

Impact of Parental Migration on School Attendance and Child Labor in Bangladesh

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Abstract

This paper examines the relationship between parental migration and child outcomes in Bangladesh, focusing on school attendance and child labor. Using nationally representative longitudinal household data for 2008 and 2014, we exploit within-household variation with household, village, and time fixed effects. The results reveal substantial heterogeneity by gender and birth order. Parental migration is associated with lower school attendance and higher labor participation among eldest sons, while effects for other children are limited or statistically insignificant. We find no robust association between remittance income and household child labor hours, or between remittance income and education expenditure per child. These findings highlight the role of intra-household adjustments in migrant families and point to potential vulnerabilities among eldest sons, with implications for child welfare policies in migrant-sending households in Bangladesh.

Keywords: Child labor · school attendance · parental migration · Bangladesh

JEL Classification: F 22 · I 21 · J 61 · J 82

Introduction

International migration and remittances have become a central component of development finance. Remittance flows to low- and middle-income countries are estimated to have reached approximately USD 685 billion in 2024, exceeding foreign direct investment and official development assistance (World Bank, 2024). Bangladesh is among the largest recipients globally, with remittance inflows exceeding USD 30 billion in 2025 according to central bank data (Bangladesh Bank, 2025). These flows account for a substantial share of foreign exchange earnings and play a critical role in household welfare and macroeconomic stability.

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While migration and remittances are widely associated with poverty reduction and improved consumption, their implications for intra-household outcomes, particularly the human capital of the left-behind family's children, remain ambiguous (Yang, 2008; Zhang, Behrman, Fan, Wei, & Zhang, 2014).

The literature on parental migration and child outcomes highlights two competing mechanisms, but provides no clear consensus on their net effect. On the one hand, migration may improve child welfare through remittance income by relaxing household liquidity constraints and enabling greater investment in schooling and human capital (Yang, 2008; Acosta, 2011; Ambler et al., 2021). On the other hand, parental absence may disrupt intra-household time allocation and supervision, increasing children's labor participation and reducing time devoted to education (Antman, 2011; McKenzie & Rapoport, 2011; Dinkelman & Mariotti, 2021).

A growing empirical literature attempts to quantify these competing forces, but the evidence remains mixed and highly context-specific. For instance, using panel data from Mexico, Antman (2011) documents that paternal migration is associated with reduced study time and increased labor supply among children, particularly boys aged 12–15, suggesting that labor substitution within the household may dominate income effects. In contrast, other studies exploiting exogenous variation in remittances—such as exchange rate shocks—find positive effects on schooling and reductions in child labor (Yang, 2008; Alcaraz et al., 2012). What this body of work makes clear is not a single average effect, but substantial heterogeneity across gender, age, and household structure, pointing to the importance of intra-household allocation mechanisms rather than purely income-driven responses.

Despite these insights, two key limitations remain in the existing literature. First, identification is a persistent challenge. Migration decisions are endogenous to household characteristics and shocks that may also directly affect child outcomes, making it difficult to isolate causal effects. While some studies employ instrumental variables or natural experiments, many rely on cross-sectional comparisons or imperfect instruments, raising concerns about both internal validity and external applicability. Second, much of the empirical work—particularly in developing country contexts—relies on comparisons between migrant and non-migrant households, which confound migration effects with underlying differences in preferences, resources, and constraints.

These limitations are particularly pronounced in Bangladesh. Existing evidence is sparse and largely based on cross-sectional or localized data. For example, Kuhn (2006) finds a positive association between parental migration and

schooling using data from a single sub-district, but the analysis relies on cross-sectional OLS and does not address selection into migration. More recent work using panel data has focused primarily on the determinants of migration rather than its consequences (Kikkawa & Otsuka, 2020), leaving the dynamics of child outcomes in migrant households relatively underexplored. As a result, there is limited evidence on how child outcomes adjust within households over time as migration status changes.

This paper contributes to the literature by shifting the focus from cross-household comparisons to within-household variation over time. By exploiting panel data and incorporating household fixed effects, the analysis accounts for time-invariant unobserved heterogeneity—such as parental preferences for education or persistent wealth differences—that may jointly influence migration decisions and child outcomes. While this approach does not fully resolve endogeneity concerns arising from time-varying shocks, it provides a more credible characterization of the relationship between migration and child outcomes than cross-sectional comparisons. In addition, the paper documents systematic heterogeneity by gender and birth order, highlighting the role of intra-household labor reallocation—particularly the disproportionate burden borne by eldest sons—which remains underexplored in the existing literature.

The remainder of the paper is organized as follows: The next section presents the data and descriptive statistics. Empirical strategies are described in Section 3, followed by the investigation of the main outcomes by analyzing the empirical results. The paper concludes with Section 5, which focuses on policy implications and possible extensions of the research.

2. Conceptual Framework

To guide the empirical analysis, this section outlines a simple framework linking parental migration to child outcomes through intra-household allocation decisions. The framework draws on standard models of household behavior, in which families allocate resources and time among members to maximize a joint objective subject to budget and time constraints (Becker, 1981), as well as on collective models in which allocation reflects the roles and responsibilities of individual members. Parental migration affects household decisions through two opposing channels. On the one hand, remittance income relaxes budget constraints and may increase investment in children's human capital, including schooling. On the other hand, the absence of a parent—often the primary earner—reduces the available adult labor force and may shift household responsibilities to children. The net relationship between migration and child outcomes is therefore theoretically ambiguous and depends on how households adjust along these margins.

A key implication of this framework is that these adjustments are unlikely to be uniform across children. Differences in age, gender, and social roles shape how households reallocate time and responsibilities. In many developing country contexts, including rural Bangladesh, the eldest son is often expected to assume greater economic responsibility in the absence of a parent. This pattern is consistent with intra-household specialization, where tasks are assigned based on relative capacity and social norms. Following parental migration, the household faces a trade-off between increased income from remittances and the loss of adult labor. While additional income may support schooling, the absence of a parent increases the household's need for labor. Given differences in capacity and social expectations, households may rely more heavily on older children—particularly eldest sons—to compensate for the missing labor. As a result, the reallocation of time away from schooling and toward work is expected to be more pronounced for this group relative to their siblings.

Importantly, this framework emphasizes that observed outcomes reflect a combination of economic incentives and household institutional norms. The empirical analysis that follows is therefore designed to document these differential patterns, rather than to identify causal effects of migration.

3. Data

This study uses longitudinal household survey data from rural Bangladesh collected by the Bangladesh Institute of Development Studies (BIDS), the International Rice Research Institute (IRRI), and the Bangladesh Rural Advancement Committee (BRAC). The survey uses a sample of households across multiple rounds (1988, 2000, 2004, 2008, and 2014) at the rural level and covers 62 villages in 57 districts. The sample is constructed using a multistage stratified random sampling design that covers villages across all major regions of Bangladesh. The original sample of 1,240 households in 1988 was expanded over successive waves to 2,843 households in 2014, primarily due to household splitting and panel follow-up of original households and their descendants. We focus on the 2008 and 2014 waves, which contain detailed information on migration and remittances. The survey collects rich information on household demographics, income and expenditure, labor supply, education, and migration. Migration modules include migrant numbers, remittance flows, and migration costs. The analysis is restricted to households observed in both 2008 and 2014 with children aged 6–17. The sample is rural, which is important given the prevalence of both migration and child labor in rural Bangladesh. Attrition between these waves is relatively low (around 10%), consistent with other panel surveys in similar contexts (Kikkawa & Otsuka, 2020). The survey evaluated poverty and income dynamics in rural Bangladesh by collecting data on various aspects of the rural economy, including income & expenditure, the labor market,

rural infrastructure, poverty, gender, and education over more than two decades. Further, it collected information on household migration, including the number of migrants, the amount of remittances sent, the cost of migration, the source of the migration cost, and information on social networking. However, detailed information on migration was absent in the initial studies, which is why this study analyzes data from the 2008 and 2014 surveys. The study focuses on families with children aged 6 to 17 residing in households with at least one parent who is an international migrant. A potential concern with the survey is that it only captures data from rural areas of Bangladesh, potentially overlooking characteristics of international migration from urban areas. Another common issue in longitudinal surveys is attrition. As mentioned earlier, the attrition rate for this data set is only 10% from 2008 to 2014, which may be considered reasonable. Moreover, this paper uses data from households that appear in both surveys in 2008 and 2014.

Table A1 presents summary statistics for children aged 6 to 17 and their households in 2008 and 2014, comparing migrant and non-migrant households. A household is classified as migrant if at least one parent is an international migrant. School attendance is a binary indicator equal to 1 if the child is currently enrolled, while child labor is a binary indicator of participation in income-generating activities outside the household. School attendance increased over time for both groups, with higher enrollment rates among children in migrant households in 2014. Female children have higher attendance rates than male children, particularly in migrant households. In contrast, child labor is more prevalent among boys and among children in non-migrant households. These descriptive patterns suggest that differences in schooling and labor outcomes may vary by gender and household migration status.

Migrant households differ systematically from non-migrant households. They are more likely to have smaller family sizes and exhibit higher levels of parental education and income. Remittance-receiving households have higher per capita income but may differ in asset composition, including land ownership. These differences underscore the importance of accounting for both observed and unobserved heterogeneity when examining the relationship between migration and child outcomes. Migrant households also appear more likely to be female-headed. This pattern is consistent with the composition of international migration from Bangladesh, where migrants are predominantly male. As a result, when fathers migrate abroad, spouses often assume the role of household head in their absence.

Migrant households differ systematically from non-migrant households along several observable dimensions. They are significantly more likely to be female-headed (93–95 percent, compared to 11–13 percent among non-migrant

households) and exhibit smaller household sizes (3.6–3.8 members versus 4.5–5.0). Parental human capital is also higher in migrant households: fathers have, on average, 5.7–6.0 years of schooling compared to 4.1–4.6 years in non-migrant households, with similar differences for mothers. These households receive substantial remittance inflows—approximately BDT 200,000 annually on average—which is reflected in higher per capita income, which is comparable with the national level survey in 2013 conducted by the Bangladesh Bureau of Statistics (BBS)¹. Despite higher income levels, migrant households tend to hold fewer land assets in later periods (0.22 acres versus 0.42 acres in 2014) and are more likely to be located in relatively better-connected villages with greater access to electricity. Taken together, these patterns point to non-random selection into migration along both economic and demographic dimensions, underscoring the importance of controlling for household heterogeneity in empirical analysis.

4. Empirical Strategy

We examine the relationship between parental migration and child outcomes, specifically school attendance and child labor, using the following specification:

$$Y_{ijt} = \beta_1 M_{jt} + \beta_2 X_{ijt} + \alpha_j + \delta_t + \varepsilon_{ijt} \dots \dots \dots (1)$$

Where, Y_{ijt} is (i) the dummy for school attendance of the i -th child in j -th household at the time t (ii) dummy for child labor of the i th child in the j th household at time t . M_{jt} is a binary indicator which takes the value of one if any one of the parents is a foreign migrant in the household j at time t and zero otherwise.² X_{ijt} is a vector of child- and household-level controls, including the child's age and its square, family composition³, parental education, land ownership, and village-level characteristics such as access to electricity. Household fixed effects α_j capture time-invariant unobserved heterogeneity, while δ_t denotes survey year fixed effects.

The empirical specification is motivated by two competing mechanisms emphasized in the literature. On the one hand, migration may improve child outcomes by increasing remittance income, thereby relaxing liquidity constraints. On the other hand, parental absence may increase children's labor supply or

¹ Bangladesh Bureau of Statistics (BBS). Report on the use of remittances (SUR), 2013. www.bbs.gov.bd

² The analysis focuses on international migration only, as domestic migrants in Bangladesh are typically less absent from the household and do not generate comparable income gains. Consistent with this distinction, Francine D. Blau Antman (2010) finds no significant effect of domestic migration on children's schooling.

³ Family income is excluded from the baseline specification. In auxiliary regressions, its coefficient is small and statistically insignificant. Moreover, income is likely endogenous to migration and child outcomes, as remittances directly affect household resources, making it a potential "bad control."

reduce schooling due to the reallocation of household responsibilities. As a result, the net relationship between migration and child outcomes is theoretically ambiguous.

A key empirical challenge arises from the endogenous nature of migration decisions. Households that send migrants may differ systematically from those that do not along both observed and unobserved dimensions. In addition, migration and child outcomes may be jointly determined. To address these concerns, we exploit the panel structure of the data and include household fixed effects, which absorb time-invariant unobserved characteristics. Identification is therefore based on within-household variation in migration status over time. While this approach mitigates bias arising from fixed unobservables, it does not fully address concerns about time-varying unobserved factors or reverse causality. Accordingly, the estimates should be interpreted as conditional associations rather than causal effects.

Given the binary nature of the main outcomes, a natural alternative is to use nonlinear models such as logit or probit. However, we estimate equation (1) using a linear probability model (LPM) for two main reasons. First, the inclusion of household fixed effects in nonlinear models leads to the incidental parameters problem, which can bias estimates in short panels such as ours with only two periods. Second, the LPM provides coefficients that are directly interpretable as changes in probabilities and allows for straightforward inclusion of multiple fixed effects and interaction terms. While the LPM may generate predicted probabilities outside the $[0,1]$ range, this limitation is less concerning in our context, given the focus on average partial associations rather than individual predictions. Robust standard errors are used to account for heteroskedasticity.

Role of Remittances

The baseline specification focuses on parental migration M_{jt} as the primary variable of interest. Remittances are not included as a control in this specification because they are likely to be endogenous and lie on the causal pathway between migration and child outcomes. Controlling for remittances would therefore risk introducing “bad control” bias by conditioning on a post-migration outcome.

Instead, we treat remittance variables as complementary outcomes and estimate separate specifications to examine potential income channels. Specifically, we estimate models where the dependent variables are (i) education expenditure per child and (ii) child labor hours within the household, using both a remittance-receiver indicator and the logarithm of remittance income:

$$\ln Z_{jt} = \beta_1 R_{jt} + \beta_2 \ln Y_{jt} + \beta_3 X_{jt} + \beta_4 CH_{ijt} + \alpha_j + \delta_t + u_{jt} \dots \dots \dots (1)$$

where Z_{jt} represents household-level outcomes such as education expense and child labor hour per week, and R_{jt} is a binary indicator equal to one if the household receives international remittances, and zero otherwise. Y_{jt} denotes the logarithm of remittance income received in the previous year. The vector X_{jt} includes household-level characteristics, while CH_{ijt} captures child-specific characteristics. Household fixed effects α_j control for time-invariant unobserved heterogeneity, and δ_t represents survey year fixed effects.

In this framework, remittances are best interpreted as a mediating channel through which parental migration may influence household decisions, rather than as an independent treatment. Migration generates remittances, which in turn may affect resource allocation and child outcomes. Accordingly, these specifications should be interpreted as descriptive relationships that provide insight into potential income effects, rather than as structural mediation models. Since remittances are jointly determined with migration and other household decisions, the estimates do not isolate causal mediation effects but instead complement the main analysis by characterizing associated patterns.

5. Empirical Results

Table A2 reports estimates of the relationship between parental migration and school attendance for children aged 6-17. The first three columns show the result for all children. The fourth and fifth columns present the results for males and females, respectively. The first column presents the results with multiple covariates and without any fixed effects. In specifications without fixed effects, parental migration is positively but insignificantly associated with school attendance. However, once household and village fixed effects are introduced, the coefficient becomes negative, suggesting that within-household changes in migration status are associated with a decline in school attendance of approximately 5 percentage points. Disaggregating by gender reveals substantial heterogeneity. Parental migration is associated with a significant reduction in school attendance among boys (-17 percentage points), while the corresponding estimate for girls is positive but statistically insignificant. These patterns are consistent with differential intra-household responses by gender. Table A3 further examines heterogeneity by birth order. The estimates indicate that the decline in schooling is concentrated among eldest sons, for whom parental migration is associated with a reduction in school attendance of approximately 30 percentage points. In contrast, the effect for eldest daughters is small and statistically insignificant. No meaningful association is observed for younger sons. Additional specifications show no significant relationship between non-parental migration and schooling outcomes. Estimates based on remittance income suggest a negative association between schooling and the eldest sons, though these results should be interpreted cautiously.

Table A4 presents results for child labor. In baseline specifications without fixed effects, parental migration is weakly associated with lower child labor participation. This relationship reverses once household and village fixed effects are included, indicating that parental migration is associated with an increase in child labor of approximately 5 percentage points. As with schooling, the effects are concentrated among boys: parental migration is associated with a 16 percentage-point increase in labor participation among boys, while the estimate for girls is negative and statistically insignificant. Table A5 shows that this increase in labor supply is driven primarily by the eldest sons. Parental migration is associated with a 28 percentage-point increase in child labor among eldest sons, with no significant effects on other children. Non-parental migration remains unrelated to child labor outcomes. Remittance income is positively associated with labor supply for eldest sons, although the magnitude is modest.

Tables A6 and A7 examine potential income channels. The first and second column of Table A6 shows results for the remittance receiver with village and household fixed effects, respectively. Cross-sectional estimates suggest that remittance-receiving households spend more on education and allocate less time to household child labor. The result indicates that remittance receiver families spend almost (89% higher) double in education expenses per child compared to those of non-remittance receivers. However, these relationships disappear once household fixed effects are included. Similarly, continuous measures of remittance income are not robustly associated with either education expenditure or child labor hours. These findings suggest that income effects alone are unlikely to explain the observed patterns in schooling and labor outcomes.

Taken together, the results reveal substantial heterogeneity in the relationship between parental migration and child outcomes. The negative association with schooling and positive association with labor supply are concentrated among eldest sons, while effects for other children are limited. These patterns are consistent with intra-household labor reallocation in response to parental absence. Girls' school enrollment at both the primary and secondary levels is higher than that of boys in Bangladesh. Moreover, it is a customary practice in Bangladesh, especially in rural areas, that the eldest son takes the responsibility to earn money in the absence of their fathers. At the same time, the absence of robust effects of remittance income suggests that income gains do not fully offset these adjustments.

These findings should not be interpreted as evidence that migration is associated with worse outcomes for all children in migrant households. Rather, they indicate that changes in migration status are associated with uneven adjustments within the household, with certain members—particularly eldest sons—bearing

a disproportionate share of the response. The absence of robust remittance effects further suggests that income gains do not fully offset these adjustments. Consistent with the empirical strategy, all estimates are interpreted as conditional associations rather than causal effects.

6. Conclusion

This paper examines the relationship between parental migration and child outcomes in Bangladesh, focusing on school attendance and child labor. Using longitudinal household data and household fixed effects, we document substantial heterogeneity in outcomes by gender and birth order. The results indicate that parental migration is associated with a decline in school attendance and an increase in labor participation among eldest sons, while effects for other children are limited. In contrast, no robust relationship is found between remittance income and either education expenditure or child labor hours. These patterns suggest that intra-household reallocation in response to parental absence may play a more prominent role than income gains in shaping child outcomes. The findings are consistent with a growing body of evidence highlighting gender- and age-specific responses to migration, as well as with models of household decision-making that posit that resource allocation reflects both economic incentives and social norms. In particular, the concentration of effects among eldest sons points to the role of substitution in household labor supply when adult members migrate.

From a policy perspective, the results caution against viewing migration as uniformly beneficial for all household members. Targeted interventions to sustain school participation—particularly among older boys in migrant households—may help mitigate potential adverse effects. At the same time, the absence of strong income effects suggests that policies focusing solely on remittance utilization may be insufficient to address these outcomes. Finally, given the potential for remaining endogeneity, the estimates should be interpreted as conditional associations. Future research that leverages exogenous variation in migration or exploits more detailed data on intra-household decision-making would be valuable in identifying the underlying mechanisms and establishing causal effects.

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Appendix

Table A 1. Characteristics of the Children Aged 6 to 17 Years Old and their Corresponding Households for the Year 2008 and 2014

	Migrant	2008 Non- migrant	Difference	Migrant	2014 Non- migrant	Difference
	(1)	(2)	(2-1)	(4)	(5)	(5-4)
Child characteristics (age 6-17 years)						
School attendance	0.88	0.80	0.07	0.94	0.85	0.089***
School attendance (male)	0.84	0.75	0.09	0.87	0.79	0.08
School attendance (female)	0.90	0.86	0.04	1.00	0.91	0.09***
Child labor	0.13	0.18	-0.06	0.05	0.11	-0.064***
Child labor (male)	0.15	0.23	-0.08	0.11	0.16	-0.05
Child labor (female)	0.10	0.13	-0.03	0.00	0.06	-0.06***
Child age	10.5	11.45	-0.945***	11.12	11.63	-0.50
Child sex (male)	0.52	0.53	-0.01	0.47	0.54	-0.06
Education expense per child per year ^c	3.21	2.08	1.13***	7.87	4.61	3.26***
Observation	88	2244		99	1716	
Household Characteristics						
Age of the HH head	32.63	48.55	-15.92***	35.46	49.06	
Household size	3.78	5.05	-1.27***	3.57	4.51	
Dummy for female head	0.95	0.11	0.838***	0.93	0.13	
Father education	6.02	4.08	1.93**	5.7	4.6	
Mother education	5.09	2.98	2.10***	5.48	3.83	
Number of children	1.49	1.15	0.338***	1.62	0.99	
Foreign remittance	112.83	13.03	99.79***	201.77	27.47	
Income per capita	42.94	19.28	23.65***	74.9	43.82	
Cultivable land	0.33	0.46	-0.13	0.22	0.42	
Village characteristics						
Distance from Upazila HQ	5.81	7.2	-1.39*	5.12	5.42	
Access to electricity	78.56	68.4	10.15***	0.95	0.89	
Observation	59	1951		61	1762	

Notes: The table presents characteristics of children aged 6-17 in 2008 and 2014. Migrant households include those with at least one parent who has migrated abroad. Non-migrants include non-parental migrants and non-migrant households. The 3rd and 6th columns show the difference between migrant and non-migrant characteristics. ***p<0.001, **p<0.01, *p < 0.05.^c Prices are adjusted to the 2010 level by using CPI from World Development Indicators (WDI)

Table A 2. Impact of the Parental Migration on School Attendance

	All Children			Male	Female
	School attendance	School attendance	School attendance	School attendance	School attendance
	(1)	(2)	(3)	(4)	(5)
Parental migration	0.0395 (0.0206)	-0.0616 (0.0443)	-0.0622 (0.0446)	-0.174* (0.0717)	0.0489 (0.0461)
Age of the child	0.127*** (0.0130)	0.119*** (0.0134)	0.119*** (0.0135)	0.103*** (0.0237)	0.109*** (0.0218)
Age of child square	-0.0070*** (0.0006)	-0.0069*** (0.0006)	-0.0069*** (0.0006)	-0.0067*** (0.0010)	-0.0059*** (0.0010)
Father education	0.0046** (0.0016)	0.0108 (0.0073)	0.0105 (0.0075)	0.0238 (0.0163)	0.00151 (0.0035)
Mother education	0.0096*** (0.0019)	-0.0003 (0.0067)	-0.0001 (0.0068)	-0.0089 (0.0162)	-0.0026 (0.0048)
No of children	-0.0124* (0.0053)	0.00293 (0.0107)	0.00266 (0.0109)	0.0194 (0.0172)	-0.0288* (0.0140)
Cultivable land	0.0233** (0.0084)	-0.0384 (0.0392)	-0.0405 (0.0411)	-0.0151 (0.0695)	-0.0369 (0.0534)
Access to electricity	-0.0452** (0.0169)	0.0728 (0.0454)	0.065 (0.0478)	0.114 (0.0798)	0.083 (0.0495)
HH & year fixed effect	NO	YES	--	--	--
HH, village & year FE	NO	--	YES	YES	YES
Number of observations	4022	3666	3666	1658	1376

Notes: Parental migration equals 1 if either parent is a foreign migrant. The first three columns show the results for all children, where the first column shows the results without any fixed effects. The second and third columns present the results after adding household and year fixed effects and household, village, and year fixed effects, respectively. The fourth column presents the results for the son, while the fifth column presents the results for the daughters. Robust standard errors clustered at the household level are in parentheses. ***p<0.001, **p<0.01, *p<0.05.

Table A 3. Impact of the Parental Migration on School Attendance of the Eldest Son

	For the eldest son				For the eldest daughter	For son except eldest
	School attendance	School attendance	School attendance	School attendance	School attendance	School attendance
	(1)	(2)	(3)	(4)	(5)	(6)
Parental migration	-0.303*				-0.0319	-0.0537
	(0.125)				(0.0685)	(0.0709)
Remittance receiver		-0.324**				
		(0.099)				
Non-Parental migration			-0.220			
			(0.135)			
Log of remittance income ^a				-0.0281**		
				(0.008)		
Other control	YES	YES		YES	YES	YES
Village, Household & year FE	YES	YES		YES	YES	YES
Number of observations	596	596	596	596	414	498

Notes: Parental migration equals 1 if either parent is a foreign migrant. The remittance receiver takes the value one if the household receives foreign remittances. Non-parental migration takes the value of 1 if any member other than parents is an international migrant. Age of child, age of child square, parents’ education, number of children, cultivable land, and access to electricity are used as control variables. Robust standard errors clustered at the household level are in parentheses. ***p<0.001, **p<0.01, *p<0.05.

^a We add one with all remittance income to include zero remittance income.

Table A 4: Impact of the Parental Migration on Child Labor

		For all children		For son	For daughter
	Dummy for child labor	Dummy for child labor	Dummy for child labor	Dummy for child labor	Dummy for child labor
	(1)	(2)	(3)	(4)	(5)
Parental migration	-0.0258 (0.0199)	0.0603 (0.0427)	0.0609 (0.0430)	0.160* (0.0701)	-0.0551 (0.0437)
Age of child	-0.115*** (0.0117)	-0.110*** (0.0125)	-0.110*** (0.0126)	-0.104*** (0.0219)	-0.0788*** (0.0184)
Age of child square	0.0066*** (0.0005)	0.0066*** (0.0006)	0.0066*** (0.0006)	0.0069*** (0.0010)	0.0046*** (0.0009)
Father education	-0.0036* (0.0015)	-0.0102 (0.0073)	-0.0099 (0.0074)	-0.0241 (0.0163)	0.00114 (0.0030)
Mother education	-0.0090*** (0.0018)	0.0011 (0.0064)	0.0008 (0.0066)	0.0105 (0.0161)	0.00331 (0.0045)
No. of children	0.0117* (0.0050)	-0.0013 (0.0104)	-0.0009 (0.0105)	-0.0204 (0.0162)	0.0253 (0.0130)
Cultivable land	-0.0187* (0.0079)	0.0333 (0.0405)	0.0363 (0.0425)	0.023 (0.0728)	0.0087 (0.0563)
Access to electricity	0.0342* (0.0157)	-0.0521 (0.0465)	-0.0441 (0.0488)	-0.105 (0.0833)	-0.066 (0.0434)
HH & year fixed effect	NO	YES	--	--	--
HH, village & year fixed effect	NO	--	YES	YES	YES
N	4022	3666	3666	1658	1376

Notes: Parental migration takes value one if one of the parents is foreign migrant. First three column shows result for all children, where first column shows result without any fixed effect. Second and third column present result after adding household & year fixed effect and household, village & year fixed effect respectively. Fourth column presents result for son while fifth column shows result for daughters. Robust standard errors clustered at household level are in parentheses. ***p<0.001, **p<0.01, *p<0.05.

Table A 5. Impact of the Parental Migration on Child Labor of the Eldest Son

	For the eldest son				For the eldest daughter	For son except eldest
	School attendance	School attendance	School attendance	School attendance	School attendance	School attendance
	(1)	(2)	(3)	(4)	(5)	(6)
Parental migration	0.288*				0.0263	0.0251
	(0.111)				(0.0616)	(0.0677)
Remittance receiver		0.326**				
		(0.117)				
Non-Parental migration			0.224			
			(0.16)			
Log of remittance income ^a				0.0285**		
				(0.010)		
Other control	YES	YES		YES	YES	YES
Village, Household & year FE	YES	YES		YES	YES	YES
Number of observations	596	596	596	596	414	498

Notes: Parental migration equals 1 if either parent is a foreign migrant. The remittance receiver takes the value of one if the household receives foreign remittances. Non-parental migration takes the value of 1 if any member other than parents is an international migrant. Age of child, age of child square, parents’ education, number of children, cultivable land, and access to electricity are used as control variables. Robust standard errors clustered at the household level are in parentheses. ***p<0.001, **p<0.01, *p<0.05.

^a We add one with all remittance income to include zero remittance income.

Table A 6. Impact of the Remittance Income on Education Expense per Child Per Year

	Education Expense per child			
	(1)	(2)	(3)	(4)
Remittance receiver	0.894*** (0.160)	-0.159 (0.403)		
Log of remittance income ^a			0.0771*** (0.013)	-0.0114 (0.034)
Age of HH head	0.0084 (0.008)	-0.0011 (0.024)	0.0083 (0.008)	-0.0012 (0.024)
Dummy for female HH head	0.094 (0.231)	0.224 (0.599)	0.0871 (0.230)	0.21 (0.590)
Father education	0.0813*** (0.017)	-0.0559 (0.051)	0.0814*** (0.017)	-0.0559 (0.051)
Mother education	0.0978*** (0.021)	0.0303 (0.042)	0.0975*** (0.021)	0.0303 (0.042)
Number of children	0.0562 (0.067)	-0.0387 (0.098)	0.0574 (0.067)	-0.0385 (0.098)
Household size	0.121** (0.039)	0.153 (0.084)	0.120** (0.039)	0.154 (0.084)
Access to electricity	0.143 (0.249)	0.663* (0.321)	0.139 (0.249)	0.662* (0.321)
Village & year fixed effect	YES		YES	
HH & year fixed effect		YES		YES
N	2092	1403	2092	1403

Notes: The remittance receiver takes the value of 1 if the household receives remittances. The outcome is the log of education expenses per child per year. The first and second columns show the results for the remittance receiver with village and household fixed effects, respectively. The third and fourth columns present results for the log of remittance income with village and household fixed effects, respectively. Robust standard errors clustered at the household level are in parentheses. ***p<0.001, **p<0.01, *p<0.05.

^a We add one with all remittance income and education expense to include zero remittance income and zero education expense, respectively.

Table A 7. Impact of Remittance Income on Child Labor Hours inside the Household

	Log of child labor hour per week (1)	Log of child labor hour per week (2)	Log of child labor hour per week (3)	Log of child labor hour per week (4)
Remittance receiver	-0.0530* (0.0217)	-0.0573 (0.0574)		
Log of remittance income			-0.0046* (0.0018)	-0.0045 (0.0048)
Age of HH head	-0.0009 (0.0007)	0.0049 (0.0029)	-0.0009 (0.0007)	0.0049 (0.0029)
Father education	-0.00599* (0.0027)	-0.0009 (0.0091)	-0.00599* (0.0027)	-0.0009 (0.0091)
Mother education	0.0014 (0.0029)	-0.0044 (0.0090)	0.0014 (0.0029)	-0.0044 (0.0090)
Dummy for female head	0.0875* (0.0365)	0.1340 (0.0967)	0.0878* (0.0364)	0.1310 (0.0965)
Number of children	0.0065 (0.0077)	0.0025 (0.0158)	0.0064 (0.0077)	0.0024 (0.0158)
Household size	0.0019 (0.0042)	-0.0048 (0.0139)	0.0020 (0.0043)	-0.0048 (0.0139)
Village & year fixed effect	YES		YES	
Number of observations	2039	1323	2039	1323

Notes: The remittance receiver takes the value of 1 if the household receives remittances. The first and third columns show the results of the incidence receiver with village and household fixed effects, respectively. Robust standard errors clustered at the household level are in parentheses. ***p<0.001, **p<0.01, *p<0.05.

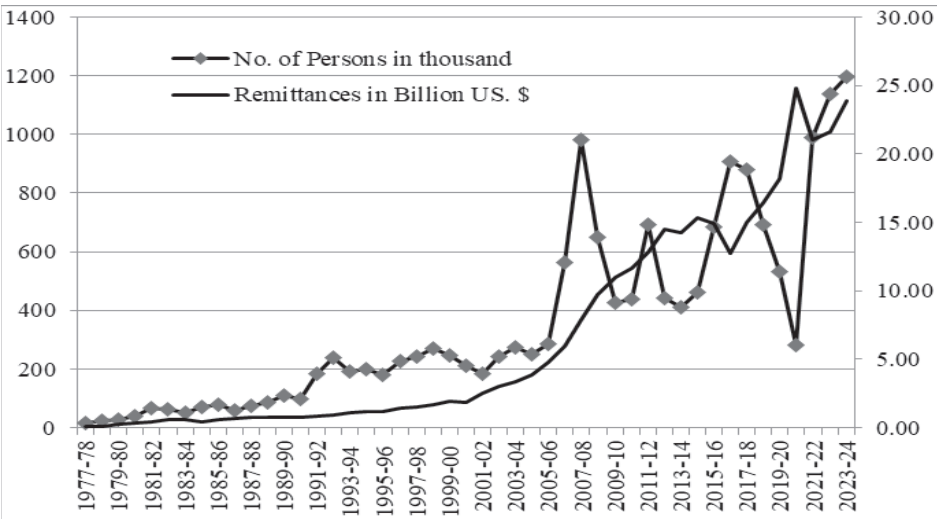


Figure A 1. Trend of Remittances and Number of Foreign Migration in Bangladesh during the Period 1977-2024

Source: Statistics Department, Bangladesh Bank, BMET, Bangladesh, 2025

