

# Do rights matter in migration decisions? Inference based on gender differences \*

Work in progress. Do not circulate.

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## Abstract

This article studies the role of institutions as a driver of international migration. We exploit the differential effect of discriminatory legal institutions with respect to the largest population experiencing such systematic discrimination – women – on individual migration decisions. We estimate the migration rate of females with respect to males using a gravity model derived from a RUM model of migration. Using data on 107 origin to 26 destination countries over 1960-2011 and an instrumentation strategy, we find that gender discrimination depresses the relative migration rate. Relative migration increases with equality in political rights and civil liberties in low-income countries, while it increases with economic rights in middle- and high-income countries.

**Key words:** Gender Discrimination, Migration, RUM model, Women’s Rights.

**JEL classification:** F22, J15, J16, J71, K38, O15.

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# 1 Introduction

In recent years, the role of institutions has received particular attention in the economic literature on migration due to both the importance of institutions for migration decisions and the ability of policy makers to design them (Baudassé et al., 2018). Institutions can be defined as commonly known rules that are used to structure recurrent interactions in a community, and endowed with a sanctioning mechanism (Voigt, 2013). While the malleability of institutions makes them attractive for policy makers wishing to manage migration flows, the effect of institutions protecting individual rights in origin countries on individuals' decisions to migrate is ambiguous. On the one hand, an improvement of individual rights can increase migration by improving individuals' ability to work, their political participation or living standards. On the other hand, it can decrease migration by lowering the costs of migration in origin countries, e.g. by removing of legal barriers to migration.

The empirical analysis of the relationship is however fraught with two main sources of endogeneity. Migration and institutions share some of their causes and migration can, to some extent, lead to institutional change in origin countries (Docquier et al., 2016). To insulate causality, we study whether differences in the protection of individual rights of two distinct social groups lead to differences in the propensity of members of these groups to leave their home country. Gender groups are ideally suited to implement this research design. While, women make up about half of the population of all countries worldwide, female migration is on average 14.1% lower than male migration. This figure, however, hides a lot of heterogeneity across origin countries. Second, political scientists have made substantial progress in recent years in measuring differences between men and women in the protection of their individual rights. Their work highlights that gender differences vary dramatically between countries. Exploiting gender groups not only mitigates threats to identification, but also help understand the extent to which gender discrimination affects the migration of females with respect to males, which is key to grasp how gender equality could promote economic opportunities for all.

This paper exploits migration flows from the DEMIG-C2C dataset, political rights and civil liberties from the Varieties of Democracy project (V-DEM), and economic rights from the World Bank's Women, Business and the Law report (WBL). Our dataset covers migration from 107 origin countries to 26 destination countries, from 1960 to 2011. The relationship between migration and both political and economic rights is positively. We derive our empirical strategy from a random utility maximization (RUM) model of migration. This model features a gender-specific utility to migrate from which we derive a gravity-type equation. The latter equation describes the gender-specific migration rate. We then analyze the migration rate of females with respect to males using the ratio of the rates. To estimate the relative migration rate, we implement an instrumentation strategy in order to put aside all remaining threats to identification. We instrument individual rights using spatial lags based on distances between countries (Plümper and Neumayer, 2010). The validity of this instrument relies on the fact that the individual right

index of neighboring countries should be correlated with rights in the origin country, but should be poorly impacted by the diaspora of migrants from the origin country.

We find that gender discrimination depresses the relative migration rate. Relative migration increases with equality in political rights and civil liberties in low-income countries, while it increases with economic rights in middle- and high-income countries. These set of results is robust to alternative instrumental variables and estimation strategies.

We make two contributions to the economic literature on migration. First, we add to the narrow literature on female migration by conducting the most comprehensive analysis of the institutional determinants of the difference between male and female migration. Second, we argue that our analysis of female migration allows us to draw conclusions about the more general relationship between institutions – specifically individual rights – and migration decisions. Unlike many previous studies on institutions and migration, we analyze both the role of political rights and civil liberties as well as that of economic rights in a uniform empirical framework.

Our paper is closely related to the studies concerned with the effect of gender differences in rights on migration. The study of [Ruyssen and Salomone \(2018\)](#) is of particular interest as the authors measure the effect of individual level perceptions of gender discrimination on stated intentions and preparations to migrate abroad. Their study is not interested in actual gender discrimination, which is held constant via fixed effects, but asks if individual-level differences in the perception of discrimination motivate people to emigrate. It shows that women, and to a lesser extent men, in the same country are more likely to report intentions to emigrate, if they feel that women are not treated with respect. Interestingly, neither men nor women are more likely to report having started preparations for moving abroad in light of perceived hostility towards women. This would suggest that men and women do not change their migration behavior based on discrimination against women. Of course, this study is concerned with perceptions of discrimination and intentions to migrate and it is unclear to what extent these reflect actual migration decisions.

The remaining of the empirical migration literature does not provide convincing evidence that differences in rights between men and women lead to gender differences in migration. [Baudassé and Bazillier \(2014\)](#) study the effect of gender equality on the labor market on migration. They find that women are more likely to emigrate where they are better integrated in the labor market, whereas men are less likely to emigrate if this is the case. [Ferrant and Tuccio \(2015\)](#) study the effect of discrimination against women in social institutions on South-South migration. Although they are able to show that women migrate less when facing discrimination in the home country, this effect appears not to be significantly different from that of men. Finally, [Brock and Maldonado \(2017\)](#) show that women are less likely to emigrate when their economic and social rights improve, but they are more likely to emigrate when their political rights improve. However, since they do not study male migration rates, it remains unclear if this is a gender specific effect or whether it might apply equally to men and women. Table [A.1](#) in the Appendix summarizes these studies.

The remainder of the paper is organized as follows. In the next section, we present the data at hand and a number of stylized facts to illustrate the relationship between women’s rights and international migration. Section 3 describes a random utility model (RUM) of migration in which we highlight how individual rights impact migration decisions. In section 4, we detail our empirical strategy. The empirical results and a number of robustness tests are presented in Section 5. Section 6 concludes.

## 2 Data and descriptive statistics

### 2.1 The data

We combine three main data sources for our empirical analysis. A detailed description of the construction of our variables of interest used in our empirical analysis is provided in the Appendix.

**Migration data.** First, we use the DEMIG-C2C dataset from the International Migration Institute of the University of Oxford (Vezzoli et al., 2014) that contains male and female bilateral migration flows. The dataset contains flows to 34 destinations, including mostly OECD countries, over the period 1946-2011. The data were compiled through collection and digitalization of historical national statistics in combination with current electronic sources. We combine the DEMIG-C2C data with population data by gender from the World Bank’s World Development Indicators in order to build gender-specific bilateral migration rates. We follow the RUM-based literature to define the migration rate as the ratio of the bilateral migration flow observed between the two countries to the population of the origin country. Note that our sample does not include migration rates equal to zero.

**Women’s rights data.** To measure restrictions on the rights of women, we use two data sources: the Varieties of Democracy project (V-DEM) and the World Bank’s Women, Business and the Law report (WBL). The V-DEM project is an attempt to measure the design and enforcement of various political and legal institutions based on the assessment of over 3,500 country experts in a way that is comparable across countries and over time. The dataset contains information 202 countries over 1789-2020. Women’s political rights and civil liberties are captured by V-DEM’s exclusion by gender index. Low values in this index indicate that women are denied access to public services or participation in governed spaces compared to men.<sup>1</sup> The WBL dataset measures legal differences between the access of men and women to economic opportunities based on the assessment of legal experts in the areas of criminal, family, and labor law. The WBL index covers 190 economies over the period from 1970 to 2020. It aggregates 35 binary indicators in eight dimensions representing different phases of a woman’s career: mobility, workplace, pay,

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<sup>1</sup>We have reversed the original scale of this index to match that of the other rights indicators where higher values indicate more equal rights and less discrimination.

marriage, parenthood, entrepreneurship, assets, and pensions. Lower index values indicate less economic rights of women compared to men.

**Other data sources.** We use a set of control variables for various sources. The income per capita comes from the Penn World Table (Feenstra et al., 2015). We also use indices of civil violence and international war from the Polity Project (Marshall, 2019). School attainment of men and women by Barro and Lee (2013) which we use to calculate the ratio of the years of schooling of females over males aged 15 to 24 come from (Klasen, 2002). Finally, we use the Gravity database of the CEPII that provides other dyadic variables to perform gravity-type analyses (Head et al., 2010) as well as the GeoDist database that contains variables related to the geographical and linguistic distances between countries (Mayer and Zignago, 2011).

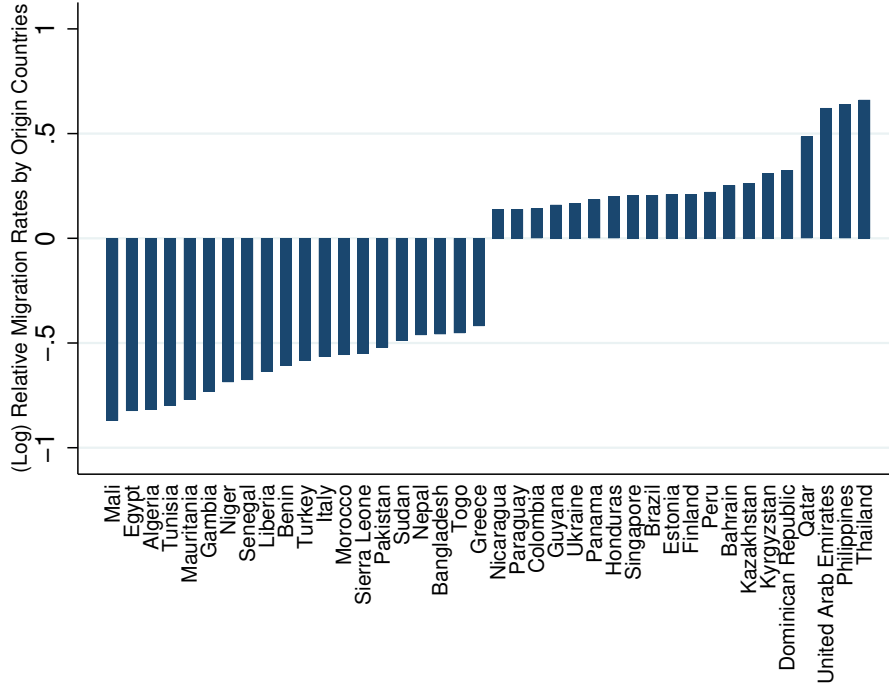
## 2.2 Descriptive statistics

After merging these datasets, we obtain a sample made of 35,553 origin-destination-year observations covering 107 origin countries and 26 destination countries from 1960 to 2011. We provide a number a summary statistics in Appendix, Tables A.2 and A.3.

The relative bilateral migration rate is our main variable of interest. This variable is the ratio of the bilateral migration rate of females over the bilateral migration rate of males. This ratio is negative for country pairs where less females migrate than males, while it is positive for country pairs where females migrate more than males. This ratio is on average negative (-14.1%) but it hides a large heterogeneity across origin countries as shown in Figure 1. This figure reports the distribution of relative bilateral migration rates across origin countries, averaged across destinations and years. Only the bottom- and top-20 countries of the distribution are reported. The bottom-20 is includes mostly African developing countries, while the top-20 includes emerging and developed countries.

We are interested in the relationship between international migration and women’s rights. We use two women’s rights indices that range from zero to unity. Lower values indicate fewer rights of women compared to men, while higher values indicate equal rights. Both indices have similar means, yet the V-DEM index appears less skewed than the WBL index. The correlation between the two indices amounts to 70%.

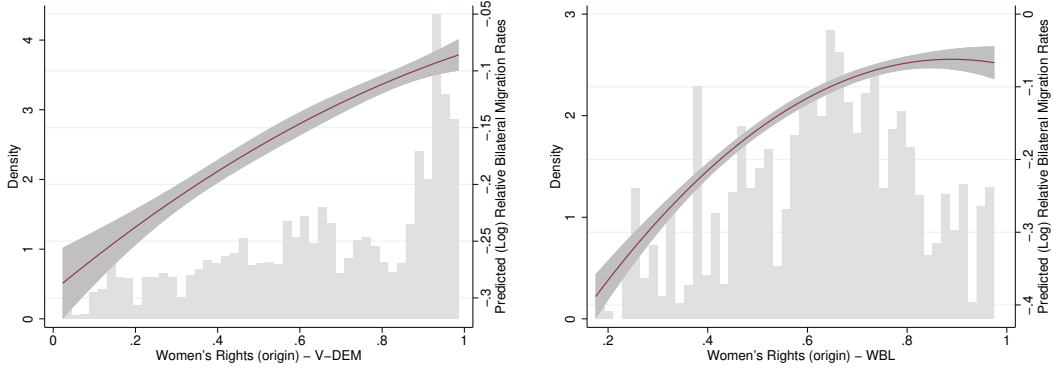
Figure 1: Relative Bilateral Migration Rates Across Origin Countries



Note: average across destinations and years. Bottom 20 and top 20 countries only.

The relationship between international migration and women’s rights is *a priori* ambiguous. On the one other, an improvement of women’s rights with respect to men can decrease relative female migration by improving females’ ability to work, their political participation or living standards (known as the *income effect* in the literature). On the other hand, it can increase relative female migration by lowering the costs of migration for female or for couples in origin countries, e.g. by removing of legal barriers to migration (also known as the *budget constraint effect*). We depict the statistical relationship between the predicted relative bilateral migration rates and women’s rights in Figure 2. For both indices, we find a positive and linear relationship between relative bilateral migration and women’s rights, although the relationship is slightly concave for economic rights (the WBL index). Although not causal, the negative effect (budget constraint) may outweigh the positive effect (income effect).

Figure 2: Relationship Between Women’s Rights And Relative Bilateral Migration Rates



*Note:* This figure plots the predicted (log) relative bilateral migration rates with 95%-confidence bands based on the origin countries’ women’s right index (V-DEM on the left side and WBL on the right side).

### 3 Theoretical underpinnings

#### 3.1 A random utility model of gender-specific migration

In this section, we build a random utility model (RUM) that integrates the gender dimension of migration. We model the migration decision of an individual  $i$  with gender  $g = \{f, m\}$  (for females and males) at time  $t$ , considering  $D$  destinations including the individual’s current country of residence  $o$ . We later on refer to this country as the origin of the individual.  $U_{igod,t}$  denotes the net utility that individual  $i$  with gender  $g$  and living in country  $o$  obtains from migrating to country  $d$  at time  $t$ . The individual chooses the destination that maximizes her net utility:  $U_{igod,t} = \max_{l \in \{1, \dots, D\}} U_{igol,t}$ . Following [Beine et al. \(2015\)](#), we assume that individuals take myopic decisions, deciding whether or not and where to migrate independently in each period of their lifetime.

At time  $t$ , individual  $i$ ’s utility can be decomposed into the gender-specific utility derived in country  $d$  represented by the term  $W_{god,t}$ , the gender-specific cost of migration denoted as  $C_{god,t}$ , and an individual and gender-specific stochastic term  $\varepsilon_{igod,t}$ . Thus, individual  $i$ ’s net utility of migration from country  $o$  to country  $d$  at time  $t$  can be expressed as:

$$U_{igod,t} = W_{god,t} - C_{god,t} + \varepsilon_{igod,t}. \quad (1)$$

As standard in the literature,  $\varepsilon_{igod,t}$  is independently and identically distributed over individuals, destinations and time. It follows a univariate extreme value type-1 distribution with a unit scale parameter.

Following [McFadden \(1974, 1984\)](#), one can obtain the unconditional probability that an individual with gender  $g$  relocates from country  $o$  to destination  $d$  at time  $t$ :

$$p_{god,t} = \frac{e^{(W_{god,t}-C_{god,t})}}{\sum_{l=1}^D e^{(W_{gol,t}-C_{gol,t})}} \quad (2)$$

as well as the unconditional probability that an individual of gender  $g$  remains in country  $o$  at time  $t$ :

$$p_{goo,t} = \frac{e^{(W_{goo,t})}}{\sum_{l=1}^D e^{(W_{gol,t}-C_{gol,t})}}. \quad (3)$$

where  $C_{goo,t}$  equals zero.

Taking the ratio of these two probabilities, one obtains the gender-specific bilateral migration rate at time  $t$ , denoted  $M_{god,t}$

$$M_{god,t} = e^{(W_{god,t}-W_{goo,t}-C_{god,t})}. \quad (4)$$

The bilateral migration rate for each gender ( $M_{god,t}$ ) depends on the gender-specific utility derived in the destination country ( $W_{god,t}$ ), the gender-specific utility derived in the origin country ( $W_{goo,t}$ ), and the gender-specific bilateral migration costs ( $C_{god,t}$ ). An individual's utility associated with migrating to a destination country depends on various country characteristics, such as wages, amenities, public expenditures, and employment opportunities, of both the origin and the destination country. Migration costs depend on characteristics of country dyads such as geographical distance, language barriers, legal restrictions, historical and social ties, and information about the destination country available in the country of origin.

Finally, the *relative* bilateral migration rate is defined as the logarithm of the ratio of the female and the male migration rates:

$$\ln \frac{M_{fod,t}}{M_{mod,t}} = \Delta_{fm} W_{od,t} - \Delta_{fm} W_{oo,t} - \Delta_{fm} C_{od,t} \quad (5)$$

where  $\Delta_{fm}$  denotes gender differences in terms of costs or utility derived from migrating. For instance,  $\Delta_{fm} W_{od,t}$  denotes the difference between the utility derived by men and women in the destination country ( $W_{fod,t} - W_{mod,t}$ ). Any component of the utility (or analogously any costs in the case of bilateral migration costs) that is not specific to one gender cancels out in the subtraction. This implies that only factors that affect the propensity of men and women to migrate *differently* will be relevant in explaining the relative migration rate *i.e.* the migration rate of females with respect to males.

### 3.2 Unequal rights and the relative female migration rate

We are interested in the impact of differences in rights between two social groups, specifically between women and men, on differences in the migration rates of these two groups. In what follows,



we assume that rights in the country of origin are gender-specific and denoted by  $R_{og,t}$ . The level of equality in rights between women and men can be denoted by  $\Delta_{fm}R_{o,t} = (R_{fo,t} - R_{mo,t})$ .

Individual rights encompass a broad range of rights. Here, we focus on two sizable categories of rights: i) economic rights as well as ii) political rights and civil liberties. Economic rights facilitate the pursuit of economic opportunities, e.g. the ability of individuals to get a job, to run a business, to access credit or to own property. Economic rights are therefore essential to individuals' ability to generate income. Political rights and civil liberties (or civil rights) include the rights to access public services such as the judiciary, to participate in political decision-making, to assemble, to move, and to speak freely. In short, they determine individuals' ability to participate in public life. The theoretical arguments regarding the relative political rights and civil liberties of women are largely analogous to those concerning their relative economic rights, which is why we do not distinguish them in the following theoretical discussion, in spite of them being tested separately in the empirical analysis.

All other things being equal, an improvement in women's rights ( $R_{of,t}$ ) affects gender equality in rights  $\Delta_{fm}R_{o,t}$  and therefore the relative female migration rate via i) a positive impact on women's utility derived in the origin country ( $W_{foo,t}$ ) and ii) a negative impact on female bilateral migration costs ( $C_{fod,t}$ ) – or expressed formally:

$$\frac{\partial (\Delta_{fm}W_{oo,t})}{\partial (\Delta_{fm}R_{o,t})} > 0 \quad ; \quad \frac{\partial (\Delta_{fm}C_{od,t})}{\partial (\Delta_{fm}R_{o,t})} < 0 \quad (6)$$

Strengthening women's rights by eliminating discriminatory rules or improving gender equality should increase their income and their standard of living in the home country. This may have two opposing effects on the relative female migration rate. On the one hand, extending women's rights lowers their incentives to emigrate by improving their quality of life in the country of origin. On the other hand, many potential migrants lack the financial resources or even the legal right to act on their desire to emigrate. Women's additional income may be used to cover the costs of migration and removing legal barriers to migration may lower these costs.

Note that the effect of expanding women's rights may be nonlinear. With substantial gender discrimination, extending women's rights might generate the necessary income for them to emigrate. At lower levels of gender discrimination, granting women additional rights might convince them to stay in their country of origin in spite of having the possibility to emigrate.

Beyond the expectation of an unconditional effect of expanding women's relative rights, it appears plausible that women's reaction will depend on some characteristics of the origin country. A migrant's budget constraint is plausibly more relevant for the migration decision in lower-income countries. In higher-income countries economic opportunities and the non-pecuniary value of enjoying rights may become relatively more important. If a country's income level is denoted as  $I_{o,t}$ , this implies that:

$$\frac{\partial^2 (\Delta_{fm}W_{oo,t})}{\partial (\Delta_{fm}R_{o,t}) \partial I_{o,t}} > 0 \quad ; \quad \frac{\partial^2 (\Delta_{fm}C_{od,t})}{\partial (\Delta_{fm}R_{o,t}) \partial I_{o,t}} > 0 \quad (7)$$

Our theoretical framework treats the decisions of women and men to migrate as independent of each other. In other words, we assume that gender discrimination do not impact males decisions to migrate. This is consistent with the theoretical framework developed by [Aksoy and Poutvaara \(2021\)](#) who also provide empirical evidence that gender discrimination as well as gender-based violence and repression lower expected returns to education for both single and married women (but not for males). In other words, our theoretical arguments should apply independently of whether the females in question would travel alone or as part of their family.

## 4 Empirical strategy

### 4.1 Baseline specification

Given the various determinants of the deterministic utilities and the financial migration costs, equation (5) can be rewritten as the following gravity equation

$$\ln y_{od,t} = \beta_0 + \beta_1 \ln \Delta_{fm} R_{o,t-1} + \beta_2 \mathbf{X}'_{o,t-1} + \gamma_o + \gamma_{d,t} + \gamma_{od} + \epsilon_{od,t} \quad (8)$$

In this equation, the dependent variable is denoted  $y_{od,t}$  and captures the difference between female and male bilateral migration rates from origin country  $o$  to destination country  $d$  at time  $t$ . This variable is computed as the logarithm of the ratio of the bilateral migration rate of females observed between the origin country  $o$  and a destination country  $d$  at time  $t$  ( $M_{fod,t}$ ), and the bilateral migration rate of males between countries  $o$  and  $d$  at time  $t$  ( $M_{mod,t}$ ).

Our main variable of interest is denoted  $\Delta_{fm} R_{o,t-1}$  and captures women's individual rights relative to men in the origin country  $o$  at time  $t - 1$ . We differentiate between political rights and civil liberties (V-DEM index) and economic rights (WBL index).  $\mathbf{X}'_{o,t-1}$  is a vector of lagged origin country characteristics that are time-variant. These push factors include the (log) GDP per capita, indicators of civil violence and interstate war, as well as a ratio of the years of schooling of females aged 15 to 24 over that of males. GDP per capita is a proxy of the wage level in the origin country and is expected to decrease migration incentives. All things being equal, the occurrence of violence and war in the origin country could trigger more migrants to leave their origin country, but could also lower their ability to migrate. Note that violence and war could affect men and women differently. These indices are, however, do not available by gender. The school attainment ratio is a proxy for inequality in human capital endowment, future economic opportunities and inclusion in society. As differences between men and women in school attainment are large in some developing countries, we use the ratio of school attainment to control for inequality in that dimension. Additional time-invariant origin country characteristics are control with origin fixed effects ( $\gamma_o$ ).

Characteristics in the destination country that would stimulate migration in the origin country (pull factors) are captured with the inclusion of destination-time fixed effects denoted as  $\gamma_{d,t}$ .  $\gamma_{od}$  is set of fixed effects controlling for dyadic characteristics that could affect migration decisions, e.g. the distance between two countries, language proximity or a network of previous migrants

from the origin country living in the destination country. For instance, network is associated with more migration because people tend to move to the same destination country as their peers. A network in the destination country also captures the role of family reunification. This set of fixed effects accounts for multilateral resistance to migration. The concept of multilateral resistance embodies the idea that migration from one country to another depends not only on the attractiveness of the destination country but also on opportunities to move from this origin country to alternative destination countries (Beine et al., 2015).

Finally, we follow the literature by allowing standard errors to be correlated across destinations by clustering at the origin-time level.

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# A Appendix

## A.1 Survey of the literature

Table A.1: Summary table of the literature

|                                       |  |  |
|---------------------------------------|--|--|
| <b>Study</b>                          | <b>Baudassé and Bazillier (2014)</b>     | <b>Brock and Maldonado (2017)</b>            |
| <b>Sample period</b>                  | 1990 & 2000                              | 1990 & 2000                                  |
| <b>Migration data</b>                 | Docquier et al. (2009)                   | Docquier et al. (2009)                       |
| <b>Migration variable</b>             | stock                                    | stock  |
| <b>Gender discrimination data</b>     | World Development Indicator <sup>a</sup> | CIRI <sup>b</sup>                            |
| <b>Gender discrimination variable</b> | gender inequality in the labour market   | women's rights                               |
| <b>Method</b>                         | Heckman two-step & 2SLS                  | Tobit  |
| <b>Study</b>                          | <b>Ferrant and Tuccio (2015)</b>         | <b>Ruysen and Salomone (2018)</b>            |
| <b>Sample period</b>                  | 2000 & 2010                              | 2009-2013                                    |
| <b>Migration data</b>                 | UNDESA <sup>c</sup>                      | Gallup World Polls                           |
| <b>Migration variable</b>             | stock                                    | 153,296 female survey participants           |
| <b>Gender discrimination data</b>     | SIGI <sup>d</sup>                        | Gallup World Polls                           |
| <b>Gender discrimination variable</b> | gender inequality in social institutions | perceived gender discrimination <sup>e</sup> |
| <b>Method</b>                         | Heckman two-step & 2SLS & 3SLS           | Heckman probit                               |
| <b>Study</b>                          | <b>Nejad (2013)</b>                      | <b>Nejad and Young (2015)</b>                |
| <b>Sample period</b>                  | 1990 & 2000                              | 1990 & 2000                                  |
| <b>Migration data</b>                 | Docquier et al. (2009)                   | Docquier et al. (2012)                       |
| <b>Migration variable</b>             | stock                                    | stock  |
| <b>Gender discrimination data</b>     | CIRI                                     | CIRI   |
| <b>Gender discrimination variable</b> | women's rights                           | women's rights                               |
| <b>Method</b>                         | OLS & pooled OLS & 2SLS                  | OLS & Heckman two-step                       |

*Note:* <sup>a</sup>:From which the authors computed a proxy for gender equality in the labour market. <sup>b</sup>: Cingranelli and Richards (CIRI) Human Rights Database, see Cingranelli et al. (2014). <sup>c</sup>: United Nations Population Division of the Department of Economic and Social Affairs. The authors looked at South-South migration. <sup>d</sup>: Social Institutions and Gender Index from the OECD Development Centre <sup>e</sup>: Gender discrimination has been proxied by the Gallup question "Do you believe that women in this country are treated with respect and dignity, or not?".

## A.2 Variables of interest

Table A.2: Summary statistics

| Variable                    | Mean   | Std. Dev. | Min.   | Max.   | N      |
|-----------------------------|--------|-----------|--------|--------|--------|
| Relative migration rate     | -0.141 | 0.641     | -6.066 | 4.297  | 35,553 |
| V-DEM Index                 | 0.660  | 0.260     | 0.023  | 0.986  | 35,553 |
| WBL Index                   | 0.628  | 0.184     | 0.175  | 0.975  | 33,739 |
| $\ln \text{GDPpc}_o, t-1$   | 9.069  | 1.162     | 5.5    | 12.447 | 35,553 |
| $\text{IntWar}_o, t-1$      | 0.054  | 0.514     | 0      | 6      | 35,553 |
| $\text{CivViol}_o, t-1$     | 0.054  | 0.514     | 0      | 6      | 35,553 |
| $\text{SchoolRatio}_o, t-1$ | 0.908  | 0.169     | 0.13   | 2.122  | 34,915 |

*Note:* This table reports summary statistics for the main variables of interest for the baseline sample of observations.

Table A.3: Correlations

|                                 | (a)       | (b)       | (c)       | (d)       | (e)       | (f)   | (g) |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-------|-----|
| (a) Relative migration rate     | 1         |           |           |           |           |       |     |
| (b) V-DEM Index                 | 0.079***  | 1         |           |           |           |       |     |
| (c) WBL Index                   | 0.106***  | 0.700***  | 1         |           |           |       |     |
| (d) $\ln \text{GDPpc}_o, t-1$   | 0.128***  | 0.543***  | 0.464***  | 1         |           |       |     |
| (e) $\text{IntWar}_o, t-1$      | -0.030*** | -0.117*** | -0.120*** | -0.026*** | 1         |       |     |
| (f) $\text{CivViol}_o, t-1$     | 0.026***  | -0.136*** | -0.019*** | -0.051*** | -0.017**  | 1     |     |
| (g) $\text{SchoolRatio}_o, t-1$ | 0.306***  | 0.399***  | 0.442***  | 0.612***  | -0.091*** | 0.009 | 1   |

*Note:* This table reports correlations between the main variables of interest for the baseline sample of observations (35,553 observations). This table shows moderate correlation coefficients and therefore no concerns of multicollinearity.