

# Boards of a Feather: Homophily in Foreign Director Appointments Around the World

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**Abstract:** We examine how shared institutional, sociological and cultural characteristics between countries affect director appointments. We document that shared country-level characteristics explain a large variation in the likelihood of appointing foreign directors to firm boards. In our empirical analyses, we use a gravity model and find that director appointments between country-pairs increase in the countries' economic significance, geographic and cultural proximity. We show that homophily plays a crucial role in director appointments across countries and is suggestive of a potential friction in the global convergence of governance practices. Moreover, we assess how homophily shapes the relation between foreign director appointments and firm value by exploiting an exogenous shock to the demand for corporate directors resulting from the staggered adoption of gender quota rules. We find that after the adoption of gender quota rules homophily in new director appointments harms firm value. Our findings suggest that homophily in the director market is a potential barrier in the appointment of directors.

Keywords: corporate governance; foreign directors; gravity model; homophily

JEL Classification: F16, F66, G30, G34, J60

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# **Boards of a Feather: Homophily in Foreign Director Appointments Around the World**

March 19, 2019

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## **1. Introduction**

Boards provide oversight on matters such as strategic decisions, disclosure and financial reporting, the design of executive compensation plans, as well as the identification and promotion of individuals to the board. Directors' effectiveness in performing these functions determines a board's success in decision making and firm value enhancement (Adams, Hermalin, and Weisbach, 2010; Hermalin and Weisbach, 2003). The increasing global nature of business associated with the concomitant increase in the international exchange of labor, products, and capital, has prompted research on whether directors' foreign experience affect corporate governance and firm performance. Existing studies on cross-country director appointments focus on the consequences of such appointments, suggesting that foreign directors are a possible mechanism for propagating corporate governance practices across countries (Iliev and Roth 2018; Giannetti, Liao, and Yu, 2015; Bouwman 2011; Masulis, Wang, and Xie 2012).

Despite the growing interest in the role of foreign directors, there is scant research on the drivers of the cross-country appointment of directors to firm boards. In this study we examine how common or shared country features affect foreign director appointments between country-pairs. While we expect that country-level institutional, economic, and social conditions affect foreign director appointments, shared features between country-pairs likely further affect both the demand and supply of directors between countries and potentially firm performance.

Financial market integration and cross-border competition among capital markets have pushed firms internationally and accordingly towards global boards. Consequently, this has raised the potential for convergence in firm governance around the world through the director labor market (Hansmann and Kraakmann 2001; Bouwman 2011; Iliev and Roth 2018). Accordingly, several standard-setting bodies and multinational institutions, including the OECD and the World

Bank, have issued common global principles of good governance that advocate for board internationalization as a key mechanism to achieve global convergence of governance practices (e.g., Davies and Hopt 2013; OECD 2017).<sup>1</sup> Despite this impetus, we have scant evidence of potential frictions to board internationalization, specifically how differences between countries affect director appointments. Despite financial and product market integration, weak complementarity between countries' systems can impede the transfer of corporate governance practices across countries (Bebchuk and Roe 1999; Khanna, Kogan, and Palepu 2006; Aggarwal, Erel, Ferreira, and Matos 2011) since country characteristics play a first-order role in corporate governance effectiveness around the world (Doidge, Karolyi, and Stulz 2007; Levit and Malenko 2016; Lel and Miller 2018).<sup>2</sup>

Our analysis of how *shared* characteristics between firms' and the directors' home countries affect foreign appointments focuses on the role of *homophily* in cross-country director appointments. Homophily is defined as the tendency of individuals to associate, interact and bond with others with shared characteristics and backgrounds and it has long been viewed as the organizing basis of networks (e.g., Rivera 2012, McPherson, Smith-Lovin, and Cook 2001, DiMaggio and Powell 1983).<sup>3</sup> Homophily in the director labor market could result either from language barriers caused by the difficulty of learning a new local language, or natives' bias towards

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<sup>1</sup> For example, the German Corporate Governance Code encourages the appointment of foreign members to supervisory boards.

<sup>2</sup> The significant growth in the international flow of people, goods, and capital has motivated the recent study of economic convergence between countries. While much of the existing literature focuses on the convergence in international income levels, the perception of a globally integrated market has prompted scholars to inquire whether global integration leads to convergence in micro institutional foundations between countries (e.g. Baumol 1986; Mankiw, Romer and Weil 1992; Barro and Sala-i-Martin 1992; Cingano 2014; Lagarde 2016).

<sup>3</sup> Homophily shapes group formation and social connections in a wide variety of settings, such as school, work, marriage, and friendship (McPherson et al. 2001). Currarini, Matheson, and Vega-Redondo (2016) provide a theoretical foundation for the pattern of homophily in social networks which can also be used to view board formation. Using a search-based model of friendship formation they conclude that biases towards same-types in both individual preferences and the matching processes affect pairing outcomes. DiMaggio and Powell (1983) argue that institutions are also affected by homophily and hence tend to remain unchanged, which suggests that country-level homophily can impact aggregate board appointments.

immigrants, or distinct cultural, religious and behavioral attitudes exhibited by natives in relation to immigrants. These between-country deep sociocultural differences arise as a result of a web of historical, linguistic, ethnic, religious, geographic, and economic reasons. In our paper, we operationalize homophily with a well-established measure of cultural similarity (Tadesse and White 2010) between the country where a firm is located (country of destination) and a director's domicile country (country of origin). Prior literature suggests that despite globalization, similarity in attitudes and beliefs remains a powerful emotional glue that serves to match and bond individuals (Rivera 2012). Cultural differences are deeply rooted in society and affect economic activities such as the internationalization strategy of firms (e.g. Ahern, Daminelli and Fracassi 2015); foreign investment (e.g. Aggarwal, Kearney and Lucey 2012), and trade (e.g. Tadesse and White 2010). We posit that it is necessary to consider not only countries' economic and legal systems but also homophily in the director-firm match to better understand the drivers of between-country director appointments and its effects on firm performance. Specifically, we hypothesize that the likelihood of appointing foreign directors on boards increases with homophily in the director-firm pair.

Using a sample of 134,176 directors appointed to 26,940 corporate boards in 38 countries from 2000 to 2013, we document that foreign directors account for five percent of all corporate directors worldwide.<sup>4</sup> This suggests largely national labor markets and a potential role of homophily. To examine how homophily shapes foreign director appointments, we aggregate the appointment of directors to the country-pair level. Prior studies that examine corporate governance effectiveness around the world (Doidge et al. 2007; Levit and Malenko 2016; Lel and Miller 2018) show that country characteristics play a first-order role and are more important than firm level

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<sup>4</sup> The average percentage of foreign directors in public companies covered by BoardEx for 38 countries for the period of 2000 to 2013.

characteristics in explaining governance. Consistent with prior findings, we find that country level characteristics explain a larger variation in the likelihood of appointing foreign directors to the board than do firm level characteristics. Moreover, our use of aggregate director appointments allows us to operationalize similarities between the directors and firms along various dimensions (e.g. homophily) at the country-pair. We then model the aggregate director appointments between country-pairs using a gravity model to examine how country-pair similarities affect aggregate director appointments.

We complement prior studies that use the gravity model to explain cross-country trade and foreign direct investment to study the role of homophily in between-country director appointments (Anderson 1979; Anderson and Marcouiller 2002; Berkowitz, Moenius, and Pistor 2006; Guiso, Sapienza, and Zingales 2006, 2009; Anderson 2011). To disentangle the country-specific demand/supply of directors from country-pair similarities, we regress bilateral director appointments on fixed effects for both the country of director destination and the country of director origin. We include all country-pair observations in our dataset to account for both potential and actual appointments of directors to firms around the world. Since our dependent variable has a large proportion of zeros, due to an absence of director appointments between country pairs, we use the Poisson pseudo-maximum likelihood estimator as proposed by Santos Silva and Tenreiro (2006) and used in several studies that estimate gravity equations (e.g., Karolyi and Taboada 2015). We consider country-pair similarities in geography (i.e., geographic distance, contiguous territory), economic conditions (i.e., GDP), legal systems (i.e., legal origin), language, religious practices, and historical roots (i.e. colonial relation), and homophily.

Our empirical analysis demonstrates that the gravity model explains more than 80% of the cross-country variation in director appointments. We find that firms located in economically

significant countries appoint a higher number of foreign directors domiciled in other economically significant countries, while geographic distance decreases the likelihood of cross-border director appointments and a shared border increases that likelihood. More importantly, including the homophily measure in the gravity model increases the explained variation by 6%, which suggests that homophily incrementally explains foreign director appointments. The effect of homophily persists when we include other similarities across pairs of countries, namely common legal origin, common religion, common language and colonial history. Our results suggest that homophily is a significant determinant of cross-country director appointments that is incremental to that explained by other economic, social, and legal characteristics.

We also investigate variation in the potential strength of homophily in the director labor market by comparing director appointments determinants at firms in poor governance countries with those in strong governance countries. To the extent that firms in poor governance countries have a plausibly greater incentive to attract directors from superior governance countries, because of the benefits associated with improvements in governance and the lower cost of capital, we expect homophily to play a lesser role in explaining foreign director appointments (Miletkov et al. 2016; Levit and Malenko 2016). We find that the role of homophily on foreign appointments in poor governance countries is weaker, but not absent. This suggests that cultural and social differences among individuals across countries remains a deterrent to directors' mobility between high and low governance countries, hence the effectiveness of foreign director appointments as a mechanism to propagate superior international governance is hindered due to homophily.

We further assess the role of homophily in the director market by comparing the effect of homophily on foreign director appointments with that of other international markets, in particular international trade, migration flows, and foreign direct investment. While homophily is positively

associated with director appointments, it is negatively associated with both international trade and migration flows, while being weakly associated with foreign direct investment. These differential effects suggest that despite the globalization of business, similarities among cultures restricts international director appointments.

We further examine whether homophily in foreign appointments affects firm value. To better isolate causal effects we exploit an exogenous shock to the demand for corporate directors resulting from the staggered adoption of gender quota rules in Europe. We find that, from the time in which the quota was passed until it became mandatory, the number of female foreign directors increases in countries that adopted the rule. We then examine the effect of homophily on firm value by exploiting the appointment of female directors by companies domiciled in countries that passed the gender quota. We use appointments of female directors at firms in gender quota adoption countries and examine differences in Tobin's Q between culturally similar and dissimilar female directors. We find that homophily in new director appointments has a negative effect on firm value, controlling for other determinants of Tobin's Q. The evidence provides new insights into the effects of foreign directors on firm governance and performance. While prior studies focus on firm level incentives as the key drivers of international board appointments, we demonstrate that sociocultural values deeply imbedded in society play a critical role in these appointments.

Our study adds to a growing literature on the director labor market and the costs and benefits of foreign directors. Prior firm-level studies on directors focus on demand-side explanations, thereby ignoring directors' preferences that potentially affect the supply of corporate directors. We incorporate both demand and supply side factors in the matching of directors between countries. Our approach is similar to studies in trade and migration that examine aggregate flows between countries to identify country-level factors that enhance or impede the flows of



goods, services, and people (Anderson 1979). For instance, while firms located in less economically developed countries may prefer foreign directors domiciled in countries with high economic development and human capital endowments, potential foreign directors may prefer appointments in well-developed countries since they can obtain greater returns to their human capital (Hall and Jones 1999). Finally, we add to the literature on the first order role of country characteristics on governance practices. In addition to the country level characteristics, we document that deep-rooted similarities in sociocultural beliefs shape foreign director appointments. While policy makers have focused their efforts on boosting global convergence in legal, institutional and economic features, convergence in individuals' beliefs and values is potentially harder to achieve and continues to be a prominent barrier in governance diffusion.

The remainder of the paper is organized as follows: the next section presents the sample and the data. Section 3 examines the determinants of foreign director appointments. Section 4 examines the effect of gender quota adoption on foreign director appointments and firm value. Section 5 provides sensitivity analyses. Section 6 concludes.

## **2 Sample and Data**

We use the BoardEx database to obtain detailed historical information on the characteristics of independent directors of public companies for 38 countries for the period of 2000 to 2013.<sup>5</sup> We use several BoardEx data files (“Director Characteristics”, “Director Employment”, “Director Network” and “Director Other Activities”) to compile our sample by tracking each

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<sup>5</sup> Given that some independent directors can also be CEOs and CFOs in other companies, we included CEOs and CFOs to avoid losing information about existing connections among companies, and consequently, among countries. For example, Sergio Marchionne is the CEO of Fiat Daymler Crysler but he is also independent director at Philip Morris. In our sample Marchionne represents, at the company level, a connection between Fiat Daymler Crysler and Philip Morris, whereas at the country level, he represents a connection between Italy and USA.

director's employment history using the start and end dates of their board appointments along with other relevant information.<sup>6</sup> We construct an initial sample of 134,176 directors appointed to 26,940 corporate boards in 38 countries, where each observation represents a director-company-year appointment.

Consistent with Masulis et al. (2012), we define a director's domicile country as the country of their primary employment and not solely their country of citizenship. Specifically, we code as domicile throughout the sample period as the country where a director has the majority of board appointments in the first year in our sample. For directors with directorships in multiple countries, we define their domicile as the country where each director has the majority of board appointments, thereby identifying the domicile of 132,255 directors. However, in our sample, 1,921 directors have an even number of board appointments in more than one country in their first year in BoardEx. For these directors, we alternatively use nationality or the country of the first appointment in BoardEx (if nationality is not available) to identify the domicile of 1,315 and 606 directors, respectively. Our main inferences do not change if we use nationality or the country of the first appointment to code directors' domicile.<sup>7</sup> We drop observations with incomplete information about directors' domicile (country of origin  $i$ ) and company's domicile (country of destination  $j$ ).<sup>8</sup>

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<sup>6</sup> BoardEx provides data in different modules that can be linked through companies and individuals' identifiers. For example, "Director Characteristics" module provides information about demographics (age, gender, and nationality) and education (degree obtained and name of the school attended), whereas the "Director Network" module contains data about directors' professional (interlocks) and educational (same school) connections to other directors and senior managers.

<sup>7</sup> In Appendix 2, we tabulate results of the gravity model using nationality and country of the first appointment in BoardEx to code directors' domicile. In our sample, information about nationality is missing for 56% of the directors. For those directors with complete information, our definition of domicile coincides with nationality in 87.6% of the cases.

<sup>8</sup> "Director Network" module suffers one important limitation because it contains also directors and companies' that are not fully covered by BoardEx. That means that for these companies and directors BoardEx assigns an identifier but does not provide any additional information.

We compile our sample by firm's country (destination), director's country of origin, and year to form all possible combinations of country pairs and we calculate for each country pair the number of directors domiciled in country  $i$  appointed to companies domiciled in country  $j$ . The final sample comprises 19,684 observations, representing all possible combinations of pairs among 38 countries over the period of 2000 to 2013.<sup>9</sup>

We complement BoardEx with country-level data from several sources. Data for the Gross Domestic Product (GDP) and the number of listed firms in a country is obtained from the World Bank's World Development Indicators. The United Nations' Comtrade Database provides the trade data. Measures of homophily, geographic distance, contiguous territory, colony, and common religion and common language are constructed based on data from Rose (2004), Tadesse and White (2010), and the CIA (2016). We code common legal origin using La Porta, Lopez-de-Silanes, and Shleifer (2006) classification of legal systems. Migration data are obtained from OECD (2014) and foreign direct investment (FDI) data were obtained from UNCTAD (2014). Firm-level data is from Thompson Reuters Worldscope.

In Figure 1, we first graphically depict foreign directors divided by the number of corporate directors in the world. We find little variation over our 14-year time period with foreign directors accounting for a little more than 5% of the global director labor market (see Table 1, column 1). We also observe that this percentage varies across countries (Figure 1, Panel A). For example, Switzerland and Luxembourg, two important financial centers in Europe, have the highest proportion of foreign directors: 21% and 23%, respectively. In contrast, in the US in 2013 foreign directors hold only 2% of board seats (see Figure 1, Panel B). This descriptive evidence contrasts

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<sup>9</sup> Our inferences do not change if we restrict the analysis to 2013 to account for the fact that BoardEx has poorer data coverage in the earlier sample years. This analysis is shown in Appendix 2.

with the general perception of widespread board internationalization and large effects of foreign directors on firm performance (e.g. Gianetti et al. 2015; Masulis et al. 2012).<sup>10</sup>

----- Insert Figure 1 about here -----

----- Insert Table 1 about here -----

Table 2 reports the mean values of foreign directors and other country level variables. The US stands out as the country with the greatest number of foreign directors, average GDP, trade flow and the number of listed firms. Other countries with relatively high foreign directorships are the UK (509), Canada (435), Australia (205), Hong Kong (186), Switzerland (185) and France (183), all countries associated with developed capital markets. Interestingly, India, Japan, and Spain where the number of listed firms is high have relatively few foreign directors. The countries with the fewest foreign directors are Korea (3), the Philippines (7), Turkey (12) and Thailand (14).

----- Insert Table 2 about here -----

Table 3 tabulates average director appointments between all country pairs during the period 2000 to 2013. The numbers below the diagonal present the average number of directors that are domiciled in country  $i$  (column) and appointed to companies domiciled in country  $j$  (row), and the numbers above the diagonal present the average number of directors that are domiciled in country  $j$  (row) and appointed to companies located in country  $i$  (column). A zero in the matrix indicates that there are no director appointments between countries. The US is the largest source for foreign directors with 1,078 (among them 288 in Canada, 201 in the UK and 89 in Ireland), followed by the UK with 523 directors (among them 132 in the US, 50 in Australia, and 45 in Canada), and

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<sup>10</sup> Globalization of corporate boards and discussions about the trend toward more internationally diverse boards have been commented often in the media (e.g., Joann S. Lublin, “Globalizing the boardroom”, The Wall Street Journal, October 31, 2005)

Canada with 342 (218 directors in the US, 38 in the UK, and 30 in Australia). Among the continental European countries, France has the most directors on boards in other countries with 201 directors (29 in the US, 24 in Belgium and Switzerland), followed by Germany with 192 directors (28 in the US and Switzerland, and 20 in France). Of the Asian countries, Hong Kong has the most directors appointed to boards in other countries with 212 directors (97 in China and 33 in Singapore) and Singapore is second with 132 (32 in Hong Kong and 22 in Malaysia).

----- Insert Table 3 about here -----

### 3. Determinants of foreign director appointments

#### 3.1. Firm characteristics versus country level factors

To examine how homophily affects director appointments across countries, we estimate the following model:

$$\begin{aligned}
 FD_{z,i,j,t} = & \gamma_0 + \gamma_1 Foreign\ Sales_{z,t} + \gamma_2 Foreign\ Ownership_{z,t} + \gamma_3 Log(assets)_{z,t} + \gamma_4 Sales\ Growth_{z,t} & (1) \\
 & + \gamma_5 Leverage_{z,t} + \gamma_6 Board\ Size_{z,t} + \gamma_7 Busyness_{z,t} + \gamma_8 GDP\ destination_{j,t} + \gamma_9 GDP\ origin_{i,t} \\
 & + \gamma_{10} GeographicDistance_{i,j} + \gamma_{11} Contiguous_{i,j} + \gamma_{12} Homophily_{i,j} + \gamma_{13} Colony_{i,j} \\
 & + \gamma_{14} Common\ Legal\ Origin_{i,j} + \gamma_{15} Common\ Religion_{i,j} + \gamma_{16} Common\ Language_{i,j} + \varepsilon_{z,t}
 \end{aligned}$$

The dependent variable,  $FD$ , is an indicator variable equal to one if director  $x$  from country  $i$  is appointed to firm  $z$  in country  $j$  in year  $t$ , and zero otherwise. For each firm  $z$  with domicile in country  $j$  that appoints a new foreign director in year  $t$  (5,923 firm-year observations), we include all possible countries  $i$  (37 countries). We obtain a sample of 129,151 observations. Following prior studies (Miletkov et al. 2017; Masulis et al. 2012), we include firm characteristics to control for idiosyncratic factors that potentially influence the appointments of foreign directors at the firm level. Consequently, we control for the percentage of foreign sales, the percentage of foreign

ownership, company size, sales growth, leverage, board size, and the percentage of busy directors on board. We then include country level covariates that have been used by prior literature to examine international trade flow (Anderson 1979). We include GDP of both country of origin and country of destination, geographic distance, contiguous border, colony, common legal origin, common religion, common language. We include *Homophily*, capturing sociocultural similarities across countries. The detailed definition of these country level factors is provided in section 3.2.

Table 4 shows the results. In Column (1), we only include firm characteristics and find that the Pseudo R-squared is lower than one percent. Our estimates of the coefficients on the covariates are largely in line with prior literature (e.g., Miletkov et al. 2017; Masulis et al. 2012). In Column (2), we include country level factors and find that the Pseudo R-squared is 0.205, which suggests that country level factors have a much higher predictive ability of foreign director appointments than firm characteristics. In Column (3), we include both firm and country level factors and find that the Pseudo R-squared is 0.206. In Column (4), we add fixed effects for both country of origin  $i$  and country of destination  $j$  and the Pseudo R-squared is 0.268.

----- Insert Table 4 about here -----

We formally compare the relative predictive ability of the models by examining the area under the receiver operating characteristic curve (AUC) for the various models. The receiver operating characteristic curve (ROC) is a plot of the true positive rate (i.e., sensitivity) versus the false positive rate (i.e., specificity) for different cut-off thresholds. A model with perfect discrimination has a ROC plot that passes through the upper left corner. The closer the ROC plot is to the upper left corner, the higher the overall accuracy of the model; suggesting a relation between the overall rates of correct classification and the area under the ROC.<sup>11</sup> Figure 2 illustrates the

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<sup>11</sup> The AUC is the most popular summary characteristics when comparing models predicting discrete outcomes (e.g., Kim and Skinner 2012).

ROC plots for the models tested in Table 4. Panel A demonstrates that the model with country characteristics (Column 2) is closer to the upper left region of the graph, indicating a larger AUC and greater predictive power than the model with only firm characteristics (Columns 1). Further, Panel B shows that the model with fixed effects for both country of origin and country of destination (Column 3) have greater predictive power than the model without fixed effects (Column 4).

----- Insert Figure 2 about here -----

Overall, the results from our analysis suggests that country level factors surpass firm level characteristics in explaining the likelihood of appointing foreign directors. Moreover, aggregation allows us to create country-pair characteristics representing similarities across various economic, legal, and social dimensions including homophily. Consequently, we examine the role of homophily in explaining cross-country foreign director appointments by using a gravity model to test how similarities and frictions enhance or impede aggregate director flows between pairs of countries.

### *3.2. Gravity model*

We model cross-country foreign director appointments by applying a gravity model (Anderson 1979). The traditional gravity model expresses trade flows as a function of its chief facilitators and impediments. The model predicts that a mass of goods, or other factors supplied by origin country  $i$ , is attracted to a mass of demand for these goods at destination country  $j$ . The attraction force is reduced by frictions such as geographic distance and is increased by similarities such as homophily and colonial relation. Empirically we estimate the following model:

$$\begin{aligned}
\text{Foreign Directors}_{i,j,t} &= \gamma_0 + \gamma_1 \text{GDP destination}_{j,t} + \gamma_2 \text{GDP origin}_{i,t} + \gamma_3 \text{GeographicDistance}_{i,j} & (2) \\
&+ \gamma_4 \text{Contiguous}_{i,j} + \gamma_5 \text{Homophily}_{i,j} + \gamma_6 \text{Colony}_{i,j} + \gamma_7 \text{Common Legal Origin}_{i,j} \\
&+ \gamma_8 \text{Common Religion}_{i,j} + \gamma_9 \text{Common Language}_{i,j} + \varepsilon_{i,j,t}
\end{aligned}$$

The dependent variable *ForeignDirectors<sub>i,j,t</sub>* is the number of directors domiciled in the origin country *i* who have board appointments at firms in the destination country *j* in year *t*. Given that our dependent variable has a large proportion of zeros as there are no director appointments between many country pairs, we use the Poisson pseudo-maximum likelihood (PPML) estimator as proposed by Santos Silva and Tenreyro (2006) and tested in several studies that estimate gravity equations (e.g., Karolyi and Taboada 2015). This estimator has been shown to perform well compared to other approaches in the presence of a large proportion of zeros (Santos Silva and Tenreyro 2011). PPML does not require the data to follow a Poisson distribution, which is why it is described as a pseudo-maximum likelihood estimator and not a maximum likelihood estimator (Karolyi and Taboada 2015).

*Homophily*, our variable of interest, captures the extent to which the shared norms and sociocultural values of individuals in one country vary from those of the individuals in a different country (Hofstede 2001). Apart from the increase in transaction costs, sociocultural distance also affects differences in perceptions. When the same situation is perceived differently by two parties it can thwart the development of rapport and trust (Neal 1998). High homophily between countries likely reduces transactions and relocation costs and increases trust between foreign individuals and firms as these prefer to trade with parties that are similar to them (van Veen, Sahib and Aangeenbrug 2014; Aggarwal et al. 2012; Kleinert and Toubal 2010; Guiso et al. 2009; Subramanian and Wei 2007). Further, homophily suggests that individuals tend to associate,



interact, and bond with others who possess similar characteristics and backgrounds (McPherson et al. 2001), which shape group formation and social cohesion in a variety of settings. Despite globalization, similarity in sociocultural values and norms remains a powerful mechanism of matching and bonding between individuals, organizations and institutions (Rivera 2012; McPherson et al. 2001; DiMaggio and Powell 1983). This deep-rooted sociocultural bonding has real effects in economic activities such as internationalization strategies (Ahern et al. 2015); foreign investment (Aggarwal et al. 2012), and international trade (Tadesse and White 2010).<sup>12</sup> We operationalize homophily with the additive inverse of *cultural distance* (Tadesse and White 2010), calculated as  $[-\sqrt{(TSR_j - TSR_i)^2 + (SSE_j - SSE_i)^2}]$ . Variables TSR and SSE are the mean values of Inglehart and Welzel (2005) cultural dimensions Traditional versus Secular-Rational authority (TSR) and Survival versus Self-Expression values (SSE), and are obtained from Inglehart and Welzel (2005).

We follow prior literature and include the covariates in the gravity model (e.g., Karolyi and Taboada 2015). We use GDP as the mass variable because countries' economic size has been shown to increase bilateral trade (Bergstrand and Egger 2011).  $GDP_{destination,j,t}$  and  $GDP_{origin,i,t}$  represent the two mass variables for country of destination  $j$  and country of origin  $i$ . In alternative specifications of the model, we use the log of the *number of listed firms* in the two countries which proxies for the size of capital markets; we also substitute country of destination and country of origin  $GDP$  with  $GDP$  per capita and *Human Capital*.<sup>13</sup>

Following prior studies in international trade (e.g., de Groot, Linders, Rietveld, and Subramanian 2004; Frankel and Rose 2002; Frankel 1997), we account for those factors that

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<sup>12</sup> For a recent review of the culture and finance literature see Karolyi (2016).

<sup>13</sup> We use the human capital index per country developed by the World Economic Forum (2013). Results with these alternative proxies for country masses are shown in Appendix 2, Table A2.2.

capture similarities and frictions between countries and that can have a significant effect on international directors' appointments. *Geographic distance<sub>i,j</sub>* is the logarithm of the distance between capitals of a country pair, which is expected to reduce the force of attraction between the two countries. In addition to distance we include an indicator variable for *contiguous* countries which takes the value of one if country *j* and country *i* share a border and zero otherwise (CIA 2016; Rose 2004). *Colony* equals one if the two countries have had a colonial link, and zero otherwise (Karolyi and Taboada 2015). *Common legal origin* equals one if the country pair has the same legal origin, and zero otherwise (La Porta et al. 2006). *Common religion* equals one if a country pair shares a main common religion, and zero otherwise (CIA 2016). Finally, we add *Common Language* which equals one if the two countries share the same language, and zero otherwise (Karolyi and Taboada 2015).<sup>14</sup>

Following prior literature (Anderson 2010; Subramanian and Wei 2007; Baldwin and Taglioni 2006; Feenstra 2004; Rose and Van Wincoop 2001), we also include country fixed effects for the country of origin (*DD*) and the country of destination (*CD*) to control for unilateral resistance to trade and other transaction costs. The country-of-origin fixed effects capture systematic differences in foreign directors from a particular country. The country-of-destination fixed effects capture the common demand for directors from the destination country, which derives from the level of economic activity, capital market, and the quality of institutions, and their enforcement. Finally, we add year fixed effects and we adjust standard errors for group correlation at the country-pair level. Detailed variable definitions and computations are provided in Appendix

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<sup>14</sup> As sensitivity analyses, we have included in the gravity model controls for economic factors other than GDP that potentially facilitate director appointments between two country-pairs (*Bilateral Trade* and *Cross-Listings*). Results are shown in Appendix 2, Table A2.2.

1. Table 5, Panel A reports descriptive statistics for the entire sample, while Panel B shows correlation table.

----- Insert Table 5 about here -----

Table 6 presents the results of our gravity model. Our first analysis estimates the baseline gravity model including the two mass variables (*GDP destination* and *GDP origin*), *Geographic Distance*, *Contiguous* and fixed effects for both country of origin and country of destination. Results presented in Column (1) show that our baseline model explains a significant portion of the global variation in foreign corporate director appointments, with an R-squared of 0.82. Consistent with the gravity model, we find a positive association with the two measures of GDP, a negative association with *Geographic Distance*, and a positive association with *Contiguous*. These results confirm that distance reduces director appointments between countries, while a shared border increases cross-country appointments.

In Column (2), we augment the baseline model by adding our variable of interest, *Homophily*. We find a positive association between *Foreign Directors* and *Homophily* and a significant increase in the explanatory power of the gravity model of 6%. This evidence suggests that homophily plays a crucial role in the global market of corporate directors and its effect is economically meaningful. A one standard deviation increase in *Homophily* is associated with an increase of 1.4 foreign directors, which represents 10.08% of the standard deviation of *Foreign Directors*.<sup>15</sup>

In Column (3), we further augment our baseline model by adding variables representing other aspects of familiarity between countries, *Colony*, *Common Legal Origin*, *Common Religion*,

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<sup>15</sup> The coefficients in PPML should be interpreted as if the dependent variable is in logs (Karolyi and Taboada 2015). Thus, given the coefficient on *Homophily* (0.48), a one- $\sigma$  increase (0.83 units) is associated with a 1.49 times ( $e^{0.41 \times 0.83}$ ) increase in the mean *Foreign Directors* from 2.87 to 4.27, or an increase of 10.08% of its  $\sigma$  (13.94).

and *Common Language*. The estimated coefficients for these variables are statistically and economic significant, but the effect of cultural similarity (homophily) remains a strong driver of foreign director appointments.<sup>16</sup> Collectively, our results suggest that *Homophily* has a strong incremental effect on *Foreign Directors* appointments beyond economic, social, and legal commonalities between countries.

To check the robustness of our results to the inclusion of certain countries in our analysis, in Column (4) of Table 6, we exclude the U.S. and the U.K. as both country of destination and country of origin. We find consistent results, which suggests that the inclusion of U.S. and U.K. in the analysis does not affect our findings.

----- Insert Table 6 about here -----

### 3.3. *Homophily and country-level governance quality*

We next examine heterogeneity in the effect of homophily in the director labor market. Specifically, we explore whether country-level governance characteristics affect the role of homophily in foreign director appointments by using a measure of country institutional quality developed by Karolyi (2015, 2016). Karolyi (2015) constructs six time-varying country-level governance factors (market capacity, operational inefficiency, foreign accessibility, corporate opacity, legal protection, and political stability).<sup>17</sup> Similar to Karolyi (2016), we run a principal component analysis of these six measures and obtain a common factor that we label *Governance Quality*. We classify as *low governance quality* those countries that are in the first quartile of the distribution of *Governance Quality*. To the extent that firms in poor governance countries have

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<sup>16</sup> A one- $\sigma$  increase (0.17 units) in *Colony* is associated with an increase of 1.09 *Foreign Directors* which equals 1.90% of its  $\sigma$  (13.94). A one- $\sigma$  increase (0.45 units) in *Legal Origin* is associated with an increase of 1.17 *Foreign Directors* which equals 3.51% of its  $\sigma$  (13.94). Further, one- $\sigma$  increase (0.43 units) in *Common Religion* is associated with an increase of 1.04 *Foreign Directors* which equals 0.81% of its  $\sigma$  (13.94). Finally, one- $\sigma$  increase (0.38 units) in *Common Language* is associated with an increase of 1.20 *Foreign Directors* which equals 4.21% of its  $\sigma$  (13.94).

<sup>17</sup> The authors thank Professor Andrew Karolyi for kindly sharing his data with us.

greater incentives to attract directors from superior governance countries, to reap the firm-level benefits associated with improvements in governance, we expect homophily to play a weaker role in explaining director flows in those countries. We estimate the following model to examine whether homophily differentially affects director appointments towards and from low governance quality countries:

$$\begin{aligned}
 \text{Foreign Directors}_{i,j,t} = & \gamma_0 + \gamma_1 \text{GDP destination}_{j,t} + \gamma_2 \text{GDP origin}_{i,t} + \gamma_3 \text{Homophily}_{i,j} & (3) \\
 & + \sum \gamma_3 Z_{i,j} + \gamma_4 \text{Low Governance Quality}_{j,t} + \gamma_5 \text{Low Governance Quality}_{i,t} X \\
 & \text{Homophily}_{i,j} + \gamma_6 \text{Low Governance Quality}_{i,t} X \sum Z_{i,j} + \varepsilon_{i,j,t}
 \end{aligned}$$

*Low Governance Quality* is a dichotomous variable equaling one if country of destination  $j$  falls within the first quartile of the distribution of *Governance Quality*. Vector  $Z$  includes all control variables from Equation (2).

Table 7 shows our results. In Column 1, we tabulate results when the country of low governance quality is the country of destination. We find a positive and significant coefficient on *Homophily*, while we find a negative and significant coefficient on *Low\_Homophily* which suggests that countries that would potentially benefit the most by attracting directors from countries with higher governance quality are unable to do so and instead attract directors from culturally similar countries. In other words, the power of homophily is stronger than the incentives faced by firms in low governance countries. In Column 2, we display results when the country of low governance quality is the country of origin. The results confirm that when directors are domiciled in a low governance quality country, they gain board appointments in companies domiciled in countries that share similar sociocultural values.

Overall, these results suggest that deep cultural and social differences among individuals across countries remain major impediments to directors' movements between high and low

governance quality countries, contrasting with a general view that business globalization leads to globalization in the director labor market. Moreover, our results highlight that the effectiveness of foreign director appointments acting as a mechanism to propagate good international governance are hindered by homophily in the director labor market.

----- Insert Table 7 about here -----

### 3.4. Homophily and other bilateral markets

Our next question asks whether the frictions created by homophily are unique to the director labor market, or instead are observable in other bilateral markets. Specifically, we study how corporate directors' mobility across countries differs from product markets, migration, and foreign direct investments (FDI). We create three separate datasets to compare foreign director appointments with each one of the three alternative cross-country exchanges. We obtain data about international trade flows from the United Nations' Comtrade Database, migration from OECD's International Migration Database, and FDI is collected from United Nations Conference on Trade and Development Database (UNCTAD). We append each of these three new datasets separately to our original dataset with information about foreign director appointments, so that for each country pair-year we have two observations and estimate the following model:

$$\begin{aligned}
 Flow_{i,j,t} &= \gamma_0 + \gamma_1 GDP\ destination_{j,t} + \gamma_2 GDP\ origin_{i,t} + \gamma_3 Homophily_{i,j} + \sum \gamma_4 Z_{i,j} + \gamma_5 FD_{i,j,t} & (4) \\
 &+ \gamma_6 FD_{i,j,t} \times GDP\ destination_{i,t} + \gamma_7 FD_{i,j,t} \times GDP\ origin_{i,t} + \gamma_8 FD_{i,j,t} \times Homophily_{i,j} \\
 &+ \gamma_9 FD_{i,j,t} \times \sum Z_{i,j} + \varepsilon_{i,j,t}
 \end{aligned}$$

The dependent variable, *Flow*, is either the number of directors domiciled in the origin country *i* who have board appointments in the destination country *j* at period *t*, or the natural log of international trade (or the natural log of migration flows, or the natural log of FDI) from origin country *i* to destination country *j* at period *t*. The variable *FD* is a dichotomous variable equal to

one if the  $i,j,t$  observation corresponds to foreign director appointments, and zero if it corresponds to international trade (or migrations flows, or FDI). The interaction term between  $FD$  and the other variables in the model captures the incremental effect of foreign director appointments with respect to the baseline model, either international trade flow, migration, or FDI. All other variables are as defined in Equation (2).

In Table 8, we compare foreign director appointments with international trade flows in column (1), with migration in column (2) and with FDI in column (3). We examine relative differences in the effect of homophily between the market for corporate directors and others by running an  $F$ -test to determine the cumulative effect of *Homophily* and *Geographic Distance*. We find that *Homophily* is negatively related to bilateral trade, migration, and FDI, but it is positively associated with cross-country director appointments. Further, although *Geographic distance* is negatively associated with bilateral trade, migration, FDI, and corporate directors, it plays a more prominent role in cross-country director appointments.

Overall, these results indicate that geographic distance represents an important barrier in all global markets, whereas homophily plays a more salient role in the corporate director market. Moreover, our results suggest, despite technological advances and business globalization, homophily between societies remains an important determinant in matching directors to corporate boards across the world.

----- Insert Table 8 about here -----

#### **4. Demand shock and homophily: firm value implications**

##### *4.1 Staggered adoption of gender quota rule*

To further examine the effect of homophily on foreign director appointments, we exploit a regulatory change that increased the demand for directors: the staggered adoption of gender quota rules in Europe. Since the short run supply of directors is plausibly inelastic, gender quotas are an exogenous shock to the demand for female foreign directors. If homophily matters then an increase in the demand for female directors in quota countries will result in relative more female directors appointed from countries with proximate sociocultural values.

Prior studies (Ahern and Dittmar 2012; Matsa and Miller 2013; Bøhren and Staubo 2014; Bertrand, Black, Jensen, and Lleras-Muney 2014) have exploited the Norwegian case as a natural experiment to examine firm-level consequences of the quota introduction. We extend this stream of literature by examining homophily's effect on foreign female director appointments in European countries that adopted similar gender quota rules during our sample period. In Table 9, Panel A, we provide the list of countries in our sample that adopted a gender rule, the year the quota was passed and the year it became compulsory (European Parliament 2013). We define the period of time since the quota was passed through the year it became compulsory as the compliance period.<sup>18</sup>

In order to examine differences in female foreign director appointments between countries that passed the rule and those that did not, we estimate the following model:

$$\begin{aligned}
 FD\_Female_{i,j,t} &= \gamma_0 + \gamma_1 \textit{Gender Quota} + \gamma_2 \textit{GDP destination}_{j,t} + \gamma_3 \textit{GDP origin}_{i,t} & (5) \\
 &+ \gamma_4 \textit{GeographicDistance}_{i,j} + \gamma_5 \textit{Contiguous}_{i,j} + \gamma_6 \textit{Homophily}_{i,j} + \gamma_7 \textit{Colony}_{i,j} \\
 &+ \gamma_8 \textit{Common Legal Origin}_{i,j} + \gamma_9 \textit{Common Religion}_{i,j} + \gamma_{10} \textit{Common Language}_{i,j} + \\
 &\varepsilon_{i,j,t}
 \end{aligned}$$

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<sup>18</sup> For example, in 2003 Norway passed the rule and in 2008 the rule became compulsory. We define the period 2003-2008 as the compliance period for Norwegian companies.



The dependent variable, *FD\_Female*, is the number of female directors domiciled in the origin country *i* who have board appointments in the destination country *j* in year *t*. *Gender Quota* is a dichotomous variable equal to one if country *j* has passed gender quota rule and year *t* falls within the compliance period. All other variables are defined in Equation (2), and the level of observation is a country pair.

We show the results in Table 9, Panel B. We find a positive and significant coefficient on *Gender Quota*, which suggests that, as the gender quota rule becomes binding, companies increasingly rely on foreign female directors to meet their demand. This result is consistent with the idea that gender quota provides an exogenous shock to the appointment of female foreign directors on corporate boards.

----- Insert Table 9 about here -----

#### 4.2 *Female director appointments and firm value*

Next, we use the gender quota exogenous shock to investigate potential effects of homophily on firm value. Ahern and Dittmar (2012) show that the constraint imposed by the gender quota in Norway caused a decline in Tobin's Q during the compliance period. We extend their findings by examining the effect of homophily on firm value. To do so, we use new appointments of female directors during the compliance period as a shock to foreign director appointments and examine cross-sectional differences in Tobin's Q between sociocultural similar and sociocultural dissimilar female directors. We restrict our analysis to countries that passed the rule and identify 953 appointments of female directors during the compliance period. Empirically, we estimate the following model:

$$\Delta TobinQ_{z,t} = \gamma_0 + \gamma_1 Homophily_{x,z,t} + \gamma_2 \Delta Log(assets)_{z,t} + \gamma_3 \Delta Leverage_{z,t} + \gamma_4 \Delta ROA_{z,t} + \varepsilon_{z,t} \quad (6)$$

Where  $\Delta TobinQ$  represents changes in Tobin Q between  $t+1$  and  $t$ , with  $t$  as the year when director  $x$  is appointed to the board of firm  $z$ , during the compliance period. *Homophily* refers to sociocultural similarity of director  $x$  appointed to the board of firm  $z$ , where zero indicates a domestic director and larger negative values capture lower levels of homophily. We account for size (*LogAssets*), leverage (*Leverage*), and performance (*ROA*). All covariates are reported in changes between  $t+1$  and  $t$ . We include country and year fixed effects, and we cluster standard errors by firm.

We tabulate results in Table 9, Panel C. In Column (1), we include in our analysis all countries that passed a gender quota rule. We find a negative and significant coefficient on *Homophily*. In Column (2), we exclude Austria, Switzerland, and Finland because these countries adopted gender quota rule only for state-owned companies. We still find a negative and significant coefficient on *Homophily*. These results suggest that homophily may be suboptimal in that it precludes the appointment of directors who could potentially increase firm value.

## 5. Sensitivity analyses

In the main analysis presented in Table 6, we use two sets of country fixed effects (i.e. origin and destination dummies) to control for bilateral resistance to trade and other transaction costs and to allow the estimation of the coefficients of those time invariant characteristics at the pair level, such as geographic distance, homophily, common religion, common legal origin, colony, and common language). Egger and Pfaffermayr (2004) show that country-pair fixed effects are preferable than origin and destination country fixed effects to control for common shocks and

to get efficient estimators. Furthermore, Micco, Stein, and Ordoñez (2003) suggest that the inclusion of country-pair fixed effects potentially mitigate endogeneity problems. Moreover, country-pair fixed effects account for whether two countries have traditionally traded or had close bilateral relations. Therefore, following prior work (Cheng and Wall 2005; Bussiere and Schnatz 2007), we adopt a two-step fixed effects model. Specifically, in the first step, we estimate the following model:

$$\text{Foreign Directors}_{i,j,t} = \alpha_{ij} + \gamma_t + \gamma_1 \text{GDP destination}_{j,t} + \gamma_2 \text{GDP origin}_{i,t} + \varepsilon_{i,j,t} \quad (7)$$

The terms,  $\alpha_{ij}$  are the country-pair individual effects covering all unobservable factors affecting the dependent variable and  $\gamma_t$  are the time-specific effects accounting for any variables affecting the dependent variable that vary over time, are constant across country-pairs such as global changes in transportation and communication costs. One key assumption is that the error term is normally distributed with mean zero and constant variance across country pairs.

In the second step, we purge the fixed effects from the effects of the time-invariant variables, and we estimate the following model:

$$\begin{aligned} \alpha_{\hat{i},j} = & \beta_0 + \beta_1 \text{GeographicDistance}_{i,j} + \beta_2 \text{Contiguous}_{i,j} + \beta_3 \text{Homophily}_{i,j} \\ & + \beta_4 \text{Colony}_{i,j} + \beta_5 \text{Common Legal Origin}_{i,j} + \beta_6 \text{Common Religion}_{i,j} \\ & + \beta_7 \text{Common Language}_{i,j} + \mu_{i,j} \end{aligned} \quad (8)$$

Where  $\alpha_{\hat{i},j}$  is the estimated country-pair effect from Equation (7). All variables are defined as in Equation (2). The level of analysis is the country pair.

Table 10, Column 1, shows results of the first step. Consistent with our previous results, we find that foreign directors are positively associated with *GDP* of both country of origin and destination. Table 10, Column 2, shows results of the second step. Consistent with our prior findings, we find that *Geographic Distance* is negatively associated with the estimated country-pair effects, whereas *Homophily*, *Contiguous*, *Colony*, *Common Legal Origin*, and *Common religion* are positively related with the estimated country-pair effects, thereby confirming our main results in Table 6.

----- Insert Table 12 about here -----

## **8. Conclusion**

In this study we examine *how* common or shared country features affect foreign director appointments between countries. Our work is motivated by a large body of literature documenting that country-level features play a first-order role in corporate governance effectiveness around the world. But while country-level institutional, economic, and social conditions are expected to influence foreign director appointments, the commonality of features between the country of the firm and country of the director are likely to further impact both the demand and supply of directors and consequently affect firm performance.

Our analysis of how *shared* characteristics between the firms' and the directors' home countries affect foreign appointments focuses on the role of *homophily*. In the director labor market homophily represents deep sociocultural similarities between the director's country and the firm's country that arise because of historical, linguistic, ethnic, and religious values and norms. We show that homophily is a powerful driver of foreign director appointments, beyond other institutional, economic and social country characteristics. For a large sample of director-firm appointments

across 38 countries we find that homophily increases the likelihood of cross-country corporate director appointments, surpassing economic, geographic, legal and social similarities. Our evidence suggests that homophily is a feature profoundly rooted in societies that has strong effect in international director appointments. For example, despite the view that firms located in low quality governance countries have stronger incentives to hire directors from superior governance quality countries, we find that foreign directors in low governance countries continue to originate from other low-quality governance countries. Further, we show that the effect of homophily in the director labor market is more pronounced than in other markets such as trade, foreign direct investment, and migration.

Finally, we study the implications of homophily for firm performance. We use new appointments of female directors in the aftermath of gender quota adoptions in Europe and examine cross-sectional differences in firm value for firms with female directors with strong and weak homophily. We find that homophily in new director appointments has a negative effect on firm value. This finding suggests that homophily may be suboptimal, precluding the appointment of directors who could increase firm value. Our evidence provides new insights into the effects of foreign directors in firm governance and performance.

Overall, our results are consistent with homophily playing a crucial role in the matching of foreign directors to boards and casts doubt on the plausibility of foreign director appointments serving as a primary driver of corporate governance convergence. Our findings further contribute to the growing evidence that homophily strongly affects the composition of corporate boards and provide additional evidence as to the limitations of relying on globalization in trade and director reputation to drive improvements in systematic corporate governance internationally.

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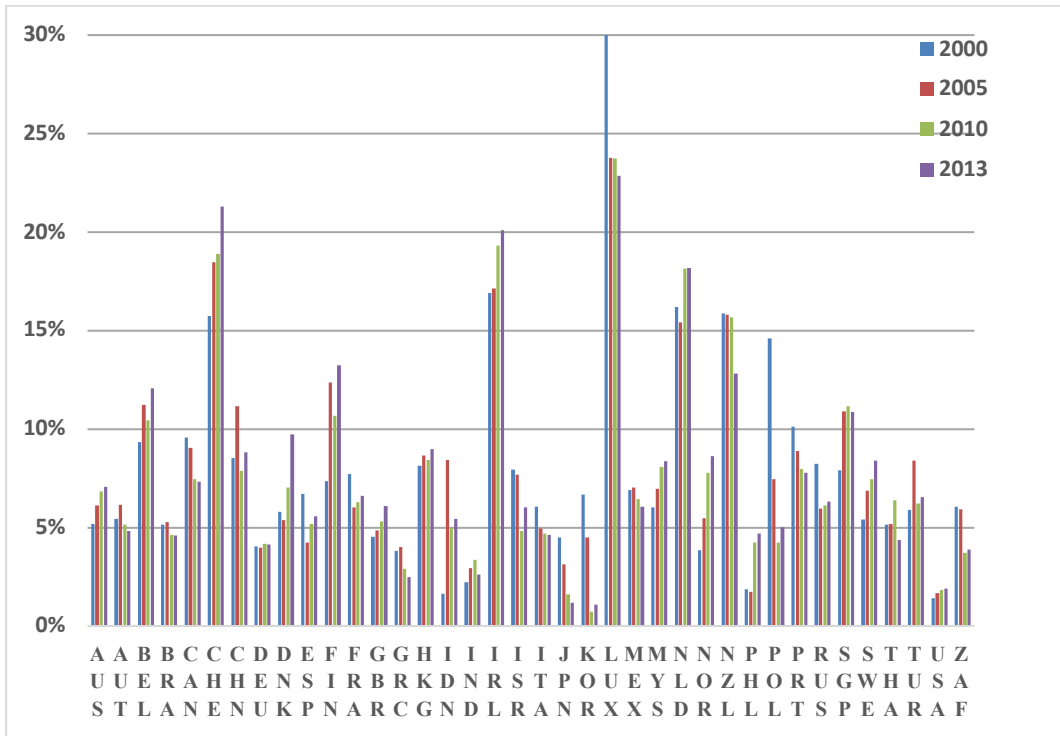
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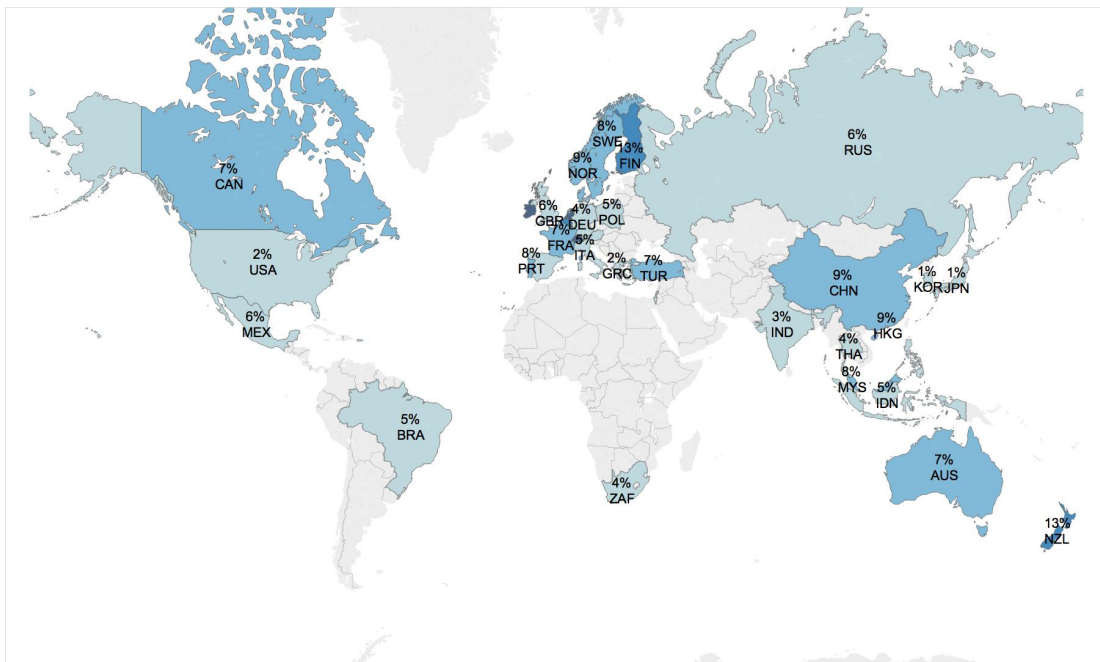
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**Figure 1 – Foreign directors around the world**  
 Panel A: Percentage of foreign directors (FD) by country-year



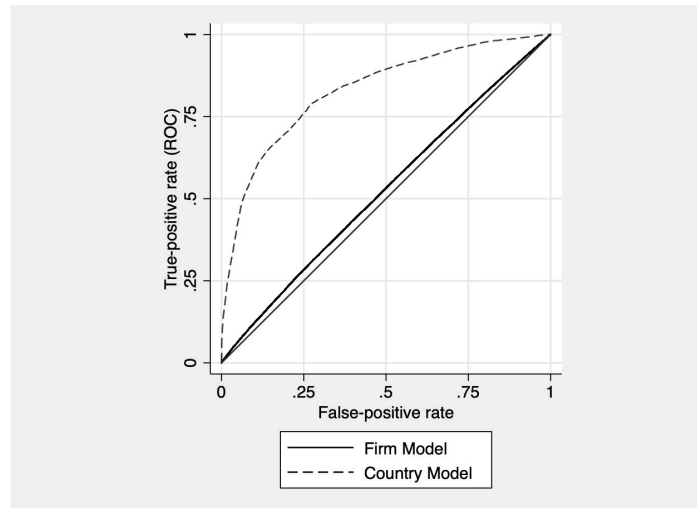
Panel B: Percentage of foreign directors in 2013



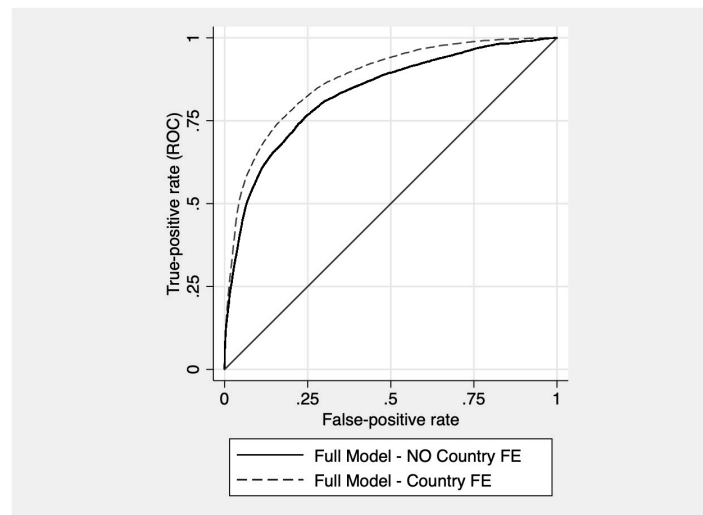
This figure shows the percentage of foreign directors with respect to the total number of directors by country. Panel A shows the breakdown over the period 2000-2013. Panel B shows a map of the distribution of foreign directors in 2013. Values are expressed as percentages of the total number of directors working in a country-year.

## Figure 2 – Foreign director appointments at the firm level - ROC curves

Panel A: ROC Curve for Firm and Country characteristics



Panel B: ROC Curve for Full model without and with country fixed effects



This figure shows the ROC curves for all the equations in Table 7. Panel A shows (1) Firm Model (without country of destination and country of origin fixed effects), and (2) Gravity Model (without country of destination and country of origin fixed effects), shown in Table 7. Panel B shows (3) Full Model (without country of destination and country of origin fixed effects), and (4) Full Model (with country of destination and country of origin fixed effects) shown in Table 7. The receiver operating characteristic curve (ROC) is a plot of the true positive rate (i.e., sensitivity) versus the false positive rate (i.e., specificity) for different cut-off thresholds. Each point on the ROC plot represents a sensitivity and specificity pair corresponding to a particular decision threshold. In this analysis, a model with perfect predictive power will produce curves near the upper left corner, while a random guess will be on the diagonal line. The AUC is the area under the depicted curves.

**Table 1: Foreign director characteristics**

YEAR	% of foreign directors	Total number of directors	% of foreign directors from countries with same legal origin	% of foreign directors from countries that share a border	% of foreign directors from countries within Q1 of geographic distance	% of foreign directors from countries within Q4 of geographic distance
	(1)	(2)	(3)	(4)	(5)	(6)
2000	4.09%	58,659	61%	27%	44%	10%
2001	4.27%	64,145	61%	27%	44%	11%
2002	4.34%	68,544	62%	28%	44%	11%
2003	4.32%	73,276	63%	28%	44%	12%
2004	4.39%	79,105	64%	28%	43%	13%
2005	4.62%	84,026	64%	28%	43%	14%
2006	4.85%	88,768	63%	29%	43%	14%
2007	5.13%	92,004	63%	29%	44%	15%
2008	5.14%	91,890	61%	29%	44%	15%
2009	5.02%	90,623	61%	30%	44%	15%
2010	5.15%	90,867	61%	30%	44%	15%
2011	5.33%	91,934	59%	30%	44%	15%
2012	5.45%	92,045	59%	30%	44%	15%
2013	5.42%	92,270	58%	30%	45%	14%

This table reports some summary descriptive statistics of the corporate directors in our sample. Column (1) shows the percentage of foreign directors. Column (2) shows the total number of corporate directors. Column (3) shows the percentage of foreign directors that come from countries that have the same legal origin. Column (4) show the percentage of foreign directors that come from countries that share borders. Column (5) shows the percentage of foreign directors that come from countries that follow within the first quartile of the geographic distance. Column (6) shows the percentage of foreign directors that come from countries that follow within the last quartile of the geographic distance.

**Table 2 – Country characteristics**

Country	Code	Number of foreign directors	Legal Origin	GDP (bil \$US)	Trade (bil \$US)	Listed firms	Cross-listings*
Australia	AUS	205	Common	869	253	1,647	42
Austria	AUT	28	German	325	207	93	6
Belgium	BEL	79	French	399	639	177	6
Brazil	BRA	26	French	1,332	185	400	13
Canada	CAN	435	Common	1,287	658	3,265	50
China	CHN	150	German	4,018	1,535	1,548	248
Denmark	DNK	27	Scandinavian	267	140	200	6
Finland	FIN	36	Scandinavian	207	111	135	8
France	FRA	183	French	2,220	823	860	42
Germany	DEU	135	German	2,917	1,669	705	32
Greece	GRC	16	French	240	58	308	6
Hong Kong	HKG	186	Common	205	632	1,090	55
India	IND	67	Common	1,126	232	5,231	42
Indonesia	IDN	16	French	460	177	361	0
Ireland	IRL	147	Common	193	163	59	33
Israel	ISR	45	Common	180	82	609	19
Italy	ITA	60	French	1,803	631	285	20
Japan	JPN	41	German	4,803	961	3,205	33
Korea	KOR	3	German	922	507	1,610	7
Luxembourg	LUX	74	French	42	29	39	18
Malaysia	MYS	42	Common	186	253	923	7
Mexico	MEX	26	French	941	474	147	14
Netherlands	NLD	155	French	666	669	177	32
New Zealand	NZL	27	Common	117	44	137	2
Norway	NOR	49	Scandinavian	344	166	189	8
Philippines	PHL	7	French	148	82	241	3
Poland	POL	17	German	361	199	360	8
Portugal	PRT	25	French	195	91	63	4
Russia	RUS	26	French	1,101	316	271	15
Singapore	SGP	128	Common	173	419	478	14
South Africa	ZAF	64	Common	257	89	437	18
Spain	ESP	52	French	1,156	406	2,822	15
Sweden	SWE	93	Scandinavian	401	234	298	22
Switzerland	CHE	185	German	448	275	256	27
Thailand	THA	14	Common	232	224	470	0
Turkey	TUR	12	French	537	162	318	7
UK	GBR	509	Common	2,214	853	2,302	145
United States	USA	648	Common	13,557	2,394	5,407	144

This table reports legal origin, mean values of number of foreign directors (FD), GDP, total trade, number of listed firms, and number of firms cross-listed in other countries, for the period 2000-2013. \* The number of cross-listings from the origin country to the destination country is elaborated on information provided by BoardEx for year 2013 only.

**Table 3 – Foreign corporate directors by country of origin (column) and their firm’s domicile country (row)**

	AUS	AUT	BEL	BRA	CAN	CHN	DNK	FIN	FRA	DEU	GRC	HKG	IDN	IND	IRL	ISR	ITA	JPN	KOR	LUX	MEX	MYS	NLD	NOR	NZL	PHL	POL	PRT	RUS	SGP	ZAF	ESP	SWE	CHE	THA	TUR	GBR	USA
AUS		0	0	0	30	3	0	1	0	4	0	15	1	4	4	0	1	1	0	0	0	6	2	0	10	1	2	0	0	16	9	0	0	1	0	0	50	43
AUT	0		1	0	0	0	0	0	0	17	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	2	2
BEL	1	0		4	3	0	2	0	24	5	2	0	0	1	0	0	1	0	0	1	0	0	12	1	0	0	0	1	0	0	0	1	1	1	0	0	8	9
BRA	1	0	0		1	0	0	0	2	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	8	0	0	0	7	0	0	0	0	1	4
CAN	27	2	1	2		3	0	1	10	5	1	12	1	4	4	5	0	0	0	1	2	2	2	1	1	2	0	0	0	0	10	0	2	2	0	0	45	288
CHN	2	0	0	0	2		0	0	0	0	0	97	0	0	0	0	1	2	0	0	0	1	0	0	0	0	0	0	18	0	2	0	0	0	0	4	20	
DNK	1	0	1	0	0	0		2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	8	0	0	0	3	6	
FIN	0	0	1	0	0	0	0		2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	15	1	0	0	5	5		
FRA	1	1	15	2	6	0	2	0		20	0	0	0	1	0	0	20	2	0	2	0	0	10	0	0	1	0	0	0	18	3	9	0	0	27	43		
DEU	1	10	2	0	2	1	1	2	12		0	1	0	1	1	0	10	0	0	2	0	0	8	1	0	0	2	2	0	1	1	3	6	11	0	0	22	32
GRC	0	0	1	0	0	0	0	0	1	2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	5	
HKG	8	0	2	1	5	65	0	0	1	1	0		1	2	0	0	1	4	1	1	0	8	2	0	0	4	0	0	32	0	1	1	0	5	0	16	25	
IDN	1	0	0	0	0	0	0	0	0	1	0	2		1	0	0	0	0	0	0	0	2	0	0	0	1	0	0	7	0	0	0	0	0	1	0	0	
IND	3	0	0	0	1	0	0	0	1	5	0	2	1		1	0	0	3	0	0	0	2	2	0	0	0	0	4	0	0	1	2	0	0	13	24		
IRL	5	0	1	0	7	0	0	0	2	3	0	0	0	0		1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	34	89	
ISR	0	0	0	0	1	0	0	0	0	1	0	2	0	1	0		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	32	
ITA	0	1	1	0	1	0	0	0	15	13	0	0	0	0	0	0		0	0	1	0	0	2	0	0	0	0	1	0	0	5	1	5	0	0	6	5	
JPN	0	0	1	0	1	1	0	0	2	1	0	4	0	2	0	0	0		0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	3	24	
KOR	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
LUX	0	0	5	2	1	0	0	2	10	4	0	0	0	1	0	0	2	0	0		1	0	2	2	0	0	0	6	1	0	2	1	7	1	0	11	12	
MEX	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	20	
MYS	1	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	1	0	0	0		0	1	0	1	0	0	22	0	0	0	0	0	0	7	2	
NLD	2	0	6	1	2	0	0	1	18	13	0	1	0	4	1	2	4	0	0	1	1	0		1	0	0	0	3	1	1	2	3	4	0	1	31	49	
NOR	0	0	0	0	0	0	4	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	1		0	0	0	0	0	0	20	0	0	0	6	9		
NZL	19	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	2	0	0	0	0	0	0	2	1	
PHL	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	3	0	0	0	0	0	0	0	1	
POL	0	0	2	0	0	0	0	0	1	3	0	0	0	0	1	0	2	0	0	0	0	0	2	0	0	0		3	1	0	0	1	0	0	0	1	0	
PRT	0	0	0	5	0	0	0	0	4	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1		0	0	0	10	0	0	0	0	0	
RUS	1	0	1	0	1	0	1	0	2	2	0	0	0	0	1	0	1	0	0	1	0	0	1	1	0	0	0		0	1	0	2	1	0	0	7	4	
SGP	15	0	0	0	1	5	0	0	0	1	0	33	6	8	0	0	0	1	0	0	0	19	1	1	0	4	0	0		0	0	0	0	1	0	8	23	
ZAF	6	0	1	0	10	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	2	0	0	0	0	0		0	0	1	0	0	30	8		
ESP	0	0	0	1	0	0	0	0	12	4	0	1	0	0	0	0	5	0	0	1	0	0	1	0	0	0	8	0	0	1		1	0	0	7	7		
SWE	0	1	0	0	3	0	7	13	2	7	0	1	0	1	1	0	0	0	1	0	1	3	14	0	0	0	1	0	0	0	0	2	0	0	13	18		
CHE	1	2	4	2	7	0	0	1	24	28	2	3	0	1	2	1	4	1	0	0	1	0	4	0	0	0	0	0	1	2	1	7		0	20	64		
THA	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	0	0	0	0	1	1	1	
TUR	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	0	0	1	
GBR	48	1	6	1	38	1	2	1	22	18	0	17	2	13	21	5	4	2	0	1	0	5	19	4	2	1	0	2	3	9	35	7	15	6	0	0	201	
USA	27	1	6	7	218	10	6	3	29	28	1	10	1	11	17	27	3	7	1	2	16	0	17	10	2	0	1	4	1	9	1	5	18	17	0	1	132	

This table shows below (above) the diagonal the average number of directors moving from country of origin in *i* column (row) to country of destination in *j* row (column).

**Table 4 – The firm level and country level determinants of foreign director appointments**

Dependent variable Pr(Foreign Director=1)	Firm (1)	Country (2)	Full (3)	Full (4)
Foreign sales	0.03* [1.71]		-0.24*** [-9.14]	0.000 [-0.02]
Foreign ownership	-0.20*** [-9.66]		-0.060 [-1.18]	-0.22*** [-5.22]
Log (assets)	0.01* [1.68]		0.03*** [4.07]	0.000 [0.15]
Sales growth	0.01** [2.07]		0.02* [1.86]	0.02** [2.12]
Leverage	-0.040 [-1.54]		-0.08* [-1.92]	-0.010 [-0.22]
Board size	0.01*** [6.17]		0.000 [1.10]	0.01*** [5.86]
Busyness	0.17*** [5.58]		0.12** [2.42]	0.24*** [6.29]
GDP destination		-22.32*** [-43.76]	-22.32*** [-41.55]	-19.04*** [-6.62]
GDP origin		0.02*** [3.72]	0.02** [2.23]	-0.11*** [-2.68]
Geographic distance		0.81*** [51.86]	0.81*** [51.92]	0.92*** [9.30]
Contiguous		-0.46*** [-23.13]	-0.47*** [-23.06]	-0.61*** [-20.36]
Homophily		0.24*** [3.92]	0.22*** [3.64]	0.49*** [6.99]
Colony		0.27*** [10.38]	0.27*** [10.50]	0.39*** [12.61]
Common legal origin		0.43*** [8.81]	0.45*** [9.06]	0.55*** [6.81]
Common religion		0.52*** [11.91]	0.51*** [11.61]	0.34*** [6.34]
Common language		0.050 [1.37]	0.050 [1.25]	0.10** [2.39]
Observations	219,151	219,151	219,151	219,151
Country Origin FE	NO	NO	NO	YES
Country Destination FE	NO	NO	NO	YES
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Pseudo Rsq	0.001	0.205	0.206	0.268
AUC	0.525	0.831	0.831	0.875

This table shows the results of logistic regressions to examine the determinants of appointing foreign directors for the period 2000-2013. The level of analysis is the firm-year. For each firm  $z$  appointing a new foreign director in year  $t$  (5,923 firm-year observations), we include all the possible countries  $i$  (37 countries), resulting in 129,151 observations. We code the dependent variable  $FD$  to one if director  $x$  comes from country  $i$ , and zero otherwise. In Column (1), we include only firm characteristics (Firm Model). In Column (2), we include all variables from the gravity model (Country Model). In Column (3), we include both firm characteristics and variables from the gravity model (Full Model – No Country Fixed Effect). In Column (4), we include country of origin and country of destination fixed effects (Full Model – Country Fixed Effect). The  $z$ -statistics are reported in parentheses. Standard errors are adjusted for group correlation at the firm level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are provided in Appendix 1.



**Table 5 – Univariate statistics of foreign director appointments**

Panel A: Summary statistics (19,684 observations)

Variable	mean	median	p25	p75	sd
Foreign Directors	2.87	0.00	0.00	1.00	13.94
GDP	26.97	26.75	26.10	27.84	1.24
Geographic distance	8.50	8.96	7.75	9.20	1.01
Contiguous	0.05	0.00	0.00	0.00	0.21
Homophily	-1.66	-1.63	-2.26	-1.01	0.83
Colony	0.03	0.00	0.00	0.00	0.17
Common legal origin	0.28	0.00	0.00	1.00	0.45
Common religion	0.24	0.00	0.00	0.00	0.43
Common language	0.17	0.00	0.00	0.00	0.38
Bilateral trade	21.60	21.65	20.35	22.90	1.90
Cross-listings origin	0.15	0.00	0.00	0.00	0.54

Panel B: Correlation table (observations 19,684)

Variables	1	2	3	4	5	8	9	6	7	10	11	12
1 Foreign Directors	1											
2 GDP destination	0.15*	1										
3 GDP origin	0.21*	0.05*	1									
4 Geographic distance	-0.12*	0.04*	0.04*	1								
5 Contiguous	0.24*	0.06*	0.06*	-0.42*	1							
6 Homophily	0.12*	-0.08*	-0.08*	-0.29*	0.17*	1						
7 Colony	0.21*	0.05*	0.05*	-0.06*	0.16*	0.05*	1					
8 Common legal origin	0.15*	-0.01	-0.01	-0.05*	0.13*	0.14*	0.25*	1				
9 Common religion	0.05*	0.02*	0.02*	-0.21*	0.11*	0.18*	0.08*	0.16*	1			
10 Common language	0.23*	-0.03*	-0.03*	0.06*	0.11*	0.04*	0.25*	0.33*	0.07*	1		
11 Bilateral trade	0.30*	0.54*	0.53*	-0.37*	0.30*	0.01	0.13*	0.08*	0.08*	0.10*	1	
12 Cross-listings origin	0.50*	0.36*	0.12*	-0.04*	0.11*	0.06*	0.15*	0.07*	0.05*	0.18*	0.32*	1

This table reports univariate statistics of the variables we use in our main models. Panel A reports summary statistics. Panel B reports Pearson correlations of variables for years 2000-2013. The symbol \* indicates statistical significance at the 5% level. Variable definitions are provided in Appendix 1.

**Table 6: Gravity model for foreign director appointments**

Dependent variable	ALL COUNTRIES			NO USA & UK
Foreign Directors	(1)	(2)	(3)	(4)
GDP origin	0.97*** [8.65]	0.99*** [9.24]	0.98*** [9.35]	0.89*** [4.93]
GDP destination	0.84*** [6.07]	0.86*** [6.17]	0.85*** [6.16]	0.86*** [4.29]
Geographic distance	-0.51*** [-7.13]	-0.39*** [-6.08]	-0.55*** [-9.65]	-0.90*** [-15.92]
Contiguous	1.02*** [4.73]	0.83*** [4.99]	0.200 [1.24]	0.29** [2.23]
Homophily		0.48*** [6.39]	0.41*** [5.34]	0.40*** [8.51]
Colony			0.52*** [2.91]	0.010 [0.06]
Common legal origin			0.35*** [3.31]	0.50*** [6.29]
Common religion			0.090 [1.00]	0.020 [0.21]
Common Language			0.49*** [2.67]	0.78*** [5.59]
Observations	19,684	19,684	19,684	17,640
R-squared	0.82	0.88	0.89	0.87
Origin FE	YES	YES	YES	YES
Destination FE	YES	YES	YES	YES

This table examines the economic, geographic and culture determinants of appointing foreign directors for the period 2000-2013. The level of analysis is the country pair-year. For each country  $j$  (38 countries) we include all the possible countries  $i$  (37 countries) over the sample period (14 year), resulting in 19,684 observations. This Table shows results from regressions using Poisson pseudo maximum likelihood (PPML) estimation following Santos Silva and Tenreyro (2006). Column (1) shows the basic gravity model, controlling for *GDP*, geographic distance and whether two countries share a common border. In column (2), we include our measure of homophily. In column (3), we add other institutional determinants (existence of a colonial link between two countries, common legal origin, religion, and language). In column (4), we exclude the U.S. and the U.K. as both country of destination and country of origin. The  $z$ -statistics are reported in parentheses. Standard errors are adjusted for group correlation at the country-pair level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively, based on two tailed tests. Variable definitions are provided in Appendix 1.

**Table 7: Foreign director appointments and country-level corporate governance quality**

Dependent variable	Low Governance Quality Destination Country	Low Governance Quality Origin Country
Foreign Directors	(1)	(2)
GDP destination	0.62*** [5.41]	0.85*** [6.09]
GDP origin	0.96*** [8.97]	0.71*** [6.48]
Geographic distance	-0.52*** [-8.12]	-0.53*** [-8.67]
Contiguous	0.200 [1.14]	0.190 [1.11]
Homophily	0.38*** [3.82]	0.38*** [4.21]
Colony	0.48*** [2.63]	0.48*** [2.66]
Common legal origin	0.52*** [4.25]	0.47*** [3.99]
Common religion	0.040 [0.40]	0.090 [0.97]
Common language	0.32* [1.71]	0.39** [2.06]
Low governance quality	-0.210 [-1.08]	-0.44*** [-2.66]
Low_GDP destination	0.32** [2.26]	0.040 [0.59]
Low_GDP origin	0.15** [2.04]	0.59*** [6.99]
Low_Geographic distance	-0.72*** [-5.40]	-0.61*** [-4.28]
Low_Contiguous	0.070 [0.18]	0.200 [0.54]
Low_Homophily	-0.24* [-1.68]	-0.28** [-2.01]
Low_Colony	0.310 [1.15]	0.040 [0.13]
Low_Common legal origin	-0.74*** [-2.63]	-0.370 [-1.38]
Low_Common religion	0.60** [2.24]	-0.140 [-0.48]
Low_Common language	1.22*** [3.95]	1.18*** [3.86]
Origin FE	YES	YES
Destination FE	YES	YES
Observations	19,684	19,684
R-squared	0.902	0.895

This table examines differences in the determinants of appointing foreign directors between countries with low and high institutional quality. The level of analysis is the country pair-year. All results are estimated from regressions using Poisson pseudo maximum likelihood (PPML) (Santos Silva and Tenreyro 2006). We use measures from Karolyi (2015) to identify countries of low governance quality as those in the first quartile of the distribution. Column (1) shows results when the low governance quality is the country of destination. Column (2) shows results when the low governance quality is the country of origin. The z-statistics are reported in parentheses. Standard errors are adjusted for group correlation at the country-pair level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively, based on two tailed tests. Variable definitions are provided in Appendix 1.

**Table 8: Comparing the role of homophily in foreign directors' appointments with international trade, migration flows, and foreign direct investments**

Dependent variable:	TRADE (1)	MIGRATION (3)	FDI (3)
GDP destination	0.05*** [22.18]	0.14*** [7.59]	0.34*** [7.17]
GDP origin	0.03*** [12.71]	0.000 [-0.01]	0.53*** [9.38]
Geographic distance	-0.05*** [-26.81]	-0.12*** [-8.73]	-0.26*** [-12.21]
Contiguous	0.010 [1.00]	-0.060 [-1.25]	-0.050 [-0.89]
Homophily	-0.01*** [-2.93]	-0.05*** [-3.64]	-0.030 [-1.39]
Colony	0.010 [1.39]	0.08** [2.04]	0.090 [1.51]
Common legal origin	0.01*** [4.18]	0.10*** [5.05]	0.12*** [3.66]
Common religion	0.000 [-0.18]	0.010 [0.87]	0.07** [2.19]
Common language	-0.010 [-1.47]	0.06** [2.13]	-0.010 [-0.26]
FD	-4.27*** [-42.31]	-2.38*** [-18.77]	-1.94*** [-20.43]
FD_GDP destination	0.29*** [10.46]	0.23*** [6.99]	0.14*** [5.49]
FD_GDP origin	0.40*** [14.08]	0.30*** [8.77]	0.16*** [6.45]
FD_Geographic distance	-0.43*** [-11.66]	-0.25*** [-5.87]	-0.17*** [-4.62]
FD_Contiguous	-0.28** [-2.15]	0.090 [0.63]	-0.090 [-0.72]
FD_Homophily	0.09* [1.86]	0.29*** [4.46]	0.14*** [3.03]
FD_Colony	0.27** [2.06]	0.130 [0.95]	0.140 [1.27]
FD_Common legal origin	0.31*** [4.10]	0.18* [1.91]	0.20*** [2.66]
FD_Common religion	0.14* [1.93]	0.22** [2.55]	0.050 [0.68]
FD_Common language	0.90*** [10.67]	0.50*** [4.71]	0.71*** [8.16]
Observations	39,368	20,926	22,990
R-squared	0.994	0.892	0.530
Test of coefficients:			
Geo Distance + FD_Geo Distance	-0.48*** [-13.09]	-0.37 *** [-9.06]	-0.43 *** [-11.33]
Homophily + FD_Homophily	0.08* [1.76]	0.24*** [3.71]	0.11*** [2.27]
Pvalue			

In this table, we estimate a gravity model for international trade, migration flows, and foreign direct investments (*FDI*). All results are estimated from regressions using Poisson pseudo maximum likelihood (PPML) (Santos Silva and Tenreyro 2006). In column (1), we aggregate our database of foreign directors flows with a database of international trade, where the dependent variable is the combination of foreign director flows and international trade. For each country  $j$  (38 countries) we include all the possible countries  $i$  (37 countries) over the sample period (14 year), for both the foreign director and FDI sample (2 observations) resulting in 39,368 observations. In column (2), we aggregate our database of foreign directors flows with a database of migration flows, where the dependent variable is the combination of foreign directors flows and migration flows. In column (3), we aggregate our database of foreign directors flows with foreign direct investment (*FDI*), where the dependent variable is the combination of foreign directors flows and foreign direct investment. *FD* is an indicator variable equal to one if the dependent variable is referred to foreign director flows, and zero otherwise. All the specifications include year fixed effects. The  $z$ -statistics are reported in parentheses. Standard errors are adjusted for group correlation at the country-pair level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively, based on two tailed tests. Variable definitions are provided in Appendix 1.

**Table 9 – Demand shock and homophily: firm value effects**

Panel A: New female director appointments for countries that passed the gender quota

Country	Companies targeted	Year quota passed	Quota compliance year	# female appointed	% foreign	$\Delta$ TobinQ	Homophily
Austria	State owned	2011	2013	20	10.00%	-0.040	-0.131
Belgium	All companies	2011	2016	36	22.22%	-0.044	-0.218
Finland	State owned	2004	2005	30	20.00%	0.118	-0.227
France	All companies	2011	2013	253	13.83%	0.118	-0.136
Italy	All companies	2011	2012	84	4.76%	0.220	-0.041
Netherlands	All companies	2010	2016	44	31.82%	0.044	-0.481
Norway	All companies	2003	2008	343	8.45%	-0.159	-0.056
Spain	All companies	2007	2015	88	11.36%	-0.057	-0.102
Switzerland	State owned	2006	2011	55	32.73%	-0.140	-0.433
<b>Total</b>				<b>953</b>	<b>13.22%</b>	<b>-0.017</b>	<b>-0.135</b>

Panel B: Gravity model and gender quota adoption

Dependent variable Female Foreign Directors	All Countries	
	(1)	(2)
Gender quota	0.28*** [2.61]	0.39*** [2.71]
GDP origin	0.60* [1.96]	0.61** [2.01]
GDP destination	0.78*** [4.49]	0.80*** [4.56]
Geographic distance	-0.40*** [-4.02]	-0.40*** [-4.03]
Contiguous	0.000 [-0.00]	0.000 [-0.01]
Homophily	0.46*** [4.26]	0.45*** [4.26]
Colony	-0.200 [-0.76]	-0.200 [-0.76]
Common legal origin	0.59*** [3.63]	0.59*** [3.62]
Common religion	0.040 [0.30]	0.040 [0.30]
Common language	0.42* [1.93]	0.42* [1.93]
Observations	19,684	19,684
R-squared	0.469	0.471
Origin FE	YES	YES
Destination FE	YES	YES

*(continue on next page)*

**Table 9 - (continued)**

Panel C: New female director appointments, homophily and firm value

Dependent variable: $\Delta$ TobinQ	All Countries	NO AUT&CHE&FIN
	(1)	(2)
Homophily	-0.07** [-2.01]	-0.10** [-2.22]
$\Delta$ Log (assets)	-0.52*** [-4.11]	-0.52*** [-3.94]
$\Delta$ Leverage	0.12 [0.39]	0.10 [0.31]
$\Delta$ ROA	0.12 [0.48]	0.10 [0.39]
Observations	953	848
R-squared	0.268	0.276
Year FE	YES	YES
Country FE	YES	YES

This table examines female director new appointments and firm value for countries that adopted a gender quota rule for corporate boards. In Panel A, we show descriptive statistics about the number of female directors appointed, the percentage of foreign female directors, the mean change in TobinQ, and the mean value of homophily (where 0 indicates a domestic director). In Panel B, we examine the determinants of appointing female foreign directors between countries. The level of analysis is the country pair-year. In column (1), *Gender Quota* is equal to one if in year  $t$  country  $j$  has previously passed a gender quota rule for corporate boards, and 0 otherwise. Countries that passed a quota rule are listed in Panel A. In column (2), we restrict the definition of countries that adopt gender quota rule by excluding countries that adopted the gender quota rule only for state-owned companies. All results are estimated from regressions using Poisson pseudo maximum likelihood (PPML) (Santos Silva and Tenreyro 2006). The  $z$ -statistics are reported in parentheses. Standard errors are adjusted for group correlation at the country-pair level. In Panel C, we show results of multivariate analysis using OLS regression. The dependent variable,  $\Delta$ TOBINQ, captures changes in TobinQ between year  $t$  and year  $t+1$ , being  $t$  the year when director  $x$  is appointed to the board of firm  $z$ ; and the test variable is our measure of homophily for director  $x$ . In column (1), we include observations for all countries that adopted the gender quota rule. In column (2), we exclude observations for countries that adopted the gender quota rule only for state-owned companies. The  $t$ -statistics are reported in parentheses. Standard errors are adjusted for group correlation at the firm level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Variable definitions are provided in Appendix 1.

**Table 10: Gravity model with pair fixed effects**

Dependent variable:	Foreign Directors (1)	Pair Fixed Effects (2)
GDP origin	0.12*** [3.29]	
GDP destination	0.11*** [3.10]	
Geographic distance		-0.22*** [-8.96]
Contiguous		0.54*** [3.49]
Homophily		0.06** [2.51]
Colony		0.75*** [3.68]
Common legal origin		0.15*** [3.29]
Common religion		0.10** [2.08]
Common language		0.60*** [9.01]
Constant	-6.06*** [-4.75]	2.22*** [10.59]
Observations	19,684	1,406
R-squared	0.898	0.311
Pair FE	YES	NO
Year FE	YES	NO

This table shows results of applying a gravity model with country pair fixed effects. In column (1), we use a baseline gravity model to estimate country pair fixed effects. In column (2), we use as dependent variable the estimated country pair fixed effect coefficients from Column (1), and we regress them on homophily and the other country pair time invariant characteristics. The *t*-statistics are reported in parentheses. Standard errors are adjusted for group correlation at the country pair level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively, based on two tailed tests. Variable definitions are provided in Appendix 1.

## Appendix 1 – Variable definition

<i>Variable</i>	<i>Description</i>	<i>Data source</i>
Foreign Directors	Number of directors domiciled in country <i>i</i> who have board appointments in country <i>j</i> at period <i>t</i> .	BoardEx
GDP	Natural log of GDP in \$billion of country <i>i</i> (or country <i>j</i> ).	World Bank Development Indicators (World Bank 2014)
Geographic distance	Log of the arctic distance in kilometers between the capitals of country <i>i</i> and country <i>j</i> .	Rose (2004) and CIA Worldfact Book
Contiguous	Dummy variable set to one if country <i>i</i> and country <i>j</i> share a border, and zero otherwise.	Rose (2004) and CIA Worldfact Book
Homophily	Index representing sociocultural proximity in societal values and beliefs between country <i>i</i> and country <i>j</i> based on two dimensions of culture.	Tadesse and White (2010)
Colony	Dummy variable set to one if country <i>i</i> country <i>j</i> have ever had a colonial link, and zero otherwise.	Rose (2004)
Common legal origin	Dummy variable set to one if country <i>i</i> and country <i>j</i> adopt the same legal system, and zero otherwise.	La Porta et al. (2006)
Common religion	Dummy variable set to one if country <i>i</i> and country <i>j</i> share a common religion, and zero otherwise	CIA Worldfact Book
Common language	Dummy variable set to one if country <i>i</i> and country <i>j</i> share a common language, and zero otherwise	CIA Worldfact Book
Bilateral Trade	Log of one plus the sum of imports and exports between country <i>i</i> and country <i>j</i> .	United Nations Comtrade Database
Cross-listings	Log of the number of firms in country <i>i</i> listed in an exchange of country <i>j</i> .	BoardEx
Low governance quality	Indicator variable equal to one if country <i>i</i> (or country <i>j</i> ) is in the first quartile of the distribution of institutional quality.	Karolyi (2015)
FD	Indicator variable equal to one if director <i>x</i> from country <i>i</i> is appointed to firm <i>z</i> in country <i>j</i> , and zero otherwise.	BoardEx
Foreign sales	Foreign sales as percentage of total sales for firm <i>z</i> in year <i>t</i> .	Worldscope
Foreign ownership	Shares held by foreign investors as percent of total share outstanding for firm <i>z</i> in year <i>t</i> .	Worldscope
Log (assets)	Logarithm of total assets for firm <i>z</i> in year <i>t</i> .	Worldscope
Sales growth	Growth in net sales relative to the previous year for firm <i>z</i> in year <i>t</i> .	Worldscope
Leverage	Long term debt plus short term debt divided by total assets for firm <i>z</i> in year <i>t</i> .	Worldscope
Board size	Number of directors on board for firm <i>z</i> in year <i>t</i> .	BoardEx
Busyness	Number of directors who hold 3 or more other directorships divided by the total number of directors on firm <i>z</i> ' s board in year <i>t</i> .	BoardEx
$\Delta$ TobinQ	Change in TobinQ between <i>t-1</i> and <i>t+1</i> for firm <i>z</i> in year <i>t</i> .	Worldscope
$\Delta$ Log (assets)	Change in log(assets) between <i>t-1</i> and <i>t+1</i> for firm <i>z</i> in year <i>t</i> .	Worldscope



$\Delta$ Leverage	the change in leverage between $t-1$ and $t+1$ for firm $z$ in year $t$ .	Worldscope
$\Delta$ ROA	the change in ROA between $t-1$ and $t+1$ for firm $z$ in year $t$ .	Worldscope
FDI	Log of one plus the amount of foreign direct investment flow between country $i$ and country $j$ .	United Nations Conference on Trade and Development - UNCTAD (2014)
Migration	Log of one plus the amount of migration flow between country $i$ and country $j$ .	OECD International Migration Database (2014)
Human capital	Index representing the level of human capital of the country $i$ .	World Economic Forum (2013)
GDP per capita	GDP per capita of country $j$ .	World Bank Development Indicators
Listed firms	Log of the number of firms listed in the stock market of country $i$ (or country $j$ )	World Bank Development Indicators
Foreign female directors	Number of female directors domiciled in country $i$ who have board appointments in country $j$ at period $t$ .	BoardEx

In this table, subscript  $i$  indicates country of origin, and subscript  $j$  indicates country of destination.

## Appendix 2 – Other specifications

**Table A2.1: Country of domicile**

Panel A: Steps to identify director domicile

Step	N directors	Percentage
Majority of board appointments	132,255	98.57
Nationality	1,315	0.98
Country of first appointment	606	0.45
<b>Total</b>	<b>134,176</b>	<b>100.00</b>

Panel B: Gravity model using different proxies for country of domicile

Dependent variable: Foreign Directors	All countries		
	(1)	(2)	(3)
GDP origin	1.09*** [11.61]	0.91*** [7.89]	1.12*** [11.20]
GDP destination	0.66*** [6.87]	0.86*** [7.06]	0.65*** [6.70]
Geographic distance	-0.40*** [-5.31]	-0.56*** [-9.54]	-0.39*** [-4.69]
Contiguous	0.39** [2.24]	0.210 [1.23]	0.38** [2.04]
Homophily	0.45*** [4.37]	0.41*** [5.32]	0.41*** [3.70]
Colony	0.51** [2.52]	0.53*** [2.86]	0.43** [2.00]
Common legal origin	0.51*** [4.45]	0.38*** [3.56]	0.66*** [5.61]
Common religion	0.18** [1.97]	0.070 [0.75]	0.18* [1.94]
Common language	0.240 [1.17]	0.47** [2.47]	0.170 [0.80]
Observations	19,684	19,684	19,684
R-squared	0.876	0.900	0.883
Origin FE	YES	YES	YES
Destination FE	YES	YES	YES

Panel A shows the steps we followed to identify director domicile. Panel B shows results of gravity model using different proxies for director domicile. In Column (1), director domicile is operationalized with director nationality. In Column (2), director domicile is operationalized with the country where the director obtained the first appointment. In Column (3), director domicile is operationalized with director nationality if it coincides with the country where the director obtained the first appointment. All results are estimated from regressions using Poisson pseudo maximum likelihood (PPML) (Santos Silva and Tenreiro 2006). The z-statistics are reported in parentheses. Standard errors are adjusted for group correlation at the country-pair level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively, based on two tailed tests. Variable definitions are provided in Appendix 1.

**Table A2.2: Alternative specifications for the gravity model**

Dependent variable: Foreign Directors	All years (1)	2013 (2)	All years (3)	2013 (4)
GDP destination	0.39*** [3.05]	0.58*** [6.52]		
GDP origin	0.58*** [4.98]	1.02*** [9.86]		
Listed firms destination			0.46*** [4.42]	
Listed firms origin			0.62*** [5.73]	
GDP per capita destination				0.41*** [4.10]
Human capital origin				0.84** [2.15]
Geographic distance	0.030 [0.38]	-0.63*** [-11.92]	-0.55*** [-9.77]	-0.64*** [-11.97]
Contiguous	-0.31** [-2.28]	0.030 [0.19]	0.200 [1.23]	0.030 [0.17]
Homophily	0.35*** [5.48]	0.43*** [6.02]	0.40*** [5.37]	0.43*** [6.00]
Colony	0.38** [2.51]	0.59*** [3.29]	0.53*** [2.95]	0.61*** [3.36]
Common legal origin	0.110 [1.13]	0.18* [1.74]	0.35*** [3.34]	0.18* [1.73]
Common religion	0.14* [1.77]	-0.030 [-0.31]	0.090 [1.03]	-0.020 [-0.25]
Common language	0.54*** [1.13]	0.71*** [1.74]	0.49*** [3.34]	0.70*** [1.73]
Bilateral trade	0.76*** [9.84]			
Cross-listings origin	0.11* [1.73]			
Observations	19,684	1,406	19,684	1,369
R-squared	0.916	0.898	0.880	0.898
Origin FE	YES	YES	YES	YES
Destination FE	YES	YES	YES	YES

This Table shows results applying different estimation methods. In column (1), we include other economic determinants than GDP (bilateral trade and the number of firms from the origin country listed on an exchange in the destination country). In column (2), we restrict the sample to the year 2013. In column (3), we substitute GDP for another size measure for both countries (number of listed firms). In column (4), we substitute the GDP of the origin country with the level of human capital and the GDP of the receiver with the GDP per capita in a restricted sample for year 2013. All results are estimated from regressions using Poisson pseudo maximum likelihood (PPML) (Santos Silva and Tenreyro 2006). The z-statistics are reported in parentheses. Standard errors are adjusted for group correlation at the country-pair level. The symbol \*, \*\*, and \*\*\* next to the coefficients indicate statistical significance at the 10%, 5%, and 1% levels, respectively, based on two tailed tests. Variable definitions are provided in Appendix 1.