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Institutional development and firm profitability in transition economies

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Abstract

Although transition economies experience significant institutional transformations that vary in their pace and magnitude, our understanding of how such changes influence firm performance is rather limited. We examine how variations in institutional reforms and international openness in 16 transition economies in Central and Eastern Europe (CEE) influence firm profitability. We enhance the understanding of this subject by showing that such institutional changes have different effects on the competitive advantages and in turn profitability of domestic firms and foreign subsidiaries. Our analysis of over 230,000 observations reveals that institutional reforms benefit domestic firms. Conversely, a completely different pattern emerges for foreign subsidiaries, indicating that institutional reforms have negative consequences for their profitability. Hence, in contrast to the established assumption that developed institutional environments are advantageous for foreign subsidiaries, the nature of institutional changes makes domestic firms the main beneficiaries.

Keywords: firm performance; institutional development; international openness; transition CEE economies; foreign affiliates.

1. INTRODUCTION

Although the determinants of firm performance in developed countries have been studied extensively in the international business literature, recent work has emphasized the theoretical value of studying emerging countries (Chari & David, 2012; Wright, Filatotchev, Hoskisson, & Peng, 2005), particularly transition economies in Central and Eastern Europe (CEE) (Meyer & Peng, 2005; Shinkle & Kriauciunas, 2010). Reforms in CEE economies have involved a switch from a socialist to a market-based system (Danis, Chiaburu, & Lyles, 2010; Estrin, Poukliakova, & Shapiro, 2009). Because these reforms occur at different paces across countries, CEE economies provide contextual variations that are ideal for understanding the determinants of firm performance.

In attempting to complement resource-based explanations (Buckley, Elia, & Kafouros, 2014) and conceptualize how the context affects firm performance, extant research has recently focused on institutions (Chan, Isobe, & Makino, 2008; Makino, Isobe, & Chan, 2004; Meyer, Estrin, Bhaumik, & Peng, 2009; Meyer & Peng, 2005; Peng, Wang, & Jiang, 2008; Sun, Peng, Lee, & Tan, 2015; Wright et al., 2005). Institutions are characterized by regulative, normative, cultural and cognitive features (Scott, 1995) that create coercive, normative and mimetic pressures. These pressures shape firm behavior and performance (Scott, 1995), influence managerial conduct (Oliver, 1997) and define the rules of the game (North, 1990). It is theoretically accepted that a more developed institutional

environment is advantageous for firms because it reduces transaction costs and increases contract enforcement (Chari & Banalieva, 2014; Meyer & Peng, 2005; North, 1990; Peng, 2004; Peng et al., 2008; Williamson, 2000).

However, empirical evidence concerning the effects of institutional development is conflicting. Whereas some studies find that institutional development improves firm performance (Ngobo & Fouda, 2012), others find negative performance consequences (Chan et al., 2008) or a U-shaped relationship between institutional development and firm profitability (Chari & Banalieva, 2014). Although these empirical findings appear to contradict the notion that institutional development is good and desirable, they actually support the key theoretical prediction that institutional changes lead to rent redistribution and, therefore, to winners and losers (North, 1990). Hence, although CEE countries experience significant institutional transformations that vary in their degree and pace, it is unclear what are the institutional drivers that distinguish more successful firms from less successful ones in the context of CEE economies.

We address this research question by analyzing how firm profitability is affected by two sources of variation: institutional reforms that improve market development and the enforcement of rules and international openness (the extent to which the market is open to international trade and investment and other international transactions). An underlying assumption of prior research is that pro-market institutional transformation benefits multinational firms. In practice,

however, it is not clear that the performance consequences of such changes should always be similar for firms. We show that although institutional reforms and international openness lead to certain advantages and disadvantages for firms, they differently affect the competitive advantages of domestic firms and foreign subsidiaries and therefore lead to different profitability outcomes. As institutional reforms are implemented and as international openness increases, these changes weaken the competitive advantages of foreign subsidiaries and decrease their profitability. Conversely, institutions in CEE economies evolve in ways that benefit and improve the profitability of domestic firms. Overall, we show that the profitability of domestic and foreign firms is contingent (in a different way) on the institutional reforms and international openness of the country.

To test our hypotheses, we employ firm-level data from 16 CEE countries, which consist of more than 30,000 domestic firms and over 10,000 foreign subsidiaries, for the 2003–2011 period. We contribute to prior research that offered useful insights into how institutions influence firm performance (Hermelo & Vassolo, 2010; Ngobo & Fouda, 2012; Shinkle & Kriauciunas, 2010) but did not examine how such effects vary across domestic and foreign firms. An implicit assumption in the literature is that developed institutions are preferable to weak institutions. Our empirical evidence indicates that this is not always the case, showing that the profitability effects of institutional development are positive for domestic firms but negative for foreign subsidiaries.

2. THEORETICAL BACKGROUND AND HYPOTHESES

2.1. Institutional reforms and international openness across CEE economies

Institutional transition involves changes that intend to shift a CEE country from a socialist orientation to a market economy (Chari & Banalieva, 2014). Such fundamental changes span political, legal, social and economic institutions and involve two key features: reforming institutions to improve market development and the enforcement of rules (institutional reforms or development) and opening markets internationally (international openness) (Williamson, 2000). The level of international openness and degree of institutional development or reforms vary considerably across countries (Chan et al., 2008; Makino et al., 2004; Shinkle & Kriauciunas, 2012). Such cross-country variations are driven by both public institutions (judicial systems and political processes) and private institutions (corporate accountability), which may be formal (such as laws) and informal (such as norms) (North, 1990; Peng, 2003; Williamson, 2000).

Regarding institutional development, the institutional setting of CEE countries differs significantly from that in developed countries. Whereas business activities in developed countries are driven by market forces, the rules and the operations of firms in transition economies are strongly influenced by governments (Chari & Banalieva, 2014; North, 1990). This reality has important performance consequences because institutional variations affect the pressures,

demands and costs that firms face. Institutional development and the extent of such reforms may also affect how firms use and exploit their resources to achieve their objectives (Oliver, 1997). This argument is in line with international business theory, which suggests that host country institutions can augment or constrain a firm's advantages (Cantwell, Dunning, & Lundan, 2010).

Whereas some countries have more reliable, transparent and trustworthy institutions (Shaner & Maznevski, 2011), other countries with less developed institutions are characterized by market imperfections and institutional voids (Khanna & Palepu, 2000). Although institutional development in CEE countries is lower on average than that in developed countries, there are significant institutional differences across CEE economies. Institutional reforms in countries such as Serbia are at an early stage, while other CEE countries, such as Estonia, have stronger institutions that are more similar to those of developed countries.

International openness, on the other hand, refers to the effectiveness of the institutions that govern international transactions and activities. Such institutions affect the ability of economic actors to become involved in and capture value from international activities such as trade, inward and outward investment and cross-border collaboration. Hence, a higher level of international openness implies that there are fewer barriers. Therefore, getting involved in and capturing value from international activities is easier and less costly. International openness varies across countries. For example, Russia has one of the lowest international

openness scores, whereas the Czech Republic and Estonia are much more open. International openness is not always positively associated with institutional development. For example, Ukraine and Bulgaria have low institutional development scores, but they fare well in terms of international openness.

Prior studies suggest that increased competition from imports and foreign entrants leads to lower profitability and to the natural selection of firms (Colantone & Sleuwaegen, 2010). However, it remains less clear how institutions influence international openness and its effects on firm performance. According to new institutional economics, effective institutions facilitate trade by making exchange easier and more productive (North, 1990). Hence, when more developed institutions govern international trade and investment, they increase the benefits of international transactions and cross-border cooperation.

Furthermore, institutional changes towards a more internationally open spectrum change the opportunity-constraint set for foreign and domestic firms and create new opportunities in terms of demand and supply. On the demand side, opening export markets provides firms new opportunities to expand (Shinkle & Kriauciunas, 2010). On the supply side, international openness helps firms to access foreign markets for capital, technology and materials (Bustos, 2011).

International openness also assists countries in integrating the global economy and makes the code of business conduct in a given economy more commensurate with global norms. Because firms in internationally open countries

are disciplined by global market dynamics to a greater extent than firms in less open countries, adopting global business standards and practices becomes a necessity. Hence, the exposure of firms to international markets induces their restructuring (Domadenik, Prašnikar, & Svejnar, 2008).

2.2. Institutional development and firm profitability

We propose that the effects of institutional development on firm performance may be positive or negative, depending on whether the firm is domestic or foreign owned. Our overarching argument here is that institutional development in CEE economies affects two distinct mechanisms associated with 1) the internalization- and network-based advantages of foreign subsidiaries and 2) the extent to which domestic firms can rely on the market. We argue that although these changes benefit domestic firms, they negatively affect the operations of foreign subsidiaries, reducing their profitability. This reasoning does not necessarily suggest that foreign subsidiaries will not benefit at all from institutional development. For instance, they will benefit from lower levels of corruption and uncertainty, higher levels of transparency and the better protection of intellectual property. However, we expect that the benefits associated with institutional reforms will be greater for domestic firms, thus putting foreign subsidiaries in a relatively disadvantaged position.

The quality of institutions also determines the environmental munificence for the services required for each transaction (Wan & Hoskisson, 2003). Less developed institutions create market imperfections and institutional voids in product, capital and labor markets (Khanna & Palepu, 1997) and inhibit the diffusion of technology (Galang, 2013). Institutional voids encourage firms to perform certain functions internally because the challenges associated with managing contracts in weak institutional contexts increase the difficulty of using the market (Buckley & Casson, 1976; Khanna & Palepu, 1997). Because foreign subsidiaries can access resources, knowledge and capabilities from their multinational groups, they can internalize certain functions and compensate for institutional inefficiencies such as insufficiently developed government intermediaries, mutual funds and investment banks (Khanna & Palepu, 1997; Khanna & Rivkin, 2001). Hence, in institutionally weak contexts, foreign subsidiaries have a competitive advantage over their domestic rivals.

However, domestic firms in CEE countries can only rarely access capabilities from global networks and therefore must significantly rely on market transactions. As a result, insufficiently developed institutions significantly affect their competitive advantages and ability to compete with foreign rivals, thus decreasing their profitability. We argue, however, that as institutions in a given country develop and market reforms are implemented, they increase the extent to which domestic firms can use the market and improve their comparative

advantages over foreign subsidiaries. More developed institutions lead to a better functioning of markets, to a more effective enforcement of contracts and to a higher level of trust.

Improved access to new markets, along with a more reliable framework for using such opportunities, increases firms' ability to build competitive advantages by sourcing certain capabilities and functions from the market (Taussig & Delios, 2014). In such situations, the comparative advantage of foreign subsidiaries in internalizing certain functions that are lacking in weak institutional environments will weaken in countries with better institutional development because domestic firms will have the option of using the market to compensate for competitive disadvantages. This reasoning is supported by research that demonstrates that the internalization of organizational practices by foreign subsidiaries is negatively associated with the regulatory institutional profile of the host country (Kostova & Roth, 2002).

A similar argument can also be made for the networks in which domestic and foreign firms are embedded. Although both domestic and foreign firms are embedded in local networks, many of the transactions of foreign firms occur within global networks (Goerzen, 2007), which helps firms overcome deficiencies in local institutions[1]. Improvements in the quality of local institutions stimulate cooperation in local networks. Given that domestic firms rely on local networks to

[1] Although domestic and foreign firms can take advantage of domestic networks, this argument relates to the global networks that are more readily available to foreign firms.

a larger extent compared with their foreign counterparts, we expect institutional development to significantly benefit domestic firms, whereas the comparative advantages of the global networks possessed by foreign subsidiaries will decline.

Furthermore, institutions in CEE economies may evolve in a way that benefits domestic firms but not foreign subsidiaries. Institutional theory suggests that individuals and organizations influence the trajectory of institutional evolution by choosing a specific set of practices and exchange methods over others (Aoki, 1994, 2007). New institutional rules that are inconsistent with existing and well-established institutional norms frequently fail (Aoki, 1994). As institutions in CEE economies are dominated by local economic actors and firms, they are likely to change in ways that are more favorable for domestic firms than for foreign subsidiaries. Given the self-reinforcing nature of path dependency (North, 1990), other things being equal, institutional change is likely to continue in a trajectory that is advantageous to domestic firms rather than foreign entrants.[2] Whereas domestic firms can adapt quickly to such changes, prior research indicates that foreign subsidiaries are slower in reacting (Cuervo-Cazurra & Dau, 2009) because they are influenced not only by the host country environment but

[2] This argument can also be seen through the liability of foreignness (LoF) lens (Zaheer, 1995), which is built on horizontal differences in institutions, such as culture, rather than vertical differences in the institutional quality of undertaking transactions. Foreign firms use their internalization- and network-based advantages (Zaheer, 1995) to compensate for the liability of foreignness. However, as institutions improve, they provide domestic firms better opportunities to improve their performance. Because in such environments, domestic firms can improve their competitive positions more easily, internalization- and network-based advantages of foreign subsidiaries will be less effective.

also by headquarters (Kostova & Roth, 2002). Additionally, the objectives of managers at headquarters often differ from those of subsidiaries and are less suitable to the new institutional rules and norms (Kostova & Roth, 2002), leading to inefficiencies and lower profitability (Cuervo-Cazurra & Dau, 2009). Thus, although institutional development and reforms may benefit domestic firms, they negatively affect the profitability of foreign subsidiaries:

> Hypothesis 1a&b: The level of institutional development in CEE economies is positively associated with the profitability of domestic firms (1a) but negatively associated with the profitability of foreign firms (1b).

2.3. International openness and firm profitability

International openness accelerates international trade and the entry of new firms, and as a result, it increases competition and filters out inefficient firms (Colantone & Sleuwaegen, 2010; Melitz, 2003). Although there is a near consensus in the literature that the overall effect of international openness on firm performance is negative (Chari & David, 2012; Hermelo & Vassolo, 2010), it is also often presumed that international openness benefits foreign multinationals (Bhattacharya & Michael, 2008; Goldsmith & Mander, 2001). We argue that although this may be true for multinational enterprises (MNEs) that are now entering the market, due to increased competition, the effects of international

openness are likely to be negative on the profitability of foreign subsidiaries already operating in the market. We thus expect that although international openness poses challenges for the profitability of all firms, its negative effects will be higher for foreign subsidiaries than for domestic firms.

Previous studies on international openness primarily focus on competitive pressures (Colantone & Sleuwaegen, 2010) but give little consideration to institutional aspects. In this study, we focus on the following three aspects of institutions that govern international transactions and that may change the competitive advantages of firms: demand-side benefits, supply-side benefits and business conduct that induces the restructuring of firms. We posit that such institutional benefits are stronger for domestic firms than for foreign subsidiaries. This, in turn, provides domestic firms with new tools to compensate for new foreign entrants, erodes the competitive advantages of foreign subsidiaries and may therefore lead to rent redistribution.

First, although stronger competition may decrease the profitability of domestic firms, international openness creates demand-side opportunities by enabling domestic firms to gain better access to foreign markets, engage in exporting and pursue new initiatives (Colantone & Sleuwaegen, 2010). Prior research suggests that stronger competition may also help domestic firms increase their organizational learning by adopting new technologies (Bustos, 2011), which may lead to increased returns to innovation (Aw, Roberts, & Xu, 2008). Evidence

from the learning-by-exporting literature underscores the productivity and innovation gains of international openness for domestic firms (Blalock & Gertler, 2004; De Loecker, 2007; Salomon & Shaver, 2005; Van Biesebroeck, 2005).

Second, on the supply side, openness facilitates easier access to international markets for technology and helps firms to internationalize their supply chains. International markets for inputs provide opportunities to reduce the costs of intermediate materials. They also increase the performance of domestic firms by assisting them in using a greater variety and higher quality of intermediate inputs (Amiti & Konings, 2007) and by exploiting spillovers associated with inward and outward foreign direct investment (Blomström & Kokko, 1998; Görg & Strobl, 2001).

Third, international openness induces domestic firms to undertake internal restructuring in order to respond to global competitive dynamics (Domadenik et al., 2008; Estrin, Hanousek, Kočenda, & Svejnar, 2009). Because international openness leads to business practices adept to the challenges of the global environment, the rules of global business conduct that are the norm for multinational firms become more relevant to domestic firms as well. As a result, domestic firms that operate in internationally open countries will be guided by global isomorphic pressures (DiMaggio & Powell, 1983) and will follow global standards and imitate the practices of global leaders in order to gain legitimacy in the eyes of their international partners. Such economic and isomorphic pressures

(DiMaggio & Powell, 1983) are likely to gradually erode the advantages of foreign subsidiaries and thereby improve the relative position of domestic firms.

Overall, despite its negative effects, international openness leads to supply, demand and institutional benefits that are more advantageous for domestic firms than for foreign subsidiaries. Hence, we expect the effects of international openness on firm profitability to be less negative for domestic firms:

> Hypothesis 2: The negative effects of openness on firm profitability in CEE economies will be stronger for foreign firms than for domestic firms.

3. DATA AND METHODS

To test our hypotheses, we required firm-specific longitudinal data for both domestic and foreign-owned firms and country-level information on institutional development and openness. Post-socialist CEE economies have experienced and are experiencing significant institutional transformation, which offers an appropriate setting to examine the effects of institutions on firm profitability (Meyer & Peng, 2005). We collected firm-level data from Amadeus. To ensure that the foreign subsidiaries of the sample were indeed MNE subsidiaries (rather than domestic firms that have received funds from foreign investors), we checked that the degree of foreign ownership of these firms was over 50 percent. The final sample covers 16 countries and 85 industries and consists of 231,966 observations

for the 2003-2011 period, involving 30,650 domestic firms and 10,327 foreign subsidiaries. In this sample, 13,268 firms operate in manufacturing sectors (NACE class C) and 27,709 in non-manufacturing sectors. Overall, 25% of firms are foreign subsidiaries. The percentage of foreign firm observations in manufacturing and non-manufacturing sectors is 34% and 21%, respectively. Several non-manufacturing sectors exhibit a high share of foreign subsidiaries (wholesale and retail trade: 30%, information and communication: 40%, financial and insurance activities: 29%, administrative services: 34%).

To acquire information regarding institutional development, we followed established practice (Chan et al., 2008; Shaner & Maznevski, 2011) and employed survey data from the World Economic Forum and the Heritage Foundation that evaluate various aspects of institutional development. Table 1 presents information regarding the distribution of firms by country. Table 2 provides descriptive statistics.

Insert Table 1 about here

Insert Table 2 about here

3.1 Dependent variable

We operationalize the firm's financial performance using return on sales (ROS). ROS is a widely used measure (Chan et al., 2008; Makino et al., 2004) because it directly reflects firm profitability relative to the scale of operations. We calculate

ROS as firm profits before tax divided by firm sales. To address the negative values that ROS may take, we used the Inverse Hyperbolic Sine (IHS) transformation [3] (Burbidge, Magee, & Robb, 1988). This approach can accommodate negative values, and it improves the normality of the data and down-weights extreme values (Burbidge et al., 1988; Carroll, Dynan, & Krane, 2003; Nyberg, Fulmer, Gerhart, & Carpenter, 2010). To control for outliers, we follow previous studies (Chang, Chung, & Moon, 2013) and drop observations with extreme ROS values (lower than -100% and higher than 100%).

3.2. Independent variables

3.2.1 Institutional development and international openness

Consistent with prior research (Shaner & Maznevski, 2011), we collected data on the institutional development of different countries from the Global Competitiveness Indices (GCI) provided by the World Economic Forum (WEF). We use the "institutions" indicator of the GCI to measure institutional development. To measure international openness, we use the Trade Openness index of the Indices of Economic Freedom (IEF) from the Heritage Foundation (HF). Table 3 provides a detailed description of each component used by these organizations to construct the two variables. Because the surveys use different scaling, we normalized both indicators using a 1–100 range. The scores are

[3] This transformation technique is also applied to all independent variables.

calculated as a two-year moving average (i.e., t and t-1) and therefore take into consideration that institutional changes might affect performance only after a certain time period.

Insert Table 3 about here

3.2.2 Control variables

We controlled for various firm and industry country-specific characteristics that may influence firm performance. First, there are significant variations in the capability or efficiency with which firms use and convert their resources into desired outputs and objectives (Amit & Schoemaker, 1993; Dutta, Narasimhan, & Rajiv, 2005). To control for such capabilities, we estimated a firm's ability to convert inputs into outputs by using the translog production function in which output, capital and labor were measured by sales, fixed assets and number of employees, respectively (Coe & Helpman, 1995; Kafouros & Buckley, 2008). To prevent industry effects from influencing the measure of capability, we estimate a separate production function for each NACE industry class. We also control for time and country-specific effects in each of the estimations. Second, prior research suggests that organizational slack affects firm performance (Bradley, Shepherd, & Wiklund, 2011; Bromiley, 1991; George, 2005), particularly in

emerging markets (Tan & Peng, 2003). We included the debt-to-equity[4] ratio as a control variable to control for the effects of slack (Bradley et al., 2011; Bromiley, 1991).

Third, we controlled for the age of firms using the number of years since they were established. This may account for firm experience and for the fact that firms that recently entered the market may face different challenges compared with domestic firms or foreign subsidiaries that have operated for several years in the market. Fourth, we controlled for firm size by including a dummy variable that takes the value of one if the MNE subsidiary has total assets above the median of the sample. Fifth, firm performance is determined by product diversification (Lee, Peng, & Lee, 2008). We included the number of product segments[5] in which the firm competes to account for variations in product diversification. Sixth, we used a dummy variable to distinguish between domestic and foreign-owned firms (which takes the value of one for foreign firms).

Furthermore, we controlled for a number of industry- and country-specific attributes. Because consumers with higher incomes spend more, we used the GDP per capita[6] of the host country to control for differences in economic development. We further controlled for the effects of competition, market share and industry profitability with the Herfindahl index, firms' sales-to-industry ratio and industry

[4] Debt-to-equity ratio measures the inverse of the potential slack.
[5] The number of two-digit level NACE industry codes.
[6] In current USD prices obtained from the IMF World Economic Outlook reports.

average ROS, respectively.[7] All these measures are industry-country-year specific. In addition, we used country-specific dummy variables to control for country effects not captured by our institutional variables and other controls. Moreover, we included control variables to account for the country of origin effects of foreign firms (Wang, Clegg, & Kafouros, 2009). First, we include a dummy variable (home country development) that takes the value of one if the country of origin of the foreign firm is a developed country in the IMF World Economic Outlook report. To account for other country of origin effects, we include a set of dummy variables (D_i) that take the value of one if the home country of a foreign subsidiary is country i. Finally, to capture time- and industry-specific idiosyncrasies, we included year-specific and industry dummy variables[8].

4. RESULTS

As shown in Table 2, the correlations among the independent variables are within acceptable levels. This indicates that multicollinearity in our models is insignificant. To avoid multicollinearity problems in interaction terms, we mean-centered the components of the interaction terms (Aiken & West, 1991). Table 4 reports the random effects estimates of generalized least squares (GLS) along with alternative estimation methods to check the robustness of the results. Model

[7] As suggested by George (2005)..
[8] An industry is defined at the NACE two-digit level; over 80 industries are represented in the sample.

1 is a baseline model. Models 3 and 5 show that the effects of institutional development on firm profitability are positive for domestic firms but negative for foreign subsidiaries. These findings therefore support Hypotheses 1a and 1b. Although Models 4 and 5 show that the effect of international openness on profitability is negative for all firms, these models also demonstrate that it has a more negative impact on foreign subsidiaries. In line with Hypothesis 2, this result confirms that the negative effects of international openness are stronger for foreign firms than for domestic firms.

We depict these relationships in Figures 1 and 2, respectively. The horizontal axes show the actual range of institutional variation in our sample. The vertical axes show the predicted values of ROS for a given level of institutional development and international openness at the means of all other covariates. In Figure 1, we can observe that as institutional development in our sample increases from its lowest level to its highest one, the average ROS of domestic firms grows from 1.10% to 1.70%, indicating a 55% increase. In contrast, the average profitability of foreign firms declines by 19% from 1.55% to 1.25%. Figure 1 also depicts that after a certain point of institutional development, the environment is, on average, more advantageous for domestic firms; this advantage is reflected in their profitability.

A number of equally interesting observations can be made in Figure 2. As international openness in our sample increases from its lowest point to its highest

one, the average ROS of domestic firms declines by 13% from 1.44% to 1.25%, whereas the corresponding profitability decrease for foreign firms is approximately 40% (it drops from 2.15% to 1.30%). In other words, Figure 2 shows that foreign firms have a profitability advantage over domestic firms at a lower level of international openness. However, at high levels of international openness, the advantage of foreign firms over their domestic counterparts disappears.

Insert Figure 1 about here

Insert Figure 2 about here

4.1 Robustness Checks

First, we considered the possibility of endogeneity. Although a firm's profitability cannot influence institutions, it may affect other firm-specific control variables, such as firm capability and organizational slack[9]. This issue does not cause problems in our models because the organizational slack measure is lagged by one year. Firm capability and firm diversification are time-invariant variables that do not lead to within-firm reverse causality. Another source of endogeneity may be the correlation between firm-specific effects and other regressors. To investigate this possibility, we used a fixed effects model and a within effects

[9] Firm age is exogenous. Country- and industry-specific variables are unlikely to cause endogeneity because no individual firm can have a significant effect at the country or industry levels.

estimation. This method allows for correlation between the regressors and unobservable firm effects because it removes the time-invariant components. The results remained qualitatively similar.

Second, we corroborated the hypotheses by using modeling that solely relies on within-country institutional change. This can ensure that the estimated effects of institutional development and international openness are driven by institutional changes that take place over time, rather than cross-country variations. To this end, we first ran a within-effects model (Model 6) that removed the between effects. Furthermore, we estimated the random effects models after recalculating the institutional variables as deviations from country-specific mean values. This removed between-country variation in the institutional variables. The results of these robustness checks confirm the hypotheses. We also examined this issue using split-sample analyses (high and low institutional changes and international openness). These analyses returned similar results.

Third, we considered the effects that structural changes might have on our results. Countries with more developed institutions and higher incomes tend to have a higher share of service sectors. Also, the impact of international openness on the manufacturing sector might differ from that in services. Therefore, we ran separate estimations for manufacturing and non-manufacturing sub-samples. We used both random- and fixed-effects models and estimated Models 3 and 4 for each sub-sample. The results corroborated our original findings, confirming that

the findings can be generalized for both manufacturing and non-manufacturing sectors.

Fourth, we explored the sensitivity of the findings to changes in the regression method and re-estimated the main model using the Maximum Likelihood Estimation (MLE) method rather than GLS. This alternative estimation confirmed the original results. We also considered alternative performance measures. Using return on assets instead of ROS (as suggested by Makino et al., 2004) returned qualitatively similar results. Moreover, following prior studies, we estimated the models using an absolute measure of firm profitability (profit before tax). This analysis returned similar results. The hypothesized relationships were also confirmed when we estimated models that controlled for prior firm performance by including a lagged measure of the dependent variable (ROS).

Finally, to better understand why there is a negative effect on the profitability of foreign subsidiaries, we examined whether this result was due to lower sales or higher costs by estimating additional regressions. Interestingly, although we found no evidence that institutional development increased foreign subsidiaries' costs, the results indicated that institutional development had a negative effect on foreign subsidiaries' sales (but a positive effect on the sales of domestic firms).

5. DISCUSSION

5.1. Theoretical contributions

First, we contribute to the institution-based view (Meyer & Peng, 2005; Peng, 2003; Peng et al., 2008) by showing that the effects of institutional development on firm profitability are not uniform but instead vary significantly depending on the firm's ownership (domestic or foreign). Our analysis therefore helps us improve prior theory that acknowledges that institutional development leads to rent redistribution but has not identified how different economic actors are affected. Similarly, it extends recent work on the differences between domestic and foreign firms (Chari & Banalieva, 2014) by demonstrating that institutions in emerging economies evolve in a manner that benefits domestic firms but not foreign subsidiaries.

As institutional development in the 16 CEE countries of our sample increases from its lowest level to its highest one, the average profitability of domestic firms increases by 55%, whereas the profitability of foreign firms declines by 19%. It therefore seems that the institutional reforms undertaken by governments in CEE economies improve the competitive advantage of domestic firms over their foreign competitors. This finding may also explain why the results of prior studies are conflicting and contributes to extant research that has provided useful insights into the relationship between institutions and firm

profitability (Chan et al., 2008) but has not specified how such effects differ across domestic and foreign firms.

Second, our analysis contributes to international business research on subsidiary evolution, which emphasizes the importance of responding to market dynamism and changes in the host country (Birkinshaw & Hood, 1998). We extend this literature by showing how two key institutional dimensions in a given country—institutional reforms and international openness—change the competitive advantages and relative position of domestic and foreign firms and, in turn, their profitability. By focusing on the mechanisms through which institutions (differently) affect firm performance, our analysis helps to explain why certain institutional changes might be beneficial for one group of firms but not for others.

A third theoretical contribution concerns the role of international openness. We contribute to the institution-based view by proposing and empirically documenting that international openness creates new opportunities and benefits that are specific to domestic firms. Because international openness enables domestic firms to improve their competitive positions relative to foreign rivals, its negative effects on profitability are stronger for foreign subsidiaries than for domestic firms. Once again, the implication here is that as institutions develop and CEE economies open up internationally, the host-country environment negatively affects foreign firms that already operate in this environment. As opposed to the protectionist view that suggests that institutional reforms in

emerging economies are designed to benefit large multinational groups, domestic firms are the main beneficiaries of such changes (Cuervo-Cazurra & Dau, 2009).

5.2. Managerial implications

Two key managerial and policy implications arise from the observation that the two sources of institutional variation influence the performance of domestic firms and foreign subsidiaries differently. First, institutional reforms in CEE countries are often considered a positive development that is accompanied by an increase in inward foreign direct investment. However, our findings reveal that more developed institutional environments do not guarantee higher profitability for foreign subsidiaries. Managers of foreign subsidiaries should recognize that some of the firm's competitive advantages might be lost as institutions in CEE economies evolve. Institutional development may increase transparency and reduce risk and transaction costs, but stronger competition makes it more difficult to sustain the same profitability. The headquarters of MNEs may respond to such institutional changes by giving more freedom to subsidiaries to adapt to the local environment and manage institutional idiosyncrasies (Chan et al., 2008) by, for instance, establishing local partnerships (Delios & Beamish, 1999, 2001) and networks with governments (Khanna & Palepu, 2000; Peng & Heath, 1996).

Second, it is frequently presumed that international openness benefits multinationals. As a result, the societies of many emerging countries are not in favor of globalization, and they adopt a protectionism view. In contrast to this view, our findings reveal that foreign firms are not better off. As CEE economies integrate themselves into the global economy, it seems that the capabilities of the established foreign subsidiaries become less influential in sustaining their profitability. A higher level of international openness may decrease the cost or difficulty of entering a given country. However, for those foreign subsidiaries that already operate in the country, international openness has negative profitability consequences because it lowers entry barriers and increases the level of competition. Although foreign firms that already operate in a given CEE economy may have limited choices, managers of MNEs that consider entering new countries should keep in mind that international openness reflects a country's willingness to attract new investors but does not guarantee that this will facilitate more profitable outcomes.

5.3. Limitations and future research

First, although our analysis points to the differential effects of institutions on foreign and domestic firms, it does not necessarily suggest that domestic firms in all CEE countries outperform foreign subsidiaries at higher levels of institutional development. Although the profitability line for domestic firms in Figure 1 is

above that for foreign firms at higher levels of institutional development, this figure represents the average positions for all countries in the sample. Also, this paper is concerned with the differential impact of institutional change on the profitability of foreign and domestic firms (i.e., we focused on changes) rather than with the level of profitability of foreign and domestic firms in each country. In some countries, for instance, the performance level of foreign firms may be above that of domestic firms (meaning that on average, foreign firms outperform domestic firms at all times in that country), but this performance gap may shrink as institutions develop. Future research may extend this study by looking at cross-country differences in the relative positions of foreign and domestic firms.

Second, although CEE countries are undergoing institutional reforms that are in some ways similar to those in other emerging countries, our study is region specific. It is therefore unclear whether the findings will be similar in countries such as China and India that are characterized by different idiosyncrasies. Future studies may examine how the development of institutions affects firm-level outcomes by investigating how such effects change from country to country and by considering the role of regional- and country-specific variations in determining the role of institutions and their impacts on firm performance.

6. CONCLUSION

Although conventional wisdom suggests that firms benefit from institutional transition, we show that the benefits associated with institutional changes do not equally apply to foreign and domestic firms. More specifically, we examined two dimensions of institutional transition—institutional reforms and international openness—and argued that these two dimensions change the relative competitive advantages of foreign and domestic firms. The analysis of over 230,000 observations from 16 CEE economies supported the view that although institutional development improves the profitability of domestic firms, it has negative consequences for the profitability of foreign firms.

The findings led us to conclude that although the profitability of all firms is negatively affected by the international openness of the host country, these negative consequences are stronger for foreign subsidiaries. Our reasoning relies on the premise that although international openness increases competitive pressures and therefore negatively affects all firms, such negative effects are much stronger for foreign firms than for domestic firms because international openness leads to benefits that are specific to domestic firms, giving them additional tools to respond to competitive pressures. Hence, contrary to the common belief that global integration benefits foreign firms, it appears that domestic firms in fact benefit more from such changes.

REFERENCES

Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage.

Amit, R., & Schoemaker, P. J. H. (1993). Strategic assets and organizational rent. Strategic Management Journal, 14(1), 33-46.

Amiti, M., & Konings, J. (2007). Trade liberalization, intermediate inputs, and productivity: Evidence from Indonesia. The American Economic Review, 97(5), 1611-1638.

Aoki, M. (1994). The contingent governance of teams: Analysis of institutional complementarity. International Economic Review, 35(3), 657.

Aoki, M. (2007). Endogenizing institutions and institutional changes. Journal of Institutional Economics, 3(01), 1-31.

Aw, B. Y., Roberts, M. J., & Xu, D. Y. (2008). R&D investments, exporting, and the evolution of firm productivity. American Economic Review, 98(2), 451-456.

Bhattacharya, A. K., & Michael, D. C. (2008). How local companies keep multinationals at bay. Harvard Business Review, 86(3), 84-95.

Birkinshaw, J., & Hood, N. (1998). Multinational subsidiary evolution: Capability and charter change in foreign-owned subsidiary companies. The Academy of Management Review, 23(4), 773-795.

Blalock, G., & Gertler, P. J. (2004). Learning from exporting revisited in a less developed setting. Journal of Development Economics, 75(2), 397-416.

Blomström, M., & Kokko, A. (1998). Multinational corporations and spillovers. Journal of Economic Surveys, 12(3), 247-277.

Bradley, S. W., Shepherd, D. A., & Wiklund, J. (2011). The importance of slack for new organizations facing 'tough' environments. Journal of Management Studies, 48(5), 1071-1097.

Bromiley, P. (1991). Testing a causal model of corporate risk taking and performance. Academy of Management Journal, 34(1), 37-59.

Buckley, P. J., & Casson, M. C. (1976). The future of the multinational enterprise. London: Homes & Meier.

Buckley, P. J., Elia, S., & Kafouros, M. (2014). Acquisitions by emerging market multinationals: Implications for firm performance. Journal of World Business, (available online).

Burbidge, J. B., Magee, L., & Robb, A. L. (1988). Alternative transformations to handle extreme values of the dependent variable. Journal of the American Statistical Association, 83(401), 123-127.

Bustos, P. (2011). Trade liberalization, exports, and technology upgrading: Evidence on the impact of MERCOSUR on Argentinian firms. American Economic Review, 101(1), 304-340.

Cantwell, J., Dunning, J. H., & Lundan, S. M. (2010). An evolutionary approach to understanding international business activity: The co-evolution of MNEs and the institutional environment. Journal of International Business Studies, 41(4), 567-586.

Carroll, C. D., Dynan, K. E., & Krane, S. D. (2003). Unemployment risk and precautionary wealth: Evidence from households' balance sheets. Review of Economics and Statistics, 85(3), 586-604.

Chan, C. M., Isobe, T., & Makino, S. (2008). Which country matters? Institutional development and foreign affiliate performance. Strategic Management Journal, 29(11), 1179-1205.

Chang, S.-J., Chung, J., & Moon, J. J. (2013). When do foreign subsidiaries outperform local firms? Journal of International Business Studies, 44(8), 853-860.

Chari, M. D. R., & Banalieva, E. R. (2014). How do pro-market reforms impact firm profitability? The case of India under reform. Journal of World Business(0).

Chari, M. D. R., & David, P. (2012). Sustaining superior performance in an emerging economy: An empirical test in the Indian context. Strategic Management Journal, 33(2), 217-229.

Coe, D. T., & Helpman, E. (1995). International R&D spillovers. European Economic Review, 39(5), 859-887.

Colantone, I., & Sleuwaegen, L. (2010). International trade, exit and entry: A cross-country and industry analysis. Journal of International Business Studies, 41(7), 1240-1257.

Cuervo-Cazurra, A., & Dau, L. A. (2009). Promarket reforms and firm profitability in developing countries. Academy of Management Journal, 52(6), 1348-1368.

Danis, W. M., Chiaburu, D. S., & Lyles, M. A. (2010). The impact of managerial networking intensity and market-based strategies on firm growth during institutional upheaval: a study of small and medium-sized enterprises in a transition economy. Journal of International Business Studies, 41(2), 287-307.

De Loecker, J. (2007). Do exports generate higher productivity? Evidence from Slovenia. Journal of International Economics, 73(1), 69-98.

Delios, A., & Beamish, P. W. (1999). Ownership strategy of Japanese firms: Transactional, institutional, and experience influences. Strategic Management Journal, 20(10), 915-933.

Delios, A., & Beamish, P. W. (2001). Survival and profitability: the roles of experience and intangible assets in foreign subsidiary performance. Academy of Management Journal, 44(5), 1028-1038.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. American Sociological Review, 48(2), 147-160.

Domadenik, P., Prašnikar, J., & Svejnar, J. (2008). Restructuring of firms in transition: Ownership, institutions and openness to trade. Journal of International Business Studies, 39(4), 725-746.

Dutta, S., Narasimhan, O., & Rajiv, S. (2005). Conceptualizing and measuring capabilities: Methodology and empirical application. Strategic Management Journal, 26(3), 277-285.

Estrin, S., Hanousek, J., Kočenda, E., & Svejnar, J. (2009). The effects of privatization and ownership in transition economies. Journal of Economic Literature, 47(3), 699-728.

Estrin, S., Poukliakova, S., & Shapiro, D. (2009). The performance effects of business groups in Russia. Journal of Management Studies, 46(3), 393-420.

Galang, R. M. N. (2013). Divergent diffusion: Understanding the interaction between institutions, firms, networks and knowledge in the international adoption of technology. Journal of World Business(0).

George, G. (2005). Slack resources and the performance of privately held firms. Academy of Management Journal, 48(4), 661-676.

Goerzen, A. (2007). Alliance networks and firm performance: The impact of repeated partnerships. Strategic Management Journal, 28(5), 487-509.

Goldsmith, E., & Mander, J. (2001). The case against the global economy: And for a turn towards localization: Earthscan.

Görg, H., & Strobl, E. (2001). Multinational companies and productivity spillovers: A meta-analysis. The Economic Journal, 111(475), F723-F739.

Hermelo, F. D., & Vassolo, R. (2010). Institutional development and hypercompetition in emerging economies. Strategic Management Journal, 31(13), 1457-1473.

Kafouros, M. I., & Buckley, P. J. (2008). Under what conditions do firms benefit from the research efforts of other organizations? Research Policy, 37(2), 225-239.

Khanna, T., & Palepu, K. (1997). Why focused strategies may be wrong for emerging markets. Harvard Business Review, 75(4), 41-51.

Khanna, T., & Palepu, K. (2000). The future of business groups in emerging markets: Long-run evidence from Chile. Academy of Management Journal, 43(3), 268-285.

Khanna, T., & Rivkin, J. W. (2001). Estimating the performance effects of business groups in emerging markets. Strategic Management Journal, 22(1), 45-74.

Kostova, T., & Roth, K. (2002). Adoption of an organizational practice by subsidiaries of multinational corporations: Institutional and relational effects. The Academy of Management Journal, 45(1), 215-233.

Lee, K., Peng, M. W., & Lee, K. (2008). From diversification premium to diversification discount during institutional transitions. Journal of World Business, 43(1), 47-65.

Makino, S., Isobe, T., & Chan, C. M. (2004). Does country matter? Strategic Management Journal, 25(10), 1027-1043.

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. Econometrica, 71(6), 1695-1725.

Meyer, K. E., Estrin, S., Bhaumik, S. K., & Peng, M. W. (2009). Institutions, resources, and entry strategies in emerging economies. Strategic Management Journal, 30(1), 61-80.

Meyer, K. E., & Peng, M. W. (2005). Probing theoretically into Central and Eastern Europe: transactions, resources, and institutions. Journal of International Business Studies, 36(6), 600-621.

Ngobo, P. V., & Fouda, M. (2012). Is 'Good' governance good for business? A cross-national analysis of firms in African countries. Journal of World Business, 47(3), 435-449.

North, D. C. (1990). Institutions, institutional change and economic performance. Cambridge: Cambridge University Press.

Nyberg, A. J., Fulmer, I. S., Gerhart, B., & Carpenter, M. A. (2010). Agency theory revisited: CEO return and shareholder interest alignment. Academy of Management Journal, 53(5), 1029-1049.

Oliver, C. (1997). Sustainable competitive advantage: Combining institutional and resource-based views. Strategic Management Journal, 18(9), 697-713.

Peng, M. W. (2003). Institutional transitions and strategic choices. The Academy of Management Review, 28(2), 275-296.

Peng, M. W. (2004). Outside directors and firm performance during institutional transitions. Strategic Management Journal, 25(5), 453-471.

Peng, M. W., & Heath, P. S. (1996). The growth of the firm in planned economies in transition: Institutions, organizations, and strategic choice. The Academy of Management Review, 21(2), 492-528.

Peng, M. W., Wang, D. Y. L., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. Journal of International Business Studies, 39(5), 920-936.

Salomon, R. M., & Shaver, J. M. (2005). Learning by exporting: New insights from examining firm innovation. Journal of Economics & Management Strategy, 14(2), 431-460.

Scott, W. R. (1995). Institutions and organizations. Thousand Oaks, CA: Sage.

Shaner, J., & Maznevski, M. (2011). The relationship between networks, institutional development, and performance in foreign investments. Strategic Management Journal, 32(5), 556-568.

Shinkle, G. A., & Kriauciunas, A. P. (2010). Institutions, size and age in transition economies: Implications for export growth. Journal of International Business Studies, 41(2), 267-286.

Shinkle, G. A., & Kriauciunas, A. P. (2012). The impact of current and founding institutions on strength of competitive aspirations in transition economies. Strategic Management Journal, 33(4), 448-458.

Sun, S. L., Peng, M. W., Lee, R. P., & Tan, W. (2015). Institutional open access at home and outward internationalization. Journal of World Business, 50(1), 234-246.

Tan, J., & Peng, M. W. (2003). Organizational slack and firm performance during economic transitions: Two studies from an emerging economy. Strategic Management Journal, 24(13), 1249-1263.

Taussig, M., & Delios, A. (2014). Unbundling the effects of institutions on firm resources: The contingent value of being local in emerging economy private equity. Strategic Management Journal, doi: 10.1002/smj.2312.

Van Biesebroeck, J. (2005). Exporting raises productivity in sub-Saharan African manufacturing firms. Journal of International Economics, 67(2), 373-391.

Wan, W. P., & Hoskisson, R. E. (2003). Home country environments, corporate diversification strategies, and firm performance. The Academy of Management Journal, 46(1), 27-45.

Wang, C., Clegg, J., & Kafouros, M. (2009). Country-of-origin effects of foreign direct investment. Management International Review, 49(2), 179-198.

Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. Journal of Economic Literature, 38(3), 595-613.

Wright, M., Filatotchev, I., Hoskisson, R. E., & Peng, M. W. (2005). Strategy research in emerging economies: Challenging the conventional wisdom. Journal of Management Studies, 42(1), 1-33.

Zaheer, S. (1995). Overcoming the liability of foreignness. The Academy of Management Journal, 38(2), 341-363.

--- TABLES AND FIGURES ---

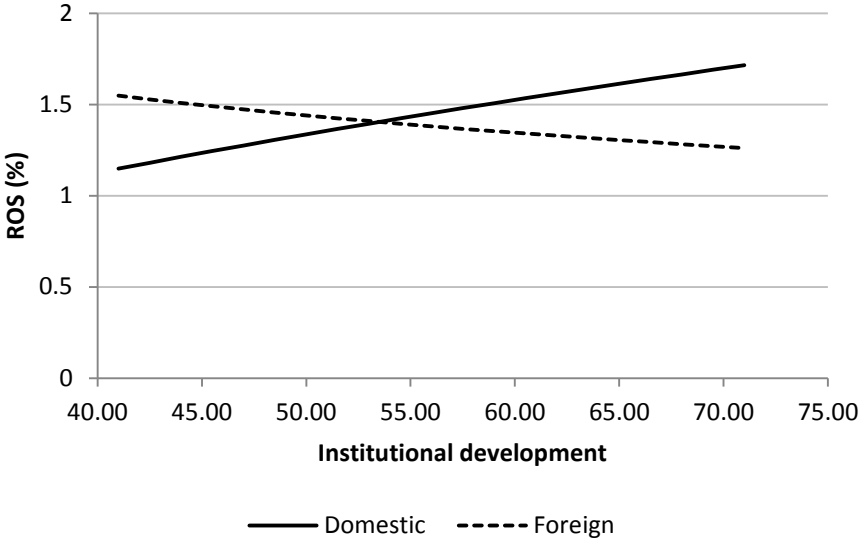

Figure 1 The impact of institutional development on the profitability of domestic and foreign firms

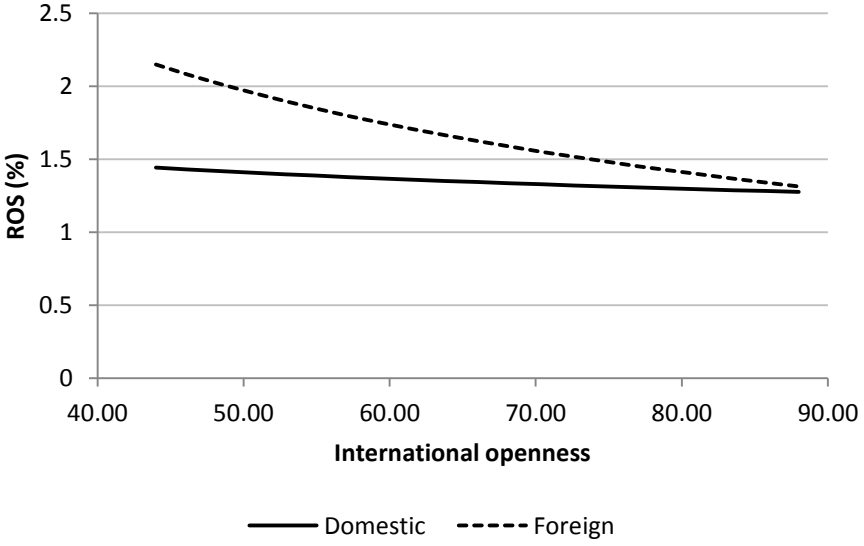

Figure 2 The impact of international openness on the profitability of domestic and foreign firms

Table 1 Distribution of firms by countries

Country	Domestically owned	Foreign owned	Total
Bosnia and Herzegovina	718	207	925
Bulgaria	888	401	1,289
Czech Republic	1,764	1,568	3,332
Estonia	249	252	501
Croatia	966	275	1,241
Hungary	1,533	416	1,949
Lithuania	391	201	592
Latvia	445	144	589
Montenegro	29	11	40
Poland	4,306	1,734	6,040
Romania	2,228	1,351	3,579
Serbia	1,221	445	1,666
Russian Federation	9,161	1,692	10,853
Slovenia	662	181	843
Slovakia	633	402	1,035
Ukraine	5,456	1,047	6,503
Total	30,650	10,327	40,977

Table 2 Descriptive statistics and correlations

	Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12
1	Return on sales (%)	3.30	14.53												
2	Capability	0.01	0.83	0.12***											
3	Potential slack	-0.22	453.68	-0.02***	0.01***										
4	Age	18.16	21.59	-0.01***	-0.10***	-0.02***									
5	Diversification	3.12	2.78	0.09***	-0.02***	0.00	-0.06***								
6	Size	0.52	0.50	0.03***	0.24***	0.07***	0.13***	0.09***							
7	GDP per capita	8,857	5,147	0.11***	0.02***	0.02***	0.08***	0.30***	0.24***						
8	Herfindahl index	0.21	0.23	-0.02***	0.03***	0.00	0.03***	-0.05***	0.06***	0.08***					
9	Market share	0.12	0.23	0.04***	0.18***	0.01***	0.06***	-0.04***	0.19***	0.12***	0.76***				
10	Industry profitability	1.32	85.57	0.37***	0.04***	-0.01***	-0.04***	0.11***	-0.02***	0.20***	-0.01***	0.02***			
11	Foreign ownership dummy	0.26	0.44	0.03***	0.19***	0.04***	-0.12***	-0.05***	0.15***	0.12***	0.12***	0.16***	0.06***		
12	Institutional development	49.41	5.92	0.06***	0.02***	0.01***	0.10***	-0.15***	0.17***	0.69***	0.20***	0.24***	0.17***	0.19***	
13	International openness	77.63	11.02	-0.08***	0.03***	0.01***	0.16***	-0.41***	0.08***	0.11***	0.18***	0.19***	-0.08***	0.15***	0.49***

Number of observations = 231,966; *** p< 0.001; ** p< 0.01; and * p< 0.05.

Table 3 Variable descriptions

Institutional development: (Source: Global Competitiveness Indices by World Economic Forum)	**Weight***
A. Public institutions	**75%**
1. Property rights	20%
1.01 Property rights	
1.02 Intellectual property protection	
2. Ethics and corruption	20%
1.03 Diversion of public funds	
1.04 Public trust in politicians	
1.05 Irregular payments and bribes	
3. Undue influence	20%
1.06 Judicial independence	
1.07 Favoritism in decisions of government officials	
4. Government efficiency	20%
1.08 Wastefulness of government spending	
1.09 Burden of government regulation	
1.10 Efficiency of legal framework in settling disputes	
1.11 Efficiency of legal framework in challenging regulations	
1.12 Transparency of government policymaking	
1.13 Provision of government services for improved business performance	
5. Security	20%
1.14 Business costs of terrorism	
1.15 Business costs of crime and violence	
1.16 Organized crime	
1.17 Reliability of police services	
B. Private institutions	**25%**
1. Corporate ethics	50%
1.18 Ethical behavior of firms	
2. Accountability	50%
1.19 Strength of auditing and reporting standards	
1.20 Efficacy of corporate boards	
1.21 Protection of minority shareholders' interests	
1.22 Strength of investor protection	
International openness: (Source: Indices of Economic Freedom by Heritage Foundation)	
Trade Freedom measures the openness of an economy to the import of goods and services from around the world and the ability of citizens to interact freely as buyers or sellers in the international marketplace. The measure considers restrictions on quantities, prices, regulatory restrictions, investment restrictions, customs restrictions and direct government interventions.	100%

* As used by the sources.

Table 4 Results

	M1		M2		M3		M4		M5		M6(FE)	
Dependent variable: ROS	**Coef.**	**SE**	**Coef.**	**SE**	**Coef.**	**SE**	**Coef.**	**SE**	**Coef.**	**SE**	**Coef.**	**SE**
Constant	-1.52 ***	(0.53)	-1.28 †	(0.76)	-3.70 ***	(0.67)	-0.62	(0.61)	-2.60 ***	(0.77)	-4.06 ***	(0.84)
Capability	0.25 ***	(0.01)	0.25 ***	(0.01)	0.25 ***	(0.01)	0.25 ***	(0.01)	0.25 ***	(0.01)		
Potential slack (inverse)	-0.03 ***	(0.01)	-0.03 ***	(0.01)	-0.03 ***	(0.01)	-0.03 ***	(0.01)	-0.03 ***	(0.01)	-0.03 ***	(0.01)
Age	0.10 ***	(0.01)	0.11 ***	(0.01)	0.11 ***	(0.01)	0.11 ***	(0.01)	0.11 ***	(0.01)	0.37 ***	(0.04)
Diversification	0.07 ***	(0.02)	0.07 ***	(0.02)	0.06 ***	(0.02)	0.07 ***	(0.02)	0.06 ***	(0.02)		
Size	0.05 ***	(0.01)	0.05 ***	(0.01)	0.05 ***	(0.01)	0.05 ***	(0.01)	0.05 ***	(0.01)	0.13 ***	(0.02)
GDP per capita	0.19 ***	(0.06)	0.14 *	(0.06)	0.14 *	(0.06)	0.17 **	(0.06)	0.13 *	(0.06)	0.07	(0.06)
Herfindahl index	-0.73 ***	(0.06)	-0.73 ***	(0.06)	-0.73 ***	(0.06)	-0.73 ***	(0.06)	-0.73 ***	(0.06)	-0.51 ***	(0.10)
Market share	1.24 ***	(0.06)	1.24 ***	(0.06)	1.24 ***	(0.06)	1.24 ***	(0.06)	1.24 ***	(0.06)	2.58 ***	(0.11)
Industry profitability	0.24 ***	(0.00)	0.24 ***	(0.00)	0.24 ***	(0.00)	0.24 ***	(0.00)	0.24 ***	(0.00)	0.21 ***	(0.00)
Home country development	0.01	(0.09)	0.01	(0.09)	0.07	(0.09)	0.05	(0.09)	0.09	(0.09)		
Foreign Ownership (F)	0.11 †	(0.06)	0.11 †	(0.06)	0.08	(0.06)	0.09	(0.06)	0.07	(0.06)		
Institutional development			0.30 **	(0.11)	0.59 ***	(0.12)			0.51 ***	(0.12)	0.69 ***	(0.13)
Institutional development *F					-0.90 ***	(0.15)			-0.71 ***	(0.15)	-1.06 ***	(0.23)
International openness			-0.21 ***	(0.05)			-0.14 **	(0.05)	-0.13 **	(0.05)	-0.10 *	(0.05)
International openness *F							-0.47 ***	(0.10)	-0.36 ***	(0.10)	-0.47 ***	(0.12)
Year controls	Incl.		Incl.		Incl.		Incl.		Incl.		Incl.	
Industry controls	Incl.		Incl.		Incl.		Incl.		Incl.			
Country controls	Incl.		Incl.		Incl.		Incl.		Incl.			
Country of origin effects	Incl.		Incl.		Incl.		Incl.		Incl.			

Models 1-5 are Random Effect (RE) models. Model 6 is a Fixed Effects (FE) model estimated using the within-estimation method. All standard errors are robust to heteroskedasticity and panel-specific autocorrelation. IHS transformation is used for all continuous variables. Components of interaction terms are mean-centered. Number of observations: 231,966 (40,977 firms). *** p< 0.001; ** p< 0.01; * p< 0.05 and † p< 0.10.