Management and Organization Review

Management and Organization Review 12:2, June 2016, 303–331
doi: 10.1017/mor.2015.50

Institutional Transformation and Changing Networking Patterns in China

Jianjun Zhang,[1] **Wei Zhao,**[2,3] **and Yanlong Zhang**[4]

[1] *Peking University, China,* [2] *University of North Carolina at Charlotte, USA,* [3] *Shanghai University, China, and* [4] *Peking University, China*

ABSTRACT Drawing insights from the institutional embeddedness perspective, this article explores the changing patterns and significance of two types of strategic networking along with the institutional transformation in China. Using two-wave survey data on Chinese private firms, we find that after the state relaxed its control of resources the importance of networking with the state tends to decline, while ties with market actors become increasingly important. Determinants of network investment have shifted from managers' perceived importance of different types of network ties to a firm's immediate institutional environment. Finally, the impact of networking on firm growth has also altered over time. These findings advance our understanding of the crucial role of the institutional environment in shaping firms' networking strategies and have important theoretical and practical implications.

KEYWORDS institutional theory, social networks, transitional economy

INTRODUCTION

The extensive utilization of networks (*guanxi*) and the significant impact of networking on firm performance, market benefits, and competitive advantages have been widely documented in China (e.g., Peng & Luo, 2000; Xin & Pearce, 1996; see Chen, Chen, & Huang, 2013 for a review). However, there are mixed results and little consensus on how firms' networking strategies and their significance may change over time along with China's market transition (Chen et al., 2013). While some research observes the declining importance of networking (Guthrie, 1998; Sun, Mellahi, & Thun, 2010; Tan, Yang, & Veliyath, 2009), other research indicates the persistent or even strengthened significance of networking in interorganizational exchange (e.g., Zhang & Li, 2010; Zhou, Poppo, & Yang, 2008; Zhou & Xu, 2012). To address this puzzle, we draw insights from the institutional embeddedness perspective and use two-wave survey data to scrutinize

Corresponding author: Jianjun Zhang (jjzhang@gsm.pku.edu.cn)

the institutional transformation and corresponding changes of firms' networking strategies.

Conceptually, we argue that one reason for inconsistent or even conflicting findings lies in the fact that most studies treat social networks as a general concept and practice even when focusing on one specific type of network. Although some studies (Luo et al., 2012; Peng & Luo, 2000) have distinguished different types of ties, e.g., business-to-government ties and business-to-business ties, there are few empirical inquires into the changing patterns of different types of ties side by side. We build on this conceptualization and further specify networking with various stakeholders, including state agencies (government and banks) and market players (suppliers, distributors, customers, business partners, and so on). We argue that networking may decrease in some areas but persist or even increase in others. We further draw on insights from the institutional embeddedness perspective to explicate the conditions of different networking patterns in the context of market transition. By examining concrete institutional arrangements and their changes over time, we are able to achieve a deeper and more-nuanced understanding of shifting networking patterns and their driving forces.

Empirically, since most previous studies on the roles of interorganizational networks rely on case studies (e.g., Guthrie, 1998; Tan et al., 2009) or one-time cross-sectional data (e.g., Peng & Luo, 2000), it is difficult to depict a generalized picture or capture changing patterns over time. Consistent with our institutional embeddedness perspective, we improve our research design by incorpating the time dimension (Chen et al., 2013) to address the temporal changes of networking strategy. Specifically, we employ two-wave survey data at two time points to better capture changing networking patterns and significance over time.

In this study we focus on the networking strategy of private firms because they have expanded dramatically in recent years to become the most active economic force and are also more sensitive to institutional changes. Moreover, among all types of firms during China's transition, private firms tend to rely more on networking in order to gain resources, political protection, and legitimacy (Peng & Luo, 2000; Xin & Pearce, 1996). Thus it is easier to illustrate temporal changes in networking practices within a short period of time by focusing on private firms.

The remainder of this article is organized as follows. We first review the debate in the literature on firms' networking strategies and significance in China's transitional economy. We then elaborate on the institutional embeddedness framework and highlight the profound institutional transformation during China's market transition. We further develop hypotheses on the changing importance of two types of network ties, shifting determinants of firms' networking strategy, and different impacts of various networking efforts on firm growth over time. Next, we conduct an empirical study to test our hypotheses using two-wave survey data collected from private firms in 2005 and 2010. Finally, we discuss the contributions and broad implications of our findings.

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

THEORETICAL BACKGROUND AND HYPOTHESES

Different Views on Network Patterns during China's Market Transition

There exists a persistent interest in how firms' networking strategies and their significance may change over time with China's market transition. Interestingly, there have been mixed findings and little consensus on this research topic. Scholars tend to attribute the prevalence of networking in China to an institutional void and market imperfection during the transition in which social networks function as substitutes for formal institutional support (Khanna & Palepu, 2000; Peng & Heath, 1996; Xin & Pearce, 1996). From this perspective, some scholars argue that with the advancement of a market economy, the transaction structure will shift from relationship-based personalized exchanges to rule-based impersonal exchanges, and the importance of social networks will decline accordingly (Guthrie, 1998; Peng, 2003). Tan et al.'s (2009) case studies of small- and medium-sized enterprises reveal that government and business ties have become less important over time. Sun et al.'s (2010) archival research on the automobile industry finds that the value of multinational enterprises' connections with the state has diminished or even turned negative with China's market reform. In this light, Peng (2003: 276) argues: 'as emerging economies become more competitive, networks and connections, previously thought to be imperative for business success, no longer seem as important as before'.

Taking a different view, some scholars acknowledge increasing importance of formal contracts in China's emerging market, but at the same time emphasize that relational ties continue to serve as another viable governance structure (Li, Poppo, & Zhou, 2010; Zhou & Poppo, 2010; Zhou, Poppo, & Yang, 2008). While firms tend to rely more on formal contracts, including customerized or detailed contracts, to safeguard market transactions, relational governance remains crucial when uncertainty is high (Zhou et al., 2008) and perceived legal enforcablity is low (Zhou & Poppo, 2010; Zhou & Xu, 2012).

Finally, many other scholars highlight the persistent or even increasing importance of networking (Gu, Hung, & Tse, 2008; Nolan, 2010; Zhang & Li, 2010). For instance, Nolan's (2010) in-depth interviews with bank managers conclude that a networking culture persists in the external and internal environment of the Chinese banking industry. Sheng, Zhou, and Li's (2011) survey data indicate that business ties have a stronger impact on performance than political ties. Recently, Luo et al.'s (2012) meta-analysis shows that networking strategies exert positive effects on market and financial performance. This meta-analysis further points out that business ties often bring economic benefits to firms, whereas the effects of political ties are less consistent (Guo & Miller, 2010; Sheng et al., 2011).

Overall, these different lines of research and mixed findings present a complex and murky picture of the changing patterns and significance of networks with

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

China's market transition. To address this puzzle, we develop below an argument from the institutional embeddedness perspective and aim to shed new light on this imporant question.

Institutional Embeddedness and Networking Patterns

While it has long been argued that organizations and economic activities are embedded in network relationships (Granovetter, 1985; Uzzi, 1997), more recent scholarship contends that organizational behaviors are also embedded in the macrolevel institutional environment (Krippner & Alvarez, 2007). From this institutional embeddedness perspective, we further argue that organizations' strategic choices, *including networking strategy and patterns*, are shaped by the broader institutional context. Since institutions provide 'the organizing principles for actions and interactions' (Lin, 2001: 186), they shape interorganizational network structures and patterns in a specific institutional environment. For example, thriving network-based production in the Italian knitwear industry is the result of a distinct local institutional setting, which is favorable to small, family-run firms (Lazerson, 1995). Although social networks are popular across East Asian economies, different historical and political contexts and institutional arrangements have generated diverse interorganizational network structures across Japan, Korea, and Taiwan (Hamilton & Biggart, 1988).

Since networks are embedded in and shaped by institutional environments, when the institutional environment is altered the importance of different types of networking strategies and their impacts on firms can change accordingly. Even in mature market economies, changes in the institutional environment can exert an important impact on firms' networking strategy. For example, the United States has seen a shift from the 'relational' norm in the 1970s to the 'transactional' norm in the 1980s and 1990s. With these changes, client-agency ties were associated with a higher hazard of dissolution in the 1990s (Baker et al., 1998). In Japan, after the Japanese government adopted the policy of deregulating the stock market in the late 1980s, the structure and functioning of *keiretsu* began to break down (Lincoln, Gerlach, & Ahmadjian, 1996). In transitional economies, business groups are popular and successful during the early stage of market-oriented reform, but their popularity and performance decline when market institutions are more developed (Khanna & Palepu, 2000; Kim, Kim, & Hoskisson, 2010). In this light, China's institutional transformation can restructure firms' networking strategies and redefine their significance and impact. Below we scrutinize China's dramatic institutional transformation during the first decade of the twenty-first century to understand the changes of networking strategies and their significance for private firms.

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

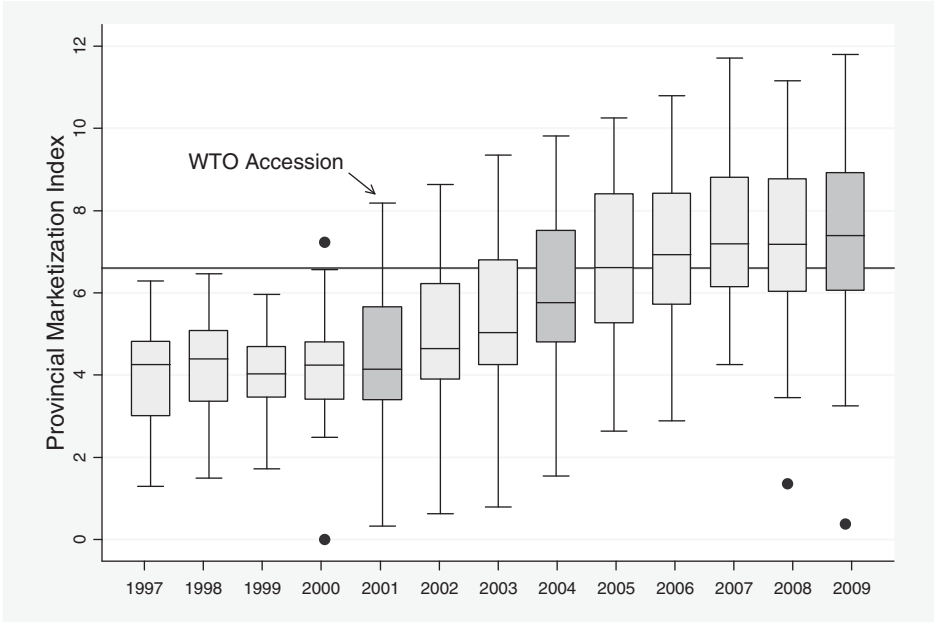

Figure 1. Change in provincial marketization index (1997–2010)
Source: Fan et. al., 2011, *NERI INDEX* of *Marketization of China's Provinces*

Institutional Transformation during China's Market Transition

Although China initiated its market transition in the early 1980s, the market reform made a breakthrough after massive privatization of state-owned enterprises beginning in the late 1990s. In 1999, a constitutional amendment finally acknowledged that nonpublic enterprises were an important part of the socialist market economy. At the beginning of the twenty-first century and particularly after China joined the WTO in 2001, the market transition accelerated significantly. As shown in Figure 1, despite the increased variation across regions China's overall marketization level increased dramatically after it joined the WTO in 2001, and reached a relatively stable, high level after 2007, which marked the end of the five-year transitional period after China's WTO accession and also of the burst of institutional transformation.

Joining the WTO not only further integrated China into the global market, but also boosted China's market transition. To fulfill China's WTO commitments within a five-year transition period (ended in 2006), the Chinese government phased out many WTO-inconsistent policy measures, pushed forward comprehensive market reforms, and relaxed its control over prices and business operations.[1] For example, in 2005 the state council announced thirty-six items regarding the nonstate-owned economy, officially giving the nonstate sector comprehensive and equal access to all industries. By the end of 2007 China had revised some 3,000 parts of domestic laws and regulations to comply with WTO policy (Sun, 2007).

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

Table 1. Institutional transformation in China after its joining WTO in 2001

Key institutional characteristics	*The five-year transition period following WTO accession (2002–2006)*	*After the five-year transition period following WTO accession (since 2007)*
State	State remaining dominant in economic life with a strong legacy of command economy	Loosened state control over resources and opportunities, less state intervention in business operations
Market	New market institutions just burgeoning	The market mechanism becoming increasingly important in resource allocation
Legal environment	Weak legal environment	Improved lawmaking, but with remaining ineffective legal enforcement
Overall	Coexistence and friction of state and market institutions	Expansion of market mechanisms without an effective legal system

Overall, before China had completed the five-year transition period following the WTO accession, new market institutions just burgeoned in China. The state continued to dominate economic life with a strong legacy of the command economy, and it still controlled various resources and opportunities. Coexistence of inherited state-centered policy measures and emergent market-oriented institutional arrangements generated inconsistencies and frictions during the institutional transformation (Kim et al., 2010). In contrast, after the five-year phase-out period following the WTO accession the state loosened its control of scarce resources and its intervention in business operations. By 2007 69.32 percent of industrial sales, 78.11 percent of urban employment, and 71.81 percent of fixed-asset investments had been created by nonstate firms; by 2008, 94 percent of all product prices were determined by the market (Fan, Wang, & Zhu, 2011). China's market economy has clearly gained a firmer foundation, and the market mechanism has become the key mechanism in resource allocation.

While highlighting this significant institutional transformation, we note that China's market economy is far from being mature. Despite the fact that the market economy has expanded, China's political system remains largely unchanged, and development of market-supporting institutions, particularly an effective legal system, lags far behind (Park et al., 2006). Although 'law on paper' experienced tremendous expansion, law enforcement remains a critical bottleneck (Zhou & Poppo, 2010). Slow development in market-supporting institutions creates situations of persistent uncertainty and prevailing opportunism (Luo, 2007). While an effective legal system promotes use of formal contracts, its lack prompts the use of market networks (Zhou & Poppo, 2010).

In Table 1, we summarize institutional transformation over these two periods demarcated by the end of the five-year transition period in 2006 following WTO accession. During this crucial moment of market transition, the institutional environment changed dramatically, featuring the decrease of state control of economic transactions and business operations on the one hand and on the

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

other hand the rapid expansion of the market economy but underdeveloped market-supporting institutions, particularly an effective legal system. Along with this institutional transformation, we expect that network patterns and significance will change for two types of networks.

The Changing Significance of Network Ties with State Agencies and Market Players

At the beginning of the twenty-first century before China completed the five-year transition period following the WTO accession, Chinese firms had a higher degree of resource dependence on the government since the state still controlled various kinds of resources and opportunities. Among all environmental factors, state regulatory power was widely rated by executives as the most influential, most complex, and least predictable (Tan & Litschert, 1994). Managers felt it was imperative to maintain a 'disproportionally greater contact' with government officials (Child, 1994: 154) in order to seek opportunities and avoid threats (Peng & Luo, 2000; Xin & Pearce, 1996). As the market has increasingly gained ground over time, state control of resources and its intervention in business operations have declined (Sun et al., 2010; Tan et al., 2009). Consequently, the importance of ties with the state declined because there was less dependence on government officials for resources and protection. Moreover, firms' previous unilateral dependence on the government has been replaced by mutual dependence between business and government since government officials now rely more on firms to create jobs, generate revenue, and develop the local economy.

Besides the firm-government relationship, the firm-bank relationship has also changed. In the past, all banks were owned or tightly controlled by the state. It was thus critical for firms to establish a good relationship with state banks. In recent years, particularly after 2005, the Chinese financial sector has experienced significant liberalization (Fan et al., 2011). Since this change gives firms more freedom and choices in acquiring financial resources, they are less dependent on state banks. We thus predict that:

Hypothesis 1: After the state loosened its control, network ties with state agencies (including governments and banks) will be perceived as less important.

When the state loosened its control and the market mechanism gained firmer ground, market actors began to command a greater amount of resources, and market channels became increasingly important in distributing resources and information. However, due to the slow development of market-supporting institutions, considerable uncertainties still exist in business transactions. The weak legal system and law enforcement impose constraints on relying on formal contracts as an effective governance structure, and thus provide room for relational governance to facilitate economic transactions (Luo, 2007; Zhou & Poppo, 2010; Zhou & Xu, 2012). Therefore, differing from some scholars' claims that the

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

advancement of a market economy will drive down networking practices (e.g., Guthrie, 1998; Peng, 2003), we contend that enhanced market activities and competition combined with the weak legal system are likely to push firms to adopt all available means to survive and/or gain competitive advantage. Thus, in a rapidly expanding market economy, it is particularly vital to cultivate network ties with market players to access information, acquire resources, build trust, and safeguard economic transactions (Li et al., 2010). Luo (2003) finds that in emerging markets with intensified market competition firms tend to rely more on managerial networks to achieve competitive advantage. Through these market ties firms can acquire more favorable terms or benefits over their competitors. Therefore we predict that:

Hypothesis 2: Since the market economy has gained firmer ground yet still lacks effective market-supporting institutional arrangements, network ties with market players will be perceived as more important.

The Changing Determinants of Firms' Strategic Networking

As the institutional environment is transformed, determinants of firms' strategic networking also change accordingly. Baffled by the inconsistent or even chaotic environment following China's accession to the WTO, business managers feel as if they are wandering in the wilderness in regard to choosing appropriate actions (Newman, 2000). To reduce cognitive complexity, a firm often applies its own satisfying and decision-making heuristics and follows familiar practices, routines, and standards to engage with the environment (Child & Rodrigues, 2011). Accordingly, managers' perception of the environment plays an important role in choosing networks versus formal contracts in governing economic transactions (Zhou & Poppo, 2010). Similarly, when allocating resources firms have to rely on managers' tacit knowledge about the networking game and their subjective evaluation of the importance of various ties to make strategic choices. If managers perceive the tie with government officials versus market players as crucial (or not important) to business success, they tend to invest more (or less) in cultivating that type of tie.

As the new market order gradually emerges over time, firms are more capable of making rational decisions based on their concrete situations. With the progress of the market transition, institutional environments become more stable and predictable, and organizational learning is also significantly improved (Newman, 2000). Firms thus get a better idea about what kinds of economic transactions require networking and what kinds of relationships can simply follow explicit market rules. It becomes easier for managers to assess their firm's situation accurately and make nuanced strategic choices. Accordingly, a firm's investment efforts in different types of networks are likely to be based on the strategic calculation of a firm's concrete and immediate institutional environment, such as industrial contexts and regional

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

conditions (Li et al., 2008; Zhou & Peng, 2010), which have become increasingly heterogeneous and differentiated over time.

Industrial environments have become strikingly differentiated as some industries have fully embraced the market mechanism while others are still subject to the tight control or influence of the government. For example, in contrast to the manufacturing industry, which was the first in China to adopt market rules and develop a more-sophisticated market infrastructure, in the real estate industry state officials still hold the power of land use and determine construction projects associated with plans for urban development (Balfour, 2007). Facing distinct industrial environments, firms may prioritize different types of network ties: while manufacturing firms need to focus on market ties, real estate companies may continue to value ties with state officials.

A firm's immediate institutional environment is also differentiated based on its geographic location. Due to the different pace of market reform in China, market institutions may be highly developed in one region but lag far behind in another. Consequently, firms face different institutional realities across regions in terms of the degree of resource dependence on the government versus the market, property rights protection, and legal enforceability (Li et al., 2008; Sheng et al., 2011). Even within the same region, metropolitan cities generally develop better market infrastructure than small cities. In addition, special business zones (*kaifaqu*) in a region or a city have a unique institutional environment. Business zones generally have more market-friendly institutions, and their administrative efficiency and transparency tend to be higher. Firms located in business zones receive strong government support and favorable policy treatment such as tax cuts. They can thus devote more attention and resources to networking with market players (Sheng et al., 2011). Considering these changes, we predict that:

Hypothesis 3: With the progress of the market transition, a firm's strategic networking investments will be affected less by its managers' perceptions of importance of different types of networks, but shaped more by a firm's immediate industrial and local institutional environment.

The Changing Impact of Strategic Networking on Firm Growth

As the market has dramatically expanded in China and the grasping of opportunities becomes critical, firm growth is considered the key indicator of a private firm's development and success, a fact that has attracted great attention in extant studies (e.g., Gu et al., 2008; Park & Luo, 2001). From the institutional embeddedness perspective, when the institutional environment changes the impact of different types of networking strategies on firm growth can also be altered, since strategy-environment-fit is crucial to business success (e.g., Tan & Litschert, 1994). Before the market mechanism was firmly established, the state was essential for providing administrative support, facilitating firms' entrance into a new market, and influencing firms' access to resources and opportunities. Thus networking with

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

government officials was critical for firms' expansion and growth. Indeed, previous research suggests that during this period networking with state officials had a positive impact on firm growth and other organizational outcomes (e.g., Li & Zhang, 2007; Peng & Luo, 2000; also see Luo et al.'s meta-analysis, 2012).

When the state loosens its control, firms depend less on government agencies for their growth. A lopsided emphasis on networking with state officials may yield lower returns or even a negative impact on firms. First, since managerial attention is a scarce resource, networking with state officials distracts managers' attention from implementing effective market strategies (Ocasio, 2011) and limits the scope of the search for market opportunities (Sun et al., 2010). Second, networking practices are not cost or risk free as network building requires time and monetary investment and even involves bribery, particularly for cultivating networks with government officials in China. Therefore, inappropriate networking efforts can increase a firm's moral or legal risks and adversely affect firm growth. Based on research on the automobile industry, Sun et al. (2010) find that when multinational enterprises value networking with the state, it results in structural lock-in and underdevelopment of market capabilities, including marketing competence and new product development. This leads to a declining or even negative impact of government ties on firms over time. Luo et al.'s (2012) meta-analysis also shows that the importance of government ties on performance is time variant, and that it has been declining with the development of the market mechanism. We thus predict:

Hypothesis 4: After the state has loosened its control, the impact of networking with state agencies on firm growth will decline.

Meanwhile, since the market mechanism plays an increasingly important role in economic transactions along with fast market expansion, networking with market players becomes increasingly important. Even in a mature market economy, quality relationships with business partners exert a significant positive impact on firms by generating trust, channeling fine-grained information, and facilitating joint problem-solving arrangements (Uzzi, 1997). In China, since the legal system is underdeveloped, successful cooperation and joint problem-solving arrangements based on quality ties can be more important for facilitating economic transactions and boost firm growth (Li et al., 2010; Zhou & Xu, 2012). Sheng et al. (2011) find that business ties are more beneficial when legal enforcement is ineffective. Similarly, since market information often has a lower level of codification in China's emerging market, fine-grained information transmitted through interfirm networks is even more valuable (Luo, 2007). As such, networking with market players can help improve knowledge sharing and organizational learning, facilitate business collaboration and cooperation, and explore new market opportunities (Li et al., 2010; Luo, 2003; Peng & Luo, 2000). For example, Gu et al. (2008) find that network ties benefit a firm's distribution channels and its ability to respond effectively to market changes, which in turn leads to better sales growth. Luo, Liu, and Xue (2009) show that networking contributes to success in buyer–supplier partnerships

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

because it reduces opportunism and conflict as well as increasing commitment and knowledge sharing. All these can help a firm develop a suitable strategy and boost its growth in the flourishing market economy. We therefore expect:

Hypothesis 5: As the market mechanism becomes increasingly important, the impact of networking with market players on firm growth will increase.

METHOD

Data

We adopted a repeated cross-sectional design in our survey, and collected data in 2005 and 2010 to capture the temporal change in the perceived importance of network ties, firms' strategic investment in networking with different stakeholders in the previous year (i.e., 2004 and 2009, respectively), and the impact of such networking strategies on firm growth. The two data points (i.e., 2004 and 2009) in our two-wave survey nicely captured the institutional changes during this crucial moment of market transition, as shown in Table 1.

Since it is a tremendous challenge to conduct a firm survey due to the huge number of private firms distributed across various regions of China, we adopted a two-stage sampling strategy in both surveys, with purposeful sampling and random sampling being used respectively in the two stages. We first deliberately chose six provinces: three from coastal regions (Guangdong, Fujian, and Zhejiang) and three from interior regions (Hubei, Sichuan, and Shanxi). In each province we selected a metropolitan city and a small city in which we had local connections that could facilitate the cooperation of local business executives. In each city we then randomly selected a certain number of firms from the list of business registrations in the local Industry and Commerce Administration Bureau.

Following the sampling process described above, we drew a sample of 400 firms for the 2005 survey. We then recruited interviewers from graduate students at a prestigious management school in China, and trained them to conduct on-site, face-to-face interviews. On-site interviews helped us gain access to the right respondents, and ensured correct understanding of the questions in our questionnaire. In the 2005 survey 239 firm respondents completed the questionnaire, and the overall response rate was 60 percent. Among the respondents, 86.3 percent were business owners or general managers, and 13.7 percent were other top-level senior managers. These respondents were most knowledgeable about the business operations of private firms, including firms' networking activities. We further compared the characteristics of responding firms and nonresponding firms and found no systematic differences between these two groups.

We took multiple measures to improve reliability. First, we conducted follow-up checks after receiving the completed questionnaires. We randomly selected twenty responding firms and conducted telephone interviews with a different respondent

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

from each firm. The correlations between the answers from the two different respondents ranged from 0.92 to 1.00, indicating a high interrater reliability. Second, to encourage respondents to participate in the surveys and provide accurate information, we promised to provide research feedback based on their responses.

In 2010 we followed the same procedures as in the 2005 survey and used the same questionnaire. We used the same sampling frame to draw 400 firms, among which 179 firms responded to our survey. We conducted independent sample t-tests and found that all independent and control variables in the two surveys, including firm age, firm size, and industrial affiliation, were largely comparable. That is, the assumption of equal variances for all these variables in the two samples cannot be rejected.

The effects of common method variance are not a problem for the following reasons. First, the majority of the questions were objective questions. The best-informed respondents (primarily business owners or general managers) could unambiguously understand and answer these questions. Second, we performed a follow-up check and the results show strong interrater reliability. Finally, we conducted Harman's single-factor test to check common method variance (Podsakoff et al., 2003). If common method variance was a serious problem in the study, we would expect a single factor to emerge from a factor analysis or one general factor to account for the majority of the covariance among the independent and dependent variables. For our data, after we performed an exploratory factor analysis on all variables for the two samples, we extracted six factors from the 2005 sample and five factors from the 2010 sample with eigenvalues greater than one. Furthermore, no general factor was apparent in the unrotated factor structure, with Factor 1 accounting for about 16 percent of the variance in both samples.

Dependent Variables

To test H1 and H2, the first dependent variable was perceived importance of network ties, which was based on managers' personal evaluation (see also Peng & Luo, 2000; Xin & Pearce, 1996). To acquire such information our questionnaire contained the following question: 'People say that it is very difficult to do business in China without networks (*guanxi*). Considering the following aspects, do you agree or disagree with this statement'? Respondents were asked to rate the importance of network ties with the government, banks, suppliers, distributors, customers, and business partners, using a Likert seven-point scale ranging from 'strongly disagree' to 'strongly agree'. We conceptualized connections with the government and banks as network ties with state agencies, and categorized connections with suppliers, distributors, customers, and business partners as network ties with market players. We took the average rating of all items in each category. As discussed above, we included connections with banks as state ties because major banks function like state agencies and are still under the state's control, despite their going through commercialization and becoming increasingly market oriented in recent years.

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

This categorization was also confirmed by the factor analysis, which indicated that ties with banks were clearly associated with ties with government in 2005, while in 2010 it straddled the two types of network ties (results available upon request).

To test H3, the second dependent variable was the proportion of network investment on various stakeholders, which captures the firm's strategic effort to cultivate different types of ties. We used the *proportion* of a firm's entertainment expenditure (*zhaodaifei*) on state agencies, market players, and a residual category of 'other actors/aspects'. Entertainment expenditure is a legal accounting item in China, including expenses on banquets, gifts, and so on (Cai, Fang, & Xu, 2011). It roughly reflects firms' spending on cultivating and maintaining network connections, which can serve as a proxy of firms' networking investment.

To test H4 and H5, we used the average sales growth rate over the previous five years to measure firm growth. Among various measures of firm performance (see Luo et al., 2012), sales growth is the key indicator of a private firm's development and success in the burgeoning market (e.g., Gu et al., 2008; Park & Luo, 2001). In our research context, this measure also has advantages over other measures of firm performance. First, private firms are usually reluctant to report profit, but are more willing to report the sales growth rate. Second, scholars (e.g., Park & Luo, 2001) have found that networking has a discernible impact on sales growth, but not on profitability. To correct for the skewed distribution, we used the logarithm of this variable in the analysis.

Independent and Control Variables

To examine the changing driving force of strategic networking efforts and investment, we computed two independent variables. *Perceived importance of ties with state agencies* was computed as the average score of perceived importance of ties with the government and of ties with banks. *Perceived importance of ties with market players* was computed as the average score of perceived importance of ties with suppliers, distributors, customers, and business partners.

Another key set of independent variables measured firms' immediate institutional environment. *Industry* was measured by four dummy variables. We followed the definition of three industries given by China's National Bureau of Statistics and constructed three dummy variables accordingly: *manufacturing* (second industry), *service* (tertiary industries), and *other* (primary industry such as agricultural) (NBS, 2011). In addition, we created a separate dummy variable for the *real estate* industry, which was particularly subject to government influence (Balfour, 2007). The real estate industry was treated as the reference category.

The *marketization index* was included to measure regional institutional environments. This index was created by the National Economic Research Institute (NERI) (Fan et al., 2011). It captures the degree of marketization in China's thirty-one provinces, and has been widely used in the literature (e.g., Shi, Sun, & Peng, 2012). A higher value indicates that a province has a higher level of development of

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

market infrastructure and environment. In addition, we included a dummy variable to indicate whether a firm was located in the *metropolitan area* (yes = 1). Generally speaking, the level of market development should be higher in a metropolitan area than in a small city.

Business zone (*kaifaqu*) was a dummy variable indicating whether a firm was located in a local business zone (yes = 1). As discussed above, firms in business zones gain favorable state policies and support, which lowers the need to develop informal networks with government officials. However, since they face higher pressure to gain competitive advantage in the market, they may need to focus on market relationships.

In addition, *firm age* was calculated as the number of years of business operation by 2005 and 2010, respectively. *Firm size* was measured by the total number of employees. To adjust the skewed distribution of firm age and firm size, we used the logarithm of these two variables in our analyses. Finally, we controlled for each firm's *total amount of entertainment expenditure* (logged) in each year.

Models

We used MANCOVA analysis to examine whether there were significant changes in the perceived importance of network ties over time (H1 and H2). In addition to the year dummy, we incorporated firm age, firm size, industries, metropolitan area, business zone, and marketization index into the MANCOVA analysis as additional factors. The equality tests between coefficients at the two time points were thus adjusted for other covariates.

To test the changing determinants of strategic networking investment (H3), we focused on the *proportion* of a firm's entertainment expenditure (*zhaodaifei*) on state officials and on market players, as well as on a residual category of 'other actors' as the key dependent variable. To better handle fractional response variables (e.g., proportions), Papke and Wooldridge (1996) propose the fractional logit model using a quasi-likelihood estimation method, which is superior to the OLS model and other traditional analytical techniques (also see Kieschnick & McCullough, 2003). Scholars have further extended this method on binary fractional model and developed a fractional multinomial logit model to estimate multivariate outcomes (e.g., Mullahy & Robert, 2010). That is, it models a set of dependent variables (e.g., proportions) that each ranges between 0 and 1 and also always adds up to 1 for each observation.

We adopted this approach and let y_{im} be the fraction of entertainment expenditure allocated by individual firm i ($i = 1, 2, \ldots \ldots N$) on different types of networking investment m ($m = 1, 2, \ldots M$ where M is total number of expenditure types). By definition, for each individual firm, the following must be true: $0 \leq y_{im} \leq 1$ and $\sum_{m=1}^{M} y_{im} = 1$. The multinomial logit functional form can be written as

$$E[y_{im}|x_i] = \frac{\exp(x_i\beta_m)}{\sum_{k=1}^{M}\exp(x_i\beta_k)}$$

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

It uses the normalization $\beta_1 = 0$, and $x_i\beta_m$ represents an expense allocation function for expenditure type m (for more technical details, see Mullahy & Robert (2010)). We use the FMLOGIT module in STATA (fitting a fractional multinomial logit model) to estimate the proportion of entertainment expenditure on state officials, market players, as well as 'other actors'.

Finally, to estimate the impact of firms' networking investments on firms' sales growth rate (H4 and H5), we used a STATA 'SEM' module and constructed two path models.

RESULTS

Tables 2 and 3 display the descriptive statistics and correlation coefficients of the main variables in 2005 and 2010, respectively. From 2005 to 2010, the perceived importance of network ties with state actors declined from 5.27 to 5.10, while the perceived importance of ties with market players increased from 4.71 to 5.15. Regarding entertainment allowance, while the absolute amount increased, the average proportion of entertainment expenditure on state officials and on market players was slightly different between the two years. In addition, the average firm growth rate was lower for the 2010 sample than for the 2005 sample, which is consistent with the general trend of economic growth in China during this period.

H1 and H2 predict changes in the perceived importance of network ties with the state and with market actors. The results of the MANCOVA analysis are reported in Table 4. It shows that the mean value of the perceived importance of government ties and bank ties did indeed decline over time as predicted, but the differences were not statistically significant. H1 is thus not supported. In contrast, network ties with market actors were perceived as much more important over time. Except for an insignificant increase in the importance of distributor ties, the importance of ties with suppliers, customers, and business partners all increased significantly from 2005 to 2010. H2 is thus largely supported.

H3 predicts that over time the determinants of networking investment in state officials versus market players have shifted from perceived importance of different types of ties to a firm's immediate institutional environment. We adopt the fractional multinomial logit model to conduct the test and report the results in Table 5. The expenditure on state officials is treated as the base fraction and the other two fractions on market players and 'other actors' are determined relative to the base. Because the expenditure on the residual category of 'other actors' does not have substantial theoretical significance and also has a very low proportion (averaging 9 percent in both surveys, as shown in Tables 2 and 3), in Table 5 we focus on the parameter estimates of the entertainment expenditure on market players relative to state officials. The estimates of the expenditure on 'other actors' nevertheless show a very similar pattern (available from the authors upon request). To facilitate interpretations of the coefficients, we also discuss the marginal effects based on parameter estimates, which are computed as the change in predicted dependent

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

Table 2. Descriptive statistics of 2005 sample [a]

Variables	*Mean*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
1 Firm age (log)	1.90	0.84															
2 Firm size (log)	4.81	1.24	0.13														
3 Real estate industry	0.07	0.25	0.09	−0.09													
4 Manufacturing industry	0.62	0.49	0.04	0.10	−0.34												
5 Service industry	0.24	0.43	−0.16	−0.08	−0.15	−0.72											
6 Other industry	0.08	0.26	0.09	0.03	−0.08	−0.36	−0.16										
7 Marketization index	7.14	1.51	0.09	−0.05	−0.06	0.04	0.06	−0.12									
8 Metropolitan area	0.39	0.49	−0.07	−0.11	0.03	−0.19	0.13	0.10	0.10								
9 Business zone	0.17	0.37	0.02	0.21	−0.12	0.22	−0.12	−0.09	0.09	−0.17							
10 Importance of state ties	5.27	1.77	0.03	0.02	0.10	0.05	−0.12	0.01	0.01	−0.02	−0.01						
11 Importance of market ties	4.71	1.87	0.00	−0.02	−0.01	0.06	−0.02	−0.06	0.02	0.13	0.09	0.44					
12 Expenditure on state officials (%)	0.25	0.23	−0.10	0.01	0.12	−0.14	0.07	0.03	−0.03	0.11	−0.05	0.33	−0.02				
13 Expenditure on market players (%)	0.66	0.25	0.09	−0.05	−0.17	0.15	−0.06	−0.01	0.10	−0.16	0.11	−0.30	0.32	−0.86			
14 Expenditure on other actors (%)	0.09	0.13	0.00	0.09	0.13	−0.04	−0.01	−0.03	−0.15	0.12	−0.13	−0.01	−0.01	−0.09	−0.44		
15 Entertainment allowance (log)	2.64	1.34	0.22	0.44	0.17	−0.02	−0.11	0.03	0.10	0.19	0.05	0.07	−0.04	0.16	−0.18	0.05	
16 Firm growth rate over 5 years	33.06	36.21	−0.19	0.13	−0.08	0.05	0.04	−0.06	−0.19	−0.02	0.13	0.13	0.05	0.16	−0.04	−0.19	0.13

Notes: a. Correlations $>= |0.14|$ are significant at $p < 0.05$; $n = 239$.

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

Table 3. Descriptive statistics of 2010 sample [b]

Variables	*Mean*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
1 Firm age (log)	2.09	0.90															
2 Firm size (log)	5.51	1.69	0.15														
3 Real estate industry	0.12	0.32	−0.01	−0.06													
4 Manufacturing industry	0.37	0.49	0.16	0.19	−0.28												
5 Service industry	0.36	0.48	−0.13	−0.21	−0.27	−0.58											
6 Other industry	0.15	0.36	−0.03	0.08	−0.15	−0.33	−0.31										
7 Marketization index	8.68	1.78	−0.01	0.08	−0.11	0.16	0.03	−0.16									
8 Metropolitan area	0.53	0.50	−0.06	−0.01	−0.06	−0.30	0.43	−0.12	0.26								
9 Business zone	0.46	0.49	−0.03	0.14	−0.20	0.26	−0.03	−0.14	0.10	−0.02							
10 Importance of state ties	5.10	1.42	−0.07	−0.01	0.19	−0.13	−0.05	.08	−0.09	−0.01	−0.12						
11 Importance of market ties	5.15	1.29	0.08	0.09	−0.03	0.11	−0.10	0.01	0.05	−0.01	−0.02	0.24					
12 Expenditure on state officials (%)	0.24	0.26	0.10	0.16	0.29	−0.26	−0.05	0.17	−0.18	0.08	−0.34	0.23	0.11				
13 Expenditure on market players (%)	0.67	0.26	−0.10	−0.15	−0.23	0.24	0.07	−0.23	0.07	−0.10	0.34	−0.17	−0.13	−0.86			
14 Expenditure on other actors (%)	0.09	0.14	0.03	−0.11	−0.07	−0.01	−0.02	0.10	0.23	0.00	0.00	−0.09	0.06	−0.28	−0.25		
15 Entertainment allowance (log)	3.98	1.56	0.27	0.50	0.10	−0.04	−0.08	0.09	0.07	0.22	0.11	0.23	0.05	0.24	−0.21	−0.05	
16 Firm growth rate over 5 years	29.10	29.49	−0.24	−0.11	−0.03	−0.14	0.02	0.18	0.00	0.11	0.10	−0.01	−0.18	−0.15	0.09	0.10	0.01

Notes: b. Correlations > = |0.15| are significant at $p < 0.05$; n = 179.

Table 4. MANCOVA test of changing perceptions of tie importance (2005–2010)

	2005		*2010*		*Difference between 2005 and 2010*	
Type of ties	*Mean*	*S.D.*	*Mean*	*S.D.*	*F-test*	*P-value*
Ties with government	5.43	1.91	5.23	1.58	1.20	0.274
Ties with bank	5.05	1.96	4.95	1.79	0.01	0.922
Ties with supplier	4.35	2.20	4.88	1.86	4.99	0.026
Ties with distributor	4.51	2.14	4.81	1.88	1.92	0.167
Ties with customer	4.57	2.09	5.06	1.72	6.08	0.015
Ties with partner	5.24	2.01	5.85	1.54	4.34	0.037

Notes: Factors included in the MANCOVA analyses are: firm age, firm size, industry dummies, marketization index, metropolitan area, business zone, year dummy. Wilks' lambda values are reported.

Table 5. Fractional multinomial logit model estimates of the proportions of entertainment expenditure [a]

	2005		*2010*	
	Expenses on Market Players		*Expenses on Market Players*	
Covariates	*β*	*SE*	*β*	*SE*
Firm Age (log)	0.178	0.103†	−0.114	0.116
Firm Size (log)	−0.029	0.103	−0.178	0.083*
Industry (ref = Real estate):				
Manufacturing	0.418	0.382	1.015	0.370**
Service	0.146	0.468	0.987	0.410*
Other	0.448	0.556	0.303	0.400
Marketization index	0.106	0.057†	0.174	0.078*
Metropolitan area	−0.375	0.246	−0.515	0.273†
Business zone	0.010	0.247	0.968	0.235***
Perceived network importance				
State ties	−0.361	0.067***	−0.128	0.083
Market ties	0.170	0.063**	−0.105	0.093
Entertainment allowance (log)	−0.121	0.085	−0.049	0.084
Constant	1.335	0.741	0.958	0.952
N	155		118	
Log pseudolikelihood	−120.85		−98.03	
Wald-Chi2	77.76		84.18	

Notes: † p<0.1, * p < 0.05, ** p < 0.01, *** p < 0.001, (two-tailed test).
a. Proportion of expenditure on state officials is normalized, and the results on proportion of expenditure on "other actors" as a residual category are not reported for simplification purpose.

variable for a unit change in the explanatory variables (while keeping all other variables at their means).

As shown in Table 5, in 2005 perceived networking importance had a significant impact on entertainment expenditure on market players relative to state officials. Based on the estimation of marginal effects, a one-unit increase in the importance rating of state ties led to a 6.5 percent increase in the share of entertainment

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

expenditure on networking with state officials and a 6.1 percent decrease in expenditure share on market players. By comparison, a one-unit increase in the importance rating of market ties led to a 3.4 percent increase in the share of entertainment expenditure on market players and a 2.8 percent decrease in expenditure share on state officials. In contrast, other variables of the immediate institutional environment and of firm characteristics show scattered patterns – only firm age and marketization level show some marginally significant effects on entertainment expenditure on market players relative to state officials.

In stark contrast, in 2010, perceived importance of state ties and market ties had no discernible effect on entertainment expense for network cultivation. Instead, a firm's immediate institutional environment had systematic effects – industry, provincial marketization index, location in a metropolitan area, and location in a business zone, all exerted significant influence on the firm's allocation of entertainment expenditure. Compared with firms in the real estate industry, firms in the manufacturing and service industries spent less on state officials but more on market players. For example, compared with a real estate company, the estimated marginal effect on a manufacturing firm was a 21 percent reduction in entertainment expenditure on state officials, while a 22 percent increase in entertainment expenditure on market players. Similarly, a firm located in a business zone spent 21.4 percent less on state officials but 18.8 percent more on market players than a firm outside a business zone. All these findings provide strong support to H3. Interestingly, firms located in a metropolitan area tend to make a lower investment (only marginally significant) in market players. Although a metropolitan area generally has a higher level of market development, we speculate that its impact may be offset by stronger presence and tighter control of the government. Among control variables, a larger firm makes less investment in market players relative to state officials, indicating those firms' closer attachment to the state.

Finally, to test H4 and H5 we used STATA's structural equation module 'SEM' to construct two path models. Path models were used because the predictors in the main model, i.e., entertainment expenditure (in proportion) on state officials and on market players, are endogenous to other covariates.

In the path models, firms' networking investment on state officials and market players, and firm's sales growth rate over the previous five years were included as three endogenous variables. Due to lack of continuous data on the perceived importance of these two types of network ties and entertainment allocation (in proportion) during the five years before the surveys, we used the ratings and entertainment allocation (in proportion) in the year of the survey (2005 and 2010 respectively) to capture a firm's valuation of networking importance and networking efforts for each window period. We assumed that a firm's perceptions of and relative investment in the two types of networks in the window period would not change dramatically within a short period of time. In addition, we allowed the error terms of expenditure on state officials and on market players to be correlated.

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

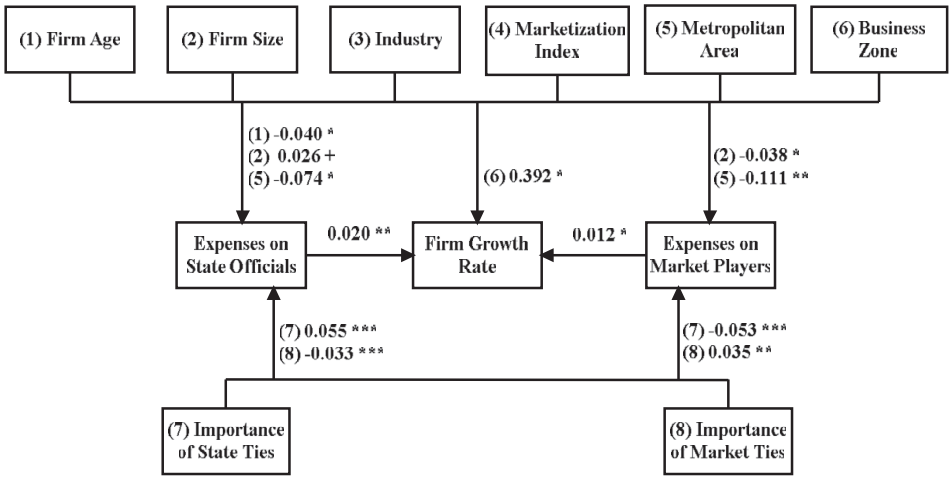

Figure 2. Structural equation model on firm growth rate in 2005
Note: Numbers before the coefficients refer to the corresponding variables in the graph. To simplify the presentation, only significant coefficients are reported. The complete model estimates are reported in Table 6.

Figure 2 shows the structural equation model predicting firms' sales growth rates in 2005. Table 6 reports the complete model estimates for the 2005 data. The results show that in 2005 firms' entertainment expenditure (in proportion) on state officials yielded a positive impact on firms' sales growth rates, similar to the results of Peng and Luo (2000). Specifically, a 1 percent increase in expenditure on state officials leads to a 2 percent increase in the sales growth rate. The model fit statistics indicate that the current model fits the data well. The root mean square error of approximation (RMSEA) is 0.024, which indicates a fair fit. The comparative fit index (CFI) is 0.995, which is greater than the cut-off point of 0.90 that ensures that misspecified models are not accepted (Hu & Bentler, 1999). The Tucker-Lewis Index is 0.989 and the standardized root mean square residual (SRMR) is 0.031. Both suggest a good model fit (Hooper et. al., 2008).

Figure 3 shows the structural equation model predicting firms' sales growth rates in 2010, and Table 7 reports the complete model estimates for the 2010 data. The results show that in 2010 the effects of firms' entertainment expenditure on state officials and on market players became negatively correlated with firms' sales growth rates. The coefficient for expenditure on state officials is significant at the 0.1 level, while the coefficient for expenditure on market players does not reach the same significance level. All four model fit statistics (RMSEA = 0.045, CFI = 0.995, TLI = 0.965, and SRMR = 0.019) indicate that the current model fits the 2010 data well.

The results of these two path models provide partial support to H4. They show that the positive impact of firms' networking efforts with state officials on firm growth diminished over time. It suggests that high investment in such ties may have

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

Table 6. Estimates of the structural equation model on firm growth rate in 2005

	Endogenous Variables					
	Firm Growth Rate		*Expenses on State Officials*		*Expenses on Market Players*	
	β	*SE*	*β*	*SE*	*β*	*SE*
Firm age	−0.073	0.086	−0.040	0.020*	0.037	0.023
Firm size	0.065	0.058	0.026	0.137†	−0.038	0.015*
Industry (ref = real estate):						
Manufacturing	0.081	0.279	−0.010	0.066	0.102	0.076
Service	0.046	0.300	0.028	0.072	0.071	0.082
Other	0.004	0.365	−0.084	0.087	0.145	0.099
Marketization Index	−0.039	0.045	−0.002	0.011	0.007	0.012
Metropolitan area	0.104	0.144	0.074	0.035*	−0.111	0.040**
Business zone	0.392	0.184*	−0.001	0.045	0.023	0.051
Perceived network importance						
State ties	–	–	0.055	0.010***	−0.053	0.011***
Market ties	–	–	−0.033	0.010***	0.035	0.011**
Entertainment expenditure (%)						
State officials	0.020	0.006**	–	–	–	–
Market players	0.012	0.006*	–	–	–	–
Constant	2.063	0.739**	0.056	0.142	0.791	0.162***
Covariance	e (exp. on state official) * e (exp. on market player) = −0.034 ***					
Model Fit Statistics	RMSEA = 0.024, CFI = 0.996, TLI = 0.989, SRMR = 0.031.					

Notes: N = 139; † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001, (two-tailed tests);

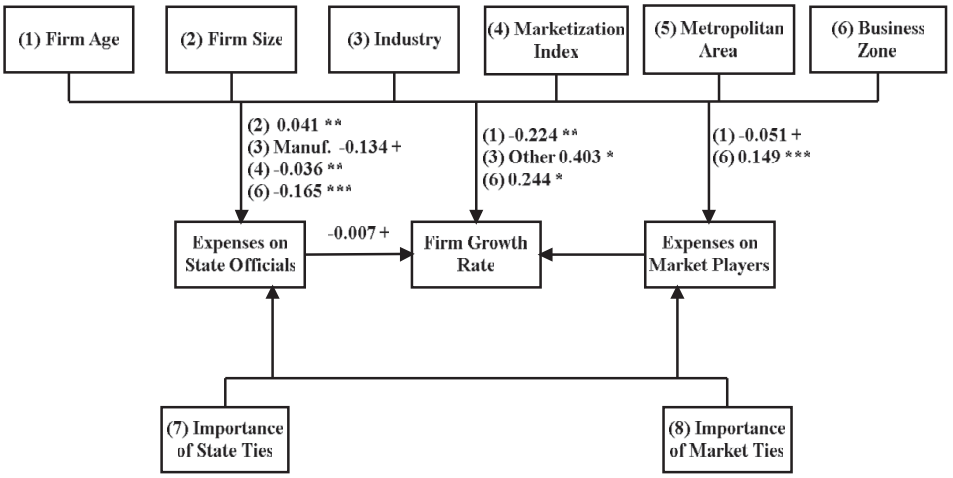

Figure 3. Structural equation model on firm growth rate in 2010
Note: Numbers before the coefficients refer to the corresponding variables in the graph. To simplify the presentation, only significant coefficients are reported. The complete model estimates are reported in Table 7.

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

Table 7. Estimates of the structural equation model on firm growth rate in 2010

	Endogenous Variables					
	Firm Growth Rate		*Expenses on State Officials*		*Expenses on Market Players*	
	β	*SE*	*β*	*SE*	*β*	*SE*
Firm age	−0.224	0.076**	0.026	0.029	−0.051	0.030†
Firm size	0.048	0.039	0.041	0.014**	−0.023	0.015
Industry (ref = real estate):						
Manufacturing	0.056	0.187	−0.134	0.072†	0.109	0.075
Service	0.099	0.189	−0.085	0.072	0.064	0.074
Other	0.403	0.211*	0.031	0.080	−0.085	0.084
Marketization Index	−0.040	0.033	−0.036	0.012**	0.015	0.013
Metropolitan area	0.143	0.117	0.050	0.044	−0.035	0.046
Business zone	0.244	0.117*	−0.165	0.042***	0.149	0.044***
Perceived network importance						
State ties	–	–	0.021	0.014	−0.021	0.016
Market ties	–	–	0.022	0.017	−0.026	0.018
Entertainment expenditure (%)						
State officials	−0.007	0.004†	–	–	–	–
Market players	−0.005	0.004	–	–	–	–
Constant	4.246	0.543***	0.229	0.168	0.866	0.176***
Covariance	e (exp. on state official) * e (exp. on market player) = −0.036 ***					
Model Fit Statistics	RMSEA = 0.045, CFI = 0.995, TLI = 0.965, SRMR = 0.019.					

Notes: N = 112; † p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001, (two-tailed tests).

become a financial burden and liability for a firm, and was therefore detrimental to firms' growth (Sun et al., 2010). Interestingly, contrary to our H5, we did not find that firms' networking efforts with market players generated greater benefits over time; instead, such impact was insignificant for the 2010 sample.

DISCUSSION AND CONCLUSIONS

This study examines a highly visible but largely inconclusive issue in the existing literature, namely the changing patterns of interorganizational networks and the impact of networking on firms' growth in China during the institutional transformation. We shed light on this topic by developing a theoretical argument from the institutional embeddedness perspective to systematically explain the changing significance, driving forces, and impacts of two types of network ties – with the state and with market players. We then improved the research design by using a two-wave survey. Our research has yielded important findings. First, the relative significance of networking with different actors has been changing as the institutional context changes. Specifically, networking with state actors has shown some signs of decline (though statistically insignificant), while networking with market players has gained increasing importance. Second, determinants

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

of networking investment have shifted from managers' perceived importance of network ties to a firm's immediate institutional environment when the institutional environment became more stable and differentiated. Third, the linkage between firms' networking efforts and performance has also been altered: the impact of networking with state agencies on firm growth has changed from positive to negative over time. Although ties with market players was perceived to be more important, higher investment in networking with market players has not yielded greater benefits for firms, a result similar to the findings based on Hungary data (Danis et al., 2010).

The insignificant decline of ties with the state suggests that the state is still considered a powerful player in economic activities in China. This is understandable since the Chinese state remains a powerful actor and the key driving force of market reform. Moreover, despite dramatic institutional changes, our two time points in two-wave surveys captured a rather short period of time (2004 to 2009).

We have some speculations on why investment in market ties did not generate higher returns. First, it may simply be the result of market development. As the market becomes more rationalized, focusing on networks may deter a firm from adopting more-advanced market and management techniques to adapt to the new environment (Sun et al., 2010). However, with bounded rationality, firms may continuously invest in networks even though economic benefits are not obvious. It is also possible that utilizing networks may simply play the role of psychological assurance in an overly competitive and uncertain environment. It may also be caused by our research design since we do not examine firms' practices in utilizing formal contractual relationships.

Our findings in this paper make several major contributions to the existing literature. First, our study sheds light on the scholarly debate on the value of network-based strategies during institutional change (Peng, 2003). As discussed at the beginning of this paper, the change in the significance of social networks and their impact on firm performance over time remains a puzzling question to scholars. We moved beyond a general view of social networks and distinguished networks with various actors, and further examined their respective changing patterns with two-wave surveys. We found that with the shift in resource-dependence relationships, the significance of networks with state actors tends to decline while the importance of networks with market players increases. Therefore, the key strategy issue for firms during the market transition may not be 'networking or not' but rather 'networking with whom'.

Second, adopting the institutional embeddedness perspective, we scrutinized the link between concrete institutional changes and corresponding network evolution. We showed that the profound institutional changes in China caused a shift in the value of the two types of networks. On the one hand, the rapid progress of the market decreased firms' resource dependence on the government, and hence led to a relative decline in the significance of networking with state actors. On the other hand, unlike some scholars' belief that market transition will drive

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

down the significance of networks (Guthrie, 1998; Peng, 2003), we contend that the uncertainty originating from the slow development of market-supporting institutions, particularly rule of law, actually enhances the significance of market networks. Accordingly, this institutional transformation also explains the different impact of networking strategies on firm growth over time.

In addition, our scrutiny of institutional transformation also helps identify the types of factors that determine firms' networking strategies in different periods. In the early period of our two-wave survey, a high level of institutional inconsistencies and friction made it difficult to formulate appropriate networking strategies with different actors (Kim et al., 2010). Firms' networking efforts were therefore largely shaped by managers' perceptions of the importance of various types of social ties. As the market transition proceeded, the institutional environment became more stable and also more differentiated across industries and regions. Firms could thus make more rational calculations and strategic investment in different types of relationships according to their objective situation, which was affected more by each firm's immediate institutional environment. In a sense, along with the market transition, social networks became a more-specific and contextualized strategic choice for a firm in accordance with its market position and surrounding environment instead of a general strategy based on the overall perception of the importance of network ties.

Third, this study contributes new evidence to theories on the coevolution between institutions and firms' strategic choices (Zaheer, Albert, & Zaheer, 1999). While most extant studies have either examined the role of social networks in a transitional economy at only one time point or highlighted different social network patterns across institutional environments through comparative analyses, our research design enabled us to directly investigate changes in social networks along with institutional transformation over time. The advantage of this two-wave survey design in the same context is that cultural and historical factors are constant, allowing us to focus on the influence of institutional changes on firms' strategic choices.[2] We are thus better positioned to address the existing scholarly debate by suggesting that a firm's strategic mix will vary, depending on the concrete institutional arrangement.

Fourth, our research provides a more complex and subtle understanding of market transition and institutional changes. Some scholars argue that with the progress of market transition, relationship-based exchanges will shift to rule-based formal exchanges (Guthrie, 1998; Peng, 2003). Our finding that networking with market actors increases with market transition rebuts such an oversimplified argument. Our concrete institutional analysis and empirical evidence suggest that market transition is not a simple process. Construction of a market economy may be a longer and more complex process than expected. A market economy needs not only a market mechanism but also a complete set of market-supporting institutions such as rule of law, an accountable government, well-governed and transparent economic entities, and business norms/ethics (Zhou & Peng, 2010). Without such institutions a market economy cannot work effectively, but these institutions take

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

time to grow and take root. It is in these legal and political reforms that China still has a long way to go.

Although this research focuses on China as the research context, the findings can be largely generalized to other transitional economies or emerging economies.[3] As the two review articles (Wright et al., 2005; Xu & Meyer, 2013) on strategy research of emerging economies indicate, studies on emerging economies have repeatedly identified the coevolution of firms' network-based strategy and the institutional context as a prominent research issue, on which this study sheds further light. Despite its unique characteristics of institutional transition, China shares common features with other transitional and emerging economies – rapid liberalization of the economy and relatively slow development of market-supporting institutions. As such, we believe that the networking patterns and dynamics disclosed in this study have broad implications. As a matter of fact, Danis et al.'s (2010) study based on Hungary data finds similar changing patterns.

Limitations and Future Research Directions

The current study has its limitations. First, our study focuses on networking strategy, but does not examine the use of formal contracts. Future studies could examine how the change in social networks is affected by the use of formal contracts. Second, our study does not distinguish instrumental networks from trust-based networks. Some researchers suggest that trust-based networking, similar to social capital in the Western context, will rise with the progress of market transition (Zhang & Keh, 2010). Third, the conclusions of this study need to apply to other ownership types with caution. For example, due to their different governance structures, state-owned enterprises may not witness the decline of networks. Moreover, as firms may choose different governance mechanisms when dealing with different organizational forms (Zhang & Keh, 2010), a more-nuanced analysis can further distinguish a focal firm's transaction partners with various organizational forms (i.e., state-owned, private, and foreign-invested firms). Fourth, the networking strategy can be a responsive or a proactive action (e.g., to avoid threats or to gain competitive advantage). As different strategic-orientations may also affect firms' networking efforts, they may be incorporated in future studies.

We also acknowledge that our models only explained a modest proportion of the overall variance in examined variables. On one hand, this is because of the complexity of the phenomenon we are studying. On the other hand, it may be affected by the characteristics and limitations of our research design and data, which may be addressed and improved in future research. First, while the repeated cross-sectional design is very useful to examine the overall changes of firms' networking patterns, it does not allow us to directly compare the same firms' practices over time. Second, adaptation of firms' networking strategy to the macro environmental changes often takes a long time. As our surveys only covered a short period of time, our analyses may not capture all the changes

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

occurring in Chinese firms. In future research, longitudinal studies of the same firms over a longer period of time could provide more conclusive and clearer findings on the evolution of networking patterns. Third, while our study refines the measure of networking practices by examining entertainment allowances, future studies can further improve the measurement by examining various indicators of networking investments and practices. Finally, we focus on firm growth as the key measure of firm performance, but firm growth may have an idiosyncratic nature in China's market transition. Future studies can examine multiple indicators of firm performance to provide a more comprehensive assessment of the impact of social networks on firms.

NOTES

This research was supported by grants from the National Natural Science Foundation of China (Grant Number: 71172022. Principle Investigator: Jianjun Zhang) and by a Faculty Research Grant from the University of North Carolina at Charlotte. We appreciate the helpful comments from Professor Laura Poppo and two reviewers. We also thank Anne Tsui, Chao-Chuan Chen, Yadong Luo, and Yanjie Bian for their comments.

[1] 'Overview of the Terms of China's Accession to WTO', see http://trade.ec.europa.eu/doclib/docs/2003/october/tradoc_111955.pdf

[2] Those who view social networks as embedded in Chinese culture suggest a stable role of networks, while the institutional perspective predicts a declining role of networks over time (e.g., Luo et al., 2012).

[3] For the differences between transitional and emerging economies, see Peng (2003: 277).

REFERENCES

Baker, W. E., Faulkner, R. R., & Fisher, G. A. 1998. Hazards of the market: The continuity and dissolution of interorganizational market relationships. ***American Sociological Review***, 63(2): 147–177.

Balfour, F. 2007. You say *guanxi*, I say schmoozing: How East is meeting West and building a Lingua Franca of business connections. ***Business Week***, (November 19), [Cited 23 April 2015.] Available from URL: www.businessweek.com/magazine/content/07_47/b4059066.htm.

Cai, H., Fang, H., & Xu, C. 2011. Eat, drink, firms, and governments: An investigation of corruption from entertainment expenditures in Chinese firms, ***Journal of Law and Economics***, 54(1): 55–78.

Chen, C., Chen, X. P., & Huang, S. 2013. Chinese *guanxi*: An integrative review and new directions for future research. ***Management and Organization Review***, 9(1): 167–207.

Child, J. 1994. ***Management in China during the age of reform***. Cambridge, UK: Cambridge University Press.

Child, J., & Rodrigues, S. 2011. How organizations engage with external complexity: A political action perspective. ***Organization Studies***, 32: 803–824.

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

Fan, G., Wang, X., & Zhu, H. 2011. ***NERI INDEX of marketization of China's province 2011 report***. Beijing: Economic Science Press.

Granovetter, M. 1985. Economic action and social structure: The problem of embeddedness. ***American Journal of Sociology***, 91(3): 481–510.

Gu, F. F., Hung, K., & Tse, D. K. 2008. When does *guanxi* matter? Issues of capitalization and its dark sides. ***Journal of Marketing***, 72(4): 12–28.

Guo, C., & Miller, J. K. 2010. *Guanxi* dynamics and entrepreneurial firm creation and development in China. ***Management and Organization Review***, 6(2): 267–292.

Guthrie, D. 1998. The declining significance of *guanxi* in China's economic transition. ***The China Quarterly***, 154 (June): 254–282.
Hamilton, G., & Biggart, N. 1988. Market, culture, and authority: A comparative analysis of management and organization in the Far East. ***American Journal of Sociology***, 94 (Supplement): S52–S94.
Hooper, D., Coughlan, J., & Mullen, M. R. 2008. Structural equation modeling: Guidelines for determining model fit. ***The Electronic Journal of Business Research Methods***, 5(1): 53–60.
Hu, L. T., & Bentler, P. M. 1999. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. ***Structural Equation Modeling***, 6(1): 1–55.
Khanna, T., & Palepu, K. 2000. The future of business groups in emerging markets: Long-run evidence from Chile. ***Academy of Management Journal***, 43(3): 268–285.
Kieschnick, R., & McCullough, B. D. 2003. Regression analysis of varieties observed on (0,1): Percentages, proportions and fractions. ***Statistical Modeling***, 3(3): 193–213.
Kim, H., Kim, H., & Hoskisson, R. E. 2010. Does market-oriented institutional change in an emerging economy make business-group-affiliated multinationals perform better? An institution-based view. ***Journal of International Business Studies***, 41: 1141–1160.
Krippner, G. R., & Alvarez, A. S. 2007. Embeddedness and the intellectual projects of economic sociology. ***Annual Review of Sociology***, 33: 219–40.
Lazerson, M. 1995. A new phoenix? Modern putting-out in the Modena knitwear industry. ***Administrative Science Quarterly***, 40(1): 34–59.
Li, H. Y., & Zhang, Y. 2007. The role of managers' political networking and functional experience in new venture performance: Evidence from China's transition economy. ***Strategic Management Journal***, 28(8): 791–804.
Li, J. J., Poppo, L., & Zhou, K. Z. 2008. Do managerial ties in China always produce value? Competition, uncertainty, and domestic vs. foreign firms. ***Strategic Management Journal***, 29(4): 383–400.
Li, J. J., Poppo, L., & Zhou, K. Z. 2010. Relational mechanisms, formal contracts, and local knowledge acquisition by international subsidiaries. ***Strategic Management Journal***, 31(4): 349–70.
Lin, N. 2001. ***Social capital: A theory of social structure and action***. New York, NY: Cambridge University Press.
Lincoln, J. R., Gerlach, M. L., & Ahmadjian, C. L. 1996. Keiretsu networks and corporate performance in Japan. ***American Sociological Review***, 61(1): 67–88.
Luo, Y. D. 2003. Industrial dynamics and managerial networking in an emerging market: The case of China. ***Strategic Management Journal***, 24(13): 1315–1327.
Luo, Y. D. 2007. Are joint venture partners more opportunistic in a more volatile environment? ***Strategic Management Journal***, 28(1): 39–60.
Luo, Y. D., Huang, Y., & Wang, S. L. 2012. *Guanxi* and organizational performance: A meta-analysis. ***Management and Organization Review***, 8(1): 139–172.
Luo, Y. D., Liu, Y., & Xue, J. 2009. Relationship investment and channel performance: An analysis of mediating forces. ***Journal of Management Studies***, 46(7): 1113–1137.
Mullahy, J., & Robert, S. A. 2010. No time to lose: Time constraints and physical activity in the production of health. ***Review of Economics of the Household***, 8(4): 409–432.
National Bureau of Statistics. 2011. Industry classification (GB/T 4754-2011). [Cited 10 July 2014.] Available from URL: http://www.stats.gov.cn/tjsj/tjbz/hyflbz/.
Newman, K. 2000. Organizational transformation during institutional upheaval. ***Academy of Management Review***, 25(3): 602–619.
Nolan, J. 2010. The influence of Western banks on corporate governance in China. ***Asia Pacific Business Review***, 16(3): 417–436.
Ocasio, W. 2011. Attention to attention. ***Organization Science***, 22(5): 1286–1296.
Papke, L. E., & Wooldridge, J. M. 1996. Econometric methods for fractional response variables with an application to 401(k) plan participation rates. ***Journal of Applied Econometrics***, 11: 619–632.
Park, S., & Luo, Y. D. 2001. *Guanxi* and organizational dynamics: Organizational networking in Chinese Firms. ***Strategic Management Journal***, 22(5): 455–477.
Park, S. H., Li, S., & Tse, D. K. 2006. Market liberalization and firm performance during China's economic transition. ***Journal of International Business Studies***, 37(1): 127–147.

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

Peng, M. 2003. Institutional transitions and strategic choices. ***Academy of Management Review***, 28(2): 275.

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

Peng, M. W., & Luo, Y. D. 2000. Managerial ties and firm performance in a transition economy: The nature of a micro-macro link. ***Academy of Management Journal*** 43(3): 486–501.

Peng, M. W., & Zhou, J. 2005. How network strategies and institutional transitions evolve in Asia. ***Asia Pacific Journal of Management***, 22(4): 321–336.

Sheng, S., Zhou, K. Z., & Li, J. J. 2011. The effects of business and political ties on firm performance: Evidence from China. ***Journal of Marketing***, 75(1): 1–15.

Shi, W., Sun, S. L, & Peng, M. W. 2012. Sub-national institutional contingencies, network positions, and IJV partner selection. ***Journal of Management Studies***, 49(7): 1221–1245.

Sun, Z. Y. 2007. Statement by the H.E. ambassador Sun ZhenYu on China's transitional review at the General Council, WTO. [Cited 23 April 2015.] Available from URL: http://sms.mofcom.gov.cn/aarticle/xxfb/200801/20080105333342.htmlSun.

Sun, P., Mellahi, K., & Thun, E. 2010. The dynamic value of MNE political embeddedness: The case of the Chinese automobile industry. ***Journal of International Business Studies***, 41(7): 1161–82.

Tan, J., & Litschert, R. 1994. Environment-strategy relationship and its performance implications: An empirical study of the Chinese electronics industry. ***Strategic Management Journal***, 15(1): 1–20.

Tan, J., Yang, J., & Veliyath, R. 2009. Particularistic and system trust among small and medium enterprises: A comparative study in China's transition economy. ***Journal of Business Venturing***, 24(6): 544–557.

Uzzi, B. 1997. Social structure and competition in interfirm networks: The paradox of embeddedness. ***Administrative Science Quarterly***, 42(1): 35–67.

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

Xin, K., & Pearce, J. 1996. *Guanxi*: Connections as substitutes for formal institutional support. ***Academy of Management Journal***, 39(6): 1641–1658.

Xu, D., & Meyer, K. 2013. Linking theory and context: 'Strategy research in emerging economies' after Wright et al. (2005). ***Journal of Management Studies***, 50(7): 1322–1346.

Zaheer, S. A., Albert, S., & Zaheer, A. 1999. Time scales and organizational theory. ***Academy of Management Review***, 24(4): 725–741.

Zhang, J., & Keh, H. T. 2010. Interorganizational relationships in a transition economy: Organizational forms, governance mechanisms and outcome. ***Management Organization Review***, 6(1): 123–147.

Zhang, Y., & Li, H. 2010. Innovation search of new ventures in a technology cluster: The role of ties with service intermediaries. ***Strategic Management Journal***, 31(1): 88–109.

Zhou, K. Z., & Poppo, L. 2010. Exchange hazards, relational reliability, and contracts in China: The contingent role of legal enforceability. ***Journal of International Business Studies***, 41(5): 861–881.

Zhou, K. Z., & Xu, D. 2012. How foreign firms curtail local supplier opportunism in China? Detailed contracts, centralized control, and relational governance. ***Journal of International Business Studie***s, 43: 677–692.

Zhou, K. Z., Poppo, L., & Yang, Z. 2008. Relational ties or customized contracts? An examination of alternative governance choices in China. ***Journal of International Business Studies***, 39: 526–34.

Jianjun Zhang (jjzhang@gsm.pku.edu.cn) is an associate professor of Organization and Strategic Management at Guanghua School of Management, Peking University. He received his PhD from the University of California, Berkeley. His research interests include corporate social responsibility, corporate

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press

political activity, and top management teams. His publications have appeared in *Academy of Management Journal*, *Organization Science*, *California Management Review*, etc.

Wei Zhao (wzhao1@uncc.edu) received his PhD from Duke University, and is an Associate Professor of Sociology and Organizational Science at the University of North Carolina at Charlotte. His current research focuses on social inequality and organizational practices in China. He has also examined institutional classifications, market identity, and product price in the California and French wine industries. His publications have appeared in *American Sociological Review*, *Annual Review of Sociology*, and *Organization Science*.

Yanlong Zhang (yanlong.zhang@gsm.pku.edu.cn) is an Assistant Professor at Guanghua School of Management at Peking University. He received his PhD in Sociology from Duke University. His research interests include corporate governance, organization studies, social networks, and social capital. He currently studies entrepreneurs' social networks, local business associations, and corporate social capital.

Manuscript received: March 2, 2014
Final version accepted: April 23, 2015 (number of revisions – 2)
Accepted by: Senior Editor Laura Poppo

https://doi.org/10.1017/mor.2015.50 Published online by Cambridge University Press