Dhaka or Chittagong district before departure) for individual $i$ ;
employed prior migrating $_i$	Dummy variable (1=was employed in the 5 years before departure; 0=was not employed) for individual $i$ ;
employed after return $_i$	Dummy variable (1=was employed after return; 0=was not employed) for individual $i$ ;
$\log(\text{hh\_income})_i$	Monthly household income (in BDT) for individual $i$ ;
HH member $_i$	Number of household members before departure for individual $i$ .
male $_i$	Dummy variable (1=male; 0=female) for individual $i$ ;
$\log(\text{pay abroad})_i$	Monthly average take home pay (in BDT) for individual $i$ 's work abroad;
$\log(\text{remittance})_i$	Total returned remittance (in BDT) during whole stay abroad for individual $i$ ;
early return $_i$	Dummy variable (1=early return; 0=other) for individual $i$ ;
years since return $_i$	Years passed since individual $i$ returned;

<b>Variable name</b>	<b>Description</b>
log(borrowed) <sub>i</sub>	Amount of borrowed migration loan (in BDT) paid by individual i;
interest rate <sub>i</sub>	Interest rate (in %) of migration loan paid by individual i;
collateral <sub>i</sub>	Dummy variable (1=collateral; 0=other) for individual i;
loan family <sub>i</sub>	Dummy variable (1=loan from family; 0=other) for individual i;
loan friend <sub>i</sub>	Dummy variable (1=loan from friend; 0=other) for individual i;
loan bank <sub>i</sub>	Dummy variable (1=loan from bank; 0=other) for individual i;
ML <sub>i</sub>	Dummy variable (1=loan from money lender; 0=other) for individual i;