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A behavioural perspective on the drivers of migration: Studying economic and social preferences using the Gallup World Poll

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Discussion Paper 4/2021

A Behavioural Perspective on the Drivers of Migration

Studying Economic and Social Preferences Using the Gallup World Poll

Katrin Klöble

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Studying economic and social preferences using the Gallup World Poll

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Bonn 2021

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Abstract

This paper addresses the self-selection of potential migrants. In particular, the study examines whether risk and time preferences explain a significant proportion in the movement heterogeneity of individuals. It is further intended to shed light on the role of social preferences (trust, altruism, reciprocity) as potential migratory determinants. By making use of a unique cross-sectional data set on migration intentions (Gallup World Poll) and experimentally-validated preferences (the Global Preference Survey) covering 70 countries worldwide, a probit model is estimated. The empirical results provide evidence that potential migrants exhibit higher levels of risk-taking and patience than their counterparts who stay at home (the stayers). This holds true across differing countries with various cultural backgrounds and income levels. Trust and negative reciprocity are found to be significantly related to migration aspirations as well. Yet conclusive clarifications still remain necessary, providing impetuses for future research.

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Bonn, November 2020 Katrin Klöble

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Abbreviations

CPI	Corruption Perceptions Index
GPS	Global Preference Survey
GSOEP	German Socio-Economic Panel
GWP	Gallup World Poll
HRS	Health and Retirement Study
IOM	International Organization for Migration
LiTS	Life in Transition Survey
LPM	linear probability model
MENA	Middle East & North Africa
NELM	New Economics of Labour Migration
RUMiC	Rural Urban Migration Survey in China
SSA	Sub-Saharan Africa
TRA	theory of reasoned action
UAE	United Arab Emirates

Executive summary

This paper addresses the self-selection of migrants. Self-selection is grounded on the notion that two individuals must be distinctive in some way if one of them has the intention to emigrate while the other prefers to stay. That is, an individual may be endowed with a set of features that makes him or her particularly suitable for and thus more prone to emigration than another individual with different characteristics.

Against this background, the field of behavioural economics puts forward the hypothesis that preferences – that is, risk-taking, patience, and social preferences such as altruism, positive and negative reciprocity – could play a decisive role in this regard. Based on that, the question that guides the paper is the following: Do individuals who want to remain in their home countries differ significantly from those intending to move abroad in terms of economic and social preferences and, if so, how and why?

A review of the academic literature outlines and discusses theoretical considerations on the link between preferences and the migration decision. Due to a lack of reliable data, this academic field remains understudied, especially in developing countries. With respect to risk and time preferences, the widespread assumptions in the literature are basically as follows: As migration is always associated with major uncertainties regarding future conditions in the destination country (for instance, wage opportunities), migrants are probably more likely to take risks than their counterparts who stay at home, the "stayers". Further, migration is usually costly and requires an initial investment to carry out the move. Thus, since positive benefits from migration typically only materialise in the long-run, migrants are possibly self-selected with regard to higher levels in patience.

In the social domain, trust can be assumed to positively impact the decision to emigrate, as migration possibly involves encounters with strangers and new people on whom migrants may have to rely upon. Moreover, the assumed link between trust and migration might be moderated by networks abroad. With regard to altruism and reciprocity, the scarcity of empirical evidence does not (yet) provide corresponding predictions on the association between reciprocity and the migration decision. Nonetheless, the literature points to possible differences at the country level, which are related to the countries' institutional framework.

The empirical analysis of this paper involved several probit model estimations based on a unique cross-section for the year 2012, combining migration intention data from the Gallup World Poll (GWP) and experimentally-validated preference data from the Global Preference Survey (GPS). The dataset is especially suitable for the analysis as the global coverage of 70 countries worldwide allows one to test for the generality of findings. Furthermore, using data on the intention to migrate as opposed to migration movements that have been realised is advantageous, since issues related to the selective migration policies of destination countries are eliminated.

The study provides evidence that a tendency for risk-taking positively impacts the probability of stating a desire to migrate permanently abroad. There is also evidence that higher degrees in patience are positively associated with migrating, yet the results are not as strong compared to attitudes to risk. The results are also robust to alternative explanatory variable specifications and changes in the sample. Further, these links, which are consistent

with the literature, have been found to hold across different countries with various cultural backgrounds and development levels. There is also an indication that the more concrete migration intentions become (no migration desire – migration desire – migration plan), the more individuals self-select with regard to risk and time preferences.

With respect to social preferences, the results for altruism and positive reciprocity are fairly ambiguous. Interestingly, trust seems to negatively impact migration probabilities, which is inconsistent with the theoretical considerations. Furthermore, the link between trust and migration is independent of whether one has close social networks abroad or not. Negative reciprocity seems to be positively related to migration probabilities, regardless of the actual quality of the institutional setting at home.

This research is a first shot at exploring potential channels between social preferences and migration and herewith provides a good starting point for discussion and further research. Moreover, similar to empirical studies conducted in the field of refugee migration and risk preferences, future research could seek to examine further whether the predicted links between preference traits and migration still hold in a context characterised by political violence and conflict.

Finally, this study complements research in the field of migration economics, demonstrating that migrants differ in relevant characteristics from stayers. Beyond that, the research shows that self-selection already takes places at the intention-forming stage and that preferences already matter prior the actual move.

1 Introduction

With the growing numbers of international migrants worldwide, governments of both sending and receiving countries have gained a heightened interest in the scale, dynamics, and characteristics of global migration flows. Importantly, the observed flows of migrants are the outcomes of *decisions* of people and their families whether to migrate or to stay. When such decisions are made, so-called "self-selection processes" are at work (van Dalen, Groenewold, & Schoorl, 2005). These affect the scope and composition of migration flows.

The notion that migrants self-select in the sense that they do not represent a random sample of the population, has been discussed in the migration economics literature since Borjas (1987, 1991).[1] While traditional labour migration theories have put forward international wage differentials as the main determinant causing cross-border migration flows (see, for example, Harris & Todaro 1970; Lewis, 1954; Todaro, 1976), Borjas' approach permits researchers to address the individual characteristics of migrants. Simply put, workers will be allocated to places according to their skills and the income distribution present at the destination country. Thereby, the migration decision becomes depended on individuals' abilities and characteristics.

Though micro-level variables have not been traditionally at the centre of migration theories, they still have a key role to play in the final decision to migrate.[2] Certain people are more likely to migrate than others: being a man (Beine & Salomone, 2010; Kirwin & Anderson, 2018), being of working-age (Kassar & Dourgnon, 2014; van Dalen et al., 2005) and having a higher education level (Grogger & Hanson, 2011; Kirwin & Anderson, 2018) typically increases the likelihood of migration. Furthermore, besides allowing self-selection theories to be tested, a micro-level analysis has the potential to address the following questions: What explains the individual heterogeneity in migration movements? Are those who remain significantly different from those who move in terms of personal characteristics and, if so, how and why?

Preferences – such as risk-taking, patience, and social preferences such as trust, altruism, positive and negative reciprocity – may also explain a significant proportion of the movement heterogeneity.[3] It is a well-known fact of behavioural research that preferences drive individual decision-making (Falk et al., 2018). Indeed, migration is a major decision that starkly affects an individual's life and is inherently linked to risk and uncertainty. Considering the dangerous routes that many migrants are willing to travel in exchange for

1 In behavioural economics, the term "self-selection" refers to the statistical concept of "selection bias". It describes a systematic process that deterministically selects specific individuals to behave in a distinct way or not (for instance, whether to migrate or not to migrate); hence, migrants can be assumed to differ from stayers with respect to specific characteristics (Bodvarsson & van den Berg, 2013).

2 Historically, the literature has focused extensively on the macro-level drivers of migration (such as economic hardship, war, environmental threats, and so on) that incentivise migration via the striving for a better life in the destination country (push-pull theory, Lee, 1966).

3 In the current paper, the term "economic preferences" refers to risk and time preferences. When the term "social preferences" is used, only preferences in the social domain are referred to, namely trust, altruism, and positive and negative reciprocity. Furthermore, throughout the paper the terms "risk preferences" and "time preferences" are used interchangeably with the GPS-designations "risk-taking" and "patience" (GPS, 2019).

a better life in the country of destination and incomplete information about the conditions in that country of destination (for instance, wage and job opportunities), one would expect migrants to be highly risk-tolerant (Akgüç, Liu, Tani, & Zimmermann, 2016). Similarly, as migration is typically costly and requires an irreversible initial investment before any benefits can be realised, the degree to which people discount the future may also affect the decision to migrate. Thus, potential migrants can be assumed to be more patient than people who stay (Goldbach & Schlüter, 2018).

The strand of research studying the link between preferences and migration behaviour is relatively new. In this field, most studies focus on the role of risk preferences (Bauernschuster, Falck, Heblich, Suedekum, & Lameli, 2014; Bonin, Constant, Tatsiramos, & Zimmermann, 2009; Hao, Houser, Mao, & Villeval, 2016; Huber & Nowotny, 2018; Jaeger et al., 2010; Nowotny, 2014) while only some also consider time preferences as factors in the decision to migrate (Gibson & McKenzie, 2009; Goldbach & Schlüter, 2018). With regard to social preferences, theoretical considerations remain particularly underdeveloped. Generally, the lack of reliable data makes it difficult to study this academic field empirically. Furthermore, the few empirical studies that explicitly explore the rationale behind preferences and migration decisions have primarily been undertaken in developed countries, while the existence of an empirical gap is especially the case for transition and developing countries. Yet, as the global South is increasingly been characterised by migratory movements, it is in these countries especially where new insights on the link between preferences and migration can emerge (compare Akgüç et al., 2016). Thus, research in such countries is particularly valuable.

This paper takes a behavioural perspective on the drivers of migration. Based on a rich cross-sectional data set for the year 2012 that integrates data on worldwide migration intentions from the Gallup World Poll (GWP) and from the Global Preference Survey (GPS), the paper explores the link between preferences and migration decisions of individuals. Unlike many other studies that test for the self-selection of migrants (among them, Chiswick, 2000; Constant & Massey, 2003), the present paper does not rely on data on migratory moves that have already been realised (that is, not on host country data) but instead uses data on intentions to migrate, with a wide geographical coverage. This approach is especially beneficial as migration intention data does not face sample-selection problems. For instance, when the migration policy of the destination country favours immigration of highly educated people, then testing for the selectivity of migrants using immigration data from that country is not possible. Additionally, *potential* migrants are not affected by host country factors, while using an immigrant sample in this sense is problematic as they may have taken on new values and behavioural patterns (Liebig & Sousa-Poza, 2004).

The contribution of the paper to academic literature is twofold: Firstly, the paper is the first to test the prevalent hypotheses about risk and time preferences and migration based on a unique data set covering 70 different countries worldwide. By using a highly heterogeneous sample, it is possible to test for the generality of the findings. Many studies have only investigated migration intentions and the link to these preference traits based on *one* source country or migration corridor (for example, from Mexico to the United States) (Docquier, Peri, & Ruyssen, 2014). Secondly, apart from economic preferences, this study also explores social preferences as potential migratory determinants. While empirical studies on this topic are scarce, some valuable theoretical channels are however outlined in the literature. For instance, migrants may be positively self-selected with respect to higher levels in trust, as the

migration process itself probably involves encounters with strangers on whom the migrant may have to rely (such as assistance from people in finding work). Correspondingly, individuals who tend not to trust others may feel most safe in their known surroundings and prefer to stay at home (Nannestad, Svendsen, Dinesen, & Sønderskov, 2014).

The paper proceeds as follows: Section 2 provides theoretical considerations on the relationship between each of the five preference traits and migration. This also involves sketching the empirical state-of-the-art in the field studied. Based on that, precise hypotheses are formulated that are tested in the subsequent empirical analysis. Section 3 involves the description of the GWP and the GPS datasets and provides further details about the sample used. Thereby, additional insights on the so-called "intention-behaviour-gap" will be given. Section 4 outlines the empirical strategy of the paper while Section 5 presents the empirical results. Finally, Section 6 not only discusses the results but also provides impetus for future research avenues.

2 Theoretical framework

2.1 Risk preferences

Risk aversion is the behaviour of individuals who dislike uncertainty. It is the "hesitation over risky monetary prospects even when they involve an expected gain" (Rabin & Thaler, 2001, p. 219). A risk-averse individual prefers to put money in the bank account with a low but guaranteed interest rate as opposed to investing into a stock that implies higher expected returns but also a higher chance of losing it (compare Constant, Krause, Rinne, & Zimmerman, 2011). Economists generally assume that people have individual tolerances to risk (Guiso & Paiella, 2004) and that these are relatively stable across place and time (Dohmen et al., 2005).

Risk and uncertainty are inherently linked to the individual migration decision (Clark & Lisowski, 2017). The migration literature puts forward two main reasons for that: i) potential migrants in the home country necessarily have less – or imperfect – information about future conditions in the country of destination (for example, wage levels, working opportunities, finding accommodation, and so on) (see, for instance, Jaeger et al., 2010). Besides financial risks, there are also non-pecuniary elements such as psychic and social risks from migrating (such as the emotional impact of leaving family and friends). Even a long time after the move, migrants tend to face uncertainty not shared by natives, such as anti-immigration sentiments or the possibility of being deported (for example, Akgüç et al., 2016; Hao et al., 2016). And ii) the migration experience itself may include a high level of risk, as it is the case for illegal migrants who take dangerous routes across the Mediterranean Sea (Arcand & M'Baye, 2013; Hernández-Carretero & Carling, 2012; Koser, 2008). Consequently, one would expect migrants to be more risk-tolerant than those who stay (Akgüç et al., 2016).

However, there may be a reverse causality between individual risk preferences and migration in the sense that migration itself impacts the level of risk preferences (Akgüç et al., 2016). That is, an individual with prior (successful) migratory experience may perceive migration as less risky than an individual without migration experience because he/she possibly has first-hand information about the dangers of migration at his/her disposal along with a greater knowledge about the things that need to be done in order to achieve the

ultimate goals aimed at through migration (Conroy 2009; Jaeger et al., 2010; Williams & Baláž, 2012, 2014).

Additionally, non-migration may also not be free of risk (Williams & Baláž, 2012). The decision to emigrate can involve a strategy of reducing exposure to income risks present at the place of origin.[4] If such risks are fundamental in the migration decision of the individual and they are objectively or subjectively (that is, perceived as) higher or more threatening than the risks associated with migration, it would be rather the risk-averse individuals who are incentivised to emigrate (see Conroy, 2009).

The strand of empirical evidence on the link between individual risk preferences and the migration decision is relatively new. There is substantial research in Germany and in the context of internal migration. Jaeger et al. (2010) were the first to provide direct evidence on risk attitudes and migration based on the German Socio-Economic Panel (GSOEP) of 2000-2005. Their probit model estimates suggested that being more willing to take risks was a significantly positive determinant of migrating between labour markets in Germany. There is also evidence that the results are not likely to be driven by reverse causality. Bauernschuster et al. (2014) replicated the main results of Jaeger et al. (2010), providing evidence that supports the finding of more risk-tolerant people being more likely to migrate than their risk-averse counterparts. This is in line with the results of Dohmen et al. (2005), which used the 2004 wave of the GSOEP. Contrastingly, Bonin et al. (2009) found a reverse relationship based on the 2004 wave: first-generation immigrants were more risk-averse than Western German natives, while in the second-generation, risk preferences appeared to equalise. Studying international migration patterns in the United Kingdom, Williams and Baláž (2014) observed a negative relationship between the individual risk aversion and migration propensities, based on a logistic regression model.

There is also some empirical evidence in transition and developing countries: Akgüç et al. (2016) investigated rural-urban migration on the basis of the Survey on Rural Urban Migration (RUMiC) for 2009, against the backdrop of the restrictions imposed by the Hukou system in China.[5] The probit estimation results suggested a strong positive relationship between risk-tolerance and the migration decision. The authors also provide evidence that causality runs from risk-tolerance to migration. Similarly, using a subsample of the RUMiC Survey for 2009, Dustmann, Fasani, Meng and Minale (2017) discovered that risk aversion had a negative impact on individual migration propensity in rural China. Further, investigating migration as a decision of the whole household, they ascertained that the least risk-averse individual in the household was more likely to migrate and that the distribution of risk attitudes of other household member affected the migration decision. Based on the Mexican Family Life Survey (N=1,061), Hamoudi (2006) noticed a positive relationship, namely that children who are more risk-averse are more likely to move out of their parents' house as opposed to their siblings who exhibited a lower degree of risk aversion. A study undertaken by Huber & Nowotny (2018) used the 2010 Life in Transition Survey (LiTS) survey which

4 When the migration decision is conceptualised as a household decision, this adheres to the NELM-literature (see, for instance, Chen, Chiang, & Leung, 2003; Dustmann et al., 2017; Mincer, 1978).

5 The Hukou system, which became effective in the late 1950s in China, was an inflexible residence status system. It defined where individuals had the right to access local public goods (such as subsidised housing, unemployment insurance, and so on). While residence status could be changed, internal migration was however unrestricted in China (Akgüç et al., 2016).

covered the migration intentions of 23,480 individuals. In almost all 30 post-communist countries, the regression outputs suggested that risk aversion had a statistically significant negative impact on the willingness to migrate both within countries, as well as abroad.

In accordance with most of the empirical literature, the following hypothesis can thus be formulated:

H1: *Individuals who are in general more willing to take risks are, ceteris paribus, more likely to migrate abroad than individuals who are less willing to take risks.*

2.2 Time preferences

"Intertemporal choices – decisions involving trade-offs among costs and benefits occurring at different times – are important and ubiquitous" (Frederick, Loewenstein, & O'Donoghue, 2002, p. 1). These include behaviours such as health care, savings, education, retirement and happiness (Frederick et al., 2002). That said, time preferences describe how individuals trade off utility at different points in time (Frederick et al., 2002; Samuelson, 1937). Less patient individuals derive a very high utility from present consumption and value future consumption less, that is, they show high time preferences (high discount rate). Inversely, very patient individuals have a long planning horizon and discount future consumption less strongly, that is, exhibiting low time preferences (low discount rate) or in other words, a higher discount factor (Frederick et al., 2002)

What role do time preferences play in the decision to migrate? The decision to migrate is intertemporal in the sense that it is usually characterised by short-term costs and potentially long-term benefits. Migration is costly and requires an irreversible initial investment (such as that for transportation, information procurement, and so on) before any benefit can be realised. Hence, the general assumption prevalent in the literature is that individuals who tend to have a long-planning horizon and low time preferences are more likely to emigrate than individuals with higher a preference as regards time (see, for example, Gibson & McKenzie, 2009).

Empirical evidence on the role of time preferences in the decision to migrate is scarce. One example is Nowotny (2010) who examined the willingness to migrate abroad and to commute at the Austrian-Slovakian border in 2008/2009. His multinomial probit model results suggested that time preferences were negatively associated with the willingness to migrate internationally and to commute. Another study by Nowotny (2014) using a sample of around 5,252 individuals from the Czech Republic, Slovakia and Hungary confirmed the evidence of the study by Nowonty in 2010. Gibson and McKenzie (2009) examined international migration patterns in three Pacific countries (Tonga, Papa New Guinea, New Zealand), using a cross-sectional sample of 800 young and highly educated individuals. The probit model results suggested that the more patient individuals were more likely to have migrated. Most recently, using a sample of 240 households from Indonesia and 190 households from Ghana, Goldbach and Schlüter (2018) have added support for the evidence of migrants being more patient than non-migrants in both countries. In contrast to the other

studies, the study by Goldbach and Schlüter (2018) used incentivised experiments to elicit time preferences – one of the few exceptions in the literature on migration.[6]

Consequently, as time preferences can be assumed to matter in the decision to emigrate and are consistent with empirical evidence, the following hypothesis can be formulated:

H2: *Individuals who are in general more willing to wait are, ceteris paribus, more likely to migrate abroad than individuals who are less willing to wait.*

2.3 Trust

Generally speaking, "trust captures something fundamental about the way that other people are approached" (Constant et al., 2011, p. 830). As human interactions often involve vulnerability to defection by others, trust is a significant factor conditioning whether an individual cooperates in these situations, or even enters into them at all (Camerer, Ho, & Chong, 2004; Dohmen et al., 2005, 2011).

In particular, there are two different forms of trust: While *generalised trust* "indicates the potential readiness of citizens to cooperate with each other and to abstract preparedness to engage in civic endeavours with each other", *particularised trust* refers to "specific personal settings in which the partner to be cooperated with is already known" (for example, family, friends, community members, and so on) (Stolle, 2002, p. 397; compare also Uslaner, 2015).[7]

How is the migration decision related to trust levels of individuals? Generally, individuals who do not trust others can be assumed to probably feel most safe in their known surroundings and thus prefer to stay at home (Nannestadt et al., 2014). As the migration process is likely to involve encounters with unknown people on whom the migrant may have to rely (for instance, assistance from people in finding work, information from other countrymen, etcetera) (compare Manchin & Orazbayez, 2016), migrants are probably self-selected with regard to higher (generalised) levels of trust. At the same time, however, there may be some related effects with respect to social networks abroad consisting of close family members and friends. Such networks have been shown to significantly induce migration by reducing perceived and actual costs of making a migratory move (see, for example, Manchin & Orazbayez, 2016). Furthermore, networks abroad are related to the concept of *particularised* trust: when migrants rely on relatives or friends in the country of destination they will support her or him before, during and after the move (see Constant et al. 2011). Hence, it can be assumed that for individuals with networks abroad, *particularised* trust plays a more important role in the decision to emigrate than *generalised* trust (towards strangers). Therefore, the following hypotheses can be proposed:

H3a: *Individuals who exhibit higher levels of (generalised) trust are, ceteris paribus, more likely to migrate abroad than individuals with lower levels of (generalised) trust.*

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6 These studies also investigated the role of risk preferences in the migration decision. The empirical results of these studies tend to go in the direction of Hypothesis 1.

7 In the following, with the term "trust", the generalised dimension of trust is meant, unless otherwise indicated. Note that the term "social trust" used by Nannestad et al. (2014) is also interchangeable with "generalised trust".

H3b: *This effect is, ceteris paribus, attenuated given that individuals have social networks abroad.*

2.4 Altruism

According to Fehr and Schmidt (2005, p. 4), "altruism is a form of unconditional kindness; that is, a favour given does not emerge as a response to a favour received […]. Thus, an altruist is willing to sacrifice own resources in order to improve the well-being of others".

The migration literature especially emphasises the altruistic motive in the context of remitting behaviour. Basically, it is assumed that the emigrating family member self-sacrifices in order to provide remittances for relatives back home and can thus be assumed to be self-selected with regard to a higher degree of altruism (Rapoport & Docquier, 2006; Ruiz & Vargas-Silva, 2009). Apart from altruism, however, there are various other motives that can explain the remitting behaviour, such as loan and insurance motives or the exchange of different services (Rapoport & Docquier, 2006). Remittances may even be based on purely selfish motives, if the migrant aspires to inherit and inheritance depends on the migrant's behaviour towards their parents at home (Lianos & Pseiridis, 2011).

Altruism is also discussed in the context of migration and parent-child relationships. In particular, it has been argued that parents bearing the financial, social and psychological costs of leaving the home location so that their children can benefit from a better life in the host country (for example, higher returns to their human capital) are also very likely to be positively self-selected regarding higher levels of altruism (Berman & Rzakhanov, 2000; Gardner, 2019; Tcha, 1995a, 1995b). However, even if the migrant's motive for emigration is based on altruistic motives, it is – analogously to trusting behaviour – questionable whether such migrants exhibit a higher degree in altruism in general, or only exclusively towards their family members.

Due to these considerations and the scarcity of empirical evidence, the question of whether and how altruism impacts the migration decision is uncertain at this point.

2.5 Reciprocity

There are individuals whose motives relate to fairness and who deviate from purely self-interested behaviour in a reciprocal manner. Individuals tend to cooperate voluntarily in response to fair behaviour to a greater degree than predicted by standard models (positive reciprocity). Conversely, unfair behaviour is answered with punishment towards non-cooperators (negative reciprocity). What is crucial to the concept of reciprocity is that "people repay gifts and take revenge even in interactions with complete strangers and even if it is costly for them and *yields neither present nor future material rewards*" (Fehr & Gächter, 2000, p. 1, italics in the original).

Conceptualising remittances as exchange agreements, Mazzucato (2008) investigated the intergenerational reciprocity of migrants in Ghana. He argued that care of the elderly was manifested through remittances of migrants (for example, for paying medical bills, financing private care, and so on), and could thereby be viewed as an act of reciprocity for

the initial investment (that is, investments in migrants' education; provision of capital for migration) of the family prior to the move. Similarly, Posel (2001) argued that more educated individuals who were migrating to urban areas in South Africa were expected to remit resources to rural households out of reciprocity. However, whether it indeed represented (intergenerational) reciprocity, (reciprocal/intergenerational) altruism, or other motives that drove migrants' remittances is an empirically difficult question (Laferrère & Wolff, 2006; Hamoudi & Thomas, 2006).

Some empirical evidence is provided by Constant et al. (2011). Against the backdrop of labour market reintegration in Germany, they found that second generation migrants showed a significant larger extent of positive reciprocity than natives. Studies that relied on host data, however, did not necessarily provide evidence about how reciprocity might influence the willingness to migrate, as immigrants in the destination country might have taken on new values (Liebig & Sousa-Poza, 2004).

As the literature does not provide clear predictions on the association between reciprocity and the migration decision, the question of potential differences between migrants and stayers is – similar to altruism – uncertain.

3 Data

Migration intentions

What is measured with migration intention data? Roughly speaking, migration intentions are expected to measure individuals' *willingness* to move to another location or country (see Carling, 2019; Docquier et al., 2014). To elicit individuals' migration intentions, most studies use survey questions, which are characterised by a wide range of methodological diversity, for instance, by using inconsistent terminology (for example, "desires", "intentions", "wishes", "plans" to emigrate) and different timescales (in the next 1, 2, 3, 5, or 10 years, permanently) (Williams, Jephcote, Janta, & Li, 2018). This poses challenges for the comparability across empirical studies on mobility intentions (Williams et al., 2018)

Examining migration "intentions" or "aspirations" however is crucial for understanding *actual* migration decision-making processes (Williams et al., 2018). Expressing an intention to migrate is only the *first* step in the migration decision-making process: Any actual migratory move is preceded by the desire to move (Yang, 2000).[8] Nevertheless, "there is an important difference between the desire to leave one's country and actually doing so" (IOM [International Organization for Migration], 2017, p. 10). The extent to which stated intentions predict actual behaviour is referred to as the so-called "intention-behaviour gap", which is part of the "theory of reasoned action" (TRA) (Ajzen & Fishbein, 1980). The TRA basically assumes that the best predictor of behaviour is intention itself, which is a function of, inter alia, the beliefs about the consequences of taking that action (van Dalen et al., 2005).

The empirical evidence on the intention-behaviour-gap is indeed corroborative: Several studies have shown that intentions significantly predict actual migration behaviour (for instance, De

8 Except in the case of migration that is termed "forced or involuntary".

Jong, Root, Gardner, Fawcett, & Abad, 1985; De Jong, 2000; Docquier et al., 2014; Fawcett, 1985; Kley, 2011; Tjaden, Auer, & Lazko, 2019; van Dalen & Henkens, 2008). That said – and in the absence of reliable, internationally available migration flow data (Tjaden et al., 2019) – migration intentions have increasingly begun to gain scholars' attention.

Apart from the potential to predict future migration flows, using data on migration intentions is beneficial: in contrast to host-country data, migration intention data does not face sample-selection problems. If the migration policy of the destination country favours the immigration of highly educated people or those with other personal characteristics which systematically interact with preferences, it is not possible to test for the selectivity of migrants with regard to those preferences with immigration data from that country (van Dalen et al., 2005). Moreover, potential migrants are not affected by host country factors. In the context of the socio-economic assimilation of immigrants, using an immigrant sample is problematic as they may have taken on new values, behavioural patterns or adapted to the preferences of natives (Liebig & Sousa-Poza, 2004; Manning, 2012). Similarly, as mentioned before, there may be an endogeneity problem, in the sense that the migration experience itself may impact individuals' risk attitudes or other preferences (Huber & Nowotny, 2018). When using data on migration intention however, the problem of a reverse causality should not be as severe as in the case of actual migration data. Finally, due to lack of reliable data, many studies have only investigated migration intentions and the link to individual characteristics based on *one* source country or migration corridor (such as Mexico-United States) (Docquier et al., 2014). What is more, the comparability of studies is often limited due to methodological diversity (Williams et al., 2018). In this sense, the approach of the present paper can be deemed as especially valuable as the global coverage of the GWP data allows one to generalise findings into quantifiable tendencies (Docquier et al., 2014; Liebig & Sousa-Poza, 2004).

Datasets and sample

The empirical analysis of this current study is based on a rich sample, integrating information about migration intentions and socio-economic characteristics from the Gallup World Poll (GWP) and experimentally validated preference measures from the Global Preference Survey (GPS). For the year 2012, both data sets contain a personal identifier for each survey participant so that they can be merged at the individual-specific level.

Migration intentions are captured by the GWP mainly in three forms (see Table 1). The three dimensions narrow down the respondents to not only aspiring to move, but also to having the means to achieve it, as well as taking steps towards carrying out an international journey (Migali & Scipioni, 2018).[9]

9 In the following, the term "potential migrants" is used for individuals who have expressed the wish to migrate abroad, that is, who have answered question WP1325 with "Yes".

Table 1: Survey questions of the Gallup World Poll		
Migration intentions	**Survey question**	**Question tag**
1) Migration desire	*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?* [Yes, No, Don't know, Refused]	WP1325
2) Migration plan	*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) [Yes, No, Don't know, Refused]	WP10252
3) Migration preparation	*Have you done any preparation for this move?* (asked only of those who are planning to move to another country in the next 12 months) [Yes, No, Don't know, Refused]	WP9455
Source: GWP [Gallup World Poll], 2019		

Individuals' preferences provided by the GPS were mostly elicited on the basis of two survey items for each preference trait: a qualitative item (self-assessments of willingness to act in a certain way) and a quantitative item (monetary trade-off decision) (see Table 2).[10] The combination of the two survey items increases the reliability of the preference measures, in the sense that survey measures can stand in for incentivised revealed preference measures, leveraging the strengths of both approaches (Falk & Hermle, 2018; Falk et al., 2018).

Table 2: Elicitation of preferences		
Preference	**Item**	**Elicitation method/question**
Risk-taking	Quant.	*You can choose between a sure payment of a particular amount of money, or a draw, where you would have an equal chance of getting amount x or getting nothing. We will present to you five different situations. What would you prefer: a draw with a 50% chance of receiving amount x, and the same 50% chance of receiving nothing, or the amount of y as a sure payment?*
	Qual.	*Please tell me, in general, how willing or unwilling you are to take risks.*
Patience	Quant.	*Suppose you were given the choice between receiving a payment today or a payment in 12 months. The payment today is the same in each of these situations. The payment in 12 months is different in every situation. For each of these situations we would like to know which one you would choose. Would you rather receive amount x today or y in 12 months?*
	Qual.	*How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?*
Trust	Qual.	*I assume that people have only the best intentions.*

10 Please note that Table 2 is a short version of Table A1 in the Appendix which provides additional information on item description and respective weights.

Table 2 (cont.): Elicitation of preferences		
Preference	**Item**	**Elicitation method/question**
Altruism	Quant.	*Imagine the following situation: Today you unexpectedly received 1,000 Euros. How much of this amount would you donate to a good cause? (Values between 0 and 1000 are allowed.)*
	Qual.	*How willing are you to give to good causes without expecting anything in return?*
Positive reciprocity	Quant.	*You are in an area you are not familiar with, and you realise you lost your way. You ask a stranger for directions. Helping you costs the stranger about 20 Euros in total. However, the stranger says he or she does not want any money from you. You have six presents with you. The cheapest present costs 5 Euros, the most expensive one costs 30 Euros. Do you give one of the presents to the stranger as a "thank-you"-gift? If so, which present do you give to the stranger? No present / The present worth 5, 10, 15… or 30 Euros.*
	Qual.	*When someone does me a favour, I am willing to return it.*
Negative reciprocity	Qual.	*If I am treated very unjustly, I will take revenge at the first occasion, even if there is a cost in doing so.*
	Qual.	*How willing are you to punish someone who treats you unfairly, even if there may be costs for you?*
	Qual.	*How willing are you to punish someone who treats others unfairly, even if there may be costs for you?*

Notes: Qual. = Qualitative; Quant. = Quantitative

Source: Falk et al., 2018, p. 1653

The final sample consisted of 69,569 respondents from 70 different countries. Subsamples for different geographical regions covered Europe with 21,680 individuals from 22 countries; Asia with 21,175 respondents from 20 countries; Africa with 13,911 respondents from 14 countries; North America with 4,362 respondents from 5 countries; and South America with 7,446 respondents from 8 different countries; Oceania was represented by 995 respondents from Australia.

For almost every country, around 1,000 respondents were surveyed. Exceptions include Haiti, represented by only 498 respondents, and India covering 2,508 individuals (for a full list of countries and their sample sizes, see Table A2 in the Appendix.).

4 Estimation method

To analyse the relationship between preferences and migration, a *binary probit model* was estimated. This approach adheres to Jaeger et al. (2010), Bauernschuster et al. (2014) and others. The main part of the analysis used the dependent variable as a dichotomous variable that took the value of one if the individual expressed a desire to migrate (that is, responded to question WP1325 with "Yes"), and zero otherwise. In particular, the following probit specification was estimated:

$$\Pr(\text{outcome}_i=1 \mid x) = \Phi\,(\beta_0 + \beta_1 Risk_i + \beta_2 Time_i + \beta_3 Trust_i + \beta_4 Altruism_i + \beta_5 PosRecip_i + \beta_6 NegRecip_i + \beta_7 X_i) \quad (7.1)$$

where $outcome_i$ is a dummy variable, representing the intention to migrate and Φ is the cumulative distribution function of the standard normal distribution. The parameters of interest are $\beta_{1\text{-}6}$ which capture the effect of preferences on the migration intention.[11] X_i is a vector of individual controls that have been frequently mentioned in the literature to be explanatory for migratory moves. These include age, gender, marital status, educational level, employment status, individual income, having networks abroad, being foreign-born, number of children, and religious status.[12]

To make use of the information on migration plans (WP10252) and migration preparations (WP9455), two more probit models were run. Basically, due to smaller sample sizes, these two models served as robustness checks for the main model on migration desires described above. Specifically, based on equation (7.1), the dependent variable took the value of one if the individual expressed the plan to migrate in the next 12 months, and otherwise zero. For migration preparations, the dependent variable took the value of one if the individual expressed he/she had already engaged in preparations for an intentional move, and zero otherwise.

Since Falk et al. (2015) have pointed to a high correlation between the three measures of social preferences (namely trust, altruism, positive reciprocity), it was sensible to define a variable "prosociality" out of those. Technically, this variable is defined as the weighted average of these three measures. Thus, an alternative model specification involves the following:

$$\Pr(\text{outcome}_i=1 \mid x) = \Phi\,(\beta_0 + \beta_1 Risk_i + \beta_2 Time_i + \beta_3 Prosociality + \beta_4 NegRecip_i + \beta_7 X_i) \quad (7.2)$$

Finally, preference traits can be assumed to vary across different spatial and cultural contexts. For example, based on the data from the GPS, Becker, Dohmen, Enke and Falk (2014) provide evidence that countries that are culturally close tend to share similar risk attitudes. Falk et al. (2015, 2018) offer evidence to suggest that individuals from African countries tend to have higher levels of risk-taking and lower degrees of patience, while European and Scandinavian countries exhibit very high levels of patience. Thus, it seems reasonable to group countries based on geography or, respectively, cultural proximity. More precisely, the resulting country groups can be interacted with preferences measures to see whether the link between migration and these preference traits varies across geographical and cultural areas.[13]

11 Preference variables were all standardised with mean zero and standard deviation of one.

12 For a list of these variables and their specifications, see Table A3 in the Appendix. For a discussion on the expected signs of some of the controls, see for instance Kuhnt (2019) and van Dalen et al. (2005).

13 When integrating interaction terms into nonlinear models, the sign of the interaction terms cannot be derived from the coefficients alone and calculation of marginal effects can become very complex (Ai & Norton, 2003). Therefore, complementary linear probability model (LPM) regressions had be estimated as well.

In addition, in the social domain and behind the backdrop of immigration, Nannestad et al. (2014) argue that institutional settings rather than culture shapes citizens' trust levels – or, in other words, that the quality of institutions (such as the rule of law, the level of corruption) influences individuals' (generalised) trust levels. Following this reasoning, other (social) preference traits might also be shaped in such a way. For example, individuals living in countries where governance structures are weak, may exhibit very low degrees in negative reciprocity as they have become more tolerant to state corruption (see Cameron, Chaudhuri, Erkal, & Gangadharan, 2009; Gneezy & Fessler, 2012; Littman et al., 2019). At the same time, individuals who want to emigrate from such countries may have comparably high levels of negative reciprocity and prefer to live in countries with lower corruption levels. Due to these considerations, countries will be additionally classified according to the quality of their institutions, using the Corruption Perceptions Index as an indicator (Transparency International, 2020).[14]

5 Findings

5.2 Descriptive statistics[15]

According to Table 3, there are significant differences in terms of economic and social preferences between potential migrants and those who want to remain in their home country: Potential migrants are on average more risk-averse, more patient, more altruistic and show a higher degree of positive reciprocity than stayers. They also tend to trust less and have a higher level of negative reciprocity. These differences are all significantly different from zero at the 1 per cent level, with the exception of patience, where the conventional level of 5 per cent is reached.

Table 3: Economic and social preferences: stayers versus potential migrants

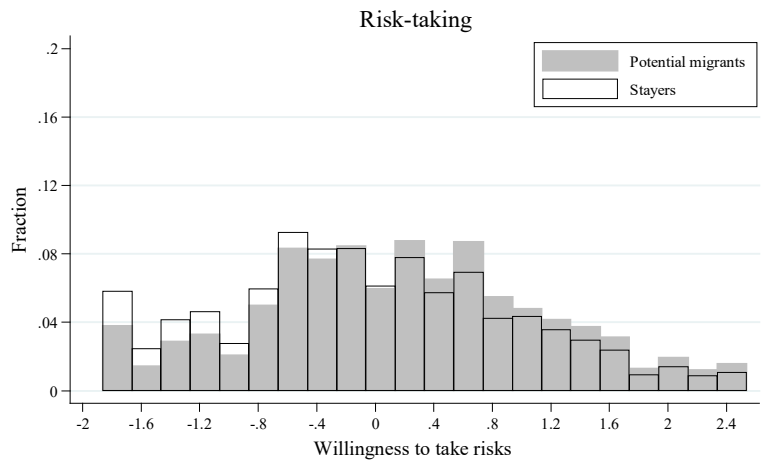
Variable	Desire to move?	Obs.	Mean	Std. Dev.	T-Test	P-Value
Risk-taking	No	55362	-0.041	0.999	-21.915	0.000
	Yes	13717	0.167	0.984		
Patience	No	55407	-0.004	1.006	-2.207	0.027
	Yes	13726	0.017	0.975		
Trust	No	54678	0.028	0.989	14.907	0.000
	Yes	13571	-0.114	1.034		
Altruism	No	55493	-0.013	0.998	-6.739	0.000
	Yes	13710	0.052	1.006		
Positive reciprocity	No	55694	-0.015	0.999	-8.059	0.000
	Yes	13762	0.061	0.999		
Negative reciprocity	No	54510	-0.031	0.987	-16.385	0.000
	Yes	13574	0.126	1.041		

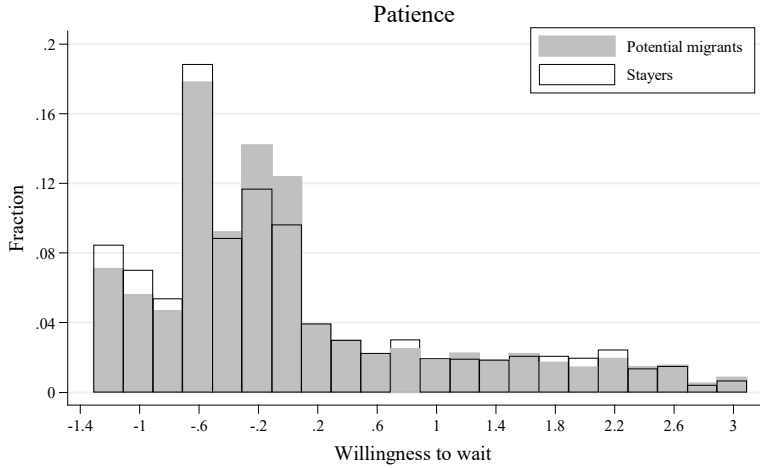
Source: Author, based on GPS [Global Preference Survey], 2019

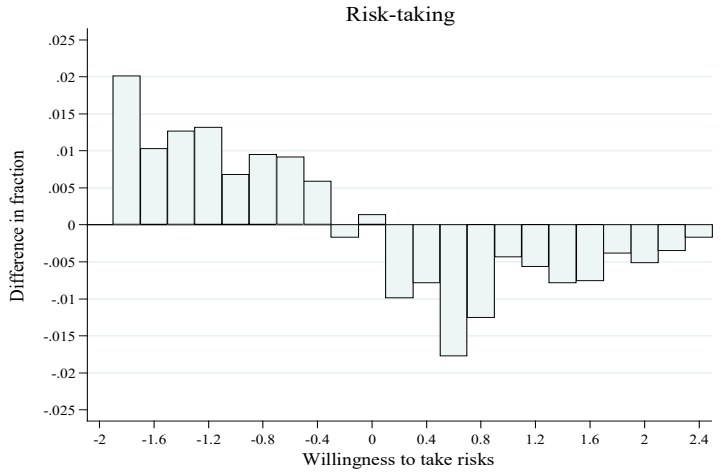
14 For the country group specifications, see Table A4 in the Appendix.

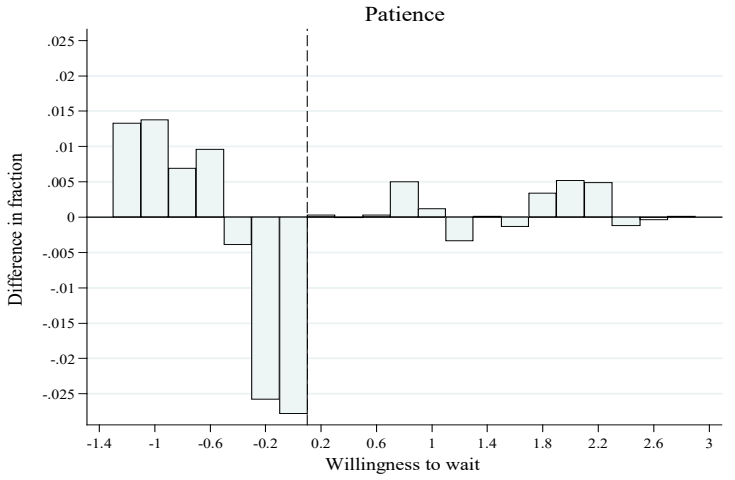
15 Note that, for the sake of illustration, Section 5 will primarily present the results for economic preferences. Corresponding tables and graphs on social preferences are to be found in the Appendix.

Figure 1: Risk and time preferences: stayers versus potential migrants









Source: Author, based on GPS, 2019

The distributions of risk and time preferences for potential migrants and stayers are shown in the upper panels of Figure 1. In the case of risk preferences, the modal value of potential migrants is 0.2, while that of stayers is negative (-0.6). The bottom panels illustrate the difference between the fraction of stayers and the fraction of potential migrants, that is, a positive difference for a given bar indicates that relatively more stayers are represented in that risk-tolerance class. Clearly, stayers tend to have lower values of risk-tolerance, while potential migrants are more likely to have higher values of risk-taking. The distributions of time preferences are both right-skewed and have a modal value of -0.6. Up to a value of approximately -0.1 (about 70 per cent of the mass lies below that value), stayers are more likely to have lower values, while with increasing willingness to wait, relatively more potential migrants are represented. Above this value of -0.1, however, the difference alternates sinusoidally around zero.[16]

Generally, all preference traits vary substantially at the individual level. This is complemented by a substantial heterogeneity between countries (compare Falk et al., 2018, see also Figure A1 (at the country level) in the Appendix). Despite considerable differences across countries, Falk et al. (2018) have shown that, based on the GPS-data, within-country variation is considerably larger. This has been replicated on the basis of the smaller GPS-sample in this current paper: only 7 per cent of the individual-level variation is attributable to heterogeneity between countries.[17]

Table 4: Two-sample t-tests within countries: risk and time preferences

T-test	**H0: Mean (stayers) – Mean (potential migrants) = 0**			
	Risk preferences		**Time preferences**	
	t-statistic < 0	**t-statistic > 0**	**t-statistic < 0**	**t-statistic > 0**
Significant				
1%	37	1	13	1
5%	2	2	8	0
10%	7	4	7	4
Not significant	10	7	24	13
	70		**70**	

Notes: Number of countries and corresponding significance-levels reported.
Source: Author, based on GPS, 2019

Within countries, two-sample t-tests between the group of stayers and potential migrants reveal the following (see Table 4): In 46 countries of the sample (66 per cent) there are significant differences between the means of both groups' risk-tolerance in the expected direction (t-statistic < 0) at conventional levels, where 53 per cent of them are significant at the 1 per cent level. In some African and Asian countries (10 per cent of the sample), stayers are on average more risk-seeking than potential migrants reaching even 1 per cent significance-level in the case of Pakistan. With regard to potential differences in time

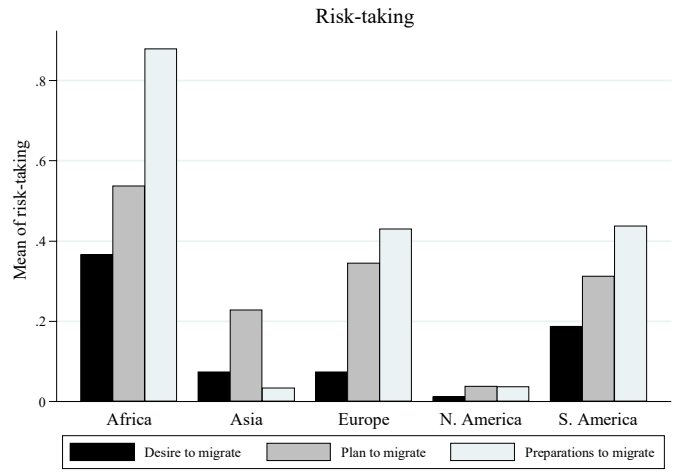
16 For similar graphs with respect to social preferences, see Figure A1 (at the individual level) in the Appendix.

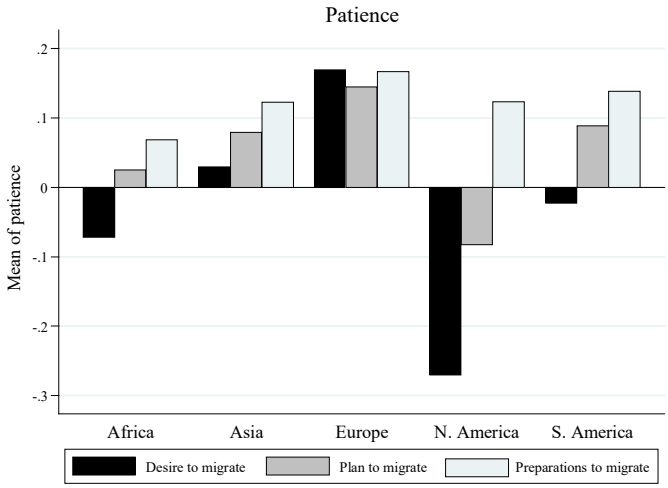
17 The results of a total variance decomposition following the method described by Falk et al. (2018) are available upon request.

preferences between both groups, in the majority of countries (53 per cent), no conventional significance-levels are reached. Still however, in 13 countries (19 per cent) potential migrants are significantly more patient than their counterparts of stayers (1 per cent significance-level), which is consistent with the theoretical considerations from Section 2.[18]

In addition, there is some evidence of increasing self-selection in terms of risk and time preferences, the more concrete migration intentions become: In all geographical regions, potential migrants with concrete plans or even preparations to migrate are, on average, more willing to take risks and to wait (with the exception of Europe) than their counterparts of potential migrants that only expressed a migration desire (see Figure 2).[19]

Figure 2: Risk and time preferences by migration intentions





Source: Author, based on GPS, 2019

18 For the results of two-sample t-tests of both groups' social preference traits within countries, see Table A5 in the Appendix. Interestingly, in over one-third of the countries, potential migrants show less trust than their stayer counterparts and almost half of those countries are located in continental Europe. In a large majority of countries (70 per cent), potential migrants are, on average, significantly more negatively reciprocal than stayers.

19 For corresponding graphs on social preferences, see Figure A2 in the Appendix.

Finally, when stratifying stayers' and potential migrants' risk and time preferences on a variety of individual factors, there is strong indication in favour of the hypothesis that potential movers are more risk-seeking than stayers: Within almost all categories of a given socio-economic or demographic variable, those willing to move are on average significantly more risk-seeking than their stayer counterparts except for unemployed individuals (not significant) and in the subsample of Jews. By contrast, the corresponding results for the two groups' time preferences are not as strong (see Table A7 in the Appendix).

5.3 Regression analysis

The descriptive statistics have given some valuable initial indications of potential differences between stayers and potential migrants. An analysis of whether these findings are still valid when controlling for other potentially relevant characteristics still remains. In the following section, the results of various probit regressions are presented.

Baseline results: the world sample

Table 5 documents the marginal effects of a probit estimation of the willingness to migrate with robust standard errors clustered at the country level and country fixed effects. The dependent variable is a binary indicator which equals one if individuals desire to emigrate abroad and zero otherwise. Models (1)-(3) include economic and social preferences only; models (4)-(6) add control set A, and the models (7)-(9) additionally integrate control set B. The control sets include variables that have been frequently discussed in the literature to be explanatory for the decision to emigrate (again, see for instance Kuhnt (2019) for a review of some of these variables).[20]

The first two rows indicate that individuals with a higher degree of risk-tolerance and patience are significantly more prone to state a desire to migrate (positive signs). This is consistent with H1 and H2 and studies undertaken by Bonin et al. (2009), Gibson and McKenzie (2009), Jaeger et al. (2010), Goldbach and Schlüter (2018) and others. The effect for risk-taking is always statistically significant at the 1-5 per cent level, except in models (8) and (9) where no significance is reached. According to column (1), a one-unit change (roughly one standard deviation) in risk-tolerance increases the probability that an individual states a migration desire by 3.06 percentage points. The effect decreases to 1.27 and 0.71 percentage points respectively, when adding control set A (column (4)) and additionally control set B (column (7)). With respect to the unconditional migration probability of 19.80 per cent (13,776 individuals out of 69,569 stated a desire to emigrate),[21] this effect is associated with a 15.45 per cent, 6.41 per cent and 3.59 per cent increase respectively. An equal change in the level of patience is associated with a 0.4-0.7 percentage points increase in migration probability at the 1-5 per cent significance-level in models (1)-

20 Note that set A includes variables with better data availability (in the sense of fewer missing values) than set B. (See also changing sample size when adding set B in models (7)-(9)).

21 Note that the majority of individuals in the dataset (80.2%) would like to continue living in their home country (that is, they responded to question WP1325 with "No"). Correspondingly, the remaining share of 19.8 per cent stated the desire to emigrate in the next 12 months (that is, they responded to the question WP1325 with "Yes"). (See also Table A6 in the Appendix).

(3) and (7). Compared to risk preferences, the marginal effects of time preferences are, however, smaller.

In model specifications (2), (5) and (8), the marginal effect of trust is negative and significant at the 1 per cent level. A one-unit change in trust is associated with a 1.3-1.8 percentage point decrease in migration probability. As the sign of the coefficient is negative, the results are not consistent with the theoretical considerations undertaken in Section 2, respectively H3a. By integrating an interaction term between the trust measure and networks abroad, it has also analysed whether the link between trust and migration is moderated. As illustrated in Figure 3 below, the negative relationship between trust and migration probability seems to be independent from whether one has close social networks abroad or not. The migration probability decreases equally with increasing degrees in trust between both subsamples, which is inconsistent with H3b.

Table 5 further reveals some insights into the other social preference traits: Altruism does not seem to be related to the migration decision at all while positive reciprocity is positively associated with expressing a desire to migrate. In in all three model specifications (2), (5) and (8), the marginal effect of positive reciprocity reaches the 1 per cent significance-level. The prosociality variable (defined as the weighted average of trust, altruism, and positive reciprocity) does not reach significance in any of the model specifications (see columns (3), (6) and (9)). Due to these weak results, the prosociality variable will be excluded in the subsequent analysis. With regard to negative reciprocity, in all model specifications the marginal effects reach the 1 per cent significance-level. Hence, individuals with higher degrees in negative reciprocity are more likely to emigrate than individuals with lower levels in this preference trait. Interestingly, when adding negative reciprocity as a additional independent variable (column (8) and (9)), the marginal effect of risk-tolerance is reduced to 0.3 percentage points and is not statistically different from zero anymore.[22]

With regard to socio-economic and demographic variables, the results are roughly in line with what the theory suggests (compare Table A8 in the Appendix): Simply put, individuals who expressed the desire to emigrate tend to be younger, male, educated, unmarried, and unemployed. The sign of individual income is constantly negative, yet differences are statistically different from zero only in the two upper income levels. Having networks significantly increase migration probability by about 10.9 percentage points as well as migration experience (by about 6.5 percentage points). While the coefficient for the number of children does not reach significance, interestingly, people belonging to one of the world religions (with the exception of Judaism) are significantly less willing to migrate compared to atheists. The marginal effect is highest among Muslims, which is consistent with theoretical reflections by Kirwin & Anderson (2018).

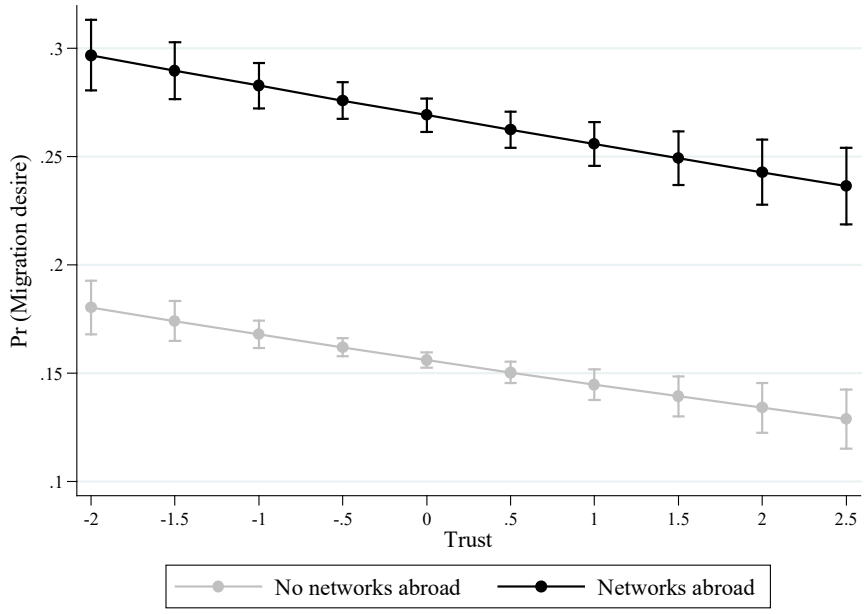
Finally, Table A9 in the Appendix replicates Table 5 with alternative variable specifications: The results obtained for economic and social preferences are robust to such changes in the controls.

22 Corresponding logit estimates yield similar results. In addition, an LPM has been estimated as well. In terms of the direction of effects and significance-levels, the LPM results are very similar to the probit estimation results from Table 5. Note that 1.5 per cent to 7.5 per cent of the predicted probabilities of the LPM are below 0. These output tables are available upon request.

Table 5: Probit model estimation: economic and social preferences and migration									
PROBIT MODEL	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Risk-taking	**0.0306*** **	**0.0239*** **	**0.0244*** **	**0.0127*** **	**0.00841*** **	**0.00856*** **	**0.00714** **	0.00351	0.00368
	(0.00402)	(0.00376)	(0.00382)	(0.00316)	(0.00307)	(0.00311)	(0.00323)	(0.00311)	(0.00316)
Patience	**0.00701*** **	**0.00487*** **	**0.00549*** **	0.000952	-0.000486	-0.000112	**0.00446** **	0.00328	0.00367
	(0.00233)	(0.00244)	(0.00248)	(0.00231)	(0.00244)	(0.00245)	(0.00218)	(0.00232)	(0.00233)
Trust		**-0.0184*** **			**-0.0131*** **			**-0.0144*** **	
		(0.00263)			(0.00247)			(0.00238)	
Altruism		0.000941			0.00206			-0.000401	
		(0.00257)			(0.00246)			(0.00199)	
Positive reciprocity		**0.0110*** **			**0.0105*** **			**0.00970*** **	
		(0.00311)			(0.00281)			(0.00336)	
Negative reciprocity		**0.0267*** **	**0.0253*** **		**0.0184*** **	**0.0174*** **		**0.0175*** **	**0.0163*** **
		(0.00254)	(0.00264)		(0.00229)	(0.00230)		(0.00256)	(0.00260)
Prosociality			-0.00469			0.000740			-0.00374
			(0.00446)			(0.00421)			(0.00464)
Control set A: male, married, age, individual income, education, employment status	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Control set B: networks abroad, foreign-born, number of children, religious status	No	No	No	No	No	No	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
% Correctly predicted	80.14	80.07	80.03	80.80	80.74	80.76	81.03	80.99	80.94
Pseudo R^2	0.0851	0.0917	0.0892	0.1207	0.1237	0.1220	0.1367	0.1398	0.1379
Observations	68,766	66,630	66,630	65,773	63,721	63,721	46,735	45,259	45,259

Notes: *** p<0.01, ** p<0.05, * p<0.1. Marginal effects (at the mean) reported. Constant not reported. Robust standard errors in parentheses. Significant marginal effects are marked in bold.
Source: Author's estimation results, based on data from GWP, 2019 and GPS, 2019

Figure 3: Trust and networks abroad



Notes: The underlying estimation is a probit estimation of migration intentions on trust with the set of controls similar to model (4) in Table 5 ("Baseline results") and an interaction term between trust and migration networks abroad with country fixed effects. The interaction term does not reveal significance at conventional levels. In Figure 3 this is represented by the parallel lines of both groups which have networks abroad and which do not have networks abroad.

Source: Author, based on data from GWP, 2019 and GPS, 2019

Between-country group differences

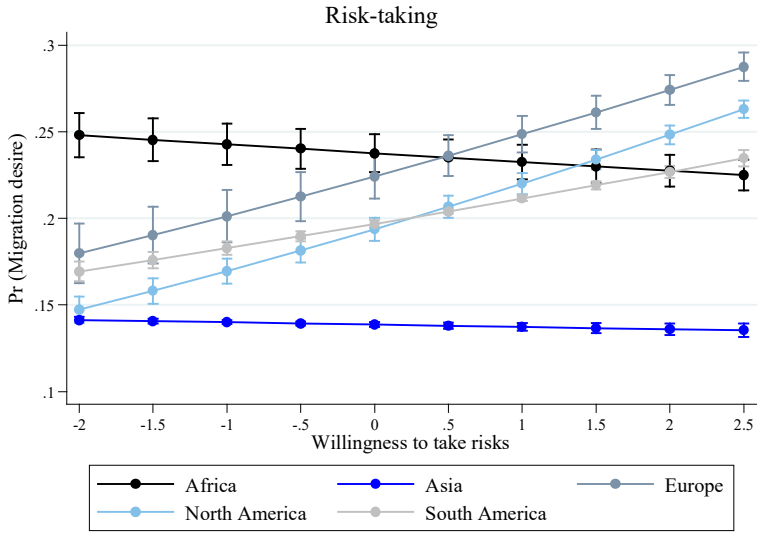
Preferences may vary between different geographical and cultural entities. By integrating interaction terms between a geographical variable and the respective preference trait into the baseline regressions and using subsamples of the overall world sample, it is possible further to explore whether the links between risk and time preferences and migration probabilities vary across different groups of countries.

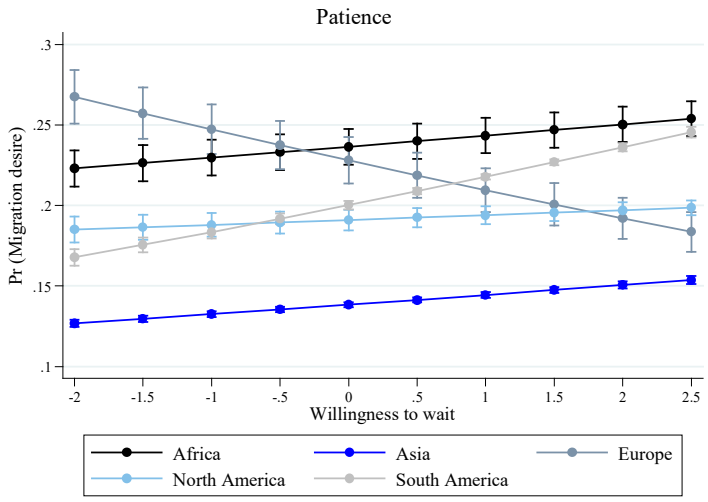
Figure 4 shows that migration probabilities increase with increasing levels of risk-tolerance in Europe and the Americas. In Africa and Asia, a slight downward trend is observable. To put this in numbers: In Africa, a very risk-averse individual has a migration probability of about 25 percentage points, while a very risk-seeking individual has a migration probability of about 22.5 percentage points, holding all controls at their mean values.

Figure 4 also illustrates that, among the risk-averse individuals, the highest migration probabilities are associated with individuals from the African continent, while among the very risk-loving individuals, Europeans are the most likely to migrate. The lower individuals' time preferences in Africa, Asia, and the Americas, the more likely they are to wish to migrate. With the exception of South America, the differences between the least and the most patient individuals within one geographical area are not as strong compared to risk preferences (flatter slopes). In Europe, however, individuals with very low levels of patience have a migration probability of about 27 percentage points, while very patient individuals

are less likely to migrate (18 percentage points).[23] With regard to social preferences, corresponding figures are provided in Figure A3 in the Appendix. Increasing trust levels are associated with decreasing migration probabilities, especially in Europe (steepest slope). Altruism and positive reciprocity are also positively related to migration (with the exception of South America), as is negative reciprocity with the strongest effects observed in Europe and South America.[24]

Figure 4: Between-country differences in risk and time preferences





Notes: These graphs illustrate the between-country differences in risk and time preferences by geographical area. A probit model of migration intentions has been estimated, similar to model (4) in Table 5 including control set A and an interaction term between the respective preference trait and a categorical variable controlling for the six, respectively five, geographical regions. Oceania has been dropped due to missing values in some of the controls. No country fixed effects have been included. Additionally, probit regressions with the set of controls similar to model (7) in Table 5 (including control set A and B) have been run. The results are similar.

Source: Author, based on data from GWP, 2019 and GPS, 2019

23 For the corresponding LPM and Probit estimation results, see Table A10 in the Appendix.

24 For corresponding graphs based on cultural entities, see Figure A4 in the Appendix.

Additionally, separate probit regressions are performed for each continent, conditional on country fixed effects.[25] The results are given in Table 6 (see righthand column; marginal effects are marked in bold). Within almost all geographical areas (except Africa) an increasing level in risk-tolerance is associated with an increase in the probability of expressing the desire to migrate, at least at the 5 per cent significance-level. Obviously, in a cross-continental comparison, risk-tolerance does not seem to play a dominant role in migration decisions in Africa as opposed to the other geographical regions. In Europe, the marginal effect of a one-unit change in risk-tolerance is related to a 2.5 percentage point increase in the migration probability. In North America and Europe, patience does not seem to be significantly related to migration, while in Africa, Asia and South America, the marginal effects are positive and significant at least at the 10 per cent level. In these geographical areas, a one-standard unit increase in the willingness to wait increases the migration probability by about 0.4 to 1.3 percentage points. Trust coefficients are consistently negative, with the exception of Africa, where the coefficient does not, however, reach significance. In geographical areas where statistical significance is reached at conventional levels, altruism and reciprocity have positive signs. Compared to risk preferences, the marginal effects are mostly relatively small. Increasing degrees in negative reciprocity are associated with an increase in migration probabilities while in almost all geographical entities the 1 per cent significance-level is reached.

As it has been mentioned in Section 2, a negative link between the likelihood of migrating and risk-taking may be related to risks present at the place of origin (for example, income risks): if such risks are present at home, it may be rather the risk-averse individuals that emigrate, while the risk-tolerant individuals remain at home. Interestingly, when grouping countries by their income-level, the signs of the marginal effects of risk-tolerance are positive and significant, except in low-income countries where risk-taking is significantly associated negatively with the willingness to migrate (see Table A11 in the Appendix).

So far, the results obtained for trust and negative reciprocity are quite unexpected. While trust has a negative coefficient, which is inconsistent with H3a, negative reciprocity seems to play a crucial role in migration intentions (significance-level of 1 per cent reached), which is also quite surprising. As mentioned in Section 4, it may be sensible to analyse whether institutional settings play a decisive role in this regard. Therefore, separate probit regression for groups of countries that have been classified on the basis of the degree of corruption, have been run with the set of control similar to model (4) in Table 5 (see "Baseline results").[26] The results are presented in Table A12 in the Appendix.

25 Country fixed effects are commonly employed in cross-sectional data sets with a wide geographical coverage (see Falk et al., 2018). In general, the integration of country dummies into the model takes account of unobserved heterogeneity at the country level. Not controlling for such country-specificities – or insufficiently controlling for them by adding supranational/geographical region dummies only – may cause omitted variable bias on estimates of preferences, in case these are correlated with the unobserved country-characteristics (cf. Fischer, 2010).

26 Countries have been assigned to four different groups based on their Corruption Perceptions Index (CPI) in 2020 (see Table A4 in the Appendix)) (Transparency International, 2020).

Table 6: Marginal effects of economic and social preferences by geographical region

PROBIT MODEL	Africa		Asia		Europe		North America		South America	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Risk-taking	-0.00632*	**0.000496**	-0.000121	**0.00517****	0.0206***	**0.0248*****	0.0283***	**0.0327*****	0.0132***	**0.0118****
	(0.00381)	(0.00413)	(0.00252)	(0.00235)	(0.00294)	(0.00295)	(0.00654)	(0.00669)	(0.00509)	(0.00509)
Obs.	12,819		20,855		21,229		3,838		7,333	
Patience	0.00827*	**0.0103****	0.00595**	**0.00407***	-0.0163***	**-0.00416**	0.00511	**0.00975**	0.0159***	**0.0130*****
	(0.00450)	(0.00470)	(0.00245)	(0.00224)	(0.00251)	(0.00271)	(0.00650)	(0.00656)	(0.00497)	(0.00482)
Obs.	12,823		20,886		21,247		3,831		7,339	
Trust	-0.00392	**0.000184**	-0.0148***	**-0.00933*****	-0.0178***	**-0.0178*****	-0.00924	**-0.0112***	-0.00700	**-0.00507**
	(0.00380)	(0.00401)	(0.00251)	(0.00230)	(0.00282)	(0.00284)	(0.00619)	(0.00616)	(0.00447)	(0.00447)
Obs.	12,752		20,497		21,083		3,787		7,163	
Altruism	0.0134***	**-0.00338**	0.0199***	**0.00856*****	0.0104***	**0.00798*****	0.00767	**-0.00418**	0.000262	**0.00899****
	(0.00407)	(0.00429)	(0.00253)	(0.00232)	(0.00275)	(0.00284)	(0.00552)	(0.00604)	(0.00449)	(0.00449)
Obs.	12,833		20,918		21,235		3,852		7,351	
Positive reciprocity	0.0375***	**0.0120*****	0.0169***	**0.00986*****	0.0132***	**0.0135*****	0.0205***	**0.00806**	-0.00707	**0.000420**
	(0.00375)	(0.00396)	(0.00256)	(0.00234)	(0.00293)	(0.00295)	(0.00505)	(0.00546)	(0.00486)	(0.00479)
Obs.	12,835		20,991		21,380		3,852		7,376	
Negative reciprocity	0.00494	**0.0139*****	0.00761***	**0.00958*****	0.0282***	**0.0288*****	0.00832	**0.0146****	0.0286***	**0.0278*****
	(0.00394)	(0.00393)	(0.00256)	(0.00229)	(0.00287)	(0.00294)	(0.00644)	(0.00630)	(0.00435)	(0.00429)
Obs.	12,796		20,577		20,736		3,794		7,213	
Country FE	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Notes: *** p<0.01, ** p<0.05, * p<0.1. Marginal effects (at the mean) reported. Robust standard errors in parentheses. The underlying model is a probit model of migration intentions on the preferences with the set of controls similar to model (4) in Table 5 ("Baseline results"). For each geographical area and each preference, separate probit estimations have been estimated.

Source: Author's estimation, based on data from GWP, 2019 and GPS, 2019

Interestingly, the marginal effects of negative reciprocity are positive and significant at the 1 per cent significance-level in all four country groups, with the group of "medium corruption" exhibiting the highest marginal effect. It seems that, regardless of the actual quality of the institutional setting at home, potential migrants may be self-selected regarding negative reciprocity. A preliminary explanation for the stronger marginal impact of the "medium corruption" group may be related to possible institutional improvements in the recent past: In such contexts of transition, individuals may be more aware of the problem of corruption. Along with this, they possibly feel disempowered and dissatisfied with the dysfunctional public institutions existing in their home country and may therefore be more prone to aspiring to emigrate, possibly to a country where corruption is perceived as being less rampant.[27] With regard to trust, the marginal effects are consistently negative across all columns (1)-(16), and almost always significant at the 1 per cent level. The only exception is column (16), belonging to the "very high corruption" group. Potential migrants seem to be self-selected with regard to lower levels of trust (more or less independently of the institutional quality at home). Overall, these considerations should be seen as conjectures. Moreover, these findings are partly not robust to the exclusion of country dummies (at least in the case of the marginal effects of negative reciprocity in the "high corruption" country group).

Within-country differences

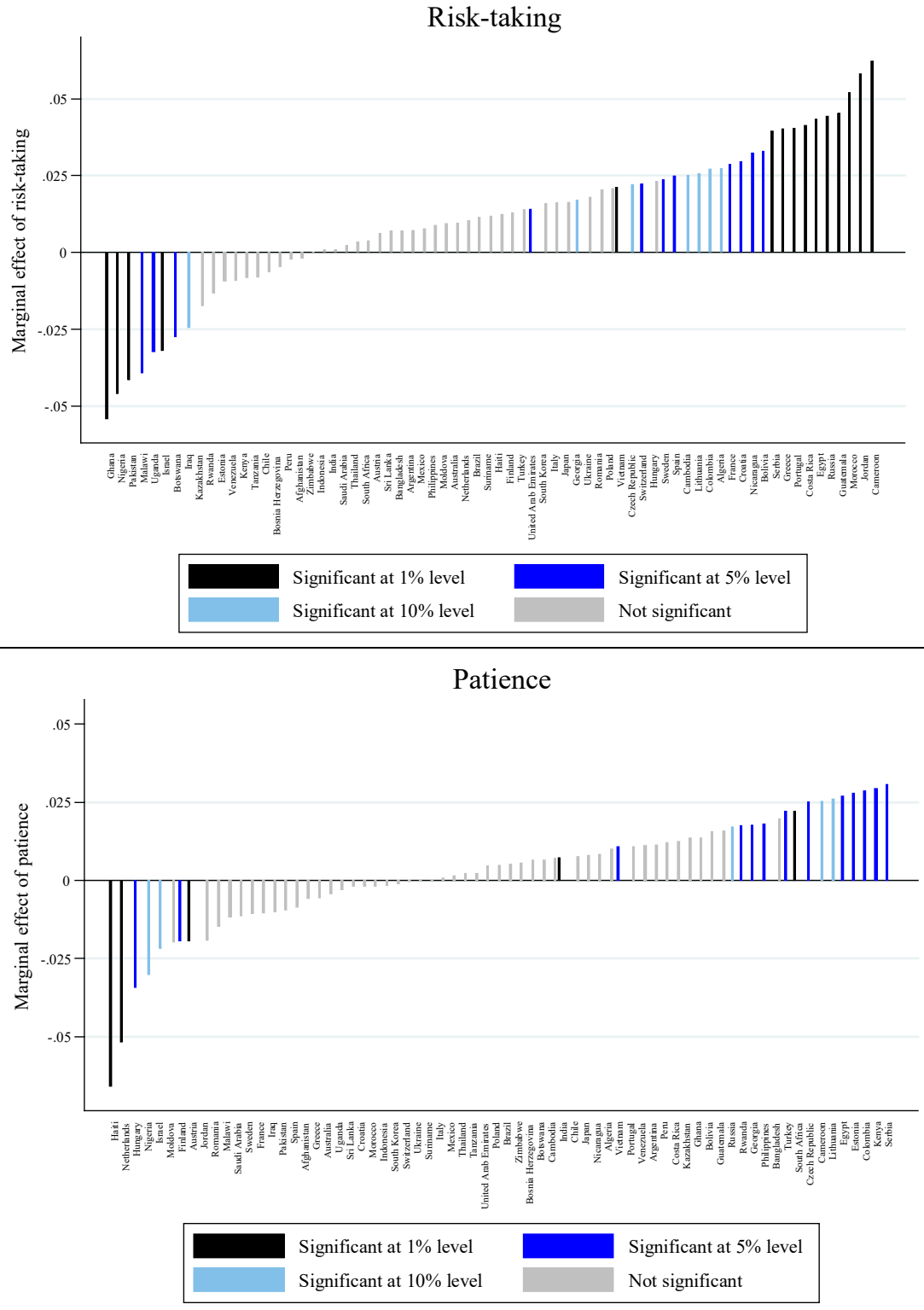
For each of the 70 countries, Figure 5 plots the resulting marginal effects of separate probit estimations of migration intentions on risk and time preferences respectively, including the set of control variables similar to model (4) in Table 5 ("Baseline results"). The respective significance-levels are indicated by the colour of the bars; namely black, blue and cyan indicate a statistically significant relationship at the 1 per cent, 5 per cent and 10 per cent level respectively, while grey denotes no statistical significant relationship. Positive values indicate that a higher degree in the respective preference trait impacts migration intentions positively, while negative values indicate a negative link between higher levels of preferences and migration probability.

In almost 75 per cent of the countries in the sample, the marginal effects of risk-taking are positive. Of these positive marginal effects, 25 countries (36 per cent) are statistically different from zero at conventional levels. In 15 countries the difference is even highly significant at the 1 per cent level. There are, however, still 8 countries with significant *negative* marginal effects. Interestingly, these include African (Ghana, Nigeria, Malawi, Uganda, Botswana), Asian, and Middle Eastern countries (Pakistan, Israel, Iraq). As has been argued previously, this finding may be related to risks present at the place of origin (for example, income-risks). In this case, it would be the risk-averse individuals rather than the risk-tolerant persons that are incentivised to emigrate.

The marginal effects of patience are positive in about 60 per cent of the countries and in 16 of these they are also statistically significant. Yet, India and Turkey are they only countries where the 1 per cent significance-level is reached and in the majority of the countries (67 per cent) patience does not seem to impact migration probabilities significantly. Compared to risk preferences, the pattern reflecting patience is more variable in terms of explaining migration probabilities.

27 Note however, that the Pseudo-R^2 is highest in the "high corruption" group, indicating a better model fit in these countries.

Figure 5: Within-country differences in risk and time preferences



Notes: For each country, separate probit estimations of migration intentions on risk and time preferences with robust standard errors have been run. The set of control variables is similar to model (4) in Table 5 ("Baseline results"). Before, within each country each preference measure was standardised so that the marginal effects are comparable (cf. Falk et al., 2015). The colour of the bar indicates the significance-level: black, blue and cyan indicate a statistically significant relationship at the 1 per cent, 5 per cent and 10 per cent level; grey denotes no statistically significant relationship.

Source: Author's estimations, based on data from GPS, 2019 and GWP, 2019

Corresponding graphs on social preferences are found in Figure A5 in the Appendix. Lower degrees of trust are most common to potential migrants: In almost 70 per cent of the countries, the marginal effects of trust are negative and in 20 of those, they are statistically significant at least at the 10 per cent level. This is consistent with the preliminary results from subsection 5.1, yet not with theoretical considerations from Section 2 (H3a). Additionally, interaction effects between trust and networks abroad have been added to the separate probit models for each country. Only in two countries (Costa Rica and Rwanda), was the interaction term significant at conventional levels. As in the previous baseline regression analysis, these results are not consistent with the assumed systematic network effect formulated in H3b.

For altruism and positive reciprocity, the patterns are fairly similar: in the majority of countries (62 per cent and 77 per cent respectively), the marginal effects are positive. With respect to the former, statistical significance is reached in 13 countries, while with respect to the latter, significant marginal effects are found in about 15 countries. Finally, in 82 per cent of the countries the marginal effects of negative reciprocity are positive, with 24 countries reaching statistical significance at conventional levels.

Overall, these findings indicate that there are similarities in the linking of preferences and migration intentions across countries with various cultural backgrounds and income-levels. Along with this, there are substantial differences in the magnitude of those patterns across countries (see Falk et al., 2015).

Further robustness checks

The GWP data also provides information on migration plans and preparations. This subsection makes use of this additional information by estimating further binary probit models. The marginal effects of risk and time preferences of these regressions are represented in Table A13 in the Appendix.[28] The columns referring to the question on individuals' desire to migrate report the earlier baseline results from Section 5.2 and are presented for the purpose of comparison. More precisely, columns (1)-(3) compare stayers with individuals who expressed the desire to emigrate (potential migrants). Columns (4)-(6) compare potential migrants who have concrete migration plans with potential migrants who do not (yet) plan to emigrate in the next 12 months. And columns (7)-(9) compare those potential migrants already preparing their move abroad with those that plan to migrate but have not (yet) engaged in preparations to do so.

According to column (4)-(6), the marginal effects for risk-taking and patience have positive signs and are almost always statistically highly significant. Thus, individuals with concrete plans to migrate abroad in the next 12 months tend to be more patient and more willing to take risks than their counterparts, namely potential migrants without such concrete migration plans. Further, as previous results have also pointed to significant differences between stayers and individuals aspiring to emigrate (columns (1)-(3)), it seems that the more concrete migration intentions become (no migration desire – migration desire – migration plan), the more potential migrants are self-selected with regard to risk and time preferences. This logic cannot however be transferred to columns (7)-(9), as the marginal effects do not reach significance.

28 See also Table A14 in the Appendix for the results obtained for social preferences.

The fact that within the subsample of potential migrants with migration plans (columns (7)-(9)), those who have already prepared to move abroad are not significantly different from those who have not yet prepared in terms of risk and time preferences is not that surprising: compared to the first question on the desire to migrate abroad, the other two questions (plan and preparations) are more similar and, further, aim at concrete measures to realise the move. Thereby, they introduce capability-constraints (Carling, 2019), selecting not only the "apparently more risk-seeking and more patient" individuals but at the same time also those who have the actual means to carry out an international move (cf. Migali & Scipioni, 2018). Nonetheless, this will only confound results if there are reasons to believe that economic and social preferences impact emigration intentions in a systematically different way than actual migration decisions; or, put differently, if capability-constraints are systematically linked to preferences and the role they play in the propensity to emigrate. When stratifying by different income-level areas and individual income categories, such systematic links are not identifiable however.

6 Discussion and conclusions

By examining economic and social preferences as potential drivers of migration, this paper has taken up the behavioural economics perspective on migration. The main question that guided the study was the following: Do individuals who want to remain in their home countries differ significantly from those intending to move abroad in terms of economic and social preferences and, if so, how and why?

It is reasonable to assume that preference traits play a decisive role in the decision to migrate. The decision to become internationally mobile is always associated with major uncertainties regarding future conditions, such as wage opportunities, psychic costs and so on in the country of destination. For this reason, it can be assumed that migrants are self-selected with respect to higher levels in risk-taking (H1). Furthermore, migration is generally costly and requires an initial investment to carry out the move. As positive benefits from migrating abroad generally materialise later in time, migrants possibly also exhibit higher levels of patience than their counterparts, the stayers (H2). Compared to the population not intending to emigrate abroad, potential migrants may also be positively selected with respect to higher levels of trust as migration may involve encounters with strangers and unknown people whom they need to rely on (for instance, in finding accommodation) (H3a). Yet the size of the effect may depend on whether potential migrants have networks abroad, consisting of family and friends (H3b).

The academic field dealing with preferences and migration still remains understudied, particularly due to the lack of data. The scientific literature review reveals that empirical research is particularly scarce in transition and developing countries and also regarding time and social preferences. Moreover, with respect to risk attitudes – by far, the most studied preference trait in the field – the literature focuses mainly on the uncertainties associated with migration based on incomplete information rather than on risks associated with the place of origin (exceptions include Conroy, 2009; Mironova, Mrie & Whitt, 2019, for instance).

Using a unique cross-section integrating data on migration intentions from the GWP and experimentally-validated preferences from the GPS, the empirical strategy adopted for this paper involved the estimation of several probit specifications. The major findings regarding

the link between preferences and migration probability are summarised and discussed in the following.

The study provided evidence that risk-taking positively impacts the probability of stating a desire to migrate permanently abroad, which is in line with H1 and other studies such as Gibson and McKenzie (2009) and Jaeger et al. (2010). There is also indication that higher degrees in patience are positively associated with migrating, which points in the direction of H2; yet results are not as strong compared to risk attitudes. In terms of the unconditional migration probability, the marginal effects of risk and time preferences are however smaller than that of the other studies. For example, in the case of risk preferences, the marginal effects in the baseline estimation account for 3.59 to 15.45 per cent of the unconditional migration probability of 19.80 per cent, while those of Jaeger et al. (2010) represent about 14 to 33 per cent. Assuming that international migration involves possibly more uncertainties and risks in comparison to internal migration, these results are quite surprising. However, the world sample used in the study at hand is inherently heterogeneous. The estimated marginal effects represent the impact of risk-tolerance on migration intentions of an average world citizen, while that of Jaeger et al. (2010) are estimated for an average individual in Germany. Similarly, the estimated marginal effects of Gibson and McKenzie (2009) are relatively larger (they document a 6 to 8 percentage point increase in international migration probability), yet their sample is also extremely homogeneous, consisting only of young and highly educated adults.

When accounting for geographical and cultural heterogeneity, some differences in the hypothesised links have been become apparent, though. A continental cross-comparison reveals that potential migrants and stayers are more similar with respect to risk preferences in the African region. In Europe and North America, both subsamples are more similar with respect to time preferences. These results are however partly sensitive to the exclusion of country dummies. A similar sensitivity for trust and negative reciprocity was observed when grouping countries by their institutional quality. In general, country fixed effects are used to control for "unobserved heterogeneity" (for example, culture, institutions) at the country level. Not controlling for such country-specificities – or insufficiently controlling for them by adding supranational/geographical region dummies only – may cause omitted variable bias on estimates of preferences, if these are correlated with the unobserved country-characteristics (Fischer, 2010). Hence, the results obtained with country-fixed effects can be regarded as reasonable.

Where trust is concerned, the study finds a negative link to migration (baseline-estimation). The lower trust-levels of potential migrants compared to stayers were also confirmed in 70 per cent of the countries in the sample (within-country estimations). This finding is counterintuitive: It has rather been expected that individuals with higher (generalised) levels of trust are the ones who are more prone to emigrate, since migration usually involves meeting new people and strangers (H3a). Apart from potential institutional determinants, it was also tested whether there were interactions when person had networks abroad. Yet, also individuals without close social networks abroad were found to have significantly lower trust-levels as compared to stayers, raising further questions for future research (H3b).

The results regarding altruism and positive reciprocity are fairly ambiguous. While, on average, potential migrants are more altruistic and exhibit higher levels in positive reciprocity than stayers (two-sided t-tests), the baseline results suggest that altruism is not

significantly related to migration intentions, as well as the prosociality-variable. Theoretically, both altruism and positive reciprocity have been related to the remittance behaviour of migrants. It has been argued that given that the driving force behind the migration is an altruistic/reciprocal motive such as supporting the family back home, migrants may be self-selected with regard to these traits. However, the dataset did not allow one to test whether such a channel existed: the GWP has not (yet) asked for individuals' reasons for wishing to emigrate; the measure used by the GPS connotes altruistic behaviour towards outgroups as opposed to ingroups such as family members. Nevertheless, given the increasing interest in remittances as a driver of economic growth, the theoretical considerations from Section 2 and the empirical results from the exploratory testing in Section 5 may still serve as a fruitful starting point for future research.

The study also provides evidence that the more concrete the migration intentions become (no migration desire – migration desire – migration plan), the more potential migrants are self-selected with regard to risk and time preferences. Yet, in contrast to the question about migration aspirations, the questions on migration plans and preparations introduce capability-constraints (Carling, 2019). They select not only the "apparently more risk-seeking and more patient" individuals but at the same time also those who are able (for example, have the financial means) to emigrate. Since there is no reason to believe that the "ability to emigrate" is systematically related to risk and time preferences, the finding of increasing self-selection from having only a migration desire over having concrete migration plans is reasonable. Nevertheless, future research to further prove this point is certainly warranted.

It has been argued that the underlying data set was particularly suitable for the study of migration and preferences. Migration intention data – as opposed to actual (im)migration data – do not face sample-selection biases related to the immigration policies of particular destinations. Further, when using data on actual migration, issues may arise if individuals' preferences in host countries are impacted by assimilation or acculturation mechanisms. In the case of risk preferences, this approach is especially advantageous as endogeneity problems related to the potential impact of migration experiences on individuals' risk attitudes are of lesser concern when using data on intention.

Further avenues for future investigations relate to the observed cross-country heterogeneity in preference traits. Firstly, the paper at hand has mainly investigated whether the link between migration and preferences varies across spatial and cultural contexts. While some attempts have been undertaken to explain the results obtained for trust and negative reciprocity by grouping countries based on institutional quality, a more in-depth analysis is, however, needed. Future research could investigate this further, for instance by grouping countries in a different way or using a different proxy for institutional quality (for example, the World Banks' Institutional Quality Ranking Indicator). Secondly, whether the predicted links between preferences and migration still hold in a context which is characterised by political violence or state fragility would be another interesting topic**.** Research conducted in the field of risk preferences and refugee migration point to a reverse link between risk-taking and migration (for instance, Mironova et al., 2019). It would also be interesting to examine whether the relationship between the other preference traits and migration systematically differs in conflict and non-conflict contexts.

In the end, it has become apparent that not everybody is equally prone to leaving home. Potential migrants tend to have a higher degree of risk-taking, patience and negative reciprocity as well as a lower level of trust. By demonstrating that self-selection with respect to economic and social preferences already takes places at the intention-forming stage, this study contributes to the empirical research in the academic field of behavioural economics and migration.

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Appendix

Table A1: Additional information on elicitation methods				
Preference	**Item description**		**Elicitation method/question[a]**	**Weight[b]**
Risk-taking	Quant.	Lottery choice sequence using staircase method	*Please imagine the following situation. You can choose between a sure payment of a particular amount of money, or a draw, where you would have an equal chance of getting amount x or getting nothing. We will present to you five different situations. What would you prefer: a draw with a 50% chance of receiving amount x, and the same 50% chance of receiving nothing, or the amount of y as a sure payment?*	0.437
	Qual.	Self-assessment: willingness to take risks in general	*Please tell me, in general, how willing or unwilling you are to take risks.*	0.527
Patience	Quant.	Intertemporal choice sequence using staircase method	*Suppose you were given the choice between receiving a payment today or a payment in 12 months. We will now present to you five situations. The payment today is the same in each of these situations. The payment in 12 months is different in every situation. For each of these situations we would like to know which one you would choose. Please assume there is no inflation, i.e., future prices are the same as today's prices. Please consider the following: Would you rather receive amount x today or y in 12 months?*	0.712
	Qual.	Self-assessment: willingness to wait	*How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?*	0.288
Trust	Qual.	Self-assessment: people have only the best intentions	*I assume that people have only the best intentions*	1.000
Altruism	Quant.	Donation decision	*Imagine the following situation: Today you unexpectedly received 1,000 Euro. How much of this amount would you donate to a good cause? (Values between 0 and 1000 are allowed.)*	0.635
	Qual.	Self-assessment: willingness to give to good causes	*How willing are you to give to good causes without expecting anything in return?*	0.365

Table A1 (cont.): Additional information on elicitation methods				
Preference	**Item description**		**Elicitation method/question**[a]	**Weight**[b]
Positive reciprocity	Quant.	Gift in exchange for help	*Please think about what you would do in the following situation. You are in an area you are not familiar with, and you realise you lost your way. You ask a stranger for directions. The stranger offers to take you to your destination. Helping you costs the stranger about 20 Euro in total. However, the stranger says he or she does not want any money from you. You have six presents with you. The cheapest present costs 5 Euro, the most expensive one costs 30 Euro. Do you give one of the presents to the stranger as a "thank-you"-gift? If so, which present do you give to the stranger? No present / The present worth 5 / 10 / 15 / 20 / 25 / 30 Euro.*	0.515
	Qual.	Self-assessment: willingness to return a favour	*When someone does me a favour, I am willing to return it.*	0.485
Negative reciprocity	Qual.	Self-assessment: willingness to take revenge	*If I am treated very unjustly, I will take revenge at the first occasion, even if there is a cost in doing so.*	0.374
	Qual.	Self-assessment: willingness to punish unfair behaviour towards self	*How willing are you to punish someone who treats you unfairly, even if there may be costs for you?*	0.313
	Qual.	Self-assessment: willingness to punish unfair behaviour toward others	*How willing are you to punish someone who treats others unfairly, even if there may be costs for you?*	0.313

Notes:

Qual.: Quality

Quant.: Quantity

[a] As far as the qualitative item is concerned, the willingness to engage in the respective behaviour had to be indicated on a Likert scale from 0 to 10, where 0 means "completely unwilling to engage in the behaviour" and 10 means "very willing to engage in the behaviour". Similarly, subjective self-assessments, where a statement on the respective behaviour is presented to the subjects, had to be indicated on a 0-10 scale, where 0 means "does not describe me at all" and 10 means "describes me perfectly".

[b] The weights "are based on the coefficients of an OLS regression of observed behaviour in the financially incentivised experiments on the respective survey measures" (Falk et al., 2015, p. 6) and thus, emerged endogenously from the experimental validation procedure undertaken by the GPS. After combining both survey items linearly into one single preference measure, they were standardised at the individual level, that is, mean of zero and standard deviation of 1, for the ease of interpretation (Falk et al., 2018).

Source: Falk et al., 2018, p. 1653

Table A2: List of countries and their sample sizes					
Country	**N**				
		Greece	986	Poland	939
Afghanistan	975	Guatemala	981	Portugal	983
Algeria	1,014	Haiti	498	Romania	967
Argentina	994	Hungary	978	Russia	1,374
Australia	995	India	2,508	Rwanda	999
Austria	983	Indonesia	990	Saudi Arabia	996
Bangladesh	979	Iraq	996	Serbia	988
Bolivia	994	Israel	972	South Africa	996
Bosnia Herzegovina	973	Italy	997	South Korea	989
Botswana	994	Japan	989	Spain	995
Brazil	1,002	Jordan	973	Sri Lanka	995
Cambodia	995	Kazakhstan	952	Suriname	486
Cameroon	998	Kenya	993	Sweden	977
Chile	995	Lithuania	925	Switzerland	979
Colombia	997	Malawi	1,000	Tanzania	996
Costa Rica	978	Mexico	945	Thailand	999
Croatia	910	Moldova	956	Turkey	974
Czech Rep.	940	Morocco	990	Uganda	989
Egypt	1,016	Netherlands	991	Ukraine	916
Estonia	953	Nicaragua	960	UAE	966
Finland	986	Nigeria	940	Venezuela	993
France	984	Pakistan	992	Vietnam	962
Georgia	978	Peru	985	Zimbabwe	991
Ghana	995	Philippines	995		
Total					**69,569**
Source: Author, based on GWP, 2019 and GPS, 2019					

Table A3: Individual characteristics		
Variable	**Survey-question/ ID**[a]	**Type of variable**
Age	*Please tell me your age.* (WP1220)	A categorical variable: =1 (15-25); =2 (26-35); =3 (36-45); =4 (46-55); =5 (56-65); =6 (>65).
Gender	*Gender.* (WP1219)	A binary variable: =1 (male); =0 (female).
Marital status	*What is your current marital status? (Married/ Domestic partner/ Single or never married/ Separated/ Divorced/ Widowed).* (WP1223)	A binary variable: =1 (married); =0 (unmarried) Note: The category "married" includes *Married* and *Domestic partner*. "Unmarried" includes the other categories.
Education level	*What is your highest completed level of education?* (WP3117)	A categorical variable: =1 (elementary); =2 (secondary); =3 (tertiary) Note: *Elementary*: up to 8 years of basic education; *Secondary*: 9-15 years of education; *Tertiary:* 4 years beyond high school and/or 4-year college degree.
Employment status	*Respondents fall into one of six categories of employment based on a combination of answers to a series of questions about employment (Employed full-time for an employer/ Employed full time for self/ Employed part time, don't want full time/ Employed part time, want full time/ Unemployed / Out of workforce).* (EMP_2010).	A categorical variable: =1 (employed); =2 (unemployed); =3 (out of workforce) Note: The category "employed" includes *Employed full-time for an employer; Employed full-time for self; Employed part-time, don't want full-time and Employed part time, want full-time.*
Individual income	*Per Capita Income Quintiles in international Dollars.* (INCOME_5)	A categorical variable: =1 (Poorest 20%); =2 (Second 20%); =3 (Middle 20%); =4 (Fourth 20%); =5 (Richest 20%)
Networks abroad	*Do you have relatives or friends who are living in another country whom you can count on to help you when you need them, or not?* (WP3333)	A binary variable: =1 (has networks abroad); =0 (no networks abroad)
Foreign-born	*Where you born in this country? (*WP4657)	A binary variable: =1 (born in another country); =0 (born in this country)
Number of children	*How many children under 15 years of age are now living in your household?* (WP1230)	A continuous variable.
Religious status	*Could you tell me what your religion is?* (WP1233Reoded)	A categorical variable: =1 (Christian); =2 (Islam); =3 (Hinduism); =4 (Buddhism); =5 (Judaism); =6 (Non-religious/Other)

Note: [a] See the GWP Reference tool https://wpr.gallup.com/home.aspx

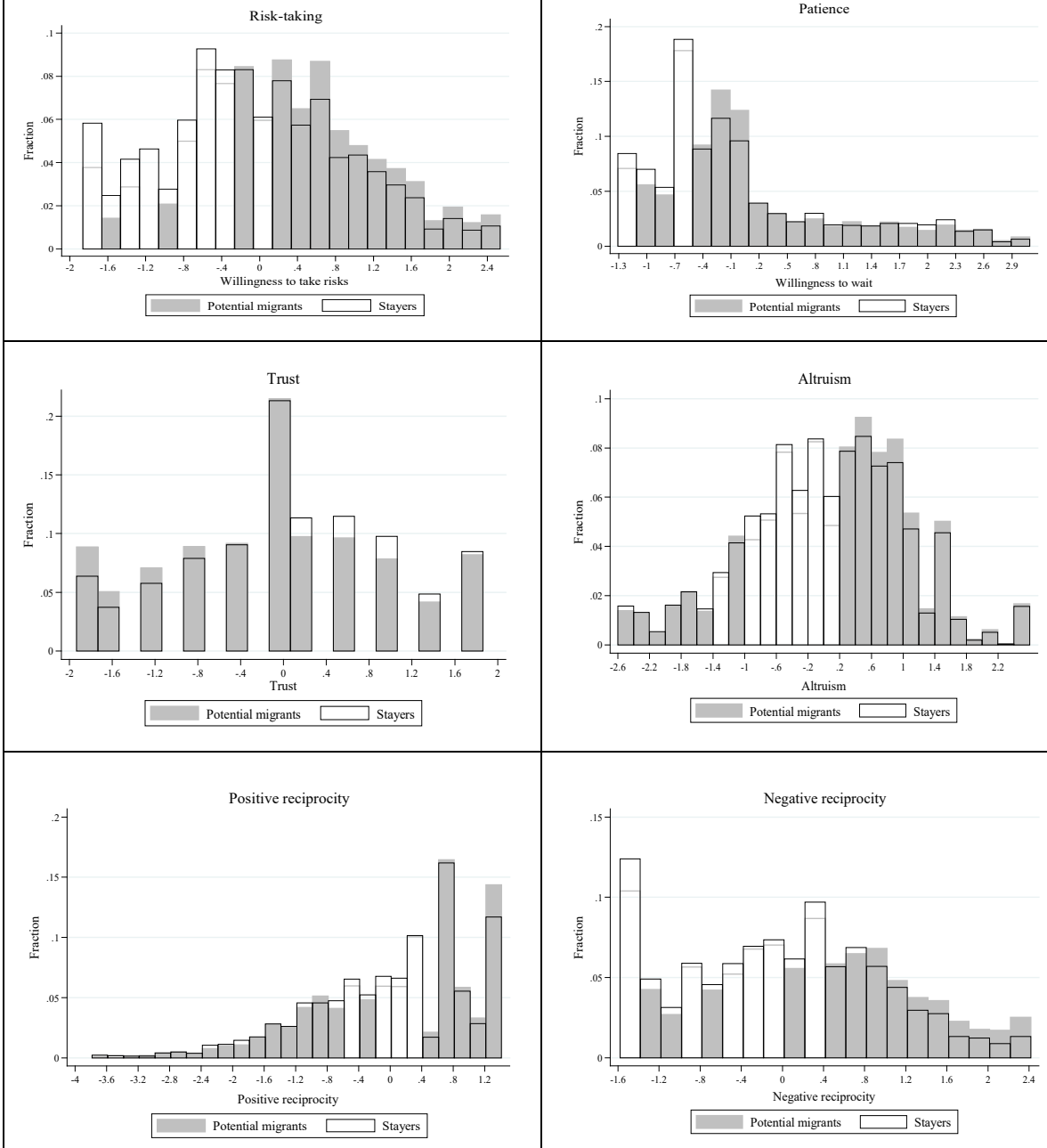
Source: Author, based on GWP, 2019

Table A4: Grouping of countries			
By geographical area	**Countries**	**N**	**Global coverage**
Africa	Algeria, Botswana, Cameroon, Egypt, Ghana, Kenya, Malawi, Morocco, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Zimbabwe	13,911	20.00 %
Asia	Afghanistan, Bangladesh, Cambodia, Georgia, India, Indonesia, Iraq, Israel, Japan, Jordan, Kazakhstan, Pakistan, Philippines, Saudi Arabia, South Korea, Sri Lanka, Thailand, Turkey, United Arab, Emirates, Vietnam	21,175	30.44 %
Europe	Austria, Bosnia Herzegovina, Croatia, Czech Republic, Estonia, Finland, France, Greece, Hungary, Italy, Lithuania, Moldova, Netherlands, Poland, Portugal, Romania, Russia, Serbia, Spain, Sweden, Switzerland, Ukraine	21,680	31.16 %
North America	Costa Rica, Guatemala, Haiti, Mexico, Nicaragua	4,362	6.27 %
South America	Argentina, Bolivia, Brazil, Chile, Colombia, Peru, Suriname, Venezuela	7,446	10.70 %
Oceania	Australia	995	1.43 %
Total	**70**	**69,569**	**100 %**
By cultural proximity	**Countries**	**N**	**Global coverage**
Sub-Saharan Africa (SSA)	Algeria, Botswana, Cameroon, Ghana, Kenya, Malawi, Nigeria, Rwanda, South Africa, Tanzania, Uganda, Zimbabwe	11,905	17.11 %
Middle East and North Africa (MENA)	Afghanistan, Egypt, Iraq, Israel, Jordan, Morocco, Pakistan, Saudi Arabia, Turkey, United Arab Emirates	9,850	14.16 %
South Asia	Bangladesh, India, Sri Lanka	4,482	6.44 %
Southeast Asia	Cambodia, Indonesia, Philippines, Thailand, Vietnam	4,941	7.10 %
Former Soviet Union	Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Lithuania, Moldova, Poland, Russia, Ukraine	9,911	14.25 %
Confucian	Japan, South Korea	1,978	2.84 %
West & Neo Europe	Australia, Austria, France, Italy, Netherlands, Portugal, Spain, Switzerland	7,907	11.37 %
Scandinavia	Finland, Sweden	1,963	2.82 %
Southeast Europe	Bosnia Herzegovina, Croatia, Greece, Romania, Serbia	4,824	6.93 %
Central America	Costa Rica, Guatemala, Haiti, Mexico, Nicaragua	4,362	6.27 %
South America	Argentina, Bolivia, Brazil, Chile, Colombia, Peru, Suriname, Venezuela	7,446	10.70 %
Total	**70**	**69,569**	**100 %**

Table A4 (cont.): Grouping of countries			
By corruption index	**Countries**	**N**	**Global coverage**
Low corruption	Australia, Austria, Estonia, Finland, Japan, Netherlands, Sweden, Switzerland	7,853	11.29 %
Medium corruption	Botswana, Chile, Costa Rica, Czech Republic, France, Georgia, Israel, Italy, Jordan, Lithuania, Poland, Portugal, Rwanda, Saudi Arabia, South Arabia, South Korea, Spain, United Arab Emirates	17,513	25.17 %
High corruption	Argentina, Bosnia Herzegovina, Colombia, Ghana, Greece, Hungary, India, Indonesia, Morocco, Philippines, Romania, Serbia, South Africa, Sri Lanka, Suriname, Tanzania, Thailand, Turkey	18,807	27.03 %
Very high corruption	Afghanistan, Algeria, Bangladesh, Bolivia, Brazil, Cambodia, Cameroon, Egypt, Guatemala, Haiti, Iraq, Kazakhstan, Kenya, Malawi, Mexico, Moldova, Nicaragua, Nigeria, Pakistan, Peru, Russia, Uganda, Ukraine, Venezuela, Vietnam, Zimbabwe	25,396	36.50 %
Total	**70**	**69,569**	**100 %**
By income area	**Countries**	**N**	**Global coverage**
Low income	Afghanistan, Haiti, Malawi, Rwanda, Tanzania, Uganda	5,457	7.84 %
Lower middle income	Bangladesh, Bolivia, Cambodia, Cameroon, Egypt, Ghana, India, Indonesia, Kenya, Moldova, Morocco, Nicaragua, Nigeria, Pakistan, Philippines, Ukraine, Vietnam, Zimbabwe	19,170	27.56 %
Upper middle income	Algeria, Argentina, Bosnia, Herzegovina, Botswana, Brazil, Colombia, Costa Rica, Georgia, Guatemala, Iraq, Jordan, Kazakhstan, Mexico, Peru, Romania, Russia, Serbia, South Africa, Sri Lanka, Suriname, Thailand, Turkey, Venezuela	22,534	32.39 %
High income	Australia, Austria, Chile, Croatia, Czech Republic, Estonia, Finland, France, Greece, Hungary, Israel, Italy, Japan, Lithuania, Netherlands, Poland, Portugal, Saudi Arabia, South Korea, Spain, Sweden, Switzerland, United Arab Emirates	22,408	32.21 %
Total	**70**	**69,569**	**100 %**
Source: Author, based on Transparency International, 2020 and World Bank, 2020			

Figure A1: Distribution of economic and social preferences: stayers versus potential migrants

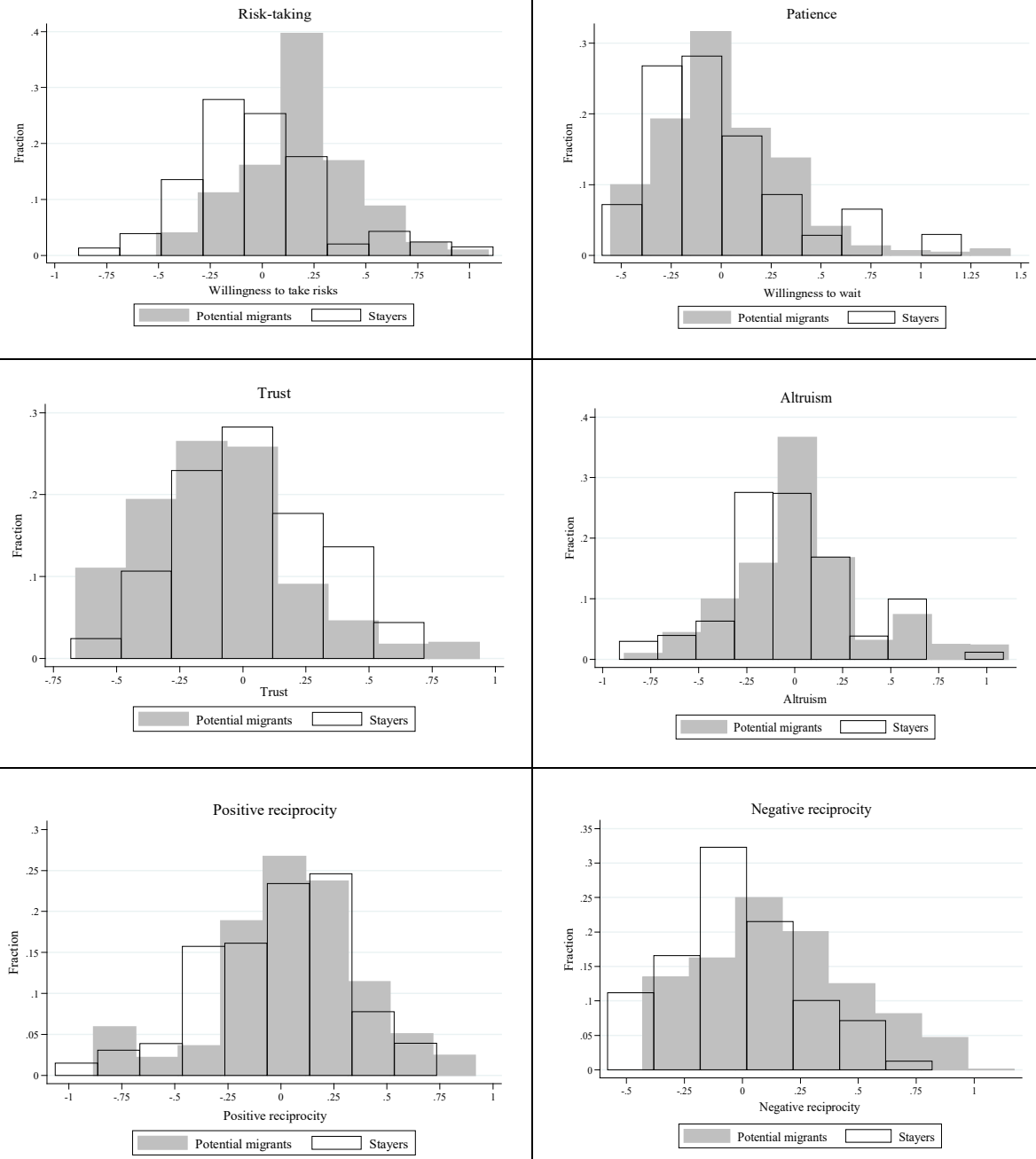
a) At the individual level



Source: Author, based on GWP, 2019 and GPS, 2019

Figure A1 (cont.): Distribution of economic and social preferences: stayers versus potential migrants

b) At the country level[a]



Note:

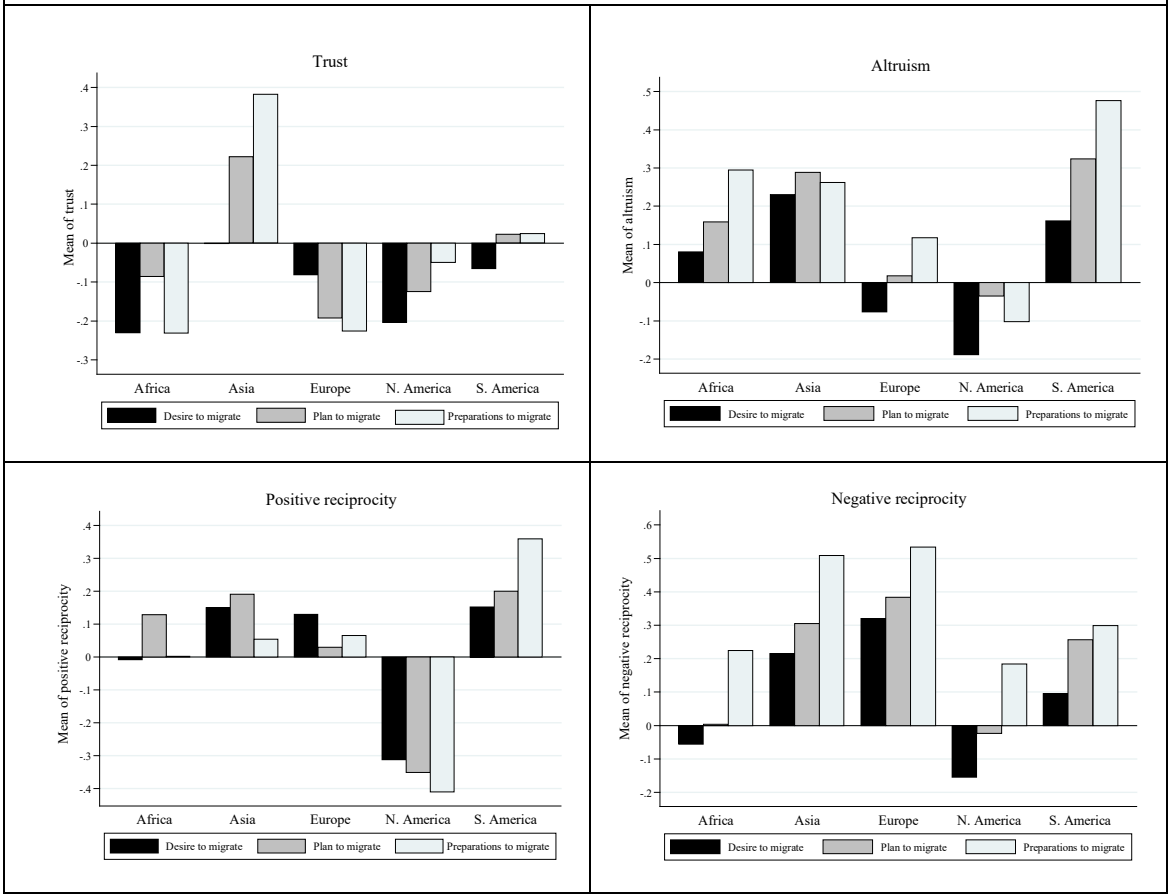
[a] In accordance with Falk et al., 2018, averages of preferences at the country level were calculated using the sampling weights provided by the Gallup.

Source: Author, based on GWP, 2019 and GPS, 2019

Table A5: Within-country differences: stayers versus potential migrants		
Risk preferences		
T-test	**H0: Mean (stayers) – Mean (potential migrants) = 0**	
	t-statistic < 0	**t-statistic > 0**
Significant at 1%	Algeria, Bolivia, Brazil, Cambodia, Cameroon, Chile, Colombia, Costa Rica, Croatia, Czech Republic, Egypt, Estonia, Finland, France, Georgia, Greece, Guatemala, Hungary, India, Italy, Jordan, Lithuania, Morocco, Nicaragua, Philippines, Poland, Portugal, Romania, Russia, Serbia, South Korea, Spain, Sweden, Switzerland, Ukraine, United Arab Emirates, Vietnam	Pakistan
5%	Australia, Austria	Ghana, Israel
10%	Argentina, Japan, Mexico, Moldova, Netherlands, Sri Lanka, Turkey	South Africa, Iraq, Malawi, Uganda
Not significant	Afghanistan, Bangladesh, Bosnia Herzegovina, Haiti, Indonesia, Peru, Saudi Arabia, Suriname, Thailand, Zimbabwe	Botswana, Kazakhstan, Kenya, Nigeria, Rwanda, Tanzania, Venezuela
Time preferences		
T-test	**H0: Mean (stayers) – Mean (potential migrants) = 0**	
	t-statistic < 0	**t-statistic > 0**
Significant at 1%	Colombia, Egypt, Estonia, Georgia, India, Lithuania, Philippines, Portugal, Russia, Serbia, South Africa, Turkey, Vietnam	Netherlands
5%	Argentina, Brazil, Cameroon, Chile, Czech Republic, Kenya, Peru, Ukraine	
10%	Bolivia, Cambodia, Costa Rica, Italy, Kazakhstan, Rwanda, South Korea	Finland, Israel, Nigeria, Saudi Arabia
Not significant	Algeria, Australia, Bangladesh, Bosnia Herzegovina, Croatia, France, Ghana, Greece, Guatemala, Hungary, Indonesia, Japan, Mexico, Morocco, Nicaragua, Poland, Romania, Suriname, Sweden, Switzerland, Thailand, Uganda, United Arab Emirates, Venezuela	Afghanistan, Austria, Botswana, Haiti, Iraq, Jordan, Malawi, Moldova, Pakistan, Spain, Sri Lanka, Tanzania, Zimbabwe
Trust		
T-test	**H0: Mean (stayers) – Mean (potential migrants) = 0**	
	t-statistic < 0	**t-statistic > 0**
Significant at 1%	Algeria, Pakistan, Sri Lanka	Croatia, France, Greece, India, Israel, Japan, Kazakhstan, Netherlands, Poland, Russia, Serbia, South Korea, Switzerland
5%	Egypt	Costa Rica, Finland, Georgia, Ghana, Jordan, Romania, Saudi Arabia, Spain, Ukraine, Zimbabwe
10%		Argentina, Bosnia Herzegovina, Chile, Estonia
Not significant	Afghanistan, Bangladesh, Brazil, Cambodia, Haiti, Kenya, Mexico, Moldova, Morocco, Nigeria, Portugal, South Africa, Suriname, Turkey, Uganda, United Arab Emirates	Australia, Austria, Bolivia, Botswana, Cameroon, Colombia, Czech Republic, Guatemala, Hungary, Indonesia, Iraq, Italy, Lithuania, Malawi, Nicaragua, Peru, Philippines, Rwanda, Sweden, Tanzania, Thailand, Venezuela, Vietnam

Table A5 (cont.): Within-country differences: stayers versus potential migrants		
Altruism		
T-test	**H0: Mean (stayers) – Mean (potential migrants) = 0**	
	t-statistic < 0	**t-statistic > 0**
Significant at 1%	Bolivia, Cambodia, Jordan, Nigeria,	Costa Rica, Ghana, Netherlands, South Korea
5%	Georgia, Nicaragua, Pakistan, Romania, Serbia, Turkey, Vietnam	Haiti, Sweden
10%	Greece, Iraq, Sri Lanka	
Not significant	Afghanistan, Argentina, Austria, Bosnia Herzegovina, Brazil, Cameroon, Chile, Colombia, Croatia, Czech Republic, Egypt, Estonia, France, Guatemala, Hungary, India, Indonesia, Italy, Kazakhstan, Kenya, Lithuania, Malawi, Mexico, Moldova, Morocco, Peru, Philippines, Poland, Portugal, Suriname, Tanzania, Ukraine, United Arab Emirates, Venezuela	Algeria, Australia, Bangladesh, Botswana, Finland, Israel, Japan, Russia, Rwanda, Saudi Arabia, South Africa, Spain, Switzerland, Thailand, Uganda, Zimbabwe
Positive reciprocity		
T-test	**H0: Mean (stayers) – Mean (potential migrants) = 0**	
	t-statistic < 0	**t-statistic > 0**
Significant at 1%	Cambodia, India, Mexico, Moldova, Nigeria, Philippines, Poland, Serbia, Vietnam	Costa Rica, Haiti,
5%	Egypt, Ghana, Romania, Sri Lanka	Lithuania
10%	Croatia, Estonia, Finland, Japan, Jordan	
Not significant	Afghanistan, Australia, Austria, Bolivia, Bosnia Herzegovina, Botswana¸ Brazil, Cameroon, Chile, Czech Republic, France, Georgia, Greece, Guatemala, Hungary, Indonesia, Israel, Italy, Malawi, Netherlands, Nicaragua, Pakistan, Peru, Portugal, Saudi Arabia, South Africa, Suriname, Sweden, Switzerland, Uganda, United Arab Emirates, Venezuela, Zimbabwe	Algeria, Argentina, Bangladesh, Colombia, Iraq, Kazakhstan, Kenya, Morocco, Russia, Rwanda, South Korea, Spain, Tanzania, Thailand, Turkey, Ukraine
Negative reciprocity		
T-test	**H0: Mean (stayers) – Mean (potential migrants) = 0**	
	t-statistic < 0	**t-statistic > 0**
Significant at 1%	Algeria, Argentina, Bolivia, Brazil, Cambodia, Cameroon, Chile, Colombia, Croatia, Czech Republic, Estonia, France, Georgia, Greece, Hungary, Italy, Jordan, Lithuania, Morocco, Netherlands, Poland, Portugal, Russia, Serbia, South Korea, Spain, Suriname, Sweden, Switzerland	
5%	Austria, Bangladesh, Bosnia Herzegovina, Botswana, Costa Rica, Finland, Moldova, Nicaragua, Romania	Ghana
10%	Australia, Egypt, Guatemala, India, Japan, Kenya, Mexico, Peru, Philippines, Sri Lanka, Venezuela	
Not significant	Afghanistan, Haiti, Israel, Kazakhstan, Malawi, Rwanda, South Africa, Thailand, Turkey, Ukraine, United Arab Emirates, Vietnam, Zimbabwe	Indonesia, Iraq, Nigeria, Pakistan, Saudi Arabia, Tanzania, Uganda
Source: Author, based on GWP, 2019 and GPS, 2019		

Figure A2: Social preferences by migration intentions



Note: Oceania (Australia) is not included since no observations with regard to migration plans and preparations.
Source: Author, based on GPS, 2019

Table A6: Worldwide migration intentions

Migration intention	Yes	No	Don't know/ refused	Total
Desire to migrate	13,776 (19.8%)	55,793 (80.2%)	0	69,569 (100%)
Plan to migrate	1,255 (11.9%)	8,806 (83.5%)	482 (4.6%)	10,543 (100%)
Preparation to migrate	495 (41.5%)	690 (57.8%)	8 (0.7%)	1,193 (100%)

Source: Author, based on GWP, 2019

Table A7: Economic preferences by individual factors: stayers versus potential migrants							
		Risk-taking			Patience		
		Average stayers	Average movers		Average stayers	Average movers	
Age							
15-25		**0.21**	**0.31**	***	**0.00**	**0.03**	**
26-35		**0.15**	**0.24**	***	0.00	0.01	
36-45		**0.03**	**0.12**	***	0.04	0.01	
46-55		**-0.10**	**-0.04**	**	0.04	0.00	
56-65		**-0.27**	**-0.15**	***	0.00	0.00	
+65		**-0.57**	**-0.36**	***	**-0.23**	**-0.13**	**
Gender							
Male		**0.08**	**0.07**	***	0.03	0.02	
Female		**-.14**	**0.08**	***	**-0.05**	**0.01**	***
Marital status							
Married		**-0.07**	**0.07**	***	0.00	0.00	
Unmarried		**0.00**	**0.25**	***	**-0.04**	**0.02**	***
Education							
Elementary		**-0.23**	**-0.02**	***	**-0.22**	**-0.13**	***
Secondary		**0.04**	**0.21**	***	0.02	0.00	
Tertiary		**0.10**	**0.28**	***	0.30	0.27	
Employment							
Employed		**0.07**	**0.20**	***	0.07	0.06	
Unemployed		0.24	0.22		-0.07	-0.08	
Out of workforce		**-0.23**	**0.08**	***	**-0.12**	**-0.04**	***
Individual income (in US dollars)							
Poorest 20%		**-0.16**	**-0.03**	***	-0.09	-0.08	
Second 20%		**-0.12**	**0.10**	***	-0.05	-0.01	
Middle 20%		**-0.07**	**0.11**	***	**-0.06**	**0.00**	**
Fourth 20%		**-0.05**	**0.19**	***	-0.02	0.00	
Richest 20%		**0.09**	**0.30**	***	**0.08**	**0.12**	**
Networks abroad							
Yes		**0.06**	**0.24**	***	**-0.03**	**0.02**	***
No		**-0.06**	**0.16**	***	**-0.12**	**-0.04**	***
Foreign-born							
Yes		**-0.03**	**0.20**	***	**-0.02**	**0.00**	*
No		**-0.09**	**0.04**	***	0.06	0.06	
Having children							
Yes		**-0.12**	**0.19**	***	**0.00**	**0.07**	***
No		**0.04**	**0.15**	***	-0.04	-0.04	
Religious status							
Christian		**-0.07**	**0.18**	***	-0.04	-0.01	
Islam		**0.08**	**0.17**	***	-0.14	-0.12	
Hinduism		**-0.20**	**0.02**	***	**-0.05**	**0.01**	*
Buddhism		-0.20	-0.12		**-0.05**	**0.09**	***
Judaism		***0.24***	***0.05***	***	***0.70***	***0.49***	**
Other/non-religious		**-0.08**	**0.16**	***	0.30	0.35	

Notes: Two-sample t-test of equal means, with H0: mean (stayers) – mean (potential migrants) = 0. *** p<0.01, ** p<0.05, * p<0.1. Significant differences with t-statistic < 0 are marked bold. Significant differences with t-statistic > 0 are marked bold and italic.

Source: Author, based on GWP, 2019 and GPS, 2019

Table A8: Probit model estimation: economic and social preferences and migration						
PROBIT MODEL	(1)	(2)	(3)	(4)	(5)	(6)
Risk-taking	**0.0127*** **	**0.00841*** **	**0.00856*** **	**0.00714** **	0.00351	0.00368
	(0.00316)	(0.00307)	(0.00311)	(0.00323)	(0.00311)	(0.00316)
Patience	0.000952	-0.000486	-0.000112	**0.00446** **	0.00328	0.00367
	(0.00231)	(0.00244)	(0.00245)	(0.00218)	(0.00232)	(0.00233)
Trust		**-0.0131*** **			**-0.0144*** **	
		(0.00247)			(0.00238)	
Altruism		0.00206			-0.000401	
		(0.00246)			(0.00199)	
Positive reciprocity		**0.0105*** **			**0.00970*** **	
		(0.00281)			(0.00336)	
Negative reciprocity		**0.0184*** **	**0.0174*** **		**0.0175*** **	**0.0163*** **
		(0.00229)	(0.00230)		(0.00256)	(0.00260)
Prosociality			0.000740			-0.00374
			(0.00421)			(0.00464)
Male	**0.0264*** **	**0.0240*** **	**0.0237*** **	**0.0211*** **	**0.0188*** **	**0.0183*** **
	(0.00467)	(0.00466)	(0.00469)	(0.00499)	(0.00484)	(0.00484)
Married	**-0.0348*** **	**-0.0349*** **	**-0.0345*** **	**-0.0309*** **	**-0.0308*** **	**-0.0305*** **
	(0.00455)	(0.00475)	(0.00477)	(0.00391)	(0.00549)	(0.00555)
Age						
26-35	**-0.0395*** **	**-0.0364*** **	**-0.0365*** **	**-0.0352*** **	**-0.0324*** **	**-0.0324*** **
	(0.00677)	(0.00689)	(0.00694)	(0.00837)	(0.00859)	(0.00861)
36-45	**-0.0729*** **	**-0.0692*** **	**-0.0699*** **	**-0.0677*** **	**-0.0633*** **	**-0.0639*** **
	(0.00852)	(0.00841)	(0.00845)	(0.0103)	(0.0103)	(0.0103)
46-55	**-0.110*** **	**-0.104*** **	**-0.104*** **	**-0.110*** **	**-0.103*** **	**-0.104*** **
	(0.00981)	(0.00978)	(0.00983)	(0.0114)	(0.0114)	(0.0114)
55-65	**-0.156*** **	**-0.151*** **	**-0.153*** **	**-0.157*** **	**-0.152*** **	**-0.153*** **
	(0.00954)	(0.00935)	(0.00933)	(0.0106)	(0.0104)	(0.0103)
>65	**-0.202*** **	**-0.194*** **	**-0.195*** **	**-0.201*** **	**-0.193*** **	**-0.195*** **
	(0.00871)	(0.00870)	(0.00872)	(0.00968)	(0.00963)	(0.00961)
Education						
Secondary	**0.0313*** **	**0.0301*** **	**0.0315*** **	**0.0269*** **	**0.0259*** **	**0.0273*** **
	(0.00466)	(0.00441)	(0.00453)	(0.00606)	(0.00569)	(0.00589)
Tertiary	**0.0470*** **	**0.0455*** **	**0.0471*** **	**0.0366*** **	**0.0351*** **	**0.0370*** **
	(0.00755)	(0.00718)	(0.00735)	(0.00851)	(0.00806)	(0.00833)
Employed						
Employed	**0.0129** **	**0.0135*** **	**0.0138*** **	0.00243	0.00353	0.00386
	(0.00532)	(0.00528)	(0.00530)	(0.00638)	(0.00630)	(0.00635)
Unemployed	**0.0731*** **	**0.0700*** **	**0.0704*** **	**0.0622*** **	**0.0588*** **	**0.0588*** **
	(0.0121)	(0.0122)	(0.0123)	(0.0128)	(0.0128)	(0.0129)

Table A8 (cont.): Probit model estimation: Economic and social preferences and migration						
Individual income						
Second 20%	-0.00743	-0.00756	-0.00735	-0.0104	-0.00980	-0.00964
	(0.00594)	(0.00598)	(0.00595)	(0.00691)	(0.00704)	(0.00701)
Middle 20%	-0.00608	-0.00543	-0.00507	-0.00781	-0.00555	-0.00565
	(0.00650)	(0.00666)	(0.00663)	(0.00794)	(0.00818)	(0.00818)
Fourth 20%	**-0.0135***	**-0.0142***	**-0.0133***	**-0.0168***	**-0.0159***	**-0.0154***
	(0.00709)	(0.00728)	(0.00729)	(0.00909)	(0.00937)	(0.00940)
Richest 20%	-0.00244	-0.00388	-0.00230	-0.0153	-0.0155	-0.0142
	(0.00825)	(0.00817)	(0.00817)	(0.0104)	(0.0104)	(0.0104)
Networks abroad				**0.109*** **	**0.108*** **	**0.109*** **
				(0.00601)	(0.00599)	(0.00601)
Foreign-born				**0.0659*** **	**0.0636*** **	**0.0638*** **
				(0.0117)	(0.0123)	(0.0123)
No. of children				-0.00207	-0.00215	-0.00201
				(0.00171)	(0.00165)	(0.00169)
Religious status						
Christian				**-0.0539*** **	**-0.0502*** **	**-0.0518*** **
				(0.0158)	(0.0159)	(0.0161)
Muslim				**-0.0828*** **	**-0.0789*** **	**-0.0809*** **
				(0.0227)	(0.0229)	(0.0230)
Hinduism				**-0.0655** **	**-0.0615** **	**-0.0641** **
				(0.0312)	(0.0281)	(0.0287)
Buddhism				**-0.123*** **	**-0.124*** **	**-0.123*** **
				(0.0275)	(0.0288)	(0.0277)
Judaism				-0.0333	-0.0253	-0.0283
				(0.0340)	(0.0307)	(0.0297)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
% correctly predicted	80.82	80.73	80.74	80.90	80.89	80.81
Pseudo R^2	0.1168	0.1201	0.1183	0.1318	0.1352	0.1332
Observations	65,773	63,721	63,721	46,735	45,259	45,259

Notes: *** p<0.01, ** p<0.05, * p<0.1. Marginal effects (at the mean) reported. Robust standard errors in parentheses. The baseline group for age is "15-25 years; for individual income "Poorest 20%"; for education "Primary"; for employment status "Out of workforce"; for religious status "Other/non-religious". Significant marginal effects are marked in bold.

Source: Author, results based on data from GWP, 2019 and GPS, 2019

Table A9: Alternative control variable specification: economic and social preferences and migration						
PROBIT MODEL	(1)	(2)	(3)	(4)	(5)	(6)
Risk-taking	**0.0139*** **	**0.00947*** **	**0.00964*** **	**0.00859*** **	0.00483	0.00501
	(0.00319)	(0.00310)	(0.00314)	(0.00325)	(0.00312)	(0.00317)
Patience	0.00101	-0.000482	-0.000104	**0.00450** **	0.00325	0.00365
	(0.00231)	(0.00244)	(0.00245)	(0.00325)	(0.00232)	(0.00232)
Trust		**-0.0136*** **			**-0.0151*** **	
		(0.00246)			(0.00252)	
Altruism		0.00187			-0.000998	
		(0.00246)			(0.00199)	
Positive reciprocity		**0.0108*** **			**0.00981*** **	
		(0.00283)			(0.00340)	
Negative reciprocity		**0.0191*** **	**0.0180*** **		**0.0186*** **	**0.0174*** **
		(0.00229)	(0.00230)		(0.00258)	(0.00262)
Prosociality			0.000454			-0.00486
			(0.00418)			(0.00473)
Male	**0.0274*** **	**0.0248*** **	**0.0245*** **	**0.0233*** **	**0.0207*** **	**0.0202*** **
	(0.00488)	(0.00484)	(0.00488)	(0.00506)	(0.00484)	(0.00485)
Married	**-0.0281*** **	**-0.0284*** **	**-0.0279*** **	**-0.0251*** **	**-0.0252*** **	**-0.0248*** **
	(0.00456)	(0.00470)	(0.00472)	(0.00515)	(0.00539)	(0.00545)
Age	**-0.0441*** **	**-0.0422*** **	**-0.0427*** **	**-0.0448*** **	**-0.0429*** **	**-0.0434*** **
	(0.00223)	(0.00218)	(0.00219)	(0.00261)	(0.00253)	(0.00254)
Education	**0.0283*** **	**0.0272*** **	**0.0283*** **	**0.0237*** **	**0.0226*** **	**0.0238*** **
	(0.00370)	(0.00349)	(0.00359)	(0.00429)	(0.00400)	(0.00415)
Employed	0.00847	**0.00921***	**0.00957***	-0,0000886	0.00124	0.00173
	(0.00534)	(0.00525)	(0.00529)	(0.00611)	(0.00600)	(0.00605)
Individual income	-0.00219	-0.00252	-0.00213	-0.00407	-0.00402	-0.00372
	(0.00200)	(0.00198)	(0.00198)	(0.00260)	(0.00256)	(0.00257)
Network abroad				**0.109*** **	**0.109*** **	**0.110*** **
				(0.00612)	(0.00613)	(0.00613)
Foreign-born				**0.0631*** **	**0.0614*** **	**0.0615*** **
				(0.0118)	(0.0127)	(0.0127)
Having children				0.00397	0.00434	0.00488
				(0.00414)	(0.00409)	(0.00407)
Muslim				**-0.0299***	**-0.0293***	**-0.0298***
				(0.0165)	(0.0168)	(0.0168)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
% correctly predicted	80.82	80.73	80.74	80.90	80.89	80.81
Pseudo R^2	0.1168	0.1201	0.1183	0.1318	0.1352	0.1332
Observations	65,773	63,721	63,721	46,735	45,259	45,259

Notes: *** p<0.01, ** p<0.05, * p<0.1. Marginal effects reported. Robust standard errors in parentheses. Variables age, individual income and education are treated as continuous variables. The variable "Employed" equals 1 if the individual is employed, and 0 if he/she is unemployed or out of the workforce. "Having children" is a binary variable (=1 if have children; =0 if no children). The variable "Muslim" is also a binary variable (=1 if respondent is Muslim and 0 otherwise). Significant marginal effects are marked in bold.

Source: Author, results based on data from GWP, 2019 and GPS, 2019

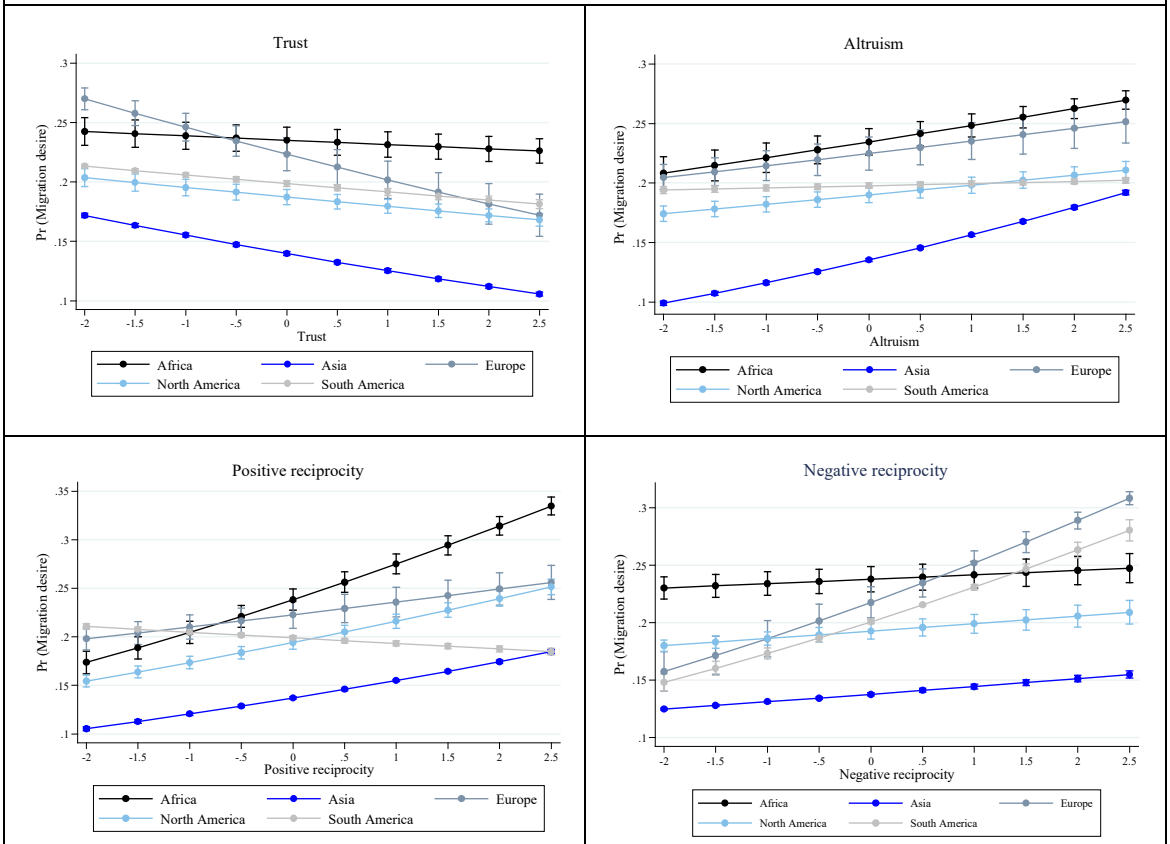
Table A10: Between-country group differences: LPM & probit results								
MODEL ESTIMATIONS	**LPM**				**Probit model**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Risk-taking	-0.00327	-0.0103**			-0.0175	-0.0370***		
	(0.00359)	(0.00410)			(0.0113)	(0.0135)		
Patience			0.00886**	0.00754			0.0234*	0.0216
			(0.00445)	(0.00506)			(0.0137)	(0.0163)
Geography Asia	-0.105***	-0.111***	-0.105***	-0.107***	-0.392***	-0.456***	-0.390***	-0.441***
	(0.00473)	(0.00700)	(0.00472)	(0.00689)	(0.0170)	(0.0289)	(0.0168)	(0.0284)
Europe	-0.0160***	0.00707	-0.0155***	0.00807	-0.0465***	0.0365	-0.0293*	0.0529**
	(0.00524)	(0.00641)	(0.00521)	(0.00620)	(0.0177)	(0.0222)	(0.0175)	(0.0216)
North America	-0.0461***	-0.0542***	-0.0509***	-0.0537***	-0.158***	-0.192***	-0.166***	-0.183***
	(0.00785)	(0.00836)	(0.00781)	(0.00828)	(0.0269)	(0.0296)	(0.0272)	(0.0296)
South America	-0.0432***	-0.0366***	-0.0396***	-0.0302***	-0.147***	-0.123***	-0.130***	-0.0986***
	(0.00606)	(0.00663)	(0.00618)	(0.00662)	(0.0218)	(0.0242)	(0.0216)	(0.0237)
Geography x Asia	**-0.00111**	**0.00496**			**0.0112**	**0.0383***		
Risk-taking	(0.00436)	(0.00504)			(0.0162)	(0.0217)		
Europe	**0.0274*****	**0.0334*****			**0.101*****	**0.108*****		
	(0.00452)	(0.00532)			(0.0156)	(0.0186)		
North America	**0.0298*****	**0.0323*****			**0.114*****	**0.120*****		
	(0.00724)	(0.00755)			(0.0261)	(0.0283)		
South America	**0.0172*****	**0.0213*****			**0.0721*****	**0.0812*****		
	(0.00589)	(0.00621)			(0.0221)	(0.0238)		
Geography x Asia			**-0.00391**	**-0.00590**			**0.00495**	**0.00399**
Patience			(0.00515)	(0.00597)			(0.0179)	(0.0239)
Europe			**-0.0250*****	**-0.0100***			**-0.0895*****	**-0.0367***

Table A10 (cont.):	**Between-country group differences: LPM & probit results**							
			(0.00501)	(0.00603)			(0.0166)	(0.0204)
North America			**-0.00602**	**-0.000240**			**-0.0118**	**0.00770**
			(0.00782)	(0.00833)			(0.0270)	(0.0296)
South America			**0.00866**	**0.00728**			**0.0411***	**0.0338**
			(0.00693)	(0.00734)			(0.0235)	(0.0255)
Control set A: male, married, age, individual income, education, employment status	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control set B: networks abroad, foreign-born, number of children, religious status	No	Yes	No	Yes	No	Yes	No	Yes
R^2 / Pseudo-R^2	66,074	46,942	66,126	46,984	0.0643	0.1020	0.0640	0.1011
Observations	0.060	0.094	0.059	0.093	66,074	46,942	66,126	46,984

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Coefficients reported. Constant not reported. The baseline comparison group for geography is "Africa". Coefficients of interest are marked in bold.

Source: Author, based on data from GWP, 2019 and GPS, 2019

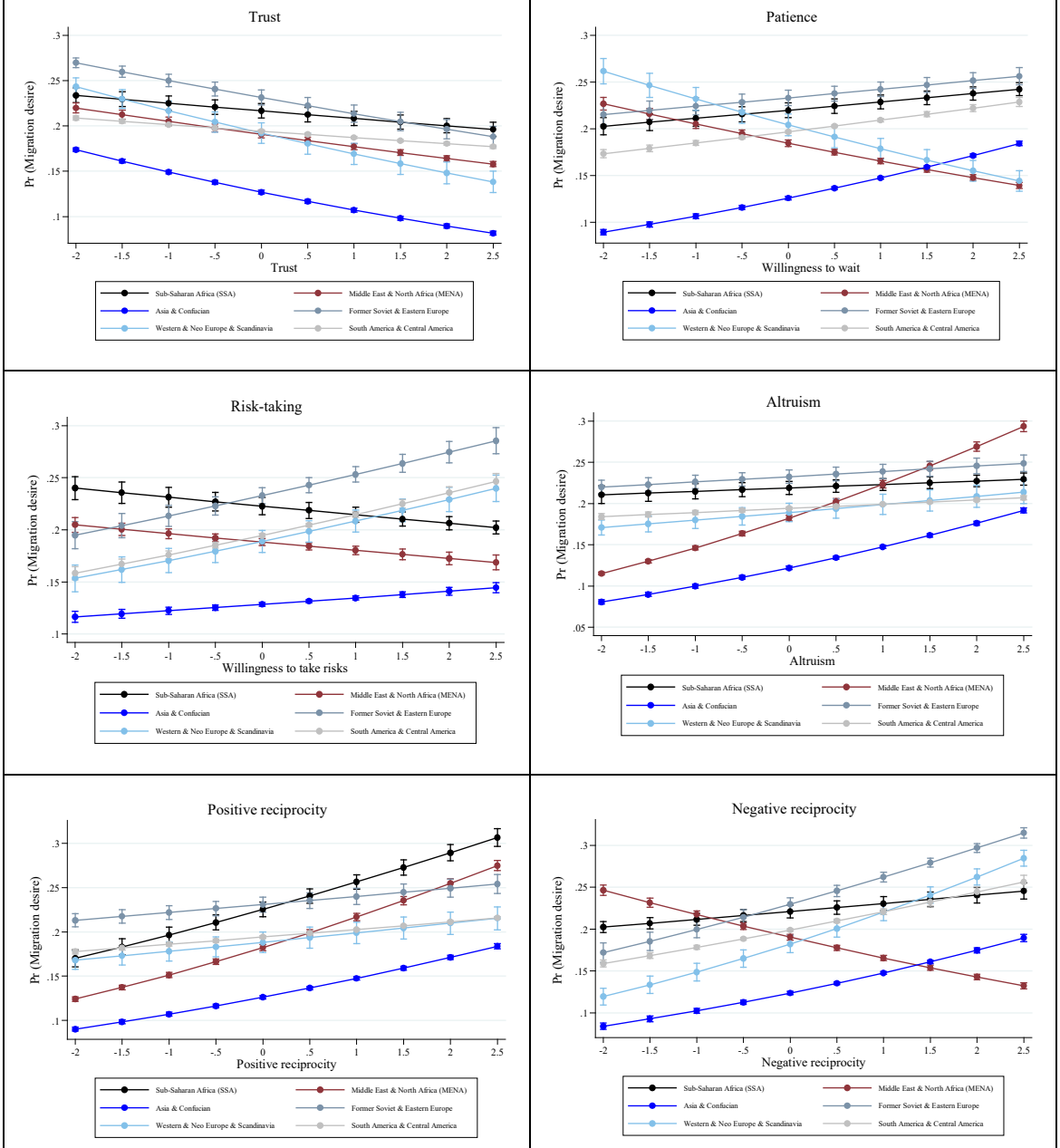
Figure A3: Between-country differences in social preferences: by geographical area



Notes: These graphs illustrate the between-country differences in social preferences by geographical area. A probit model of migration intentions has been estimated similar to model (4) in Table 5 ("Baseline results"), including control set A and an interaction term between the respective preference trait and a categorical variable controlling for the six, respectively five, geographical regions. Oceania has been dropped due to missing values in some of the controls. No country fixed effects have been included. Additionally, probit regressions with the set of controls similar to model (7) in Table 5 (with control set A and B) have been run. The results are similar.

Source: Author, based on data from GWP, 2019 and GPS, 2019

Figure A4: Between-country differences in economic and social preferences: by cultural proximity



Notes: These graphs illustrate the between-country differences in preferences by cultural area. A probit model of migration intentions has been estimated similar to model (4) in Table 5 ("Baseline results"), including control set A and an interaction term between the respective preference trait and a categorical variable controlling for the six cultural regions. No country fixed effects have been included.

Source: Author, based on data from GWP, 2019 and GPS, 2019

Table A11: Probit estimation by income level area: risk and time preferences				
PROBIT MODEL	**Low income**	**Lower-middle income**	**Upper-middle income**	**High income**
Risk-taking	**-0.0212*** **	**0.0137*** **	**0.0145*** **	**0.0187*** **
	(0.00618)	(0.00311)	(0.00261)	(0.00289)
Obs.	4,944	17,926	22,101	21,103
Patience	-0.00103	**0.0102*** **	**0.0110*** **	**-0.00530** **
	(0.00686)	(0.00328)	(0.00269)	(0.00245)
Obs.	4,944	17,961	22,142	21,079
Country fixed effects	Yes	Yes	Yes	Yes

Notes: *** p<0.01, ** p<0.05, * p<0.1. Marginal effects (at the mean) reported. Robust standard errors in parentheses. The underlying model is a probit model of migration intentions on risk and time preferences with the set of controls similar to model (4) in Table 5 ("Baseline results") and country fixed effects. For each income area and each preference, separate probit estimations have been estimated. Significant marginal effects marked in bold.

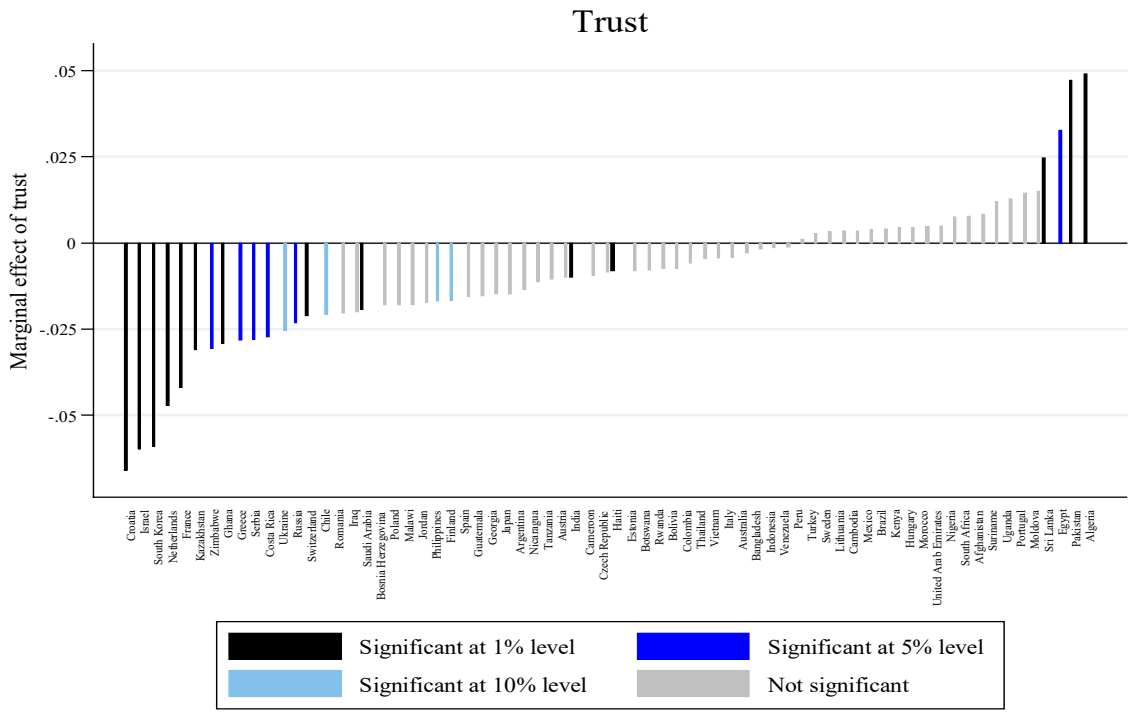
Source: Author, based on data from GWP, 2019 and GPS, 2019

Table A12:	**Between-country differences by corruption index: risk-taking, negative reciprocity and trust**															
PROBIT MODEL	**Low corruption**				**Medium corruption**				**High corruption**				**Very high corruption**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Risk-taking	0.017***		0.015***	0.016***	0.016***		0.009***	0.009***	0.01***		0.009***	0.009***	0.010***		0.007**	0.0069**
	(0.0048)		(0.0049)	(0.0049)	(0.0032)		(0.0033)	(0.0033)	(0.0026)		(0.0026)	(0.0027)	(0.0029)		(0.0029)	(0.003)
Negative reciprocity		**0.019*** **	**0.017*** **	**0.016*** **		**0.027*** **	**0.025*** **	**0.027*** **		**0.02*** **	**0.014*** **	**0.014*** **		**0.015*** **	**0.014*** **	**0.015*** **
		(0.0047)	(0.0048)	(0.0048)		(0.0030)	(0.0031)	(0.0032)		(0.0025)	(0.0025)	(0.0025)		(0.0028)	(0.0028)	(0.0029)
Trust				**-0.02*** **				**-0.02*** **				**-0.009*** **				**-0.003**
				(0.0045)				(0.0032)				(0.0024)				(0.0029)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
% correctly predicted	86.09	85.99	86.03	86.02	81.90	81.96	81.94	81.83	84.91	84.78	84.95	84.86	75.72	75.72	75.64	75.59
Pseudo-R^2	0.0924	0.0925	0.0941	0.0965	0.0992	0.1029	0.1032	0.1055	0.1733	0.1746	0.1752	0.1751	0.0906	0.0912	0.0913	0.0905
Obs.	6,792	6,651	6,636	6,587	17,249	16,910	16,847	16,643	17,612	17,407	17,322	17,150	24,421	24,148	24,018	23,621

Notes: *** p<0.01, ** p<0.5, * p<0.1. Marginal effects (at the mean) reported. Robust standard errors in parentheses. The underlying model is a probit model of migration intentions on risk preferences, negative reciprocity, trust, and the set of controls similar to model (4) in Table 5 ("Baseline results"). Country fixed effects included. For each group (low, medium, high and very high corruption index), separate probit regressions have been estimated.

Source: Author, based on data from GWP, 2019 and GPS, 2019

Figure A5: Within-country differences in social preferences



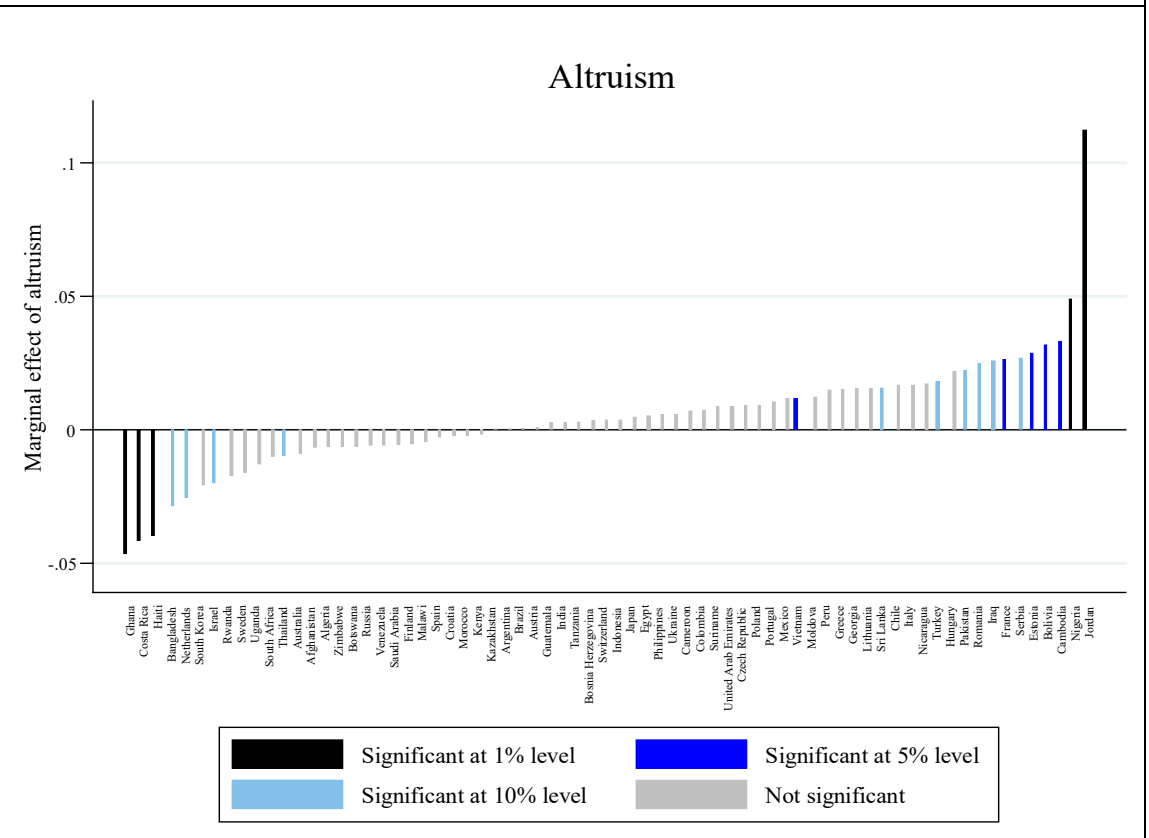
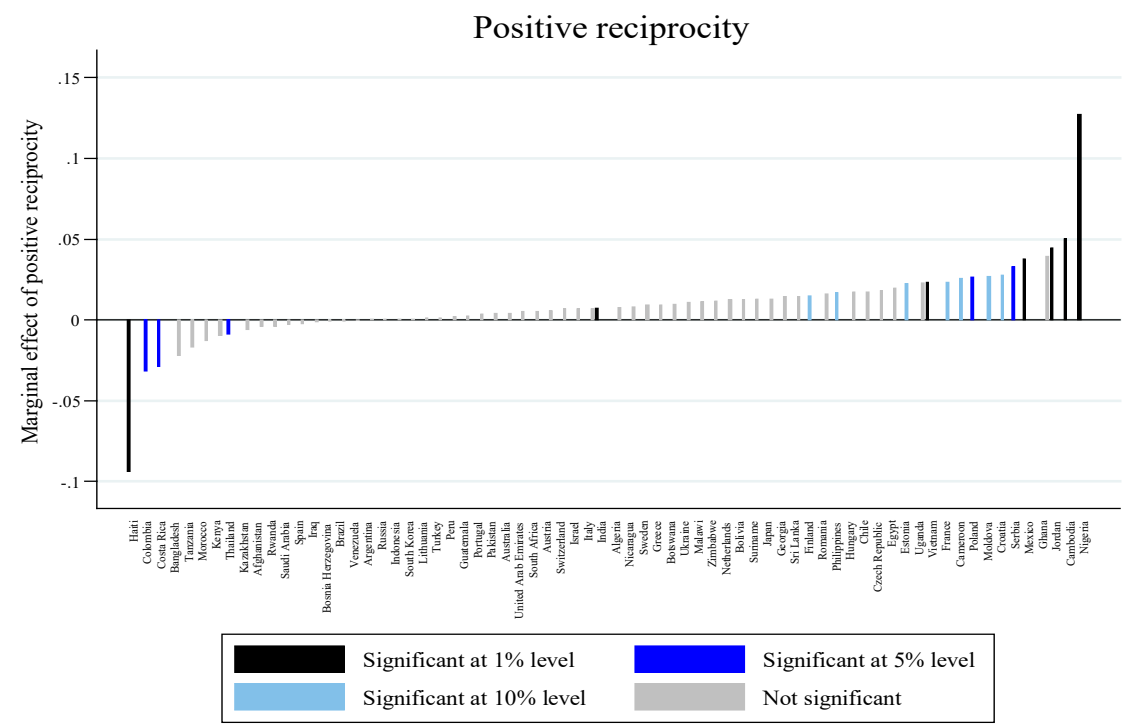
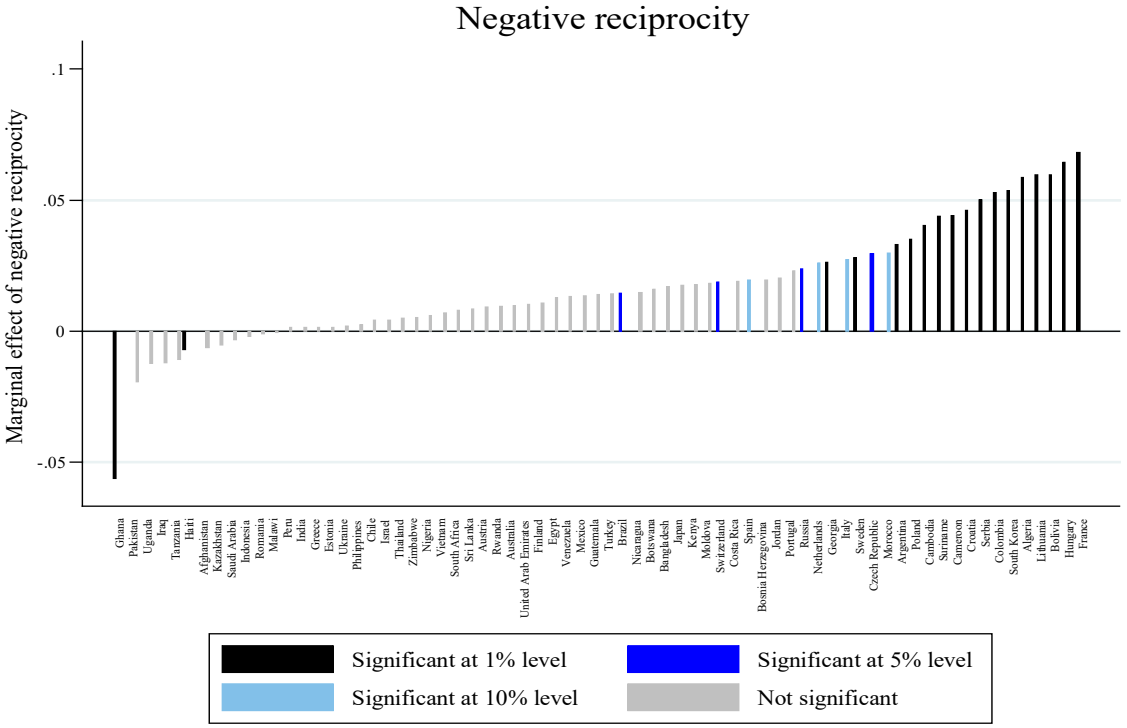


Figure A5 (cont.): Within-country differences in social preferences





Notes: For each country, separate probit estimations of migration intentions on trust and altruism with robust standard errors have been run. The set of control variables is similar to model (4) in Table 5 ("Baseline results"). Before, within each country each preference measure was standardised so that the marginal effects were comparable (see Falk et al., 2015). The colour of the bar indicates the significance-level: black, blue and cyan indicate a statistically significant relationship at the 1%, 5% and 10% levels; grey denotes no statistically significant relationship.

Source: Author, based on data from GPS, 2019 and GWP, 2019

Table A13: Desire, plan and preparation to migrate: economic preferences

PROBIT MODEL	Desire to migrate			Plan to migrate			Preparation to migrate		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Risk-taking	**0.0306*****	**0.0127*****	**0.00714*****	**0.0189*****	**0.0108*****	**0.00801****	**0.0575*****	0.0201	0.0237
	(0.00402)	(0.00316)	(0.00323)	(0.00484)	(0.00369)	(0.00331)	(0.0244)	(0.0210)	(0.0203)
Patience	**0.00701*****	0.000952	**0.00446****	**0.0101*****	**0.00949*****	0.00579	0.0195	0.0250	0.0219
	(0.00233)	(0.00231)	(0.00218)	(0.00570)	(0.00510)	(0.00444)	(0.0220)	(0.0227)	(0.0245)
Control set A: male, married, age, individual income, education, employment status.	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Control set B: networks abroad, foreign-born, number of children, religious status.	No	No	Yes	No	No	Yes	No	No	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
% perfectly predicted	80.14	80.80	81.03	87.51	87.86	88.26	63.53	63.80	65.50
Pseudo R^2	0.0851	0.1207	0.1367	0.0519	0.0633	0.0981	0.0602	0.0623	0.1013
Observations	68,766	65,773	46,735	10,001	9,202	8,666	1,168	1,036	1,000

Notes: The dependent variable of models (1)-(3) is a binary variable taking the value of 1 if respondents have the desire to migrate, and 0 otherwise (see also column (1), (4) and (7) from Table 5 ("Baseline results")). The dependent variable of models (4)-(6) is a binary variable taking the value of 1 if respondents have the plan to migrate, and 0 otherwise. The dependent variable of models (7)-(9) is a binary variable taking the value of 1 if respondents already engaged in preparations to migrate, and 0 otherwise. *** p<0.01, ** p<0.05, * p<0.1. Marginal effects reported. Robust standard errors in parentheses. For illustrative purposes, coefficients of the control set A and control set B are not reported. Significant marginal effects of interest are marked in bold.

Source: Author, based on data from GWP, 2019 and GPS, 2019

Table A14: Desire, plan and preparation to migrate: social preferences

PROBIT MODEL	Desire to migrate			Plan to migrate			Preparation to migrate		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trust	**-0.0184*** **	**-0.0131*** **	**-0.0144*** **	**0.00707***	**0.00575***	0.00472	-0.00881	-0.0110	-0.0150
	(0.00263)	(0.00247)	(0.00238)	(0.00389)	(0.00334)	(0.00319)	(0.0169)	(0.0171)	(0.0185)
Altruism	0.000941	0.00206	-0.000401	**0.0111*** **	**0.00911** **	**0.00627***	**0.0501** **	**0.0386** **	**0.0422** **
	(0.00257)	(0.00246)	(0.00199)	(0.00424)	(0.00411)	(0.00345)	(0.0211)	(0.0182)	(0.0186)
Positive reciprocity	**0.0110*** **	**0.0105*** **	**0.00970*** **	-0.00499	-0.00659	-0.00580	-0.00962	-0.00981	-0.0113
	(0.00311)	(0.00281)	(0.00336)	(0.00476)	(0.00488)	(0.00433)	(0.0189)	(0.0162)	(0.0158)
Negative reciprocity	**0.0267*** **	**0.0184*** **	**0.0175*** **	0.00542	0.00288	0.00252	**0.0528***	0.0267	0.0240
	(0.00254)	(0.00229)	(0.00256)	(0.00343)	(0.00363)	(0.00345)	(0.0277)	(0.0168)	(0.0186)
Control set A: male, married, age, individual income, education, employment status.	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Control set B: networks abroad, foreign-born, number of kids, religious status.	No	No	Yes	No	No	Yes	No	No	Yes
Risk and time preferences	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
% perfectly predicted	80.07	80.74	80.99	87.48	87.82	88.23	64.65	64.86	66.29
Pseudo R^2	0.0917	0.1237	0.1398	0.0554	0.0667	0.1005	0.0760	0.0680	0.1062
Observations	66,630	63,721	45,259	9,773	8,979	8,463	1,143	1,013	979

Notes: The dependent variable of models (1)-(3) is a binary variable taking the value of 1 if respondents have the desire to migrate, and 0 otherwise (see also column (2), (5) and (8) from Table 5 ("Baseline results")). The dependent variable of models (4)-(6) is a binary variable taking the value of 1 if respondents have the plan to migrate, and 0 otherwise. The dependent variable of models (7)-(9) is a binary variable taking the value of 1 if respondents already engaged in preparations to migrate, and 0 otherwise. *** p<0.01, ** p<0.05, * p<0.1. Marginal effects reported. Robust standard errors in parentheses. For illustrative purposes, coefficients of the control set A and control set B are not reported. Significant marginal effects of interest are marked in bold.

Source: Author, based on data from GWP, 2019 and GPS, 2019

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