Social Networks and the Intention to Migrate

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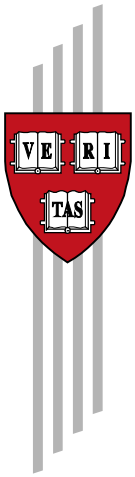

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Social networks and the intention to migrate*

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Abstract

Using a large individual-level survey spanning several years and more than 150 countries, we examine the importance of social networks in influencing individuals' intention to migrate internationally and locally. We distinguish close social networks (composed of friends and family) abroad and at the current location, and broad social networks (composed of same-country residents with intention to migrate, either internationally or locally). We find that social networks abroad are the most important driving forces of international migration intentions, with close and broad networks jointly explaining about 37% of variation in the probability intentions. Social networks are found to be more important factors driving migration intentions than work-related aspects or wealth (wealth accounts for less than 3% of the variation). In addition, we find that having stronger close social networks at home has the opposite effect by reducing the likelihood of migration intentions, both internationally and locally.

Keywords: intention to migrate; social networks; international migration; local migration; remittances.

JEL codes: F22, F24, R23, O15.

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1 Introduction

Social networks in the migrant's destination have been shown empirically to play an important role in explaining international migration flows (see Munshi 2014a for an overview). However, identification of the network's role is difficult due to potential endogeneity. In addition, there is scarce empirical evidence on the relative importance of networks compared to other factors at individual level, on the channels through which these networks work, and about the role of different types of networks. Moreover, little is known about the role played by social networks at the origin location in explaining individual migration decisions. The role of networks and the channels through which they influence migration decisions can be manifold (Munshi 2014b). Networks abroad are expected to facilitate migration through several channels, ranging from simple information sharing to direct financial help or assistance in finding work, e.g. Boyd (1989) and Massey et al. (1993). The role of social networks at home can also be complex. Having closer ties with friends and family at home can facilitate migration through financial and other support, but can also reduce the intention to migrate due to financial or psychological reasons (Munshi and Rosenzweig 2016).

In this paper we take advantage of a large, repeated cross-section, individual-level dataset covering more than 150 countries over several years to explore the importance of different types of social networks for the intention to migrate both internationally and domestically compared to other factors. The main contribution of this paper is the empirical analysis of the role and relative importance of different types of social networks (close and broad, local and international) for both local and international migration intentions.

We investigate the influence of close social networks (composed of family and friends) not only at the destination but also at the origin location, and the importance of broad social networks abroad (the number of people from the same country intending to out-migrate), together with local and country-level amenities, work related factors, wealth, income, and individual characteristics.

In order to better understand the role and the different channels through which social networks matter we further differentiate between close social networks abroad and at home based on whether the network provides financial support. Distinguishing social networks with and without financial aid allows us to better understand the channels through which social networks might influence migration intentions. In order to shed further light on how these different types of networks influence migration intentions we run regressions using interactions based on individual's income and education.

The dataset used in the paper is Gallup's World Poll, which contains numerous questions on how the respondents feel about the quality of local and country-level amenities, as well as a series of questions on the respondent's economic and demographic characteristics, including information on remittances and social networks abroad and at the current location. The survey also contains information on the intention to move away from the current location, and we combine responses to distinguish between the intention to migrate domestically and internationally. This allows simultaneous analysis of international and domestic migration intentions using

the same data source, something that was not explored in the previous literature. The actual internal migration is estimated to be about three times larger than actual international migration (Bell et al. 2015; UNDP 2009), thus better understanding the drivers of local migration and how those compare to international migration is also important.

We analyse the intention to migrate and not actual migration. Several authors have shown that there is a high correlation between intentions and the actual migration (Creighton 2013; van Dalen and Henkens 2013). Compared to most of the existing studies, we use a stricter definition of migration intention, using a combination of questions which identify individuals who are more likely to act upon their intentions (the sample of individuals with a less strict definition of intentions is about 11 times greater than the sample of individuals with intention). The correlation between our data on international migration intentions and the actual migration flows for OECD countries is about 0.36 for the year 2010.[1]

A considerable empirical challenge of investigating the importance of network effects is to identify what drives the correlation between individual migration intentions (or decisions) and peers' migration (social networks). In particular, there could be prior similarities between individuals and those belonging to the network of the individual, resulting in similar behaviour as they face a common environment (re: "correlated effects" in Manski 1993). Unless these factors, which simultaneously influence peers' and the individual's intention to emigrate, are controlled for, this leads to an endogeneity problem stemming from an omitted variable bias.

To reduce the likelihood of this omitted variable problem, we include country and time fixed effects in our regressions. There could still be certain factors, which are not country- or time-specific, that would influence both the individual and the peers' migration intention. Hence, we also undertake an instrumental variable regression approach to establish the likely causal direction. Since both close networks abroad and broad networks could potentially be endogenous, we use instruments for all these variables.

As instruments we use variables which are likely to be the most important factors influencing peers' migration decisions, while separately controlling for the individual's own perception of these factors, which would directly influence the individual's decision to migrate. Specifically, for close networks abroad we use the two-year lagged value of the region-level average perception of main factors influencing migration intentions. The members of the individual's close network abroad (close friends and relatives who have already emigrated abroad) were most likely based in the same region as the individual prior to moving abroad. Hence, the past average perception of the level of amenities and the past average income at region-level are external factors which are expected to be the main drivers behind the individual's close networks

[1]To obtain this correlation we matched our data to actual bilateral migration stock data from which we calculated yearly average flow data for OECD countries as destination countries from Brucker et al. (2013). There are two main potential caveats to note here. First, while our data should be compared to actual migration flows, the data reflected on the figures are 'constructed' flows from stocks recorded every five years. Second, our dataset covers many more destination countries than the OECD. Nevertheless, the correlation is significant, and reasonably strong.

abroad. On the other hand, what matters for the individual's current migration intention is their own perception of these factors, so we control for these directly in the regressions as explanatory variables.

Similarly, broad social networks abroad are likely to be highly correlated with country-level average perception of the determinants of out-migration, such as perception of labour markets, economic and political conditions and amenities in the country of origin. We use the two-year lagged value of the country-level average perception of these factors as instruments for broad networks while simultaneously controlling for the individual's own perception of these factors. Finally, for broad social networks locally, we use the two-year lagged value of country-level average perception of local infrastructure (more precisely, perception of city safety, city housing, city healthcare).[2]

Our results indicate that social networks abroad and at home are the most important factors influencing migration intentions. Having close friends or family abroad significantly increases the probability of international migration intention, explaining about 18% of the variation in the intention to migrate internationally. In addition, broad social networks explain about 19% of the variation in the probability of the international migration intention, and more than 20% in the case of domestic migration intention. Other factors explain significantly less in the variation of migration intentions: satisfaction with local amenities explains about 8% and work-related factors explain about 7%, while wealth and the standard of living explain only a very small fraction of the variation, amounting to less than 2–3%. Furthermore, we find that close networks at the current location reduce the likelihood of the intention to migrate both internationally and locally, albeit these networks are much less important for international migration intention than social networks abroad.

We also find that while close networks abroad with remittances are more important than those without remittances for all groups, they are relatively more important for highly-educated individuals. For highly educated individuals, social networks with remittances increase the likelihood of international migration intention by about 2.8 times more than social networks without remittances. The corresponding figures for the individuals with low and medium education are 1.7 and 2.1 times, respectively. These results could indicate that close networks abroad which provide remittances play a role in reducing migration costs. We also find that close local network from which the individual receives financial assistance is less of a restraining force for migration intentions. This could be because in networks from which they do not receive remittances, the individual is more likely to have others relying on them, making out-migration more difficult. In addition, while all kinds of social networks matter for low- and medium-educated individuals (including broad and close social networks), for individuals with high education only close networks abroad have a significant impact on their migration intentions, and, most importantly, close networks abroad with financial assistance.

[2]We also explored other possible instruments, including questions related to perception of safety, infrastructure, corruption (business and government), healthcare, confidence in elections and country leadership.

Analysis of the heterogeneity of our results across regions and level of development of the home country shows that close networks abroad remain statistically significant across regional sample splits, while broad networks abroad are significant for most regions except for Europe and the MENA countries. Moreover, both broad and close networks abroad remain significant when the sample is split based on level of development of the country. On the other hand, close local networks appear to play a significant role only in low income countries.

In the next section we review the relevant literature. Section 3 contains a stylized model, which we use as a framework for setting up our empirical specification. Section 4 contains description of the dataset and outlines the construction of key variables. We then proceed by describing the empirical specification in Section 5. In section 6 we present and discuss the results. The last section concludes the paper. The Online Appendix contains details about construction of the variables, additional descriptive statistics and statistical tables with robustness checks.

2 Related literature

There are several strands of related literature with most focusing on actual migration, rather than the intention to migrate. The economic determinants of migration have been extensively explored in the literature both for domestic and international migration, mostly by considering employment, wages, social security, inequality, size of the labour market as potential push and pull factors (Ortega and Peri 2009; Hatton and Williamson 2005; Mayda 2010). The literature also considered factors influencing the cost of migrating, such as network effects, cultural links, distance, language, gender (Banerjee 1983; Mayda 2010; McKenzie and Rapoport 2007; Takenaka and Pren 2010; Toma and Vause 2014).

Research on network effects has emphasized the role of social networks or diasporas in lowering migration costs and thus increasing migration flows (McKenzie and Rapoport 2007; McKenzie and Rapoport 2010; Massey et al. 1993).[3]

Beine et al. 2011 find that diaspora effects explain about 71% of the variation of the observed variability in migration flows. Social networks in the destination region can facilitate migration and can also increase the returns to migration through facilitating obtaining a job or higher wages (Boyd 1989; Donato et al. 1992). Munshi (2003) also finds that origin community's networks in the destination can result in better labor market outcomes for migrants belonging to such networks. Several papers look at the differential impact social networks have on different skill-groups of the population. Beine and Salomone (2012) and Beine et al. (2011) both find that diaspora effects are significantly higher for low-skill migrants due to the large diaspora lowering the advantage higher levels of human capital generate in lowering migration costs.

The literature on network effects typically uses aggregate data on social networks

[3]Migrant networks can also play a role not only in stimulating further migration flows, but also increasing trade and FDI flows between the origin and destination regions, see De Simone and Manchin (2012) and Javorcik et al. (2011), with high-skilled migrant networks stimulating technological transfer and innovation, see Kerr (2008).

at destination (most often proxied by the stock of migrants from a specific country or region), and excludes from the analysis the role of social networks at the origin. One exception to this is Munshi and Rosenzweig (2016), who find that low spatial mobility in India is consistent with the hypothesis that access to sub-caste networks at the origin provides mutual insurance to their members (risk-sharing network) and reduces the incentives to out-migrate. In particular, they find that among households with similar income, those who belong to higher-income caste networks are less likely to out-migrate and more likely to participate in caste-based insurance arrangements.

Most studies on international migration use aggregate level data on migrant networks, without distinguishing close and broad networks abroad.[4] Liu (2013) makes use of individual's network data to explore the role of 'strong' (e.g. family) and 'weak' (e.g. friends) ties in stimulating migration, finding that 'weak' ties play an important role in explaining migration. Our data allows analysis of the importance of close networks (proxied by family and friends), abroad and at the current location, together with broad networks (proxied by the number of individuals from the same country with an intention to out-migrate). Giulietti et al. (2018) also look at strong versus weak ties in Chinese rural-to-urban migration decision, where strong ties are measured by the closest family contact and weak ties are measured by the share of migrants from the same village. Giulietti et al. (2018) find that both weak and strong ties matter, with weak ties being more important.

While the role of labour market characteristics and income for both international and domestic migration has been widely investigated in the literature, the role of amenities in comparison to these factors has not been fully explored, especially for international migration. Our findings indicate that amenities can be more important than work or income in explaining out-migration intention. Most existing studies examined local amenities as pull factors for within-country migration decisions, see Knapp and Gravest (1989) for an overview. In addition, most papers on the relative role of amenities use data for a single country, limiting the analysis only to the internal migrants (Niedomysl and Hansen 2010; Scott 2010; Chen and Rosenthal 2008). In this paper, we control for the effects of amenities on the intention to migrate internally and internationally, measuring different types of amenities at the local and country levels, capturing not just cultural/entertainment/recreation amenities (e.g. Niedomysl and Hansen 2010), but also public goods (healthcare, education, safety, roads, physical setting and other local factors) and institutions (military, government, corruption, leadership).

In our analysis, we use information on the intention to migrate and not on actual migration. We believe it is important to understand what drives the intention to migrate in itself. An advantage of using the intention to out-migrate instead of actual migration is that the intentions provide a measure of migration propensities, which includes potential illegal migrants, omitted from most migration statistics. On the other hand, a possible concern with using the intentions is that they represent "mere

[4]There are exceptions in the form of country-specific studies, e.g. a series of studies relying on the Mexican Migration Project (Flores-Yeffal and Aysa-Lastra 2011; Garip and Asad 2016; Kandel and Massey 2002).

words" rather than "true plans" (van Dalen and Henkens 2013). Using data for the Netherlands, van Dalen and Henkens (2013) find that intentions are a good predictor of future migration. In addition, within people who expressed intention to migrate, those who stayed do not differ from those who migrated (with the exception of weaker health for those that stay). Furthermore, the same forces drive actual migration and the intention to migrate. Creighton (2013) uses two waves of the Mexican Family Life Survey and shows that intentions predict migration, both interstate and to the US from Mexico. These results support the use of intentions as good predictors of actual future migration.

The intention measure used in our analysis is defined to be a more strict expression of preference than intentions defined in Creighton (2013), thus we are likely to get an even better prediction for actual migration. With a less strict definition for migration intention, using just a single question whether the individual would like to migrate or not, we would identify up to eleven times more individuals with international migration intention.[5]

An additional advantage of our data is that we can use it to compare the intention to migrate locally with the intention to migrate internationally. This is in contrast to the existing literature, which due to data limitations is typically limited to studying either domestic or international migration, but not both. A few studies that are able to cover both international and local migration are based on data for a single country or a specific region (e.g. Mendola 2008; van Dalen and Henkens 2013).

The World Poll dataset has been so far used by a few papers. Concentrating on the importance of wealth constraints on migration using the World Poll, but without distinguishing local and international migration, Dustmann and Okatenko (2014) find that the level of migration costs relative to wealth determines the form of the relation between income and out-migration intentions.[6] In addition, they also find that contentment with local amenities plays an important role for migration decisions. Docquier et al. (2014) use the World Poll employing just a single question to identify

[5]A definition of weaker intentions is a statement of consideration to migrate (perhaps under ideal circumstances), for example Creighton (2013) uses: "Have you thought about moving in the future outside the locality/community where you currently live?" On the other hand, intention can be measured by a stronger statement of preference. The corresponding question in World Poll is: "Ideally, if you had the opportunity, would you like to move permanently to another country, or would you prefer to continue living in this country?" World Poll's formulation is stronger since it is asking directly for the likely response under ideal conditions (as opposed to mere consideration used by Creighton 2013). Furthermore, while Gallup's data allows for analysis of intentions to migrate (using the previously cited question), we employ an even stronger definition of intention by combining the previous question with information from the following questions: "In the next 12 months, are you likely or unlikely to move away from the city or area where you live?" and "Are you planning to move permanently to another country in the next 12 months, or not?". Section 1 in the Online Appendix provides further details on the measurement of intentions, while Section 11 of the Online Appendix contains robustness checks with a more strict measure, which includes actual preparation for out-migration.

[6]In our paper we are able to distinguish between international and local migration intentions which is important since the majority of the out-migrants intends to migrate domestically. In our sample, for every person that expressed intention to migrate internationally, there are almost 9 people that intend to migrate domestically, see Table 1.

migration intentions (based on the question whether the person would like to move or not), and aggregate the individual-level survey to country-level to examine the main factors turning international migration intentions into actual migration. In another paper, Docquier et al. (2017) explore the importance of cultural ties in migration intentions using the World Poll data. More specifically, they look at migration intentions from MENA countries and whether there is self-selection based on religiosity and gender-egalitarian attitudes. Their findings indicate that individuals with migration intention to OECD countries have lower levels of religiosity and have more gender-egalitarian views than the rest of the population, with limited effects on the rest of the population left behind. Ruyssen and Salomone (2018) use the dataset to look at the role of gender discrimination on female migration intentions. Friebel et al. (2017) using the same data look at the impact of the availability of human smuggling networks on international migration intentions. Bertoli and Ruyssen (2016) use World Poll data to estimate origin-specific conditional logit models of intended destination's attractiveness, emphasizing the value of having a close network abroad (distance-one connection). The question addressed by our paper is very close to that of Bertoli and Ruyssen (2016), but in addition to close networks abroad we examine close local networks, and also we distinguish local and international migration intentions.

3 The framework

This section outlines a highly stylized model of how an individual's intention to out-migrate is affected by factors abroad and at the current location, most importantly the costs of migration including social network effects, and also contentment with amenities at the current location, with employment status, current and anticipated wealth and income. The objective of this model is to provide a motivation for the empirical analysis, rather than to develop a comprehensive model. The framework is based on Dustmann and Okatenko (2014) and Sjaastad (1962).

Since we use survey data of individual preferences (and intentions), the model will be based on the individual's preference towards migration rather than on the actual fact of relocation. Specifically, the individual's preference towards migration will depend on whether they anticipate that their expected utility at the intended destination will be higher compared with the expected utility at the current location. In line with Dustmann and Okatenko (2014), the utilities depend on the individual's wealth and contentment with amenities, while costs can vary with individual- and country-specific characteristics. In addition to this, the expected costs of migration can be influenced by migration networks at the destination (e.g. McKenzie and Rapoport 2007) and social networks at the origin (e.g. Munshi and Rosenzweig 2016; Sjaastad 1962).

In our framework, if an individual perceives their expected utility to be higher at another location (net of the expected costs of relocation), then they will develop an intention (or desire) to migrate. Assuming that the individual faces credit constraints, if expected costs of migration are too high, then the individual's intention to migrate will remain only a 'dream'. Those individuals that have an intention to out-migrate

and can afford the move, will develop an intention to migrate. Intention to migrate is a stronger expression of the plan to migrate.

Let the individual expected utility from staying at the origin be given by u_o, while the expected utility at another location is given by u_d. If the expected costs of migration are given by c, then the individual will develop an intention to migrate if the following condition is satisfied (individual subscripts are dropped for convenience):

$$u_o - (u_d - c) \leq 0. \tag{1}$$

In order for an individual to develop an intention to migrate, the individual's current wealth,[7] ω_o, must be sufficient to finance the expected costs of migration (budget constraint): $\omega_o \geq c$.

In line with Sjaastad (1962), the migration costs will be influenced by country-specific characteristics, τ, individual-specific characteristics, i, and, importantly, the individual's social networks at the origin δ_o and destination δ_d: $c = c(\tau, i, \delta_o, \delta_d)$.

Social networks at the destination are expected to lower the costs of migrating through providing information, financial or other type of direct help for migrants. Social networks at the origin on the other hand can both increase or decrease migration costs. For example, it can be that these networks provide financial support to people who want to migrate, but it could also be that emigrating would imply losing the benefits offered by the social networks at home, either emotional (re: "psychic costs" in Sjaastad 1962) or financial (Munshi and Rosenzweig 2016), thus increasing the costs of migrating.

Allowing for unobservable factors that can affect the utility of the individual at the destination and origin and the cost of migration, Expression 1 can be written as: $u_o - (u_d - c) + \sigma \leq 0$, where σ captures the net value of the random variables affecting utilities at destination/origin and the cost of migration. This means that the probability of an individual developing a weak intention to migrate will be given by: $\Pr(\text{weak intention}) = \Pr(\sigma \leq u_d - c - u_o)$.

The probability of developing intention to migrate will also depend on the budget constraint:

$$\Pr(\text{intention}) = \Pr(\sigma \leq u_d - c - u_o; \omega_o \geq c).$$

This model predicts that individuals will be more likely to develop an intention to out-migrate away from the current location if, other factors constant, they have stronger social networks at the destination.

4 Data

The key source of data used in this paper is a large annual survey, Gallup's World Poll. The survey covers residents of more than 150 countries, representing about 98% of the world's adult population. The information is collected from randomly selected,

[7] It is important to distinguish wealth, a stock concept, from income, a flow concept. However, in the context of the empirical approach used in this paper both are relevant for the development of an intention to out-migrate, and the discussion will refer to wealth only.

nationally-representative samples of about one thousand individuals per country.[8] The survey covers each country comprehensively, including rural areas.[9] Although the World Poll contains data from 2005 onwards, we limit our sample to waves 5 to 7, which cover 2010 to 2013 calendar years (see Section 3 of the Online Appendix for further details on the sample). The reason for using this shorter sample is that we can distinguish between local and international migration intentions only in these waves of the survey.

4.1 Construction of the dependent variable

Several questions in the survey ask about the individual's preferences for moving abroad. First we use the question which asks if the individual would like to move to another country under ideal circumstances. In order to use strong migration intentions instead of weak intentions, this question is combined with another relevant question about the individual's plan to move permanently to another country within the next 12 months. The last question used in constructing the dependent variable asks if the individual is likely to out-migrate away from their current location within the next 12 months. This question is used in combination with the previous question to identify individuals with the intention to migrate locally. The number of observations in each category is given in Table 1. We exclude those observations where the answers provided are contradictory. Further details are provided in Section 1 of the Online Appendix.

Table 1: Intention to stay or to out-migrate: summary numbers

Label	Total	As % of valid observations
Intention to stay at the current location	367'957	85.2
Intention to migrate locally	57'407	13.3
Intention to migrate internationally	6'472	1.5
Valid observations	431'836	100

Note: valid observations are observations with consistent, non-missing responses, see Appendix **??** for further details. Source: own calculations based on World Poll data.

In order to check to what extent our constructed variable on international migration intention can be a proxy for actual migration, we merged our data with actual bilateral migration stock from Brucker et al. (2013). This dataset provides the number of migrants in the destination country originating from a given country based on census data for the years 1980–2010 for every five years. From this we are able to calculate the yearly average net bilateral flows (the difference between the stocks) and match this to our data. In order to compare the actual flows with the intentions from our data, we aggregate the responses from our data to country level using information

[8] In some countries, larger samples are collected in major cities or areas of special interest. Additionally, in some large countries, such as China and Russia, sample sizes increase to at least two thousand respondents.

[9] Esipova et al. (2011) and Gallup (2012) provide further details on the dataset and a full list of available variables.

on the desired destination country and sample weights. The correlation between our data on bilateral international migration intentions and the actual migration flows for 2010 is 0.36 as shown in Figure 1.

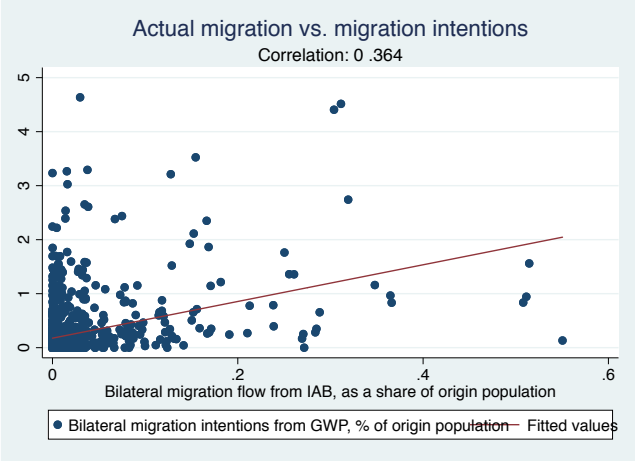

Figure 1: Actual migration vs. intentions

Note: Actual migration is bilateral migration as a share of origin population and calculated as the yearly average change from Brucker et al. (2013) database's stock migration data. Intentions are bilateral migration intentions as a share of origin population calculated from GWP using the sample weights. The sample is restricted by the availability in the IAB database where OECD countries are the destination countries, while the years correspond to our sample years, 2010–2012.

Unlike the official data, our data should also capture illegal migration, which can explain some of the discrepancy between intention and actual (official) flows. In addition, our data also allow us to distinguish between local and international migration intentions. We believe that using intentions can be a good proxy for actual migration, nevertheless, throughout this paper, we discuss intentions without drawing conclusions for actual migration.[10]

4.2 Descriptive statistics

Table 2 provides descriptive statistics on the sample's demographic characteristics, distinguishing between respondents who intend to stay in their current location, intend to move within the country, and those who intend to migrate internationally.

The basic descriptive statistics for demographics are in line with the previous findings in the literature. Those who intend to migrate are more likely to be young, single, male, and with better education. This pattern is stronger for international migration intentions than for local migration intentions. In addition, those who intend to migrate internationally tend to come from households with larger number of adults and children.

[10]Our definition of intention doesn't include information on whether the individual started preparation for the move (Ruyssen and Salomone 2018), but our results are robust to including preparation in identifying intention, see Section 11 of the Online Appendix.

Table 2: Descriptive statistics: values of key demographic characteristics

	Intention to		
	stay	move locally	move abroad
Respondent's age	39.8	32.5	29.9
	(17.63)	(14.35)	(12.21)
Female	0.52	0.49	0.42
	(0.50)	(0.50)	(0.49)
Education	1.65	1.70	1.75
	(0.65)	(0.65)	(0.66)
Married	0.60	0.48	0.39
	(0.49)	(0.50)	(0.49)
# of adults	3.71	3.98	4.34
	(1.80)	(1.94)	(2.13)
# of children	1.41	1.68	1.87
	(1.72)	(1.84)	(2.04)
Healthy	0.75	0.77	0.78
	(0.43)	(0.42)	(0.41)
Large city	0.40	0.44	0.48
	(0.49)	(0.50)	(0.50)
Friends/family can help	0.81	0.80	0.79
	(0.39)	(0.40)	(0.41)
Close networks abroad	0.30	0.38	0.67
	(0.46)	(0.49)	(0.47)

Note: weighted sample. 'Friends/family can help' is one of the questions we use to proxy for close local networks, see the Appendix for further details. Figures in the brackets show standard deviation. Source: own calculations based on World Poll data.

Those who intend to migrate are also different from stayers in other respects. They have more relatives abroad, they are also more likely to come from major cities. On the other hand, those who stay report that they can count on family and friends more. A greater share of those who intend to migrate internationally perceive themselves to be healthy.[11]

Stayers tend to be much more satisfied with the area where they live than those who intend to move (see Table 3). Satisfaction with country-level factors is much lower for those who intend to migrate internationally than for stayers or domestic migrants. While poorer (in absolute terms) people intend to migrate more, when using income quintiles within country, individuals who are relatively rich compared to the population in the country are more likely to intend to migrate. People who are unemployed are also more likely to intend to out-migrate.

[11]Regression results show that better self-reported health status of out-migrants is mostly explained by their (younger) age.

Table 3: Descriptive statistics: values of economic characteristics and contentment with amenities

		Intention to	
	stay	move locally	move abroad
Satisfaction with the city/area	0.83	0.61	0.51
	(0.38)	(0.49)	(0.50)
Economic conditions in the city	0.58	0.59	0.58
	(0.49)	(0.49)	(0.49)
Change in the city's economic condition	1.12	1.05	0.82
	(0.83)	(0.85)	(0.87)
Economic conditions in the country	1.09	1.10	0.82
	(0.86)	(0.90)	(0.87)
Change in the country's economic conditions	1.04	1.05	0.83
	(0.86)	(0.87)	(0.88)
Household Income (International Dollars)	13,188	12,056	10,398
	(17,827)	(17,182)	(15,219)
Household Income Within Country Quintiles	2.94	3.00	3.14
	(1.41)	(1.42)	(1.45)
Employment	1.39	1.32	1.25
	(0.60)	(0.66)	(0.71)

Note: weighted sample. Figures in the brackets show standard deviation. Source: own calculations based on World Poll data.

5 The empirical specification

We concentrate the empirical analysis on origin-specific factors and factors influencing the cost of migration while disregarding the choice of destination. Following the framework outlined earlier, our main empirical specification is:

$$M_{it,c} = \alpha + \beta_1 S_{it,c} + \beta_2 Z_{it,c} + \gamma_c + \mu_t + \epsilon_{it,c}\,, \tag{2}$$

where $M_{it,c}$ is a variable equal to 1 if the individual i surveyed in country c in year t intends to out-migrate over the next 12 months.[12] Equation 2 is estimated using sample-weighted probit regressions.

$S_{it,c}$ contains our main variables of interest, proxying social networks. There are four types of social networks which we consider in the empirical analysis. We control for close networks and broad networks both abroad and at home. We measure close social networks abroad by using the question "Do you have relatives or friends who are living in another country whom you can count on to help you when you need them?". In order to control for close local social networks we use the constructed 'close local network' variable which is composed of two questions proxying the intensity of local social ties.[13] There are several potential channels through close networks abroad

[12]Our data does not have a panel structure as we do not observe the same individuals asked in subsequent years.

[13]The two questions are: "If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?" and "In the city or area where you live, are you satisfied or dissatisfied with the opportunities to meet people and make friends?". For further details, see Section 2 of the Online Appendix.

can promote migration intentions. These networks can reduce the cost of migration through financially support or with helping finding jobs for example. The role of close networks locally can potentially be more complex. It could be that the stronger presence of these networks lowers migration intentions (through emotional or financial costs of quitting a strong social network when migrating), but it could also be that it increases migration intentions (through providing financial support required for the costs of migration for example).

We also measure the impact of broad social networks. When looking at the determinants of international migration intention, broad social network abroad is defined as the log of (weighted) number of individuals intending to move abroad from the same country, while local social networks is proxied with the log of the (weighted) number of people with intention to migrate within the country. Broad networks have been shown in the literature to positively influence individual migration through lowering the costs of migration (see for example McKenzie and Rapoport 2007).

$Z_{it,c}$ includes a set of control variables based on our framework outlined in the previous section. First, we include a variable measuring the individual's level of wealth. For this, in our main specification we will use the first two components obtained with the principal component analysis, 'wealth' and 'standard of living' (for further details, see Section 2 of the Online Appendix). As a robustness check we also run the regressions using a single question instead of the variables obtained with principal component analysis. For wealth we use the individual's income (measured in international dollars).[14] To explore potential non-linear effects, the quadratic terms of the wealth variables are also included. We expect this variable to have a positive impact on migration intentions.

Second, we include a measure of satisfaction with amenities at city/local and national level. To measure contentment with local or city-level amenities, in our main specification we use 'local amenities' and 'local security', which measures contentment with amenities including contentment with local infrastructure, safety, and economy (for further details, see Section 2 of the Online Appendix). As a robustness check we also use a single variable instead of the constructed indexes, for which we use the question "How satisfied are you with your city?". In order to measure contentment with amenities at national level, we use 'contentment with country' and 'corruption' measuring the individual's satisfaction with politics, infrastructure and economy in the country of residence (for further details, see Section 2 of the Online Appendix). As a single variable, we use the question "How would you rate economic conditions in this country today: as excellent, good, only fair, or poor?". We expect that the more satisfied the individual is with amenities the less likely the individual has migration intentions.

Third, we include a variable measuring the individual's satisfaction with her/his job. In the main specification we use our constructed index 'work', capturing job satisfaction, job availability, and employment status (for further details, see Section 2 of the Online Appendix). As a robustness check, instead of the constructed index, we use the current reported employment status of the individual which takes the value

[14]For further details on methodology behind the income variable see Gallup (2012, page 9).

0 if unemployed, 1 if looking for a full-time job (while being employed) or out of the workforce, and 2 if employed. Similarly to satisfaction with local amenities, we expect that individuals who are more content with their job are less likely to have migration intentions.

Finally, we also include individual observable characteristics including the level of education, marital status, age, gender, health, number of children, and a dummy for residing in a large city which could all influence migration cost.

We also include country fixed effects (γ_c) and year fixed effects (μ_t) in the regressions.

6 Results

6.1 Main results

Throughout the text, we discuss the results using marginal effects, evaluated at the means, thus reflecting the probability of intention to migrate for someone with 'typical' values of the explanatory variables. Results with our principal component-based indexes following Equation 2 are presented in Table 4. All specifications include country and year fixed effects, and both linear and non-linear (with quadratic terms for the 'wealth' and 'standard of living' variables) specifications are presented for international and local migration intention.

The results indicate a significant correlation between social networks and the intention to migrate. Having close social networks abroad is associated with higher probability of migration intention, with elasticity of about 3% for international and local migration intentions. On the other hand, having stronger close local networks at the current location is negatively correlated with the likelihood of the intention to migrate both internationally and locally. Broad social networks also matter, and this is true both for local and international migration intentions indicating strong domestic and international network effects.

For both internal and international migration intentions, satisfaction with local circumstances, measured by the local amenities and local security, decreases the probability of moving away from the current location. Both variables are significant, with higher coefficients for those who intend to migrate locally. Contentment with the country only influences international migration intentions, not domestic migration intentions, and is less important than contentment with local amenities. Furthermore, lower corruption in the country also decreases international migration intention, although the variable is only significant at 10%.

The marginal effect of wealth on the probability of the intention to migrate internationally is positive and significant at 10%, but insignificant for local migration intentions. This potentially indicates that the cost of international migration is higher than for domestic migration, thus a certain level of wealth is required for international migration intentions. The quadratic term of the 'standard of living' variable is found to be insignificant. The marginal effect of the 'standard of living' is negative and significant for both international and local migration, indicating that as the perception

Table 4: Marginal effects using the constructed indexes

	Linear specification		Non-linear specification	
	Intention to migrate			
	internationally	locally	internationally	locally
Close local networks	-0.008	-0.025	-0.008	-0.026
	(0.004)**	(0.007)***	(0.004)**	(0.007)***
Close networks abroad	0.034	0.033	0.034	0.033
	(0.002)***	(0.005)***	(0.002)***	(0.005)***
Broad networks abroad	0.024		0.024	
	(0.003)***		(0.003)***	
Broad local networks		0.103		0.102
		(0.018)***		(0.019)***
Local amenities	-0.030	-0.104	-0.030	-0.105
	(0.004)***	(0.009)***	(0.004)***	(0.009)***
Local security	-0.020	-0.091	-0.020	-0.090
	(0.005)***	(0.011)***	(0.005)***	(0.011)***
Contentment with the country	-0.020	-0.013	-0.020	-0.012
	(0.005)***	(0.012)	(0.005)***	(0.012)
Corruption	-0.011	-0.010	-0.011	-0.010
	(0.006)*	(0.017)	(0.006)*	(0.017)
Work	-0.018	-0.059	-0.018	-0.058
	(0.003)***	(0.009)***	(0.003)***	(0.008)***
Wealth	0.011	0.016	0.010	0.008
	(0.006)*	(0.020)	(0.006)*	(0.019)
Standard of living	-0.025	-0.048	-0.024	-0.046
	(0.008)***	(0.016)***	(0.008)***	(0.016)***
Married	-0.011	-0.029	-0.011	-0.029
	(0.002)***	(0.005)***	(0.002)***	(0.005)***
Age	-0.001	-0.003	-0.001	-0.003
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.005	0.021	0.005	0.020
	(0.003)*	(0.005)***	(0.003)*	(0.005)***
Education (high)	0.011	0.041	0.011	0.044
	(0.004)***	(0.007)***	(0.004)***	(0.007)***
Female	-0.010	-0.017	-0.010	-0.017
	(0.002)***	(0.006)***	(0.002)***	(0.006)***
Large city	0.007	0.008	0.007	0.008
	(0.003)**	(0.006)	(0.003)**	(0.006)
Healthy	-0.009	-0.041	-0.009	-0.041
	(0.003)***	(0.010)***	(0.003)***	(0.010)***
# of children	0.001	-0.002	0.001	-0.002
	(0.000)**	(0.001)	(0.000)**	(0.001)
Pseudo R2	0.22	0.10	0.22	0.10
N	49,012	60,533	49,012	60,533

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows marginal effects of sample-weighted probit regressions, st. errors are clustered at country-level, all specifications include year and country fixed effects. The dependent variable is a dummy for the intention to migrate locally or internationally (see text for details). The linear specification includes 'wealth' and 'standard of living' in linear form, the non-linear specification adds squared values of these variables. 'Local amenities' and 'local security' capture satisfaction at the city/local level, while 'contentment with the country' and 'corruption' reflect individual's satisfaction with the country-level institutions/amenities, 'work' reflects satisfaction with the job, 'close networks' reflect close social ties (local and abroad) of the individual, while 'broad networks' are proxied by the log of the total number of individuals at the current location that intend to move locally and abroad. For further details, see Section 2 of the Online Appendix. The corresponding probit coefficients are presented in Section 5 of the Online Appendix.

of the current and future expected standard of living improves, the probability that an individual intends to out-migrate decreases. A closely related result is obtained by Dustmann and Okatenko (2014), who use the same dataset, although over earlier time period, to investigate the effects of wealth constraints in different regions. Dustmann and Okatenko (2014) find that higher wealth leads to higher out-migration intention, without distinguishing local and international migration, in sub-Saharan Africa and Asia, while wealth is an insignificant determinant in the richest region in their sample – Latin America.

While current wealth of the individual is only marginally important, if her current work conditions are better, she is less likely to intend to migrate locally or internationally, with the effect being more important for local migration intention. Being younger and perceiving one's own health worse leads to higher probability of international and internal migration plans.[15] In addition, better-educated individuals are more likely to intend to migrate in line with previous research (e.g. Docquier et al. 2012; Docquier and Rapoport 2012). The results also indicate that people living in larger cities are more likely to be mobile. This finding could be capturing individuals that have migrated from rural areas or small towns to large cities as an intermediate step in their international migration path (see King and Skeldon 2010, page 1623 for further references) or it could be that the costs of migrating from a large city are lower.

So what do these results mean in terms of economic significance? While principal components provide a way to capture all information from the underlying data without multicollinearity problems arising, the coefficients on principal components are more difficult to interpret compared to using single questions from the survey. In order to better understand the importance of the explanatory variables in explaining the migration intentions, we use the Shorrocks-Shapley decomposition. The Shorrocks-Shapley decomposition provides the relative contribution of variables of interest to a measure of fit (such as R^2 for OLS, or pseudo-R^2 for probit). This is done by considering all possible combinations of elimination of variables of interest and calculating marginal effects from each exclusion on the chosen measure of fit.[16]

The Shorrocks-Shapley decomposition for our non-linear specification is presented in Figure 2. It shows the relative importance of each explanatory variable in explaining overall variation for the regressions of intention to migrate both internationally and locally.

[15]This latter result is surprising, because the literature generally argues for positive selection for health. In the specifications that do not contain age, the health coefficient is positive, however as soon as age is controlled for, health coefficient becomes negative or insignificant. The result persists with age-health interaction. Partly this result could be explained by the different data used. The literature typically uses data on actual migrants and compares them to the host population, while we compare those that intend to migrate (potential migrants) with those that intend to stay. Recent studies that compare migrants to non-migrants in the origin find that there is negative health selection (or, in some cases, health is not significant). For example, see Rubalcava et al. (2008) who find that for Mexico-US migration there is either very weak positive selection or a negative one, depending on the health measures used.

[16]We use shapley2 Stata command provided by Chavez Juarez (2015). Refer to Shorrocks (1982) and Dustmann and Okatenko (2014) for further details.

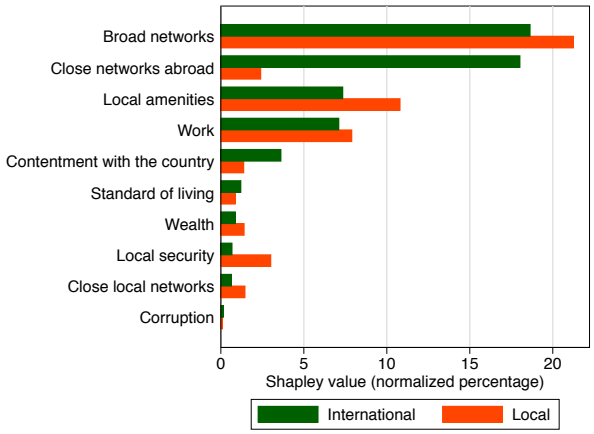

Figure 2: Shapley value decomposition

Note: Shapley values are normalized, the sum of these values for all variables, including the fixed effects and other individual characteristics which are included in the regression but not on this graph, is equal to 100 percent. Source: own calculations using *shapley2* program.

Clearly, network effects explain most of the variation. Having close networks abroad accounts for about 18% of the variation in the intention to migrate internationally. In addition, broad networks abroad (the log of the number of people intending to migrate from the same country) explain about 19% for international migration intention, while local broad networks (the log of the number of individuals planning to migrate in the same country) explain a bit more than 20% for local migration intention. Altogether, about 37% of variation in international migration intention is explained by different social networks abroad (close and broad networks). On the other hand, close social networks at home are relatively less important, especially for those who intend to move internationally, having a negative impact of out-migration intentions and explaining about 2–4% of the variation in out-migration intentions.

Satisfaction with local amenities is also important for migration decisions, although to a lesser extent, with the two indexes, 'local amenities' and 'local security', explaining more of the variation in international migration intentions than the 'work index'. These are much more important than satisfaction with country-level amenities, which explains less than 2% in the case of domestic migration intention and about 5% in the case of international migration intention. Furthermore, we find that the importance of the individual's wealth and perceptions of standard of living is relatively low for international migration intention.

The Online Appendix contains a number of additional robustness checks: we dropped the country-year varying explanatory variables and run the regressions with country-year fixed effects (Section 13 of the Online Appendix); we tried a random effects probit regressions to see the robustness of our results to the estimator used (Section 14 of the Online Appendix); we run our main specification using actual migration for measuring broad social networks abroad (Section 10 of the Online Ap-

pendix); we used a stricter definition of intention, taking into account preparations (Section 11 of the Online Appendix); and we also run the same regressions while restricting the sample to respondents born in the country, excluding those who were born in a foreign country (Section 12 of the Online Appendix). These results are very similar to results from our main specification.

6.2 Variation across regions and country income groups

To examine heterogeneity in the role of different factors across different regions and country-level income groups, we run the specifications on sub-samples. Given data limitations, the index-based sub-samples are generally small with the lowest sample at about 1'500 for Middle East and North Africa region (MENA). Using single-question specifications increases the sample size considerably (for MENA the sample size increases to 15'000) without considerable changes in the significance/magnitude of the effects. For consideration of brevity, only the results for the international migration intentions are presented, but the reader is referred to Section 8 of the Online Appendix for the local migration intention tables.

Table 5 shows the regional results for the intention to migrate internationally. Across all regions, close networks abroad remain statistically significant with the marginal impact of about 1 to 4 %. The importance of close local networks does differ across regions, with a statistically significant importance of close local networks shown only in Americas.[17] Broad networks abroad have a significant positive impact in many regions, except Europe and MENA. Another consistent result is the strong importance of local amenities, as opposed to wealth and standard of living which seems to matter mostly for the Sub-Saharan Africa sample (in Asia, the marginal impact of wealth is negative, while in ex-USSR the marginal impact of the standard of living is positive). The marginal impact of other variables is broadly in line with the main results.

Table 6 shows how the results vary with the country's level of development. The influence of the close network abroad and broad networks abroad is consistently positive across all sub-samples, while close local networks appear to be statistically significant only for the sub-sample of low income countries.

[17] In specifications with single-question variables, which give larger sample, close local networks have a statistically significant negative value also for Asia and Europe. Other results reported in this section are also broadly consistent with the results from single-question specifications.

Table 5: Results for international migration intention by region

	Intention to migrate internationally					
	Europe	Ex-USSR	Asia	Americas	MENA	Sub-Saharan Africa
Close local networks	-0.009	-0.003	0.003	-0.015	0.010	-0.013
	(0.008)	(0.007)	(0.003)	(0.005)***	(0.011)	(0.009)
Close networks abroad	0.021	0.028	0.011	0.040	0.035	0.050
	(0.004)***	(0.006)***	(0.002)***	(0.003)***	(0.005)***	(0.005)***
Broad networks abroad	0.005	0.036	0.005	0.024	0.006	0.034
	(0.006)	(0.005)***	(0.002)***	(0.004)***	(0.026)	(0.007)***
Local amenities	-0.023	-0.052	-0.006	-0.023	-0.033	-0.046
	(0.006)***	(0.011)***	(0.002)***	(0.007)***	(0.008)***	(0.011)***
Local security	-0.033	0.011	-0.003	-0.012	-0.045	-0.034
	(0.008)***	(0.011)	(0.006)	(0.010)	(0.019)**	(0.010)***
Contentment with the country	-0.017	-0.019	-0.007	-0.007	-0.017	-0.037
	(0.011)	(0.016)	(0.002)***	(0.008)	(0.017)	(0.010)***
Corruption	-0.010	-0.002	0.001	0.000	0.005	-0.028
	(0.011)	(0.015)	(0.004)	(0.013)	(0.025)	(0.012)**
Work	-0.017	-0.019	-0.005	-0.002	0.034	-0.037
	(0.006)***	(0.007)**	(0.002)**	(0.006)	(0.011)***	(0.009)***
Wealth	-0.015	-0.001	-0.009	-0.011	-0.025	0.030
	(0.016)	(0.021)	(0.005)*	(0.015)	(0.028)	(0.009)***
Standard of living	0.010	0.036	0.004	-0.009	0.023	-0.067
	(0.011)	(0.016)**	(0.007)	(0.010)	(0.011)**	(0.018)***
Married	-0.015	-0.020	-0.001	-0.003	-0.020	-0.017
	(0.006)**	(0.006)***	(0.002)	(0.007)	(0.003)***	(0.004)***
Age	-0.001	-0.001	-0.000	-0.001	0.000	-0.001
	(0.000)***	(0.000)***	(0.000)	(0.000)***	(0.000)	(0.000)***
Education (medium)	0.010	-0.010	0.005	-0.006	0.004	0.014
	(0.005)**	(0.016)	(0.001)***	(0.007)	(0.009)	(0.005)***
Education (high)	0.026	-0.005	0.014	0.000	0.010	0.008
	(0.010)***	(0.021)	(0.003)***	(0.007)	(0.022)	(0.010)
Female	-0.016	-0.006	0.000	-0.003	-0.011	-0.016
	(0.003)***	(0.005)	(0.002)	(0.003)	(0.005)**	(0.005)***
Large city	-0.002	0.004	0.002	0.008	0.020	0.012
	(0.004)	(0.002)*	(0.001)	(0.004)**	(0.003)***	(0.010)
Healthy	-0.002	-0.001	-0.004	-0.016	-0.016	-0.011
	(0.006)	(0.005)	(0.002)	(0.006)**	(0.009)*	(0.006)*
# of children	0.003	0.004	0.001	-0.001	0.001	0.001
	(0.002)	(0.001)***	(0.000)	(0.002)	(0.002)	(0.001)
Pseudo R2	0.22	0.37	0.24	0.20	0.28	0.18
N	6,564	3,711	10,558	8,183	1,487	18,509

Source: own calculations.

Table 6: Results for international migration intention by income group

	Intention to migrate internationally		
	Low income	Upper middle income	High income
Close local networks	-0.010	-0.006	0.008
	(0.005)**	(0.005)	(0.007)
Close networks abroad	0.039	0.026	0.014
	(0.003)***	(0.003)***	(0.004)***
Broad networks abroad	0.029	0.010	0.054
	(0.004)***	(0.003)***	(0.014)***
Local amenities	-0.032	-0.020	-0.030
	(0.005)***	(0.004)***	(0.006)***
Local security	-0.026	0.007	-0.024
	(0.006)***	(0.007)	(0.013)*
Contentment with the country	-0.023	-0.011	-0.004
	(0.006)***	(0.006)*	(0.010)
Corruption	-0.011	-0.011	-0.024
	(0.008)	(0.008)	(0.009)***
Work	-0.025	-0.004	-0.009
	(0.004)***	(0.007)	(0.007)
Wealth	0.016	0.012	-0.046
	(0.007)**	(0.011)	(0.018)**
Standard of living	-0.030	-0.008	-0.008
	(0.011)***	(0.011)	(0.013)
Married	-0.009	-0.017	-0.011
	(0.003)***	(0.003)***	(0.006)**
Age	-0.001	-0.001	-0.001
	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.007	-0.002	0.013
	(0.004)*	(0.005)	(0.003)***
Education (high)	0.005	0.005	0.043
	(0.005)	(0.005)	(0.009)***
Female	-0.010	-0.009	-0.009
	(0.003)***	(0.002)***	(0.006)
Large city	0.008	0.006	-0.002
	(0.004)*	(0.003)**	(0.005)
Healthy	-0.012	-0.004	0.002
	(0.003)***	(0.004)	(0.009)
# of children	0.001	0.001	-0.001
	(0.001)	(0.001)	(0.003)
Pseudo R2	0.22	0.27	0.25
N	35,178	8,176	4,321

Source: own calculations.

6.3 Robustness

There are a number of potential issues with our identification. Most importantly, empirical investigation of peer effects is challenging due to potential endogeneity problem. One needs to identify what drives the correlation between individual and peers' migration intentions (or decisions). In particular, there could be prior similarities between individuals, what Manski (1993) refers to as "correlated effects", that is individuals belonging to the same group tend to behave similarly as they face a common environment. If we do not control for these, we would have an endogeneity problem.

In this subsection we undertake a series of robustness checks, first testing the robustness of results with principal components against using single questions. Then the following tests look at potential identification issues related to "correlated effects".

6.3.1 Robustness check using individual questions from the survey

As a robustness check we first run Equation 2 replacing the constructed indexes with variables based on single questions from the survey. These variables do not capture as much underlying information from the data as the principal components, which are constructed from several questions each. Nevertheless, the coefficients are easier to interpret and this provides a robustness check on the results based on constructed indexes. An additional benefit compared to using principal components is that we are able to use a much larger sample due to better availability of the data for these variables.

These results, presented in Table 7, are in line with the results using indexes. The first column presents results using the log of relative income, while the second uses the log of absolute income instead of the wealth and standard of living indexes.[18] Having relatives/friends on whom the individual can count on abroad increases the probability of international migration intention by 2.6%. On the other hand, stronger close local networks reduce the intention to migrate internationally, although the impact of close local social networks is much smaller in magnitude, corresponding to what we found using principal components.

Similarly to the results presented in Table 4, satisfaction with local amenities at the city level reduces the intention to migrate both locally and internationally. Those who are satisfied with the area where they live are 2.9% less likely to have international migration intention, and 13% less likely to have local migration intention than those who are dissatisfied.

6.3.2 Robustness check using restricted close network

There is a possibility that people who intend to migrate select friends who are already abroad or similarly were planning already to move when the friendship was formed resulting in a selection bias for our close social network variable abroad. In order to

[18] Absolute income is measured by Gallup in 'international dollars', which are created using World Bank's individual consumption PPP conversion factor, while relative income refers to the respondent's income within country quintiles, see Gallup (2012).

Table 7: Regressions with single questions instead of principal components

	Using log of relative income		Using log of absolute income	
	Intention to migrate			
Variables	internationally	locally	internationally	locally
Close local networks	-0.003	-0.015	-0.003	-0.015
	(0.002)**	(0.005)***	(0.002)**	(0.005)***
Close networks abroad	0.026	0.030	0.026	0.030
	(0.001)***	(0.003)***	(0.001)***	(0.003)***
Broad networks abroad	0.017		0.017	
	(0.001)***		(0.001)***	
Broad local networks		0.110		0.111
		(0.007)***		(0.007)***
Satisfaction with the city/area	-0.029	-0.130	-0.029	-0.130
	(0.002)***	(0.008)***	(0.002)***	(0.008)***
Country economic condition (getting worse)	0.009	0.012	0.009	0.012
	(0.002)***	(0.004)***	(0.002)***	(0.004)***
Country economic condition (getting better)	-0.002	0.007	-0.002	0.007
	(0.002)	(0.004)	(0.002)	(0.004)
Part-time employment	-0.015	-0.047	-0.015	-0.046
	(0.002)***	(0.008)***	(0.002)***	(0.008)***
Full-time employment	-0.012	-0.041	-0.012	-0.040
	(0.002)***	(0.007)***	(0.002)***	(0.007)***
Log (rel.) income	0.001	0.003		
	(0.001)**	(0.002)*		
Log (abs.) income			0.001	0.001
			(0.001)	(0.002)
Married	-0.007	-0.018	-0.007	-0.018
	(0.001)***	(0.003)***	(0.001)***	(0.003)***
Age	-0.001	-0.002	-0.001	-0.002
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.005	0.018	0.005	0.018
	(0.001)***	(0.003)***	(0.001)***	(0.003)***
Education (high)	0.012	0.039	0.012	0.042
	(0.002)***	(0.005)***	(0.002)***	(0.005)***
Female	-0.007	-0.008	-0.007	-0.008
	(0.001)***	(0.003)**	(0.001)***	(0.003)**
Large city	0.006	0.014	0.006	0.014
	(0.002)***	(0.004)***	(0.002)***	(0.004)***
Healthy	-0.005	-0.022	-0.005	-0.022
	(0.001)***	(0.005)***	(0.001)***	(0.005)***
# of children	0.000	-0.001	0.000	-0.001
	(0.000)	(0.001)	(0.000)	(0.001)
Pseudo R2	0.24	0.11	0.24	0.11
N	141,073	167,730	141,073	167,730

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows marginal effects of sample-weighted probit regressions, st. errors are clustered at country-level, all specifications include year and country fixed effects. These specifications include squared value of the corresponding measure of income (i.e. log of either absolute or relative income). The dependent variable is an indicator for intention to move away from the current location internationally. 'Close networks abroad' are measured by question 'Do you have relatives or friends who are living in another country whom you can count on to help you when you need them?', while 'close local networks' are measured by question 'Are you satisfied with the opportunities to meet people and make friends?'. 'Broad networks' are proxied by the log of the total number of individuals at the current location that intend to move abroad. 'Local amenities' are measured by 'How satisfied are you with your city?'. The other variables used are described in Section 5.

test the robustness of our result with respect to this issue, we run the regressions with a modified variable for measuring close social networks abroad. Instead of including close friends and family members, the question we use asks whether any household or family members live or have lived abroad in the past five years. This limits the abroad network to family members where the selection issue is unlikely, since while friends can be chosen by the individual, family is given. The sample becomes significantly smaller and some control variables lose significance, nevertheless the results on our main variable of interests remain very similar. Thus, the findings are consistent with our previous results, see Section 7 of the Online Appendix.

6.3.3 Robustness check using IV regressions

There could be factors which we do not control for, but which simultaneously influence the number of people who intend to migrate from a country (broad networks) and the individual's intention to migrate. Similarly, there could be omitted factors which simultaneously influence the individuals' close social networks migration decisions and the individuals' own intention to migrate. This would create an endogeneity problem in our identification strategy. Although in the above specifications we included country and time fixed effects to reduce the likelihood of this omitted variable problem, there could still be certain factors which are not country or time specific, but which influence both individual and the peers' migration decisions. In order to establish causality, in this section we run instrumental variable regressions.

Potentially all network variables are endogenous when determining international migration intentions, including close and broad social networks abroad. As instruments we use variables from our rich survey database which are likely to be the most important factors influencing peers migration decisions, while separating out the individual's own perception of these factors which would influence only the individual's decision to migrate.[19]

The close social network abroad of an individual is composed of friends and family members who most likely lived in close vicinity, in the same region as the individual, before going abroad. Hence using our survey data we calculate the average perception of factors driving migration decisions at regional-level. How people perceive local amenities or the average income in a region is among the main factors driving migration decisions. As such, we will use the two-year lag of region-level average satisfaction with the city and the two-year lag of region-level average relative income as instruments for close networks. On the other hand, for the individual's current migration intentions, what matters, is their own perception of these factors. Hence we control for these directly in the regressions as explanatory variables. Similarly, as instrument for broad social networks abroad (proxied by the number of people with same the nationality intending to migrate abroad) we use the country level average perception of economic conditions with two-year lag, while simultaneously control-

[19]The average perception of the level of amenities may also influence individual migration intentions by defining cultural models of success (e.g. in societies/regions highly unsatisfied with level of amenities, migration may be seen as the main form of individual achievement), this will be picked up by our peer/network effects

ling for the individual's own perception of these factors. Finally, for broad social networks locally, we use the two-year lagged value of country-level average perception of local infrastructure (more precisely, perception of city safety, city housing, city healthcare).[20]

Given the use of lags, we use the single-question specification instead of the principal components for the IV regressions, as using principal components would result in a significant reduction in sample size limiting our ability to employ country-specific fixed effects. Nevertheless, as a robustness, we also run regressions with principal components without lagging the instruments, where results are similar, with close networks being significant only at 10%.

Results are presented in Table 8 with first stage results included in Section 5 of the Online Appendix. Table 8 presents two specifications for international migration intentions; in the first column, we instrument both for broad and close social networks abroad, while in the second column, we only use instruments for the close social networks abroad and use country-year fixed effects instead of broad social networks abroad.

The results on most of our control variables remain very similar to the results presented without IV, although here, relative income becomes insignificant in the case of international migration intentions. Our main variables of interest on social networks have the same sign and significance (except that close networks are only 10% significant in the specification with country-year fixed effects in the second column). We again find that while social networks abroad have a positive significant impact on international migration intentions, close local social networks reduce migration intentions. Similarly, domestic migration intentions increase with a stronger presence of broad social networks, while intentions are lower with stronger close local networks.

In order to better understand how different types of networks influence migration decisions, in the next two subsections we distinguish local and foreign social networks with and without remittances. We explore the importance of these different types of networks on migration intention of individuals with different income and education levels.

6.4 Intention to migrate and different types of networks

In order to better understand how social networks play a role in influencing international migration intentions, in particular close social networks both abroad and in the current country, we interact social network variables with individual's income and education level.

We distinguish between close social networks abroad and home with and without

[20]There is significant variation in the instruments over time with the mean of the instrument variables being significantly different between years. In addition, the correlation between the instruments used for close networks and broad networks abroad is low, around 5%, while the correlation between close networks abroad and local broad networks is low for one of the variables (in the range between 0.5 and 8%) and somewhat higher for regional average city satisfaction (between 30 and 57%). The results with other potential instruments, including satisfaction with availability of healthcare, housing and roads, are similar.

Table 8: IV regressions with single questions

	Intention to migrate		
	international	international	local
Close local networks	-0.007	-0.007	-0.016
	(0.002)***	(0.002)***	(0.003)***
Close networks abroad	0.144	0.157	0.030
	(0.068)**	(0.086)*	(0.003)***
Broad networks abroad	0.030		
	(0.008)***		
Broad local networks			0.141
			(0.061)**
Satisfaction with the city/area	-0.034	-0.033	-0.143
	(0.002)***	(0.002)***	(0.003)***
Country economic condition (getting worse)	0.010	0.010	0.014
	(0.002)***	(0.002)***	(0.003)***
Country economic condition (getting better)	-0.010	-0.010	0.007
	(0.003)***	(0.004)**	(0.003)**
Part-time employment	-0.021	-0.020	-0.060
	(0.003)***	(0.003)***	(0.005)***
Full-time employment	-0.020	-0.019	-0.056
	(0.003)***	(0.003)***	(0.006)***
Log (rel.) income	-0.005	-0.006	0.003
	(0.004)	(0.006)	(0.002)**
Married	-0.009	-0.008	-0.023
	(0.002)***	(0.002)***	(0.002)***
Age	-0.000	-0.000	-0.002
	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.003	0.002	0.018
	(0.003)	(0.004)	(0.003)***
Education (high)	-0.001	-0.003	0.035
	(0.007)	(0.009)	(0.004)***
Female	-0.010	-0.009	-0.007
	(0.001)***	(0.001)***	(0.002)***
Large city	0.004	0.003	0.010
	(0.002)	(0.003)	(0.003)***
Healthy	-0.004	-0.003	-0.021
	(0.001)***	(0.001)**	(0.003)***
# of children	0.000	0.000	-0.001
	(0.000)	(0.000)	(0.001)
N	96,623	104,888	139,762
Underidentification test, p-value	0.000	0.000	0.000
Weak identification test F stat	9.626	9.098	806.777

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table above uses the following set of instruments: the first column — close networks abroad are instrumented with two-year lags of regional-level satisfaction with the local city/area and relative income, while broad networks abroad are instrumented with two-year lag of country-level perception of change in the country economy; the second column uses the same instruments for close networks abroad and adds country-year fixed effects instead of broad networks abroad. See Section 5 of the Online Appendix for first stage results. The dependent variable is an indicator for intention to move away from the current location internationally. 'Close networks abroad' are measured by question 'Do you have relatives or friends who are living in another country whom you can count on to help you when you need them?', while 'close local networks' are measured by question 'Are you satisfied with the opportunities to meet people and make friends?'. 'Broad networks' are proxied by the log of the total number of individuals at the current location that intend to move abroad. 'Local amenities' are measured by 'How satisfied are you with your city?'.

remittances.[21] One might expect that the channels through which social networks influence migration decisions might be different for individuals with different income levels. For example, having a close social network abroad which can help financially might be relatively more important for individuals with lower income level. This can be particularly important for those individuals for whom the cost of migration would be higher than their current wealth without the financial support of the social network. The wealthier the individual becomes, the less is the importance of the financial support to reach the threshold where the individual has sufficient resources to migrate. In addition, individuals with different educational level might be influenced differently by different types of networks in their decision to migrate. It could be that remittances from close networks abroad have a signalling role indicating that the senders are more likely to have a better paying job and therefore could help potential immigrants finding better jobs.[22] However, these jobs are more likely to be available only for those with higher level of education. On the other hand, remittances from close networks abroad can also provide additional financial support to allow or encourage individuals to remain in their origin location.

Similarly, close local networks with and without financial aid can result in different push and pull factors for individuals with different level of income. There could also be complex channels through which these networks matter. It could be that individuals with higher level of income have close friends and family members relying on them financially, making a risky migration decision less likely. On the other hand, Munshi and Rosenzweig (2016) show that in India richer individuals belonging to higher income local networks (sub-caste networks) have more to lose in terms of financial security when moving.

Using the specification of Table 4 we distinguish social networks by whether they send remittances or not and interact these different network variables with income in Table 9, and with education in Table 10.

We find that broad social networks are more important drivers of international migration intention for low-income (Table 9) and low-educated (Table 10) individuals than for high-income and high-education individuals. This is in line with the previous literature, for example McKenzie and Rapoport (2007) construct a model which shows that as the social network abroad (at the destination) grows and the migration costs fall, the low-income individuals are more likely to migrate. In addition, broad social networks do not have a significant impact for the most educated group of individuals in their intention to migrate internationally.

Regarding close social networks abroad, both for high- and low-income individuals, networks with remittances increase migration intention significantly more than those without financial assistance (for test results on whether coefficients are significantly different see the last two rows of the tables). Individuals with lower incomes

[21] For social networks abroad we do this by combining answers from two questions. The survey asks if there are close friends or relatives abroad and also asks if the individual receives remittances from abroad. Thus, if an individual answers with 'yes' to both questions we conclude that the individual has a close social network abroad which provides remittances. For social networks at home we interact our close local network variable with remittances received from people at the origin.

[22] See Chuang and Schechter (2015) for an overview of related literature.

Table 9: Intention to migrate internationally and individual income levels

	Intention to migrate internationally	
	Income quintile	
	1–3	4–5
Close networks abroad with remit.	0.071	0.062
	(0.009)***	(0.007)***
Close networks abroad w/o remit.	0.034	0.033
	(0.004)***	(0.004)***
Close local networks with remit.	-0.008	-0.010
	(0.005)	(0.006)
Close local networks w/o remit.	-0.006	-0.014
	(0.004)	(0.006)**
Broad networks abroad	0.023	0.024
	(0.003)***	(0.003)***
Close networks abroad test	***	***
Close local networks	n.s.	n.s.
Pseudo R2	0.224	
N	48647	

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows average marginal effects (evaluated at given income quintiles) of sample-weighted probit regressions, st. errors are clustered at country-level, the specification includes year and country fixed effects, as well as individual controls (omitted from the table). The dependent variable is a dummy for the intention to migrate internationally. 'Close networks' reflect close social ties (local and abroad) of the individual, while 'broad networks' are proxied by log of the number of individuals at the current location that would like to move abroad. Close networks (abroad/local) test provides test results if coefficients of the two close networks are equal.

Table 10: Intention to migrate internationally and individual education levels

	Intention to migrate internationally		
	Low education	Medium education	High education
Close networks abroad with remit.	0.055	0.074	0.081
	(0.009)***	(0.008)***	(0.019)***
Close networks abroad w/o remit.	0.033	0.035	0.031
	(0.004)***	(0.005)***	(0.006)***
Close local networks with remit.	-0.012	-0.008	0.014
	(0.006)*	(0.005)	(0.011)
Close local networks w/o remit.	-0.009	-0.011	0.006
	(0.006)	(0.005)**	(0.009)
Broad networks abroad	0.024	0.026	0.018
	(0.003)***	(0.003)***	(0.004)***
Close networks abroad test	***	***	***
Close local networks	n.s.	n.s.	n.s.
Pseudo R2	0.225		
N	48647		

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows average marginal effects (evaluated at given education levels) of sample-weighted probit regressions, st. errors are clustered at country-level, the specification includes year and country fixed effects, as well as individual controls (omitted from the table). The dependent variable is a dummy for the intention to migrate internationally. 'Close networks' reflect close social ties (local and abroad) of the individual, while 'broad networks' are proxied by log of the number of individuals at the current location that would like to move abroad. Close networks (abroad/local) test provides test results if coefficients of the two close networks are equal.

are 7.1% more likely to intend to migrate internationally if they have close social networks from which they receive remittances, while those with close social networks without remittances are only 3.4% more likely to plan to migrate internationally. For those with higher incomes, the impact of close social networks abroad is quite similar, being 6.2% with and 3.3% without remittances. However, interaction with education highlights some differences between the different groups. Close social networks abroad with remittances matter significantly more than close social networks without remittances as the individuals become more educated. Social networks with remittances increase the likelihood of international migration intentions, with magnitude of this effect increasing with education level. The coefficient on close social network with remittances is about 2.6 times bigger than for close social networks without remittances for the highly educated individuals, about 1.7 times bigger for low-educated and about 2.1 times bigger for medium-educated individuals.

One possible explanation for these results is that remittances coming from close social networks abroad not only provide direct financial assistance, but also have a signalling function for those who intend to migrate internationally. Possibly, higher-educated individuals are more likely to be able to take up relatively higher-paying jobs, or expect to be able to do so. To these individuals, close social networks abroad with remittances send a signal that those sending the remittances are relatively richer or work in higher-paying jobs and are more likely to be able to eventually help finding/obtaining better-paying jobs (for further references examining the link between social networks and job search see Munshi 2003; Comola and Mendola 2015). On the other hand, those with only primary school level of education are unlikely to look for this kind of signal as they are unlikely to expect to be able to take up a higher-paying job, which typically would require higher skill levels. Networks sending remittances are relatively more important for all groups than networks without remittances, which indicates that these networks play a role in providing financial help to cover some costs of migrating. For high education group, remittances could also send a signal of potential help in finding better-paying jobs.[23]

Close local networks with and without remittances on the other hand seem to play slightly different roles for lower- and higher-income individuals, while being less important than networks abroad in general. For lower-income individuals, both types of close local networks have a negative sign, but the coefficients are insignificant. Furthermore, for higher-income individuals, only those local networks have a significant impact which do not involve financial assistance, decreasing the probability of migration intention by 1.4% (with only 5% significance).

The impact of close local social networks also varies with education levels. We find that having stronger social ties at home reduces the likelihood of the intention to migrate for low- and medium-educated individuals, but has no impact on those with high education level. Higher-educated individuals seem to be unconstrained by local social networks. In addition, close local networks without remittances matter

[23]It should be noted however, that although our social network variable abroad always proxies close ties (family or close friends), it could be, that those networks with financial assistance foster more migration intention not because of financial facilitation but because they represent even closer ties.

more across all income and education groups. These findings indicate that close local networks influence international migration only marginally. In addition, people are less likely to be influenced if they have a local network from which they receive financial assistance. This could be because in networks from which they do not receive remittances they are more likely to have others relying on them, making migration more difficult. Further micro-level data on the composition and strength of social networks is needed to examine these alternative hypotheses.

6.5 Reverse causality

There is a possibility that those who plan to migrate first decide that they want to migrate and then they request that close friends and family members abroad send remittances to cover expenses related to emigrating. If this is the case, we have a problem of reverse causality and we might be misinterpreting some of the results above. In order to check if this type of reverse causality is driving the results, we restrict the sample to those individuals who themselves send remittances. Presumably, if an individual sends remittances she is not in need of receiving remittances in order to cover the costs of migrating. Thus migration intentions are not likely to drive received remittances, so for this sub-sample reverse causality is less likely. The question from the survey related to the individual sending remittances was not asked in all years and restricts us to year 2012.

The main results on our social network variables hold with this sample restriction, see Section 6 of the Online Appendix.[24] As before, there is no important difference between the relative importance of close networks abroad with and without remittances between high- and low-income individuals (except for the low-income individuals with intention to migrate locally). In addition, as before, when looking at individuals with different education level, close networks abroad with remittances are relatively more important than without remittances in increasing the probability of migration intention for highly educated individuals than for those with lower levels of educations.

7 Conclusions

Using a unique survey dataset, we explored how the intention to migrate internationally and domestically is influenced by different types of social networks, individual perception of amenities at country and local levels, and other individual characteristics. We distinguished between close social networks abroad and at home, with further distinction depending on whether these networks provide remittances or not. We also controlled for broad networks (same-country residents with intention to migrate either internationally or locally). We investigated the impact of these different networks on individuals with different income and education levels.

This analysis provides several interesting results. First, close and broad networks are shown to explain the largest share of variation in the probability of international

[24]These tables are based on specifications that include broad networks, we also tried country fixed effects specifications and the results are very similar.

migration intention. The robustness checks provide support to the causal direction from social networks to the intention to migrate. Close and broad social networks abroad combined are much more important than work-related factors, income or wealth. On the other hand, close networks at the current location reduce the likelihood of the intention to migrate, albeit their importance is much lower. Second, when interacting networks with individual's income and education level, we find that while close networks abroad with remittances are more important than those without remittances for all groups, they are relatively more important for highly educated individuals. These results could indicate that close networks abroad which provide financial assistance possibly play a role in covering parts of migration costs, but also for the highly educated individuals such networks could send a signal about potential assistance in finding better paying jobs. Third, close local networks do not influence significantly migration intentions of highly educated individuals. A possible interpretation is that the networks which do not provide remittances are in turn dependent on the individual, hence reducing their intention to out-migrate.

Further micro-level data on the composition and strength of social networks is needed to examine these alternative hypotheses about the mechanisms through which different social networks influence the intention to migrate. A limitation of our empirical analysis is that we do not look at bilateral migration intentions, as we do not have information in which country the close network of the individual is located. Hence, using better micro-level data could provide further insights on the role of close networks.

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Online appendix to accompany the paper: Social networks and the intention to migrate

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March 17, 2018

All calculations are our own, unless specified otherwise. Maps were drawn using 'spmap' command for Stata: M. Pisati (2017). "SPMAP: Stata module to visualize spatial data".

Contents

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1 Distinguishing between intentions to migrate locally and internationally

Gallup's World Poll survey contains several questions that can help distinguish between intention to migrate locally and internationally (and possibly distinguishing temporary and permanent moves, as well as comparing weak with strong intentions). The relevant questions are:

- WP85: "In the next 12 months, are you likely or unlikely to move away from the city or area where you live?"
- WP1325: "Ideally, if you had the opportunity, would you like to move PERMANENTLY to another country, or would you prefer to continue living in this country?"
- WP10252: "Are you planning to move permanently to another country in the next 12 months, or not?" (WP10252 is asked only for individuals that responded "Yes" to WP1325.)
- WP9455: "Have you done any preparation for this move? (For example, applied for residency or visa, purchased the ticket, etc.)" (WP9455 is asked only for individuals that responded "Yes" to WP10252.)
- WP9498: "Ideally, if you had the opportunity, would you like to go to another country for temporary work, or not?"

The answer to WP85 can help identify individuals that are likely to outmigrate — locally or internationally. Arguably, WP85 elicits firmer intentions than those elicited by questions WP1325 and WP9498 ("...are you likely to move..." vs. "ideally, if you had the opportunity, would you like to move..."). The closest phrasing is in question WP10252: similar time periods (next 12 months), relatively firm intention (there is no reference to ideal

conditions or opportunities); and in question WP9455: similar time period and firm intention (steps already taken).

A rigorous interpretation of WP85 and WP10252/9455 would require many further clarifications to make them congruent. Firstly, WP85 does not contain indication of the length of the move (temporary vs. permanent), while WP10252 is specifically applicable to permanent migration. This means that for further comparison we need to assume that WP85 is interpreted for permanent moves. Secondly, it is possible that an individual will move locally before permanently migrating abroad. This means that separation between local and international migration will be based only on intended final destination in 12 months' time. Thirdly, in terms of firmness of intentions WP85 appears to be between WP10252, which is a bit weaker than WP85, and WP9455, which is a bit stronger than WP85. Since WP9455 is asked only given positive response to WP10252, the sample size will be larger if WP10252 is used for comparison with WP85. The procedure below can be modified to use WP9455 instead, if needed. Fourthly, there could be different interpretation of WP1325 by natives and current migrants. Current migrants might not think of returning home as a permanent move to another country. This issue will be ignored in the procedure below, but can be addressed to some extent by filtering out current migrants from the sample.

Assuming that individuals interpret questions WP85 and WP10252 in a similar way, it is possible to use these questions to distinguish between those that intend to move locally and internationally. The intended final destination in 12 months' time can be: current location, domestic location (local migration), or foreign location (international migration).

Table 1 summarizes possible combinations and separates individuals into three categories, depending on their intention to stay, migrate locally or internationally. The number of observations in each category is presented in Table 1 in the main paper.

Table 1: Identifying intentions to migrate locally and internationally - motivation

Are you likely to move[A]?	Would you like to move abroad[B]?	Are you planning to move abroad[C]?	Imputed status	Motivation
Likely to move	Like to continue living in this country	The question is not asked.	Intention to migrate locally	Likely to move locally, because there is no expression of a desire to move abroad.
	Like to move to another country	No	Dreamer (moving locally)	Likely to move locally, since the move abroad will be taken only under ideal conditions.
		Yes, will move in next 12 months	Intention to migrate internationally	Likely to move internationally, since indicated move (WP85) and took steps for moving to a foreign location.
Not likely to move	Like to continue living in this country	The question is not asked.	Intention to stay	Not likely to move.
	Like to move to another country	No	Dreamer	Would like to move away, but no intention to do so in the near future.
		Yes, will move in the next 12 months	Contradictory response	The response to WP85 contradicts answer to WP10252. Can treat these responses as either stayers or international migrants, or alternatively can discard these observations (the last option is used for this paper).

Notes:
[A] Full question: "In the next 12 months, are you likely or unlikely to move away from the city or area where you live?"
[B] Full question: "Ideally, if you had the opportunity, would you like to move PERMANENTLY to another country, or would you prefer to continue living in this country?"
[C] Full question: "Are you planning to move permanently to another country in the next 12 months, or not? (asked only of those who would like to move to another country)"

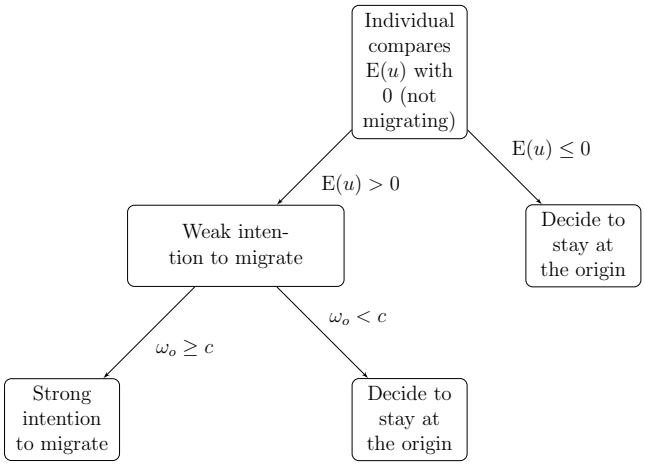

Figure 1: Decision tree for the individual: weak vs. strong intention

2 Construction of principal component-based indexes with PCA

The survey contains many questions which are relevant for our analysis and are related to similar issues. Including just one variable for a given topic could lead to loss of information, including all variables will result in multicollinearity. Instead of limiting the analysis to one of these questions, we retain as much information as possible in the underlying data and use principal component analysis (PCA) to produce a set of indexes to use in our main specifications.

PCA is a statistical technique that has been widely applied in fields such as face recognition and image compression, and is a common method of reducing data dimensionality. Ideally, principal component analysis identifies patterns in the data and based on these patterns it reduces the number of dimensions of the data without a large loss of information. It reduces the data to a few principal components by using the variance structure of the matrix of data through linear combination of the variables. Given that most of the variables used for constructing the indexes are not continuous, we use polychoric PCA (Kolenikov and Angeles 2004).[1]

Our main objective in using PCA is to reduce the dimensionality of the data. The original survey questions were grouped in categories by Gallup. Following these categories, and limiting the data to questions which were

[1]As a robustness check we also run standard principal component analysis and the results are very similar.

available for most years and countries, we group questions into the following categories: 'local amenities and local security', 'country contentment and corruption', 'work', 'wealth and standard of living', 'close local networks'. For some categories only two or three questions were available for sufficient coverage. In these cases we only retain the first component. When more than three underlying variables were used, we retain the first two components of the principal component analysis. This is supported by the eigenvalues being greater or close to 1, which is a widely used cut-off rule (see Hatcher and O'Rourke 2014).[2] We retain the first component for the 'work' and 'close local networks', and the first two components for 'wealth and standard of living', 'local amenities and secuirty', and 'country contentment and corruption'. For each category the resulting components together reflect between roughly 60 and 67% of variation of the underlying sample (indicated in the table by the cumulative proportion explained). All indexes were scaled to range from 0 to 1. Table 2 summarises the constructed indexes.

Table 2: Overview of the constructed indexes

Category	Component	Eigenvalue	Proportion explained	Cumulative proportion
Local amenities and security	Local amenities	3.76	0.47	0.47
Local amenities and security	Local security	0.99	0.12	0.59
Country contentment and corruption	Contentment with the country	4.11	0.51	0.51
Country contentment and corruption	Corruption	1.31	0.16	0.67
Work	Work	1.90	0.63	0.63
Wealth and standard of living	Wealth	3.96	0.44	0.44
Wealth and standard of living	Standard of living	1.39	0.15	0.59
Close local networks	Close local networks	1.21	0.60	0.60

2.1 Local amenities and local security

Table 3: List of questions used

[2]Every variable contributes one unit of variance to the total variance in the dataset, so the component with eigenvalue greater than 1 represents greater variance than was contributed by a single variable.

Label	Full question
Satisfaction with the city/area	Are you satisfied or dissatisfied with the city or area where you live?
Satisfaction with the public transportation system	In the city or area where you live, are you satisfied or dissatisfied with the public transportation systems?
Satisfaction with the roads/highways	In the city or area where you live, are you satisfied or dissatisfied with the roads and highways?
Satisfaction with the schools/education system	In the city or area where you live, are you satisfied or dissatisfied with the educational system or the schools?
Satisfaction with the availability of healthcare	In the city or area where you live, are you satisfied or dissatisfied with the availability of quality healthcare?
Satisfaction with the availability of housing	In the city or area where you live, are you satisfied or dissatisfied with the availability of good, affordable housing?
Satisfaction with the beauty or physical setting	In the city or area where you live, are you satisfied or dissatisfied with the beauty or physical setting?
Personal safety at night	Do you feel safe walking alone at night in the city or area where you live?

Table 4: The first three components

	Component 1	Component 2	Component 3
Proportion explained	0.470	0.124	0.101
Proportion explained (cumulative)	0.470	0.594	0.695
Eigenvalue	3.761	0.991	0.806

Table 5: The first three eigenvectors

Variable/response	Component 1	Component 2	Component 3
Satisfaction with the city/area	0.35	0.24	0.07
Satisfaction with the public transportation system	0.37	-0.43	0.29
Satisfaction with the roads/highways	0.38	-0.39	0.27
Satisfaction with the schools/education system	0.39	-0.17	0.00
Satisfaction with the availability of healthcare	0.40	-0.06	-0.18
Satisfaction with the availability of housing	0.35	0.21	-0.50
Satisfaction with the beauty or physical setting	0.35	0.30	-0.38
Personal safety at night	0.21	0.66	0.64

Based on these results, the first principal component is labelled as ‘local amenities’ and the second component as ‘local security’.

2.2 Contentment with the country and country-level corruption

Table 6: List of questions used.

Label	Full question
Confidence in the military	In this country, do you have confidence in each of the following, or not? How about the military?
Confidence in the judicial system/courts	In this country, do you have confidence in each of the following, or not? How about judicial system and courts?
Confidence in the national government	In this country, do you have confidence in each of the following, or not? How about national government?
Confidence in the fair elections	In this country, do you have confidence in each of the following, or not? How about honesty of elections?
Spread of corruption in business	Is corruption widespread within businesses located in this country, or not?
Spread of corruption in government	Is corruption widespread throughout the government in this country, or not?
Approval of country leadership's job performance	Do you approve or disapprove of the job performance of the leadership of this country?
Change in the country's economic conditions	Right now, do you think that economic conditions in this country, as a whole, are getting better or getting worse?

Table 7: The first three components

	Component 1	Component 2	Component 3
Proportion explained	0.514	0.164	0.116
Proportion explained (cumulative)	0.514	0.678	0.794
Eigenvalue	4.113	1.309	0.931

Table 8: The first three eigenvectors

Variable/response	Component 1	Component 2	Component 3
Confidence in the military	0.32	-0.32	-0.43
Confidence in the judicial system/courts	0.38	-0.22	-0.35
Confidence in the national government	0.43	-0.21	0.06
Confidence in the fair elections	0.37	-0.03	-0.19
Spread of corruption in business	0.28	0.66	-0.09
Spread of corruption in government	0.34	0.57	-0.02
Approval of country leadership's job performance	0.38	-0.16	0.39
Change in the country's economic conditions	0.29	-0.11	0.70

Based on these results, the first principal component is labelled as 'contentment with the country' and the second component as 'corruption'.

2.3 Work

Table 9: List of questions used

Label	Full question
Job opportunities	In the city or area where you live, are you satisfied or dissatisfied with the availability of good job opportunities?
Job satisfaction	Are you satisfied or dissatisfied with your job or the work you do? (with modifications - see text)
Employment	Employment Status (with modifications - see text)

Table 10: The first three components

	Component 1	Component 2	Component 3
Proportion explained	0.633	0.291	0.076
Proportion explained (cumulative)	0.633	0.924	1.000
Eigenvalue	1.899	0.874	0.227

Table 11: The first three eigenvectors

Variable/response	Component 1	Component 2	Component 3
Job opportunities	0.38	0.91	0.19
Job satisfaction	0.67	-0.13	-0.73
Employment	0.63	-0.40	0.66

Based on these results, the first principal component is labelled as 'work'.

2.4 Wealth and standard of living

Table 12: List of questions used

Label	Full question
Income quintile	Household income within country quintiles.
Perception of present income	Which one of these phrases comes closest to your own feelings about your household income these days?
Current standard of living	Are you satisfied or dissatisfied with your standard of living, all the things you can buy and do?
Changes in standard of living	Right now, do you feel your standard of living is getting better or getting worse?
Mobile phone at home	Does your home have a cellular phone?
Television at home	Does your home have a television
Internet access at home	Does your home have access to the Internet?
Money for food	Have there been times in the past 12 months when you did not have enough money to buy food that you or your family needed?
Money for shelter	Have there been times in the past 12 months when you did not have enough money to provide adequate shelter or housing for you and your family?

Table 13: The first three components

	Component 1	Component 2	Component 3
Proportion explained	0.440	0.154	0.117
Proportion explained (cumulative)	0.440	0.594	0.711
Eigenvalue	3.961	1.387	1.050

Based on these results, the first principal component is labelled as 'wealth' and the second component as 'standard of living'.

2.5 Close local networks

Table 15: List of questions used

Label	Full question
Opportunities to make friends	In the city or area where you live, are you satisfied or dissatisfied with the opportunities to meet people and make friends?
Help available	If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?

Table 14: The first three eigenvectors

Variable/response	Component 1	Component 2	Component 3
Income quintile	0.25	0.02	0.40
Perception of present income	0.36	0.20	0.17
Current standard of living	0.35	0.40	0.12
Changes in standard of living	0.22	0.57	0.29
Mobile phone at home	0.34	-0.41	0.22
Television at home	0.37	-0.38	0.04
Internet access at home	0.38	-0.37	0.05
Money for food	0.39	0.10	-0.45
Money for shelter	0.30	0.12	-0.67

Table 16: The first two components

	Component 1	Component 2
Proportion explained	0.603	0.397
Proportion explained (cumulative)	0.603	1.000
Eigenvalue	1.206	0.794

Table 17: The first two eigenvectors

Variable/response	Component 1	Component 2
Opportunities to make friends	0.71	0.71
Help available (local and abroad)	0.71	-0.71

Based on these results, the first principal component is labelled as 'close local networks'.

3 Sample coverage

Table 18: List of countries and their sample size

	P	S		P	S		P	S
Afghanistan	680	1453	Ghana	616	1322	Palestinian Territories	270	1746
Albania	287	1501	Greece	515	2262	Panama	573	2101
Algeria	0	1877	Guatemala	324	1376	Paraguay	760	2412
Argentina	515	2192	Guinea	548	943	Peru	639	1890
Armenia	338	1930	Haiti	150	479	Philippines	1304	3251
Australia	418	876	Honduras	513	1899	Poland	282	1775
Austria	210	1286	Hong Kong	241	776	Portugal	138	927
Azerbaijan	202	660	Hungary	350	1636	Qatar	0	877
Bahrain	0	749	India	4777	10416	Romania	229	1304
Bangladesh	531	2311	Indonesia	743	2483	Russia	1009	5007
Belarus	103	1591	Iraq	177	1256	Rwanda	0	1778
Belgium	76	318	Ireland	327	964	Saudi Arabia	0	1594
Benin	596	930	Israel	272	1203	Senegal	930	2320
Bolivia	689	1589	Italy	111	596	Serbia	205	2000
Bosnia and Herzegovina	248	1998	Japan	237	1217	Sierra Leone	478	851
Botswana	453	860	Jordan	0	1625	Singapore	0	765
Brazil	693	2415	Kazakhstan	277	1577	Slovakia	391	1415
Bulgaria	252	2019	Kenya	1428	1869	Slovenia	272	1140
Burkina Faso	1089	1853	Kosovo	249	1534	Somalia	1656	2940
Burundi	0	768	Kuwait	0	808	South Africa	1233	1918
Cambodia	912	1863	Kyrgyzstan	585	2287	South Korea	215	1144
Cameroon	585	2062	Latvia	217	968	Spain	320	1437
Canada	16	1427	Lebanon	0	1707	Sri Lanka	225	1407
Central African Republic	449	863	Liberia	480	820	Sudan	0	2661
Chad	1242	2603	Lithuania	402	1479	Suriname	125	335
Chile	602	2219	Luxembourg	252	742	Sweden	365	1266
China	0	5360	Macedonia	131	1973	Switzerland	0	554
Colombia	764	2238	Madagascar	657	959	Syria	0	1035
Comoros	1404	2789	Malawi	648	1532	Tajikistan	216	2225
Congo (Kinshasa)	382	1303	Malaysia	550	2225	Tanzania	1415	2569
Costa Rica	587	1446	Mali	609	1589	Thailand	1465	3402
Croatia	153	1872	Malta	68	416	Tunisia	288	1627
Cyprus	178	952	Mauritania	1385	2640	Turkey	771	2905
Czech Republic	521	2025	Mexico	369	1279	Uganda	1341	2332
Denmark	335	1461	Moldova	358	1679	Ukraine	476	1674
Djibouti	284	871	Mongolia	427	1569	United Arab Emirates	0	1524
Dominican Republic	761	2012	Montenegro	231	1771	United Kingdom	170	1083
Ecuador	353	1470	Myanmar	0	848	United States	38	1453
Egypt	0	954	Nepal	478	1442	Uruguay	430	2053
El Salvador	490	1849	Netherlands	257	670	Uzbekistan	0	2447
Estonia	175	744	New Zealand	256	593	Venezuela	528	2107
Finland	357	843	Nicaragua	560	2018	Vietnam	0	1282
France	165	1321	Niger	1172	2732	Yemen	0	1743
Georgia	267	1437	Nigeria	1033	2750	Zambia	527	871
Germany	289	1253	Pakistan	610	1471	Zimbabwe	1007	1822

Note: numbers in column "P" represent sample size using principal component-based indexes, numbers in columns "S" represent sample size using single questions.

Figure 2: Geographic coverage of the sample used for estimation with the constructed indexes

Note: Countries included in the estimations are shaded in dark colour, other countries are not included. See the Appendix in the paper for actual observation counts.

Figure 3: Geographic coverage of the sample with the single variables specification

Note: Countries included in the estimations are shaded in dark colour, other countries are not included. See the Appendix in the paper for actual observation counts.

4 Additional descriptives by region

Table 19: Average values for network variables

	Close networks: abroad	Close networks: local	Broad networks: abroad	Broad networks: local
European Union	0.404	0.87	0.01	0.08
Balkans	0.347	0.74	0.02	0.05
Europe-other		0.91		0.09
Commonwealth of Independent States	0.281	0.76	0.01	0.06
Australia-New Zealand	0.622	0.93	0.02	0.14
Southeast Asia	0.205	0.84	0.00	0.08
South Asia	0.144	0.67	0.00	0.12
East Asia	0.186	0.81	0.00	0.10
Latin America and the Caribbean	0.415	0.83	0.02	0.16
Northern America	0.318	0.91	0.00	0.16
Middle East and North Africa	0.327	0.75	0.01	0.17
Sub-Saharan Africa	0.324	0.73	0.04	0.20
Minimum value	0.144	0.67	0.00	0.05
Maximum value	0.622	0.93	0.04	0.20

Note: Close networks measure whether the respondent has friends/family locally or abroad that can provide support. Broad networks measure the share of individuals in the same country as the respondent that expressed intention to migrate. Values for region "Europe-other" are missing due to lack of responses to the relevant questions in the sample for that region.

Table 20: Average values for selected variables

	Local amenities	Local security	Contentment with the country	Corruption	Work	Wealth	Standard of living
European Union	0.722	0.57	0.48	0.38	0.71	0.73	0.40
Balkans	0.634	0.59	0.30	0.31	0.58	0.65	0.38
Europe-other	0.818	0.60	0.69	0.46	0.84	0.83	0.48
Commonwealth of Independent States	0.635	0.57	0.44	0.29	0.66	0.60	0.46
Australia-New Zealand	0.750	0.57	0.67	0.51	0.78	0.81	0.47
Southeast Asia	0.788	0.54	0.59	0.22	0.81	0.63	0.53
South Asia	0.630	0.54	0.53	0.22	0.69	0.55	0.58
East Asia	0.698	0.55	0.41	0.37	0.73	0.71	0.49
Latin America and the Caribbean	0.648	0.51	0.40	0.37	0.69	0.62	0.52
Northern America	0.757	0.61	0.58	0.40	0.68	0.78	0.47
Middle East and North Africa	0.591	0.54	0.46	0.29	0.66	0.66	0.45
Sub-Saharan Africa	0.484	0.58	0.47	0.30	0.54	0.44	0.56
Minimum value	0.484	0.51	0.30	0.22	0.54	0.44	0.38
Maximum value	0.818	0.61	0.69	0.51	0.84	0.83	0.58

Note: description of the variables is provided in the Appendix in the paper.

5 Supplementary tables for specifications reported in the main paper

Table 21: Probit regression coefficients for specification in Table 4 in the main paper

	Linear specification		Non-linear specification	
	Intention to migrate			
	internationally	locally	internationally	locally
Close local networks	-0.146	-0.115	-0.147	-0.118
	(0.071)**	(0.031)***	(0.071)**	(0.031)***
Close networks abroad	0.603	0.147	0.602	0.147
	(0.041)***	(0.020)***	(0.041)***	(0.020)***
Broad networks abroad	0.447		0.448	
	(0.050)***		(0.050)***	
Broad local networks		0.463		0.458
		(0.083)***		(0.083)***
Local amenities	-0.569	-0.470	-0.570	-0.473
	(0.078)***	(0.043)***	(0.078)***	(0.043)***
Local security	-0.384	-0.408	-0.383	-0.407
	(0.090)***	(0.049)***	(0.090)***	(0.050)***
Contentment with the country	-0.374	-0.057	-0.374	-0.056
	(0.089)***	(0.053)	(0.088)***	(0.053)
Corruption	-0.204	-0.045	-0.202	-0.044
	(0.113)*	(0.079)	(0.112)*	(0.078)
Work	-0.344	-0.265	-0.342	-0.261
	(0.065)***	(0.039)***	(0.065)***	(0.039)***
Wealth	0.200	0.070	0.497	0.662
	(0.110)*	(0.088)	(0.363)	(0.218)***
Standard of living	-0.465	-0.217	-0.210	-0.169
	(0.160)***	(0.071)***	(0.444)	(0.342)
Wealth sq.			-0.292	-0.558
			(0.348)	(0.174)***
Standard of living sq.			-0.250	-0.037
			(0.499)	(0.344)
Married	-0.209	-0.127	-0.209	-0.127
	(0.042)***	(0.023)***	(0.042)***	(0.023)***
Age	-0.015	-0.014	-0.015	-0.014
	(0.002)***	(0.001)***	(0.002)***	(0.001)***
Education (medium)	0.103	0.094	0.102	0.093
	(0.055)*	(0.024)***	(0.054)*	(0.024)***
Education (high)	0.193	0.179	0.199	0.194
	(0.070)***	(0.029)***	(0.071)***	(0.029)***
Female	-0.197	-0.075	-0.196	-0.075
	(0.041)***	(0.025)***	(0.041)***	(0.025)***
Large city	0.128	0.034	0.128	0.035
	(0.055)**	(0.026)	(0.055)**	(0.025)
Healthy	-0.153	-0.176	-0.153	-0.175
	(0.043)***	(0.041)***	(0.044)***	(0.041)***
# of children	0.019	-0.007	0.018	-0.007
	(0.009)**	(0.005)	(0.009)**	(0.005)
Pseudo R2	0.22	0.10	0.22	0.10
N	49,012	60,533	49,012	60,533

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows coefficients of sample-weighted probit regressions, st. errors are clustered at country-level, all specifications include year and country fixed effects. The dependent variable is a dummy for the intention to migrate internationally (see text for details). The first specification includes 'wealth' and 'standard of living' in a linear form, the second specification includes these variables and their squared values. 'Local amenities' and 'local security' capture satisfaction at the city/local level, while 'contentment with the country' and 'corruption' reflect individual's satisfaction with the country-level institutions/amenities, 'work' reflects satisfaction with the job, 'close networks' reflect social networks (local and abroad) of the individual, while 'broad networks' are proxied by log of the number of other individuals at the current location that would like to move locally and abroad. All of the indexes are principal components capturing information from the underlying variables.

Table 22: IV regressions with single questions (first stage)

	Intention to migrate			
	international	international	international	local
	Instruments for networks			
	close abroad	broad abroad	close abroad	broad local
Region avg city satisfaction, 2-year lag	-0.035	0.047	-0.040	
	(0.015)**	(0.013)***	(0.015)***	
Region avg rel income, 2-year lag	0.025	0.089	0.019	
	(0.006)***	(0.005)***	(0.005)***	
Country avg perception of economy, 2-year lag	0.059	-0.789		
	(0.016)***	(0.025)***		
Close local networks	0.026	-0.000	0.024	-0.011
	(0.004)***	(0.003)	(0.004)***	(0.001)***
Satisfaction with the city/area	0.017	-0.002	0.016	-0.002
	(0.004)***	(0.003)	(0.004)***	(0.001)**
Country economic condition (getting worse)	0.010	-0.003	0.009	0.005
	(0.004)**	(0.003)	(0.004)**	(0.001)***
Country economic condition (getting better)	0.046	0.009	0.045	0.011
	(0.004)***	(0.003)***	(0.004)***	(0.001)***
Part-time employment	-0.007	-0.002	-0.007	0.002
	(0.007)	(0.005)	(0.007)	(0.001)
Full-time employment	-0.003	-0.002	-0.003	-0.002
	(0.007)	(0.005)	(0.007)	(0.001)
Log (rel.) income	0.064	-0.010	0.062	0.000
	(0.002)***	(0.002)***	(0.002)***	(0.000)
Married	-0.010	0.000	-0.009	0.000
	(0.004)***	(0.003)	(0.003)***	(0.001)
Age	-0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)**	(0.000)
Education (medium)	0.042	0.013	0.040	0.000
	(0.004)***	(0.003)***	(0.004)***	(0.001)
Education (high)	0.096	0.006	0.098	0.003
	(0.006)***	(0.004)	(0.006)***	(0.001)**
Female	0.009	-0.001	0.008	-0.001
	(0.003)***	(0.003)	(0.003)**	(0.001)
Large city	0.025	-0.017	0.026	0.004
	(0.004)***	(0.003)***	(0.004)***	(0.001)***
Healthy	-0.003	-0.001	-0.006	-0.007
	(0.004)	(0.003)	(0.004)	(0.001)***
# of children	-0.003	0.001	-0.003	0.002
	(0.001)***	(0.001)	(0.001)**	(0.000)***
Country avg city safety, 2-year lag				0.395
				(0.016)***
Country avg city housing, 2-year lag				0.173
				(0.016)***
Country avg city healthcare, 2-year lag				0.152
				(0.020)***
N	96,623	96,623	104,888	139,762

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows first-stage results for specifications in Table 8 in the main paper. The instruments used in the first and second columns — close networks abroad are instrumented with two-year lags of regional-level satisfaction with the local city/area and relative income, while broad networks abroad are instrumented with two-year lag of country-level perception of change in the country economy; the third column uses the same instruments for close networks abroad and adds country-year fixed effects instead of broad networks abroad. The dependent variable is an indicator for intention to move away from the current location internationally. 'Close networks abroad' are measured by question 'Do you have relatives or friends who are living in another country whom you can count on to help you when you need them?', while 'close local networks' are measured by question 'Are you satisfied with the opportunities to meet people and make friends?'. 'Broad networks' are proxied by the log of the total number of individuals at the current location that intend to move abroad. 'Local amenities' are measured by 'How satisfied are you with your city?'

6 Full tables for specifications with sample restricted to those that send remittances

Tables in this section are based on the sample restricted to those that send remittances (with further sample splits by income/education). Low education is defined as up to 8 years of basic schooling, medium education - 9 to 15 years of education (completed secondary education and up to three years of tertiary education), high education - above 15 years of education (completed four years of education beyond high school and/or received a four-year college degree. All specifications include 'wealth' and 'standard of living' and their squared values.

Table 23: Sample restricted to those that send remittances locally, abroad or both - split by income

	Low income (1-3 quintiles)		High income (4-5 quintiles)	
	Intention to migrate			
	internationally	locally	internationally	locally
Close networks abroad with remit.	0.113	0.133	0.158	0.067
	(0.035)***	(0.034)***	(0.025)***	(0.028)**
Close networks abroad w/o remit.	0.065	0.024	0.089	0.038
	(0.018)***	(0.026)	(0.014)***	(0.017)**
Close local networks with remit.	-0.040	-0.038	-0.025	-0.002
	(0.023)*	(0.039)	(0.025)	(0.032)
Close local networks w/o remit.	-0.020	-0.018	-0.041	-0.018
	(0.024)	(0.038)	(0.025)*	(0.035)
Broad networks abroad	0.053		-0.061	
	(0.015)***		(0.028)**	
Broad local networks		-4.067		-13.471
		(1.924)**		(2.155)***
Local amenities	-0.122	-0.094	-0.019	-0.089
	(0.029)***	(0.036)***	(0.026)	(0.031)***
Local security	-0.030	-0.023	-0.021	-0.165
	(0.031)	(0.038)	(0.028)	(0.044)***
Contentment with the country	-0.048	-0.049	-0.033	-0.073
	(0.026)*	(0.043)	(0.019)*	(0.035)**
Corruption	-0.070	-0.057	-0.007	-0.022
	(0.032)**	(0.046)	(0.030)	(0.050)
Work	-0.057	-0.093	-0.028	-0.001
	(0.019)***	(0.031)***	(0.016)*	(0.029)
Wealth	0.036	-0.049	0.055	-0.112
	(0.043)	(0.058)	(0.039)	(0.061)*
Standard of living	0.031	-0.065	-0.080	-0.036
	(0.046)	(0.084)	(0.043)*	(0.060)
Married	-0.026	-0.072	-0.019	-0.016
	(0.012)**	(0.020)***	(0.013)	(0.019)
Age	-0.001	-0.003	-0.001	-0.004
	(0.001)**	(0.001)***	(0.000)	(0.001)***
Education (medium)	0.010	0.068	0.005	0.051
	(0.015)	(0.022)***	(0.016)	(0.023)**
Education (high)	-0.006	0.072	-0.015	0.069
	(0.031)	(0.032)**	(0.017)	(0.030)**
Female	-0.027	-0.000	0.002	-0.003
	(0.010)***	(0.018)	(0.010)	(0.015)
Large city	0.048	0.041	-0.005	-0.014
	(0.024)**	(0.027)	(0.012)	(0.017)
Healthy	-0.042	-0.035	0.023	-0.040
	(0.021)**	(0.017)**	(0.011)**	(0.026)
# of children	-0.002	-0.005	-0.001	-0.002
	(0.003)	(0.006)	(0.003)	(0.005)
Pseudo R2	0.30	0.13	0.24	0.11
N	1,833	3,326	2,273	3,723
Close networks (abroad) test	n.s.	***	**	n.s.
Close networks (local) test	n.s.	n.s.	n.s.	n.s.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows marginal effects of sample-weighted probit regressions, st. errors are clustered at country-level, all specifications include year and country fixed effects. The dependent variable is a dummy for the intention to migrate locally or internationally. This table uses sample split by income.

Table 24: Sample restricted to those that send remittances locally, abroad or both - split by education

	Low education		Medium education		High education	
	Intention to migrate					
	internationally	locally	internationally	locally	internationally	locally
Close networks abroad with remit.	0.119	0.083	0.144	0.067	0.284	0.171
	(0.040)***	(0.045)*	(0.026)***	(0.034)**	(0.084)***	(0.058)***
Close networks abroad w/o remit.	0.084	0.021	0.094	0.046	0.069	0.050
	(0.020)***	(0.024)	(0.016)***	(0.020)**	(0.040)*	(0.034)
Close local networks with remit.	-0.034	-0.008	-0.024	-0.042	-0.017	0.087
	(0.036)	(0.033)	(0.022)	(0.044)	(0.068)	(0.075)
Close local networks w/o remit.	-0.048	-0.013	-0.019	-0.032	-0.002	0.100
	(0.039)	(0.034)	(0.018)	(0.039)	(0.072)	(0.069)
Broad networks abroad	-0.030		-0.118		0.003	
	(0.021)		(0.018)***		(0.061)	
Broad local networks		-29.070		7.972		-10.156
		(3.219)***		(1.388)***		(4.715)**
Local amenities	-0.083	-0.068	-0.081	-0.137	0.013	-0.092
	(0.029)***	(0.039)*	(0.033)**	(0.034)***	(0.048)	(0.082)
Local security	0.004	-0.026	-0.096	-0.151	0.098	-0.180
	(0.042)	(0.052)	(0.028)***	(0.040)***	(0.052)*	(0.071)**
Contentment with the country	-0.053	-0.097	-0.021	-0.034	-0.226	-0.013
	(0.026)**	(0.046)**	(0.030)	(0.055)	(0.071)***	(0.065)
Corruption	-0.055	-0.091	0.013	0.045	-0.184	-0.115
	(0.052)	(0.057)	(0.035)	(0.047)	(0.096)*	(0.095)
Work	-0.049	-0.017	-0.046	-0.081	-0.042	0.030
	(0.036)	(0.038)	(0.018)***	(0.025)***	(0.067)	(0.057)
Wealth	0.018	-0.097	0.054	-0.054	-0.023	-0.142
	(0.040)	(0.062)	(0.047)	(0.051)	(0.161)	(0.103)
Standard of living	-0.030	-0.043	-0.045	-0.093	0.412	0.167
	(0.067)	(0.102)	(0.047)	(0.069)	(0.110)***	(0.155)
Married	-0.027	-0.008	-0.024	-0.041	-0.071	-0.155
	(0.023)	(0.021)	(0.011)**	(0.019)**	(0.032)**	(0.043)***
Age	-0.000	-0.003	-0.001	-0.005	-0.005	-0.004
	(0.001)	(0.001)***	(0.001)	(0.001)***	(0.002)***	(0.001)***
Female	-0.045	0.012	-0.012	-0.036	0.048	0.071
	(0.011)***	(0.014)	(0.013)	(0.015)**	(0.033)	(0.032)**
Large city	0.018	0.043	0.025	-0.010	-0.069	0.025
	(0.026)	(0.029)	(0.015)	(0.018)	(0.041)*	(0.036)
Healthy	-0.017	-0.050	-0.006	-0.025	-0.033	-0.065
	(0.031)	(0.026)*	(0.016)	(0.023)	(0.050)	(0.057)
# of children	0.005	-0.002	-0.006	-0.004	-0.008	0.000
	(0.005)	(0.005)	(0.003)*	(0.006)	(0.013)	(0.011)
Pseudo R2	0.30	0.12	0.22	0.12	0.41	0.17
N	996	2,333	2,284	3,798	358	941
Close networks (abroad) test	n.s.	n.s.	n.s.	n.s.	***	***
Close networks (local) test	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows marginal effects of sample-weighted probit regressions, st. errors are clustered at country-level, all specifications include year and country fixed effects. The dependent variable is a dummy for the intention to migrate locally or internationally. This table uses sample split by education.

7 Marginal effects with family abroad

Table 25: Marginal effects with family abroad

	Linear specifications		Non-linear specifications	
	Intention to migrate			
	internationally	locally	internationally	locally
Local amenities	-0.015	-0.078	-0.015	-0.077
	(0.007)**	(0.027)***	(0.007)**	(0.027)***
Local security	-0.012	-0.152	-0.013	-0.153
	(0.017)	(0.040)***	(0.017)	(0.041)***
Contentment with the country	-0.010	-0.018	-0.011	-0.018
	(0.007)	(0.038)	(0.007)	(0.038)
Corruption	-0.015	-0.005	-0.016	-0.006
	(0.013)	(0.032)	(0.013)	(0.032)
Close local networks	-0.020	-0.098	-0.019	-0.098
	(0.008)**	(0.028)***	(0.008)**	(0.027)***
Relatives live(d) abroad	0.019	0.019	0.019	0.019
	(0.006)***	(0.013)	(0.005)***	(0.013)
Work	0.008	-0.009	0.007	-0.009
	(0.006)	(0.029)	(0.006)	(0.029)
Wealth	0.007	-0.122	0.012	-0.115
	(0.030)	(0.053)**	(0.032)	(0.052)**
Standard of living	-0.032	0.003	-0.032	0.009
	(0.024)	(0.062)	(0.023)	(0.062)
Broad networks abroad	0.027		0.027	
	(0.004)***		(0.004)***	
Broad local networks		0.207		0.207
		(0.016)***		(0.015)***
Married	-0.012	-0.002	-0.012	-0.002
	(0.006)**	(0.018)	(0.006)**	(0.018)
Age	-0.001	-0.003	-0.001	-0.004
	(0.000)***	(0.001)***	(0.000)***	(0.001)***
Education (medium)	-0.001	-0.002	0.000	-0.003
	(0.006)	(0.019)	(0.007)	(0.019)
Education (high)	0.006	0.038	0.006	0.036
	(0.008)	(0.025)	(0.008)	(0.025)
Female	-0.005	-0.020	-0.005	-0.020
	(0.004)	(0.020)	(0.004)	(0.020)
Large city	0.003	0.020	0.002	0.020
	(0.006)	(0.014)	(0.005)	(0.014)
Healthy	-0.011	-0.028	-0.012	-0.028
	(0.008)	(0.021)	(0.008)	(0.021)
# of children	0.003	-0.004	0.003	-0.004
	(0.002)	(0.005)	(0.002)	(0.005)
Pseudo R2	0.20	0.08	0.21	0.08
N	3,130	3,846	3,130	3,846

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows marginal effects of sample-weighted probit regressions, st. errors are clustered at country-level, all specifications are based on year 2010 only and do not include country fixed effects. The dependent variable is a dummy for the intention to migrate locally or internationally. The first two specifications include 'wealth' and 'standard of living' in a linear form, the last two specifications include these variables and their squared values.

8 Variation across regions and country income groups: local migration intentions

This section contains tables for the local migration intention (the corresponding tables for international intention are presented in the paper).

Table 26: Results for local migration intention by region

	Intention to migrate locally					
	Europe	Ex-USSR	Asia	Americas	MENA	Sub-Saharan Africa
Close local networks	-0.031	-0.016	-0.003	-0.064	-0.032	-0.022
	(0.020)	(0.019)	(0.010)	(0.014)***	(0.033)	(0.012)*
Close networks abroad	0.029	0.020	0.034	0.045	0.005	0.031
	(0.009)***	(0.006)***	(0.010)***	(0.009)***	(0.021)	(0.009)***
Broad local networks	-0.012	0.055	0.104	0.128	0.067	0.174
	(0.033)	(0.038)	(0.024)***	(0.047)***	(0.025)***	(0.024)***
Local amenities	-0.108	-0.060	-0.121	-0.092	0.002	-0.121
	(0.021)***	(0.019)***	(0.009)***	(0.017)***	(0.026)	(0.020)***
Local security	-0.056	-0.001	-0.096	-0.109	-0.144	-0.100
	(0.025)**	(0.024)	(0.014)***	(0.018)***	(0.058)**	(0.025)***
Contentment with the country	0.017	-0.006	0.030	-0.016	-0.061	-0.050
	(0.022)	(0.017)	(0.023)	(0.021)	(0.038)	(0.018)***
Corruption	0.000	0.015	0.033	-0.048	0.014	-0.031
	(0.025)	(0.023)	(0.041)	(0.021)**	(0.053)	(0.026)
Work	-0.041	-0.037	-0.046	-0.015	-0.035	-0.098
	(0.010)***	(0.020)*	(0.021)**	(0.018)	(0.028)	(0.011)***
Wealth	-0.065	0.032	0.023	-0.064	-0.059	0.049
	(0.029)**	(0.030)	(0.055)	(0.032)**	(0.042)	(0.025)*
Standard of living	0.018	-0.004	-0.041	0.015	0.145	-0.110
	(0.030)	(0.036)	(0.014)***	(0.022)	(0.085)*	(0.032)***
Married	-0.050	-0.019	-0.024	-0.010	-0.031	-0.031
	(0.009)***	(0.009)**	(0.011)**	(0.012)	(0.021)	(0.009)***
Age	-0.003	-0.002	-0.002	-0.003	-0.002	-0.004
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.001)**	(0.000)***
Education (medium)	0.012	-0.009	0.012	-0.001	0.018	0.050
	(0.017)	(0.013)	(0.007)	(0.011)	(0.015)	(0.009)***
Education (high)	0.034	0.017	0.034	0.030	0.082	0.043
	(0.019)*	(0.019)	(0.011)***	(0.013)**	(0.029)***	(0.013)***
Female	-0.011	0.001	-0.005	-0.009	0.011	-0.029
	(0.008)	(0.007)	(0.006)	(0.011)	(0.037)	(0.013)**
Large city	0.000	-0.038	0.020	0.025	0.037	0.001
	(0.008)	(0.008)***	(0.014)	(0.011)**	(0.022)*	(0.010)
Healthy	-0.029	-0.014	-0.067	-0.027	-0.003	-0.040
	(0.016)*	(0.010)	(0.023)***	(0.016)	(0.057)	(0.009)***
# of children	-0.004	-0.003	-0.001	-0.005	-0.002	-0.000
	(0.004)	(0.004)	(0.002)	(0.003)	(0.002)	(0.002)
Pseudo R2	0.13	0.09	0.08	0.07	0.04	0.08
N	7,773	4,511	13,709	10,159	1,737	22,644

Table 27: Results for local migration intention by income group

	Intention to migrate locally		
	Low income	Upper middle income	High income
Close local networks	-0.024	-0.023	-0.037
	(0.008)***	(0.014)	(0.027)
Close networks abroad	0.029	0.045	0.025
	(0.006)***	(0.010)***	(0.011)**
Broad local networks	0.106	0.084	0.142
	(0.017)***	(0.054)	(0.051)***
Local amenities	-0.116	-0.047	-0.152
	(0.011)***	(0.017)***	(0.026)***
Local security	-0.091	-0.079	-0.072
	(0.012)***	(0.033)**	(0.031)**
Contentment with the country	-0.010	-0.033	-0.002
	(0.016)	(0.014)**	(0.023)
Corruption	-0.009	-0.011	-0.016
	(0.024)	(0.020)	(0.026)
Work	-0.067	-0.030	-0.040
	(0.010)***	(0.020)	(0.015)***
Wealth	0.033	-0.058	-0.063
	(0.024)	(0.028)**	(0.037)*
Standard of living	-0.071	0.048	-0.023
	(0.018)***	(0.027)*	(0.040)
Married	-0.023	-0.025	-0.054
	(0.007)***	(0.008)***	(0.014)***
Age	-0.003	-0.003	-0.004
	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.030	-0.008	-0.027
	(0.006)***	(0.010)	(0.021)
Education (high)	0.038	0.029	0.002
	(0.008)***	(0.013)**	(0.026)
Female	-0.019	-0.005	-0.015
	(0.007)**	(0.007)	(0.014)
Large city	0.015	-0.005	-0.002
	(0.008)*	(0.010)	(0.011)
Healthy	-0.045	-0.019	-0.034
	(0.013)***	(0.015)	(0.021)
# of children	-0.002	-0.000	-0.010
	(0.001)	(0.004)	(0.006)*
Pseudo R2	0.09	0.08	0.12
N	43,125	9,884	6,013

9 Results with individual income and education

This section contains tables for the local migration intention (the corresponding tables for international intention are presented in the paper).

Table 28: Intention to migrate locally and individual income levels

	Intention to migrate locally	
	Income quintile	
	1–3	4–5
Close networks abroad with remit.	0.069	0.043
	(0.014)***	(0.013)***
Close networks abroad w/o remit.	0.032	0.023
	(0.007)***	(0.007)***
Close local networks with remit.	-0.024	-0.007
	(0.012)**	(0.013)
Close local networks w/o remit.	-0.031	-0.032
	(0.009)***	(0.011)***
Local broad networks	0.094	0.087
	(0.020)***	(0.020)***
Close networks abroad test	***	n.s.
Close local networks	n.s.	***
Pseudo R2	0.095	
N	59719	

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows average marginal effects (evaluated at given income quintiles) of sample-weighted probit regressions, st. errors are clustered at country-level, the specification includes year and country fixed effects, as well as individual controls (omitted from the table). The dependent variable is a dummy for the intention to migrate locally. 'Close networks' reflect close social ties (local and abroad) of the individual, while 'broad networks' are proxied by log of the number of individuals at the current location that would like to move abroad. Close networks (abroad/local) test provides test results if coefficients of the two close networks are equal.

Table 29: Intention to migrate locally and individual education levels

	Intention to migrate locally		
	Low education	Medium education	High education
Close networks abroad with remit.	0.041	0.066	0.057
	(0.016)***	(0.011)***	(0.016)***
Close networks abroad w/o remit.	0.017	0.038	0.024
	(0.008)**	(0.006)***	(0.009)**
Close local networks with remit.	-0.014	-0.028	0.018
	(0.015)	(0.012)**	(0.023)
Close local networks w/o remit.	-0.022	-0.048	-0.006
	(0.009)**	(0.010)***	(0.022)
Local broad networks	0.085	0.101	0.071
	(0.019)***	(0.020)***	(0.020)***
Close networks abroad test	n.s.	***	**
Close local networks	n.s.	**	n.s.
Pseudo R2	0.096		
N	59719		

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Note: The table shows average marginal effects (evaluated at given education levels) of sample-weighted probit regressions, st. errors are clustered at country-level, the specification includes year and country fixed effects, as well as individual controls (omitted from the table). The dependent variable is a dummy for the intention to migrate locally. 'Close networks' reflect close social ties (local and abroad) of the individual, while 'broad networks' are proxied by log of the number of individuals at the current location that would like to move abroad. Close networks (abroad/local) test provides test results if coefficients of the two close networks are equal.

10 Results with actual migration data for broad networks abroad

This section contains tables for the international migration intention with local broad networks proxied by the log of the migration flows, where the migration flows are obtained using different sources of data: UN, OECD (`http://stats.oecd.org/Index.aspx?DataSetCode=MIG`), IAB (H. Brucker et al. (2013). "Education, gender and international migration: insights from a panel-dataset 1980-2010". mimeo).

Table 30: PCA index-based results with actual migration data for broad networks

	Intention to migrate internationally		
	UN	OECD	IAB
Close local networks	-0.008	-0.008	-0.007
	(0.004)**	(0.004)**	(0.004)*
Close networks abroad	0.032	0.034	0.034
	(0.002)***	(0.002)***	(0.002)***
Broad networks abroad (log unmigrflow)	0.008		
	(0.002)***		
Broad networks abroad (log bmigfoecd)		0.012	
		(0.007)*	
Broad networks abroad (log iab-bna)			-0.058
			(0.062)
Local amenities	-0.030	-0.031	-0.031
	(0.004)***	(0.004)***	(0.004)***
Local security	-0.021	-0.020	-0.020
	(0.005)***	(0.005)***	(0.005)***
Contentment with the country	-0.020	-0.020	-0.021
	(0.005)***	(0.005)***	(0.005)***
Corruption	-0.010	-0.011	-0.012
	(0.006)	(0.006)*	(0.006)**
Work	-0.018	-0.019	-0.018
	(0.004)***	(0.003)***	(0.003)***
Wealth	0.008	0.010	0.009
	(0.006)	(0.006)*	(0.006)*
Standard of living	-0.025	-0.023	-0.024
	(0.009)***	(0.008)***	(0.008)***
Married	-0.013	-0.011	-0.011
	(0.002)***	(0.002)***	(0.002)***
Age	-0.001	-0.001	-0.001
	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.006	0.005	0.005
	(0.003)**	(0.003)*	(0.003)*
Education (high)	0.015	0.011	0.011
	(0.004)***	(0.004)***	(0.004)***
Female	-0.009	-0.010	-0.010
	(0.002)***	(0.002)***	(0.002)***
Large city	0.007	0.007	0.007
	(0.003)**	(0.003)**	(0.003)**
Healthy	-0.010	-0.009	-0.009
	(0.003)***	(0.003)***	(0.003)***
# of children	0.001	0.001	0.001
	(0.000)*	(0.000)**	(0.000)**
Pseudo R2	0.22	0.22	0.22
N	45,427	49,001	48,791

Note: broad networks abroad are proxied by the log of the migration flows estimated using UN, OECD and IAB data.

Table 31: Single-question-based results with actual migration data for broad networks

	Intention to migrate internationally		
	UN	OECD	IAB
Close local networks	-0.004	-0.003	-0.003
	(0.002)**	(0.002)**	(0.002)**
Close networks abroad	0.025	0.026	0.026
	(0.001)***	(0.001)***	(0.001)***
Broad networks abroad (log unmigrflow)	0.006		
	(0.001)***		
Broad networks abroad (log bmigfoecd)		0.003	
		(0.005)	
Broad networks abroad (log iab-bna)			-0.075
			(0.040)*
Satisfaction with the city/area	-0.029	-0.029	-0.029
	(0.002)***	(0.002)***	(0.002)***
Country economic condition (getting worse)	0.010	0.009	0.009
	(0.002)***	(0.002)***	(0.002)***
Country economic condition (getting better)	-0.002	-0.002	-0.002
	(0.002)	(0.002)	(0.002)
Part-time employment	-0.016	-0.015	-0.015
	(0.002)***	(0.002)***	(0.002)***
Full-time employment	-0.012	-0.012	-0.011
	(0.002)***	(0.002)***	(0.002)***
Log (rel.) income	0.002	0.001	0.001
	(0.001)**	(0.001)*	(0.001)*
Married	-0.008	-0.007	-0.007
	(0.001)***	(0.001)***	(0.001)***
Age	-0.001	-0.001	-0.001
	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.006	0.005	0.005
	(0.001)***	(0.001)***	(0.001)***
Education (high)	0.013	0.012	0.011
	(0.002)***	(0.002)***	(0.002)***
Female	-0.006	-0.007	-0.006
	(0.001)***	(0.001)***	(0.001)***
Large city	0.006	0.006	0.006
	(0.002)***	(0.002)***	(0.002)***
Healthy	-0.006	-0.005	-0.005
	(0.002)***	(0.001)***	(0.001)***
# of children	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Pseudo R2	0.24	0.24	0.24
N	130,428	142,197	141,596

Note: broad networks abroad are proxied by the log of the migration flows estimated using UN, OECD and IAB data.

11 Results with a stronger intention (including preparation)

These tables adjust the dependent variable to incorporate information on whether the individual has undertaken preparation for a move (a stricter version of intention than the one used for the main specifications).

Table 32: Index-based results with stronger intention: index-based specifications

	Intention to migrate internationally	
	(1)	(2)
Close local networks	-0.002	-0.005
	(0.002)	(0.002)**
Close networks abroad	0.019	0.016
	(0.001)***	(0.002)***
Broad networks abroad	0.012	0.012
	(0.003)***	(0.003)***
Local amenities	-0.012	-0.015
	(0.003)***	(0.003)***
Local security	-0.010	-0.008
	(0.003)***	(0.003)**
Contentment with the country	-0.012	-0.008
	(0.003)***	(0.003)***
Corruption	-0.005	-0.005
	(0.004)	(0.004)
Work	-0.009	-0.008
	(0.002)***	(0.002)***
Wealth	0.010	0.001
	(0.005)**	(0.004)
Standard of living	-0.010	-0.014
	(0.007)	(0.004)***
Married	-0.005	-0.005
	(0.002)***	(0.001)***
Age	-0.000	-0.000
	(0.000)***	(0.000)***
Education (medium)	0.005	-0.001
	(0.002)***	(0.002)
Education (high)	0.008	0.002
	(0.002)***	(0.003)
Female	-0.005	-0.004
	(0.001)***	(0.001)***
Large city	0.003	0.005
	(0.002)	(0.002)**
Healthy	-0.005	-0.003
	(0.002)**	(0.002)**
# of children	0.000	0.001
	(0.000)	(0.000)*
Pseudo R2	0.19	0.17
N	43,261	55,439

Note: in column (1) the dependent variable is set to 1 only for those cases that actually make preparation for the move (question wp9455) and observations with inconsistent responses are removed from the sample; in column (2) the dependent variable is set to 1 only for those cases that actually make preparation for the move (question wp9455) without checking observations for consistency of their responses.

Table 33: Single-question-based results with stronger intention: single-question specifications

	Intention to migrate internationally	
	(1)	(2)
Close local networks	-0.002	-0.002
	(0.001)*	(0.001)*
Close networks abroad	0.016	0.010
	(0.001)***	(0.001)***
Broad networks abroad	0.007	0.009
	(0.001)***	(0.001)***
Satisfaction with the city/area	-0.014	-0.011
	(0.002)***	(0.001)***
Country economic condition (getting worse)	0.004	0.004
	(0.001)***	(0.001)***
Country economic condition (getting better)	0.000	-0.002
	(0.001)	(0.001)**
Part-time employment	-0.006	-0.008
	(0.001)***	(0.001)***
Full-time employment	-0.004	-0.006
	(0.001)***	(0.001)***
Log (rel.) income	0.002	-0.000
	(0.000)***	(0.000)
Married	-0.003	-0.003
	(0.001)***	(0.001)***
Age	-0.000	-0.000
	(0.000)***	(0.000)***
Education (medium)	0.003	0.002
	(0.001)***	(0.001)***
Education (high)	0.007	0.002
	(0.001)***	(0.001)*
Female	-0.003	-0.004
	(0.001)***	(0.001)***
Large city	0.002	0.004
	(0.001)**	(0.001)***
Healthy	-0.002	-0.002
	(0.001)*	(0.001)**
# of children	-0.000	0.000
	(0.000)	(0.000)
Pseudo R2	0.22	0.19
N	131,435	162,198

Note: in column (1) the dependent variable is set to 1 only for those cases that actually make preparation for the move (question wp9455) and observations with inconsistent responses are removed from the sample; in column (2) the dependent variable is set to 1 only for those cases that actually make preparation for the move (question wp9455) without checking observations for consistency of their responses.

12 Sample restricted to country natives only

Tables in this section are based on the sample which is restricted only to respondent born within their country of residence (at the time of survey).

Table 34: Index-based results with sample restricted to country natives only

	Intention to migrate	
	internationally	locally
Close local networks	-0.008	-0.026
	(0.004)**	(0.007)***
Close networks abroad	0.034	0.034
	(0.003)***	(0.005)***
Broad networks abroad	0.022	
	(0.003)***	
Broad local networks		0.109
		(0.018)***
Local amenities	-0.028	-0.103
	(0.004)***	(0.010)***
Local security	-0.018	-0.089
	(0.005)***	(0.011)***
Contentment with the country	-0.021	-0.013
	(0.005)***	(0.012)
Corruption	-0.011	-0.011
	(0.006)*	(0.018)
Work	-0.018	-0.056
	(0.003)***	(0.009)***
Wealth	0.008	0.005
	(0.005)	(0.020)
Standard of living	-0.024	-0.047
	(0.008)***	(0.016)***
Married	-0.011	-0.029
	(0.002)***	(0.005)***
Age	-0.001	-0.003
	(0.000)***	(0.000)***
Education (medium)	0.005	0.022
	(0.003)*	(0.005)***
Education (high)	0.009	0.045
	(0.004)**	(0.007)***
Female	-0.009	-0.017
	(0.002)***	(0.006)***
Large city	0.007	0.009
	(0.003)**	(0.006)
Healthy	-0.009	-0.042
	(0.003)***	(0.010)***
# of children	0.001	-0.002
	(0.001)*	(0.001)
Pseudo R2	0.22	0.10
N	46,539	57,786

Table 35: Single-question-based results with sample restricted to country natives only

	Intention to migrate	
	internationally	locally
Close local networks	-0.003	-0.014
	(0.002)**	(0.005)**
Close networks abroad	0.026	0.029
	(0.001)***	(0.003)***
Broad networks abroad	0.016	
	(0.002)***	
Broad local networks		0.109
		(0.007)***
Satisfaction with the city/area	-0.028	-0.129
	(0.002)***	(0.009)***
Country economic condition (getting worse)	0.008	0.013
	(0.002)***	(0.004)***
Country economic condition (getting better)	-0.002	0.008
	(0.002)	(0.004)*
Part-time employment	-0.015	-0.046
	(0.002)***	(0.008)***
Full-time employment	-0.010	-0.041
	(0.002)***	(0.008)***
Log (rel.) income	0.002	0.004
	(0.001)**	(0.002)***
Married	-0.007	-0.019
	(0.001)***	(0.003)***
Age	-0.001	-0.002
	(0.000)***	(0.000)***
Education (medium)	0.006	0.017
	(0.001)***	(0.003)***
Education (high)	0.010	0.038
	(0.002)***	(0.005)***
Female	-0.006	-0.007
	(0.001)***	(0.003)**
Large city	0.005	0.013
	(0.002)***	(0.004)***
Healthy	-0.005	-0.023
	(0.001)***	(0.005)***
# of children	0.000	-0.001
	(0.000)	(0.001)
Pseudo R2	0.24	0.11
N	131,784	158,943

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

13 Results with lagged peers and country-year fixed effects

Table 36: Index-based results with lagged peers and country-year fixed effects

	Lagged peers		Country-year FE	
	Intention to migrate			
	internationally	locally	internationally	locally
Close local networks	-0.007	-0.022	-0.008	-0.026
	(0.005)	(0.007)***	(0.004)**	(0.007)***
Close networks abroad	0.038	0.026	0.035	0.033
	(0.003)***	(0.006)***	(0.002)***	(0.005)***
Broad networks abroad (lag)	0.052			
	(0.010)***			
Broad local networks (lag)		-0.042		
		(0.009)***		
Local amenities	-0.037	-0.096	-0.032	-0.105
	(0.007)***	(0.012)***	(0.004)***	(0.009)***
Local security	-0.025	-0.088	-0.021	-0.092
	(0.005)***	(0.014)***	(0.005)***	(0.011)***
Contentment with the country	-0.024	-0.027	-0.020	-0.013
	(0.008)***	(0.013)**	(0.005)***	(0.012)
Corruption	-0.018	-0.019	-0.012	-0.008
	(0.008)**	(0.017)	(0.006)*	(0.018)
Work	-0.025	-0.053	-0.019	-0.057
	(0.006)***	(0.008)***	(0.004)***	(0.009)***
Wealth	0.012	0.010	0.010	0.006
	(0.008)	(0.016)	(0.006)	(0.019)
Standard of living	-0.034	-0.034	-0.025	-0.047
	(0.013)***	(0.021)	(0.009)***	(0.016)***
Married	-0.010	-0.029	-0.011	-0.028
	(0.003)***	(0.007)***	(0.002)***	(0.005)***
Age	-0.001	-0.003	-0.001	-0.003
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.006	0.028	0.006	0.021
	(0.004)	(0.006)***	(0.003)*	(0.005)***
Education (high)	0.008	0.047	0.012	0.045
	(0.005)	(0.010)***	(0.004)***	(0.007)***
Female	-0.010	-0.018	-0.010	-0.017
	(0.003)***	(0.005)***	(0.002)***	(0.006)***
Large city	0.008	0.009	0.007	0.007
	(0.005)*	(0.007)	(0.003)**	(0.006)
Healthy	-0.013	-0.036	-0.009	-0.041
	(0.004)***	(0.008)***	(0.003)***	(0.010)***
# of children	-0.000	-0.000	0.001	-0.002
	(0.001)	(0.002)	(0.000)*	(0.001)
Pseudo R2	0.20	0.09	0.22	0.10
N	26,359	34,402	47,265	60,179

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

14 Results with country-year random effects

Table 37: Index-based results with country-year random effects

	Linear specification		Non-linear specification	
	Intention to migrate			
	internationally	locally	internationally	locally
Close local networks	-0.006	-0.024	-0.006	-0.025
	(0.002)***	(0.005)***	(0.002)***	(0.005)***
Close networks (abroad)	0.029	0.033	0.029	0.033
	(0.002)***	(0.003)***	(0.002)***	(0.003)***
Local amenities	-0.024	-0.105	-0.024	-0.106
	(0.003)***	(0.007)***	(0.003)***	(0.007)***
Local security	-0.011	-0.079	-0.011	-0.079
	(0.003)***	(0.007)***	(0.003)***	(0.007)***
Contentment with the country	-0.015	-0.003	-0.015	-0.003
	(0.003)***	(0.006)	(0.003)***	(0.006)
Corruption	-0.005	-0.006	-0.005	-0.005
	(0.003)*	(0.007)	(0.003)*	(0.007)
Work	-0.016	-0.056	-0.016	-0.056
	(0.002)***	(0.005)***	(0.002)***	(0.005)***
Wealth	0.003	-0.005	0.002	-0.013
	(0.003)	(0.009)	(0.003)	(0.009)
Standard of living	-0.013	-0.035	-0.013	-0.032
	(0.004)***	(0.009)***	(0.004)***	(0.009)***
Married	-0.010	-0.028	-0.010	-0.028
	(0.001)***	(0.003)***	(0.001)***	(0.003)***
Age	-0.001	-0.003	-0.001	-0.003
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Education (medium)	0.003	0.020	0.003	0.019
	(0.001)**	(0.004)***	(0.001)**	(0.004)***
Education (high)	0.007	0.038	0.007	0.040
	(0.002)***	(0.006)***	(0.002)***	(0.006)***
Female	-0.006	-0.017	-0.006	-0.017
	(0.001)***	(0.003)***	(0.001)***	(0.003)***
Large city	0.006	0.015	0.006	0.015
	(0.001)***	(0.003)***	(0.001)***	(0.003)***
Healthy	-0.009	-0.037	-0.009	-0.037
	(0.002)***	(0.004)***	(0.002)***	(0.004)***
# of children	0.001	-0.002	0.001	-0.002
	(0.000)***	(0.001)**	(0.000)***	(0.001)**
Pseudo R2	.	.	.	.
N	51,939	60,533	51,939	60,533

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$