

## Relational exchanges versus arm's-length transactions during institutional transitions

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**Abstract** How do firms make strategic choices in response to institutional transitions? The literature suggests that with more market-oriented institutional transitions, firms may move from relational exchanges to arm's-length transactions. However, it remains unclear under what circumstances such strategic transitions would occur. We develop a model to predict that such transitions are contingent upon the multiple facets of a country's institutional profile, including informal institutions such as national culture and formal institutions that encourage market competition. Our model also specifies industry- and firm-level contingencies affecting these strategic transitions.

**Keywords** Institutional transitions · Relational exchanges · Arm's-length transactions

Institutions are commonly defined as the “rules of the game” (North, 1990: 3; Scott, 1995). Institutional transitions are “fundamental and comprehensive changes introduced to the formal and informal rules of the game that affect organizations as players” (Peng, 2003: 275). Extensive institutional transitions can be found throughout emerging economies. How do firms make strategic choices in response

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to institutional transitions? A stream of research suggests that relational exchanges—personalized transactions based on informal relationships—have been a dominant strategy for firms embedded in emerging economies (Boisot & Child, 1996; Johnson, McMillan, & Woodruff, 2002; Khanna & Palepu, 1997; Peng & Heath, 1996). Another stream of research argues that strategic choices during institutional transitions are not likely to be static. As market-oriented institutions develop, firms may gradually move from a relationship-based strategy based on relational exchanges to a rule-based strategy featuring arm’s-length transactions (Hoskisson, Johnson, Tihanyi, & White, 2005; North, 1990; Rajan & Zingales, 1998). In an influential article, Peng, (2003) argues that there are two phases (early and late) of institutional transitions, and that such strategic transitions from relational to arm’s-length transactions are especially likely to occur during a late phase of institutional transitions.

Despite its insights, Peng’s (2003) two-stage framework, focusing on the general institutional transitions, has presented a relatively simplistic view of strategic transitions from relational to arm’s-length transactions. Institutions are composed of multiple dimensions that are closely connected and mutually reinforcing. As a result, institutional transitions may manifest diverse patterns with different dimensions changing at different speeds. Then, how do firms respond differently to different levels of institutional transitions? How to explain the cross-country variations in the timing of such strategic transitions from relational to arm’s-length transactions? In other words, Peng (2003) has not capitalized on the rich dimensions of institutions and the consequent *heterogeneity* in institutional transitions around the world. Nor has he articulated about the timing of such transitions under various circumstances. The purpose of this article, therefore, is to analyze the institutional contingencies governing firms’ strategic transitions from relational transactions to arm’s-length exchanges during institutional transitions. Specifically, we undertake a fine-grained analysis encompassing informal institutions of national culture and formal institutions that encourage market competition, reduce information problems, and enhance legal effectiveness. We then focus on the impact of these market-supporting institutions on the timing of firms’ strategic transitions from relational transactions to arm’s-length exchanges in various countries. Thus, this article adds richness to Peng (2003) influential but relatively underspecified two-stage framework on the general trend of the strategic choices in response to institutional transitions.<sup>1</sup>

Overall, this article contributes to the literature on the dynamics of strategic choices, most of which is built on relatively stable market institutions (Child, 1972; Koka, Madhavan, & Prescott, 2006). We accomplish this by examining the strategic choices made during large-scale institutional transitions in the unique experimental

<sup>1</sup> We acknowledge that there is a fundamental debate regarding whether the direction of Peng’s (2003) two-stage framework of institutional transitions toward more market-based, arm’s-length transactions—while consistent with numerous other scholars such as North (1990) and many international organizations such as the World Bank (2002)—is plausible. While engaging in this debate is outside the scope of our article, interested readers may consult Biggart and Delbridge (2004), Carney, Gedajlovic, and Yang (2009), Crouch (2005), and Hall and Soskice (2001) for the diversity of alternative systems of exchange other than those suggested by North (1990), Peng (2003), and the World Bank (2002). In addition, it is important to note that Peng (2003: 282) writes that the move toward more arm’s-length transactions “does not necessarily mean that arm’s-length transactions are inherently better, because in many situations the demand for new and modern institutions may not be evident.”

setting of emerging economies (Child & Tse, 2001; Keister, 2009; Rajan & Zingales, 1998, 2003). This article also extends the institution-based view of business strategy (Li & Peng, 2008; Meyer, Estrin, Bhaumik, & Peng, 2009; Meyer & Peng, 2005; Peng, Sun, Pinkham, & Chen, 2009; Peng, Wang, & Jiang, 2008; Wright, Filatotchev, Hoskisson, & Peng, 2005) by focusing on how cross-country variations in institutional transitions lead to the heterogeneity of firms' strategic choices. Both the dynamic analysis and the comparative analysis of strategic choices across countries are important to understand the institutional context for business strategies (Biggart & Delbridge, 2004). Finally, by analyzing the benefits and costs of exchange strategies in different institutional contexts, this article also sheds light on the interaction between micro transaction governance (Williamson, 1991) and macro institutional structure (North, 1990), which, according to Peng et al. (2009) and Williamson (2000), is a weak link in the existing literature.

We structure the article by addressing the following questions: (1) How to explain the cross-country variations in the timing of the strategic transitions from relational to arm's-length transaction? (2) What are the industry-level and firm-level contingencies in this process?

### **Relational transactions versus arm's-length transactions**

The economic value of relational transactions over arm's-length transactions primarily stems from (1) reducing transaction costs by constraining opportunism through informal mechanisms such as mutual trust, cooperative norms, and values as opposed to formal contracts, and (2) accessing information/resources and achieving flexible coordination through socially embedded relationships (Granovetter, 1985). Studies in developed economies have found that under certain circumstances relational exchanges may be more valuable than arm's-length transactions (Carson, Madhok, & Wu, 2006; Poppo & Zenger, 2002). For example, industries emphasizing process innovation and facing demand uncertainty often require flexible interfirm coordination and information/resource sharing, thus firms in these industries may be more likely to choose relational transactions over arm's-length exchanges (Aoki, 1990). However, when a technology becomes mature and standardized (often reducing asset specificity, measurement uncertainty, and the demand for interfirm coordination), firms may start to move out of relational networks to look for the most cost/price competitive suppliers around the world to reduce costs (Ahmadjian & Lincoln, 2001; Zhou, Poppo, & Yang, 2008).

Similarly, research in emerging economies has found much more pervasive use of relationships in business transactions and attributed it mostly to institutional factors (Li, Poppo, & Zhou, 2008; Luo, 2002; Peng & Zhou, 2005; Zhang & Li, 2008). The lack of formal legal and regulatory frameworks—known as “institutional voids”—has been frequently cited as the reason for the extensive use of relational transactions (Khanna & Palepu, 1997; Peng & Heath, 1996; Ren, Au, & Birtch, 2009). Following Peng and Luo (2000), we argue that the value of relying on personal relationships is amplified by poor development in the market-supporting institutions in emerging economies. Specifically, we identify three core pillars of formal market-supporting institutions that significantly reduce transaction costs, which are institutions that (1)

encourage market competition, (2) reduce information problems, and (3) enhance legal effectiveness. We argue that differences in these three formal institutions, along with informal institutions of national culture, may lead to cross-country variations in the relative dominance of relational exchanges over arm's-length transactions.

### **Institutional transitions, transaction costs, and strategic choices**

As the economy grows, the number and range of partners reachable through impersonal exchanges increase and market transactions become complicated (North, 1990; Peng, 2003; Rajan & Zingales, 1998). The expanded transactions demand the development of formal institutions that facilitate impersonal exchanges. However, the demand of formal institutions does not automatically lead to their supply. Governments and interest groups often play a significant role in designing and building institutions (Ring, Bigley, D'Aunno, & Khanna, 2005). Institutional transitions are largely an incremental, path-dependent process (North, 1990, 2005). This process within each country may stall or reverse because of political, economic, and/or social conflicts (Rajan & Zingales, 2003).

Countries vary significantly in the initial quality of legal institutions, market economy experience, and cultural values and beliefs, which affect their speed and effectiveness to build new market-supporting institutions. Due to these historical differences across countries, the capability to foster competition, mitigate information asymmetries, and enforce contracts also varies significantly around the world. For example, in a comparative study on legal effectiveness across countries, La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) find that legal origins (common law versus civil law) can significantly affect the effectiveness of rules.

In addition to the initial quality of institutions, countries also differ in their speed of institutional change (such as the quick collapse of the former central planning system in Central and Eastern Europe within 2–3 years in the early 1990s versus the more gradualist approach over the past 30 years adopted by China). Consequently, the progress of institutional transitions varies across countries due to the differences in the initial level and the development speed of market-supporting institutions.

This section discusses a framework consisting of informal institutions, mainly national culture, and formal institutions that govern market competition, legal effectiveness, and information dissemination. These dimensions are chosen because they are crucial to the functioning of market-oriented institutions that reduce transaction costs and foster impersonal exchanges (Akerlof, 1970; North, 1990; Williamson 1991, 2000; World Bank, 2002).

#### Formal institutions

*Competition institutions* Competition institutions governing market competition, open trade, and business entry and exit have a significant effect on the number of players on the market and subsequently the potential benefits and costs of arm's-length transactions (Lee, Peng, & Barney, 2007). Burt, Guilarte, Raider, and Yasuda (2002) demonstrate if the level of competition is low and the production costs of firms in a network is similar to outsiders, then the focal firms are likely to lock in

with other firms in a network to reduce transaction costs. However, when a high level of competition significantly drives down the price quoted by outside suppliers, the incentives to trade with outsiders or strangers via arm's-length transactions are likely to grow. For organizations under high competitive pressures, trading with distant others possessing unique and novel information and resources may be especially crucial to facilitate the absorption, transfer, and exchange of cutting-edge technologies and practices (Burt et al., 2002). In addition, on the cost side, a larger number of potential exchange partners also reduces the level of asset specificity, therefore reducing the transaction cost associated with arm's-length transactions (Williamson, 1991). Consistent with these arguments, Ahmadjian and Lincoln (2001) find that even Japanese auto manufacturers, famous for their interest in working with *keiretsu* members, are gradually moving toward outsourcing components to competitive suppliers outside *keiretsu* networks, when facing global competition and standardization of technology (see also McGuire & Dow, 2009).

The extensiveness and effectiveness of regulations in promoting fair competition varies substantially around the world. Many countries today are experiencing institutional transitions toward more open competition both domestically and internationally (Zhou et al., 2003). The growing competition may gradually increase the potential payoffs for arm's-length transactions and the opportunity costs of sticking to existing network partners (Peng, 2003). Countries vary significantly in their original level and development speed of competition laws. The United States and Canada were among the first countries to introduce competition laws at the end of the nineteenth century. Many European countries introduced them in the mid-1950s. Most emerging economies did not introduce them until the 1990s. China introduced its antimonopoly laws as recently as in 2007–2008. The speed of deregulation also varies across countries and industries. For example, market competition institutions are more developed in Hungary than in Russia (Meyer & Peng, 2005) and so do the local competition level and the ease of new business entry (see Table 1). With the development of competition institutions, the reliance on relational ties to do business is likely to decline over time (Koka et al., 2006). Thus:

**Table 1** Select country scores on formal institutions.

Country	Competition institutions		Legal institutions		Information institutions	
	Local competition	Business entry	Judicial independence	Business entry	Business information	Financial disclosure
Singapore	5.2	5.2				
China	3.9	3.1				
Hungry			5.4	6.8		
Russia			3.0	3.4		
United States					6.7	6.3
Mexico					4.0	4.7

Source: World Economic Forum (2000). Higher scores (on a 1–7 scale) represent higher quality.

**Proposition 1** The more developed a country's competition institutions (determined by both their initial level of competition institutions and the speed of improvement during the market-oriented institutional transitions), the earlier the strategic transitions for firms in that country to transit from relational transactions to arm's-length transactions.

*Legal institutions* Even though competition creates many opportunities to transact with the most competitive outside parties, legal institutions are essential for impersonal transactions (Lee et al., 2007; Williamson, 1991). Judicial inefficiency causes high transaction costs for litigations and deters potentially valuable impersonal exchanges (Peng & Zhou, 2005). A weak legal system favors strong personal ties and relational contracting as viable substitutes for formal legal contracts, which may restrict business opportunities and weaken competition (Zhou et al., 2008). For example, empirical studies of manufacturing firms in Africa demonstrate that the absence of effective legal institutions in enforcing contracts has limited trade and market development (Collier & Gunning, 1999). An effective judicial system increases confidence in the likelihood of exchange partners' fulfilling legal obligations, thus enhancing the willingness to reach out to new exchange partners (Johnson, McMillan, & Woodruff, 2002).

Systematic variations exist in the effectiveness of legal systems across countries (Peng, Yamakawa, & Lee, 2010). For example, in Latin America, the average duration of commercial cases is 2 years and complex cases often take 5 years. In contrast, similar cases in France, Singapore, or the United States usually take less than a year. These variations in legal effectiveness often result from different legal origins (Beck, Demirgüç-Kunt, & Levine, 2003; La Porta et al., 1998) and different paces of legal development (Pistor, Raiser, & Gelfer, 2000). Thus, Williamson (1991) classifies property laws and contract laws as the "shifting parameters" that drive governance choices in different countries.

The institutional transitions involve extensive legislative processes to lay down the framework for formal legal and regulatory frameworks. Even though laws on the books could be transplanted relatively fast, the effectiveness in enforcement takes a much longer time to establish. Only the credible assurance from effective legal institutions can foster confidence over exchanges with strangers (Johnson et al., 2002), and make firms willing to explore new exchange opportunities outside relational networks. Cross-country differences in the legal origin, exchange scope, government capability, and political power distributions lead to the heterogeneity of countries' legal developments (World Bank, 2002), and consequently affect firms' propensity to engage in the strategic transitions. In other words:

**Proposition 2** The more developed a country's legal institutions (determined by both the initial level of legal effectiveness and the speed of legal system development), the earlier the strategic transitions for firms in that country to transit from relational transactions to arm's-length transactions.

*Information institutions* Information institutions are laws, regulations, and organizations that define corporate and product information disclosures and certifications. The costs of arm's-length transactions are reduced by high-quality information

institutions that provide sufficient information flows to reduce uncertainties associated with impersonal exchanges (North, 1990). Poor quality of information institutions increases information asymmetry, consequently deterring arm's-length transactions (Akerlof, 1970). High information asymmetry often leads to reliance on personal relationships to reduce uncertainty (Peng & Heath, 1996; Zhou et al., 2003). The growth of emerging economies is often impeded by the poor information dissemination in the economic system. Poor accounting transparency and financial disclosure, unavailability of credit rating system, and weak institutions to verify quality all make transactions with players outside relational networks very costly and sometimes even impossible. As a result, transactions are limited within the boundaries of those trustworthy network members. Once higher-quality information institutions become more established, and the search for price and quality information outside networks becomes reliable and efficient, firms are more likely to exchange with the best offer, instead of being constrained to the limited small network.

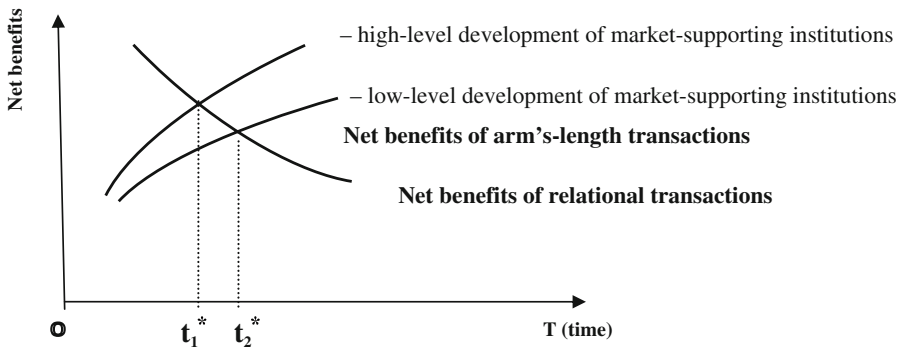
Hayek (1945) and Akerlof (1970) have long advocated that countries should invest in building up information institutions to reduce the transaction costs for the whole society. Good information flow helps businesses identify suitable exchange partners and assess their credit-worthiness. Quality certification organizations, accounting regulations, disclosure requirements, credit registries, and professional accounting and financial services firms are all important components that build up a country's information institutions supporting arm's-length exchanges. Across countries there are tremendous variations in information institutions (Khanna & Palepu, 1997). For example, information institutions associated with the credit information collection and dissemination as well as business information availability and financial disclosure (see Table 1) are much more advanced in the United States than in Mexico. Thus:

**Proposition 3** The more developed a country's institutions in reducing information problems (determined by both their initial level of institutions reducing information problems and the speed of improvement during the market-oriented institutional transitions), the earlier the strategic transitions for firms in that country to transit from relational transactions to arm's-length transactions.

Overall, the three dimensions of market-supporting institutions, which govern (1) market competition, (2) legal effectiveness, and (3) information dissemination, complement and reinforce each other (Peng & Zhou, 2005; Poppo & Zenger, 2002). Without intensive product market competition, the opportunities to exchange with players outside one's relational networks will be slim. Without good information flows, product quality as well as partner credibility outside relational networks may be too costly to verify (Akerlof, 1970). Without effective legal institutions, the threat of opportunism may pose significant enforcement costs and deter the viability of impersonal exchanges. Therefore, building an efficient market system requires institutional developments along these dimensions simultaneously (see Figure 1).

#### Informal institutions: Culture

In addition to the formal institutions, information institutions, such as national culture, have a fundamental impact on the transaction costs of relational exchanges.



**Figure 1** The timing  $t^*$  shifts with low-level development of market-supporting institutions that encourage market competition, reduce information asymmetry, and enhance legal effectiveness

National culture defines cooperative norms and values (Jones, Hesterly, & Borgatti, 1997) and the level of general trust toward strangers in a given society (Fukuyama, 1996). Culture formulates behavioral expectations or beliefs about the legitimacy and effectiveness of informal relationship-based control of transactions in a society, thus shifting the relative efficiency of relational transactions vis-à-vis arm's-length transactions (North, 2005). Hofstede (1980) distinguishes between individualistic and collectivistic cultures in that individualistic cultures (such as the United Kingdom and United States) are relatively less committed to group norms or interests than collective cultures (such as China, Japan, and Korea). In collectivistic cultures with high cooperative norms and values, such as Japan, the potential benefits from trading with network partners may be relatively higher than that in individualistic cultures with low cooperative norms, such as the United States (Chen, Peng, & Saporito, 2002; Hill, 1995). Given the relative stability of national culture, cooperative norms are likely to remain relatively efficient in constraining opportunistic behaviors for a fairly long period of time, while legal means are often the last resort for conflict resolution. This might explain why relational transactions are still pervasive in Japan, even though the effectiveness of its legal institutions is relatively high (Hill, 1995). Thus:

**Proposition 4** The higher a country's level of cooperative cultural norms and values, the later the strategic transitions for firms in that country to transit from relational transactions to arm's-length transactions.

### Firm and industry heterogeneity affecting strategic transitions

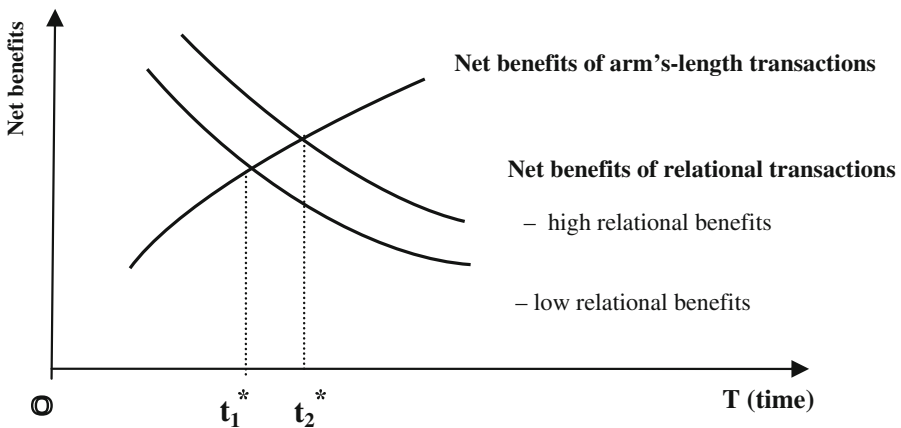
The timing for the strategic transitions is also contingent on firm-level and industry-level characteristics (Li et al., 2008). For example, the potential benefits of relational transactions may vary across firms and industries. At the industry level, industries emphasizing process innovation often require flexible interfirm coordination and information/resource sharing, thus facilitating more relational transactions as

opposed to arm's-length exchanges (Aoki, 1990). In addition, high-tech firms with network effects in offering complementary products often need high-level inter-firm collaboration to gain competitive advantage in the functioning of products. Finally, industries featuring measurement uncertainty (e.g., technology intensive products) may enjoy higher benefits of relational transactions than mature industries (Ahmadjian & Lincoln, 2001; Luo, 2002). This is because mature industries often feature more standardized products that make it easy to verify the product quality and switch suppliers, therefore limiting the relational benefits in quality control. Thus:

**Proposition 5** The higher the need of inter-firm coordination and measurement uncertainty in the industry, the later the strategic transitions for firms to switch from relational transactions to arm's-length transactions in that industry.

The timing for the strategic transitions is also contingent on the network expansion costs of relational transactions, depending on firms' initial network size and relational capability (Li et al., 2008). Firms with established relationship networks often need less resource to maintain the relationships than those firms that have to invest greatly to cultivate social ties for business transactions. Therefore, firms with established relational networks may prefer to exploit existing relational networks to reduce transaction costs and therefore may be slower in making the strategic transitions (Lin, Peng, Yang, & Sun, 2009). In addition, firms possess superior and inimitable resources that enable them to cultivate and maintain the network with lower costs may stick to relational strategy longer (Dyer & Singh, 1998). Therefore, the difference of network expansion costs will shift the timing of the strategic transitions (see Figure 2).

**Proposition 6** The smaller the expansion rate of network costs over time, the later the strategic transitions from relational transactions to arm's-length transactions.



**Figure 2** The timing  $t^*$  shifts with high relational benefits, determined by national cooperative culture, industry coordination needs, and firm relational capability

In a nutshell, the development in market-supporting institutions that encourage market competition, improve legal effectiveness, and reduce information problems may gradually make arm's-length transactions more beneficial than relational exchanges (North, 1990; Peng, 2003). However, national cultures in some countries that have a high level of cooperative norms may add additional benefits of relational transactions and postpone the timing to switch to arm's-length transactions. In addition, firms in industries with high network coordination benefits, or those featuring demand and measurement uncertainty, will be slower to switch from relational transactions to arm's-length transactions. Finally, at the individual firm level, firms that enjoy strong relational capabilities will be slower than firms with poor social connections and relational capabilities in making the strategic transitions. Overall, institutional factors along with industry- and firm-specific characteristics will *jointly* determine the timing for strategic transitions (see [Appendix](#) for mathematical expressions of these arguments).

## Discussion

### Contributions and implications

This article contributes to the literature in at least three aspects. First, it adds richness to Peng's (2003) coarse-grained, two-stage strategic transition framework by identifying the institutional contingencies of the strategic change from relational to arm's-length transactions. In this exploration, we highlight the path dependence and heterogeneity of institutional transitions across countries. Overall, this article contributes to an institution-based view of business strategy (Peng et al., 2008, 2009) by investigating *how* institutions matter through dynamic and comparative analyses of strategic choices during institutional transitions.

Second, this article also sheds light on how the transaction costs of different exchange strategies may differ when embedded in different institutional contexts, thus helping integrate the *micro*-level (transaction governance) (Williamson, 1991, 2000) and *macro*-level (institutional structure) approaches (North, 1990, 2005) in new institutionalism research, which is a weak link in the existing literature. By exploring this micro–macro interface, the article helps bridge research on relational transactions in developed economies with that in emerging economies (Peng et al., 2009). The literature on developed economies often focuses on the micro-level transaction attributes and firm and industry characteristics (Carson et al., 2006; Poppo & Zenger, 2002), while research on emerging economies typically emphasizes the macro-level institutional weakness (Peng & Heath, 1996; Zhou et al., 2008). We bridge these two bodies of literature by arguing that the micro-level transaction costs are intensified and magnified by the macro-level deficiency in market-supporting institutions. Similarly, the transaction costs of impersonal exchange related to monitoring and enforcing contracts are amplified when the legal institutions are poor. Therefore, this fine-grained analysis on the “shifting parameters” of institutions (Williamson, 1991)—beyond industry- and firm-level factors—holds much potential to bridge the two bodies of literature by providing a more comprehensive and unified theoretical framework.

Finally, this article contributes to the ongoing debate about the convergence and divergence of institutions and strategies. Our model explicitly predicts that the speed of convergence differs across countries due to the path dependence of institutional development. While we share the assumption with Peng (2003) that in response to expanded scale and scope of arm's-length transactions, formal institutions supporting impersonal exchange may converge gradually, we follow North (2005) to maintain that informal institutions such as culture may remain nationally distinctive due to their "stickiness" (resistance to change). Since strategy is affected by both formal and informal rules and incentives, we speculate that the final equilibrium will be a compromise between convergence and divergence. Even though the formal institutions supporting rule-based impersonal exchange may converge in the long run, distinctive national cultures and informal institutions may maintain consistent differences, at least in the short run.

Our analysis has multiple implications for policy makers and practitioners. First, at the national level, the model suggests that the institutional quality in encouraging market competition, reducing information problems, and safeguarding impersonal transactions has a fundamental impact on transaction costs. To reduce transaction costs and facilitate economic growth, governments should systematically design and build efficient market-supporting institutions (Carney, 2008). Second, at the firm level, managers should anticipate and adapt their strategies to the institutional changes to take advantage of new opportunities and avoid being trapped in old networks. However, the timing of the strategic transitions should be carefully analyzed, taking into consideration formal institution development, informal norms, as well as firms' own resources and industry contexts. In the end, most firms need to manage a portfolio balancing relational vis-à-vis arm's-length transactions according to these contingencies. This may be especially important for multinationals operating in both developed and emerging economies (Li et al., 2008).

### Limitations and future directions

While our model tries to integrate both formal and informal institutions to investigate the institutional contingencies for the emergence, proliferation, and (possible) decline of relational transactions, it is not clear whether formal institutions substitute or complement informal institutions (Zhou et al., 2003). The "substitutes" group argues that informal, relational mechanisms may be gradually crowded out by formal rules when the voids of formal institutions are filled over time (Dyer & Singh, 1998). Following this group, our model predicts that the relational orientation will decrease when formal market-supporting institutions develop. The "complements" group, in contrast, suggests that "the difference between informal and formal constraints is one of degree" (North, 1990: 46). It argues that formal rules will provide more safeguards for informal mechanisms rather than crowding them out, and that effective formal institutions further reduce the potential gains of opportunism, hence the costs of violating informal norms will go up (Li et al., 2008; Poppo & Zenger, 2002; Zhou et al., 2008). Unfortunately, our model provides limited insights in resolving this controversy, and calls for more research.

Moreover, how formal and informal institutions interact is another interesting area to investigate. North (2005) recently argues that relational exchange is part of our

*genetic* heritage because of the long tradition of such exchange dating back to the hunter/gatherer days of human history when all exchange was local within a small group (such as a village). On the other hand, arm's-length transaction—in other words, “trust and deal with strangers”—requires “fundamental rethinking at odds with our genetic heritage” (North, 2005: 84). If that is the case, it is intriguing to examine why and how certain cultures, against such odds, develop more effective institutions to facilitate “unnatural” impersonal exchange (Greif, 2003).

Third, the processes and mechanisms to build effective institutions deserve more attention in future studies. The persistence of poor institutions around world has been a huge puzzle (North, 1990). How organizations reciprocally affect the development of institutions in emerging economies is not well understood. It will be valuable to understand the feedback link from organizations to institutions by focusing on such co-evolutionary dynamics (Peng & Zhou, 2005).

Finally, our model is based on a cost–benefit analysis, highlighting the economic rationality of maximizing transaction values and reducing transaction costs. While this economic rationality approach has the advantage of parsimoniousness, it may present a relatively under-socialized picture of strategic transitions (Granovetter, 1985; Kim, Oh, & Swaminathan, 2006). While we have endeavored to incorporate one element of informal institutions, namely, culture, it is evident that our emphasis has been on formal, regulative institutions. Future work may probe deeper into the impact of informal, normative and cognitive institutions (Scott, 1995) on the strategic transformation from relational to arm's-length transactions.

## Conclusion

In conclusion, the timing for firms to switch from relational to arm's-length exchanges varies significantly across countries, depending on the informal cultural contexts and formal institutional development supporting impersonal exchanges. While we agree with Peng (2003) on the general trend of market-oriented transitions in many emerging economies, we believe that the path-dependence character of various forms and shapes of institutional transitions around the world should be emphasized. It is our contention that institutional transitions significantly shape the cross-country variations in the timing of firms' strategic transformation from relational to arm's-length transactions.

## Appendix: The mathematical model

### Modeling the benefits and costs of relational transactions

Different countries may have heterogeneous trajectories of transitions in institutions governing market competition, information dissemination, and legal effectiveness due to path dependence. For simplicity, the developmental level of institutions supporting market competition at time  $t$  is modeled as the combination of the initial level of pro-competition institutions ( $C_0$ ) and the growth rate ( $\beta$ ) of it over time. Similarly, the legal effectiveness at time  $t$  is modeled as the combination of the legal

effectiveness at the initial stage of economic transitions ( $R_0$ ) and the development of rules of law over time with a rate of transition  $\gamma$ . Finally, the development of institutions that reduces information problems is modeled as the initial level of information institutions ( $I_0$ ) and the transition rate of  $\lambda$ . Due to the complementary nature of these institutions in reducing transaction cost, we multiply these institutional effects. Thus, the net benefits of arm's-length transactions over time are:

$$\begin{aligned} &\text{Net benefits of arm's-length transactions (NBAT)} \\ &= C_0(1 + \beta)^t R_0(1 + \gamma)^t I_0(1 + \lambda)^t \tag{1} \\ &(0 < \beta < 1, 0 < \gamma < 1, 0 < \lambda < 1) \end{aligned}$$

### Modeling the benefits and costs of relational transactions

The net benefits of relational transactions are modeled on two factors: the micro-level network benefits and costs (which may change over time) and the macro-level (country-level) cooperative norms and values (which are relatively stable and resistant to change). We assume cooperative norms ( $N$ ) vary across countries because of cultural differences. At the micro-level, we model the changes of the network benefits as a firm's initial network benefits ( $s_1$ ) expanding at a rate of  $\alpha_1$  over time.  $\alpha_1$  is restricted to be positive and less than 1 to capture the decreasing returns to scale. Similarly, the changes of network costs are modeled as initial management costs of relational networks ( $s_2$ ) increasing at an expansion rate of  $\alpha_2$  when networks grow over time. Based on the literature (Greif, 2003; Peng, 2003; North, 1990), we assume  $s_2 < s_1$  and  $\alpha_1 < \alpha_2$ . In other words, the initial network costs are less than the initial network benefits but over time the rate of cost increases faster than the benefit. As a result, the net benefits of relational transactions can be presented as:

$$\begin{aligned} &\text{Net benefits of relational transactions (NBRT)} = \frac{s_1(1 + \alpha_1)^t N}{s_2(1 + \alpha_2)^t} \tag{2} \\ &(0 < \alpha_1 < \alpha_2 < 1, 0 < s_2 < s_1) \end{aligned}$$

### Modeling firms' timing of the strategic transitions

The net benefits of arm's-length transactions can be viewed as the opportunity costs of trading with network partners, and vice versa. Thus, the timing of the strategic transitions emerges when the net benefits of arm's-length transactions equal those of relational transactions.

Let NBRT=NBAT, we obtain:

$$C_0(1 + \beta)^t R_0(1 + \gamma)^t I_0(1 + \lambda)^t = \frac{s_1(1 + \alpha_1)^t N}{s_2(1 + \alpha_2)^t} \tag{3}$$

The timing of the strategic transitions ( $t^*$ ) can be derived as follows: Take log transformation on both sides of Eq. 3:

$$\text{Ln}[C_0(1+\beta)^t R_0(1+\gamma)^t I_0(1+\lambda)^t] = \text{Ln}\left[\frac{s_1(1+\alpha_1)^t N}{s_2(1+\alpha_2)^t}\right] \quad (4)$$

$$\Rightarrow t \text{Ln}\frac{(1+\beta)(1+\gamma)(1+\lambda)(1+\alpha_2)}{(1+\alpha_1)} = \text{Ln}\left(\frac{s_1 N}{s_2 C_0 R_0 I_0}\right)$$

$$\Rightarrow t^* = \frac{\text{Ln}(s_1 N) - \text{Ln}(s_2 C_0 R_0 I_0)}{\text{Ln}[(1+\beta)(1+\gamma)(1+\lambda)(1+\alpha_2)] - \text{Ln}(1+\alpha_1)}. \quad (5)$$

From Eq. 5 above, we could see that the timing for a firm to switch from relational exchanges to arm's-length transactions depends on complex interactions among different institutional dimensions, including national culture as well as those governing market competition, legal effectiveness, and information dissemination. Industry- and firm-level characteristics such as industry coordination benefits, firm network resource and relational capabilities are also relevant in determining the initial benefits and the expansion rate of relational exchanges.

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