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Female Migration: A Way out of Discrimination?

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Abstract

In light of the recent feminization of migration, we empirically explore to what extent worldwide female migration can be explained by perceived gender discrimination. Thanks to unique individual level data, we track women's willingness and preparation to emigrate from 150 countries between 2009-2013 and disentangle how perceived gender discrimination can foster or impede female emigration across countries. Our empirical strategy accounts for country of origin fixed effects and is robust to both sample selection bias and potential endogeneity issues. Perceived gender discrimination is shown to form a strong and highly robust incentive to emigrate. Yet, whether those migration aspirations are turned into actual preparations is determined by more traditional push factors such as household income or network effects and constraints such as family obligations. In very poor (sub-Saharan African) countries, however, perceived gender discrimination acts as an obstacle, preventing women from actually moving abroad.

JEL-Codes: F220, J160, C350, Z100.

Keywords: female migration, gender discrimination, migration desire, conditional logit model.

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October 12, 2015

1 Introduction

Only recently, the gendered analysis of international migration started to show up in both the economic literature (Cortes, 2015; Docquier et al., 2012; Morrison et al. 2007; Kofman, 2000; Zlotnik, 1995, 1990; Cobb-Clark, 1993) and comprehensive statistical datasets (Artuç et al., 2015; Docquier et al., 2009; Dumont et al., 2007). It is nonetheless essential for understanding female international migration (United Nations, 2004) and its implications for economic development.[1] This paper contributes to this strand of literature by empirically analysing the role of perceived gender discrimination on female migration intentions and subsequent migration behavior using original individual level data compiled by the Gallup World Polls.

It is often put forward that female migration has now caught up to that of men, but so called 'feminization of migration' is not a new phenomenon (Jolly and Reeves, 2005).[2] Women already

[1] For the role of women on economic outcomes, empirical analyses are conducted in Gajvani and Zhang (2014) who investigate the effects of women on the provision of public goods, such as water; Perkins et al. (2013) who stress the positive role of female presidents on managing fractionalized countries; Sorensen (2004) who highlights the importance of female migrants in remitting money back home; Duflo and Udry (2004) who find how rainfall shocks are associated with high yields of women's crops shift expenditure towards food; and finally, Behrman et al. (1997) who provide evidence on the role of women on human capital transmission to children. For a broader critical overview on women empowerment and economic development, see also Duflo (2012).

[2] To put it in the words of Babatunde Osotimehin, executive director of the United Nations Population Fund: "*La migration porte un visage humain, et c'est celui d'une femme.*". In a 2013 article in Le Monde, a UN correspondent stated that "*La féminisation de la migration n'est plus une simple tendance. Apparue au début des années 1990, elle est devenue une réalité croissante et incontournable*" (see http://www.lemonde.fr/ameriques/article/2013/05/08/le-nouveau-visage-feminin-de-la-migration_3173506_3222.html).

made up almost half of the migrant stock several decades ago and their numbers have been steadily growing, both in absolute terms and relative to the global migrant stock (Zlotnik, 2003). Without taking into consideration short-term and seasonal movements, women represent more than 49% of the 214 million international migrants in the world (United Nations, 2013). They outnumber men in developed countries with 51,5% while in developing ones they make up 45,6% of the total immigrant stock. Similar numbers apply for OECD and non-OECD countries (see Artuç et al., 2015). But most importantly, women are more and more moving as independent or single migrants rather than as the wife, mother or daughter of male migrants (Oishi, 2002; Pedraza, 1991).

These cross-border movements are to an increasing extent determined by economic factors (Sassen, 2003), with women being part of worker flows, moving on their own to become the principal wage-earners for their families (United Nations, 2004). Yet they also flee from conflict (Berhanu and White, 2000), famine, persecution, epidemics, soil degradation (Gray, 2012), natural disasters (Gray and Mueller, 2011) and other situations that affect their habitat, livelihood and security (United Nations, 2004).[3]

Among the non-economic factors explaining female migration, gender discrimination has recently proven to be of particular importance. Despite worldwide efforts to reduce gender disparities, in general, women continue to lag behind as far as basic freedoms and opportunities are concerned which might in turn have an impact on their migration behavior. The expected direction of the effect is however ambiguous (Hugo, 2000). On the one hand, restrictions on the role assigned to women may act as a push factor encouraging them to leave their home country (Black et al., 2004) but, on the other hand, it might be exactly those restrictions constraining them to leave (Zachariah et al., 2001). Indeed, while hundreds of millions of women worldwide would be willing to leave their homelands and start a new life somewhere else, many of them may never actually leave because of economic and/or personal circumstances (Esipova et al., 2011), among which gender discrimination might play a role.

[3]Focusing on the effects of non- economic determinants of both female and male migration, Cai et al. (2014), for instance, consider the impact of life satisfaction on the willingness to migrate abroad. At the individual level, subjective well-being appears even more important than objective income. This finding is also confirmed by Dustmann and Okatenko (2014) who show that migration intentions respond to individual wealth by alleviating budget constraints, especially in Sub-Saharan Africa and Asia. Yet, contentment with local amenities like security and public services are found to be even more important determinants shaping migration plans.

Previous studies using macro data provide mixed evidence on the relationship between gender discrimination and women's migration behavior. Nejad and Young (2014) and Nejad (2013) investigate the effect of institutionalized gender inequality, proxied by the CIRI (Cingranelli-Richards) Human Rights Database (2014) women's rights index, on the high-skilled female migration rate relative to those for males (i.e. the female brain drain ratio). Their model predicts a non-linear impact of gender inequality on the female brain drain ratio because of the adverse effect of gender inequality on the costs and benefits of migration, respectively. In the same vein, Baudassé and Baziller (2014) implement a gravity model to test whether labor market discrimination should be considered either a push factor or a selection device for female migration. They reject the former hypothesis and conclude that, all else held constant, gender discrimination has a positive influence on the female brain drain. Bang and Mitra (2010) test for the brain drain gap considering traditional controls as well as the quality of institutions and proxies for gender equality such as women's share of income, the fraction of women in parliament, the male-female literacy rate gap, the male-female secondary enrollment gap, the fertility rate and the female labor force participation rate. They find that the disequilibrium in access to economic opportunities, captured by the fertility rate and differences in schooling and literacy, account for a significant part of the brain drain gap. Ferrant and Tuccio (2015), on the other hand, make use of the Social Institutions and Gender Index (SIGI) developed by the OECD Development Centre, to provide empirical evidence on the relationship between gender inequality in social institutions and female South-South migration. They show that discriminatory social institutions in both origin and destination countries form an important determinant of female South-South migration. For male migration, however, they find no significant impact, suggesting that male and female incentives to emigrate differ.

Our study takes a new approach by making use of micro data to evaluate the causal impact of gender discrimination as perceived by the individual on worldwide international migration behavior. This approach holds the following advantages. First of all, by relying on individual perceptions rather than aggregate macro indicators on gender discrimination, we are able to measure women's experience with gender discrimination, rather than pure gendered outcomes such as access to jobs, education, fertility and credit (Tuccio and Wahba, 2014). By focusing on whether they feel treated with respect and dignity in their country of residence, we can capture more than their mere access to resources.

Secondly, we model international migration behavior by considering both females' willingness

to emigrate as well as the realization of that desire regardless of destination. The decision to migrate has been shown to involve several steps, not all of them observable and measurable (Paul, 2011). A few earlier studies already recognized the distinction between migration intentions and actions (e.g. Cai et al., 2014; Chort, 2014; Dustmann and Okatenko, 2014; Hatton and Williamson, 2002), but data limitations generally prohibited a separate analysis of the different stages. A few exceptions make use of region or country-specific surveys to analyse both migration aspirations and realizations (e.g. Chort, 2014, for Mexico or van Dalen and Henkens, 2008, for the Netherlands). Chort (2014), for instance, uses micro data obtained from the two waves of the Mexican Family Life Survey panel (2002 and 2005-06) to study discrepancies between Mexicans' intention to migrate and their subsequent migration behavior. After having controlled for various macro shocks likely to affect the migration decision, she finds that women's probability to carry out their migration plans is systematically lower than men's and concludes that women's unrealized migration plans are due to gender specific costs and constraints.

Our analysis thus complements the existing literature by making use of a subjective measure of gender discrimination to examine both migration intentions and further migration behavior irregardless of destination. Unlike most studies disentangling the impact of gender imbalances on migration, we rely on a micro level dataset and exploit the variation across individuals for a large number of countries (see also Dustmann and Okatenko, 2014). The newly available Gallup World Polls provide a unique and largely unexplored database on individual migration decisions as well as conceptions of gender discrimination and respondents' economic and demographic characteristics for 150 countries in the world between 2009 to 2013. This very rich database proves ideal to assess and advance the existing evidence using an original micro-economic perspective. Specifically, we are able to track a person's willingness to migrate as well as the realization of this aspiration and explore to what extent perceived gender discrimination alongside traditional personal characteristics can foster or impede females' migration behavior. We believe that an analysis of what drives the desire to migrate in itself may significantly contribute to our understanding of global migration dynamics. The Gallup database, nonetheless, also allows us to gain insight in how these migration desires translate into actual plans.

Figures 1 and 3 offer some preliminary evidence for the interconnection between gender discrimination and migration behavior. We compute the aggregate degree of gender discrimination in a country as perceived by its female inhabitants as the share of female respondents stating that women in their country are not treated with respect and dignity. The aggregate willing-

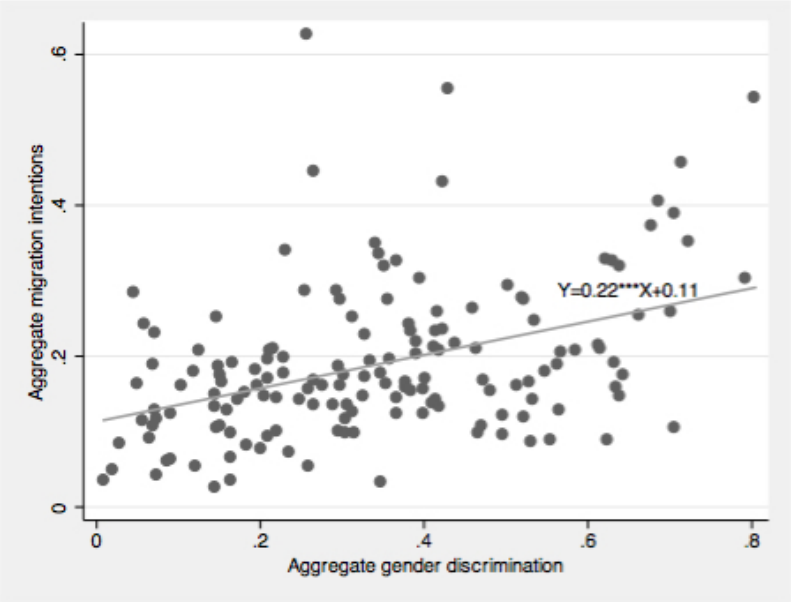
ness ('desire') to migrate and migration preparation ('preparation'), are proxied by the share of female respondents claiming that they would be willing to move abroad when an opportunity arises, and the share of those who have started making preparations for their move (e.g. applied for a residency permit or purchased flight tickets), respectively.[4] Plotting migration desires and preparations to emigrate against aggregate perceived gender discrimination then reveals (at least for desire) a clear relationship between the two. Figure 1 shows that perceived gender discrimination is significantly and positively correlated with the desire to emigrate with a slope of 0.22. Figure 3, on the other hand, reveals a negative but insignificant correlation with the share of those willing to move who already made preparations with a slope of -1.48.

Our empirical strategy consists of two conditional logit estimations, one for desire and one for preparations to emigrate. We include country fixed effects to control for common unobserved shocks affecting all inhabitants of a country in the same way. Furthermore, we perform a series of robustness checks to account for potential endogeneity stemming from measurement error, omitted variables or reverse causality using a special regressor method and we control for sample selection bias using the maximum likelihood approach for binary choice models without exclusion restriction developed by Sartori (2003).

Our empirical evidence shows that perceived gender discrimination forms a strong and highly robust determinant of the willingness to migrate, but, in general, it does not seem to affect subsequent migration behavior. Overall we find that women who do not feel treated with respect and dignity in their country have a stronger desire to move out. Perceived gender discrimination hence positively affects the size of potential female migration. Whether those aspirations are subsequently turned into action is, in most countries, determined by other more traditional push factors such as household income or network effects on the one hand and potential constraints such as family obligations on the other hand. In very poor countries, especially in sub-Saharan Africa, however, gender discrimination acts as a barrier to migration preventing women from turning their aspirations into action and actually leaving their country.

[4]Wherever we construct country aggregates, we weigh each individual observation by the relevant Gallup sample weight. These weights are designed to compensate for the low coverage of certain groups (by gender, race, age, educational attainment, and region) in the whole population. Gallup assigns a weight to each respondent so that the demographic characteristics of the total weighted sample of respondents match the latest estimates of the demographic characteristics of the adult population available for the country (Gallup, 2012). For more information on our measures of migration behavior and perceived gender discrimination, see Section 2.

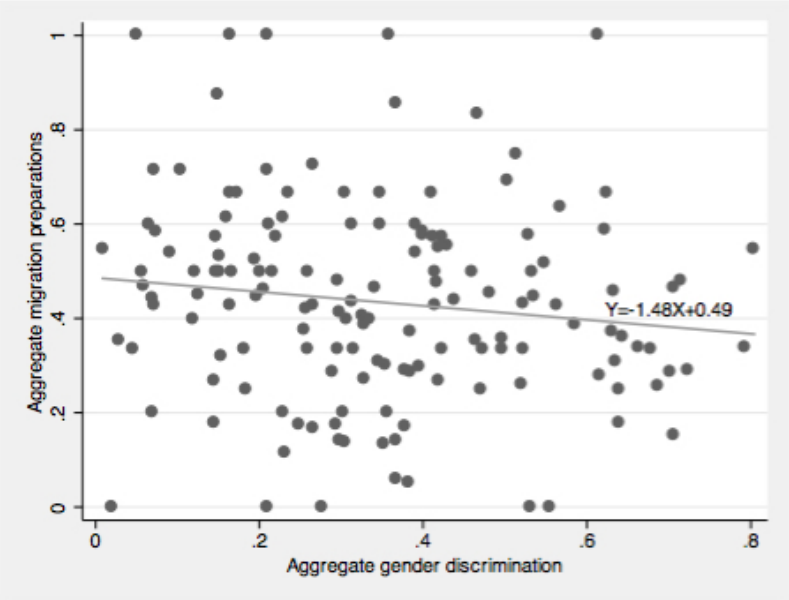
Figure 1: Aggregate perceived gender discrimination and desire to emigrate (females)



Source: Authors' calculations based on Gallup Data. *Aggregate gender discrimination* is calculated as the share of female respondents stating that women in their country are not treated with respect and dignity. *Aggregate migration intentions* are measured as the share of female respondents claiming that they would be willing to move abroad when an opportunity arises.

The rest of the paper is structured as follows. Section 2 describes the data used in our empirical analysis obtained from the Gallup World Polls as well as stylized facts on both migration and gender discrimination variables. The latter include statistical correlations with the main macro indicators on gender discrimination used in the literature. Section 3 provides the empirical framework used to analyze the impact of gender discrimination on migration behavior as well as our empirical evidence. Finally, Section 4 concludes.

Figure 2: Aggregate perceived gender discrimination and preparations to emigrate (females)



Source: Authors' calculations based on Gallup Data. *Aggregate gender discrimination* is calculated as the share of female respondents stating that women in their country are not treated with respect and dignity. *Aggregate migration preparations* are measured as the share of female respondents willing to migrate who claim that they have started making preparations for their move (e.g. having applied for a residency permit or purchased flight tickets).

2 Data and descriptive statistics

2.1 Background on survey

All the individual data of interest were obtained from the Gallup World Polls, which have been documenting personal and household characteristics of respondents all over the world since 2005 as well as their opinions on a wide variety of topics. A typical Gallup survey interviews about a 1000 randomly selected individuals within each country.[5] The data are collected through telephone surveys in countries where the telephone coverage represents at least 80 percent of the population. In Central and Eastern Europe, as well as in developing regions, including much

[5]In some large countries such as China, India and Russia as well as in major cities or areas of special interest, over-samples are collected resulting in larger total numbers of respondents.

of Latin America, the former Soviet Union countries, nearly all of Asia, the Middle East and Africa, on the other hand, an area frame design is used for face-to-face interviewing. As such, the sampling frame represents the entire civilian, non-institutionalized population aged 15 and over covering the entire country including rural areas.[6]

For the purpose of our study, only female respondents older than 25 are taken into consideration in line with most actual migration data.[7] Hence, our sample contains 127 595 females with valid information on all the variables of interest used in the model, interviewed over the period 2009-2013 in 150 countries in the world. By 2013, the 150 countries represented about 97 percent of the worldwide population aged 25 and over. In what follows, we explain in detail how the variables of interest have been constructed.

With respect to individual migration prospects, the Gallup Polls include two relevant questions asked in 152 countries: (i) "Ideally, if you had the opportunity, would you like to move permanently or temporarily to another country, or would you prefer to continue living in this country?" and (ii) "Have you done any preparation for this move (for example, applied for residency or visa, purchased a ticket, etc.)?", which is asked only to those who would like to move to another country.[8]

The literature on migration intentions is small but growing (Dustmann and Okatenko, 2014; Creighton, 2013; Becerra, 2012; Drinkwater and Ingram, 2009; Jonsson, 2008; van Dalen et al., 2005a, 2005b; Carling, 2002) and characterised by an ongoing discussion on whether emigra-

[6] With the exception of areas where the safety of the interviewing staff is threatened, scarcely populated islands in some countries, and areas that interviewers can reach only by foot, animal, or small boat.

[7] We also experimented with an extended sample including also females aged 15-25. It could be argued that also younger women experience gender discrimination which might have an impact on their willingness to emigrate and subsequent migration behavior. Young girls being forced into early marriage, for instance, might have a higher willingness to leave their country but also a lower propensity to do so because they are held back. We find that including this age group does not alter our main findings. The results are available upon request from the authors.

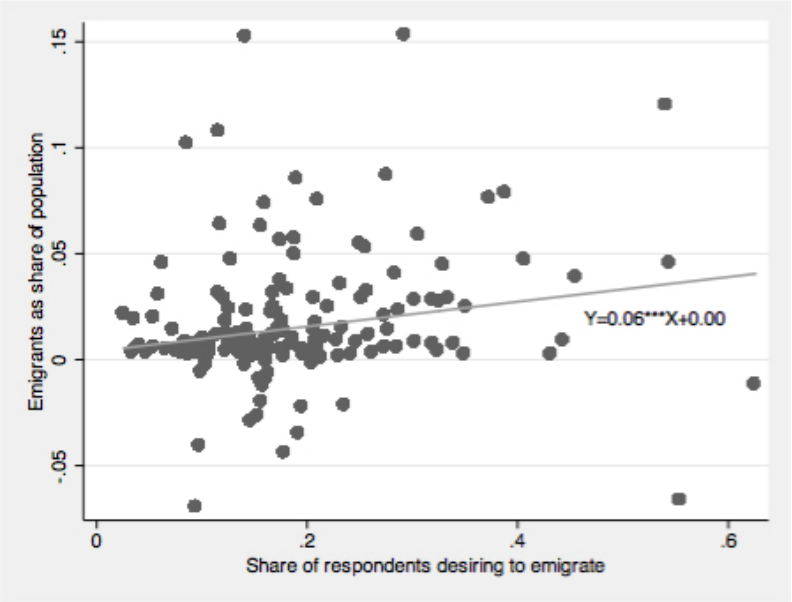
[8] In fact, the questionnaire has an intermediate question: "Are you planning to move permanently (temporarily) to another country in the next 12 (24) months, or not?", which we do not consider because - contrary to its follow up question - a positive reply cannot separate vague ambitions from actual plans. Furthermore, it continues with the question "To which country would you like to move?". In this paper, we do not consider the destination dimension. This allows us to limit the number of missing cells and increase the accuracy of our estimates. But for further work, we might also consider the willingness to emigrate bilaterally, i.e. taking into account the destination dimension and hence also the general degree of gender discrimination across potential destinations.

tion aspirations actually signal a person's migration plans as opposed to pure wishful thinking (Manchin, Manchin and Orazbayev, 2014; van Dalen and Henkens, 2008). The willingness to emigrate that we define in this paper is however stricter than mere migration aspirations or considerations as used by e.g. Creighton (2012). Whereas the latter considers whether the respondent has thought about moving outside the locality/community where he or she lives in the future, the Gallup World Poll uses a stronger formulation which directly asks for the likely response under ideal conditions ("[...] if you had the opportunity?") (Manchin, Manchin and Orazbayev, 2014). Nonetheless, as mentioned in the introduction, knowing what drives the emigration desire in itself can yield interesting insights in future migration dynamics through an assessment of the subpopulation who would consider moving abroad in every country under study (see also Dustmann and Okatenko, 2014).

To grasp to what extent emigration aspirations follow actual migration dynamics, Figures 3 and 4 plot the change in the number of actual migrants between 2000 and 2010 as a share of the population in each country against the share of respondents desiring or preparing to move out during our sample period, respectively. Overall correlations between actual emigration movements and emigration aspirations or plans amount to 0.19 and 0.27, respectively, both statistically significant at 1 percent. Similar figures are obtained when the population/sample of respondents is restricted to natives only (i.e. 0.16 and 0.26, respectively). In line with expectations, we thus find a positive though fairly small correlation between actual and potential migration. The latter finding is however not surprising: in reality the translation of desired into actual migration is prevented by numerous personal circumstances such as health, finances or family obligations (Esipova, Ray and Pugliese, 2011) as well as institutional hurdles related to migration regulations restricting the free movement of people (Docquier, Peri and Ruyssen, 2014). For the discrepancy between migration preparations and actual migration, it is important to stress that whereas the first might encompass both legal and irregular migration intentions, the latter is able to keep track only of legal migration (Friebel, Manchin and Mendola, 2015; Docquier, Peri and Ruyssen, 2014; Mbaye, 2014).

The most comprehensive question on gender discrimination available in the Gallup World Polls reads "Do you believe that women in this country are treated with respect and dignity, or not?", which is available for all countries in the sample between 2009 and 2013. A negative reply signals that a woman feels that females are discriminated (not treated with respect and dignity) in the

Figure 3: Aggregate actual emigration and emigration desires (females)

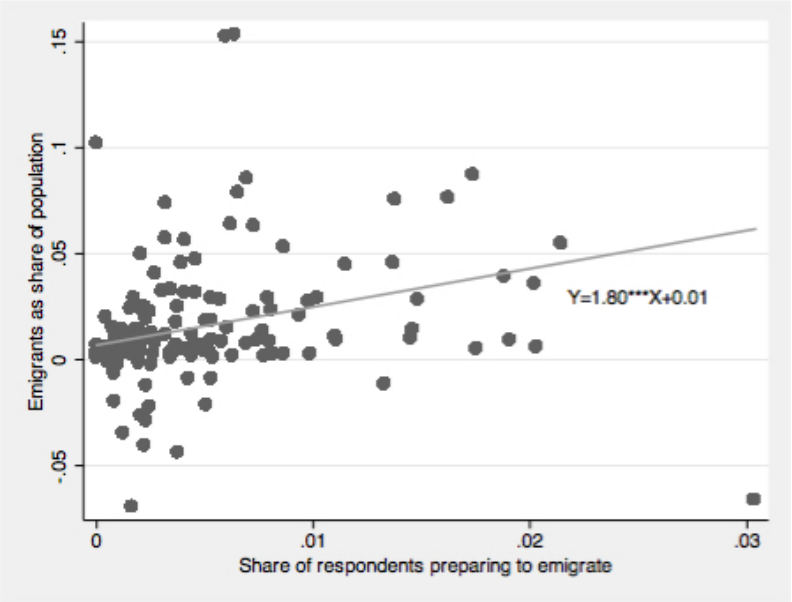


Source: Authors' calculations based on Gallup Data and United Nations Database. *Share of respondents desiring to emigrate* denotes the share of female respondents claiming that they would be willing to move abroad when an opportunity arises. *Emigrants as share of population* denotes the change in the number of female migrants between 2000 and 2010 by country of origin as a share of the female population in each origin country.

country where she lives (coded as 1 and 0 otherwise).[9]

[9]The Gallup World Polls also assess individual attitudes towards gender discrimination. For the period 2006-2011, they ask whether or not the respondent agrees with the following statements: (i) "Women and men should have equal legal rights"; (ii) "Women should be allowed to hold any job for which they are qualified outside the home"; (iii) "Women should be able to hold leadership positions in the cabinet and the national council"; and (iv) "Women should have the right to initiate a divorce". Yet, these questions are available only for a limited number of countries (i.e. the Balkans, the Commonwealth of Independent States, Southeast Asia, South Asia, the Middle East and Africa), they refer to an ideal environment rather than true living conditions and, even if they were suitable for the context of this paper, they would require the calculation of country or subsample aggregates. For the same reasons we neither consider individual's attitudes towards gender discrimination contained in the World Value Survey database. These are available for the period 2010-2014 and provide respondents' opinion on (i) "When jobs are scarce men should have more right to a job than women"; (ii) "If a woman earns more money than her husband, it's almost certain to cause problems"; (iii) "Having a job is the best way for a woman to be

Figure 4: Aggregate actual emigration and emigration preparations (females)



Source: Authors' calculations based on Gallup Data and United Nations Database. *Share of respondents desiring to emigrate* denotes the share of female respondents stating that they have made preparations to move abroad. *Emigrants as share of population* denotes the change in the number of female migrants between 2000 and 2010 by country of origin as a share of the female population in each origin country.

Our empirical analysis also takes into account other personal characteristics which might have an impact on emigration. They comprise the age of the respondent; the current marital status; the educational level of the respondent; the number of children under 15 years of age currently living in the respondent's household; a dummy variable for living in a large city or a suburb of a large city; the employment status; log of household income per capita; the household size and finally a dummy variable for having a household member, a friend or a relative abroad. For further details on these variables, see Appendix A.

an independent person"; (iv) "It is justifiable for a man to beat his wife"; (v) "On the whole, men make better political leaders than women do"; and (vi) "On the whole, men make better business executives than women do".

2.2 Descriptive statistics and stylized facts

Table 1 provides summary statistics for the main variables of interest for respondents respectively replying to the emigration desire and preparation questions. A few observations are worth mentioning. The figures suggest that 16 percent of females expresses a desire to emigrate, of whom only 4 percent actually prepare to do so. Nearly 35 percent of women state that gender discrimination is an issue in their country. This figure is even higher for women who express a desire to emigrate, reaching 46 percent. In our sample, 63 percent is married, 43 percent lives in an urban area, 41 percent is employed at the time of the interview and respondents on average have 1.56 children living in the household. Those expressing a desire to emigrate are slightly more likely to be employed and slightly higher educated. Their number of children in the household is slightly higher, i.e. 1.78, but the most striking difference is related to the network abroad. Whereas on average 32 percent of women state that they have a family member or friend abroad, this figure rises significantly when the sample is reduced to aspiring female migrants only. We may thus expect to find a strong impact of social networks on both migration desires and further migration behavior (see also Docquier, Peri and Ruyssen, 2014).

It could be argued that *respect* and *dignity* are two very broad concepts related to empowerment and that the impact of discrimination on female migration hinges on the definition being used (Morrison et al., 2007). To explore more in detail what our measure of discrimination is actually capturing, we calculated correlations between our measure of interest and two more specific indicators of individual perceptions on gender discrimination available in the Gallup Polls. The questions read "In this country, are men and women treated fairly at work, or not?" and "In your opinion, is domestic violence a serious problem for our country or not?". These measures of economic and household gender discrimination are available only for a smaller subsample, i.e. for Australia, New Zealand, Southeast Asia, South Asia and East Asia in 2011 only; and for the European Union and the Commonwealth of Independent States in 2009, respectively. As illustrated in the upper panel of Table 2, perceived gender discrimination appears negatively and significantly correlated with economic equality at work and significantly but positively correlated with the severity of domestic violence, in line with expectations.

Additionally, we evaluate how our Gallup indicator aggregated at country level correlates with other macro-indicators on gender discrimination frequently used in the literature. In other words, we explore to what extent the Gallup individual perception of gender discrimination based on the

Table 1: Descriptive statistics - Desire

	Observations	Mean	St Dev	Min	Max
Desire					
Female migration desire	127595	0.162	0.369	0	1
Gender discrimination	127595	0.347	0.476	0	1
Age	127595	45.408	14.569	26	99
Married	127595	0.630	0.483	0	1
Highly skilled	127595	1.137	0.344	1	2
Number of children	127595	1.555	3.533	0	43
Urban	127595	0.429	0.495	0	1
Employed	127595	0.409	0.492	0	1
Household income pc (log)	127595	8.752	1.196	-2	14
Household size	127595	3.082	1.977	1	54
Network abroad	127595	0.323	0.468	0	1
Preparation					
Female migration preparations	19734	0.039	0.195	0	1
Gender discrimination	19734	0.458	0.498	0	1
Age	19734	39.877	11.687	26	99
Married	19734	0.599	0.490	0	1
Highly skilled	19734	1.187	0.390	1	2
Number of children	19734	1.779	3.511	0	43
Urban	19734	0.468	0.499	0	1
Employed	19734	0.460	0.498	0	1
Household income pc (log)	19734	8.668	1.168	-2	12
Household size	19734	3.247	2.176	1	54
Network abroad	19734	0.486	0.500	0	1

lack of 'respect and dignity' is in line with existing (aggregate) measures, i.e. the Cingranelli-Richards (CIRI) Human Rights Dataset (2014) indicator on women's economic (Wecon) and political rights (Wopol), the OECD Social Institutions and Gender Index (SIGI) and the Country Policy and Institutional Assessments (CPIA) equality index from the World Bank.[10]

To be more precise, the Wecon and Wopol indicators capture the extent of economic and political rights attributed to women (available for all countries and years in our sample). The indicators measure the degree of respect for the specific human right on a scale from 0 to 2 (higher levels indicate more respect). The CIRI database uses the annual country reports from the US State Department and Amnesty International as its primary sources. The World Bank's CPIA indicator, on the other hand, assesses the extent to which the country has installed institutions

[10]Note that we do not expect perfect correlations between individual perceptions and objective evaluations of the extent of gender discrimination given that the former are influenced by individual characteristics such as the respondent's education level, religion, residence location (rural/urban) or the respondent's social environment (see e.g. Verloo, 2007). Yet, we believe that the individual perspective is exactly the strength of our dataset which allows for a detailed analysis of the impact of gender discrimination on the individual decision to emigrate.

and programs to enforce laws and policies that promote equal access for men and women to education, health, the economy, and protection under law. This measure of gender equality takes a value between 1 (low) and 6 (high) but is available only for 2012. The SIGI indicator compiled by the OECD, finally, is a composite measure of gender equality, based on the OECD's Gender, Institutions and Development Database. Instead of measuring inequality outcomes like most conventional indicators of gender equality, the SIGI focuses on the root causes behind these inequalities, grouped into five categories: family code, physical integrity, son preference, civil liberties and ownership rights. Each of the SIGI components is coded between 0, i.e. no or very low inequality, and 1, indicating very high inequality. They are available for around 80 non-OECD countries (excluding Arab countries) for the years 2009 and 2012.

The lower panel of Table 2 illustrates pairwise correlations between the macro indicators and our aggregate measure of perceived gender discrimination obtained using Gallup micro data. We find that the more economic rights women are entitled to, the more women say that they are treated with respect and dignity. The correlation is always positive and even higher for skilled females.[11] For political rights, on the other hand, the issue is more complicated: the more political rights women can claim, the less they say they are treated with dignity. Yet, for skilled females the correlation is again significantly positive. A possible explanation might be that the latter are more aware of the fact that more rights imply more dignity. Correlations with the SIGI and CPIA indicators, finally, are highly significant with the expected sign.

To further disentangle which type of gender discrimination our variable of interest measures, we calculate pairwise correlations between our country level measure of perceived gender discrimination and specific components of the SIGI indicator. The most significant correlations are reported in Table 2. Confirming earlier findings, women perceive to be more discriminated (not treated with respect and dignity) when they have less access to employment and to higher education than men, when access to credit is less straightforward and when adolescent fertility and early marriage are widespread.[12] Overall, we find that our measure of perceived gender discrimination refers to an unfair difference in treatment mainly related to economic issues and family heritages. These correlations confirm that our micro indicator of perceived gender dis-

[11] Table 2 provides correlations for the whole sample. Correlations when restricting the sample to skilled women only are available upon request from the authors.

[12] The whole list of pairwise correlations between the gender discrimination variable available in Gallup and the SIGI components is available upon request from the authors.

Table 2: Correlation between aggregate perceived gender discrimination and other indicators

Other indicators	Correlation
Economic equality at work	-0.418^{***}
Domestic violence	0.116^{***}
Wecon (CIRI)	-0.134^{***}
Wopol (CIRI)	0.016^{***}
CPIA (WB)	-0.081^{***}
SIGI (OECD)	0.135^{***}
Percentage of female employees	-0.224^{***}
Percentage of females in tertiary education	-0.285^{***}
Adolescent fertility	0.478^{***}
Unequal access to credit	0.347^{***}

Notes: Author's calculations based on Gallup data, CIRI indicators, SIGI (OECD) and CPIA (World Bank). *** denotes significance at the 1% level.

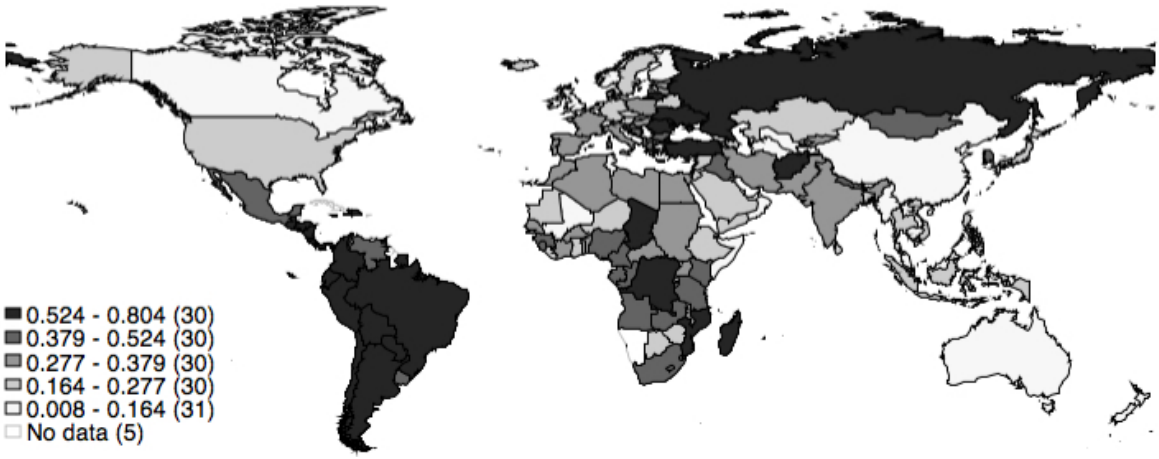
crimination measures similar aspects of gender imbalances as some of the macro indicators used in the literature. Yet, the fact that they do not perfectly correspond seems to confirm the idea that individual perceptions capture more than mere gendered outcomes.

As far as the geographical distribution of perceived gender discrimination is concerned, we find that on average, 66 percent of female respondents state that women are treated with respect and dignity in their country. In all but seven countries (Angola, Cambodia, Ethiopia, Honduras, Indonesia, Singapore, Yemen), women experience female discrimination to be worse than men. The gap between female and male shares is on average 8 percent, ranging from -5 to over 20 percent. In countries with a large gap, some men have either a lower awareness about the experiences of women or a different interpretation of respect, perhaps influenced by machismo attitudes (Gallup, 2014). The lowest shares of perceived gender discrimination are recorded for highly skilled, non-religious females and women with a household income per capita in the top 20 percentile. Also for those employed and Muslim, average shares tend to be relatively lower. Younger females (aged 26-35), Christian women and those living in urban areas on average have a higher chance of identifying gender discrimination as an issue in their country.

Figure 5 illustrates the geographical distribution of the share of women identifying gender discrimination as an issue in each country (averaged over the sample period). The degree of gender discrimination measured in this way varies between 0.01 and 0.80. Many of the world's worst performers are situated in South America, sub-Saharan Africa and Russia with Dominican Republic, Colombia and Honduras closing the country ranking. Women indicate to be facing much

lower discrimination in Europe, North America, Central Asia, the Middle East and some countries in North Africa. The lowest level of gender inequality can be found in the United Arab Emirates, Rwanda and Qatar.[13]

Figure 5: Aggregate gender discrimination by country



Source: Authors' calculations based on Gallup Data.

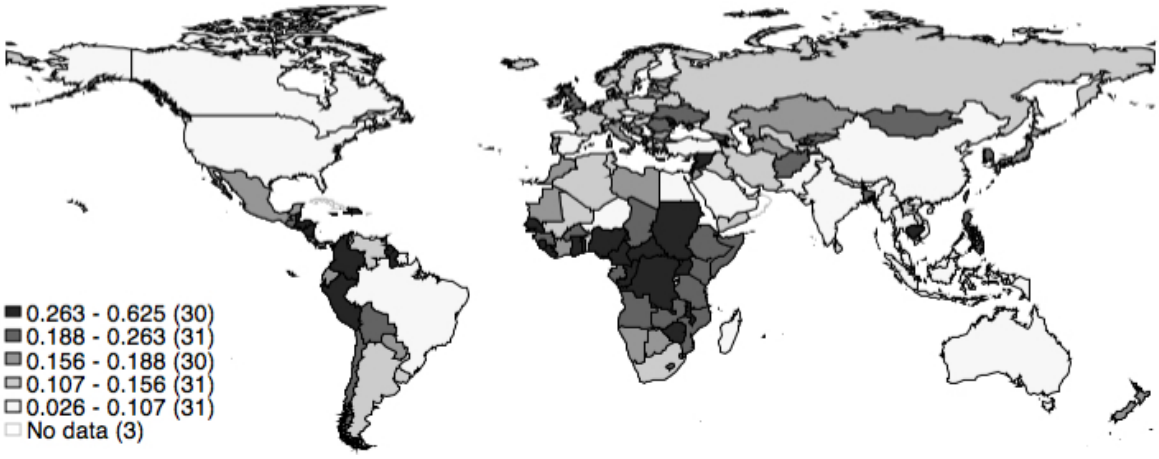
For emigration intentions, instead, on average 17 percent of respondents would be willing to migrate when an opportunity arises. Around 10 percent of them already made preparations to do so. These figures are slightly higher for men who are at the same time more willing to move abroad and more likely to actually do. The gap between those who desire to emigrate and those who are actively preparing to move is however larger for men, suggesting that women's reply to the migration desire question is more in line with actual prospects than that of men (see also Chort, 2014). Young, highly skilled and employed women have a higher chance of expressing a willingness to move abroad, yet especially young Muslim women with a household income in

[13]In general, we find a similar ranking as the one based on the SIGI indicator (averaging over 2009 and 2012 values), with a few exceptions. Whereas the SIGI indicator suggests that women are facing relatively high discrimination in social institutions in the Middle East and North Africa, gender discrimination based on individual perceptions in these countries seems much lower. Comparing the lower and upper tails of the distribution of the two indicators, we find no anomalies except for Peru which occupies the sixth best place in the ranking according to SIGI and the fourth worse place based on individual perceptions. Yet, as mentioned before, individual perceptions are not necessarily expected to be in line with objective evaluations of the extent of gender discrimination because the former is influenced by personal characteristics and the respondent's social environment (see e.g. Verloo, 2007).

the 20 percent bottom percentile are planning to do so in the near future. Females being highly skilled, secular and employed, finally, have a higher chance of turning those plans into actions by making preparations for their move.

Figures 6 and 7 depict the shares of respondents willing to move abroad and those who prepare to do so in the near future. In line with the scatter plots presented in Section 1, it becomes immediately clear that the darker colors in Figure 5 are associated with lighter colors in Figure 6, confirming the expected negative relationship. Aggregate emigration desire is particularly low in North America, South Asia, Oceania, the Middle East and Brazil. Higher shares are obtained in sub-Saharan Africa, Eastern Europe and other Latin American countries. The share of respondents claiming that they have started making preparations for their move abroad, on the other hand, appears especially large in South East Asia, Oceania, some sub-Saharan African countries, Central Asia and a number of Eastern European countries. Comparing Figure 7 with Figure 5 again does not reveal a clear pattern, in line with our preliminary findings outlined in Section 1.

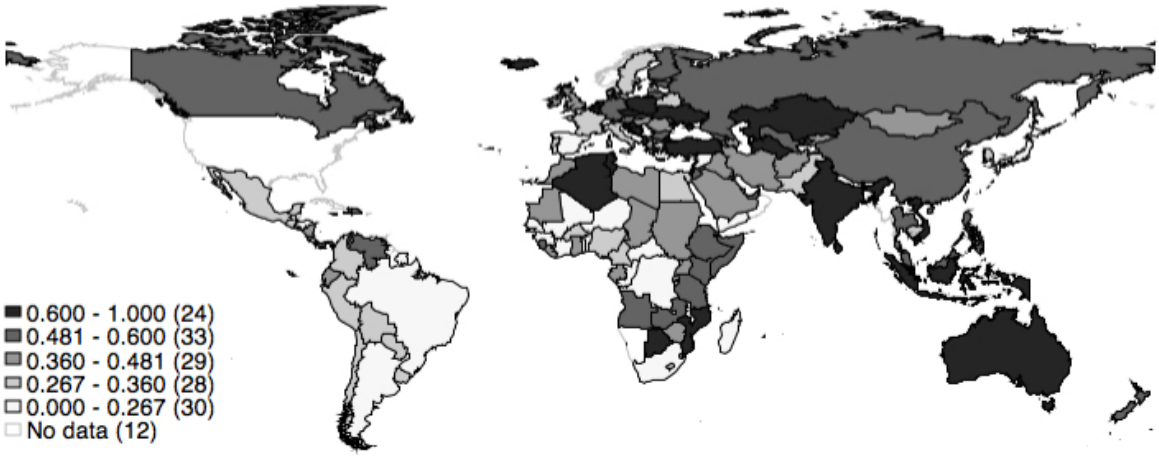
Figure 6: Average Women's Migration Aspiration by country



Source: Authors' calculations based on Gallup Data.

This can also be seen from the country rankings presented in Table 3. First of all, no less than 5 countries (Dominican Republic, Haiti, El Salvador, Honduras and Jamaica) who appear in the top 10 based on aggregated perceived gender discrimination are also in the list of countries with

Figure 7: Average Women's Preparation rate by country



Source: Authors' calculations based on Gallup Data.

the highest shares of people desiring to move abroad. In the bottom 10, we find Rwanda and United Arab Emirates for both gender discrimination and emigration desire. Yet, there seems to be no overlap between countries as far as concerns the preparation to migrate, neither in the top 10 nor in the bottom 10. Turkmenistan, which appears as the fifth best country in terms of aggregated perceived gender discrimination, even shows up as the country with the fourth highest share of people having started to make preparations for their move.

3 Empirical framework

This section describes the empirical framework used to analyze the impact of perceived gender discrimination alongside traditional controls on the desire to emigrate and emigration preparations. Following Chort (2014) we assume that migration desires are rational and hence correlated with the same determinants typically found to explain the subsequent migration decision.[14] Specifically, individual i's desire to migrate out of country j, $Desire_{ij}$, takes the value 1 if an individual

[14]In general, migration intentions have been shown good predictors of future actual migration suggesting that the factors driving a person's actual migration decision also determine his or her willingness to migrate (Dustmann and Okatenko, 2014; Creighton, 2012; van Dalen and Henkens, 2008).

Table 3: Country ranking for aggregate gender equality and emigration intention

	Emigration	
Gender discrimination	Desire	Preparation
Dominican Republic	Liberia	Australia
Colombia	Sierra Leone	Israel
Peru	Dominican Republic	Mozambique
Haiti	Guyana	Turkmenistan
El Salvador	Haiti	Vietnam
Brazil	Ghana	Belgium
Guatemala	Nigeria	Algeria
Honduras	Honduras	Croatia
Jamaica	El Salvador	Bosnia Herzegovina
Bolivia	Jamaica	Sri Lanka
Denmark	Kuwait	Spain
Luxembourg	Switzerland	Togo
China	Malaysia	Syria
Uzbekistan	Thailand	Benin
Oman	Rwanda	Guinea
Turkmenistan	Bahrain	Japan
Cambodia	Indonesia	Madagascar
Qatar	United Arab Emirates	Rwanda
Rwanda	India	Suriname
United Arab Emirates	Myanmar	Taiwan

Note: Countries are ordered from high to low gender discrimination perceptions (share of respondents who thinks women in their country are not treated with respect and dignity) and migration intentions (desire and preparation) based on aggregated Gallup data.

i living in country j indicates that she would be willing to move abroad when the opportunity arises and 0 otherwise. The preparation to migrate, $Preparation_{ij}$, then considers only women who have stated a desire to migrate and is set to 1 when she has already made preparations for her move and zero otherwise. Both of these measures in fact represent an unobserved continuous dependent variable which may be thought of as the individual's utility for desiring or deciding to move abroad, i.e. $Desire^*_{ij}$ and $Preparation^*_{ij}$ respectively.

Given the cross-country panel nature of our data, we can write both individual i's desire to migrate out of country j and her subsequent preparation to migrate[15] in the form of a fixed

[15]As mentioned in Section 2, we define the dependent variables individually and unilaterally, i.e. we do not consider the destination dimension. As an extension, we might take into account the destination dimension and analyze the individual migration decision bilaterally. The latter would allow to evaluate whether gender

effects logit model:

$$Desire^*_{ij} = \alpha_1 + GD_{ij}\beta_1 + X_{ij}\gamma_1 + \delta_{1,j} + \epsilon_{1,ij} \tag{1}$$

$$Preparation^*_{ij} = \alpha_2 + GD_{ij}\beta_2 + X_{ij}\gamma_2 + \delta_{2,j} + \epsilon_{2,ij}. \tag{2}$$

GD_{ij} represents a dummy capturing whether or not individual i believes that women in country j are treated with respect and dignity. X_{ij} denotes the set of personal and household characteristics traditionally used to explain the individual decision to migrate. Specifically, we include age, marital status (married or not), education level (obtained a college degree or not), number of children in the household, urbanization (urban or rural), employment status, income (log of per capita household income in PPP international dollars)[16], household size and the presence of a network abroad (having a household member, a friend or a relative abroad). The country fixed effects $\delta_{1,j}$ and $\delta_{2,j}$ allow to account for unobserved characteristics common to all inhabitants in a country.[17]

The observed dependent variables $Desire_{ij}$ and $Preparation_{ij}$ then take the value 1 if their corresponding utility exceeds 0; and 0 otherwise:

$$Desire_{ij} = \begin{cases} 0 \text{ if } Desire^*_{ij} < 0 \\ 1 \text{ if } Desire^*_{ij} \geq 0 \end{cases} \tag{3}$$

$$Preparation_{ij} = \begin{cases} 0 \text{ if } Preparation^*_{ij} < 0 \\ 1 \text{ if } Preparation^*_{ij} \geq 0. \end{cases} \tag{4}$$

A number of methodological issues arise. First of all, the analysis might be affected by measurement error in our explanatory variable of interest. Section 2.2 already provides initial statistical support for the eligibility of our measure of perceived gender discrimination. Yet, two issues remain. First, we have to ensure that our indicator truly captures gender discrimination rather than a general lack of civil and political rights which would affect men and women in a similar

discrimination differentials determine also women's migration destination choices.

[16]Other authors consider also the role play by perceived income (see e.g. Dustmann and Okatenko, 2014). As a robustness check, we also included satisfaction with the personal standard of living and satisfaction with the household income, but our main results were preserved.

[17]For details on the data construction of the variables included in the empirical analysis, see Appendix A.

way[18]. As a first robustness check, we therefore replicate our benchmark estimation using the whole sample, i.e. data for both men and women, to which we add a gender dummy and subsequently also an interaction term between this dummy and perceived gender discrimination. We expect to see that women's migration behavior is more responsive to the unequal treatment of women in their country.

Second, it could be argued that gender discrimination affects women's freedom of speech. Gender inequality may bias the responses provided during the Gallup interviews. If, in other words, women's freedom of speech is more restricted than men's because of cultural or religious barriers, as in many Muslim countries[19], individual replies to the Gallup question on perceived gender discrimination could be biased. To test whether our results are affected by this type of measurement error, we re-estimate our benchmark model limiting the sample to non-Muslim countries only.

Another source of measurement error might stem from the fact that our sample includes not only natives, but also previously arrived immigrants residing in the country. Some of the foreign respondents might however be temporary migrants, who plan to return to their country of origin, or transit migrants who plan to move to another country in the (near) future. Former migrants might be more likely to migrate again and could hence exhibit different migration behavior than natives. In order to test the sensitvity of our results to the inclusion of previous migrants we re-estimate our model excluding them from the sample, hence keeping only respondents who were born in the country.

Furthermore, endogeneity may come from omitted variables both at the country and at the individual level. Time-invariant unobserved country characteristics influencing both migration behavior and gender discrimination are captured by the country fixed effects. As a robustness

[18]Note that we do not argue that men are not concerned with gender discrimination issues. In his speech for the occasion of the 100th International Women's Day, the Director of the International Strategy for Disaster Reduction, for instance, stated that "*Advancing gender perspectives and women's rights is not just a job for women, more men must advocate at a high level for the empowerment of women, and for the incorporation of gender budgeting into national and local development plans*". Also the gender composition of international organizations and lobbies suggests that efforts to improve females' conditions are not only pursued by women. In fact, according to Doepke and Tertilt (2009), men care about the other gender in facing a trade-off between the rights they want for their own wives and the rights of other women in the economy.

[19]See the report titled 'Freedom of Expression and the Rights for Women' by the AHA Foundation at www.theAHAfoundation.org.

check, we included also time-varying country characteristics that allow us to control for the quality of institutions, the average living standard and other factors that may affect overall living conditions. Specifically, we included the Polity IV index and the proportion of seats held by women in national parliaments as proxies for the level of democracy, regime changes and political participation of females. Women's living standards are approximated by the log of GDP per capita in purchasing power parities, the female literacy rate, female life expectancy, the yearly number of intentional homicides per 100000 inhabitants, HIV prevalence in percent of the population. Finally, we also consider the log of the occurrence of natural disasters, the percentage of the population exposed to air pollution, and the log of the occurrence of intrastate conflict. Data on natural disasters was obtained from the International Disaster Database of the Center for Research on the Epidemiology of Disasters; the occurrence of conflict comes from the UCDP Non-State Conflict Database 2.5-2014. Data for the other indicators were acquired from the World Development Indicators (2015).

Yet, there might also be unobservable individual characteristics simultaneously affecting migration behavior and individual conceptions of the severity of gender discrimination in a country. The cultural transmission of values and norms within the family, for example, can have important effects on the way women are treated in their country (Escriche, Olcina and Sánchez, 2004) as well as on social norms regarding gender equality. Depending on socio-cultural preferences and traditions, some respondents might hence claim that their country has reached a non-discriminatory gender balance whereas others living in the same country might still perceive gender discrimination to be an issue. We presume this resilience of beliefs to be lower for the highly educated. As such, their perceptions of gender discrimination should be less dependent on their socioeconomic environment and can hence be assumed exogenous. In order to test whether our empirical analysis suffers from omitted variable bias in terms of cultural transmission, we limit our sample to highly skilled females only, i.e. those who completed at least 4 years of education beyond high school and/or received a 4-year college degree.

Second, perceived gender discrimination might be endogenous and hence correlated with the error term because of reverse causality given that migration in itself is often seen as a source of female empowerment (Ruba, 2011). Migration can, in other words, function as an external change agent which can set off, facilitate, or catalyze the empowerment process (Lodigiani and Salomone, 2015; Tuccio and Wahba, 2014; Diabaté and Mesple Somps, 2014; Sen and Batliwala, 1998). Women's labor market conditions, for instance, have been shown to be influenced by migration movements

(Docquier et al., 2012; Borjas, 2008; Mishra, 2007). To the extent that women and men have different specializations on the labor market with complementary positions in the production process, any shock in the labor market would have distinct effects on male and female labor market conditions. Consequently, if female migration leads to a negative labor supply shock in the origin country, it would raise female wages but lower those of men (Baudassé and Bazillier, 2014). Another channel through which migration might influence empowerment is the brain gain mechanism: migration prospects have been shown to increase the incentive to invest in education (Beine, Docquier, and Rapoport, 2008), thereby also raising female empowerment.

A popular solution to deal with reverse causality issues in a logit model is to estimate a linear probability model with instrumental variables, ignoring the binary outcome. Yet, despite its simplicity, linear two stage least squares can often lead to very strange results such as fitted choice probabilities below 0 or above 1, and it is generally inconsistent with economic theory for binary choice (Dong, Lewbel and Yang, 2012). Also control function methods are inappropriate in this context as they generally require the endogenous regressors to be continuous, rather than binary. Moreover, the control function approach requires that the first stage model is correctly specified, which is also the case for maximum likelihood estimators of binary outcome models. An alternative to deal with endogeneity in binary choice models is the special regressor estimator first proposed by Lewbel (2000), which circumvents the drawbacks of the other estimation techniques. The special regressor estimator only requires that the model includes a particular regressor, V, which (i) is exogenous and conditionally independent of the error terms, (ii) appears as an additive term in the model, (iii) is continuously distributed with a large support, and (iv) preferably has a thick-tailed distribution. The requirements on the instrument set are then the same as those for the linear two-stage least squares estimator, i.e. instruments should be independent of the error terms and of full rank.

Following the Dong and Lewbel (2015) simple special regression estimator to deal with the probability of US interstate migration, we re-estimate our benchmark model by taking age as the special regressor which satisfies all the requirements. According to human capital theory, age should appear linearly (or at least monotonically) in a threshold crossing model. The authors put forward that migration is in part driven by maximizing expected lifetime income, and the potential gain in lifetime earnings from a permanent change in labor income declines linearly with age (see Dong, 2010). Specifically, V_{ij} is defined as the negative of age minus its mean to ensure that it has a positive coefficient and a zero mean. As an additional instrument,

we include the share of men who identify discrimination towards gay and lesbian people as an issue in their country. The associated question in the Gallup survey reads "Is the city or area where you live a good place or not a good place for gay or lesbian people?", available for all years and countries in our sample. The rationale for using discrimination based on sexual orientation as an instrumental variable for gender discrimination lies in the obvious connection between the level of gender hierarchy and emphasis on the heterosexual family and women's primary role as (unpaid) caretaker (Seguino, 2011). In an analysis of the effect of religiosity on attitudes toward gender equality using World Values Survey data, Seguino (2011) states that *homosexuality (like divorce and abortion) contradicts the social roles prescribed for women and - by implication - delineates separate roles for men.* In other words, the higher the openness of a country towards homosexuality, the lower gender inequality. Yet, in order for discrimination towards gays and lesbians to be a valid instrument for gender inequalities, it should not extert an influence on individual female migration behavior. Therefore, we do not consider women's own experience with this type of discrimination (which indeed might act as an additional push factor for migration)[20].

Finally, the empirical model presented in Section 3 can be considered a sample selection model in which women first identify whether they would be willing to migrate abroad when an opportunity arises, and subsequently, if they are willing to move, whether they have actually decided to do so by having made preparations for their move. In this case, the sample selection is not random but determined by the same factors as those affecting the subsequent variable of interest, yielding inaccurate estimates from standard estimators like (fixed effects) logit regression. Moreover, because in our framework both the desire and preparation to migrate are influenced by an identical set of explanatory variables, also Heckman-type estimators are unsuitable. The latter require that there exists an additional variable explaining the desire to migrate but not the preparation to actually do so.[21]

An alternative is however provided by Sartori (2003) who proposes a maximum likelihood estimator for binary choice models with selection based upon the additional identifying assumption that the error term is the same in both equations, i.e. $\epsilon_{1,ij} = \epsilon_{2,ij}, \forall i, j$. This assumption is likely

[20] http://cis.org/Immigration%2526Homosexuals-PolicyTowardHomosexuals.

[21] In fact, technically it is possible to estimate a Heckman model using exactly the same set of explanatory variables in the selection and the outcome equation. Yet, this procedure is not recommended because in this case the results depend only on the distributional assumptions about the residuals and not on variation in the explanatory variables (Sartori, 2003; Maddala, 1999).

to hold when the following three conditions are met (i) the two equations involve similar decisions, (ii) which are expected to have the same causes, and (iii) occur within a short time frame and/or are close to each other geographically. Our framework meets the three conditions: the desire to migrate (or select into the sample) is closely related to the preparation to actually do so; both variables of interest are influenced by the same factors (e.g. having a network abroad); and the setup of the questionnaire guarantees that replies to both questions are obtained at the same point in time and concern the same geographical location. We can thus re-estimate our model using Sartori's estimator to test whether our empirical results are subject to sample selection bias. For technical details concerning the estimation technique we refer to Sartori (2003).

Subsequently, we test whether the results from our benchmark model are robust across countries. Depending on the development level of their country of residence, women's perception of the severity of gender discrimination might differently affect their desired or actual migration behavior. Specifically, we follow the World Bank's classification (2009-2010) of countries into five income groupings according to gross national income (GNI) per capita in US dollars: low income (LI), lower middle income (LMI), upper middle income (UMI), high income non-OECD (HIN) and high income OECD (HIO).

3.1 Estimations results

Each specification includes country of origin fixed effects and is estimated using the conditional logit estimator, unless stated otherwise. Standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. In general, the model always converges and the Wald test always rejects the hypothesis that all parameters are jointly zero. In order to facilitate the interpretation of the estimation results, we report exponentiated coefficients which can be interpreted as odds ratios, i.e. the ratio by which the dependent variable changes for a unit change in an explanatory variable. Odds simply capture the expected number of women who desire (prepare) to migrate for every woman who does not wish (prepare) to do so.[22]

[22]This is a better alternative than presenting the results in terms of marginal effects given that the fixed effects required to calculate these marginal effects are not estimated using the conditional logit estimator. The only way in which marginal effects can then be obtained is by setting the fixed effects to zero, a very strong and unrealistic assumption in the current framework. The interpretation becomes even more tricky when interaction effects are included in a non-linear model with fixed effects such as ours.

Tables 4 and 5 provide conditional logit estimates for the impact of gender discrimination and traditional controls on female migration desire and preparations, respectively.

Table 4: Impact of gender discrimination and traditional controls - Desire

	Controls	Benchmark	Highly skilled	Non-muslim	Natives
Gender discrimination		1.620***	1.695***	1.682***	1.619***
		(16.61)	(10.38)	(14.64)	(16.24)
Age	0.961***	0.962***	0.967***	0.960***	0.961***
	(-22.54)	(-22.26)	(-18.25)	(-24.19)	(-22.09)
Married	0.797***	0.806***	0.795***	0.856***	0.802***
	(-7.63)	(-7.35)	(-5.59)	(-4.71)	(-7.45)
Highly skilled	1.234***	1.245***		1.223***	1.238***
	(5.30)	(5.64)		(4.34)	(5.15)
Number of children	1.001	1.001	0.990	1.000	1.001
	(0.42)	(0.41)	(-1.43)	(-0.08)	(0.46)
Urban	1.381***	1.356***	1.197***	1.335***	1.350***
	(11.01)	(10.74)	(3.90)	(7.55)	(10.42)
Employed	1.044*	1.044	1.011	1.028	1.038
	(1.39)	(1.42)	(0.22)	(0.77)	(1.20)
Household income pc (log)	0.997	1.000	0.934*	1.010	1.005
	(-0.19)	(-0.02)	(-1.74)	(0.32)	(0.28)
Household size	1.025***	1.024***	1.005	1.027***	1.027***
	(4.56)	(4.41)	(0.79)	(3.27)	(4.64)
Network abroad	2.025***	2.028***	1.932***	2.099***	1.997***
	(25.19)	(25.20)	(12.88)	(21.65)	(23.80)
Log likelihood	-49028.5	-48662.6	-7830.0	-29067.0	-45849.5
Wald Chi^2	1293.3	1254.8	848.4	1184.8	1184.1
Dof	9	10	9	10	10
Prob > Chi^2	0.000	0.000	0.000	0.000	0.000
Observations	127595	127595	17427	78378	121583

Notes: The table reports exponentiated coefficients and t statistics in parentheses. Standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The first column in Table 4 reports estimation results for the model including only personal characteristics traditionally included as controls in the literature. In line with expectations, we find that the desire to emigrate is higher for young, unmarried women who are highly skilled and live in an urban area. Also the network effect plays a key role in both stages of the migration decision, suggesting that having friends or family abroad encourages one's own desire or decision to move abroad (see also Docquier, Peri and Ruyssen, 2014). Specifically, our evidence suggests that women who can rely on a social network abroad are 2.03 (4.07) more likely to desire (decide) to move abroad. The desire to migrate is increasing in the size of the household but not affected by the number of children in the household, whereas the reverse is true for making preparations to move abroad. This suggests that having more children - and hence family obligations - acts

Table 5: Impact of gender discrimination and traditional controls - Preparation

	Controls	Benchmark	Highly skilled	Non-muslim	Natives
Gender discrimination		1.069	1.137	1.058	1.098
		(0.60)	(0.63)	(0.34)	(0.84)
Age	0.989***	0.989***	0.988*	0.984***	0.989***
	(-3.13)	(-3.14)	(-1.89)	(-3.62)	(-3.03)
Married	0.710***	0.712***	0.775	0.682***	0.717***
	(-4.60)	(-4.57)	(-1.62)	(-3.55)	(-4.24)
Highly skilled	1.503***	1.504***		1.504***	1.409***
	(4.82)	(4.81)		(3.34)	(3.60)
Number of children	0.950*	0.950*	0.935	0.937	0.951
	(-1.79)	(-1.79)	(-1.04)	(-1.33)	(-1.64)
Urban	1.105	1.102	0.858	1.021	1.125
	(1.11)	(1.09)	(-0.88)	(0.16)	(1.23)
Employed	0.931	0.931	0.746	0.981	0.922
	(-0.79)	(-0.78)	(-1.61)	(-0.14)	(-0.83)
Household income pc (log)	1.328***	1.328***	1.429***	1.321***	1.351***
	(4.87)	(4.86)	(3.60)	(3.50)	(4.75)
Household size	1.003	1.002	0.961	0.987	1.002
	(0.13)	(0.11)	(-0.79)	(-0.42)	(0.11)
Network abroad	4.074***	4.080***	2.978***	3.300***	4.279***
	(11.52)	(11.48)	(5.33)	(7.31)	(11.65)
Log likelihood	-2645.1	-2644.8	-596.1	-1510.5	-2411.1
Wald Chi^2	334.29	344.0	50.72	244.3	334.1
Dof	9	10	9	10	10
Prob $>$ Chi^2	0.000	0.000	0.000	0.000	0.000
Observations	19734	19734	3308	11496	18384

Notes: The table reports exponentiated coefficients and t statistics in parentheses. Standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

as an important constraint impeding women to realize their dreams of migrating abroad. The same holds for the per capita household income: although women's willingness to migrate does not depend on the household's income, it does affect the chance that they actually do so. Our evidence suggests that of those who state that they would be willing to move abroad when an opportunity arises, especially women from wealthier households decide to make the move. With a few exceptions, the impact of these traditional controls is robust across different specifications.

The second column of Tables 4 and 5 introduces individual perceptions towards gender discrimination and reports our benchmark results. We find that the ratio of women who desire to migrate over those who do not is 1.70 times higher when they identify gender discrimination as an issue in their country. For making preparations to migrate, on the other hand, we do not find a significant effect. This suggests that whereas gender discrimination clearly acts as an important incentive to migrate, it does not additionally affect the subsequent decision to actually do so among those who have expressed the desire. Hence, it seems that women's preparation to migrate is neither enhanced nor constrained by gender discrimination, but rather explained by different personal factors such as household income or the social network. Nevertheless, this does not mean that gender discrimination does not have an impact on actual migration. Imagine that 20 out of 100 women express a desire to emigrate and that only 5 of them actually make preparations. If the number of aspiring emigrants were to rise from 20 to 40 because of increased gender discrimination, also the number of actual migrants would double from 5 to 10. From a quantitative point of view, an increase in the number of women desiring to migrate because they perceive gender discrimination as an issue, would hence also increase the number of women actually moving abroad.[23]

In the following columns, the same model is estimated for different subsamples of the female population. Column 3 focuses on highly skilled females only and reports a similar effect of gender discrimination on migration desires and again an insignificant effect on the preparation to migrate. The migratory behavior of highly skilled women is neither affected by the size of

[23] As a robustness check, we also accounted for the respondent's religious beliefs, which might be considered another non-economic determinant of the emigration decision. As indicated in the Pew Research Center's latest annual report on global restrictions on relgion, roughly a quarter of the world's countries still struggle with high levels of religious hostilities - which can range from religious discrimination to violence to persecution. Religion might hence act as a push factor for people experiencing religious hositlities, or - like with gender discrimination - it might act as an obstacle to actually do so when minorities' rights are restricted. Controlling for religious background does not affect our main results. The results are available upon request from the authors.

the household nor by the number of children. Also limiting our sample to females living in non-Muslim countries (column 4) or natives only (column 5) does not alter our main findings. Perceived gender discrimination always appears as a strong and robust determinant of the willingness to migrate but not of subsequent migration behavior.

To test the robustness of our findings with respect to the inclusion of country characteristics, we separately evaluated the impact of sociopolitical, living standard and other indicators on both the willingness to emigrate and preparations to actually do so. In general, our results are robust to the inclusion of country-specific control variables: the positive significant (insignificant) effect of gender discrimination on the women's willingness (preparations) to move is preserved. Furthermore, it is interesting to see that women have a lower desire to emigrate when the political participation in parliament is higher. At the same time, those who want to emigrate have a higher chance to effectively undertake action in more democratic countries with more women in parliament, though both effects play only at the 10% level.[24]

Tables A-1 and A-2 present estimates for our benchmark model to which we add an interaction term between perceived gender discrimination and different personal characteristics. Only two of the interaction terms appear statistically significant, and this for both migration desires and subsequent preparation decisions. First, we find a significant positive impact from the interaction term with per capita household income, suggesting females in prosperous households have a higher desire to move abroad if they feel they are discriminated. Second, the impact of gender discrimination on migration desires (preparation) rises (decreases) with age. This implies that women who feel discriminated are more willing to move abroad the older they get, but the chance that they turn their dreams into reality becomes smaller over the years. The effect of perceived gender discrimination does not seem to vary with a woman's marital status, education level, employment status or the degree of urbanization of her living environment.

In Table 6, we report the estimation results from a number of robustness checks. First of all, we re-estimate the benchmark model using data for both men and women and introduce a dummy for the latter.[25] The estimates in the first two columns reveal that, after controlling for the traditional set of personal characteristics, women generally have both a lower desire to migrate

[24] The results are available upon request from the authors.

[25] To avoid system memory issues, the results presented in the first and third columns of Table 6 were obtained using an unconditional logit estimator with country dummies, which provides consistent estimates given the large number of observations per country in our analysis.

than men and a lower propensity to realize their migration plans (see also Chort, 2014). The odds that a woman desires to migrate compared to a man is 0.7 and she is 0.3 times less likely than a man to actually do so. The third and fourth columns then add an interaction term between gender discrimination and the female dummy to evaluate whether women are more sensitive to gender discrimination as a push factor than men. As expected, both women and men are concerned with gender discrimination when considering to move abroad but the effect is stronger for women than for men. Yet, for the preparation to migrate, again the effect of gender discrimination itself and the interaction term with gender remain insignificant.

Table 6: Robustness checks

	Whole sample		Interaction		Special Reg		Sartori	
	Desire	Prep	Desire	Prep	Desire	Prep	Desire	Prep
Gender discrimination	1.582***	1.037	1.478***	1.038	131.774***	-37.429	0.271***	0.154***
	(16.88)	(0.56)	(11.60)	(0.52)	(2.77)	(-0.78)	(27.17)	(4.98)
Age	0.961***	0.994***	0.961***	0.994***			-0.022***	-0.015***
	(-24.75)	(-2.61)	(-24.74)	(-2.61)			(-56.89)	(-11.47)
Married	0.803***	0.746***	0.804***	0.746***	7.929***	-3.808	-0.122***	-0.196***
	(-9.40)	(-5.46)	(-9.40)	(-5.46)	(5.71)	(-1.58)	(-12.10)	(-6.43)
Highly skilled	1.136***	1.371***	1.136***	1.371***	9.673***	4.576***	0.129 ***	0.230***
	(4.28)	(4.34)	(4.28)	(4.34)	(10.49)	(5.07)	(9.46)	(6.10)
Number of children	1.004*	0.969	1.004*	0.969	3.578***	2.806***	0.001	-0.017**
	(1.94)	(-1.53)	(1.91)	(-1.53)	(21.96)	(8.55)	(0.41)	(-2.02)
Urban	1.309***	1.114**	1.308***	1.114**	2.947	1.944	0.170***	0.124***
	(11.71)	(2.08)	(11.71)	(2.08)	(-1.45)	(0.88)	(16.67)	(3.92)
Employed	0.983	0.896	0.981	0.896	10.214***	0.286	0.027***	-0.011
	(-0.61)	(-1.57)	(-0.65)	(-1.58)	(20.95)	(0.36)	(2.79)	(-0.35)
Household income pc (log)	0.973	1.321***	0.974	1.321***	0.281	0.468	0.001	0.106***
	(-1.51)	(6.23)	(-1.48)	(6.21)	(0.82)	(1.19)	0.15	(5.77)
Household size	1.022***	1.010*	1.022***	1.010*	-0.656***	-0.977***	0.014***	0.006
	(4.50)	(1.74)	(4.48)	(1.73)	(-3.60)	(3.94)	(5.94)	(0.73)
Network abroad	1.899***	3.647***	1.899***	3.647***	5.422***	1.604**	0.401***	0.690***
	(24.81)	(17.32)	(24.80)	(17.33)	(10.58)	(2.40)	(41.15)	(20.83)
Female	0.682***	0.691***	0.650***	0.690***				
	(-10.79)	(-5.74)	(-11.18)	(-5.29)				
Gen discr x Female			1.140***	0.996				
			(3.75)	(-0.02)				
Log likelihood	-99964.0	-6916.3	-99948.7	-6916.3			-51941.7	
Wald Chi^2		659.9		669.6	3405.3	887.8	12679.0	
Dof		11		12	144	144	157	
Prob > Chi^2		0.000		0.000	0.000	0.000	0.000	
Observations	240050	43285	240050	43285	87806	14932	127595	

Notes: The first three columns report exponentiated coefficients and t statistics in parentheses. The last two columns report estimated coefficients and t statistics in parentheses. In the first three columns, standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The fifth and sixth column present estimated coefficients from the special regressor estimator to deal with endogeneity issues potentially affecting our analysis as outlined above. Re-estimating our model in this way (i.e. with age as the special regressor and the share of men who identify discrimination of gays and lesbians as in issue in their country as an additional instrument) qualitatively confirms the positive significant effect of gender discrimination on the willingness of females to migrate as well as the lack of an additional impact on the realization of female migration desires. The special regressor estimator nests logit as a special case but does not provide logit estimates so that we cannot express the estimation results in terms of exponentiated estimates or odds ratios. We can, however, derive marginal effects from the average index function proposed by Lewbel, Dong and Yang (2012) and compare those to the ones obtained from our benchmark specification[26]. According to the latter, the predicted probability of desiring to migrate is 0.089 greater for women who signal gender discrimination is an issue in their country. The preparation to migrate, on the other hand, is quantitatively less affected by perceived gender discrimination, as suggested by the estimated marginal effect of 0.003. Similar marginal effects, i.e. respectively 0.005 and -0.012, are obtained based on the special regressor approach. Note that we assumed that only the mean of age is related to the other covariates but also when we allow higher moments of age to depend on the other covariates, we get similar results. The results are also robust to using the kernel density estimator rather than the sorted data density estimator which we used here.[27]

The last two columns in Table 6 present estimation results from Sartori's sample selection estimator.[28] In order to take into account unobserved heterogeneity, we add country dummies to the specification. Sartori's estimator reports a positive significant effect of gender discrimination on women's desire to migrate, suggesting that this results is robust to sample selection bias. Additionally, when we control for sample selection we also find a positive significant impact on the preparation to migrate, which implies that gender discrimination not only enhances their willingness to move abroad but additionally acts as a decisive factor to turn their dreams into action. Quantitatively, on the other hand, Sartori's estimator confirms the results obtained from our benchmark estimation: the marginal effect of gender discrimination obtained with Sartori's

[26] Yet, as mentioned above, the marginal effects from a conditional logit model can only be calculated by setting the fixed effects to zero, which is a rather unrealistic assumption in practice.

[27] The results for these different estimation procedures are available upon request from the authors.

[28] Note that Sartori's maximum likelihood estimator considers both equations simultaneously, in line with Heckman-type estimators.

estimator is 0.035 for migration desire compared to 0.089 obtained from the separate conditional logit estimations while for the preparation to migrate both marginal effects are estimated at 0.003.

Finally, we re-estimate our benchmark model for different categories of countries based on the World Bank's income groupings classification (2009-2010). The first five columns of Tables 7 and 8 present estimation results for these five groups of countries. While in general we find that perceived gender discrimination forms a strong incentive only for desiring to move abroad without additionally affecting women's subsequent decision to do so, it seems that in some countries, i.e. in those with the lowest GNI per capita, perceived gender discrimination acts as an obstacle to migrate. In very poor countries, gender discrimination hence both pushes women to be willing to move out but at the same time it prevents them from turning their dreams into action. Re-estimating the model separately for the two regions with the largest number of low income countries, we find that this is not so much the case for Asian countries but it strongly affects migration behavior in sub-Saharan Africa. In the latter region, gender imbalances hold back women from leaving their country despite their wish to do so.

Table 7: Impact of gender discrimination and traditional controls by development level - Desire

	LI	LMI	UMI	HIN	HIO	Asia	SSA
Gender discrimination	1.475***	1.462***	1.714***	1.758***	2.098***	1.263	1.443***
	(7.06)	(8.61)	(8.64)	(8.96)	(12.85)	(1.51)	(6.41)
Age	0.962***	0.963***	0.961***	0.962***	0.959***	0.971***	0.960***
	(-21.06)	(-7.79)	(-12.90)	(-9.68)	(-18.49)	(-4.14)	(-19.00)
Married	0.748***	0.826***	0.815***	0.798***	0.948	1.038	0.733***
	(-6.18)	(-3.11)	(-3.39)	(-3.95)	(-0.62)	(0.38)	(-7.26)
Highly skilled	1.525***	1.303***	1.210***	1.403***	1.000	1.836***	1.261**
	(4.90)	(4.00)	(3.40)	(2.99)	(0.00)	(7.03)	(2.14)
Number of children	1.006	0.998	1.000	1.006	0.995	0.999	1.014
	(0.86)	(-0.30)	(-0.14)	(0.99)	(-0.20)	(-0.05)	(1.48)
Urban	1.523***	1.397***	1.280***	1.167	1.343***	1.739***	1.476***
	(6.17)	(6.12)	(5.05)	(1.21)	(7.72)	(4.03)	(4.14)
Employed	1.017	0.998	1.088	1.226*	1.069	1.308**	0.869***
	(0.23)	(-0.04)	(1.61)	(1.74)	(1.16)	(2.51)	(-2.70)
Household income pc (log)	1.015	1.038	0.966	0.952	0.885**	1.123*	1.000
	(0.74)	(1.36)	(-0.65)	(-0.54)	(-2.15)	(1.73)	(0.01)
Household size	1.018	1.042***	1.022***	0.976	1.024	0.990	1.031**
	(1.43)	(3.76)	(3.43)	(-0.64)	(1.09)	(-0.84)	(2.03)
Network abroad	1.772***	1.931***	2.204***	2.471***	2.061***	1.669***	1.788***
	(13.82)	(12.04)	(15.16)	(12.06)	(9.50)	(3.16)	(10.82)
Log likelihood	-10961.4	-13716.6	-15028.8	-3929.9	-4937.1	-2062.1	-6966.5
Wald Chi^2	1986.3	387.1	532.1	1474.1	2500.7		2312.4
Dof	10	10	10	10	10		10
Prob $>$ Chi^2	0.000	0.000	0.000	0.000	0.000		0.000
Observations	23946	34086	41277	12665	15621	4955	14986

Notes: The table reports exponentiated coefficients and t statistics in parentheses. Standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Impact of gender discrimination and traditional controls by development level - Preparation

	LI	LMI	UMI	HIN	HIO	Asia	SSA
Gender discrimination	0.806*	1.422	1.258	0.998	0.607	1.150	0.719***
	(-1.67)	(1.39)	(1.54)	(-0.01)	(-1.51)	(0.13)	(-3.03)
Age	0.992	1.003	0.980***	0.972	0.963***	0.960	0.994
	(-1.43)	(0.43)	(-3.32)	(-1.46)	(-3.38)	(-1.58)	(-1.00)
Married	0.870	0.779**	0.657***	0.444	0.812	0.717	0.893
	(-1.55)	(-2.34)	(-3.00)	(-1.60)	(-0.39)	(-0.76)	(-1.13)
Highly skilled	1.566***	1.057	1.743***	1.805	1.911***	2.063***	1.490***
	(3.93)	(0.31)	(3.86)	(1.41)	(2.59)	(2.61)	(2.82)
Number of children	0.944	0.975	0.898	0.555***	0.931	0.879	0.944
	(-1.59)	(-0.47)	(-1.26)	(-2.66)	(-0.41)	(-1.34)	(-1.51)
Urban	1.084	1.127	0.974	1.088	1.454	1.614	0.924
	(0.58)	(0.87)	(-0.13)	(0.29)	(1.36)	(1.02)	(-0.52)
Employed	1.033	0.989	0.739**	0.977	0.771	0.365	1.032
	(0.20)	(-0.06)	(-2.14)	(-0.05)	(-0.88)	(-1.12)	(0.20)
Household income pc (log)	1.244**	1.613***	1.306***	1.235	1.021	0.910	1.248*
	(2.03)	(4.84)	(2.78)	(0.86)	(0.07)	(-0.25)	(1.80)
Household size	1.077**	1.012	0.894**	0.909	0.685**	1.025	1.101**
	(2.02)	(0.40)	(-2.53)	(-0.45)	(-2.00)	(0.34)	(2.43)
Network abroad	3.686***	4.285***	7.082***	1.773	1.308	3.682***	3.625***
	(5.58)	(7.57)	(9.08)	(1.09)	(0.62)	(3.32)	(4.59)
Log likelihood	-738.4	-795.6	-731.2	-148.6	-182.6	-68.32	-575.0
Wald Chi^2	168.8	397.4	290.7	4346.2	212.5		220.0
Dof	10	10	10	10	10		10
Prob $>$ Chi^2	0.000	0.000	0.000	0.000	0.000		0.000
Observations	4989	6136	5734	1372	1503	844	3206

Notes: The table reports exponentiated coefficients and t statistics in parentheses. Standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

4 Conclusion

Despite notable progress in recent years, gender discrimination and violence against women remains prevalent and persistent across the world leading to multiple outcomes in terms of economic growth and development (Doepke and Tertilt, 2009; Duflo, 2012; De la Croix and Vander Donckt, 2010; Esteve-Volart, 2009). This paper originally contributes to existing gender studies by shedding light on the role of international migration as an additional channel through which gender discrimination can influence developing countries of origin by pushing women abroad.

Using unique individual data from the largely unexplored Gallup World Polls, we exploit information for 150 countries from 2009 to 2013 on women's individual perceptions towards gender discrimination (related to feeling treated with respect and dignity) as well as on their emigration desires and emigration preparation to migrate abroad. In this way, we are able to track women' willingness to migrate as well as the realization of this aspiration and explore to what extent perceived gender discrimination alongside traditional personal characteristics can foster or impede female migration. Mixed results from the recent strand of literature related to specific non-economic determinants in fact demonstrate that gender discrimination can act both as an incentive and/or a constraint in this context.

Our benchmark empirical strategy consists of two logit estimations with country fixed effects. Subsequently, we account for several methodological issues including measurement error, reverse causality and sample selection. To deal with potential endogeneity in the relationship between gender discrimination and migration behavior we apply the special regressor method using age as special regressor (Dong and Lewbel, 2015) and the share of men considering gays and lesbians being discriminated as additional exogenous instrument. To account for sample selection we rely on the maximum likelihood approach for binary choice models without exclusion restriction developed by Sartori (2014). Furthermore, in order to tackle measurement error and omitted variables we perform a series of robustness checks using different subsamples of female respondents.

Our empirical results show that perceived gender discrimination forms a strong and highly robust incentive to migrate, but it does not seem to affect subsequent migration behavior, except in very poor (sub-Saharan African) countries. In other words, the less women feel treated with respect and dignity, the more they are willing to emigrate and hence the larger the size of potential female emigration. The relative importance of other more traditional push factors such as household

income or network effects on the one hand and potential constraints such as family obligations subsequently determine whether those dreams are turned into action. In sub-Saharan Africa, on the other hand, perceived gender discrimination acts as a strong incentive to dream of migrating but simultaneously prevents women from actually moving abroad.

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Appendix A Data construction

Explanatory variables

The definition and source of the variables used in the regressions are the following:

- Gender equality (individual): dummy for experiencing gender equality. The dummy takes the value 1 when the respondent replies positively to the Gallup question "Do you believe that women in this country are treated with respect and dignity, or not?", and 0 otherwise. This question was asked in 150 countries[29].
- Gender equality (share): the number of respondents in favour of gender equality as a share of the total number of respondents by country.

[29]The country list is the same as the one for the desire to emigrate, except that there are no data on gender equality for Liberia and Switzerland are missing.

- Age: age of the respondent, varying between 26 and 99 because only those aged 25+ are considered in our sample.
- Married: dummy for current marital status. The dummy takes the value 1 when the respondent is currently married, and 0 when single, widowed, separated, divorced or domestic partner.
- Highly skilled: dummy for being highly educated, which takes the value 1 when the respondent completed at least 4 years of education beyond high school and/or received a 4-year college degree, and 0 otherwise.
- Children: number of children under 15 years of age currently living in the respondent's household.
- Urban: dummy for living in a large city or a suburb of a large city (as opposed to a rural area, on a farm, a small town or village in which case the dummy takes the value 0).
- Employed: dummy for being employed full time for an employer, self-employed or employed part time by choice (as opposed to being employed part time but wanting full time, unemployed or out of the workforce, in which case the dummy takes the value 0).
- Household Income: log of household income in international dollars.
- Household size: log of the number of people currently living in the respondent's household.
- Network abroad: dummy for having a household member, a friend or a relative abroad. The dummy combines the replies to two questions of the Gallup database: (i) Have any members of your household gone to live in a foreign country permanently or temporarily in the past five years? (ii) 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? It takes the value 1 if the respondent answered "yes, still there" to the first question (hence, we ignore those who have returned) or "yes" to the second one.

Appendix B Tables

Table A-1: Interactions with personal characteristics

	Income	Age	Married	Highly skilled	Employed	Urban
Gender discrimination	0.995	1.358***	1.666***	1.569***	1.658***	1.586***
	(-0.03)	(3.75)	(12.62)	(5.69)	(13.47)	(13.39)
Age	0.962***	0.960***	0.962***	0.962***	0.962***	0.962***
	(-22.24)	(-19.46)	(-22.23)	(-22.28)	(-22.25)	(-22.28)
Married	0.805***	0.805***	0.822***	0.806***	0.805***	0.806***
	(-7.36)	(-7.36)	(-5.72)	(-7.35)	(-7.35)	(-7.34)
Highly skilled	1.247***	1.245***	1.245***	1.231***	1.245***	1.246***
	(5.67)	(5.64)	(5.65)	(4.90)	(5.62)	(5.65)
Number of children	1.001	1.001	1.001	1.001	1.001	1.001
	(0.42)	(0.42)	(0.40)	(0.41)	(0.42)	(0.41)
Urban	1.356***	1.355***	1.356***	1.356***	1.356***	1.327***
	(10.73)	(10.75)	(10.74)	(10.75)	(10.75)	(8.64)
Employed	1.044	1.045	1.044	1.044	1.067**	1.044
	(1.42)	(1.43)	(1.42)	(1.42)	(1.97)	(1.42)
Household income pc (log)	0.976	1.000	1.000	1.000	1.000	1.000
	(-1.12)	(-0.00)	(-0.01)	(-0.02)	(-0.01)	(-0.01)
Household size	1.024***	1.024***	1.024***	1.024***	1.024***	1.024***
	(4.41)	(4.42)	(4.43)	(4.41)	(4.42)	(4.41)
Network abroad	2.029***	2.028***	2.029***	2.028***	2.029***	2.029***
	(25.17)	(25.25)	(25.22)	(25.20)	(25.24)	(25.18)
Gen discr x Age	1.004**					
	(2.30)					
Gen discr x Married		0.955				
		(-1.11)				
Gen discr x Highly skilled			1.028			
			(0.46)			
Gen discr x Urban				1.049		
				(1.18)		
Gen discr x Employed					0.950	
					(-1.17)	
Gen discr x HH inc pc						1.058***
						(2.86)
Log likelihood	-48655.1	-48657.3	-48661.7	-48662.5	-48661.5	-48661.6
Wald Chi^2	1265.5	1278.5	1291.9	1259.7	1267.5	1258.6
Dof	11	11	11	11	11	11
Prob $>$ Chi^2	0.000	0.000	0.000	0.000	0.000	0.000
Observations	127595	127595	127595	127595	127595	127595

Notes: The table reports exponentiated coefficients and t statistics in parentheses. Standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A-2: Interactions with personal characteristics - Preparation

	Age	Married	Highly skilled	Urban	Employed	Income
Gender discrimination	0.355*	1.761**	0.945	1.041	1.154	1.048
	(-1.68)	(2.03)	(-0.45)	(0.15)	(1.17)	(0.32)
Age	0.989***	0.995	0.989***	0.989***	0.989***	0.989***
	(-3.20)	(-1.04)	(-3.12)	(-3.14)	(-3.15)	(-3.13)
Married	0.709***	0.713***	0.638***	0.712***	0.712***	0.712***
	(-4.67)	(-4.56)	(-4.11)	(-4.58)	(-4.56)	(-4.57)
Highly skilled	1.504***	1.501***	1.504***	1.489***	1.503***	1.504***
	(4.80)	(4.76)	(4.79)	(3.37)	(4.81)	(4.81)
Number of children	0.949*	0.949*	0.951*	0.950*	0.950*	0.950*
	(-1.80)	(-1.80)	(-1.76)	(-1.79)	(-1.78)	(-1.79)
Urban	1.102	1.106	1.103	1.102	1.102	1.082
	(1.09)	(1.13)	(1.10)	(1.09)	(1.09)	(0.66)
Employed	0.929	0.930	0.932	0.931	1.006	0.932
	(-0.82)	(-0.80)	(-0.78)	(-0.78)	(0.05)	(-0.78)
Household income pc (log)	1.253***	1.329***	1.326***	1.328***	1.330***	1.328***
	(3.39)	(4.85)	(4.82)	(4.85)	(4.87)	(4.85)
Household size	1.002	1.002	1.002	1.002	1.002	1.002
	(0.12)	(0.08)	(0.09)	(0.11)	(0.09)	(0.11)
Network abroad	4.090***	4.078***	4.082***	4.079***	4.082***	4.081***
	(11.50)	(11.47)	(11.46)	(11.48)	(11.49)	(11.51)
Gen discr x Age	0.987**					
	(-2.05)					
Gen discr x Married		1.267				
		(1.51)				
Gen discr x Highly skilled			1.021			
			(0.10)			
Gen discr x Urban				1.038		
				(0.24)		
Gen discr x Employed					0.850	
					(-0.96)	
Gen discr x HH inc pc						1.132*
						(1.79)
Log likelihood	-2643.4	-2643.0	-2643.6	-2644.8	-2644.2	-2644.7
Wald Chi^2	370.1	362.6	343.0	344.8	344.7	366.4
Dof	11	11	11	11	11	11
Prob $>$ Chi^2	0.000	0.000	0.000	0.000	0.000	0.000
Observations	19734	19734	19734	19734	19734	19734

Notes: The table reports exponentiated coefficients and t statistics in parentheses. Standard errors are robust to heteroskedasticity and serial correlation and are clustered across origins. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.