State-level Social Capital and MNCs' Competitive Political Resources

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Abstract

Previous studies have focused on the effects of dyadic intergovernmental relationships on firm behavior and performance. This study presents a network approach to intergovernmental relationships and examines two moderating effects at the state and firm levels. This study argues that firm-level competitive political resources are a function of the state-level social capital derived from the structural position in intergovernmental networks, the political institutions of home governments, and foreign experiences of multinational corporations (MNCs). State-level social capital arises from home governments' positions in intergovernmental networks and offers information and control benefits to MNCs. This study hypothesizes that structural position in intergovernmental networks positively impacts MNC behavior. Moreover, it predicts that political institutions facilitate home governments to leverage their social capital for domestic MNCs. Furthermore, it indicates that MNCs with greater foreign experience utilize political resources more effectively. This study employs data on state-level trade networks and MNC asset procurements in the global mining industry to test these predictions and find support for the model.

Keywords: competitive political resources, state-level social capital, intergovernmental networks, MNC asset procurement, political embeddedness

1. Introduction

It is now well known that the structural patterns of firm-level network ties considerably impact the strategic choices and organizational outcomes of multinational corporations (MNCs) (eg., Ahuja, Soda, & Zaheer, 2012). This structural embeddedness view has been widely accepted in previous studies; however, MNCs are also embedded within broader social and political systems (Zukin & DiMaggio, 1990). The idea of political embeddedness refers to the situation in which powerful actors, especially national governments, formulate policies that create opportunities for and constraints on profit-making behavior of firms, thereby considerably influencing firm performance (Dacin, Ventresca, & Beal, 1999; Shaffer, 1995).

Governments are not only policy providers but also economic actors that provide competitive political resources (eg., Pearce, Dibble, & Klein, 2009). MNCs are not only governed and controlled by governmental policies and regulations but also actively seek to direct governmental actions to acquire competitive political resources (eg., Lux, Crook, & Woehr, 2011). These resources are defined as "any firm attributes, assets, human resources, or any other resources that allow the firm to use the political process to improve its efficiency and profitability" (Frynas, Mellahi, & Pigman, 2006, p. 324).

Studies that have adopted this approach have examined the effects of state-level factors on firm-level behavior and performances. For example, Rangan and Sengul (2009), in their analysis of dyadic relations between home and host countries, found that the performance of MNCs from a home country improves in a host country if the two countries have more common memberships of intergovernmental organizations, such as the World Trade Organization. Alcacer and Ingram (2013) found that joint membership of the same intergovernmental organizations promotes global economic transactions and foreign direct investment (FDI).

Following these studies, this study extends the literature on firm-level competitive political resources in several distinct directions. First, while previous studies have focused on the effects of dyadic relationships between two governments using measures of reciprocal resource exchange to assess firm behavior and performance, this approach limits exploration of effects such as bargaining power, which are created by relationships between

"alters" in ego networks. The network approach, which captures structural positions in the overall patterns of connections between governments, is preferred because no dyad should be isolated from the structural influences of the overall intergovernmental networks. Second, this study presents moderating effects of competitive political resources that articulate ideas such as intergovernmental networks. Competitive political resources are a function of the state-level social capital, the political institutions of home governments, and MNCs' foreign experiences. Finally, this study focuses on state-level influences on asset procurement by MNCs. In some contexts, competitive advantages of MNCs derive from their access to rare and valuable natural resources, which may be a function of state facilitation and intervention both at home and in host countries. Predicting asset procurement, this study explicates the processes and mechanisms through which home governments' social capital is a source of competitive advantage for MNCs.

Therefore, this study theorizes competitive political resources. Moreover, it examines the manner in which home governments' social capital derived from their structural position in intergovernmental networks promotes asset procurement, such as natural resources, in host countries by MNCs and presents moderating effects of their competitive political resources. This study argues that home governments' positions in intergovernmental networks considerably influence asset procurement by the focal MNCs from others. Furthermore, the levels of intervention and involvement of home governments that offer competitive political resources differ according to their political institutions, and the effect differs depending on MNC's foreign experience. This paper employs data on the global mining industry from 1992 to 2007 to demonstrate that MNCs are politically and structurally embedded in broader social processes.

2. Theory and Hypotheses

2.1 Intergovernmental Networks and Home Government Social Capital

Social capital refers to benefits acquired by actors from relationships in which they are embedded (Adler & Kwon, 2002). State-level social capital arises from home governments' positions in intergovernmental networks, and the relations make it possible for organizations to acquire flows of information. Of the various types of intergovernmental networks, such as co-membership of intergovernmental organizations and co-voting networks in international decision-making processes, this study focuses on home country trade networks. Trade is a primary indicator of the embeddedness of home governments in the global economy (Chase-Dunn, Kawano, & Brewer, 2000). Home country trade networks make it possible for countries to balance the general prices of commodities in domestic markets, acquire foreign financial capital, and exchange resources (e.g., products, energy) (Polillo & Guillén, 2005). Because these factors have both positive and negative effects on countries, they are motivated to provide strategic policies for trade (Spar, 2008). Trade globalization encourages nations to engage in trade regionalism, trade protectionism, export control, and controls on industrial competition (Polillo & Guillén, 2005). Governments establish trade policies that are beneficial and that reflect the economic direction of the country. Trade policies can be determined in terms of a bilateral or a multilateral relation (e.g., the European Union). These multilateral relationships have been studied in the context of intergovernmental organizations (IGOs) (Ingram & Torfason, 2010), which are defined as organizations that meet regularly, are formed by a treaty, and have three or more member states (Pevehouse, Nordstrom, & Warnke, 2004). Intergovernmental relations facilitate information and legitimacy flows, and provide opportunities for coordination among states to achieve a common goal (Hafner-Burton & Montgomery, 2006).

The analysis of home country trade networks is critical for the following reasons. First, countries in more advantageous positions in trade networks enjoy political stability and inhibition of domestic conflict, because the high degree of dependence of their entire economic systems upon current stable international relations increases the opportunity costs of political conflict and rebellions (Kinne, 2012).

Second, home country trade networks influence firm-level economic activities. Trade relations encourage foreign direct investment (FDI) between countries (Grosse & Trevino, 1996), which in turn causes positive spillover and negative crowding-out effects in host countries (Blomström & Kokko, 1998). By encouraging inward FDI, host countries can acquire benefits such as job creation and transfers of technology.

Third, research demonstrates that trade network structures account for significant proportions of the resources and information that flow among states (Sacks, Ventresca, & Uzzi, 2001). Home country trade networks promote the exchange of information concerning trade policy as well as economic, social, and political activities (Koka, Prescott, & Madhavan, 1999). Flows of one form of resources reinforce those of other forms, creating multiplex linkages between countries. Because such flows define inputs into countries' cultural systems, home country trade networks also shape their self-identity (Waters, 1995). Indeed, there are some correlations between positions in trade networks and adoption of business practices that diffuse across national borders (Weber, Davis,

& Lounsbury, 2009).

In summary, when conceptualizing home governments' social capital, it is useful to focus on home country trade networks, because they have considerable influence on the strategic actions of MNCs. Trade networks are represented by a matrix that indicates the presence and volume of imports and exports between two countries.

2.2 Political Embeddedness and Asset Procurements by MNCs

An underlying premise of political resources is political embeddedness. The idea of embeddedness can be traced back to Polanyi's arguments that "the human economy, then, is embedded in institutions, economic and noneconomic" (Polanyi, 1957, p. 250). The structural embeddedness perspective is an offspring of Polanyi's idea in the sense that the structures of networks and social connections exert normative and behavioral influences on economic actors (e.g., Granovetter, 1985). The political embeddedness perspective is another offspring because it highlights the considerable influence of powerful actors such as governments on firm behavior and economic outcomes (Dacin *et al.*, 1999; Zukin & DiMaggio, 1990). More specifically, this perspective views governments (1) as policy makers that complement the weaknesses of market systems, (2) as creators of rules and norms, and (3) as providers that allocate competitive political resources to firms such as MNCs in their countries (Baum & Oliver, 1991; Xin & Pearce, 1996).

MNCs' asset procurements are a form of FDIs. To conceptualize asset procurements by MNCs, this study presumes four actors in international businesses: (1) MNCs (i.e., the focal firms that procure assets), (2) home governments (i.e., governments of countries where the focal MNCs are based), (3) host governments (i.e., governments of host countries), and (4) host sellers (i.e., MNCs under host governments that divest themselves of assets). This paper argues that the level of competitive political resources that MNCs can procure is a function of (1) the social capital of MNCs' home governments, (2) the political institutions of MNCs' home governments, and (3) MNC's foreign experience. This study argues that that in a context such as the mining industry, in which access to physical natural resources is a major source of competitive advantage, the amount of competitive political resources is observable in the frequency of asset procurements from host governments or host sellers.

2.3 Governments' Interests and Interventions

Home governments support MNCs in their countries to promote outward FDIs by providing not only valuable knowledge, information, and intermediary services but also various forms of resources such as connections with government officials in host countries (Wang, Hong, Kafouros, & Wright, 2012). Types of institutional support that home governments can offer for outward FDI by MNCs include, but are not limited to, tax incentives, information provision via government agencies such as chambers of commerce, and making double taxation avoidance agreements with host governments (Luo, Xue, & Han, 2010).

Home governments provide such support for outward FDIs under two conditions. The first condition is that a country's economy is developed. Governments of developed economies tend to support outward FDI by MNCs, whereas those of emerging economies can either promote or impede inward FDI (Dunning, 1981). The second condition is that outward FDI entails transactions in industries on which national economic prosperity and security are highly dependent (e.g., raw materials and energy) and those in which host government expenditure plays a significant role (e.g., medical services). In particular, the support and interventions are more likely when MNCs from home governments' countries compete with those from other countries in pursuing business opportunities in or procuring assets from host governments' countries. Because losing the procurement "games" may harm related domestic industries (e.g., by causing shortages of critical resources), winning is a national-level concern. In that sense, home governments that cooperate with MNCs have a strong interest in enhancing national income and levels of social wellbeing by increasing their economic value (Forsgren, 2002).

2.4 Home Government Social Capital and Asset Procurement by MNC

Given that both home and host governments are interested in promoting or intervening in the FDI of MNCs, their level of social capital derived from intergovernmental networks may be significant in explaining the competitive political resources of MNCs. Home governments may have access to private information about host governments' or host sellers' assets, and have strong bargaining power to negotiate packages that are both profitable for MNCs and attractive to host governments. Such social capital may be an outcome of, and thus reflected in, their structural properties in intergovernmental networks.

State-level relationships, such as trade networks, shape flows of both transaction information, which is directly relevant to asset procurement by MNCs, and transaction-related information or contextual information about host countries' social support for MNCs, labor conflict, concern for the natural environment, and the development of social infrastructure and transportation systems. Particular positions in the networks offer home

governments informational and control benefits, which MNCs in those countries can reap.

Of the several structural network properties of higher-level actors, this study focuses on network efficiency, which is a social capital measure of structural holes and nonredundancy of contacts in networks (Burt, 1992: 20). Network efficiency of an ego is higher when its alters have fewer linkages among them, so information circulating in its egocentric networks tends to be nonredundant (i.e., information benefit). In addition, the lack of linkages between the alters enables the ego to play off them, increasing the ego's greater bargaining power (i.e., control benefit).

Home country trade network efficiency provides heterogeneous transaction-related information and increases the bargaining power of actors with higher network efficiency. Heterogeneous transaction-related information circulating in home country trade networks enables MNCs to predict supply–demand balances. Such predictions are typically complicated and require combinatory knowledge from various sources, and high network efficiency allows such information to be gathered. Such predictions are also important in understanding economic, social, and political stability in host countries, and in reducing the uncertainty of the transactions for MNCs. Heterogeneous transaction information enables MNCs to access information on a wide range of others' transactions, such as prices paid by rival MNCs for procuring assets, which is useful for predicting markets as well as pricing assets in competitive bids.

In addition, home country trade network efficiency provides MNCs with bargaining power, which allows them to negotiate packages that are economically reasonable. If MNCs simultaneously consider multiple potential destinations in countries that seek inward FDI and do not have trade relations with each other, home governments with high network efficiency may allow the potential host countries to compete and create environments that support and favor MNCs (e.g., in terms of labor issues and social infrastructure). High network efficiency allows MNCs to play off the potential host countries, develop deals that are unilaterally favorable, and thereby facilitate asset procurement.

Because home governments and MNCs are interdependent, home governments occupying valuable trade network positions provide them with similarly valuable resources. Therefore, MNCs with home governments with higher trade network efficiency are more likely to procure assets.

Hypothesis 1: Home country trade network efficiency positively influences the likelihood that MNCs will procure assets.

2.5 Home Government Political Institutions and MNCs' Experience

Bucheli and Aguilera (2010) suggest two forms of political institutions or characteristics of governmental systems: democratic and autocratic. Democracy refers to a political regime that allows free and fair elections, the right of citizens to vote and compete for public office (Dahl, 1998). In contrast, autocracy refers to a regime that does not allow competitive elections, has a single leader or small ruling clique, and places legal limitations on pluralism (Li, 2009; Linz, 2000).

Autocratic governments do not allow competitive elections, so their lack of substitutability increases MNCs' dependence upon them. In contrast, MNCs under democratic governments can choose to utilize competitive political resources that their governments offer. Although both autocratic and democratic governments are motivated to provide competitive political resources for MNCs because procuring mining assets has a critical influence on national economies, the possibility of choice by MNCs under democratic governments may weaken the association proposed in hypothesis 1. Hence, this study predicts:

Hypothesis 2: The positive relationship between home country trade network efficiency and procurement of assets is stronger for MNCs in autocratic states than in democratic states.

MNCs develop, modify, and update routines for quickly and effectively adapting to host countries' local environments through the accumulation of foreign experiences (e.g., Johanson & Vahlne, 2009). For instance, the literature on firms' location choices in foreign markets has argued that a firm's experience in a host country influences that firm's subsequent entry behaviors (e.g., Henisz & Delios, 2001). Previous experience in a host country makes it possible to establish a firm's routine when adapting to the host country's environment. This paper argues that firms' foreign experiences make it possible for them to acquire information benefits from states more effectively. The longer a firm's experience in a host country, the greater that firm's absorptive capacity to utilize the benefits stemming from the home country's trade network (Cohen & Levinthal, 1990). From the state's viewpoint, governments are more likely to exchange information with substantially experienced firms to help them acquire valuable outcomes for firms and the state. Therefore, the effect of home country trade network efficiency on firms differs depending on a firm's previous foreign experiences.

Hypothesis 3: The positive relationship between home country trade network efficiency and procurement of assets is stronger for MNCs longer foreign experience.

3. Methods

3.1 Research Setting

To test the hypotheses proposed above, this study focuses on the global mining industry. Buyers and sellers of mines in this industry (i.e., MNCs, host sellers, and host governments) are highly globalized because they typically have interests in mines all over the world. For example, in 2012, interests in the Phoenix nickel mine in Botswana were shared among Anglo-American (43%), LionOre International Mining (42%), and the state of Botswana (15%).

MNCs purchasing rights for mines face a multitude of risks. In addition to the typical burdens of FDI, there are risks inherent to this industry. The first risk arises from the political instability of host governments. Host governments attempt to retain their metal resources from underground mines by establishing strict policies and regulations for MNCs, causing a movement toward resource nationalism and instability (Click & Weiner, 2010). Second, both frequent labor problems and natural environmental problems increase the risks in this industry. Third, market instability in the prices of primary metals on the London Metal Exchange poses further risks to firms. Prices reflect the balance between supply and demand for metals in international markets. Price volatility has quite a strong influence on break-event points and MNCs' investment decisions. In the 1990s, prices were low and stable. The rise in metal prices around the year 2003 and the decline around 2007 were mainly due to increased or decreased demand from developing countries such as China. Market demand fluctuates with the global macro economy. Strong demand increases resource holders' potential profits and motivates host governments to intervene in mining transactions. MNCs cope with these contingencies by collecting information about host countries' economic, social, and political conditions as well as the long-term balance of supply and demand for mining products.

There are three major types of metals in this industry: (1) base (e.g., copper), (2) noble (e.g., gold), and (3) rare (e.g., platinum) metals. Historically, the supplies of base and noble metals have been stable, but the demand has been soaring. On the other hand, regardless of recent increases in demand, the supplies of rare metals have been limited because of the difficulty of exploiting mines. Mines for rare metals are located only in a limited number of regions. Unlike the base and noble metals used for commodities, rare metals are used for military and high-tech products.

Ownership of mines frequently changes among MNCs, host sellers, and host governments via competitive bidding, but in some cases buyers and sellers negotiate private deals. For example, in 2006, *Gold Field* purchased a 50 percent interest in the *South Deep Mine* in South Africa from *Barrick Gold* via competitive bidding, beating *Harmony Gold Mining*. Even in the case of competitive bidding, price is only one element of negotiation packages, which also include access to MNCs' mining technology, labor practices, and environmental policies.

3.2 Data and Sample

This paper compiled the data for this study from the database published by the Raw Materials Group, which collects data on the mining industry through an annual survey of mining companies worldwide. My sample covers 938 mines, accounting for approximately 53 percent of the world's metal production. The annual number of procurements of assets from 1985 to 2012, clearly illustrating the high frequency of asset procurement in the early 1990s and the sharp declines around 2007. Therefore, to reveal the longitudinal dynamism of this industry, this study sets the observation period of the study as 1992 to 2007.

My sample consists of 1013 buyers of mines (i.e., MNCs and government-sponsored organizations), and it included data from 1992 to 2007. This study excluded buyers that were purely financial institutions, governmental organizations and those without state-level data. As a result, the final sample provided 6366 data points with "MNC-year" as the unit of analysis. The average number of actors during the observation period is 398.

3.3 Measures

3.3.1 Dependent Variables

This study takes the view that MNCs procure assets when they acquire interests in mines owned by host sellers or host governments. Each mine extracts a particular metal. The Raw Materials Group data include 20 metals, which are classified into three groups: base metals (copper, zinc, tin, and lead), noble metals (gold and silver),

and rare metals (antimony, chromite, cobalt, industrial diamond, manganese, molybdenum, nickel, niobium, palladium, platinum, rhodium, tungsten, uranium, and vanadium). This study used data on all mines throughout the world that produce commonly purchased minerals. This study presents results for base and noble metals and those for rare metals separately because of their distinct characteristics. To construct the dependent variable, this study counted the number of acquisitions of base, noble, and rare metal mine interests by MNCs in each year.

3.3.2 Independent Variables

This study used UCINET and compute the network efficiency of home governments in trade networks (Borgatti, Everett, & Freeman, 2002). This study operationalized home country *trade network efficiency* in the world trade system from annual import–export matrixes. To record bilateral trade as a tie between two countries, this study counted export as well as import flows between them. In cases without exports or imports, this study coded a cell in the matrix as 0. When both export and import flows occur between countries, this study coded the cell in the matrix as 1. Because this threshold is arbitrary, this study used alternative thresholds for robustness checks. Network efficiency is defined by the following equation (Baker, 2000):

$$Efficiency_i = \frac{(n_i - \sum_{j=1}^{k} \frac{r_{ij}}{n_i})}{n_i}, i \neq j,$$
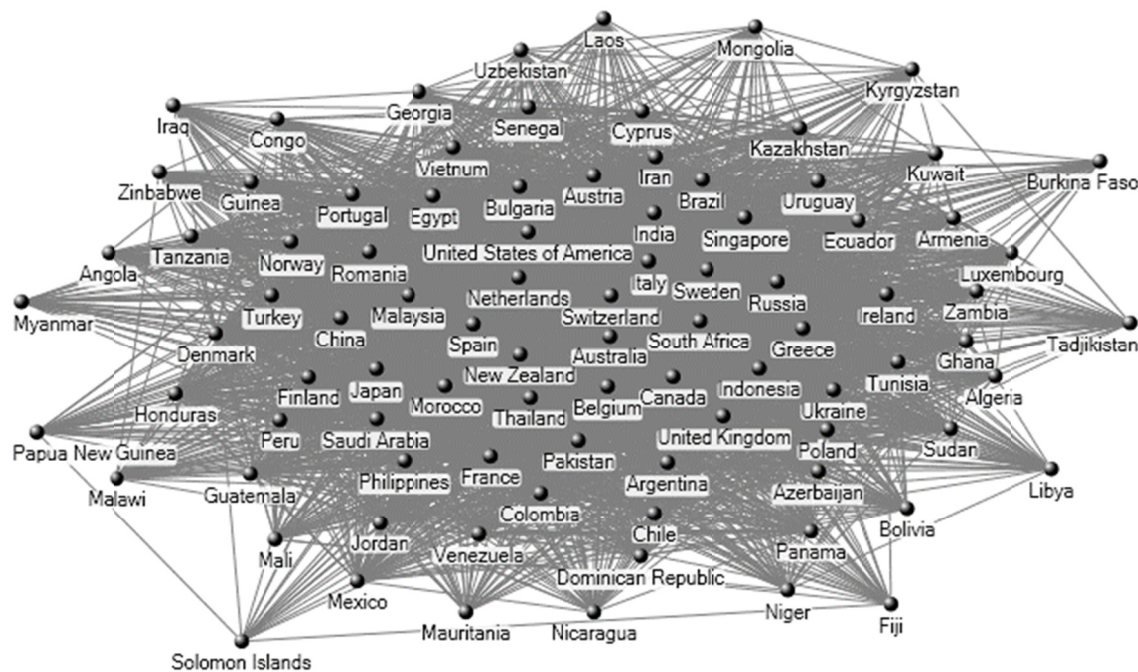

Figure 1. Home country trade network in 2007

Where i is an ego, j is an alter, n_i is the number of ties that i has, and r_{ij} is the number of redundant contacts between i and j. Figure 1 uses 2007 data and illustrates the trade networks of all home and host countries. Figure 2 shows the trade network efficiency scores of the top 10 countries in terms of the number of MNCs from 1992 to 2007. The efficiency scores of the U.S. and India are the highest (0.27) for 2007. This study used the time t–1 data for all of the independent and control variables.
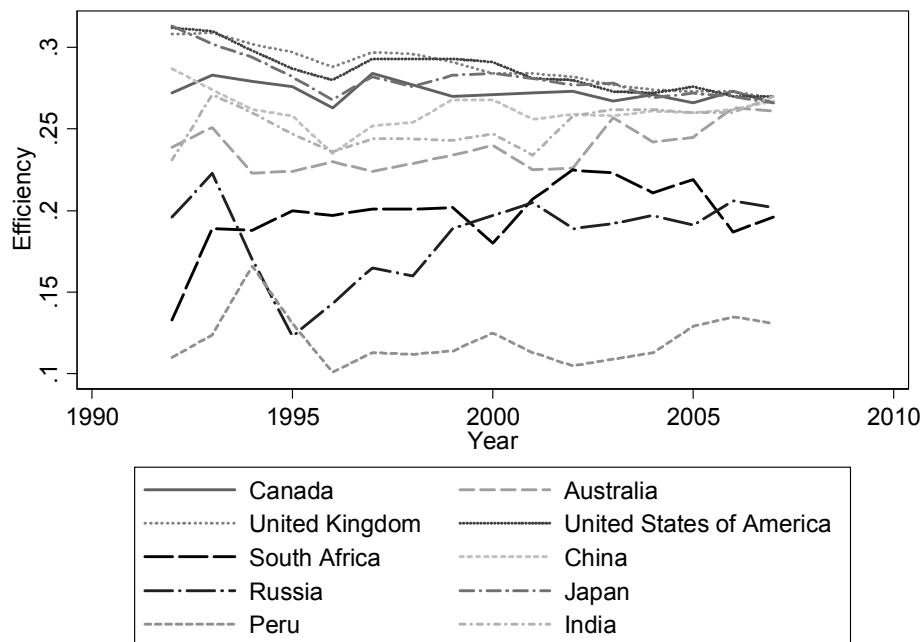
Figure 2. Network efficiency of the top 10 countries in terms of number of MNCs

3.3.3 Moderators

This study tested effects of two moderators. First, this study included a variable that characterizes the *political institutions* of home governments, which this study obtained from the Polity IV Project. This variable ranges from −10 (i.e., autocratic governments) to 10 (i.e., democratic governments). To test the hypothesis about foreign experience, this study created *MNCs' experience* by measuring the duration of MNCs' foreign operations.

3.3.4 Control Variables

This study included three groups of control variables: firm, industry, and state-level characteristics. First, as a measure of MNCs' assets, this study included the *number of mines* in each year. This study counted the *number of markets* in which MNCs operate to control for their degree of diversification. This study included *MNCs' production* volumes measured in metric tons. This is an appropriate size measure for this industry, where mines are the primary assets of firms. To control for competition within the industry, this study constructed *rivals*, which indicates the average number of rivals in each of the markets where the MNCs operate. For example, assuming that an MNC operates in two markets in which there are 50 and 100 rivals, the value of this variable is 75. In addition, to control for MNCs' past behavior, this study took the *number of acquisitions in the previous seven years*. This study limited the range of observations to the previous seven years because of the limited accessibility of old data. Furthermore, this study included *age of mines* that MNCs possess. Moreover, to control for the characteristics of domestic markets, this study included the *number of domestic firms*, and *relative size* of the domestic market, which is the production–volume ranking of MNCs in home countries. This study coded the smallest MNC in home countries as 1. These two variables illustrate the relationships between MNCs and their home governments because larger MNCs pay more attention to government policies (Chong & Gradstein, 2010). Finally, to control for existing assets and strategy, this study included the *percentage of base metal mines, percentage of noble metal mines,* and *percentage of rare metal mines* as proxies for MNCs' mine portfolios.

As the industry-level control variable, this study included *metal price level* on the London Metal Exchange, which this paper adjusts as price change relative to 1991 prices.

This study included each country's *GDP* obtained from the World Bank as a state-level control variable. This study also included *material strength.* This paper used data from the Composite Indicator of National Capability (CINC). This index was developed by the Correlates of War project (Singer, 1987), using data on military expenditure, military personnel, energy consumption, iron and steel production, urban population, and total

population. A country with a higher score should have a government with greater material strength. Finally, joint membership of IGOs encourages resource flows among those members; thus, this study included this variable to record membership of the WTO, EU, NAFTA, and ASEAN (Pevehouse *et al.*, 2004). This study coded this variable as 1 if a country is a member of these IGOs, and 0 otherwise.

3.4 Analysis

This study measured the number of asset procurements by the acquisition of mining interests. Although a Poisson regression can be used for such estimations, the model assumes that the conditional variance of the dependent variable is the same as its mean. Therefore, this study used a negative binomial model to test hypotheses. The fixed-effect models omit observations that have variables with no time variance and thus cause selection biases, so this study used a random-effects model (Shipilov, Greve, & Rowley, 2010). The random-effects model assumes that time-invariant effects are not correlated with independent variables; thus, this study avoided the problem of contemporaneous correlation in the estimation by including year dummy variables (Polidoro, Ahuja, & Mitchell, 2011). This study used STATA14 and estimate the random-effects negative binomial model using the "xtnbreg" command with the "re" option.

4. Results

Table 1 summarizes the statistics and correlations of the variables. Although some correlation coefficients between the dependent and control variables are relatively high, the mean of the variance inflation indicator (VIF) is 2.88. Hence, this study took no remedial action for multicollinearity.

Table 1. Descriptive statistics and correlations

		Mean	S.D.	1	2	3	4	5	6
1	Trade network efficiency (mean-centered)	0	1	1					
2	Number of mines	2.12	3.35	0.03	1				
3	MNC experience	6.53	5.56	−0.05	0.35	1			
4	Number of markets	1.61	1.90	−0.03	0.61	0.45	1		
5	MNC production (log)	1.47	2.38	−0.07	0.53	0.46	0.74	1	
6	Rivals	8.70	9.19	−0.03	0.47	0.45	0.87	0.66	1
7	Number of acquisitions in the previous seven years	0.80	2.58	0.13	0.79	0.17	0.46	0.34	0.32
8	Age of mines	13.54	26.08	−0.02	0.87	0.56	0.58	0.52	0.45
9	Relative size	11.50	16.58	0.24	0.34	0.29	0.48	0.54	0.54
10	Number of domestic firms	50.80	42.20	0.46	−0.04	−0.07	−0.12	−0.14	−0.03
11	Percentage of base metal mines	0.35	0.45	−0.11	0.08	0.21	0.42	0.43	0.38
12	Percentage of rare metal mines	0.18	0.36	−0.03	0.13	0.14	0.15	0.08	−0.10
13	Percentage of noble metal mines	0.63	0.46	0.00	0.11	0.19	0.25	0.09	0.48
14	Price level	1.31	0.41	0.03	0.02	0.22	0.00	0.01	0.02
15	GDP (log)	13.03	1.77	0.68	0.08	0.09	0.04	−0.02	0.08
16	Material strength	0.03	0.05	0.34	0.02	0.07	0.02	0.04	0.01
17	Political institutions	7.97	4.53	0.45	0.03	0.03	−0.02	−0.07	0.01
18	WTO	0.89	0.31	0.42	0.06	0.11	0.05	0.03	0.05
19	EU	0.09	0.28	0.17	0.06	−0.02	0.02	0.00	0.00
20	NAFTA	0.35	0.48	0.43	0.02	0.04	−0.04	−0.05	0.05
21	ASEAN	0.02	0.15	−0.11	−0.04	0.06	−0.03	−0.02	0.02

	7	9	8	10	11	12	13	14	15	16	17	18	19	20	21
7	1														
8	0.57	1													
9	0.25	0.31	1												
10	0.03	−0.06	0.44	1											
11	0.02	0.10	0.17	−0.13	1										
12	0.05	0.15	0.06	−0.10	−0.05	1									
13	0.08	0.06	0.20	0.16	0.03	−0.40	1								
14	0.05	0.09	0.10	0.12	0.00	0.04	0.01	1							
15	0.13	0.07	0.20	0.33	−0.06	0.01	0.12	0.10	1						

16	−0.03	0.02	−0.01	−0.21	−0.02	0.09	−0.07	−0.02	0.30	1					
17	0.12	0.02	0.17	0.41	−0.06	−0.05	0.12	0.02	0.64	−0.25	1				
18	0.10	0.07	0.11	0.28	0.01	−0.04	0.09	0.05	0.35	−0.13	0.62	1			
19	0.17	0.03	−0.09	−0.24	0.03	−0.02	−0.05	0.07	0.11	−0.11	0.14	0.11	1		
20	0.04	0.03	0.33	0.66	−0.09	−0.11	0.17	0.03	0.47	0.17	0.31	0.26	−0.22	1	
21	−0.04	−0.02	−0.09	−0.17	0.00	0.05	−0.05	0.01	−0.13	−0.09	−0.08	0.05	−0.05	−0.11	1

Table 2 provides the maximum likelihood estimates of the random effects negative binomial models, estimating the acquisition of mining interests from 1992 to 2007. This study included only control variables in Model 1. Model 2 tests the main effects proposed in the hypothesis section. Model 3 estimates the moderating effects.

Table 2. Random effects negative binominal regression model (all trade relationships)

	Model 1 All	Model 2 All	Model 3 All	Model 4 Base & Noble	Model 5 Rare
Number of mines	0.0543*	0.0454*	0.0461*	0.0533*	0.0285
	(0.0218)	(0.0221)	(0.0220)	(0.0251)	(0.0394)
MNC experience	-0.0171	-0.0140	-0.0254†	-0.0260†	-0.00997
	(0.0124)	(0.0124)	(0.0143)	(0.0158)	(0.0268)
Number of markets	0.147*	0.147*	0.148*	0.172*	0.252*
	(0.0581)	(0.0619)	(0.0622)	(0.0740)	(0.106)
MNC production (log)	0.158***	0.161***	0.166***	0.215***	0.0136
	(0.0405)	(0.0401)	(0.0404)	(0.0460)	(0.0748)
Rivals	-0.00648	-0.00760	-0.00741	-0.0162	0.0187
	(0.0146)	(0.0148)	(0.0149)	(0.0172)	(0.0285)
Number of acquisitions in the previous seven years	-0.00887	-0.00818	-0.00991	-0.0262	0.0347
	(0.0190)	(0.0189)	(0.0188)	(0.0217)	(0.0353)
Age of mines	-0.00509*	-0.00424†	-0.00413†	-0.00353	-0.00558
	(0.00222)	(0.00222)	(0.00222)	(0.00258)	(0.00395)
Relative size	-0.00236	-0.00203	-0.00326	-0.00664	0.00614
	(0.00420)	(0.00418)	(0.00425)	(0.00475)	(0.00889)
Number of domestic firms	-0.00495*	-0.00881***	-0.00881***	-0.00484†	-0.0210***
	(0.00247)	(0.00252)	(0.00253)	(0.00279)	(0.00528)
Percentage of base metal	-1.142***	-1.136***	-1.130***	-1.223***	-0.894**
	(0.155)	(0.155)	(0.155)	(0.171)	(0.314)
Percentage of rare metal	-1.481***	-1.529***	-1.531***	-2.215***	-0.404
	(0.200)	(0.201)	(0.202)	(0.277)	(0.306)
Percentage of noble metal	-1.656***	-1.610***	-1.610***	-1.533***	-2.248***
	(0.136)	(0.136)	(0.136)	(0.144)	(0.352)
Metal price level	-0.247	0.00910	-0.00976	-0.0123	-0.353
	(0.171)	(0.181)	(0.185)	(0.210)	(0.341)
GDP (log)	0.422***	0.171†	0.180†	0.000484	1.073***
	(0.0880)	(0.0938)	(0.105)	(0.113)	(0.227)
Material strength	-11.92***	-10.99***	-11.43***	-6.007*	-39.31***
	(2.609)	(2.391)	(2.592)	(2.762)	(6.543)
Political institutions	0.0910*	0.0634	0.0561	0.129*	-0.193*
	(0.0430)	(0.0407)	(0.0467)	(0.0565)	(0.0912)
WTO	0.657	0.416	0.470	1.213*	-0.807
	(0.422)	(0.412)	(0.411)	(0.587)	(0.696)
EU	0.289	-0.000299	0.0120	0.277	-0.723*
	(0.186)	(0.192)	(0.192)	(0.213)	(0.336)
NAFTA	0.571***	0.583***	0.614***	0.592**	0.599
	(0.172)	(0.175)	(0.179)	(0.191)	(0.400)
ASEAN	-0.459	-0.765	-0.762	-0.591	-1.414
	(0.654)	(0.654)	(0.662)	(0.786)	(1.219)
Year dummy	Yes	Yes	Yes	Yes	Yes

H1: Trade network efficiency		0.767***	0.798***	0.686***	1.083***
		(0.147)	(0.150)	(0.170)	(0.286)
H2: Trade network efficiency			-0.00895	0.0420	-0.330**
X Political institution			(0.0365)	(0.0393)	(0.124)
H3: Trade network efficiency			0.0251†	0.0322*	-0.00655
X MNC experience			(0.0151)	(0.0164)	(0.0287)
Constant	-5.745***	-2.498*	-2.491*	-1.928	-10.58***
	(1.087)	(1.140)	(1.170)	(1.360)	(2.398)
Log likelihood	-2363.0563	-2348.9789	-2347.4815	-2004.0589	-669.60382
N	6366	6366	6366	6366	6366

Note. t statistics in parentheses † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

This study incorporated hypothesis testing variables in Model 2 and found that the home country's trade network efficiency is positively associated with the number of mining interests acquired by MNCs ($p < .001$). The results support Hypothesis 1. Model 3 tests hypotheses 2 and 3. In Hypothesis 2, this study predicted that the effects of the home country's trade network efficiency on the likelihood of obtaining mining interests are stronger for MNCs in home countries with autocratic governments. The coefficient of the interaction term between network efficiency and political institutions is not significant. Hypothesis 3 posits that the relation between the home country's trade network efficiency and number of mining interests acquired differs depending on MNCs' foreign experiences. Model 3 supports Hypothesis 3, indicating that the coefficient for the interaction term is positive and significant ($p < .10$).

Although the dependent variables in Models 1–3 count the number of procurements of any type of mine, this study recalculated the dependent variables and predicted procurements of base and noble mines in Model 4 and those of rare mines in Model 5. This finer-grained operationalization is preferable because of the significant market differences between the two metal markets. Model 4 presents results consistent with Hypothesis 3 ($p < .05$), and this paper found support for Hypothesis 2 ($p < .01$) in Model 5.

As a robustness check, this study conducted additional analyses and used alternative trade network efficiency scores to test the hypotheses. Instead of the presence of any import or export between two countries, this study used "trade strength" between the two countries to create trade network matrices. Suppose countries X and Y have trade relations. This study first computed X's trade strength with Y's by taking the summation of the ratios of X's imports from Y to X's overall imports and those of X's exports to Y to X's overall exports. This study computed Y's trade strength in a similar way to obtain the "trade strength" between X and Y by taking the average of the two measures.

Table 3 reports the results using this alternative measure of trade network efficiency. This study found results essentially similar to those reported above. Furthermore, this study changed the thresholds to the top 75 percent of countries in terms of trade strength and found similar results. Hence, my results are robust even when this study adopts alternative measures of network efficiency that incorporate information about the relative volumes of trade.

Table 3. Random effects negative binominal regression model (the top 50 percent in terms of trade strength)

	Model 6 All	Model 7 All	Model 8 Base & Noble	Model 9 Rare
H1: Trade network efficiency	0.606***	0.626***	0.486***	1.025***
	(0.132)	(0.130)	(0.145)	(0.293)
H2: Trade network efficiency		-0.0127	0.0321	-0.355*
X Political institution		(0.0368)	(0.0408)	(0.151)
H3: Trade network efficiency		0.0209†	0.0259*	-0.000670
X MNC experience		(0.0120)	(0.0128)	(0.0267)
Control variables	Included	Included	Included	Included
Constant	-3.084**	-3.192**	-2.828*	-11.71***
	(1.139)	(1.161)	(1.311)	(2.651)
Log likelihood	-2351.4613	-2349.8549	-2006.1379	-671.56369
N	6366	6366	6366	6366

Note. t statistics in parentheses † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

5. Discussion and Conclusion

This study has theorized competitive political resources that explain asset procurement by MNCs. This study examined ways in which structural positions of home countries in intergovernmental networks (i.e., their social capital) enable MNCs to procure assets in host countries. Further, this study proposed moderating effects that strengthen or weaken this network effect. This study analyzed data on the global mining industry from 1992 to 2007 together with data on trade networks and found substantial support for my predictions.

First, this study showed a positive effect of home government network efficiency on asset procurement by MNCs. Second, it also showed state- and MNC-level factors that moderate the relation between home government network efficiency and asset procurement by MNCs. The causal relation between intergovernmental network efficiency and asset procurement is stronger for MNCs in autocratic governments for rare metal asset procurements. The scarcity of rare metals increases the role of political embeddedness of MNCs in procuring such mines. Furthermore, this study showed that the positive effect of intergovernmental network efficiency on asset procurements is stronger for MNCs with greater foreign experience.

This study advances our understanding of competitive political resources in several ways. First, this study extended the scope of analysis beyond dyadic relations between governments (Rangan & Sengul, 2009) and focused on the structure of intergovernmental networks to explicate state-level social capital. In addition, this study partially adopted a multi-level approach in the sense that it predicts the effects of intergovernmental networks on corporate behavior. My efforts should be complemented by future research that uses complete data on state-level and firm-level networks in which MNCs are embedded. Second, this study showed two moderating effects: political institution and MNC's foreign experience. These findings suggest that firm-level competitive political resources are a function of state-level social capital derived from the structural position in intergovernmental networks, the political institutions of home governments, and MNC's foreign experiences. Third, this study explained the processes and mechanisms of MNCs' competitive advantages derived from competitive political resources by focusing on their asset procurement behavior. The resource-based view of the firm presumes that firms, as bundles of resources, gain competitive advantage when they have resources that are valuable, rare, inimitable, and congruent with organizational systems (Barney, 1991). A firm's competitive advantage is sometimes measured relative to market performance (e.g., return on assets relative to industry average), whereas the asset procurements used in this study should be a more direct measure of firms' access to resources. In particular, in my empirical contexts, where firms compete to possess mines, my findings about state-level social capital speak directly for their competitive advantage.

In an analysis that this study did not report here for space, this study found that home governments' degree of closeness centrality, which represents structural power in intergovernmental networks or the amount of visibility and attention that the countries garner, significantly impacts MNCs' asset procurement. This finding is reasonable because asset procurements in this context are partial outcomes of negotiations, power games, and political struggles between home and host countries. Network centrality may certainly increase bargaining power, but findings based on network efficiency, which relies on the notion of structural holes, are preferable because they represent both information and control benefits.

My findings have some managerial implications. The findings legitimate MNCs' activities to influence governmental policies through lobbying and monetary donations (eg., Hillman, Keim, & Schuler, 2004). Given the significance of home governments' network efficiency, such activities influence the distributions of competitive political resources among MNCs operating in home countries. In addition, asset procurements are not unilateral decisions made by buyer MNCs but bilateral agreements between seller and buyer MNCs. Hence, managers need to understand how sellers' governments are embedded in intergovernmental networks because their efficiency may influence access to information and bargaining power.

This study suggests three directions for future research. First, it focused only on home country trade networks as representing intergovernmental networks. Future research should consider alternative forms of intergovernmental networks, such as joint membership of IGOs (Rangan & Sengul, 2009). Second, this study exclusively focused on network structures but did not consider dyadic governmental relationships. Future research should consider both influences simultaneously. Finally, future research should examine other outcomes of network efficiency in intergovernmental networks and explore how MNCs can benefit from state-level social capital.

This study has several limitations. First, this study did not consider how each asset procurement influences MNCs' subsequent procurements. Second, this study has limited access to the financial performance data of MNCs, so the consequences of asset procurement in terms of performance are still unknown. Third, this study

lacks data about the domestic political ties between MNCs and their home governments, which is another approach of political resources (e.g., Faccio, 2006). Because previous research has already indicated this effect, the lack of a test does not undermine the contribution of this study; however, empirical tests would be more comprehensive with the additional data. Finally, the generalizability of our findings is one of the limitations because this study specifically focused on the global mining industry.

Regardless of these limitations, this study theorized how MNC behavior is politically and structurally embedded in broader social systems. Furthermore, it provided valuable contributions to the literature on political embeddedness, state-level social capital, and intergovernmental networks. This work not only adds new insights to the current literature but also offers new opportunities for future research.

References

Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, *27*(1), 17-40. https://doi.org/10.5465/AMR.2002.5922314

Ahuja, G., Soda, G., & Zaheer, A. (2012). The genesis and dynamics of organizational networks. *Organization Science*, *23*(2), 434-448. https://doi.org/10.1287/orsc.1110.0695

Alcacer, J., & Ingram, P. (2013). Spanning the Institutional Abyss: The intergovernmental network and the governance of foreign direct investment. *American Journal of Sociology*, *118*(4), 1055-1098. https://doi.org/10.1086/668692

Baker, W. E. (2000). *Achieving success through social capital: Tapping the hidden resources in your personal and business networks*. San Francisco, CA: Jossey-Bass.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99-120. https://doi.org/10.1177/014920639101700108

Baum, J. A. C., & Oliver, C. (1991). Institutional linkages and organizational mortality. *Administrative Science Quarterly*, *36*(2), 187-218. https://doi.org/10.2307/2393353

Blomström, M., & Kokko, A. (1998). Multinational corporations and spillovers. *Journal of Economic Surveys*, *12*(3), 247-277. https://doi.org/10.1111/1467-6419.00056

Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *Ucinet 6 for Windows: Software for social network analysis*. Harvard, MA: Analytic Technologies.

Bucheli, M., & Aguilera, R. V. (2010). Political survival, energy policies, and multinational corporations. *Management International Review*, *50*(3), 347-378. https://doi.org/10.1007/s11575-010-0036-1

Burt, R. S. (1992). *Structural holes: The social structure of competition*. Cambridge, MA: Harvard University Press.

Chase-Dunn, C., Kawano, Y., & Brewer, B. D. (2000). Trade globalization since 1795: Waves of integration in the world-system. *American Sociological Review, 65*(1), 77-95. https://doi.org/10.2307/2657290

Chong, A., & Gradstein, M. (2010). Firm-level determinants of political influence. *Economics & Politics*, *22*(3), 233-256. https://doi.org/10.1111/j.1468-0343.2009.00355.x

Click, R.W., & Weiner, R. J. (2010). Resource nationalism meets the market: Political risk and the value of petroleum reserves. *Journal of International Business Studies*, *41*(5), 783-803. https://doi.org/10.1057/jibs.2009.90

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, *35*(1), 128-152. https://doi.org/10.2307/2393553

Dacin, M.T., Ventresca, M. J., & Beal, B. D. (1999). The embeddedness of organizations: Dialogue & directions. *Journal of Management, 25*(3), 317-356. https://doi.org/10.1177/014920639902500304

Dahl, R. A. (1998). *On democracy*. New Haven, CT: Yale University Press.

Dunning, J. H. (1981). *International production and the multinational enterprises*. London, UK: Allen & Unwin

Faccio, M. (2006). Politically connected firms. *American Economic Review*, *96*(1), 369-386. https://doi.org/10.1257/000282806776157704

Forsgren, M. (2002). Are multinational firms good or bad? In V. Havila, M. Forsgren, & H. Håkansson (Eds.), *Critical perspectives on internationalization* (pp. 29-58). London, UK: Pergamon.

Frynas, J. G., Mellahi, K., & Pigman, G. A. (2006). First mover advantages in international business and

firm-specific political resources. *Strategic Management Journal*, *27*(4), 321-345. https://doi.org/10.1002/smj.519

Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, *91*(3), 481-510. https://doi.org/10.1086/228311

Grosse, R., & Trevino, L. J. (1996). Foreign direct investment in the United States: An analysis by country of origin. *Journal of International Business Studies*, *27*(4), 139-155. https://doi.org/10.1057/palgrave.jibs.8490129

Hafner-Burton, E. M., & Montgomery, A. H. (2006). Power Positions: International organizations, social networks, and conflict. *Journal of Conflict Resolution*, *50*(1), 3-27. https://doi.org/10.1177/0022002705281669

Henisz, W. J., & Delios, A. (2001). Uncertainty, imitation, and plant location: Japanese multinational corporations, 1990–1996. *Administrative Science Quarterly, 46*(3), 443-475. https://doi.org/10.2307/3094871

Hillman, A. J., Keim, G. D., & Schuler, D. (2004). Corporate political activity: A review and research agenda. *Journal of Management*, *30*(6), 837-857. https://doi.org/10.1016/j.jm.2004.06.003

Ingram, P., & Torfason, M. T. (2010). Organizing the In-between: The population dynamics of network-weaving organizations in the global interstate network. *Administrative Science Quarterly*, *55*(4), 577-605. https://doi.org/10.2189/asqu.2010.55.4.577

Johanson, J., & Vahlne, J. E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies, 40*(9), 1411-1431. https://doi.org/10.1057/jibs.2009.24

Kinne, B. J. (2012). Multilateral trade and militarized conflict: Centrality, openness, and asymmetry in the global trade network. *Journal of Politics*, *74*(01), 308–322. https://doi.org/10.1017/S002238161100137X

Koka, B. R., Prescott, J. E., & Madhavan, R. (1999). Contagion influence on trade and investment policy: a network perspective. *Journal of International Business Studies*, *30*(1), 127-147. https://doi.org/10.1057/palgrave.jibs.8490063

Li, Q. (2009). Democracy, autocracy, and expropriation of foreign direct investment. *Comparative Political Studies*, *42*(8), 1098-1127. https://doi.org/10.1177/0010414009331723

Linz, J. (2000). *Totalitarian and authoritarian regimes.* Boulder, CO: Lynne Rienner.

Luo, Y., Xue, Q., & Han, B. (2010). How emerging market governments promote outward FDI: Experience from China. *Journal of World Business*, *4s5*(1), 68-79. https://doi.org/10.1016/j.jwb.2009.04.003

Lux, S., Crook, T. R., & Woehr, D. J. (2011). Mixing business with politics: A meta-analysis of the antecedents and outcomes of corporate political activity. *Journal of Management*, *37*(1), 223-247. https://doi.org/10.1177/0149206310392233

Pearce, J. L., Dibble, R., & Klein, K. (2009). The effects of governments on management and organization. *Academy of Management Annals*, *3*(1), 503-541. https://doi.org/10.1080/19416520903047541

Pevehouse, J., Nordstrom, T., & Warnke, K. (2004). The correlates of war 2 international governmental organizations data version 2.0. *Conflict Management and Peace Science*, *21*(2), 101-119. https://doi.org/10.1080/07388940490463933

Polanyi, K. (1957). The economy as instituted process. In K. Polanyi, C. M. Arensberg, & H. M. Pearson (Eds.), *Trade and market in the early empires* (pp. 243-270). New York, NY; Free Press.

Polidoro, F., Ahuja, G., & Mitchell, W. (2011). When the social structure overshadows competitive incentives: The effects of network embeddedness on joint venture dissolution. *Academy of Management Journal*, *54*(1), 203-223. https://doi.org/10.5465/AMJ.2011.59215088

Polillo, S., & Guillén, M. F. (2005). Globalization pressures and the state: the worldwide spread of central bank independence. *American Journal of Sociology*, *110*(6), 1764-1802. https://doi.org/10.1086/428685

Rangan, S., & Sengul, M. (2009). The influence of macro structure on the foreign market performance of transnational firms: The value of IGO connections, export dependence, and immigration links. *Administrative Science Quarterly*, *54*(2), 229-267. https://doi.org/10.2189/asqu.2009.54.2.229

Sacks, M. A., Ventresca, M. J., & Uzzi, B. (2001). Global Institutions and Networks: Contingent change in the

structure of world trade advantage, 1965–1980. *American Behavioral Scientist*, *44*(10), 1579-1601. https://doi.org/10.1177/00027640121958069

Shaffer, B. (1995). Firm-level responses to government regulation: Theoretical and research approaches. *Journal of Management*, *21*(3), 495-514. https://doi.org/10.1177/014920639502100305

Shipilov, A. V., Greve, H. R., & Rowley, T. J. (2010). When do interlocks matter? Institutional logics and the diffusion of multiple corporate governance practices. *Academy of Management Journal*, *53*(4), 846-864. https://doi.org/10.5465/AMJ.2010.52814614

Singer, J. D. (1987). Reconstructing the correlates of war dataset on material capabilities of states, 1816-1985. *International Interactions*, *14*(2), 115-132. https://doi.org/10.1080/03050628808434695

Spar, D. (2008). National policies and domestic politics. In A. M. Rugman (Eds.), *The oxford handbook of international business* (pp. 205-226). New York, NY: Oxford University Press.

Wang, C. Q., Hong, J., Kafouros, M., & Wright, M. (2012). Exploring the role of government involvement in outward FDI from emerging economies. *Journal of International Business Studies*, *43*(7), 655-676. https://doi.org/10.1057/jibs.2012.18

Waters, M. (1995). *Globalization.* London, UK: Routledge.

Weber, K., Davis, G. F., & Lounsbury, M. (2009). Policy as myth and ceremony? The global spread of stock exchanges, 1980–2005. *Academy of Management Journal*, *52*(6), 1319-1347. https://doi.org/10.5465/AMJ.2009.47085184

Xin, K. K., & Pearce, J. L. (1996). Guanxi: Connections as substitutes for formal institutional support. *Academy of Management Journal*, *39*(6), 1641-1658. https://doi.org/10.2307/257072

Zukin, S., & DiMaggio, P. J. (1990). *Structures of capital: The social organization of the economy.* Cambridge, UK: Cambridge University Press.