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**International Migration
and Institutional Quality in the Home Country:
It Matters Where You Go and How Long You Stay**

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Abstract

International migrants are widely recognised as agents of institutional change in their home countries. However, the huge growth in temporary migration in recent years demands a fresh investigation of this phenomenon. Theoretically, a country's diaspora constitutes one of the four principal channels through which international migration may alter development. A core factor enabling the transnational influence of diasporas is their retained connection to home countries, which is plausibly contingent on the duration-of-stay in the host countries. This paper exploits the Database on Immigrants in OECD Countries to investigate the influence of diasporas living in OECD countries on institutional quality in their home countries, and takes into account the heterogeneity of diasporas' duration-of-stay composition. Instead of simply using immigrant numbers to measure the diaspora size, we calculate institutional-quality-adjusted immigrant stocks to allow for variations in institutional quality between host countries. Additionally, we utilize duration-of-stay in the host country as an indicator of the strength of interaction with the home country. Our cross-sectional and panel analyses find a significant positive impact of diasporas living in OECD countries on institutional quality in home countries. Remarkably, the diffusion of advanced institutions from developed host countries to home countries through the international migration channel is stronger with diasporas characterized by shorter duration-of-stay, that is, with those who may be expected to still have stronger links with the home country.

Keywords

institutional quality
international migration
diaspora
duration-of-stay

JEL Classification

F22; O15.

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1. Introduction

In a world characterized by pervasive globalization, trans-nationalization and turmoil, migration is a global phenomenon that has attracted huge attention from researchers, policy makers and politicians everywhere. While the question of whether international immigrants yield net benefits or are to the detriment of host countries remains under debate, there is no question about the significant agency role of international migrants in improving development in their home countries. Kapur and McHale (2005) and Kapur (2010) developed a framework that suggests four channels by which international migration affects home countries, namely the prospect channel, absence channel, diaspora channel, and return channel. The prospect and absence channels are perceived to introduce negative impacts in home countries, because of the potential costs, such as a brain drain, borne by home countries as a result of emigration. By contrast, the diaspora and return channels are expected to deliver positive effects. These channels are notable for their pro-democratization potential that relies on the practice of political transmission and norm diffusion from host countries to home countries. By drawing from the extant studies arguing migration experience as a relevant factor for institutional development, migrants are recognized not only as an advantageous resource for development, but also as 'political actors and potential agents of democracy' (Piper and Rother 2015, p.6).

The interconnection between international migration and democracy has recently been identified as a novel research agenda (Rüland *et al.* 2009). Although empirical studies contributing to this research agenda remain limited, there some evidence already exists of the positive impacts of international migration on institutional quality in home countries generated via the diaspora channel (Barsbai *et al.* 2017, Beine and Sekkat 2013, Docquier *et al.* 2011 and 2016, Li *et al.* 2016, Pfütze 2012 and Spilimbergo 2009) and via the return channel (Ammassari 2004, Batista and Vicente 2011, Chauvet and Mercier 2014, Tran *et al.* 2017 and Tuccio *et al.* 2016).

Research that investigates the diaspora channel aims to examine the feedback of migrant stocks or foreign-educated students on home countries' quality of institutions. The findings broadly support the role of diasporic communities in promoting institutional development. However, international migration is a multi-faceted phenomenon that has been increasingly characterized by the temporariness of migration decisions. OECD (2008) estimated that roughly 20 to 50 per cent of long-term immigrants left the host country within five years after arrival. In a recent publication on temporary migration, Dustmann and Görlach (2016) found that 50 per cent of immigrants to Europe moved again within ten years after their arrival. Even in countries known as traditional recipients of large numbers of immigrants such as Australia, Canada, New Zealand, and the United States, the re-migration

rate of immigrants is not less than 20 percent. Consistent with the well-established phenomenon of cumulative inertia (for example, Waldorf and Esparza, 1991), the re-migration rate in these countries is highest during the first ten years after initial immigration. Dustmann and Görlach (2016) argue that permanent migrants are quite different from their non-permanent counterparts in terms of motivations. Hence this may trigger heterogeneity, with respect to duration of residence, in behaviour and choices. Consequently, in this paper we take into account the temporariness of migration when assessing the influence of international migrants on institutional quality in their home countries.

Since the influence of diasporas on home countries is generated from afar, it is essential that there are strong transnational links through which diasporic communities retain cross-border interactions with their networks back home. Previous studies have documented that trans-border social ties and long-distance communications between migrants and non-migrants shape the political views of those left behind (Córdova and Hiskey 2015, Meseguer *et al.* 2016 and Pérez-Armendáriz 2014). The strength of transnational links are literally dependent on the temporariness of migration decisions. For instance, migrants who have return intentions are more likely to remain concerned about their home countries as well as to maintain relationships with their left-behind networks (see, for example, McCann *et al.* 2010). As illustrated previously, such temporary migrants are characterized by shorter duration-of-stay in host countries. For permanent migrants with longer duration-of-stay, those links are plausibly weaker. Being mindful of the implied connection between duration-of-stay and the strength of interactions with home countries, we endeavour to shed fresh light on the impacts of diasporas on institutional quality in their home countries. We believe that this is timely in the context of the huge growth in temporary migration in recent years. Specifically, we answer two research questions: (1) Do diasporas in developed host countries have a positive impact on institutional quality in their home countries? and (2) Does the revealed impact differ by diasporas' duration-of-stay in the host country?

To answer the first question, we regress institutional quality on diaspora size. Immigrant stocks calculated from the Database on Immigrants in OECD Countries (DIOC)¹ are used to measure the diaspora size in developed countries. This database contains rich details on demographic attributes and migration experience of immigrants living in OECD countries, but it has been surprisingly untapped for empirical research on migration impacts in home countries. It is also worth noting that the transnational norm diffusion of diasporas will depend on the diasporas' absorption of institutions in the host countries. Moreover, institutional quality varies between host countries. Therefore, the destinations where migrants move to are expected to matter as well. In regards to this respect, we derive *Hypothesis 1*: That diasporas in *higher-institutional-quality* host countries have a stronger impact on institutional quality in home countries than diasporas in *lower-institutional-quality* host

¹ <http://www.oecd.org/els/mig/dioc.htm>

countries. To test this hypothesis, we modify the measure of diaspora size by replacing the simple immigrant numbers with *institutional-quality-adjusted immigrant stocks*. This augmented measure is theoretically more meaningful and empirically more robust than a simple migrant stock variable.

With respect to the second research question, duration-of-stay in host countries is utilized as an indicator of the strength of interactions with the home country. Since migrants with shorter duration-of-stay are more likely to still maintain stronger links with their home countries, we posit *Hypothesis 2*: That diasporas characterized by *shorter duration-of-stay* have a stronger impact on institutional quality in home countries than that of diasporas with *longer duration-of-stay*. We initially split the sample of international migrants into two sub-samples distinguished by shorter versus longer duration-of-stay. Then, by comparing the magnitude of the estimated coefficients associated with diaspora size obtained from regressions for these sub-samples, we test Hypothesis 2.

Our cross-sectional and panel analyses use instrumental variables to deal with the endogeneity of migration, and confirm the positive impact of diasporas on institutional quality in home countries. We also find significant evidence that supports both hypotheses. By demonstrating that diasporas characterized by different duration-of-stay have dissimilar impact on home countries' institutional quality, this paper makes a novel contribution to our understanding of the role of international migration in accelerating institutional development.

The remainder of this paper is structured as follows. Section 2 reviews the literature on the role of international migration in the evolution of institutional quality in home countries. Section 3 presents the applied research method. Section 4 describes the data. Section 5 reports the results and Section 6 concludes.

2. Literature Review

In the existing literature on economic development, international migration has been identified as a crucial transmission channel of institutional quality, thereby potentially contributing to better economic performance (Bertocchi and Strozzi, 2008). International migrants, especially from less developed countries, are believed to experience and acquire modern traits of the population of developed host countries. They are argued to be able to transfer the absorbed norms to their home countries via the diaspora and return channels. Hence, in this regard, international migrants are claimed to be agents of change in their home countries (Conway and Potter 2007), or, more specifically, agents of the diffusion of democratic institutions who help strengthen democracy in their home countries (Pérez-Armendáriz and Crow 2010). Rüländ *et al.* (2009) mapped out three pathways of norm diffusion: changes of attitudes at the individual level, collective action, and institutional

change at the national and global levels. Scholars in this field have contributed empirical evidence supporting these claims at both the micro and macro levels.

At the micro level, researchers have explored the behaviour of individual migrants by means of case studies. Ammassari (2004) carried out a survey of return migrants in Ghana and Côte d'Ivoire to explore the socio-cultural and political change brought by economically active elite return migrants to their home economies and societies. Based on quantitative and qualitative analyses, this study found that Ghanaian and Ivorian elite migrants acquired significant human capital abroad, and that its transfer through the return channel has positive development impacts on both the public and private sector in these West African countries. Other micro level studies have applied quantitative methods to assess the contributions of migrants on political institutions in their home countries via migrants' voting behaviour. Batista and Vicente (2011) conducted a voting experiment to measure the demand for political accountability in Cape Verde. By regressing the voting decisions of respondents on local migrant stocks, they found a positive impact of international emigration on the demand for improved political accountability. Especially migrants who returned from countries with better governance were found to impose a significantly stronger impact.

A number of studies in this area have utilized real electoral outcomes as a proxy for the demand for better political institutions. By regressing the electoral outcomes of municipal elections on the proportion of migrants, researchers have found positive correlations between migration and the probability of voting for the opposition party in Mexico (Pfutze 2012) and in Mali (Chauvet and Mercier 2014). Barsbai *et al.* (2017) found a negative effect of emigration on the share of votes for the Communist Party in the Moldovan elections in 2009-2010. Tuccio *et al.* (2016)'s work on return migration in Morocco suggested that return migration, especially from Western countries, not only has a positive impact on the political attitudes of return migrants, but also alters their behaviour, as reflected in a positive correlation between regional returnee shares and participation rates in the 2011 political elections. Beyond voting behaviour, Tran *et al.* (2017) provided evidence that Vietnamese return migrants prefer higher institutional quality and that this is reflected in their locational choices upon returning to Vietnam. Through the observed decisions of registration for permanent residency, Vietnamese return migrants demonstrated a preference for regions with higher quality of institutions. Interestingly, the revealed preference is stronger among migrants who returned from host countries with higher-institutional quality. Generally, these studies show the presence of democratic spill-over effects from developed countries to less developed countries through migration.

At the macro level, researchers have conducted cross-national analyses to examine the role of migrant stocks in institutional improvement. Spilimbergo (2009) carried out a dynamic panel analysis to explore the relationship between foreign education and democracy. The

regressions showed a positive relationship between foreign education acquired from democratic countries and democracy promotion in home countries. Docquier *et al.* (2011) augmented the model of democracy's determinants by adding the emigration rate as an independent variable, and found robust positive impacts of the emigration rate on democracy and on economic freedom in home countries. Beine and Sekkat (2013) evaluated the effect of the emigration rate on institutional quality in home countries measured by six indicators that are included in the World Governance Indicators (WGI) reported by the World Bank. Their findings confirmed direct positive impacts of the total emigration rate on five out of the six indicators. The only indicator that was negatively affected was 'Voice and Accountability'. Instead of looking at changes in institutional quality, Li *et al.* (2016) focused on the effect of predetermined levels of human capital measures on ex-post institutional outcomes. They found a positive effect of emigrant human capital on political institutions in home countries, but a negative effect on economic institutions.

Technically, most of these studies encounter a potential endogeneity problem due to the two-way relationship between international migration and institutional quality: past migrants may impact on institutional quality, but institutional quality is also one of the determinants of migration. Researchers have handled this problem by investigating dynamic panels or by employing an instrumental variable strategy. A thorough discussion of these solutions to the endogeneity problem can be found in Docquier *et al.* (2016). They combined external instruments, including a gravity-based predicted emigration rate and climatic variables, with internal instruments using a system GMM estimator. In light of its robust results generated by different specifications and identification methods, Docquier *et al.* (2016) conclude that emigration to liberal democracies has an important and positive role to play in institutional change in home countries.

Macro-level studies have also pondered the heterogeneity of the stock of migrants. Empirically, education is almost the sole attribute of migrants that has been taken into consideration in the literature to date. The conventional strategy is to run regressions contrasting migrant stocks characterized by different education levels, i.e. high-skilled migrants versus low-skilled migrants (for example, Beine and Sekkat 2013, Docquier *et al.* 2011 and 2016 and Li *et al.* 2016). However, other attributes that might extend our knowledge of diasporas have been left untouched. Given the growth of temporary migration, it is worth investigating the duration-of-stay in assessing the transmission of host country institutional values to home countries. Additionally, the distribution of migrants between host countries of varying institutional quality may matter too. We carry out both extensions of the current literature in this paper.

3. Research Method

We assembled a panel of data by pooling together immigrant stocks in selected OECD host countries at three points in time (2000/01, 2005/06 and 2010/11) to analyse the impact of diasporas on institutional quality in home countries, while controlling for known important determinants of institutional quality in the extant literature. To account for unobserved factors, the following econometric model is estimated:

$$Q_{it} = \beta_0 + \beta_1 \ln mstock_{it} + \beta_2 X_{it} + \beta_3 Z_i + \beta_4 D_t + \varepsilon_{it} \quad (1)$$

where Q_{it} is institutional quality of home country i at time t , X_{it} is a vector of time-varying economic and demographic control variables for home country i at time t , Z_i represents country-specific time-invariant control variables for home country i , D_t is a set of dummy variables denoting time fixed effects, and ε_{it} is an error term. The variable of interest $\ln mstock_{it}$ is the natural logarithm of the aggregate immigrant stock (the diaspora) from home country i residing in selected OECD host countries at time t . This aggregate immigrant stock is given by:

$$mstock_{it} = \sum_{j=1}^J mstock_{ijt} \quad (2)$$

where $mstock_{ijt}$ is the number of immigrants from home country i residing in host country j at time t .

Existing empirical studies have identified a wide range of determinants of institutional quality, encompassing economic, demographic and geographic factors (for example, Acemoglu *et al.* 2005 and 2008; Alesina *et al.* 2003, Brown 2010, Castelló-Climent 2008, Djankov *et al.* 2008, Docquier *et al.* 2016, Rodrik *et al.* 2004 and Spilimbergo, 2009). In this paper, we include income, trade openness, population size, and education as time-varying control variables. Additionally, we also consider unearned foreign income, based on recent findings on the perils of international aid and remittances (Ahmed 2012 and 2013). We also control for a wide range of country-specific variables that are assumed to be time-invariant – including ethnic fractionalization, latitude, land area, being a landlocked country, legal origin, colonial heritage, violent independence, and being an oil exporter. All of these could potentially affect institutional quality. Time fixed effects are included in the model to account for global shocks or trends.

We initially estimate the econometric model by means of pooled-data ordinary least squares (OLS). However, this estimator is likely to produce biased estimates due to the problem of endogeneity caused by the potential reverse causal relationship between institutional quality and immigrant stocks, which is widely recognized. Consequently, we

then apply a two-stage least squares (2SLS) strategy with an external weather-based instrumental variable, as employed by Batista et al. (2016) and Docquier *et al.* (2016). Our instrumental variable is the number of natural disaster occurrences, which is a credibly relevant and exogenous instrument. There is certainly evidence that natural shocks and climatic variability have significant effects on migration (Beine and Parsons 2015 and Coniglio and Pesce 2015). It could be suggested that natural disasters may have a direct effect on institutional quality, as in the case of Haiti for example – thereby violating the exclusion restriction. However, we argue that such a concern about exclusion restrictions only rests on particular cases, whereas the general rule is still applicable. Therefore, our instrumental choice is less than perfect but is nonetheless valid. Consequently, we carry out a panel analysis using the random effects instrumental variable (RE-IV) estimator to capture both within and between variations while also controlling for reverse causality. According to Allison (2009), the alternative fixed effects (FE) approach has some disadvantages if the variable of interest varies greatly across countries, but has little within variation over time, as is the case for the size of migrant stocks. Moreover, there are only three points in time in the panel. Hence, we discard the FE estimator because of its potentially imprecise and insignificant estimates in this context.

To account for the variations in institutional quality between host countries, we replace the immigrant stock ($mstock_{it}$) in Equation (1) with a measure of institutional-quality-adjusted immigrant stock ($qmstock_{it}$) which is defined as follows:

$$qmstock_{it} = mstock_{it} \times \sum_{j=1}^J \left(s_{ijt} \times \frac{q_{jt}}{\bar{q}_t} \right) \quad (3)$$

in which

$$s_{ijt} = \frac{mstock_{ijt}}{mstock_{it}} \quad (4)$$

hence

$$\sum_{j=1}^J s_{ijt} = 1 \quad (5)$$

where q_{jt} is the institutional quality index for host country j at time t and \bar{q}_t is average value of the institutional quality index for all countries at time t , given by:

$$\bar{q}_t = \frac{1}{J} \sum_{j=1}^J q_{jt} \quad (6)$$

By comparing the estimated coefficients of $lnqmstock_{it}$ and $lnmstock_{it}$, we seek evidence supporting Hypothesis 1. As a robustness check, we also divide the selected OECD

host countries into sub-samples of higher-institutional-quality and lower-institutional-quality countries made up of those above and below \bar{q}_t respectively. Then we run regressions contrasting the effects of immigrant stocks related to these two sub-samples on institutional quality. The estimated coefficient of $lnmstock_{it}$ in the sub-sample of higher-institutional-quality host countries is expected to be larger than the coefficient in the sub-sample of lower-institutional-quality host countries.

Duration-of-stay is the key factor for answering the second research question, i.e. testing Hypothesis 2. A threshold of ten years living in selected OECD host countries was chosen to establish two sub-samples. We isolate immigrant stocks with duration-of-stay of less than or equal to ten years (shorter duration-of-stay) from those with duration-of-stay of more than ten years (longer duration-of-stay). The choice of this threshold is meaningful because it reflects the temporary and permanent migration distinction illustrated by Dustmann and Görlach (2016). By simultaneously running regressions contrasting institutional-quality-adjusted immigrant stocks characterized by shorter duration-of-stay with those featured by longer duration-of stay, we seek evidence supporting the second hypothesis, namely that the impact of temporary migrants on institutional quality in home countries is larger than that of permanent migrants. All models were estimated with Stata 14.

4. Data

4.1. Institutional quality

We use the Worldwide Governance Indicators (WGI)² reported by the World Bank as the primary measure of institutional quality. The WGI were initially developed by Kaufmann *et al.* (1999) to quantify six dimensions of institutional development at the country level, namely: Voice and Accountability; Political Stability and Absence of Violence/Terrorism; Government Effectiveness; Regulatory Quality; Rule of Law; and Control of Corruption. Each indicator at the country level is measured in percentile rank terms ranging from zero to 100, with higher values corresponding to better governance. Principal component analysis (PCA) showed that the first principal component of the six WGI indicators accounts for 84 per cent of the overall variance. The six WGI indicators have quite similar factor loadings in the first principal component (see Tables A1 and A2 in the Appendix). Hence we use a simple average score across the six WGI indicators (labelled *awgi*) as an appropriate overall measure of institutional quality.

To test the robustness of our results, we also use alternative measures of institutional quality, including the Political Rights Index, the Civil Liberties Index, the Economic Freedom of the World Index, and the Polity2 Score. The Political Rights Index (*pr*) and the

² <http://info.worldbank.org/governance/wgi/index.aspx#home>

Civil Liberties Index (*cl*) are reported in the Freedom in the World data set published by Freedom House.³ In this data set, each country is rated on these two dimensions by a score that ranges from one (the most free) to seven (the least free). Because we wish to consistently signal with each indicator that higher values correspond with greater institutional quality, the Political Rights and Civil Liberties Indices are re-scored to a range from one for the least free to seven for the most free countries. The Economic Freedom of the World Index (*efw*) has been calculated by the Fraser Institute.⁴ This index is scored out of ten, with higher scores representing a higher degree of freedom. The POLITY IV data series provide a set of variables measuring cross-country authority features.⁵ We use the Polity2 score (*polity2*), a combined score that ranges from +10 (strongly democratic) to -10 (strongly autocratic). For convenience in comparing and interpreting results, all the alternative institutional quality indicators are rescaled so that their data values fit within a uniform scale ranging from zero to 100.

4.2. Immigrant Stocks

International migration can be measured as either flows or stocks of migrants. While migrant flows embody the dynamism of transnational mobility, migrant stocks – particularly immigrant stocks – represent diaspora size. In this paper, we scrutinize data on immigrant stocks extracted from the DIOC database. This database contains rich information on the demographic and labour market attributes of immigrant stocks residing in OECD countries. Specifically, the information on duration-of-stay of the foreign-born population aged 15 and over has been under-utilized in migration studies to date, but is an important variable for this paper.

The DIOC database covers the 2000-2010 time frame in five year intervals. In other words, we have data on immigrant stocks at three points in time, pertaining to 2000/01, 2005/06 and 2010/11. Since the number of OECD countries has changed over this decade, we exclude those countries for which immigrant stocks are not available at all three points in time. We also drop OECD countries that have been relatively minor recipients of immigrants, such as Mexico. These restrictions generate a consistent sample of immigrant stocks residing in 21 OECD countries, by country of origin. However, immigrant stocks are not reported for all home-host country pairs. To remedy this shortcoming in the data, we imputed missing immigrant stocks by means of linear interpolation or extrapolation. The home countries have been restricted to those in which at least in one of the three periods there are no less than 1,000 diaspora in the selected host countries in total ($mstock_{it} \geq 1,000$). This restriction leaves out small island nations, and thereby eliminates some undesirable heterogeneity. In sum, the immigrant stock matrix is a two-way table reflecting migration from 131 home

³ <https://freedomhouse.org/report-types/freedom-world>

⁴ <https://www.fraserinstitute.org/economic-freedom/dataset>

⁵ <http://www.systemicpeace.org/inscrdata.html>

countries to 21 OECD host countries (see Tables A3 and A4 in the Appendix). Table 1 summaries various counts of the immigrant stock for the diasporas. The total immigrant stock as defined above increased by roughly between 40-50 per cent over the decade, dependent on the selected measure.

Categorical data on duration-of-stay in the DIOC database varied across time and (host, home) country pairs. However, it was possible to consistently split the migrant stocks into those in the host country for less than or equal to ten years and those in the host country for longer than ten years. It is reasonable to expect that temporary migrants are a large proportion of the former category.

Table 1: Summary Statistics of Immigrant Stocks

Period	Obs.	Sum	Mean	Std. Dev.	Min	Max
Immigrant stocks						
2000/01	131	45,121.17	344.44	834.21	1.79	8,326.61
2005/06	131	59,291.36	452.61	1,087.09	2.23	10,783.20
2010/11	131	66,540.16	507.94	1,166.84	2.68	11,312.32
Institutional-quality-adjusted immigrant stocks						
2000/01	131	44,330.24	338.40	822.06	1.77	8,213.02
2005/06	131	57,689.57	440.38	1,052.21	2.27	10,383.15
2010/11	131	63,354.22	483.62	1,095.70	2.74	10,495.08
Immigrant stocks in higher-institutional-quality host countries						
2000/01	131	11,444.22	87.36	224.05	0.08	1,631.67
2005/06	131	15,094.69	115.23	295.06	0.04	2,061.02
2010/11	131	16,168.38	123.42	289.83	0.02	1,875.22
Immigrant stocks in lower-institutional-quality host countries						
2000/01	131	33,676.94	257.08	770.19	0.42	8,282.43
2005/06	131	44,196.67	337.38	998.41	0.48	10,719.69
2010/11	131	50,371.77	384.52	1,064.98	0.55	11,220.84
Institutional-quality-adjusted immigrant stocks with shorter duration-of-stay						
2000/01	131	16,166.18	123.41	341.43	0.68	3,577.95
2005/06	131	20,918.09	159.68	393.68	0.76	3,861.25
2010/11	131	20,756.93	158.45	328.07	0.54	2,643.37
Institutional-quality-adjusted immigrant stocks with longer duration-of-stay						
2000/01	131	26,712.87	203.92	492.58	0.30	4,687.63
2005/06	131	33,814.07	258.12	637.52	0.50	6,232.58
2010/11	131	41,074.57	313.55	802.76	1.48	8,135.39

Notes:

Numbers are in thousands of migrants.

Higher-institutional-quality host countries (those above the mean institutional quality in this sample): AUS, AUT, CAN, CHE, DEU, DNK, FIN, IRL, LUX, NLD, NOR, NZL, and SWE.

Lower-institutional-quality host countries (those below the mean institutional quality in this sample): BEL, ESP, FRA, GBR, GRC, ITA, PRT, and USA. Shorter duration-of-stay relates to the immigrant stocks with duration- of-stay of less than or equal to ten years, while longer duration-of-stay relates to immigrant stocks with duration-of-stay of more than ten years.

4.3. Time-Varying Control Variables

Income, measured in the natural logarithm of per capita GDP in constant 2010 U.S. dollars (*lngdp*), enters the econometric model as a conventional, but important, control variable. However, although income per capita and institutional quality exhibit an unquestionably positive correlation, academics provide mixed results for the statistical significance and causal direction of the relationship between these two variables. While Acemoglu *et al.* (2008) found no causal effect of GDP per capita on democracy, a number of other studies have identified a positive and statistically significant effect (for example, Benhabib *et al.* 2013, Brückner *et al.* 2011 and Heid *et al.* 2012). Further consideration of this causality issue is beyond the scope of the present paper.

Unearned foreign income (*remit_oda*) consists of foreign aid and remittances of household. This income accounts for a large sub-category of international capital flows, and it has been recently alleged that greater dependence on unearned foreign income leads to lower institutional quality. For instance, Djankov *et al.* (2008) found a negative impact of foreign aid on political institutions. Ahmed (2013) provided empirical evidence that remittances cause institutional quality decay in poor countries with less democratic institutions. Moreover, large foreign aid and remittance inflows are likely to prolong government survival in autocracies (Ahmed 2012). To gauge a country's dependence on unearned foreign income, we consider the sum of foreign aid and remittances as a share of GDP.

Trade openness (*openness*) has been customarily considered to be associated with institutional improvement, since the process of engaging in international trade is likely to impose requirements of reforming domestic institutions to comply with international standards. The idea that openness to international trade is positively correlated with institutional quality is supported by a number of recent empirical studies (e.g. Brown, 2010; Rodrik *et al.*, 2004). We control for the degree to which a country engages in international trade by including the ratio of total imports plus exports of goods and services to GDP.

The natural logarithm of population size (*lnpop*) is commonly employed as a control variable in most empirical studies on determinants of institutional quality. This variable generally has a negative relationship with democracy (Acemoglu *et al.* 2005 and 2008 and Benhabib *et al.* 2013).

Education (*edu*) may be expected to be correlated with institutional quality. However, the question of whether education can causally influence institutional quality remains controversial. Acemoglu *et al.* (2005) challenged the common expectation of a causal effect of education on institutional quality. They found that the effect of average years of schooling on democracy disappears when accounting for country-specific factors. Glaeser *et al.* (2007),

however, proposed a model that suggests that countries with higher levels of education are more likely to maintain democracy. Several empirical studies lend support to a positive effect of education on institutional quality (for example, Bobba and Coviello 2007, Castelló-Climent 2008 and Murtin and Wacziarg 2014). To capture variation in levels of education across countries, we employ the Education Index, an indicator of the Human Development Index calculated by using Mean Years of Schooling and Expected Years of Schooling.⁶ The index is standardized within a range from zero to one, with higher values corresponding to better education.

Data on GDP, GDP per capita, remittances, total imports and exports of goods and services, and population size were assembled from the World Development Indicators of the World Bank.⁷ Data on ODA disbursements were collected from the OECD International Development Statistics (IDS) online database.⁸ Data on the Education Index were extracted from the UNDP Human Development Reports.⁹ Table 2 provides a summary for the average WGI and the time-varying control variables.

Table 2: Summary Statistics for Average WGI and Time-Varying Control Variables

	Obs.	Mean	Std. Dev.	Min	Max
Average of WGI	393	42.83	23.10	1.29	98.30
GDP per capita (constant 2010 US\$)	393	7,420.25	10,915.45	196.78	70,870.23
Foreign aid and remittances (Percent of GDP)	393	2.86	4.73	0.00	40.87
Trade openness (% of GDP)	393	88.96	55.47	0.00	432.95
Population (thousands)	393	41,029.56	152,503.85	69.68	1,337,705.00
Education index	393	0.56	0.17	0.12	0.88

Note:

The observations pool the years 2000/01, 2005/06 and 2010/11.

4.4. Other Variables

In regards to the variables that are assumed time-invariant, there is a growing consensus in the academic literature that country-specific cultural, geographical and historical variables matter for institutional quality. In this paper, we control for ethnic fractionalization, country latitude in absolute value (i.e. a measure of distance from the equator), natural logarithm of land area, and dummy variables for landlocked countries, legal origin, colonial heritage, violent independence, and oil-exporting countries. The ethnic fractionalization index was developed by Alesina et al. (2003). Geographic data and data on colonial heritage were taken from the French Centre for Research and Studies on the World Economy (CEPII) database.¹⁰

⁶ <http://hdr.undp.org/en/data>

⁷ <http://data.worldbank.org/data-catalog/world-development-indicators>

⁸ <http://www.oecd.org/development/stats/idsonline.htm>

⁹ <http://hdr.undp.org/en/data>

¹⁰ http://www.cepii.fr/CEPII/en/bdd_modele/bdd_modele.asp

Data on legal origin were collected from La Porta *et al.* (2008). Violent independence status was drawn from the Issue Correlates of War (ICOW) Colonial History Data Set.¹¹ A dummy variable for being an oil-exporter was derived from the Global data set of oil and gas production and exports, 1932-2011 (Ross 2013).

Finally, the instrumental variable that we use to account for the potential endogeneity of diaspora size consists of the natural logarithm of the number of occurrences of natural disaster, comprising animal accidents, droughts, earthquakes, epidemics, extreme temperatures, floods, impacts, insect infestations, landslides, mass movements (dry), storms, volcanic activity, and wildfires since 1900 at each of the three points in time in the panel. This information was gathered from the International Disaster Database (EM-DAT).¹²

5. Results

Table 3 reports the results derived from different estimating methods, related to the role of diasporas as a determinant of institutional quality. The left-hand block of Table 3 reports regressions in which diaspora size is measured by the aggregate number of immigrants residing in the selected OECD countries. In the right-hand block of regression results, the diaspora stock is quality-weighted by the institutional quality of the selected OECD countries.

First, an F-test was used to choose between FE and pooled OLS estimators. The test rejects the null hypothesis that all the fixed effects intercepts are jointly zero, therefore FE is preferred. The Breusch-Pagan LM test was then employed to decide between the RE and pooled OLS estimators. The test rejects the null hypothesis that there are no country-specific random effects, thus RE is preferred. To choose between FE and RE estimators, a regression-based test – the Hybrid Model (Allison 2009) – was used as an alternative to the conventional Hausman test, since the latter test is too restrictive for applications with known time-invariant control variables (Wooldridge 2010). Moreover, in the case of a short panel, the Hausman test is biased towards the FE estimator due to relatively large standard errors on the fixed effects. The Hybrid Model combines the FE and RE approaches into a single model by decomposing each time-varying variable into a within-country component and a between-country component, and then fitting a RE model with both components. The between-country component is the country-specific mean of each variable. The within-country component is the deviation from that country-specific mean. Conventionally, a RE model assumes that the deviation and the mean coefficients are equal. To test this assumption, we apply a Wald test for equality across the pairs of coefficients after running the Hybrid Model. This regression-based test provides evidence in favour of the RE estimator, accepting the null hypothesis of equality across the pairs of coefficients.

¹¹ <http://www.paulhensel.org/icowcol.html>

¹² <https://www.unisdr.org/we/inform/disaster-statistics>

Table 3: Impacts of Diaspora Size on Institutional Quality using Different Estimators

	(1) OLS	(2) FE	(3) RE	(4) 2SLS	(5) RE-IV	(6) OLS	(7) FE	(8) RE	(9) 2SLS	(10) RE-IV
	Diaspora Size Measured as Immigrant Stocks					Diaspora Size Measured as Institutional-Quality-Adjusted Immigrant Stocks				
<i>Diaspora size</i>	0.270 (1.008)	1.387 (1.615)	0.925 (0.967)	11.693** (5.086)	11.955** (4.675)	0.325 (1.019)	1.459 (1.600)	0.976 (0.969)	11.659** (4.922)	12.016** (4.700)
<i>lngdp</i>	9.059*** (1.565)	11.148*** (2.794)	9.388*** (1.346)	8.653*** (2.052)	9.556*** (1.626)	9.057*** (1.565)	11.167*** (2.794)	9.394*** (1.344)	8.651*** (1.994)	9.641*** (1.615)
<i>remit_oda</i>	-0.380** (0.180)	-0.135 (0.119)	-0.149 (0.113)	-1.025** (0.508)	-0.252 (0.225)	-0.383** (0.181)	-0.134 (0.119)	-0.149 (0.113)	-1.006** (0.487)	-0.240 (0.221)
<i>openness</i>	-0.017 (0.020)	0.025* (0.014)	0.015 (0.012)	-0.011 (0.027)	0.010 (0.015)	-0.017 (0.020)	0.025* (0.014)	0.015 (0.012)	-0.011 (0.027)	0.010 (0.015)
<i>lnpop</i>	0.140 (1.198)	0.446 (4.279)	-0.581 (1.184)	-7.911** (3.750)	-7.696** (3.339)	0.101 (1.204)	0.424 (4.283)	-0.616 (1.184)	-7.905** (3.640)	-7.746** (3.364)
<i>edu</i>	21.761 (13.388)	-13.186 (17.525)	0.541 (12.381)	-7.676 (19.457)	-23.455 (16.179)	21.621 (13.381)	-13.482 (17.537)	0.365 (12.381)	-7.594 (18.914)	-24.591 (16.391)
R-sq	0.669	0.480	0.639	0.429	0.455	0.669	0.479	0.639	0.434	0.456
F-test		0.005					0.005			
B-P			<0.001					<0.001		
Wald			0.397					0.391		
DWH				0.002	0.001				0.002	0.001
KPW				14.233	20.268				14.436	20.268

Notes:

The dependent variable is *awgi*. Robust standard errors clustered by home country are reported in parentheses. Time-invariant variables and time-fixed effects are included. N = 393. F-test: test for the joint significance of the fixed effects intercepts, *p*-value reported, null hypothesis = all of the fixed effects intercepts are jointly zero. B-P: Breusch-Pagan LM test for random effects, *p*-value reported, null hypothesis = country-specific or time-specific error variance components are zero.

Wald: Wald test for fixed vs. random effects after the Hybrid Model regression, *p*-value reported, null hypothesis = pairs of mean and deviation score of each time-varying variable are jointly zero. DWH: Durbin-Wu-Hausman endogeneity test, *p*-value reported, null hypothesis = diaspora size is exogenous. KPW: Kleibergen-Paap Wald rank F-statistic to be compared with Stock-Yogo weak instrument test critical values.

* *p*<0.1, ** *p*<0.05, *** *p*<0.01.

The Durbin-Wu-Hausman test provides evidence of the endogeneity of diaspora size. Therefore, the instrumental variable – the natural logarithm of the number of natural disasters – is employed to handle this problem. The Kleibergen-Paap Wald rank F-statistic confirms that the chosen instrumental variable is not a weak instrument. Comparing the coefficients of diaspora size obtained with the pooled OLS estimator reported in columns (1) and (6) of Table 3 with those derived from the 2SLS strategy reported in columns (4) and (9) respectively, we observe much larger coefficients generated by the latter method. These differences signal a reverse causality bias nested in the pooled OLS estimation (Docquier *et al.* 2016).

Consequently, we focus our attention on the results of the pooled cross-sectional analysis using a 2SLS strategy, and a panel analysis using the RE-IV estimator. As reported in Columns (4), (5), (9) and (10) of Table 3, diasporas in selected OECD countries (measured as either the immigrant stocks or the institutional-quality-adjusted immigrant stocks) have a positive influence on institutional quality in their home countries, as measured by *awgi*. This positive impact is robust across alternative measures of institutional quality given by *pr*, *cl*, and *polity2*. The exception is *efw*, which has statistically insignificant effects (see Table A5 in the Appendix). However, there is no evidence in favour of the RE-IV estimator in the case of these alternative measures; i.e. the post-Hybrid-Model Wald test rejects the null hypothesis of equality across the deviation-mean coefficient pairs.

In regards to the coefficients for the time-varying control variables, we find in Table 3 significant effects of income and population on *awgi*, which are consistent with the literature. The significant negative effect of unearned foreign income found in the 2SLS regressions supports the argument of the perils of foreign aid and remittances. Although the literature generally supports the role of trade openness and education as determinants of democracy, the effects of these variables are not strong enough to result in significant coefficients in this study.

The use of institutional-quality-adjusted immigrant stocks is more meaningful for incorporating the norm diffusion idea. However, in terms of magnitude, the coefficients of institutional-quality-adjusted immigrant stocks in Columns (9) and (10) of Table 3 are roughly the same as those of immigrant stocks in Columns (4) and (5). The two diaspora measures are clearly highly correlated. We therefore carry out an alternative strategy to identify the host country institutional quality effect by running regressions contrasting immigrant stocks in higher-institutional-quality host countries with those in lower-institutional-quality host countries to find additional evidence supporting Hypothesis 1. As presented in Table 4, the coefficients of immigrant stocks in higher-institutional-quality host countries are larger than those of immigrant stocks in lower-institutional-quality host countries. However, Welch's *t*-test (Welch 1938) rejects the null hypothesis of equal

regression coefficients (at the 0.1 per cent level) only when using 2SLS method. Nonetheless, within the scope of this research, this result provides tentative evidence that having diasporas in higher-institutional-quality host countries has a stronger impact on home country institutional quality.

Table 4: Estimates for Diaspora Size with Sub-Samples

	2SLS			RE-IV		
Higher versus Lower-Institutional-Quality Host Countries						
	Higher	Lower	Welch's <i>t</i> -test	Higher	Lower	Welch's <i>t</i> -test
<i>lnmstock</i>	14.756* (7.845)	12.468** (5.695)	<0.001	12.875** (5.715)	12.560** (5.311)	0.424
DWH	0.002	0.003		0.001	0.001	
KPW	5.024	10.914		7.777	14.374	
Shorter versus Longer Duration-of-Stay						
	Shorter	Longer	Welch's <i>t</i> -test	Shorter	Longer	Welch's <i>t</i> -test
<i>lnqmstock</i>	13.474** (6.291)	9.760** (4.241)	<0.001	12.178** (5.128)	9.720*** (3.660)	<0.001
DWH	0.001	0.003		0.001	0.004	
KPW	11.071	14.227		15.835	18.840	

Notes:

Robust standard errors clustered by home country are reported in parentheses. N = 393.

DWH: Durbin-Wu-Hausman endogeneity test, *p*-value reported, null hypothesis: diaspora size is exogenous.

KPW: Kleibergen-Paap Wald rank F-statistic to be compared with Stock-Yogo weak instrument test critical values.

Welch's *t*-test: test for the significant difference of regression coefficients, *p*-value reported, null hypothesis: regression coefficients associated with diaspora size are equal.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4 also reports the results of regressions contrasting diasporas related to different duration-of-stay. The coefficients of institutional-quality-adjusted immigrant stocks characterized by shorter duration-of-stay (≤ 10 years) are larger than those of institutional-quality-adjusted immigrant stocks with longer duration-of-stay (> 10 years). Moreover, regardless of which estimator is used, Welch's *t*-test rejects the null hypothesis of equal regression coefficients at the 0.1 per cent level. Accordingly, the diffusion of advanced institutions from developed host countries to less developed home countries through the international migration channel is stronger when diasporas are characterized by shorter duration-of-stay. These are immigrants who have a higher propensity to re-emigrate. This distinct effect might be due to the expected stronger links with the home country among these diasporas. This finding is robust at the 0.1 per cent level to the alternative institutional indicators *pr* and *cl* in both pooled cross-sectional and panel analyses and *polity2* in pooled cross-sectional analysis (see Table A6 in the Appendix).

6. Conclusions

Our paper re-confirms the positive role of migration in promoting institutional quality development in home countries. This explicit influence is explained by the spill-over effects of migrants from less developed countries transmitting and spreading attitudes and behaviours back home that they absorbed in developed host countries. These spill-over effects depend on the quality of institutions in the migrants' host countries and the extent to which migrants are likely to maintain links with their home countries. Consequently, our use of institutional-quality-adjusted immigrant stocks in the analysis not only re-confirms the impact of migration on institutional quality, but also attests that where migrants move to does matter.

In the wake of the emergence of increasing temporary migration, this paper contributes a fresh investigation into the link between migration and institutional quality by digging deeper into the intensity of norm diffusion from developed host countries to less developed home countries, conditioned on temporary versus permanent migration. The temporariness is entrenched in diasporas characterized by shorter duration-of-stay and higher propensity to re-emigrate. Interestingly, we find that diasporas with shorter duration-of-stay demonstrate a stronger norm diffusion effect. Put differently, how long migrants have stayed in host countries also matters.

In sum, our findings suggest that policy makers in both home and host countries should support temporary migration as an approach to promote global convergence in institutional quality. Although migration decisions are primarily at the discretion of migrants, there are areas where governments can control the temporariness of migration, such as in the case of labour migration and the migration of international students. Bilateral agreements should be established or re-negotiated to facilitate the flows of fixed-period guest workers and international students from less developed home countries to developed host countries. It is also necessary to design a mechanism of inter-country cooperation to increase the chance of their return, especially the return of home-government scholarship holders. Given that institutional quality has recently been a central concern of the development discourse, our findings advocate for a bottom-up approach to intensify development through institutions improvement via temporary migration schemes.

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Appendix

Table A1: Eigenvalues and the Proportion of Variation Explained by the Principal Components of the six WGI indicators

Component	Eigenvalue	Difference	Proportion	Cumulative
1	5.015	4.621	0.836	0.836
2	0.394	0.066	0.066	0.902
3	0.328	0.196	0.055	0.956
4	0.132	0.059	0.022	0.978
5	0.073	0.016	0.012	0.990
6	0.057	0.000	0.010	1.000

Table A2: Component Factor Loadings on the Six WGI Indicators for the First Principal Component

WGI Indicators	Component 1	Unexplained
Voice and Accountability	0.380	0.276
Political Stability and Absence of Violence/Terrorism	0.370	0.314
Government Effectiveness	0.426	0.090
Regulatory Quality	0.415	0.137
Rule of Law	0.431	0.068
Control of Corruption	0.424	0.100

Table A3: List of Selected OECD Host Countries

No.	Code	Country
Higher-Institutional-Quality Host Countries		
1	FIN	Finland
2	DNK	Denmark
3	LUX	Luxembourg
4	NZL	New Zealand
5	CHE	Switzerland
6	SWE	Sweden
7	NOR	Norway
8	NLD	Netherlands
9	AUS	Australia
10	IRL	Ireland
11	AUT	Austria
12	CAN	Canada
13	DEU	Germany
Lower-Institutional-Quality Host Countries		
14	GBR	United Kingdom of Great Britain and Northern Ireland
15	BEL	Belgium
16	USA	United States of America
17	FRA	France
18	PRT	Portugal
19	ESP	Spain
20	ITA	Italy
21	GRC	Greece

Notes:

Country codes follow the International Standards Organization (ISO) 3-digit alphabetic codes. Countries are organized in descending order in terms of institutional quality.

Table A4: List of Home Countries Included in the Sample

No.	Code	Country	No.	Code	Country	No.	Code	Country	No.	Code	Country
1	AGO	Angola	34	ECU	Ecuador	67	LAO	Lao	100	RWA	Rwanda
2	ALB	Albania	35	EGY	Egypt	68	LBR	Liberia	101	SAU	Saudi Arabia
3	ARE	United Arab Emirates	36	EST	Estonia	69	LBY	Libyan Arab Jamahiriya	102	SDN	Sudan
4	ARG	Argentina	37	ETH	Ethiopia	70	LCA	Saint Lucia	103	SEN	Senegal
5	ARM	Armenia	38	FJI	Fiji	71	LKA	Sri Lanka	104	SGP	Singapore
6	AZE	Azerbaijan	39	GAB	Gabon	72	LTU	Lithuania	105	SLB	Solomon Islands
7	BDI	Burundi	40	GEO	Georgia	73	LVA	Latvia	106	SLE	Sierra Leone
8	BEN	Benin	41	GHA	Ghana	74	MAR	Morocco	107	SLV	El Salvador
9	BGD	Bangladesh	42	GIN	Guinea	75	MDA	Moldova	108	SVK	Slovakia
10	BGR	Bulgaria	43	GMB	Gambia	76	MDG	Madagascar	109	SVN	Slovenia
11	BHR	Bahrain	44	GNQ	Equatorial Guinea	77	MEX	Mexico	110	SWZ	Swaziland
12	BHS	Bahamas	45	GTM	Guatemala	78	MLI	Mali	111	SYC	Seychelles
13	BLR	Belarus	46	GUY	Guyana	79	MLT	Malta	112	TCD	Chad
14	BLZ	Belize	47	HKG	Hong Kong	80	MNG	Mongolia	113	TGO	Togo
15	BOL	Bolivia	48	HND	Honduras	81	MOZ	Mozambique	114	THA	Thailand
16	BRA	Brazil	49	HRV	Croatia	82	MRT	Mauritania	115	TJK	Tajikistan
17	BRB	Barbados	50	HTI	Haiti	83	MUS	Mauritius	116	TTO	Trinidad and Tobago
18	BWA	Botswana	51	HUN	Hungary	84	MWI	Malawi	117	TUN	Tunisia
19	CAF	Central African Republic	52	IDN	Indonesia	85	MYS	Malaysia	118	TUR	Turkey
20	CHL	Chile	53	IND	India	86	NAM	Namibia	119	TZA	United Republic of Tanzania
21	CHN	China	54	IRN	Iran, Islamic Republic of	87	NER	Niger	120	UGA	Uganda
22	CIV	Côte d'Ivoire	55	IRQ	Iraq	88	NIC	Nicaragua	121	UKR	Ukraine
23	CMR	Cameroon	56	ISL	Iceland	89	NPL	Nepal	122	URY	Uruguay
24	COG	Congo	57	ISR	Israel	90	PAK	Pakistan	123	UZB	Uzbekistan
25	COL	Colombia	58	JAM	Jamaica	91	PAN	Panama	124	VCT	Saint Vincent and the Grenadines
26	CPV	Cape Verde	59	JOR	Jordan	92	PER	Peru	125	VEN	Venezuela
27	CRI	Costa Rica	60	JPN	Japan	93	PHL	Philippines	126	VNM	Vietnam
28	CYP	Cyprus	61	KAZ	Kazakhstan	94	PNG	Papua New Guinea	127	WSM	Samoa
29	CZE	Czech Republic	62	KEN	Kenya	95	POL	Poland	128	ZAF	South Africa
30	DJI	Djibouti	63	KGZ	Kyrgyzstan	96	PRY	Paraguay	129	ZAR	Democratic Republic of the Congo
31	DMA	Dominica	64	KHM	Cambodia	97	QAT	Qatar	130	ZMB	Zambia
32	DOM	Dominican Republic	65	KOR	Republic of Korea	98	ROM	Romania	131	ZWE	Zimbabwe
33	DZA	Algeria	66	KWT	Kuwait	99	RUS	Russian Federation			

Note:

Country codes follow the International Standards Organization (ISO) 3-digit alphabetic codes.

Table A5: Estimates for Diaspora Size using Alternative Measures of Institutional Quality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>pr</i>	<i>cl</i>	<i>efw</i>	<i>polity2</i>	<i>pr</i>	<i>cl</i>	<i>efw</i>	<i>polity2</i>
	2SLS				RE-IV			
<i>lnmstock</i>	33.326*** (11.085)	28.752*** (8.878)	4.690 (3.082)	40.001*** (14.989)	29.543*** (8.758)	25.284*** (7.038)	4.550 (2.917)	23.411*** (7.719)
N	390	390	279	360	390	390	279	360
DWH	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	0.009	<0.001
KPW	13.854	13.854	11.592	8.864	21.845	21.934	12.334	20.188
<i>lnqmstock</i>	33.176*** (10.980)	28.623*** (8.776)	4.695 (3.079)	39.729*** (14.802)	29.736*** (8.804)	25.362*** (7.058)	4.590 (2.941)	23.756*** (7.819)
N	390	390	279	360	390	390	279	360
DWH	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	0.010	<0.001
KPW	14.148	14.148	11.732	9.052	21.924	22.042	12.356	19.944

Notes:

Robust standard errors clustered by home country are reported in parentheses. DWH: Durbin-Wu-Hausman endogeneity test, *p*-value reported, null hypothesis = diaspora size is exogenous. KPW: Kleibergen-Paap Wald rank F-statistic to be compared with Stock-Yogo weak instrument test critical values.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

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Table A6: Estimates for Institutional-Quality-Adjusted Immigrant Stocks using Alternative Measures of Institutional Quality: Shorter versus Longer Duration-of-Stay

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>pr</i>	<i>cl</i>	<i>efw</i>	<i>polity2</i>	<i>pr</i>	<i>cl</i>	<i>efw</i>	<i>polity2</i>
	2SLS				RE-IV			
	Shorter Duration-of-Stay							
<i>lnqmstock</i>	37.444*** (8.572)	32.305*** (6.899)	5.421 (2.119)	48.575*** (13.439)	27.900*** (9.062)	23.686*** (7.139)	4.691 (2.860)	18.709** (7.762)
N	390	390	279	360	390	390	279	360
DWH	<0.001	<0.001	0.014	0.001	<0.001	<0.001	0.019	<0.001
KPW	11.593	11.593	8.474	6.574	21.310	21.465	10.630	19.253
	Longer Duration-of-Stay							
<i>lnqmstock</i>	27.315*** (5.396)	23.566*** (4.319)	3.830 (1.520)	33.621*** (7.676)	24.190*** (6.967)	20.214*** (5.499)	3.889 (2.460)	19.931*** (6.554)
N	390	390	345	360	390	390	345	360
DWH	<0.001	<0.001	0.007	0.001	<0.001	<0.001	0.020	<0.001
KPW	14.688	14.688	12.799	8.844	20.430	19.946	13.029	15.091
Welch's <i>t</i> -test	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.023

Notes:

Robust standard errors clustered by home country are reported in parentheses. DWH: Durbin-Wu-Hausman endogeneity test, *p*-value reported, null hypothesis = diaspora size is exogenous. KPW: Kleibergen-Paap Wald rank F-statistic to be compared with Stock-Yogo weak instrument test critical values. Welch's *t*-test: test for the significant difference of regression coefficients, *p*-value reported, null hypothesis = regression coefficients associated with *lnqmstock* are equal.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: First-Stage Regressions for the 2SLS Models

	(1)	(2)	(3)	(4)	(5)	(6)
	Immigration stocks	Institutional- quality- adjusted immigration stocks	Immigration stocks in higher- institutional- quality countries	Immigration stocks in lower- institutional- quality countries	Institutional- quality-adjusted immigration stocks with shorter duration-of-stay	Institutional- quality-adjusted immigration stocks with longer duration-of-stay
<i>lngdp</i>	0.083 (0.721)	0.083 (0.725)	-0.063 (-0.408)	0.119 (0.972)	0.091 (0.904)	0.109 (0.784)
<i>remit_oda</i>	0.047 (1.567)	0.045 (1.529)	0.004 (0.122)	0.063** (2.087)	0.063** (2.224)	0.034 (1.066)
<i>openness</i>	0.001 (0.383)	0.001 (0.405)	0.001 (0.447)	0.000 (0.057)	-0.000 (-0.116)	0.001 (0.436)
<i>lnpop</i>	0.551*** (5.875)	0.552*** (5.924)	0.735*** (6.543)	0.557*** (5.088)	0.624*** (7.916)	0.546*** (4.508)
<i>edu</i>	2.144** (2.381)	2.143** (2.383)	3.779*** (3.083)	1.607 (1.623)	2.222** (2.538)	2.371** (2.283)
<i>Indisaster</i>	0.374*** (3.773)	0.375*** (3.800)	0.296** (2.241)	0.351*** (3.304)	0.325*** (3.327)	0.448*** (3.772)
adj. R-sq	0.664	0.665	0.631	0.618	0.688	0.609
F-statistics	26.010	24.640	35.645	21.529	25.473	26.531
Prob > F	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Notes:

Robust *t*-statistics clustered by home country are reported in parentheses. N=393. Time-invariant variables and time-fixed effects are included. F-test for the null hypothesis that all slope coefficients are jointly zero.

* p<0.1, ** p<0.05, *** p<0.01