

## **Women's rights and the patterns of migration**

**Schylar Brock • Beatriz Maldonado\***

*College of Charleston, USA*

*Received: 2 October 2016*

*Revised: 14 February 2017*

*Accepted: 14 February 2017*

---

### **Abstract**

This article investigates women's economic, political, and social rights in both home and destination countries as potential push and pull factors of female migration. Using a bilateral framework including 104 origin countries and 28 destination countries for the years 1990 and 2000, we document that for female migrants with various levels of education, when women's economic and social rights at home improve, they are less likely to leave, but women's political rights are a push factor. Women's economic rights in destination countries attract female migrants of all education levels but more so those with a tertiary education. Also, women's political rights in destination countries are a pull factor, but women's social rights are not.

*Keywords:* migration; women's rights; push factors; pull factors; bilateral; Tobit

*JEL Classification Codes:* F22, J16, J61, J11

---

### **1. Introduction**

The decision to leave one country and move to another has been shown to be influenced by many factors both in the home country and the destination country. Factors at home that have been shown to influence migrants to exit the country, also known as push factors, include conflict, natural disasters, religious, racial or political persecution, political instability, and poor economic activity and development (Schoorl et al., 2000; Hatton and Williamson, 2003; Karemera et al., 2000; Dreher et al., 2011; Krishnakumar and Indumathi, 2015). Destination countries with comparative advantages in economic opportunities, climate, political

---

\* Corresponding author. E-mail: maldonadobirdba@cofc.edu.

Citation: Brock, S. and Maldonado, B. (2017) Women's rights and the patterns of migration, *Economics and Business Letters*, 6(1), 20-27.

institutions, and proximity to the home country (a.k.a pull factors) attract migrants (Schoorl et al., 2000; Krishnakumar and Indumathi, 2015).

There is also an important gender dimension to migrants' decision. Some work has been done on this aspect of migration by focusing on women's rights as push factors (Dimant, et al., 2013; Ariu and Squicciarini, 2013; Cooray and Schneider, 2016; Baudassé and Bazillier, 2014) and by looking at the women's rights gap to explain female brain drain (Naghsh Nejad and Young, 2014). This paper augments the literature on female migration related to women's rights by using bilateral migration data and a dyadic analysis framework to simultaneously take into account women's rights in both the migrant's origin and destination countries. This allows us to examine whether specific components of women's rights are either push or pull factors in the decision to migrate. We focus on female migrants with primary, secondary, and tertiary education levels to test whether women with different education levels respond differently to women's rights both in the home country and the destination country. We expect that female migrants with more education will be the most responsive to changes in women's rights both in the home country and in the destination country.

Our results suggest that when women's economic and social rights at home improve, women are less likely to leave but they are more likely to leave when the political rights at home improve suggesting that political rights are a push factor. Women's economic rights in destination countries attract female migrants of all education levels but more so those with a tertiary education. Women's political rights in destination countries are a pull factor, attracting more women migrants as rights increase; however, women's social rights do not appear to be a pull factor, with the number of female migrants falling as social rights increase in the destination country.

## 2. Methods

We use a dyadic panel dataset of bilateral and gendered migration data for 104 origin countries and 28 destination countries for the years 1990 and 2000, taken from the DLM database (Docquier et al., 2009). As this data consists of the number of migrants in each year moving from country  $o$  to country  $d$ , there are many instances where the number is zero. That is, the data is truncated at zero. Due to this truncation, or left-censoring, OLS is not consistent. The values of zero are important in the analysis as they have pertinent information regarding the decision by migrants not to move from country  $o$  to country  $d$  in the given year. To account for this left-censoring of the dependent variable, we use a left-censored panel Tobit model with random effects with the following basic equation<sup>1</sup>:

$$y_{odt} = \begin{cases} \alpha + \beta_{ot-1} + \theta_{dt} + \delta_{ot} + \gamma_{at} + \phi_{odt} + u_{odt} & \text{if } y_{odt}^* > 0 \\ 0 & \text{if } y_{odt}^* \leq 0 \end{cases} \quad (1)$$

where  $o$  indexes the origin country,  $d$  indexes the destination country, and  $t$  indicates the year. The non-zero part of the model includes the women's rights variables of interest in the origin country  $W_o$  and the destination country  $W_d$ , origin country controls  $X$ , destination country controls  $Z$ , and dyadic controls  $P$  (explained in the next section and in Table 1). Random effects are generated for origin-destination pairs.

## 3. Data

The dependent variable in the model,  $y_{odt}$ , is the natural log of the number of female migrants with different levels of education (primary, secondary, and tertiary) from country  $o$  migrating

<sup>1</sup> The Tobit fixed effects estimator is inconsistent.

to country  $d$  at time  $t$ .  $W_{ot-1}$  and  $W_{dt}$  are vectors of women's rights indicators – women's political, economic, and social rights from the CIRI Human Rights Database (Cingranelli and Richards, 2014). These indexes range from 0 to 3 with a higher value indicating more rights. In the analysis,  $W_{ot-1}$  represent “push” factors and  $W_{dt}$  represent “pull” factors. We lag the origin country rights in an effort to reduce any potential endogeneity problems. We have two vectors of origin and destination country controls,  $\mathbf{X}$  and  $\mathbf{Z}$  respectively, which include log GDP per capita, economic freedom score, country indicators for involvement in an external or internal war, regime duration, regime type, and indicators where 50 percent or more of the population is Christian, Muslim, or “other.”  $\mathbf{P}$  is a vector of dyadic controls

Table 1. Summary statistics.

	Mean	Std. Dev.
<b>Immigration Measure</b>		
ln(# of Female Immigrants with Primary Ed.)	4.88	(2.77)
ln(# of Female Immigrants with Secondary Ed.)	4.70	(2.61)
ln(# of Female Immigrants with Tertiary Ed.)	4.85	(2.66)
<b>Women's Rights Indexes</b>		
Economic Rights in origin country <sub>t-1</sub>	1.48	(0.59)
Political Rights in origin country <sub>t-1</sub>	1.91	(0.53)
Social Rights in origin country <sub>t-1</sub>	1.39	(0.83)
Economic Rights in Destination Country	1.97	(0.45)
Political Rights in Destination Country	2.24	(0.47)
Social Rights in Destination Country	2.34	(0.74)
<b>Dyadic Controls</b>		
Distance between the most populous cities (km)	6967	4693
Dummy for Contiguity	0.03	(0.18)
Dummy for Colonial Relationship	0.05	(0.21)
Dummy for Common Language	0.14	(0.35)
<b>Destination Country Controls</b>		
Dummy for Internal War in the last 5 years	0.16	(0.37)
Dummy for External War in the last 5 years	0.07	(0.26)
Log of GDP per Capita	7.90	(1.62)
Economic Freedom Index	6.31	(1.22)
Polity 2 Score	4.86	(6.15)
Regime Duration (in years)	26.46	(30.69)
Dummy if Ctry is 50% or more Christian	0.68	(0.47)
Dummy if Ctry is 50% or more Muslim	0.16	(0.37)
Dummy if Ctry is 50% or more "other"	0.16	(0.37)
<b>Origin Country Controls</b>		
Dummy for Internal War in the last 5 years	0.09	(0.28)
Dummy for External War in the last 5 years	0.13	(0.34)
Log of GDP per Capita	9.77	(0.70)
Economic Freedom	7.43	(0.81)
Polity 2 Score	9.56	(1.50)
Regime Duration	55.99	(40.82)
Country being 50% or more Christian	0.96	(0.20)
Country being 50% or more Muslim	0.01	(0.10)
Country being 50% or more "other"	0.03	(0.18)

Note: The full sample includes 3,756 dyadic pairs. The migration data comes from the DLM database (Docquier et al., 2014). Women's rights indexes come from the CIRI Human Rights Database. Each measure ranges from 0 to 3. A 0 means that the country and culture do not recognize the women's right and implies high female discrimination and a measure of 3 indicates that the state and culture recognize and legally enforce women's rights (Cingranelli and Richards, 2014). Internal and external conflict data come from the Correlates of War (Sarkees and Wayman, 2010). All the dyadic variables come from Mayer and Zignago (2011). Religion data comes from Moaz & Henderson (2013). The Economic Freedom index comes from the Economic Freedom of the World project and ranges from 0 to 10 with 0 indicating low economic freedom and 10 high economic freedom (Gwartney, Lawson & Hall, 2015). GDP per capita is from the World Development Indicators (World Bank, 2015). Both the Polity 2 Score and regime duration come from the Polity IV database. Polity2 ranges from -10 to 10 with more negative values indicating more autocratic regimes and more positive values more democratic regimes. Regime duration measures the number of years the current regime has been in power (Marshall et al., 2010).

including indicators for countries with a shared common language, a shared colonial heritage, and contiguous borders. These controls account for various measures that fit into the push-pull framework and could be influential in the decision to migrate. Summary statistics and sources are found in Table 1.

## 4. Results

### 4.1. Full sample results

The results for equation (1) for female migrants with primary education, secondary education, and tertiary education are listed in Table 2 columns (1), (2), and (3) respectively.<sup>2</sup> The first three rows show the origin country variables (the push factors), of which women's economic rights (for those with primary and tertiary education) and social rights (for those with a secondary education) are negative and significant, suggesting that as these rights improve at home, women are less likely to migrate. On the other hand, women's political rights do appear to be a push factor for women at all levels of education. That is, as these rights increase at home, women are more likely to migrate. One possible explanation of this may be that women's political rights are associated with things like freedom of movement which would allow women to leave more easily. Among the destination country variables, women's economic and political rights appear to be pull factors for most women, but women's social rights have the opposite effect. As women's social rights increase, we see fewer female migrants into those destination countries at all levels of education, but with a slightly weaker effect for those with tertiary education.

Table 2. Female migration and women's rights.

<i>Dependent Variable: ln(Number of Female Migrants)</i>				
<i>Education Level:</i>	<i>Primary</i>	<i>Secondary</i>	<i>Tertiary</i>	
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	
Women's Economic Rights in origin country <sub>t-1</sub>	-0.099** (0.042)	-0.063 (0.044)	-0.122*** (0.037)	
Women's Political Rights in origin country <sub>t-1</sub>	0.093** (0.043)	0.190*** (0.044)	0.184*** (0.038)	
Women's Social Rights in origin country <sub>t-1</sub>	-0.015 (0.035)	-0.113*** (0.036)	-0.041 (0.031)	
Women's Economic Rights in destination	0.219*** (0.047)	0.274*** (0.047)	0.297*** (0.042)	
Women's Political Rights in destination	0.133*** (0.048)	0.067 (0.048)	0.217*** (0.042)	
Women's Social Rights in destination	-0.089*** (0.034)	-0.147*** (0.035)	-0.052* (0.030)	
Origin Controls	yes	yes	yes	
Destination Controls	yes	yes	yes	
Dyadic Controls	yes	yes	yes	
N	3,756	3,756	3,756	

Note: Dyadic Tobit regressions with random effects. Origin and destination country controls and dyadic controls are as listed in the text. \*\*\* Significant at the 1 percent level. \*\* Significant at the 5 percent level. \* Significant at the 10 percent level.

Some of these results could be due to the mixed set of destination countries included in the sample. To test this, we see if there are any differences in push and pull factor when excluding some sub-groups of destination countries.

<sup>2</sup> Results are similar when estimated using a panel random effects regression.

#### 4.2. OECD destination countries

With their more secure economies and governments, OECD countries promise better employment and higher standard of living opportunities and therefore receive a majority of international immigrants. Immigration into OECD countries is increasing, especially for highly skilled workers, whose numbers have grown by 70% in the past decade (UN-DESA and OECD, 2013). Columns (1)-(3) in Table 3 show the results for OECD destination countries only. The results are similar to Table 2 in terms of signs but are a bit weaker. In the origin country, women's economic and social rights still reduce the likelihood of migrating for women, but economic rights appear to only affect women with a tertiary education. Social rights appear to have a broader effect, now including women with primary and secondary education. Women's political rights are still a push factor but this result is also weaker, affecting women with a secondary and tertiary education. For the pull factors, women's economic rights are significant for female migrants with secondary and tertiary education with the latter group being affected more significantly. Women's political rights in destination countries are a statistically significant pull factor for female migrants with a primary education and tertiary education which is a similar result to the Table 2. Lastly, women's social rights in the destination country appear to have a negative effect on women with a secondary education. This result is weaker than for the full sample of countries where social rights affect the decision at all education levels.

#### 4.3. Excluding large destination countries

A large number of female migrants in our sample head to the United States, Germany, France, or the United Kingdom. In columns (4) – (6), we re-run the regressions while excluding these 4 large, rich, destination countries to see if they are driving the results we have seen so far. The results are similar to the results for the full sample, with the exception that women's social rights in destination countries affect only women with secondary education.

### 5. Concluding remarks

This paper sets out to determine whether levels of women's economic, political, and social rights are stronger push or pull factors for female migrants with different levels of education and across countries at varied levels of development. Overall, it appears that when women's economic and social rights in origin countries are improving, women are less likely to leave but with political rights, women are more likely to migrate. These results may suggest that when women's lives are improving at home, through economic opportunities and social rights, they are less likely to leave. The push factor effect for women's political rights at home may be explained by the possibility that women's political rights are associated with things like freedom of movement which facilitates migration. On the other side of the move, women's economic rights and political rights in destination countries are a pull factor for most women. Yet women's social rights in destination countries paradoxically reduce the percentage of women migrating there. This result is a bit more difficult to explain and is likely due to other factors women are facing, as well as the dimensions that the index is capturing. One possible explanation for this result is that women are not actually considering this dimension when choosing a destination country. Instead, they are either reuniting with their spouse/family (Lee 1966; Houstoun et al. 1984) or are choosing countries based on economic and political rights (Naghsh Nejad and Young, 2014). Another possible explanation is that the rights that have been lumped together into the social rights index might not be a draw for migrants because gender norms within the family (particularly if uncontested by women or viewed as a religious practice) would prevent them from accessing or acting on those rights post-migration anyway. In all of these cases, the

Table 3. Female migration and women's rights for subgroup destination countries.

Education Level:	<i>Dependent Variable: ln(Number of Female Migrants)</i>					
	OECD Destination Only			No France, Germany, UK, & US Destination		
	Primary (1)	Secondary (2)	Tertiary (3)	Primary (4)	Secondary (5)	Tertiary (6)
Women's Economic Rights in origin country <sub>t-1</sub>	-0.042 (0.039)	-0.044 (0.043)	-0.107*** (0.038)	-0.135*** (0.048)	-0.073 (0.048)	-0.151*** (0.042)
Women's Political Rights in origin country <sub>t-1</sub>	0.049 (0.041)	0.145*** (0.044)	0.167*** (0.039)	0.134*** (0.048)	0.210*** (0.048)	0.209*** (0.042)
Women's Social Rights in origin country <sub>t-1</sub>	-0.065** (0.033)	-0.124*** (0.035)	-0.047 (0.032)	-0.005 (0.040)	-0.115*** (0.039)	-0.043 (0.035)
Women's Economic Rights in destination	-0.052 (0.047)	0.095* (0.050)	0.139*** (0.046)	0.240*** (0.051)	0.283*** (0.050)	0.237*** (0.046)
Women's Political Rights in destination	0.350*** (0.053)	0.050 (0.055)	0.128*** (0.050)	0.123** (0.054)	0.144*** (0.053)	0.280*** (0.047)
Women's Social Rights in destination	0.016 (0.032)	-0.104*** (0.035)	-0.040 (0.031)	-0.047 (0.038)	-0.159*** (0.039)	-0.053 (0.034)
Origin Controls	yes	yes	yes	yes	yes	yes
Destination Controls	yes	yes	yes	yes	yes	yes
Dyadic Controls	yes	yes	yes	yes	yes	yes
N	3,231	3,231	3,231	3,215	3,215	3,215

Note: Dyadic regressions with random effects. Origin and destination country controls and dyadic controls are as listed in the text. \*\*\* Significant at the 1 percent level. \*\* Significant at the 5 percent level. \* Significant at the 10 percent level.

significant results for women's social rights in destination countries are coincidental. These puzzling results could be a good avenue for future research.

This paper may help explain why OECD and other destination countries are so attractive to migrants and shows that choice of destination country helps determine which factors enter the push-pull framework. This paper adds to existing and emerging literature by giving a more nuanced investigation of the migration decision in relation to women's economic, political, and social rights. An increase in research on why migrants from specific home countries choose to move to specific destinations could yield more accurate projections of migration patterns and demographic shifts.

**Acknowledgements.** We would like to thank Peter T. Calcagno, Daniel L. Hicks, Jessica Madariaga, Amy Malek, and Alexandre Padilla as well as participants at the 2016 APEE meetings for helpful comments and discussions. Any errors are our own.

## References

- Ariu, A. and Squicciarini, P. (2013) *The Balance of Brains: Corruption and High Skilled Migration*. Université Catholique de Louvain, Institut de Recherches Economiques et Sociales (IRES), workpaper no. 2013010.
- Barro, R. and Lee, J.W. (2013) A New Data Set of Educational Attainment in the World, 1950–2010, *Journal of Development Economics*, 104, 184–198.
- Baudassé, T. and Bazillier, R. (2014) Gender Discrimination and Emigration: Push factor or Selection process?, *International Economics*, 139, 19–47.
- Cingranelli, D.L., Richards, D.L. and Clay, K.C. (2014) *The CIRI human rights dataset*, CIRI Human Rights Data Project, 6.
- Cooray, A.V. and Schneider, F. (2016) Does corruption promote emigration? An empirical examination, *Journal of Population Economics*, 29(1), 293–310
- Dimant, E., Krieger, T. and Meierrieks, D. (2013) The effect of corruption on migration, 1985–2000, *Applied Economics Letters*, 20(13), 1270–1274.
- Docquier, F., Lowell, B.L. and Marfouk, A. (2009) A gendered assessment of highly skilled emigration, *Population and Development Review*, 35(2), 297–321.
- Dreher, A., Krieger, T. and Meierrieks, D. (2011) Hit and (they will) run: The impact of terrorism on migration, *Economics Letters*, 113(1), 42–46.
- Gwartney, J., Lawson, R. and Hall, J. (2015) Economic Freedom Dataset. *Economic Freedom of the World: 2015 Annual Report*, The Fraser Institute, data retrieved from [http://www.freetheworld.com/datasets\\_efw.html](http://www.freetheworld.com/datasets_efw.html)
- Houstoun, M. F., Kramer R. G. And Barrett, J. M. (1984) Female predominance of immigration to the United States since 1930: a first look, *International Migration Review*, 18, 908–963
- Karemera, D., Oguledo, V.I. and Davis, B. (2000) A gravity model analysis of international migration to North America, *Applied Economics*, 32(13), 1745–1755.
- Krishnakumar, P. and Indumathi, T. (2014) Pull and Push Factors of Migration, *Global Management Review*, 8(4), 8–13.
- Lee, E.S. (1966) A Theory of Migration, *Demography*, 3, 47–57
- Maoz, Z. and Henderson, E.A., (2013) The world religion dataset, 1945–2010: Logic, estimates, and trends, *International Interactions*, 39(3), 265–291.
- Marshall, M. G., Jaggers, K. and Gurr, T. (2010) *Polity IV Project: Political Regime Characteristics and Transitions, 1800–2010*, Dataset User's Manual, Center for Systemic Peace.
- Mayer, T. and Zignago, S. (2011) *Notes on CEPII's distances measures*, The GeoDist database.

- Naghsh Nejad, M. and Young, A.T. (2014) Female brain drains and women's rights gaps: a gravity model analysis of bilateral migration flows. *SSRN*, workpaper no. 2191658.
- Naghsh Nejad, M. and Young, A.T. (2015) Want Freedom, Will Travel: Emigrant Self-Selection According to Institutional Quality, *European Journal of Political Economy*, 45, 71-84.
- Sarkees, M.R., and Wayman, F. (2010) *Resort to War: 1816-2007*, CQ Press.
- Schoorl, J., Heering, L., Esveldt, I., Groenewold, G. and van der Erf, R. (2000) *Push and pull factors of international migration: a comparative report*.
- UN-DESA and OECD (2013) *World Migration in Figures* [online], Available at: <http://www.oecd.org/els/mig/World-Migration-in-Figures.pdf>, Accessed 17/02/2016.
- World Bank (2015), *World development indicators*, World Bank.