Rural youth: determinants of migration throughout the world

by
Alan de Brauw

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Acknowledgements

About the author

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Abstract

The decision of whether to migrate or not is one of many potentially important decisions that young men and women make throughout the developing world. This paper takes a unique look at the determinants of youth migration across seven different countries using recently collected data, indirectly testing both broad and specific hypotheses related to migration. The paper finds that individual characteristics are more important determinants of migration than household characteristics. Furthermore, it finds little evidence that credit constraints or relative deprivation are correlated with migration at a nationally representative level, holding other things constant. The difference between this result and those found in the literature regarding credit constraints implies that credit constraints are geographically concentrated. The paper concludes with a discussion of the implications for migration-influenced policy regarding youth.

1. Introduction

The transition from childhood to adulthood involves a set of decisions that affect the trajectory of each individual's life course. Between the ages of 15 and 24, young men and women often make decisions, either themselves or in part with their families, about when to leave school, what type of work to do and with whom to spend their lives. They also make decisions about where to live while making many of these decisions. In particular, they may decide to migrate away from their home village either to work or to seek work.

This paper explores the determinants of selected migration decisions made by rural youth in seven countries, including examples in Latin America (Mexico), Asia (Bangladesh, Indonesia, Nepal and Pakistan) and Africa (Nigeria and Tanzania). Whereas papers exploring migration decisions often describe migrants as "young" relative to the remainder of the population, this paper specifically isolates youth migration to better understand the specific determinants of decisions they make about whether to migrate or not. Moreover, the paper generally uses nationally or nearly nationally representative datasets, so it enhances the understanding of migration decisions being made by youth across a wide range of cultural contexts and economic development levels.

The literature on the determinants of youth migration from rural areas, relative to migration among the population, is relatively sparse. It largely focuses on internal rather than international migration. Exceptions include Heckert (2015) and Valentine et al. (2017), who both find that education plays an important role in both determining and constraining youth migration in Haiti and Mexico, respectively. Heckert (2015) finds that Haitians who migrate for educational opportunities, whether from rural or urban areas, end up with better labour opportunities. Valentine et al. (2017) study rural communities in southern Mexico and find that additional exposure to domestic migration is associated with more migration to peri-urban areas and urban areas to complete schooling, though that effect is dampened with additional exposure to international migration, which generally leads to unskilled jobs in the United States that are perceived not to require as much schooling. Other than these papers, quantitative studies of youth migration are largely absent from the literature.[1]

An important feature of the paper is that it largely uses panel data on individuals, to improve the measurement of migration's determinants. Five of the seven datasets used in the paper are panels, so the migration decision is measured as a flow of individuals out of rural households between survey rounds in these datasets. In cross-sectional analysis of datasets with migration modules, migration must be measured as a "stock", so it obfuscates the migrants' situation when the decision to leave is met. By measuring migration instead as a flow, the paper can correlate that migration flow with a standardized set of individual- and household-level observables that are typically measured at baseline, making the paper better able to isolate correlates of youth migration than other analyses. Moreover, cross-sectional analysis of migration is easily affected by the potential for reverse causality; by primarily studying the correlation between the decision to migrate and characteristics measured before migration occurs, reverse causality is no longer a concern. Finally, this paper standardizes variables used throughout its analysis, include individual characteristics, household demographics and asset holdings, as well as aggregate household expenditures when they are available.[2]

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[1] A final exception is Baez et al. (2017), who study how internal youth migration is affected by changes in temperature in Central America using census data. They find relatively small effects, though slightly larger among women than men.
[2] In Mexico and Nepal, only cross-sectional data are available, so they use the standard measure of the "stock" of migrants away from the household. The two countries are included to enhance the study of international migration, which is rare in the "flow" measure for most countries studied here. However, one must remain concerned about reverse causality issues in those datasets.

Finally, for panel countries we include a set of variables measuring some local characteristics, which again should affect the returns to labour and therefore the propensity to migrate. First, two variables are built up from the household-level data. These variables include the amount of land per capita available in the village at baseline and the share of households in which a household member defines off-farm work as their primary job. The former variable should affect the returns to labour in agriculture; one would expect that lower land per capita is associated with lower returns to labour in agriculture, and increased incentive to migrate. The presence of more off-farm work would be correlated with higher local returns to labour, and therefore would potentially be negatively related to migration. Of course, if youth do not have equal access to local off-farm labour in rural areas, then there will be no correlation between the two. Finally, for four of the countries the data coordinates were linked to external databases and variables measuring local population density and the average enhanced vegetation index over the past three years.

In addition to considering these somewhat standard characteristics, the paper examines two other variables as potential determinants of youth migration where available, inspired by the literature. First, the paper measures whether or not relative deprivation affects youth migration, using the measure initially developed by Yitzhaki (1979). Whereas this hypothesis has been tested for migration in general previously in the literature (Stark and Taylor, 1991; Kafle et al., 2018), this paper tests this specific hypothesis both among youth and for a much larger set of countries than before. Second, in panel data the paper considers a proxy variable for health of older household residents; the proxy is whether a household member dies before the following survey round. Giles and Mu (2007) use this variable in panel data collected in China, and find that migration is negatively correlated with future deaths in the household, hypothesizing that a sick member of the household implies that more time must be allocated to care for that individual, reducing the probability of migration by household members. However, that variable has not been used in other contexts, where household size is often larger and therefore may be better able to absorb the labour for elder care.[3]

The empirical part of the paper studies both general migration decisions and decisions about migrating to specific locations (either international or internal; when internal, rural or urban destinations). The primary limit in this component is data availability; data that link young individuals to migration decisions and other household characteristics are already of limited availability, despite recent improvements. However, one comparison we can and do make is to also measure the determinants of migration among 25- to 34-year-olds (or young adults); differences in coefficient estimates between youth and young adults suggest specific determinants of migration that are important for youth in a relative sense. As this paper shows that context matters a great deal in migration analysis, an immediate implication is that more high-quality data on migration would be useful in helping develop policies that can help enhance positive impacts of migration.

The paper is structured as follows. The following section describes a conceptual framework within which migration decisions are made. The third section discusses the datasets used in the analysis, and constraints, and the fourth section describes migration behaviour within those datasets. The fifth section analyses the data primarily in a multivariate framework, and the final section concludes.

2. Decision-making during the school-work transition

Youth, defined by the United Nations as 15- to 24-year-olds, make a set of decisions that substantially affect their life course. This section lays out the types of decision that individuals typically make during this period of their life. Decisions related to employment, such as where to seek work (either locally, in labour

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[3] Moreover, Giles and Mu (2007) use an annual panel; in this paper, the panels have a longer time lag between rounds, so there is more chance that the sick household member might have died and a young member subsequently migrated.

markets that are accessible within commutable distance of home, or in distant labour markets for which one must live elsewhere), are just one of those types.

One of the first decisions that youth make, if they have not yet stopped schooling, is whether to continue in school or not. Each year, the decision trades off any additional expected returns to schooling against the actual and opportunity costs of continuing in school (Kochar, 2004; Glewwe and Jacoby, 2004). When the expected returns to continuing in school no longer outweigh costs, individuals drop out of school and begin to search for work. Local and distant labour markets play a role in shaping both the returns to schooling and opportunity costs of schooling. Important to this paper is the role that distant labour markets might play. The opportunity cost of schooling may be shaped by perceived or actual opportunities to migrate; if, for example, migrant networks lead to better information about unskilled wages outside rural areas among one's peers, then the perceived opportunity cost can rise, leading to individuals leaving school earlier (e.g. de Brauw and Giles, 2017). On the other hand, information could also flow into rural areas about higher returns to schooling, potentially increasing perceived benefits to further schooling (e.g. Valentine et al., 2017).

After leaving school, individuals make decisions about whether or not and where to seek employment; in rural areas, the family farm is an option, but individuals can seek work in local or distant labour markets. A key challenge limiting on-farm labour is that available land per adult worker declines with population growth, so either agricultural productivity must increase or non-agricultural labour becomes more attractive relative to working in farming. Consistent with this idea, some recent evidence suggests that migration can affect local wage rates, thus strengthening this theoretical argument. Rosenzweig and Udry (2014) show that seasonal migration among males responds to forecast rainfall during the monsoon in India; a 1 standard deviation increase in forecast rainfall leads to a 0.7 percentage point decrease in seasonal migration among men, translating to a 2 per cent decline in the rural wage rate at planting. With cleaner statistical identification, Akram et al. (2017) study whether or not exogenously influenced migration rates affect the village level labour market long after the intervention; again studying seasonal migration among males, they find the male agricultural wage elasticity with respect to emigration is about 0.2, yet does not change agricultural prices in the villages, as output markets are well integrated.

Beyond school and work decisions, many youth make decisions about family. First, they decide with whom and when to initially get married or find a partner. They also decide whether or not, and if so when, to start a household. These decisions are clearly intertwined, and are potentially affected by school and employment decisions. In general, if individuals stay in school longer they are less likely to get married and start a household; similarly, if individuals migrate for work and plan to return home, they may delay marriage decisions.

Another type of decision that young women and young men often make is whether or not or when to start having children. These choices are affected by or affect school or employment decisions, as well as marriage or household formation. Youth remaining in school are less likely to be married or become parents than others, though one would not ascribe causality in either direction. Deciding to have children may also affect migration decisions, in either direction. As infants are time-consuming, their presence could lead to more specialization within farming households, with men taking on the farming. Alternatively, if migrant opportunities are available, men might migrate after a child arrives to better provide for the child through higher earnings available away from home.

All these decisions, but particularly migration decisions, are shaped by local factors and institutions. From the individual perspective, gender may play an important role in shaping the desire to migrate, the motivation to migrate and potential opportunities upon migration (De Jong, 2000). From the family perspective, they are not undertaken by an individual alone, but are probably made in consultation or collaboration with family (e.g. Stark and Bloom, 1985). Social networks with extended family members or others who might have moved out of the potential migrants' home village may also play a role in facilitating migration decisions, since they can provide information about either jobs or methods to start

looking (Carrington et al., 1996; Munshi, 2003). Customs related to marriage, such as the presence of dowry or bride prices, and the way that land transfers from one generation to another, can affect such decisions, either positively or negatively.[4] And factors such as the existence and quality of road infrastructure and information and communication technologies can shape the costs of migrating or working farther from home.

Finally, economic factors also play important roles in shaping these decision-making processes. Household income, access to credit (or liquidity) and household needs for labour in either agricultural or non-agricultural self-employment may shape decisions about migration. These factors may affect both migration for earning opportunities as well as for marriage, as hypothesized by Rosenzweig and Stark (1989). In the latter case, marrying farther from one's home village can help the extended family distribute production risk, as the correlation between weather or climate shocks in two locations weakens as those locations are farther apart. More importantly, both the level and the pace of structural transformation will shape opportunities for local farm or off-farm wage labour, or wage labour in places to which youth can either commute or potentially migrate. If wages in the secondary or tertiary sector are growing faster than returns to labour in agriculture, then the pull of migration is likely to grow over time. Similarly, factors related to the environment or climate could affect returns to labour on the farm, which could change decisions about whether or not to migrate (Bosetti et al., 2018).

2.1 Decisions about mobility and migration by youth

From the perspective of understanding mobility by youth, there are also a set of decisions to be made, rather than a single decision about whether or not to migrate. Some of these decisions are conditional on first deciding to move away from home. This section describes these decisions and how they fit into the conceptual framework developed above, to guide the empirical strategy used in the next section of the paper.

Before migrating, one must consider whether to leave home or not, and for what purpose. Individuals move for several potential purposes, including seeking further education, looking for employment or going to jobs obtained prior to moving, or for marriage or other family reasons. A potential migrant also has to decide where to move if moving. The destination is quite likely to be linked to the reason for the move. For example, one might have an option to attend a specific school. Alternatively, one might know of potential work in only a couple of other places with strong networks back to the home village. In either case, the reason for migrating and the choice of destination are linked to one another.

A particular type of migration that requires more thought is international migration. International migration typically involves higher costs than domestic migration, as passports and visas are often expensive, the job search is more complex and social processes are different in the destination (e.g. King and Skeldon, 2010). The presence of higher costs and credit constraints implies that international migration is not typically pro-poor, as the poor are less able to pay migration costs (e.g. McKenzie, 2007). As a result, evidence shows that relatively poor migrants are more likely to move to closer countries or those with lower transaction costs (e.g. Abramitsky et al., 2012). To overcome the credit constraint, an outcome has been the explicit recruitment of labourers by companies representing places with labour shortages (e.g. Beam, 2016; ILO, 2017). Such contracts can help alleviate credit and information constraints by providing both loans and jobs to potential migrants at the destination; migrants then pay back those loans over the

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[4] On the potential for land tenure institutions to affect migration, see for example De Janvry et al. (2015).

course of their labour contract before returning home.[5] Contract migration is particularly prevalent from countries such as Nepal and the Philippines.

Decisions about migrant destinations are also intertwined with deciding the planned duration of migration. In some places, seasonal or circular migration is quite common among specific groups; it is even being induced as a pro-poor intervention in Bangladesh and Indonesia (e.g. Bryanet al., 2014). Decisions must be made about if and how often to return, and whether or not to leave again after returning. Unexpected factors, such as parental illness, may also lead to return (e.g. Giles and Mu, 2007).

2.2 Conceptual framework

Clearly, decisions about mobility and migration are interrelated with decisions made more generally about schooling, work and employment. Therefore, the determinants of these decisions are difficult to disentangle from one another, particularly as they may relate to both observable and unobservable factors. Since there is no obvious observable factor that would affect migration (or even specific migration decisions) in isolation from other decisions, this paper seeks only to describe correlations between observed migration decisions and other factors.

Although a clean identification strategy to causally understand the determinants of youth migration is not feasible in this context, theory can help identify factors that may be correlated with migration decisions. One can think of migration as a form of labour supply from the household perspective; labour supply should then be correlated with variables that therefore affect either shadow wages (e.g. Singhet al., 1986) or actual wages within the household. As returns to labour for households in developing countries are affected by agricultural self-employment, which is difficult to value accurately, good proxies include both individual demographic characteristics and household characteristics. From the household perspective, such variables include the household demographic composition and human capital characteristics of the household head. In panel data used in this paper, these variables are measured in the initial survey to ensure they can affect migration decisions occurring between surveys.

In a pure labour supply model, income or wealth should not affect decisions, since theoretically individual labour supply should depend only upon the returns to labour across sectors, not on income earned elsewhere. However, migration may require either credit or liquidity to pay for moving or search costs associated with job search. If credit markets are incomplete, then measures of wealth, income or even income shocks play a role in determining migration, since they proxy for households that can afford to migrate (Halliday, 2006; Bazzi, 2017). This relationship may be more reflected in international migration decisions, in which upfront costs can be much higher (McKenzie, 2007; Dolfin and Genicot, 2014).

Finally, local characteristics at the migration source can affect the local returns to labour, which then affect migration decisions. For example, the relative returns to labour both within and outside agriculture may affect migration decisions, since higher local returns to labour reduce the incentives to migrate, while lower returns to labour increase the incentives to migrate. Still, youth might respond differently to variables proxying for returns to labour from older workers.

Therefore, a basic model of migration that will be estimated in the paper will relate migration M by individual i in household h from village v in region r to individual characteristics, X, household demographic variables, Z, wealth variables, C, and local area characteristics A:

$$M_{ihr} = f(X_{ihvr}, Z_{hvr}, C_{hvr}, A_{vr}, \delta_r)$$

(1)

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[5] Critics of migrant recruitment argue that such contracts lead to a great deal of migrant exploitation (e.g. ILO, 2017). For the purposes of the argument it is important to note that these contracts can overcome credit constraints for poor migrants; the role of regulating such migration will be discussed in the conclusion (section 6).

where δ_r represents regional characteristics that might also shape returns to migration. The empirical section describes the model in more detail.

3. Data

This paper attempts to make statements about migration behaviour among youth broadly over space; to do so, the best way is to use nationally representative data over time, because migration is an inherently dynamic process. [6] Therefore, the paper makes use of a set of nationally representative datasets, or datasets representative of rural areas of several countries, to make descriptive statements about migration and to examine correlations with migration. To study determinants of migration among youth, multitopic datasets are the best fit (e.g. Living Standards Measurement Surveys). However, not all multitopic surveys ask questions about migration behaviour among household members. The paper is therefore limited to using a subset of the multitopic surveys that exist.

First, the paper uses five datasets that make use of at least two survey rounds of information (table 1). The surveys were collected by either the RAND Labor and Population Program (Indonesia) or IFPRI (Bangladesh and Pakistan), or are part of the Living Standards Measurement Surveys Integrated Surveys on Agriculture managed by the World Bank (Nigeria and Tanzania). [7] Panel surveys are useful in this context because they can be used to make inferences about migration flows, rather than just considering whether or not households have access to a migrant who left earlier, and can be thought of as part of the migrant stock from that area. The surveys were chosen to be relatively recent, i.e. collected within the past 10 years, so that they are closer to reflecting present economic conditions. A constraint is that, in the panel datasets used, it must be possible to track individuals between surveys. In each survey used, either migrants were physically tracked or the survey form specifically asked about their whereabouts. [8] Finally, the individuals are tracked so that they can be considered under the definition of youth in the end survey, not the initial survey.

In the panel surveys, migration can be broadly defined as individuals who move both away from the village and away from the source household. Particularly among youth, a substantial number of those moving out of the village do so to start a new household elsewhere; only the Indonesia and Tanzania surveys attempted to track migrants and interview their new households. Of course, people might move for multiple purposes; e.g. to work for a salary, get married and set up a new household. As all the surveys include a question about why individuals moved out of households, this question is used to split migration into a "broad" and a "narrow" rationale for migration. The broad definition of migration includes those who moved out of the source household and left for any reason; the narrow definition attempts to better isolate those who may have primarily moved to work, by removing those who stated the primary reason was to start a new household, get married or get divorced. [9]

By the broad migration measure, the number of migrants who leave households between surveys varies substantially by country, as does the gender composition of those moving (table 1). Migration rates vary

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[6] Two of the panel surveys used are not nationally representative of rural areas. The Indonesia Family Life Survey (IFLS) is nearly representative (Strauss et al., 2009; Strauss et al., 2016), and the Pakistan Rural Household Panel Survey (PRHPS) is representative of rural areas of the three provinces in which it was collected (IFPRI and IDS, 2014).

[7] The three remaining datasets used are the Bangladesh Integrated Household Survey (BIHS), collected in 2011 and 2015 by IFPRI (Ahmed, 2013), the Nigeria General Household Survey (from 2013 and 2016) and the Tanzania National Panel Survey (from 2008 and 2013); the last two were collaboratively collected by the respective national statistical organizations and the World Bank.

[8] Individual-level tracking took place in Indonesia and Tanzania. We considered other recent panel surveys as well that purportedly tracked individuals across rounds but found too many errors between surveys to include them.

[9] A second major reason often given for migrating is for schooling, but such migrants often find opportunities to work thereafter and remain away from the household.

from 7.5 per cent in Bangladesh to 20 per cent in Indonesia; in all countries but Bangladesh, more female youth move out of households than males.

The second set of data sources used in the paper includes a cross-sectional, nationally representative survey collected in Nepal, and a subset of the Mexican Migration Project data. These two surveys were specifically chosen to try to understand whether rationales for international migration differ from internal migration, as international migration is particularly important to Nepal's economy, and the Mexican migration project has been designed to learn about Mexico-United States migration over a long period of time. The latter is a rolling cross-section, meaning that it adds enumeration areas over time but is primarily cross-sectional; i.e. it occurs once in each enumeration area. In this context, the data are limited to those collected over the past 10 years and in rural areas.

In the cross-sectional surveys and surveys for which there is clear information about the migrant destination, migration is disaggregated by location (table 2). In cross-sections, the stock of young migrants is examined, whereas in the panels migration continues to be defined as the flow of migrants out of the household between surveys. [10] Among the two cross-sections, migration is particularly prevalent from households in rural Nepal, even relative to Mexico, and international migration is quite prevalent. In Nepal, unlike other countries for which we can ascertain location accurately, migration is more likely to major cities than secondary cities. In Pakistan and Indonesia, on the other hand, the majority of urban migration goes to secondary cities; urban migration is not as prevalent as rural-rural migration in the panel because of the inclusion of migration for marriage. [11]

There are some interesting differences between destinations of youth migrants and young adult migrants (table 2). In the panel surveys, the flow of migrants is slightly lower among young adults than among youth; young adults may have settled into new households, particularly among older ones. Perhaps the starkest difference is between rural and urban destinations among Indonesian migrants; youth migrants are far more likely to go to rural areas, whereas young adult migrants go to urban destinations.

The probability that any individual has migrated generally varies by age among those who are considered youth. In panel surveys, the probability of migration is typically quite low among younger people and rises among older cohorts (figure 1). In some countries, it falls again for older cohorts; specifically, this pattern is clear in Bangladesh and Indonesia. In Indonesia, the probability rises relatively rapidly, while in other countries it rises more slowly; in most countries, the probability plateaus around age 20, though in Nigeria the probability appears to continue to rise as individuals are older. From the perspective of age, the propensity to migrate differs substantially by country.

In Mexico and Nepal, the propensity to migrate among youth can be differentiated by international or internal destination (figure 2). International migration is almost unnoticeable in Mexico until age 19, and then increases slowly; in general, all migration appears to rise in prevalence by age. The same is true in Nepal, where the probability of migration at all is much higher, and rises more rapidly for international migration, particularly after age 18. Internal migration appears to level off by age 20.

Next, we explore whether or not migrants have different human capital characteristics from non-migrants; specifically, we measure if those who leave households in general are more likely to be a child of the household head, if they are more likely to be married by the endline and their years of schooling (table 3). In the first survey, if children were not children of the household head, most frequently they were a niece, nephew or grandchild of the head. In Tanzania, Nigeria and Indonesia, children of household heads are

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[10] Bangladesh is left out of the table because the questionnaire asked about the location of the destination for only those who were explicitly reported as having migrated directly for labour. Nigeria is left out because rural-urban destination was unclear, and international migration nearly negligible.

[11] Note that the broad migration definition follows Beegle et al. (2011), who find that, no matter what the rationale for migration, individuals are better off the farther they moved away from the origin village in the Kagera region of Tanzania.

slightly less likely to migrate, whereas they are more likely to migrate in Bangladesh and there is no difference in averages in Pakistan. Because the broad definition of youth migration is used here, generally migrants are more likely to be married than non-migrants. However, that does not hold for Indonesia and Pakistan; in the latter, marriage rates among youth appear notably low in general. Finally, in most countries migrants appear to be more educated than non-migrants. This finding is expected, as in most contexts migration for labour is positively selected. In Indonesia, average education levels appear about the same, and in Pakistan migrants are less educated than non-migrants. Both findings are probably a result of the relative share of migrants for family reasons rather than for explicitly economic reasons.

4. Determinants of youth migration flows

In this section, the goal is to understand what variables are correlated with migration from households, by country. An expectation is that those determinants will vary somewhat by country. The goal of this exercise is to understand better what types of characteristics lead to migration and if general patterns emerge even across very different contexts.

To initially consider whether wealth plays a role in the propensity to migrate among youth, for the four panel countries available migration is plotted against the logarithm of per capita household consumption (figures 3.A and 3.B). Per capita consumption is measured at baseline, and figure 3.A and 3.B use the broad and narrow definitions of migration, respectively. The plots by country are very different, suggesting that the relationship between migration and wealth differs substantially by country. Using the broad definition, in the two South Asian countries the poor are more likely to migrate than those with higher incomes; however, in Bangladesh the probability also turns positive at higher consumption levels. In the two African countries, there appears to be a positive relationship in Nigeria, suggesting potential credit constraints, and no relationship in Tanzania.

Panel B examines the narrow definition of migration; there are several differences between the two sets of figures. In Pakistan and Tanzania, there still appears to be little relationship between migration and consumption. On the other hand, in Nigeria and in Bangladesh there appears to be higher migration among the poor. In Nigeria, the propensity to migrate rises again among better off households. In general, these figures suggest that credit constraints do not appear to bind for youth migration in any of these settings.

While the literature generally demonstrates that international migration tends to be hindered among the poor relative to those who are better off (e.g. Kern and Muller-Boker, 2015), in Nepal youth migrants who move to international destinations have similar average consumption to non-migrants, and substantially lower average consumption than domestic migrants (table 4). A potential explanation is that recruitment of migrants in Nepal is widespread, so financial barriers to international migration can be overcome; households that send out domestic migrants may be well enough off that they do not feel the need to contract out international migrants.

Regarding domestic migration, a hypothesis consistent with data from the Kagera study in Tanzania is that poorer migrants do not move as far, making secondary cities attractive destinations (Beegleet al., 2011; Ingelaere et al., 2017). Though it is not possible to tease out whether or not migrants went to secondary urban locations in most cases, for Pakistan and Indonesia it is possible to isolate the main urban centres, and in Pakistan there are also data on consumption expenditures. [12] Indeed, average consumption levels among households sending migrants to secondary cities in Pakistan are not as high

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[12] In Indonesia, the main urban centres are defined as the main city on each island outside Java, and Jakarta, Yogyakarta and Surabaya on Java. Further data processing might allow us to differentiate primary from secondary cities in additional datasets.

as in those sending migrants to one of the three largest cities (Karachi, Lahore and Faisalabad); the difference in means is significant at the 5 per cent level. The data on domestic migrants from Nepal is consistent with this hypothesis as well; households sending migrants to primary urban areas have average consumption 12 per cent higher than those sending migrants elsewhere (not shown).

4.1 Relative deprivation

An alternative hypothesis is that it is not wealth or well-being in absolute terms that matters to migration, but rather relative well-being. As discussed in the introduction, relative deprivation may affect migration, where the relative deprivation of household i is defined as:

$$RD_i = \int_{y_i}^{y_h} g\big(1 - F(x)\big)d \qquad (2)$$

where yh is the highest comparison expenditure level; here, the enumeration area is used as the comparison group. Note that the wealthiest household, in terms of consumption, will have a relative deprivation measure of zero, so poorer households within enumeration areas appear to the right of the graph. As a result, the measure is not exactly a ranking, as the cumulative amount of consumption by all richer households in the sample matters to the measure, so a high relative deprivation measure implies that other households in the enumeration area are much better off. Finally, because there is not an instrument available for relative deprivation, any results related to relative deprivation should not be considered causal.

The results of this exercise demonstrate that relative deprivation may be correlated with migration in sub-Saharan Africa, but does not appear to be correlated with migration in the South Asian countries (figure 4). In both South Asian countries, a flat line can easily be drawn through the confidence interval for both broad and narrow migration. However, particularly for the narrow migration measure, in both Nigeria and Tanzania the probability of migration turns up at high levels of the measure, whereas the measure is otherwise flat. Therefore, relative deprivation may have a highly non-linear relationship with migration in those countries. Note that the measure is probably noisy, and the framework is not multivariate, so this hypothesis deserves further attention later in the paper.

4.2 Multivariate determinants of migration

As discussed in the conceptual framework, individual characteristics, household demographics and wealth are hypothesized to potentially affect migration. To ensure that similar strategies can be used to measure variables that affect migration, depending upon the definition, equation (1) is initially linearized:

$$M_{il} = \alpha_r + \beta X_{il} + \rho Z_h + \delta C_h + \tau A_v + u_{il} \qquad (3)$$

Equation (3) includes four broad sets of explanatory variables. [13] First, individual-level characteristics, including gender, age (in years) and schooling level, are included, as well as whether or not the individual is a child of the household head. The first two variables are measured in the last survey round, to ensure that schooling is as complete as possible. Second, household demographic characteristics are included, to proxy for wage rates within the household. Specifically, these variables include household size, the share of the household that is female, the share of the household categorized as youth, the share that is under 5 and the share that is elderly. The last two variables might hinder youth migration, because their presence probably ties up more of the household's time for additional care. Household demographic variables also include household head characteristics, including gender, age, and indicators of a lack of education and at least completion of a primary education. All these variables are measured at baseline or before migration. Third, a set of asset indicators are included, again measured at baseline, to crudely test

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[13] In estimation, all regressions control for regional fixed effects and standard errors are clustered at the village or enumeration area level. Regressions are estimated using the linear probability model.

for credit constraints affecting migration. Finally, a fourth set of variables at the village level measure variables that are related to local returns to labour both on and off the farm.

4.3 Main results, youth migration flows

The broad migration variable was initially regressed on the three sets of explanatory variables (table 5). A few results are broadly consistent across countries. First, women appear more likely to migrate in most countries; this result is probably due to the inclusion of marriage as a potential reason for migration. In four of the five countries, youth who are older are more likely to migrate; this result is consistent with figure 1. Among individuals, higher education levels, including whether or not secondary school was completed, or higher levels than secondary were at least attempted, are significant predictors of migration in all five countries. This result may be linked to the fact that this variable was measured at endline, and some of the individuals characterized as youth may have moved specifically to attend school elsewhere, at least initially.[14] Being a child of the household head, meanwhile, has conflicting results by country, though it is often statistically related to youth migration. In South Asia (Bangladesh and Pakistan), coefficients are positive, whereas in Indonesia and Tanzania they are negative. In Tanzania in particular, it may be that children who are taken care of by the head through adolescence are nudged out of the household after they reach early adulthood.

Fewer of the household demographic variables are consistently correlated with migration by household members. Larger households are more likely to send out migrants in Bangladesh and Indonesia; households with more women as a share of the household are also more likely to send out migrants in Pakistan. In Bangladesh and Nigeria, the share of household members that are under 5 is negatively correlated with migration, suggesting that the time allocation may be more constrained in such households. In several countries, the share of youth in the household at baseline is negatively correlated with future migration; however, that coefficient may reflect the fact that youth migration is defined by the age at endline in this context, so demographically there may be fewer youth in those households at baseline.

Finally, the three asset indicators do not suggest that internal youth migration flows are affected by credit constraints. If anything, there is evidence of the opposite; households with fewer consumption goods appear to be more likely to send out migrants in several countries. In three of the five countries, households with no major consumer durables are more likely to send out migrants; in Pakistan, ownership of the family house is negatively correlated with youth migration. Consistent with the descriptive evidence in figure 2, credit or liquidity constraints do not appear to broadly affect youth migration from rural areas.

When migration is limited to the narrow definition, results are quite similar to the broader definition, with one clear exception (table 6). The gender results in table 5 are reversed with the narrow definition, better matching the hypothesis that males are more likely to leave for migration than females; in four of the five countries, the coefficient is positive, and quite large in Bangladesh and Indonesia (12 and 6.5 percentage points, respectively). Other results are either muted or similar to those for the broader migration variable. For example, household size is a significant predictor of migration only in Nigeria; in this case, larger households are less likely to have sent out migrants presumably for work, though the coefficient is small.

A second important comparison is with young adult migration, again using the narrow definition (table 7). There are several interesting differences between determinants of youth and young adult migration, mainly focused on individual characteristics. First, age no longer acts as a determinant in most countries among 25- to 34-year-olds, unlike the finding in table 6 for youth migration. Second, with the exception of Tanzania, schooling levels are not an important determinant of migration among young adults, whereas

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[14] Note that the "more than secondary school" variable was dropped in Bangladesh, because only two sample youth had more education than completing secondary school.

they are important among youth in several countries. Third, being a child of the household head is a positive determinant in three countries and a negative determinant in the fourth (Indonesia), whereas it is not significant as a determinant in three of the five countries for youth migration. While it is difficult to generalize because of the mixed results, it could be that children of the head who had not formed their own by age 25 become more likely to migrate in some countries. Other results are reasonably similar; for example, again there are no clear correlations with asset holdings.

4.4 Migration type

To consider the determinants of youth migration by international or domestic destination, the cross-sectional datasets have a slight advantage, due to a larger proportion of migrants leaving for international destinations. Therefore, the next step in analysis is to examine determinants of international versus domestic migration by country. The analysis includes Indonesia but not other panel countries, as no other country had enough international migrants to provide statistically meaningful results. [15] Analysis is done by using an indicator for either international or domestic migration as the dependent variable in equation (3).

There are some substantial differences in determinants of youth migration by international or internal destination (table 8). Whereas in Mexico males are about equally more likely to migrate internationally or internally than females, in Nepal there is a large difference in coefficient magnitudes, with males substantially more likely to migrate internationally than females. There are also interesting differences in the role of individual education in determining migration. In Mexico, educational attainment does not affect either type of migration, ceteris paribus. In Nepal, however, international migration among youth is less likely among the more educated (secondary school or above), whereas a secondary education or better is strongly correlated with domestic migration. Potentially, households with more access to education observe opportunities in the more local labour market for younger members, whereas households with less access to education are more likely to take international contracts to ensure jobs for youth. Similarly, women are barred from being recruited as international migrants from Nepal, so not surprisingly the coefficient on gender is much larger for international than internal migration (ILO, 2017). In Indonesia, similarly, domestic migration has a stronger relationship with education than international migration. Finally, children of the household head are more likely to migrate internationally in both Mexico and Nepal; this finding is suggestive of a desire to use migration as a household strategy to increase incomes, as returns to labour are typically much higher in international destinations than domestic ones.

As with the analysis of the determinants of migrant flows in general, there are fewer indications that household demographic characteristics affect either international or internal migration in these countries, suggesting that the returns to labour within household production are less important than individual characteristics. In Mexico, larger households are slightly less likely to send out youth migrants, but households composed of more women are more likely to send out either international or domestic migrants. In both Mexico and Indonesia, youth migrants are less likely from households with a higher share of youth members. Household head characteristics, other than gender of the head in Nepal, do not appear to be correlated with international or domestic migration in any of these countries; the Nepalese result may be because migration causes female headship in countries with substantial migration, and so migrants may simply be older than youth in those households.

Next, the determinants of rural-rural versus rural-urban internal migration are examined, in Nepal, Tanzania and Indonesia, again using equation (3) as a basis for analysis and location-specific indicators as the dependent variables (table 9). As with other results, individual characteristics among youth appear to matter more than household-level variables in determining migration in all three countries, regardless of location. In Nepal, males are more likely to migrate to urban destinations, and all four schooling levels

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[15] In Pakistan, the country with the next largest number of international migrants, there were only 26 instances.

imply more likelihood of migration to urban areas relative to no schooling; the coefficients are all larger than among those moving to rural destinations. Older youth become more likely to move to urban destinations as well, while there is no significant relationship between age and rural-rural migration among youth. Finally, the presence of children under 5 at the household level somewhat decreases the probability of migration among youth.

In Tanzania and Indonesia, results are somewhat different. In rural Tanzania, girls are more likely to have left the household in their youth for other rural areas, whereas the opposite is true in Indonesia; gender does not appear to be correlated with rural-urban migration when other variables are held constant. As in Nepal, however, there are strong correlations between education level and migration. In Tanzania, rural-urban migration is strongly correlated with all levels of education from completing primary school up, with the slight exception of individuals with more than secondary education, which is rare. Rural-rural migration, on the other hand, is not correlated with education level. In Indonesia, there are broader correlations between education level and both types of migration; in particular, individuals completing secondary education or more appear quite likely to migrate to either location relative to others. There is also an increase in rural-rural migration among those with less than a primary education relative to no education. Finally, age is particularly correlated with both types of migration in Indonesia. As with international versus internal migration, household demographic variables have little correlation with different migration types in either country.

4.5 Specific hypotheses

To this point, three hypotheses related to migration have been discussed: that it is affected by credit constraints, that relative deprivation plays a role in migration and that the health of resident elderly family members affects youth migration. With the datasets compiled for this paper, it is possible to test in particular the last two hypotheses in a much broader sense than previously in much of the literature. [16] To do so, equation (3) is re-estimated without the asset variables, using the narrow migration measure as the dependent variable, and including a variable for the logarithm of baseline household consumption, relative deprivation at baseline and whether or not a household member died, on the right-hand side in separate regressions.

The three hypotheses are tested in table 10 by country and by migrant age category. In the two South Asian countries (Bangladesh and Pakistan), there is a negative relationship between youth migration flows and consumption (panel A), suggesting again that credit constraints are not binding, and the relatively poor are more likely to seek employment outside the village, holding other factors constant. Similarly, credit constraints do not bind among young adult migrants; again, we find two coefficients that are negative and significant or marginally significant out of the four (Bangladesh and Pakistan). Further, in Nepal there is no correlation between international migration and consumption in the cross-section (not shown). Moreover, if anything, migration should have increased consumption in the cross-section at the origin, so the coefficient is potentially positively biased, against binding credit constraints. So credit constraints do not appear to be binding on youth migration in these countries for these types of migration.

Further, there appears to be no correlation between relative deprivation and youth migration, somewhat contradicting previous studies. However, the difference between this finding and previous findings could be related to definitional differences rather than methodological differences. Finally, if deaths in the household among elderly residents are good proxies for elderly health as argued by Giles and Mu (2007), elderly health appears to positively affect youth migration in Indonesia, but negatively affect young adult migration in Bangladesh. It could be that in Indonesia, because of the particularly long time between

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[16] For example, the Stark and Taylor (1991) paper uses 423 observations in total, and their statistical analysis does not account for the sample design. Recently, Kafle et al. (2018) study migration and relative deprivation in sub-Saharan Africa, but use a stock measure of migration and do not focus on youth migration, and, though they generally find a positive relationship, there is a remaining concern about potential reverse causality in their analysis.

surveys, migrants left after a household member died; further work would be necessary to attempt to separate the timing of deaths from the timing of migrations.

4.6 Village-level determinants

Finally, village-level determinants are examined for both youth and young adult migration (table 11), again using the narrow definition. Land availability appears to affect migration in some countries only once we hold constant individual and household determinants of migration. Point estimates are particularly small among youth migrants. Similarly, there are only a few countries for which the share of households with a worker listing off-farm work as their main occupation is significant. It may be that, for most potential migrants, off-farm opportunities are so limited that they do not hinder migration. This point could be less binding for the Bangladeshi and Indonesian economies, where significant negative coefficients were found among youth and young adults, respectively. Third, only one significant coefficient for population density is found; the youth are less likely to leave more densely populated areas in Indonesia. Finally, there is a positive coefficient for the enhanced vegetation index only in Nigeria among young adult migrants; it does not appear to be correlated with youth migration. In sum, village-level correlations seem scattered and lack clear patterns, but those significant correlations found among both youth and young adults are consistent with the theory.

4.7 Summary

In general, the examination of determinants of migration across several countries demonstrates some common lessons. First, individual characteristics of youth are important determinants of migration, relative to other potential variables that might shape returns to labour within the household. Youth become more likely to migrate with age, though in some countries the propensity to migrate levels off by age 23 or 24 according to descriptive statistics. The relationship between gender and migration propensity depends somewhat on the definition of migration (tables 5 and 6) or the destination (tables 8 and 9). Finally, consistently with the literature, higher levels of education are positively correlated with migration everywhere except Tanzania. Finally, from a national perspective, in the countries described here credit constraints do not appear to affect migration; if anything, youth from relatively poor have more propensity to migrate (table 10).

5. Impacts of rural youth mobility on wider society

Empirical results in the previous section suggest that youth mobility is more related to individual characteristics than household demographics or asset holdings. In this section, the paper explores some of the potential impacts of youth migration on wider society. Specifically, the questions can be thought of as one set related to challenges to the larger society caused by rural youth migration, and a second set related to the way that policy can shape the impacts of youth migration. The analysis below ties the results found in the previous section to the broader literature on these challenges.

5.1 What challenges does rural youth migration potentially cause?

Youth migration changes the demographic composition of the population by location either within or between countries. For larger countries, the flow within country is more important, whereas for smaller countries flows between countries can also have substantial impacts on demographic composition. The most important component of this flow is likely to be rural-urban, as that migration will change potential occupational patterns among working-age adults. To the extent that migration is medium- or long-term rather than seasonal, these changes are likely to be permanent rather than temporary. Finally, gender matters a great deal here; though not in all countries, men tend to make up the majority of migrants, which changes the gender composition of the rural labour force. These changes are all likely to differ regionally, based on the current demographic composition of labour forces (Arslan et al., 2017).

Although it is not necessarily true in all contexts studied in this paper, the substantial male migration to international destinations from Nepal and the higher propensity of males to move to urban areas in Indonesia highlight the fact that youth migration can cause changes to the future demographic composition of rural areas. If male migration is more common than female migration, then the rural and agricultural labour force will tend to become more female over time. Even controlling for other observable factors, much of the literature finds that women are not as productive as men on the farm, for reasons beyond their control (e.g. Kilic et al., 2013). [17] The important implication is that agricultural services should become more tailored for women than for men (e.g. extension services), or that labour-saving technologies might become useful at lower levels of development, because of the already challenging time burdens of women. However, note that women do not necessarily take over agricultural tasks or management when men leave the farm. Increasing migration can lead to more robust agricultural wage labour markets; for example, Mueller et al. (2018) suggest that households hire more labour in Malawi when a young migrant has left the household, but they do not find the same in Ethiopia. So context is important in understanding what strategies are necessary to maintain agricultural production or productivity growth as migrants leave.

In addition, there are at least perceived political risks to a growing, young urban population. Goldstone (2002) suggests that growing urbanization combined with underemployment leads to violence and instability. This hypothesis is challenging to test in a robust manner, since effectively one would need a natural experiment that expands the urban youth population in one set of cities while not expanding the urban youth population in a comparison set. Since such experiments are not available, much of the literature explores correlations between growth in the urban population (rather than the youth population) and conflict measures. A notable early empirical study of this hypothesis suggested that urban population growth of 4 per cent or more is twice as likely to lead to civil conflict as less than 1 per cent urban growth (Cincotta et al., 2003). But their analysis does not account for any potential confounding factors. Using the same data, Urdal (2008) controls for confounding factors (such as development level) and finds no relationship. Similarly, Buhaug and Urdal (2013) compile a larger database of urban population growth rates and instances of both violent and non-violent conflict, and find, when controlling for factors such as type of government and GDP per capita, that there is no relationship between urban population growth and conflict. So long as urban population growth is correlated with youth immigration to cities, empirical evidence certainly does not support Goldstone's hypothesis.

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[17] However, de Brauw et al. (2013) demonstrate there is no difference in major grain productivity in China, whether men or women are the primary farmers.

5.2 Migration and policy

Perhaps most importantly, it is important to consider both how migration can be shaped by policy and how policy can shape migration, both domestically and internationally. In either context, it is important to understand what types of policies can help strengthen benefits to migration without exacerbating risks. Note that the discussion specifically considers labour policy, rather than remittance policy. From the perspective of international migration in particular, remittance policies may be particularly important.

One can consider policies from either a domestic or an international perspective. From a domestic perspective, the types of policies that can strengthen benefits of migration in the short term would appear similar to polices that can help support youth employment in general (e.g. Filmer et al., 2014). From the perspective of migration, improvements to roads and communication infrastructure can help reduce the costs of finding employment away from home, and reduce the costs of being away from home. From a poverty reduction perspective, making investments in secondary cities or towns may be particularly beneficial, since available evidence suggests that poorer migrants tend to move to destinations that are closer to home, at least at first (Ingelaere et al., 2017). In addition, improving access to technical and/or vocational education can help young potential migrants find employment in sectors already in demand. A final possibility is that social protection can potentially reduce risks, but only if payments are portable to the destination. Existing evidence on links between social protection and migration are largely from Mexico, and show no effects on domestic migration (Stecklov et al., 2005; Angelucci, 2012).

In India and Ethiopia, large rural public works programmes (the Mahatma Gandhi National Rural Employment Guarantee Act, MGNREGA, and Productive Safety Net Programme, PSNP) have been implemented to provide jobs in rural areas; an obvious question is if guaranteed labour schemes affect rural-urban migration. Evidence suggests that the MGNREGA reduces short-term migration from rural areas (Imbert and Papp, 2017). However, Muralidharan et al. (2016) find no effects on migration in Andhra Pradesh, and there are no clear studies of longer-term migration. In Ethiopia, there is little evidence related to impacts of the PSNP on migration; Hoddinott and Mekasha (2017) suggest that young women become less likely to migrate when households receive work from the PSNP, but not other household members. In sum, evidence is mixed that large public works programmes, meant to create rural employment, have large effects on migration.

From an international perspective, transaction costs can be quite high in both job search and actually moving. Both costs can be reduced through government facilitation, and risks of moving to exploitative employment can be further be reduced (e.g. Agunias, 2013). As discussed by Clemens et al. (2018), governments choose types of migrant policies to implement, and those choices lead to the quality of migration outcomes among migrants and host country nationals, as well as for society at large. For example, New Zealand's seasonal visa programme allows Pacific islanders to stay for no more than seven of 11 months, and fines employers if employees overstay their visa. The programme has led to a reliable seasonal workforce and impacts on origin per capita income of about 35 per cent (Gibson and McKenzie, 2014). When migrants tend to fill gaps in the labour market, they can have positive effects throughout the economy; for example, when domestic help becomes more available through migration, highly skilled women are able to enter the labour force (e.g. Cortes and Pan, 2013; Tan and Gibson, 2013). Policies in destination countries that help fill labour market needs can help make migration a win-win for both migrants and residents of destination countries.

6. Conclusion

Rural youth are in the process of making decisions that substantially affect their life course. One set of decisions that young men and women make relate to migration. If they decide to migrate away from home and their home village, they make decisions about where to go, whether to leave the country or not, potentially for how long to go, and if and when to return. These decisions have implications for their life course, for the members of their source household and for policy related to migration.

This paper studies the determinants of different types of migration by youth from seven different countries in Latin America (Mexico), Africa (Nigeria and Tanzania) and Asia (Bangladesh, Indonesia, Nepal and Pakistan). It finds that individual characteristics, such as gender, age and educational attainment, are more important than household characteristics in a multivariate framework. This last variable is quite consistent with the literature on youth migration specifically and migration in general as well: more educated men and women are both more likely to migrate internally in four of the five countries studied here. Furthermore, there is no evidence of credit constraints hindering youth migration. This finding comes from recent data from four different countries with data on household-level expenditures, and from Nepal with respect to international migration.

The data presented in this paper are somewhat at odds with the literature, which suggests credit constraints hinder both internal and international migration. Two recent randomized control trials, in fact, suggest that migration from poor areas increases by relaxing that constraint (Bryan et al., 2014; Cai, 2018). However, both of these experiments were conducted in poor, remote areas; the data used in this paper studying internal migration are all at least regionally representative of rural areas, and such areas would make up a small share of the data in any given country, since poor, remote areas typically have low population density.

From the perspective of international migration, credit constraints can be alleviated through contracting, as is common in Nepal, which leads to a different set of issues. When migrants cannot pay the upfront costs associated with contracted migration, they effectively owe their employers (or contractors) for those costs, and are susceptible to exploitation through abuse or forced labour (ILO, 2017). Governments of migrant origin countries, such as Nepal, must make sure that migrant contractors are licensed and regularly inspected both at the origin, for business practices, and at the destination, to minimize abuses.

From a policy perspective, there are three further important implications. First, as youth migrate out of rural areas, the remainder of the agricultural labour force changes in both gender and skill composition, depending upon the destination of migrants, the gender composition of migrants and their level of educational attainment. As observed in the data, these attributes differ substantially by country, so policy recommendations are conditional on understanding available data. For example, in countries with more male migrants to urban areas or international destinations, different strategies may be necessary to teach new agricultural techniques or even to provide agricultural information to those remaining, since women may be more difficult to reach than men. However, in countries such as Tanzania, where migration appears to be more gender neutral, this finding would not apply.

Second, though it is not studied empirically in this paper, the literature demonstrates that migration is generally poverty reducing both for migrants and their families at the origin. Policies that help foster positive outcomes from either internal or international migration may therefore be quite cost-effective ways to reduce rural poverty. For example, investing in infrastructure of secondary towns can play an important role in making domestic youth migration poverty reducing (e.g. Ingelaere et al., 2017). Finally, an obvious constraint in this paper is data availability; more and improved data on migration, particularly in combination with data on household expenditures, can help policymakers tailor migration policy to ensure it both reduces poverty and maintains productivity (de Brauw and Carletto, 2012).

Tables and figures

Figure 1. Youth migration rates, by age and country, panel data

Graphs by country
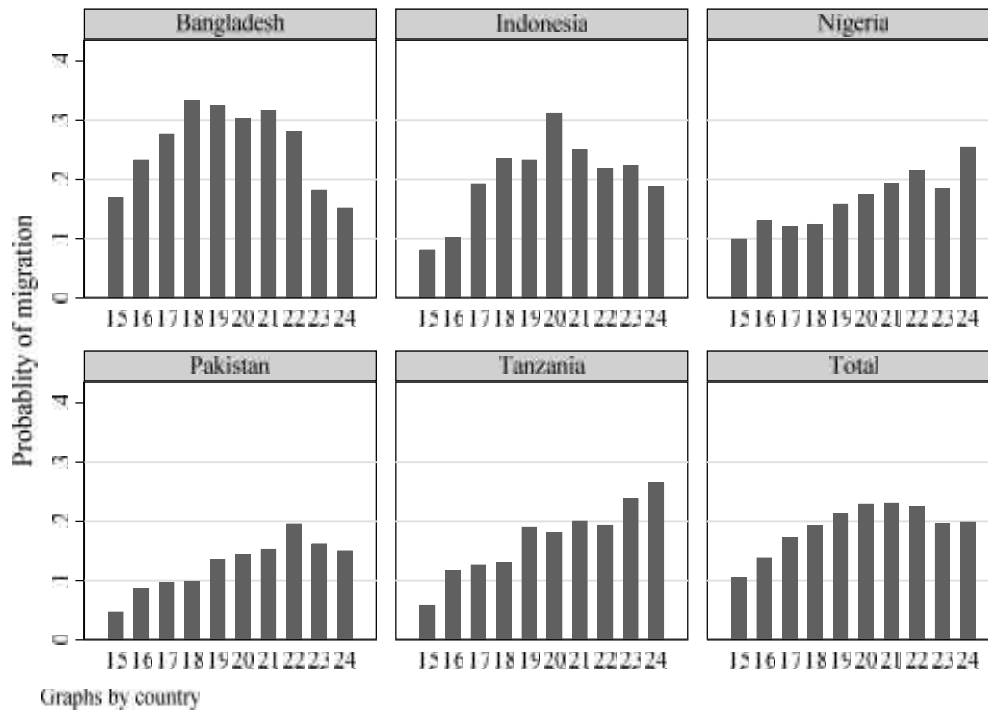
Figure 2. Youth migration rates, by age and destination, cross-sectional data, Mexico and Nepal

Graphs by country
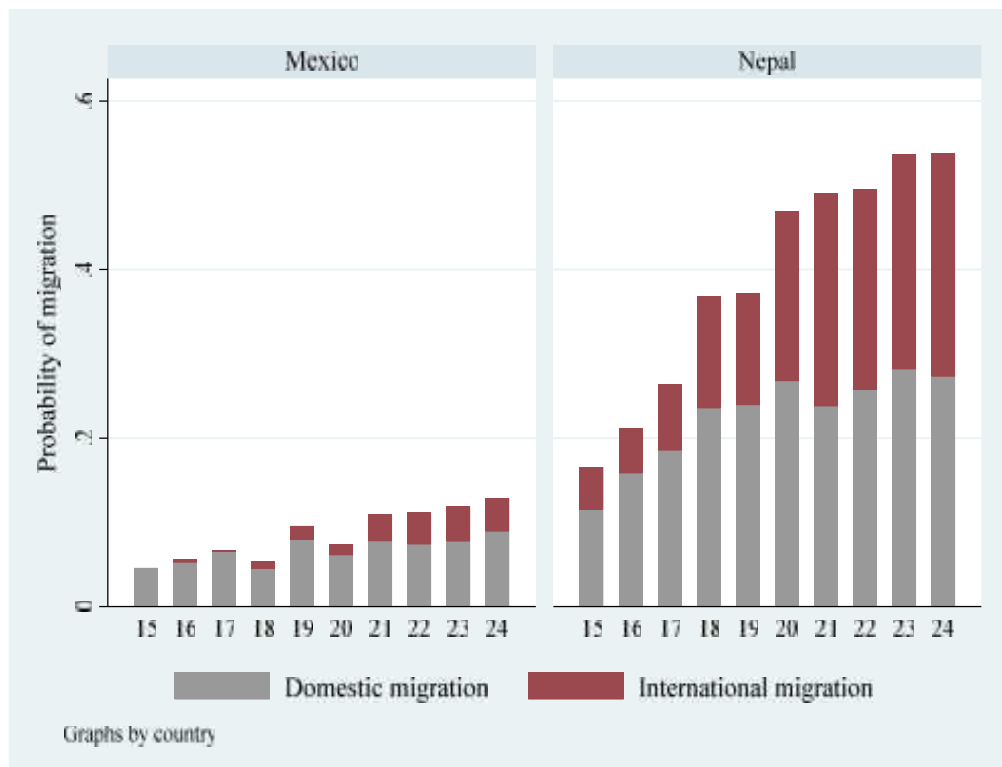
Figure 3.A. Relationship of probability of migration with logarithm of per capita consumption using a broad definition of migration, by country
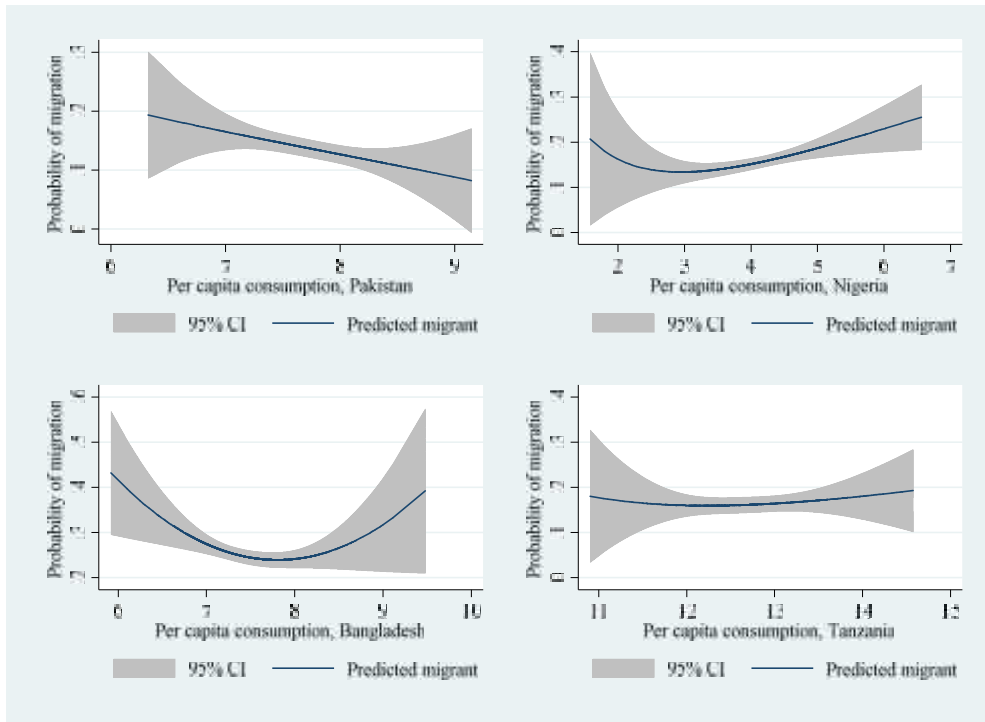
Figure 3.B. Relationship of probability of migration with logarithm of per capita consumption using a narrow definition of migration, by country
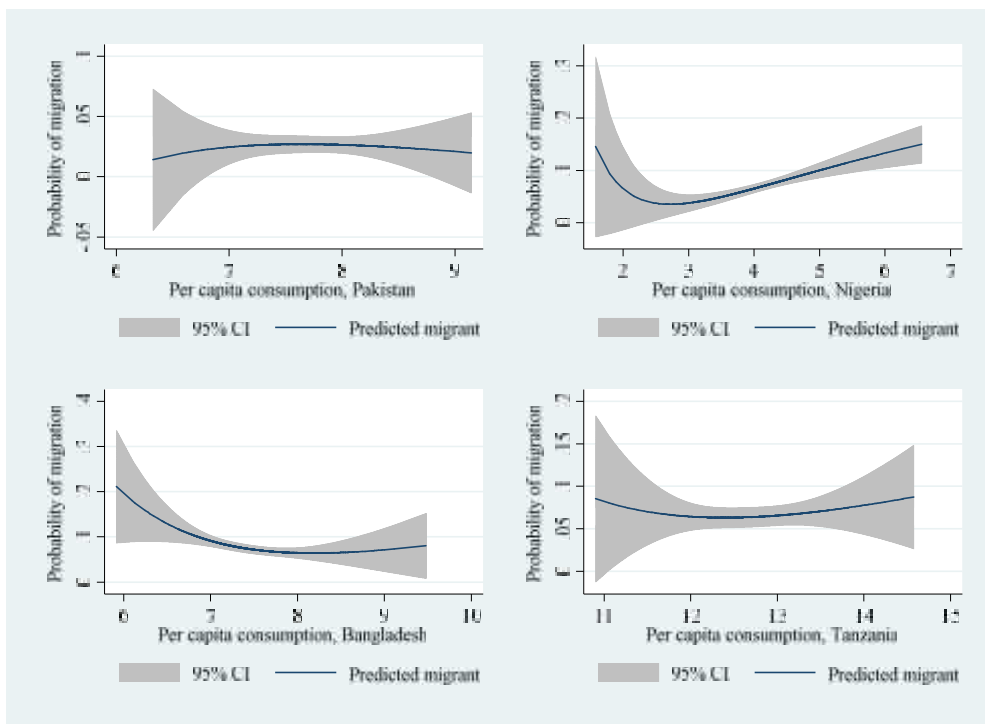
Figure 4.A. Relationship of probability of migration with logarithm of relative deprivation using broad definition of migration, by country
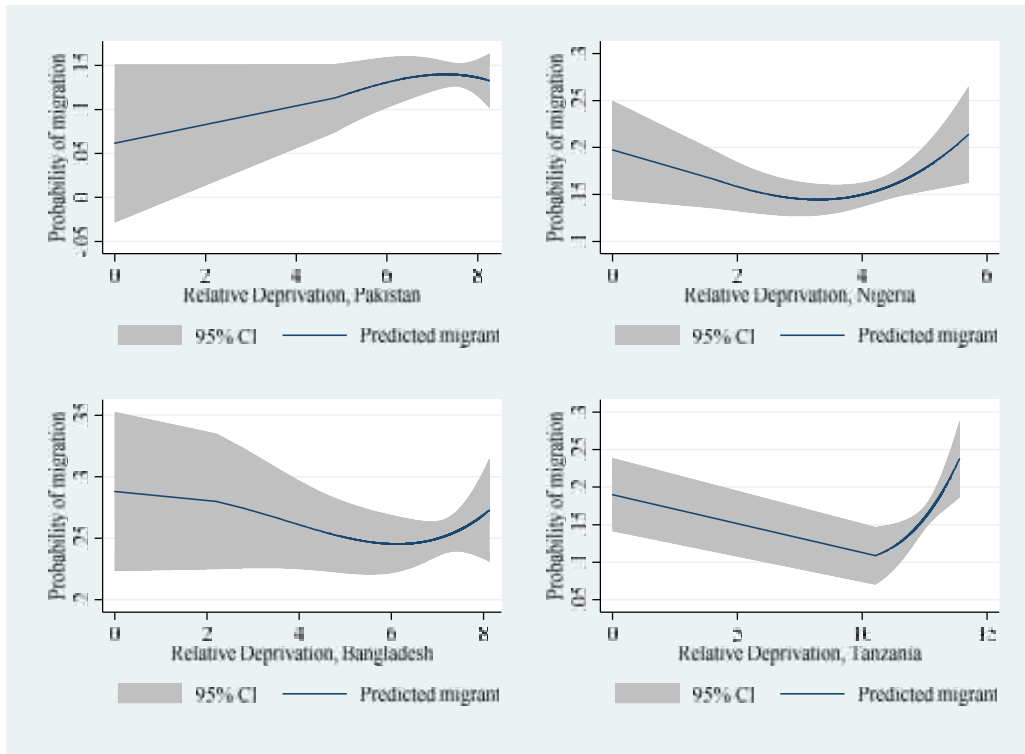
Figure 4.B. Relationship of probability of migration with logarithm of relative deprivation using narrow definition of migration, by country
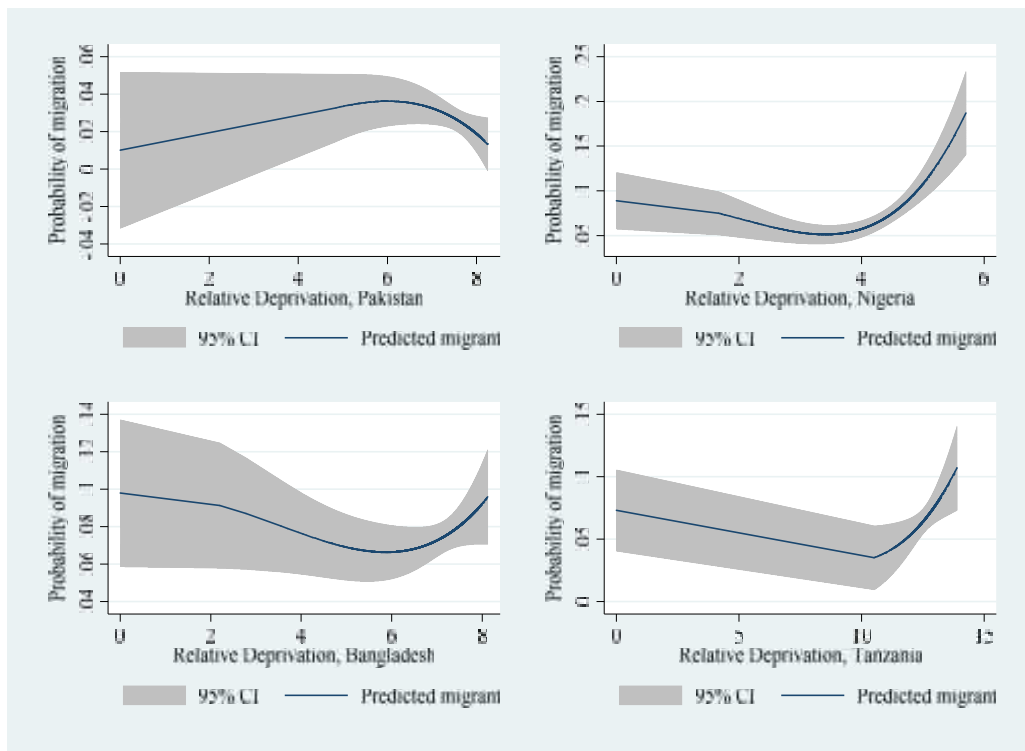
Table 1. Sample size and number of migrants, by definition, panel surveys

Country	Years	Sample size	Number of total migrants		Percentage of sample, migrants	Number of narrow migrants		Percentage of sample, narrow migrants
			Male	Female		Male	Female	
Panel A: 15-24 years, inclusive								
Bangladesh	2011-2, 2015	4 293	363	726	25.4	276	49	7.6
Indonesia	2007, 2014	4 061	453	369	20.2	254	119	9.2
Nigeria	2013, 2016	4 068	247	391	15.7	169	110	6.9
Pakistan	2012, 2014	2 833	121	265	13.6	66	8	2.6
Tanzania	2008-9, 2012-3	2 448	175	276	18.4	89	94	7.5
Panel B: 25-34 years, inclusive								
Bangladesh	2011-2, 2015	3 524	192	88	7.95	183	35	6.19
Indonesia	2008, 2014	4 039	315	232	13.54	161	54	5.32
Nigeria	2013, 2016	2 203	188	159	15.75	121	41	7.35
Pakistan	2012, 2014	1 930	119	112	11.97	40	2	2.18
Tanzania	2008-9, 2012-3	1 238	88	139	18.34	65	60	10.10

Sources: Bangladesh, BIHS 2011-2 and 2015; Indonesia, IFLS-4 and IFLS-5; Nigeria, Nigeria General Household Survey (NGHS) 2013 and 2016; Pakistan, PRHPS 2012 and 2014; Tanzania, Tanzania National Panel Survey (TNPS) 2008-9 and 2012-3.

Table 2. Descriptive statistics on youth migration by destination, cross-sectional surveys and selected panel surveys

|	Sample size	International migrants	Domestic migrants	Rural migrants	Urban migrants	Migrants to major domestic cities	Migrants to secondary cities
Panel A: 15-24 years, inclusive							
Cross-sections							
Mexico	6 375	0.021	0.067	-	-	0.014	-
Nepal	5 048	0.157	0.219	0.095	0.135	0.083	0.063
Panels							
Pakistan	2 557	0.011	0.135	-	-	0.020	-
Tanzania	1 814	-	-	0.108	0.098	-	-
Indonesia	3 797	0.020	0.181	0.153	0.028	0.011	0.017
Panel B: 25-34 years, inclusive							
Cross-sections							
Mexico	7 173	0.075	0.086	-	-	0.026	-
Nepal	3 490	0.253	0.204	0.129	0.084	0.088	0.054
Panels							
Pakistan	1 730	0.016	0.110	-	-	0.016	-
Tanzania	729	-	-	0.050	0.085	-	-
Indonesia	3 914	0.013	0.126	0.024	0.102	0.006	0.018

Notes: Mexico sample from Mexican Migration Project, 2008-2016, does not include information on whether or not destination is "rural". Nepal sample from Nepal Living Standards Survey (NLSS)-3 (2010). Panel surveys (PRHPS, TNPS, IFLS) use broad migration flows as base. Location available in Pakistan but uncoded as urban/rural. Migration to major domestic cities is a subset of urban migration.

Table 3. Human capital characteristics, by country and migration status, panel countries

Country	Child of head? (%)		Married? (%)		Years of schooling	
	Migrant	Non-migrant	Migrant	Non-migrant	Migrant	Non-migrant
Bangladesh	86.5	73.4	55.0	24.4	6.98	5.97
Indonesia	56.8	65.5	30.9	29.1	9.54	9.79
Nigeria	79.8	85.4	See below	6.0	7.33	6.91
Pakistan	78.7	79.5	12.4	12.7	4.15	4.80
Tanzania	62.5	74.9	41.1	13.1	5.77	5.09

Sources: Bangladesh, BIHS 2011 and 2015; Indonesia, IFLS-4 and IFLS-5; Nigeria, NGHS 2013 and 2016; Pakistan, PRHPS 2012 and 2014; Tanzania, TNPS 2008-2009 and 2012-2013.

Notes: 37 per cent of migrants in Nigeria were reported to have left for co-habitation or marriage, but the follow-up survey form did not include personal information for those who had left households. As a result, none of them are coded as married.

Table 4. Average household expenditures, by type of youth migration, Nepal for international migration and Pakistan for domestic migration

Nepal	Average log per capita consumption	Pakistan	Average log per capita consumption
International migrant	10.13 (0.03)	Migrant to main city	7.74 (0.07)
Domestic migrant	10.44 (0.03)	Other migrant	7.67 (0.04)
No migrant	10.17 (0.02)	No migrant	7.75 (0.02)

Sources: Nepal, NLSS-3, 2010; Pakistan, PRHPS 2012-2014.

Notes: Standard errors of means in parentheses. Logarithm of consumption expenditures per capita reported in local currency; in Pakistan it is from the baseline survey.

Table 5. Determinants of youth migration, defined as anyone leaving household for elsewhere as migrants, panel countries

	Bangladesh	Indonesia	Nigeria	Pakistan	Tanzania
Individual (youth) characteristics					
Gender (1 = male)	-0.155***	0.041***	-0.095***	-0.071***	-0.087***
	(0.017)	(0.016)	(0.015)	(0.015)	(0.017)
Age	0.007*	0.015***	0.014***	0.019***	0.010***
	(0.004)	(0.002)	(0.002)	(0.003)	(0.004)
Less than primary school	0.012	0.168***	-0.003	-0.014	-0.075**
	(0.026)	(0.059)	(0.022)	(0.024)	(0.030)
Primary school complete	0.062**	0.111**	-0.014	-0.026	-0.027
	(0.030)	(0.050)	(0.023)	(0.018)	(0.030)
Secondary school complete	0.185***	0.165***	0.027	-0.033	0.084*
	(0.041)	(0.049)	(0.030)	(0.026)	(0.045)
More than secondary school		0.190***	-0.058	-0.122***	0.895***
		(0.054)	(0.060)	(0.040)	(0.062)
Child of household head	0.156***	-0.049***	-0.016	0.041*	-0.046**
	(0.022)	(0.014)	(0.025)	(0.022)	(0.020)
Household demographics					
Household size	0.014***	0.010**	-0.005*	0.002	-0.000
	(0.005)	(0.004)	(0.003)	(0.003)	(0.002)
Share of household, female	0.069	-0.019	0.055	0.167***	-0.004
	(0.051)	(0.041)	(0.046)	(0.049)	(0.054)
Share of household, youth	-0.055	-0.137***	-0.171***	-0.108***	-0.074
	(0.044)	(0.039)	(0.046)	(0.037)	(0.053)
Share of household, under 5	-0.241***	-0.018	-0.136*	-0.045	0.003
	(0.070)	(0.071)	(0.073)	(0.068)	(0.075)
Age of household head	0.000	0.001**	0.002***	0.001*	0.000
	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Gender of household head (1 = male)	-0.008	-0.003	0.034	-0.012	0.019
	(0.023)	(0.022)	(0.031)	(0.046)	(0.025)
Head has no education	0.030*	0.036	-0.065	-0.142***	0.027
	(0.017)	(0.031)	(0.043)	(0.028)	(0.026)
Head has primary school education or more	0.002	-0.023	-0.029*	0.004	0.021
	(0.022)	(0.015)	(0.015)	(0.018)	(0.022)
Household asset holdings					
Owns furniture?	-0.036	-0.088	-0.001	-0.003	-0.051
	(0.049)	(0.058)	(0.046)	(0.018)	(0.052)
Owns consumer durables?	-0.046***	-0.012	-0.046***	-0.011	-0.034*
	(0.016)	(0.023)	(0.015)	(0.020)	(0.019)
Owns house?	-0.007	-0.021	-0.075*	-0.063***	-0.124*
	(0.033)	(0.025)	(0.040)	(0.021)	(0.063)
Number of observations	3 497	3 983	3 826	2 798	2 370
R-squared	0.078	0.058	0.067	0.055	0.155

Sources: Bangladesh, BIHS 2011 and 2015; Indonesia, IFLS-4 and IFLS-5; Nigeria, NGHS 2013 and 2016; Pakistan, PRHPS 2012 and 2014; Tanzania, TNPS 2008-2009 and 2012-2013.

Notes: Standard deviations clustered at the enumeration area in parentheses. Region-level fixed effects included in all regressions. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Table 6. Determinants of youth migration, defined as anyone leaving household for non-family reasons, panel countries

	Bangladesh	Indonesia	Nigeria	Pakistan	Tanzania
Individual (youth) characteristics					
Gender (1 = male)	0.123***	0.065***	0.021**	0.038***	-0.009
	(0.011)	(0.011)	(0.010)	(0.007)	(0.013)
Age	0.009***	0.010***	0.008***	0.004***	0.010***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.003)
Less than primary school	0.001	0.055	0.020	0.010	-0.055**
	(0.022)	(0.044)	(0.013)	(0.010)	(0.023)
Primary school complete	-0.000	0.049	0.013	0.009	-0.069***
	(0.022)	(0.040)	(0.013)	(0.006)	(0.023)
Secondary school complete	0.074**	0.104**	0.049**	0.020*	-0.050
	(0.033)	(0.040)	(0.022)	(0.011)	(0.036)
More than secondary school	(dropped)	-0.003	0.000	-0.032***	0.898***
		(0.042)	(0.047)	(0.009)	(0.036)
Child of household head	0.001	0.011	-0.014	0.017**	-0.039**
	(0.014)	(0.010)	(0.019)	(0.008)	(0.015)
Household demographics					
Household size	0.003	0.002	-0.004***	-0.001	0.001
	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
Share of household, female	0.010	0.006	-0.010	-0.003	-0.027
	(0.035)	(0.032)	(0.030)	(0.021)	(0.037)
Share of household, youth	-0.072**	-0.081***	-0.026	0.006	-0.015
	(0.028)	(0.031)	(0.032)	(0.018)	(0.037)
Share of household, under 5	-0.005	0.027	-0.003	0.030	-0.057
	(0.051)	(0.047)	(0.046)	(0.033)	(0.051)
Age of household head	0.000	0.000	0.001*	0.000	0.000
	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)
Gender of household head (1 = male)	-0.011	-0.011	0.003	-0.005	0.011
	(0.014)	(0.016)	(0.023)	(0.022)	(0.016)
Head has no education	0.017	0.006	-0.040	-0.003	0.007
	(0.011)	(0.020)	(0.025)	(0.007)	(0.017)
Head has primary school education or more	0.002	-0.015	-0.004	0.014	0.009
	(0.014)	(0.011)	(0.010)	(0.008)	(0.016)
Household asset holdings					
Owns furniture?	-0.068*	-0.115**	0.023	-0.009	-0.036
	(0.041)	(0.054)	(0.032)	(0.009)	(0.036)
Owns consumer durables?	-0.023**	-0.024	-0.014	-0.001	-0.017
	(0.009)	(0.016)	(0.010)	(0.009)	(0.014)
Owns house?	-0.025	-0.003	-0.059	-0.025***	-0.074
	(0.024)	(0.017)	(0.037)	(0.009)	(0.046)
Number of observations	3 497	3 983	3 826	2 798	2 370
R-squared	0.074	0.052	0.066	0.040	0.064

Sources: Bangladesh, BIHS 2011 and 2015; Indonesia, IFLS-4 and IFLS-5; Nigeria, NGHS 2013 and 2016; Pakistan, PRHPS 2012 and 2014; Tanzania, TNPS 2008-2009 and 2012-2013.

Notes: Standard deviations clustered at the enumeration area in parentheses. Region-level fixed effects included in all regressions. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Table 7. Determinants of youth migration, defined as anyone leaving household for non-family reasons, panel countries, age 25-34

	Bangladesh	Indonesia	Nigeria	Pakistan	Tanzania
Individual (youth) characteristics					
Gender (1 = male)	0.100***	0.065***	0.058***	0.025***	0.001
	(0.013)	(0.008)	(0.018)	(0.007)	(0.019)
Age	-0.003	-0.003**	-0.003	-0.001	0.005
	(0.002)	(0.002)	(0.002)	(0.001)	(0.004)
Less than primary school	0.019*	-0.000	0.008	0.003	0.016
	(0.011)	(0.037)	(0.014)	(0.012)	(0.024)
Primary school complete	0.001	-0.008	-0.019	0.016*	0.043*
	(0.015)	(0.036)	(0.016)	(0.008)	(0.022)
Secondary school complete	0.034	-0.011	-0.009	0.020*	0.117**
	(0.022)	(0.035)	(0.019)	(0.012)	(0.048)
More than secondary school	0.070	-0.028	0.049	0.059	0.614***
	(0.071)	(0.037)	(0.035)	(0.073)	(0.125)
Child of household head	0.051***	-0.025**	0.056**	0.028**	0.012
	(0.019)	(0.011)	(0.026)	(0.012)	(0.028)
Household demographics					
Household size	-0.001	0.004	-0.001	0.001	-0.002
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
Share of household, female	-0.014	-0.006	-0.022	-0.059**	0.037
	(0.029)	(0.022)	(0.033)	(0.024)	(0.053)
Share of household, youth	-0.002	-0.046***	-0.029	-0.002	0.162***
	(0.034)	(0.017)	(0.049)	(0.018)	(0.061)
Share of household, under 5	-0.037	-0.123***	-0.031	0.015	0.050
	(0.028)	(0.026)	(0.042)	(0.020)	(0.066)
Age of household head	0.001	0.000	0.001*	-0.000	-0.000
	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)
Gender of household head (1 = male)	0.002	-0.016	0.024	0.011	-0.002
	(0.016)	(0.012)	(0.034)	(0.013)	(0.029)
Head has no education	0.006	0.015	0.005	-0.013	-0.041
	(0.011)	(0.016)	(0.046)	(0.012)	(0.028)
Head has primary school education or more	-0.002	0.007	0.030**	0.002	-0.033
	(0.013)	(0.009)	(0.015)	(0.009)	(0.024)
Household asset holdings					
Owns furniture?	-0.044	-0.006	-0.004	-0.001	-0.003
	(0.038)	(0.028)	(0.033)	(0.009)	(0.040)
Owns consumer durables?	0.007	-0.006	-0.003	-0.013	-0.024
	(0.011)	(0.012)	(0.013)	(0.011)	(0.020)
Owns house?	0.003	-0.027***	-0.018	0.005	-0.099*
	(0.014)	(0.010)	(0.037)	(0.008)	(0.058)
Number of observations	2 866	3 961	2 043	1 852	1 222
R-squared	0.087	0.043	0.078	0.041	0.135

Table 8. Determinants of migration, by international or internal destination, Mexico, Nepal and Indonesia

	Mexico		Nepal		Indonesia	
	Inter-national migration	Domestic migration	Inter-national migration	Domestic migration	Inter-national migration	Domestic migration
Individual (youth) characteristics						
Gender (1 = male)	0.028***	0.021***	0.214***	0.063***	0.009	0.024
	(0.006)	(0.007)	(0.013)	(0.015)	(0.008)	(0.016)
Age	0.006***	0.002	0.036***	0.008***	0.005***	0.013***
	(0.001)	(0.001)	(0.002)	(0.003)	(0.001)	(0.002)
Less than primary school	-0.021	0.049	0.097***	0.101***	0.024*	0.158**
	(0.021)	(0.050)	(0.023)	(0.020)	(0.014)	(0.065)
Primary school complete	0.010	-0.001	0.027	0.097***	0.031***	0.095*
	(0.022)	(0.044)	(0.019)	(0.016)	(0.012)	(0.055)
Secondary school complete	-0.002	0.011	-0.071***	0.286***	0.030**	0.149***
	(0.023)	(0.044)	(0.020)	(0.022)	(0.012)	(0.055)
More than secondary school	-0.025	0.041	-0.252***	0.671***	0.003	0.202***
	(0.025)	(0.048)	(0.041)	(0.053)	(0.012)	(0.059)
Child of household head	0.022***	-0.013	0.064***	-0.047***	0.002	-0.067***
	(0.006)	(0.016)	(0.012)	(0.015)	(0.004)	(0.014)
Household demographics						
Household size	-0.003**	-0.004*	-0.002	0.003	-0.000	0.008*
	(0.001)	(0.002)	(0.002)	(0.003)	(0.001)	(0.004)
Share of household, female	0.041**	0.053*	0.005	0.035	0.010	-0.054
	(0.016)	(0.027)	(0.037)	(0.044)	(0.015)	(0.040)
Share of household, youth	-0.053***	-0.087***	0.032	0.040	-0.057***	-0.062*
	(0.016)	(0.024)	(0.033)	(0.044)	(0.019)	(0.037)
Share of household, under 5	-0.001	0.040	-0.009	-0.300***	-0.015	0.012
	(0.023)	(0.048)	(0.058)	(0.068)	(0.024)	(0.073)
Age of household head	0.000	-0.001	0.000	0.002***	-0.000	0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)
Gender of household head (1 = male)	-0.004	0.001	-0.026*	-0.007	0.001	-0.008
	(0.009)	(0.018)	(0.014)	(0.017)	(0.008)	(0.020)
Head has no education	0.013	-0.004	0.031*	-0.013	0.020	0.020
	(0.014)	(0.017)	(0.016)	(0.019)	(0.013)	(0.029)
Head has primary school education or more	-0.003	-0.013	-0.009	-0.006	-0.006	-0.017
	(0.006)	(0.015)	(0.014)	(0.021)	(0.004)	(0.015)
Number of observations	6 236	6 237	4 959	4 959	3 762	3 762
R-squared	0.045	0.027	0.201	0.124	0.043	0.060

Sources: Mexico, Mexican Migration Project, 2008-2016; Nepal, NLSS-3, 2010; Indonesia, IFLS 4 and 5.

Notes: Migration follows the narrow definition as in the paper. Standard deviations clustered at the enumeration area in parentheses. Region-level fixed effects included in all regressions. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Table 9. Determinants of migration by internal destination (rural or urban), Nepal, Tanzania and Indonesia

	Nepal		Tanzania		Indonesia	
	Rural-rural migration	Rural-urban migration	Rural-rural migration	Rural-urban migration	Rural-rural migration	Rural-urban migration
Individual (youth) characteristics						
Gender (1 = male)	0.060***	0.003	-0.019	-0.081***	-0.007	0.031**
	(0.011)	(0.010)	(0.021)	(0.017)	(0.006)	(0.015)
Age	0.007***	0.001	0.003	-0.001	0.003***	0.010***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)
Less than primary school	0.086***	0.015	0.032*	-0.035	0.023*	0.135**
	(0.016)	(0.012)	(0.018)	(0.036)	(0.014)	(0.063)
Primary school complete	0.057***	0.039***	0.042***	-0.057*	0.018*	0.078
	(0.012)	(0.012)	(0.012)	(0.029)	(0.010)	(0.054)
Secondary school complete	0.193***	0.093***	0.114***	-0.020	0.040***	0.108**
	(0.019)	(0.015)	(0.025)	(0.054)	(0.011)	(0.054)
More than secondary school	0.535***	0.136***	0.139*	0.384**	0.050**	0.152***
	(0.063)	(0.052)	(0.070)	(0.158)	(0.020)	(0.057)
Child of household head	-0.015	-0.033***	-0.013	-0.016	-0.013**	-0.054***
	(0.013)	(0.012)	(0.022)	(0.018)	(0.006)	(0.014)
Household demographics						
Household size	0.003	0.001	-0.001	0.001	0.002	0.006
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)
Share of household, female	0.027	0.008	0.028	0.113**	-0.007	-0.047
	(0.038)	(0.031)	(0.044)	(0.050)	(0.018)	(0.039)
Share of household, youth	0.008	0.032	0.043	-0.062	-0.015	-0.047
	(0.034)	(0.030)	(0.059)	(0.036)	(0.016)	(0.035)
Share of household, under 5	-0.254***	-0.046	-0.035	-0.003	-0.001	0.013
	(0.055)	(0.044)	(0.029)	(0.091)	(0.037)	(0.066)
Age of household head	0.001	0.001**	-0.000	0.002	0.000	0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)
Gender of household head (1 = male)	-0.007	0.000	-0.025	0.037**	-0.007	-0.002
	(0.015)	(0.011)	(0.026)	(0.015)	(0.009)	(0.019)
Head has no education	-0.002	-0.011	-0.010	0.039	-0.002	0.021
	(0.016)	(0.015)	(0.021)	(0.030)	(0.008)	(0.028)
Head has primary school education or more	-0.000	-0.006	-0.008	0.035	0.003	-0.020
	(0.018)	(0.014)	(0.007)	(0.022)	(0.008)	(0.015)
Number of observations	4 959	4 959	1 753	1 753	3 762	3 762
R-squared	0.102	0.023	0.308	0.081	0.041	0.065

Sources: Nepal, NLSS-3, 2010; Tanzania, TNPS, 2008-2009 and 2012-2013; Indonesia, IFLS 4 and 5.

Notes: Standard deviations clustered at the enumeration area in parentheses. Region-level fixed effects included in all regressions. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Table 10. Tests of additional hypotheses related to migration, panel countries

	Bangladesh	Indonesia	Nigeria	Pakistan	Tanzania
Additional explanatory variable					
Panel A: 15- to 24-year-olds					
Logarithm, per capita consumption	-0.033***		0.000	-0.026**	-0.006
	(0.012)		(0.008)	(0.013)	(0.011)
Logarithm, relative deprivation	-0.002		0.000	0.001	0.000
	(0.003)		(0.005)	(0.003)	(0.002)
Baseline household member died between surveys	-0.004	0.018*	-0.012	0.010	-0.024
	(0.017)	(0.010)	(0.011)	(0.017)	(0.017)
Panel B: 25- to 34-year-olds					
Logarithm, per capita consumption	-0.029**		-0.009	-0.014*	0.015
	(0.012)		(0.011)	(0.008)	(0.017)
Logarithm, relative deprivation	0.004		-0.003	0.001	-0.003
	(0.003)		(0.006)	(0.002)	(0.002)
Baseline household member died between surveys	-0.036**	-0.002	0.032	0.003	0.035
	(0.017)	(0.010)	(0.021)	(0.014)	(0.031)

Sources: Bangladesh, BIHS 2011 and 2015; Indonesia, IFLS-4 and IFLS-5; Nigeria, NGHS 2013 and 2016; Pakistan, PRHPS 2012 and 2014; Tanzania, TNPS 2008-2009 and 2012-2013.

Notes: Consumption aggregate not available in Indonesia. Each cell represents a separate regression, and all regressions include variables excluding assets appearing in table 6. Dependent variable is the narrow migration measure. Standard errors clustered at the enumeration area level. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Table 11. Association between specific village-level variables and narrow measure of migration, panel surveys

	Bangladesh	Indonesia	Nigeria	Pakistan	Tanzania
Panel A: 15- to 24-year-olds					
Village land per capita (ha)	-0.081	-0.011	-0.001	-0.030**	0.004
	(0.117)	(0.010)	(0.014)	(0.013)	(0.023)
Share of households with off-farm work	-0.068**	-0.020	0.010	-0.038	-0.032
	(0.027)	(0.028)	(0.019)	(0.026)	(0.043)
Log, population density	-0.016*	-0.024***	-0.003		0.016*
	(0.009)	(0.006)	(0.004)		(0.010)
Enhanced vegetation index (3-year average)	-0.045	-0.021	-0.000		-0.025
	(0.072)	(0.063)	(0.001)		(0.081)
Panel B: 25- to 34-year-olds					
Village land per capita (ha)	-0.105	0.006	-0.026***	-0.026	0.043
	(0.108)	(0.005)	(0.009)	(0.032)	(0.040)
Share of households with off-farm work	-0.024	-0.033*	0.029	-0.022	0.055
	(0.028)	(0.017)	(0.021)	(0.072)	(0.071)
Log, population density	0.010	-0.001	-0.004		0.017
	(0.008)	(0.004)	(0.005)		(0.013)
Enhanced vegetation index (three-year average)	-0.035	0.029	0.002**		-0.043
	(0.075)	(0.033)	(0.001)		(0.155)

Sources: Bangladesh, BIHS 2011 and 2015; Indonesia, IFLS-4 and IFLS-5; Nigeria, NGHS 2013 and 2016; Pakistan, PRHPS 2012 and 2014; Tanzania, TNPS 2008-2009 and 2012-2013; external sources are used for population density, which is measured at the upazila level in Bangladesh.

Notes: Dependent variable is the narrow migration measure. Standard errors clustered at the enumeration area level, and all regressions include variables excluding assets appearing in table 5. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

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Appendix

Table A1. Descriptive statistics, variables used, by country

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Bangladesh	**Indonesia**	**Nigeria**	**Tanzania**	**Pakistan**	**Nepal**	**Mexico**
Individual (youth) characteristics							
Gender (1 = male)	0.460	0.503	0.540	0.509	0.488	0.511	0.492
	(0.498)	(0.500)	(0.498)	(0.500)	(0.500)	(0.500)	(0.500)
Age	18.967	19.361	19.021	19.148	19.239	19.133	19.763
	(2.928)	(2.873)	(2.864)	(2.791)	(2.827)	(2.830)	(2.856)
Less than primary school	0.618	0.060	0.232	0.351	0.099	0.125	0.037
	(0.486)	(0.237)	(0.422)	(0.477)	(0.298)	(0.331)	(0.189)
Primary school complete	0.216	0.537	0.474	0.481	0.363	0.433	0.507
	(0.412)	(0.499)	(0.499)	(0.500)	(0.481)	(0.495)	(0.500)
Secondary school complete	0.093	0.256	0.125	0.060	0.160	0.317	0.365
	(0.291)	(0.437)	(0.330)	(0.237)	(0.366)	(0.465)	(0.481)
More than secondary school	0.000	0.141	0.008	0.000	0.009	0.015	0.083
	(0.021)	(0.348)	(0.090)	(0.020)	(0.094)	(0.120)	(0.276)
Child of household head	0.762	0.638	0.846	0.695	0.794	0.676	0.881
	(0.426)	(0.481)	(0.361)	(0.460)	(0.405)	(0.468)	(0.323)
Household demographics							
Household size	5.108	5.005	8.137	7.390	7.931	6.941	4.989
	(1.863)	(1.967)	(3.328)	(4.057)	(3.550)	(2.858)	(1.948)
Share of household, female	0.521	0.505	0.494	0.526	0.490	0.492	0.498
	(0.178)	(0.194)	(0.167)	(0.192)	(0.146)	(0.155)	(0.187)
Share of household, elderly	0.041	0.053	0.038	0.034	0.026	0.041	0.023
	(0.092)	(0.135)	(0.093)	(0.088)	(0.068)	(0.086)	(0.101)
Share of household, youth	0.271	0.198	0.266	0.263	0.350	0.395	0.388
	(0.193)	(0.203)	(0.174)	(0.186)	(0.183)	(0.165)	(0.182)
Share of household, under 5	0.060	0.067	0.090	0.124	0.064	0.073	0.041
	(0.105)	(0.104)	(0.112)	(0.119)	(0.102)	(0.105)	(0.101)
Age of household head	46.685	46.704	52.793	49.285	48.401	48.962	48.053
	(12.848)	(19.215)	(12.354)	(12.983)	(13.854)	(12.467)	(10.555)
Gender of household head (1 = male)	0.169	0.853	0.096	0.774	0.951	0.779	0.892
	(0.375)	(0.354)	(0.295)	(0.418)	(0.216)	(0.415)	(0.311)
Head has no education	0.513	0.107	0.009	0.297	0.008	0.542	0.061
	(0.500)	(0.310)	(0.095)	(0.457)	(0.090)	(0.498)	(0.240)
Head has primary school education or more	0.179	0.555	0.493	0.490	0.358	0.302	0.755
	(0.384)	(0.497)	(0.500)	(0.500)	(0.479)	(0.459)	(0.430)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Bangladesh	**Indonesia**	**Nigeria**	**Tanzania**	**Pakistan**	**Nepal**	**Mexico**
Household asset holdings							
Owns furniture?	0.985	0.982	0.973	0.958	0.600	-	-
	(0.123)	(0.134)	(0.163)	(0.200)	(0.490)	-	-
Owns vehicle?	0.077	0.556	0.612	0.029	0.273	-	-
	(0.266)	(0.497)	(0.487)	(0.167)	(0.445)	-	-
Owns consumer durables?						-	-
	0.335	0.846	0.443	0.581	0.822		
	(0.472)	(0.361)	(0.497)	(0.493)	(0.383)	-	-
Own house?	0.949	0.881	0.960	0.963	0.879	-	-
	(0.220)	(0.324)	(0.196)	(0.190)	(0.326)	-	-

Sources: Bangladesh, BIHS 2011-2015; Indonesia, IFLS 4 and 5; Nigeria, NGHS 203 and 2016; Pakistan, PRHPS 2012 and 2014; Tanzania, TNPS 2008-2009 and 2012-2013; Mexico, Mexican Migration Project, 2008-2016; Nepal, NLSS-3, 2010.

Notes: Standard deviations in parentheses.

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