Under what institutional conditions does overseas business knowledge contribute to firm performance?

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ABSTRACT

We examine the extent to which the impact of the overseas business knowledge transferred by returnee entrepreneurs on firm performance is conditional on institutional factors. The findings show that informal institutional differences between the home and host countries strengthen the positive impact of overseas business knowledge on the performance of returnee-founded firms. There is a complementarity between informal institutional differences and local government policy support which jointly enhance the positive impact of overseas business knowledge. However, a well-developed local business infrastructure substitutes for the impact of informal institutional differences on the relationship between overseas business knowledge and returnee venture performance.

1. Introduction

Returnee entrepreneurs in emerging economies have received increasing attention, and have stimulated research, as a result of the increasing mobility of skilled labor across countries. They are defined as skilled personnel, including students and scientists, who have returned to their home country to start a business after several years of education and/or business experience in developed countries (Filatotchev, Liu, Buck, & Wright, 2009; Pruthi, 2014; Wright, Liu, Buck, & Filatotchev, 2008). Earlier research on returnee entrepreneurs examined a variety of issues, including the factors affecting the location choices of returnee entrepreneurs when starting their businesses, firm performance, as well as the impact of returnee ventures on other local firms through knowledge spillovers (Liu, Wright, Filatotchev, Dai, & Lu, 2010; Wright et al., 2008; Zhou & Hsu, 2011). Some studies have shown that returnee entrepreneurs play an important role in the exporting, innovation and employment growth of their ventures (Dai & Liu, 2009; Filatotchev et al., 2009), whereas others have found that firms led by returnees do not outperform those led by home-grown managers (Li, Zhang, Li, Zhou, & Zhang, 2012; Obukhova, Wang, & Li, 2012). The inconsistent findings may be due to the fact that previous studies on returnee mobility mainly focused on the direct link between returnees' advantages

and firm performance, without taking the institutional context into account.

While it is recognized that the institutional environment in which returnee entrepreneurs operate creates both opportunities and barriers to their businesses (Hoskisson, Wright, Filatotchev, & Peng, 2013; Li et al., 2012; Lin, Lu, Li, & Liu, 2015; Wright, Filatotchev, Hoskisson, & Peng, 2005), contextual boundary conditions under which overseas knowledge transferred via returnee entrepreneurs contributes to firm performance have been underexplored. Some scholars have indicated that a firm's success is attributable to organizational conformity to the specific demands of the external institutional environment in which it operates (Dacin, Oliver, & Roy, 2007; Deephouse, 1999; DiMaggio & Powell, 1983), whereas others have shown that being different is crucial to achieving competitive advantages (Stuart, Hoang, & Hybels, 1999; Tan, Shao, & Li, 2013). However, we know little about how returnee ventures resolve the tension between achieving institutional conformity and maintaining uniqueness when operating in their home country.

In addition, although prior research has examined the extent to which informal institutions, such as cultural values and social norms, moderate the value of resource-based advantages, and has provided insights into the challenges facing international knowledge transfer

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(Brouthers, Brouthers, & Werner, 2008; Schwens, Eiche, & Kabst, 2011), few studies have investigated whether returnee entrepreneurs can effectively capitalize on their knowledge advantages in transnational contexts. In particular, informal institutional differences are often perceived to be a barrier to knowledge transfer and existing studies have placed great emphasis on the advantages of institutional conformity, but have paid less attention to the benefits associated with variations in cross-border informal institutions. Such an approach constrains our understanding of how returnee entrepreneurs exploit their knowledge-based advantages in the diverse informal institutional context.

Moreover, most existing studies have predominantly examined the independent effects of institutions at the expense of their interdependence (Levie & Autio, 2011; Sine, Haveman, & Tolbert, 2005; Stenholm, Acs, & Wuebker, 2013). Thus, we know little about the extent to which formal and informal institutions interact and jointly moderate the relationship between international knowledge transfer and firm performance. Such an omission limits our understanding of institutional complexity and associated firm-level outcomes.

Finally, existing research on international knowledge flows through skilled labor mobility has mainly focused on technological knowledge transfer, often using patent data to show that returnee mobility is associated with knowledge spillovers (Filatotchev, Liu, Lu, & Wright, 2011; Liu et al., 2010). However, little attention has been paid to the impact of transferring overseas business knowledge via returnee entrepreneurs on firm performance. Transferring overseas business knowledge, such as new business models and concepts, as well as best practices, may be equally if not more important than transferring advanced technological knowledge (Fang, Jiang, Makino, & Beamish, 2010; Wang, 2015). Therefore, it is important to move beyond technological knowledge transfer via returnee mobility.

This study is motivated by the need to reconcile inconsistent findings in the existing studies on returnee entrepreneurs by examining the following research question: under what institutional conditions would returnee entrepreneurs be better able to exploit business knowledge acquired overseas in their home country? More specifically, we synthesize and test a conceptual model which links variations in informal institutions between the origin and destination countries to which the business knowledge is transferred, the local formal institutional environment and returnee venture performance.

We contribute to the existing literature on international knowledge transfer via entrepreneurs in several ways. First, our study provides new insights into the relationship between cross-country informal institutional differences and the performance implications of overseas knowledge transferred by returnee entrepreneurs who are knowledge carriers and directly commercialize overseas business knowledge. Despite increasing recognition of the importance of the institutional context in international knowledge transfer, the existing research has not explored the extent to which variations in informal institutional contexts enable returnee entrepreneurs to achieve desirable firm performance by exploiting overseas business knowledge (Conti, 2013; Lin et al., 2015; Marx, Strumsky, & Fleming, 2009; Younge, Tong, & Fleming, 2015). Thus, our study extends the existing literature by investigating the extent to which mobile individual knowledge carriers' perceptions of informal institutional differences moderate the impact of overseas business knowledge on firm performance. Second, our study sheds new light on a theoretical tension between seeking social legitimacy through conformity and achieving competitive advantage through distinctiveness. In particular, we reveal the extent to which the interplay between formal and informal institutions enables returnee entrepreneurs to resolve such a tension and exploit their knowledge advantage. Finally, we go beyond technological knowledge transfer by explicitly examining overseas business knowledge transfer, thus broadening the scope of international knowledge flows.

2. Theoretical background and hypotheses

2.1. Theoretical background

To underpin the interrelationship between overseas business knowledge transferred by returnee entrepreneurs, institutional contexts and firm performance, we draw on new institutional economics (North, 1990) and the sociological tradition (DiMaggio & Powell, 1983; Scott, 1995) of institutional theory. North (1990) proposes that institutions consist of both formal rules and informal constraints (e.g. sanctions, values, norms, traditions and codes of conduct) that create order and shape societal transactions. Although new institutional economics recognizes the existence of informal institutions, it pays particular attention to formal rules and regulations, as well as how they affect economic exchange and transaction costs (Joskow, 2008; Williamson, 2009). While sharing a common view with new institutional economics that institutions shape the interaction between societal actors, neo-institutional theory or new organizational institutionalism focuses more on social considerations, as organizations need to respond to institutional pressures (DiMaggio & Powell, 1983). Economic decisions or strategic choices are not only constrained by technological and income considerations, but also by socially constructed limits such as norms and customs (Oliver, 1997; Williamson, 2009). Neo-institutional theory moves away from a transaction cost-minimizing perspective to one where organizations conform to institutional pressures in order to gain legitimacy (Kostova & Zaheer, 1999; Meyer & Rowan, 1977). This perspective specifies institutions into coercive, cognitive and normative forces (Scott, 1995). A coercive system is established mainly by government regulations and policies with which organizations must comply. This aspect of institutions is equivalent to North (1990) formal institutions. The normative component of institutions consists of 'social norms, values, beliefs and assumptions that are socially shared and carried out by individuals' (Kostova, 1997, p. 180). A cognitive dimension of institutions contains symbols and widely shared perceptions of what is taken for granted (Busenitz, Gomez, & Spencer, 2000; Scott, 1995). While the normative and cognitive dimensions of institutions are equivalent to new institutional economics' informal institutions (Holmes, Miller, Hitt, & Salmador, 2013), they introduce and place great emphasis on social legitimacy through which informal institutions affect knowledge transfer (Kostova & Zaheer, 1999; Xu and Shenkar, 2002).

The institutional perspective highlights the importance of the contextual influence in exploiting knowledge advantages to enhance firm performance in transnational contexts (Schwens et al., 2011). Returnee entrepreneurs with exposure to the host-country environment may have immersion in and adaptation to social norms and values of those countries (Chua, 2015). This may shape returnee entrepreneurs' cognitive habits, personal values and beliefs (Lin et al., 2015; Liu, Gao, Lu, & Wei, 2015). When returnee entrepreneurs move back to their home country, the informal institutions of host countries may still affect them as social norms, informal rules and beliefs are carried along as baggage when people migrate internationally, while formal institutions are left behind (Peng, 2002). This suggests when returnee entrepreneurs come back from a host country in which value systems and social norms differ from their home country, they may have a different mindset or different ways to interpret overseas business knowledge and perceived business opportunities, compared with their local peers who have not been exposed to a foreign country (Lin et al., 2015). In other words, informal institutional differences between the home and host countries may affect the ways that returnee entrepreneurs capitalize on overseas business knowledge in their home country (Bruton, Ahlstrom, & Li, 2010; Welte, 2011).

Extant research on entrepreneur mobility has recognized the importance of formal institutions (Agarwal, Gambardella, & Olson, 2016). Some studies have found that regulations related to the protection of intellectual property rights, especially non-compete
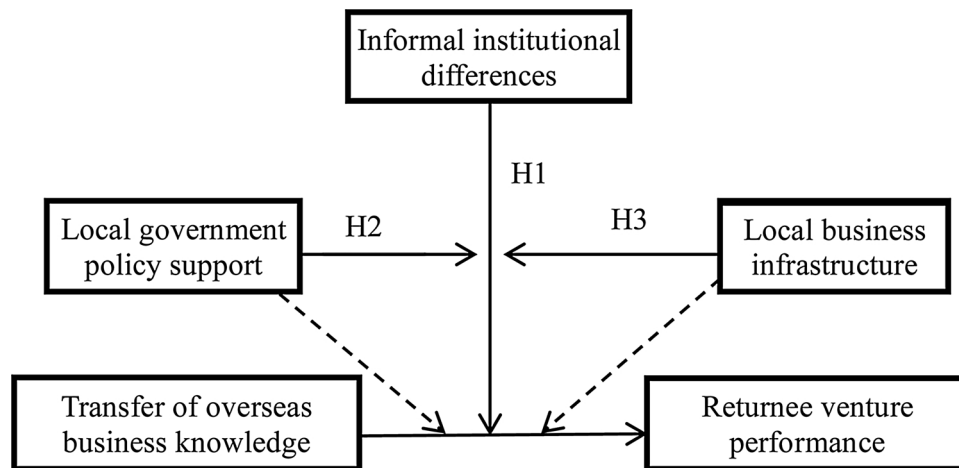
Fig. 1. The Conceptual Model.

agreements at the national or regional level, have constrained employee mobility and entrepreneurship (Conti, 2013; Marx et al., 2009; Younge et al., 2015). However, the impact of variations in cross-border informal institutions has received little attention in the area of transnational entrepreneurship (Autio, Kenney, Mustar, Siegel, & Wright, 2014; Wright, Liu, & Filatotchev, 2012). Moreover, prior work has mainly focused on the independent effect of a single dimension or several institutional factors in isolation, without considering the interactive effect of both formal and informal institutions on international knowledge transfer (Batjargal et al., 2013; Levie & Autio, 2011; Peng, Yamakawa, & Lee, 2010; Sine et al., 2005). Such an omission overlooks the interconnections between formal and informal institutions, and limits our understanding of the complexity of the institutional environment. Adopting an institutional perspective, we unpack the interplays between informal institutional differences in the home and host countries, as well as government policy and the local business infrastructure which jointly affect the value of the overseas business knowledge transferred by returnee entrepreneurs.

Fig. 1 depicts our conceptual model, highlighting the importance of, and the interdependencies between, different types of institutions that are crucial for returnee entrepreneurs when exploiting overseas business knowledge. These factors are considered as the boundary institutional conditions which indirectly influence the commercial return of overseas business knowledge transferred by returnee entrepreneurs.

2.2. International knowledge transfer and returnee venture performance

The unique characteristic of returnee entrepreneurs is that they have been exposed to different institutional environments and knowledge contexts. They may not only possess advanced technologies but also new business knowledge, such as compelling business models and new business concepts, unique organizational knowledge and management practices which they learned abroad (Filatotchev et al., 2009; Lin et al., 2015; Wright et al., 2008). As an intangible asset, unique overseas business knowledge serves as the source of competitive advantage (Barney, 1991; Grant, 1996). For example, returnees can exploit knowledge asymmetry between their home and host countries by providing new products and delivering new services (Lin et al., 2015). Their knowledge advantage helps returnee ventures to attract potential customers and increase demand for their products and services, thus placing their firms in a strong competitive position. Moreover, straddling transnational contexts enables returnee entrepreneurs to recognize opportunities in their home countries by making accurate comparisons between abroad and their home country, and by utilizing overseas knowledge (Wang, 2015). Their unique position and diverse sources of knowledge may differentiate their ventures from local peers

and enable their firms to achieve competitive advantage (Dai & Liu, 2009; Wang & Lu, 2012). Finally, it is costly and time-consuming for local competitors to imitate returnees' overseas business knowledge due to a lack of understanding of the context in which such knowledge has been developed (Agarwal, Echambadi, Franco, & Sarkar, 2004; Levin & Barnard, 2013). Thus, the possession of overseas business knowledge serves as the base of competitive advantage of returnee ventures. However, it is less clear to what extent the value of overseas business knowledge is conditional on the institutional environment in which returnee entrepreneurs operate.

2.3. International knowledge transfer, institutions and returnee venture performance

Returnee entrepreneurs with exposure to a host-country environment had immersion in and adaptation to social norms and values of those countries (Chua, 2015). This may alter returnee entrepreneurs' cognitive habits, personal values and beliefs which may differentiate returnee entrepreneurs from local-grown entrepreneurs. Research shows that returnee entrepreneurs tend to prefer explicit rules and rely on impersonal processes in resource acquisition and interactions with external stakeholders (Lin et al., 2015). They are more likely to use impersonal criteria, such as product quality and added value, to attract and retain customers. In contrast, local entrepreneurs typically adopt informal ways to cultivate relationships through interpersonal processes sanctioned by social power (e.g. trust and reputation) and mutual interests (Khavul, Bruton, & Wood, 2009; Lin et al., 2015). They seek external support through social obligations and shared values. Local entrepreneurs' behavior and management orientation reflect a widely held view that informal rules and social norms in China are built on relationship-centered pervasiveness (Barkema, Chen, George, Luo, & Tsui, 2015; Luo, 2000). Thus, differences in informal institutions between the home and host countries may influence the way that returnee entrepreneurs commercialize their overseas business knowledge and may also shape the perceptions of customers and other external stakeholders regarding overseas business knowledge.

First, returnee entrepreneurs' exposure to different informal institutions in the host country may alter their mindset and promote openness to new perspectives. Differences in informal institutions may help returnee entrepreneurs apply overseas knowledge in a novel way or creatively commercialize such knowledge to gain competitive advantage (Edman, 2016; Leung, Maddux, Galinsky, & Chi-yue, 2008; Santos & Eisenhardt, 2009). Research suggests that returnees focus less on relationship harmony, but strive for novelty and open competition (Lin et al., 2015). Such a mindset motivates them to capitalize on novel overseas business knowledge by placing a strong emphasis on product

and service quality, as well as innovation, which can help their firms to win customers and achieve superior performance.

Second, returnee entrepreneurs who have adopted different social norms and values, think beyond the prevailing institutional norms in their home country (Boxenbaum & Battilana, 2005; Zweig, Chung, & Vanhonacker, 2006) and may perceive being different as a competitive advantage (Lin et al., 2015; Liu et al., 2015). Informal institutional differences serve as the source for returnee ventures to distinguish themselves from their local peers due to different ways of thinking shaped by different social norms and values. Such differences help returnee entrepreneurs to differentiate their businesses from local competitors, thus reducing the intensity of local competition and resulting in improved firm performance (Barney, 1991; Baum & Mezias, 1992; Lin et al., 2015). This suggests that the benefits of exploitation of novel overseas business knowledge are reinforced by the degree of variation between the informal institutions in home and host countries (Wang & Lu, 2012).

A third reason is that informal institutional differences help returnee entrepreneurs to sustain their competitive advantage derived from overseas business knowledge because it is difficult for local competitors to imitate overseas business knowledge which originated in a largely different informal institutional context. Obtaining business knowledge requires imitators to understand the complex social context in which overseas business knowledge is embedded (Brannen, 2004). Returnee entrepreneurs are in a better position to exploit such knowledge as they have been exposed to, and understand, the institutional contexts of both home and host countries, and have the ability to overcome barriers to international knowledge transfer (Liu et al., 2015). Thus, we argue that differences in informal institutions serve as a barrier to imitation by local competitors and enable returnee ventures to preserve the value of overseas business knowledge.

It has been noted that cross-country informal institutional differences may add costs and represent barriers to international knowledge transfer (Kostova, 1999; Xu and Shenkar, 2002). Some studies show that cultural differences negatively affect intra and inter-firm knowledge transfer across national borders (Bjorkman et al., 2007; Buckley, Clegg, & Tan, 2006; Dinur, Hamilton, & Inkpen, 2009; Reus & Rottig, 2009). However, variations in cross-country informal institutions may affect the transfer of overseas business knowledge via returnee entrepreneurs in different ways from other channels such as trade, foreign direct investment and inter-firm relationships in the form of partnerships and collaboration (Lin et al., 2015; Liu et al., 2015). As knowledge carriers, returnee entrepreneurs directly apply overseas business knowledge within their ventures without involving the process of knowledge transfer from knowledge holders to knowledge receivers. Setting up a new venture typically bypasses issues related to embedding new routines into an existing firm and establishing new internal mechanisms for knowledge transfer (Gambardella, Ganco, & Honoré, 2015; Ganco, 2013). Thus, it is likely that entrepreneurs, as knowledge carriers, may encounter fewer barriers to transferring knowledge compared with other means of knowledge transfer. In particular, returnee entrepreneurs physically move between countries and understand both the institutional context of their host country and home country (Kotabe, Riddle, Sonderegger, & Täube, 2013; Levin & Barnard, 2013). Thus, the benefits of transferring novel business knowledge given informal institutional differences may prevail.

Hypothesis 1. Informal institutional differences between home and host countries strengthen the importance of overseas business knowledge transferred by returnee entrepreneurs in boosting their venture performance.

In emerging markets, most influential formal institutions are related to government regulations and policy, as policy makers or public authorities play an important role in shaping the formal institutional context (Bruton et al., 2010). In particular, government policies are powerful instruments through which governments can control and allocate resources and thus affect the resource acquisition of entrepreneurial firms (Baumol, Litan, & Schramm, 2009; Bowen & De Clercq, 2008).

Commercializing international knowledge requires external capital, market acceptance and complementary resources (Li et al., 2012; Zhou & Hsu, 2011). As important resource providers, governments in emerging economies often provide various institutional support through regulations and policies to facilitate international knowledge transfer and encourage entrepreneurial activities (Wright et al., 2012). Local government policy support in the home country may enhance the positive impact of differences in informal institutions on the relationship between overseas business knowledge and firm performance in three main ways (George & Prabhu, 2000; Wang & Lu, 2012).

First, local governments can provide financial support for returnee entrepreneurs which not only removes financial barriers but also helps mitigate the uncertainty associated with exploiting informal institutional differences when commercializing overseas business knowledge. Such policy support can signal the legitimacy of returnee ventures. External legitimacy endorsed by the local government helps returnee entrepreneurs to further establish their credibility in the eyes of external stakeholders and potential customers (Batjargal et al., 2013; Levie & Autio, 2011; Peng et al., 2010). This helps to further boost demand for their products and services. Thus, government support enables returnee entrepreneurs to more fully exploit informal institutional differences and overseas business knowledge in the local market.

Second, local governments can provide incentives for innovation, which can be crucial in creating a knowledge-based economy. Such an incentive scheme provides particular rewards and favorable conditions so that returnee entrepreneurs can deliver innovative products and services, as well as inventing new business models (Peng et al., 2010; Wang & Lu, 2012). As we argued above, returnee entrepreneurs' exposure to different social norms and informal rules in the host country makes them more open to new approaches and less constrained by local prevailing social norms (Edman, 2016; Leung et al., 2008; Zucker, 1988). An incentive scheme from the local government can provide the necessary support for returnee ventures so that they can realize their potential without compromising their novel approach. With such support, they face less pressure to conform to local prevailing norms in order to convince external resource holders, suppliers and customers (Hsu, Roberts, & Eesley, 2007; Powell & Sandholtz, 2012). In this regard, an incentive scheme for innovation grants returnee ventures legitimacy which enables them to more fully pursue the advantage of informal institutional differences and overseas business knowledge (Stuart et al., 1999; Tan et al., 2013).

Finally, local governments can facilitate the commercialization of international knowledge by providing knowledge transfer mechanisms. Government agencies involved in knowledge transfer can provide advice regarding locations where returnee entrepreneurs can set up their businesses and so help them to best exploit advanced knowledge. Such support can compensate for returnee entrepreneurs' lack of local connections or local embeddedness, given that knowledge transfer mechanisms serve as an important means of accessing local knowledge. Returnee entrepreneurs can rely on government agencies for valuable local information and connections which enable them to preserve their uniqueness (Li et al., 2012; Lin et al., 2015). Without such schema, returnee entrepreneurs may have to obtain local knowledge through partnership or reestablishing local networks. This may incur the risk of losing their knowledge advantages due to the unintended leaking of knowledge so that local counterparts may be able to quickly imitate their overseas business knowledge. Hence, knowledge transfer mechanisms provide access to local resources and compensate for the disadvantage of being returnee entrepreneurs, thus lowering the possibility of local firms imitating their advanced knowledge.

In summary, government policy support provides returnee ventures with endorsements and legitimacy as well as local knowledge and thus enables returnee entrepreneurs to more fully exploit informal

institutional differences between the home and host countries, and so translate their knowledge advantage into superior firm performance. Under such circumstances, returnee ventures can enjoy the best of both worlds. Thus, we propose

Hypothesis 2. The moderating effect of informal institutional differences between home and host countries on the relationship between overseas business knowledge transferred by returnee entrepreneurs and their venture performance is stronger when the level of local government policy support is high.

The local business infrastructure refers to the activities of local communities, business associations and intermediate institutions. Local government plays an important role in supporting the activities of local communities, and fostering local business associations and intermediate institutions (Audretsch, Heger, & Veith, 2015; Zhao & Lu, 2016). The development of the local business infrastructure is often included as part of policy initiatives to create an enabling environment which is crucial to supporting the implementation of formal regulations (Dahan, Doh, Oetzel, & Yaziji, 2010). Specifically, the local business infrastructure acts as an important knowledge transfer mechanism to achieve policy objectives aimed at enhancing the connectivity, interaction and learning between returnee and local firms (Cooke & Memedovic, 2003; von Malmborg, 2004). Examining the local business infrastructure enables us to capture the impact of an additional dimension of formal institutions on returnee firms, thus complementing prior studies with a predominant focus on examining the role of regulatory forces (Acs, Autio, & Szerb, 2014; Wright et al., 2012). The local business infrastructure serves two main functions for returnee ventures.

First, operating in the fluid local business environment, returnee entrepreneurs are more able to be embedded locally (Casson, 1990; Saxenian, 1994). As returnee entrepreneurs are increasingly embedded into the local business environment, they may adjust themselves according to local norms and informal rules. Once returnee entrepreneurs have become insiders, the perceived informal institutional differences between their home and host country will diminish. This will affect their interpretation and application of overseas business knowledge as they may come to share the same views as their local peers, thus reducing their uniqueness. Our arguments suggest that being locally embedded is a source of legitimacy which improves returnee ventures' social fitness (DiMaggio & Powell, 1983). However, institutional conformity is at the expense of uniqueness (Tan et al., 2013), thus weakening the base of returnee ventures' competitive advantage.

The other main function of a well-established local business infrastructure is to enrich the knowledge base and facilitate knowledge diffusion within a region. For example, the presence of a large number of intermediate institutions provides diverse sources of knowledge for both returnee firms and local firms, and helps to reduce information asymmetry (Yi, Chen, Wang, & Kafouros, 2015; Zhao & Lu, 2016). Returnee entrepreneurs operating in a region with well-functioning intermediate institutions and an efficient business infrastructure are more likely to have greater access to local knowledge and local market know-how (Acs et al., 2014; Ghio, Guerini, Lehmann, & Rossi-Lamastra, 2015). Meanwhile, intermediate institutions also serve as a mechanism for local firms to access international knowledge and thus help them overcome the barriers to imitating overseas business knowledge possessed by returnee entrepreneurs. In particular, a well-established regional business environment encourages learning by providing an efficient common infrastructure which facilitates knowledge flows through market interaction (McEvily & Zaheer, 1999; Yi et al., 2015). Hence, overseas knowledge is likely to be imitated by local firms. This suggests that a well-established local business infrastructure not only reduces returnee entrepreneurs' perceived differences in informal institutions, but also helps reduce any barriers to imitation due to close interaction between returnee ventures and local firms (Lin et al., 2015; Liu et al., 2015). As a result, the performance-enhancing effect of overseas business knowledge associated with informal institutional

differences will be weakened.

Taken together, a well-developed local business infrastructure enhances the level of local embeddedness which helps returnee entrepreneurs to reconnect themselves with local business communities and regain insider status. In addition, a well-established local business infrastructure facilitates knowledge flows and helps reduces knowledge asymmetry. Increased local embeddedness and reduced knowledge asymmetry also weaken the importance of informal institutional differences and overseas business knowledge in returnee ventures' performance. Thus, we argue that there is a substitution relationship between effective local business infrastructure and informal institutional differences.

Hypothesis 3. The moderating effect of informal institutional differences between home and host countries on the relationship between overseas business knowledge transferred by returnee entrepreneurs and their venture performance is stronger when the level of development of local business infrastructure is low.

3. Data and methods

3.1. Sample and data collection

We focus on ventures which were founded by returnees after their return to China. China is an ideal context for studying returnee businesses as it has experienced the 'brain circulation' phenomenon on a large scale in recent years. The sample for our questionnaire survey was based on a list of participants in the Guangzhou Convention of Overseas Chinese Scholars in December 2011. The convention has been held in Guangzhou annually since 1998 and has grown into the largest platform for Chinese returnees searching for jobs, seeking venture investment and/or collaborative opportunities in China. The returnees who attended the annual conference consisted of returnee graduates who were looking at jobs and those who planned to or had already set up their business. Our survey specifically targeted the latter group of returnees. The survey allowed us to obtain detailed and comprehensive information on returnee businesses, the extent of their business knowledge transfer and the institutional environment for such businesses. With the support of the convention organizers, we were able to obtain a list of 2612 returnees who registered to attend this convention in 2011 together with their contact details.

Our survey design was informed by a pilot study with four returnee entrepreneurs to help to clarify key concepts and verify the transparency of metrics of environmental dimensions, knowledge transfer, etc. Following some minor changes to the questionnaire in Chinese in the light of their feedback, an English version was developed and then back-translated into Chinese with assistance from independent translators to ensure conceptual equivalence (Hoskisson, Eden, Lau, & Wright, 2000). The main survey was administered to the final sample of 2612 Chinese returnees online via email invitation between December 2011 and February 2012. A book on returnees written by one of the authors and an individualized report based on the survey were offered as an incentive. Four rounds of reminders were sent during this period. In each round of email follow-ups, we excluded the returnees who had already participated in the survey. Finally, we obtained responses from 264 returnee businesses, an overall response rate of 10.1 per cent, with complete information from 196 firms.

To check for non-response bias, we compared the personal profile of the respondents with those of non-respondents. The multivariate *t*-test with gender, overseas education, fields of studies and host countries showed no significant differences between the two groups, suggesting that non-response bias was not a problem in our data.

3.2. Common method bias

To address common method bias issues, we took the following steps.

First, we improved the scale items by using multiple item constructs and different scale formats for predictor and criterion measures to diminish method biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition, we counterbalanced the question order in the survey by placing the dependent variable before the independent variables, which neutralizes some of the method biases that affect the retrieval stage by controlling the retrieval cues prompted by the question context (Podsakoff & Organ, 1986). Furthermore, we used a nonlinear regression model with interaction terms, which can reduce the likelihood of common method variance (CMV) because respondents are unlikely to be guided by a cognitive map that includes difficult-to-visualize interaction and nonlinear effects (Chang, van Witteloostuijn, & Eden, 2010). Second, we performed Harman (1976) single factor test. All items did not load on a single factor. Third, we added a common latent factor (Podsakoff et al., 2003) and found that the path coefficients of the core model remained essentially the same after integration of this idle factor; the difference between the regression coefficient weight of each variable in the core model with and without this latent factor was less than 0.1. Moreover, all items loaded much more strongly on their substantive constructs than on the latent common method factor. Finally, to obtain more accurate representation of common method bias, we included a marker variable (Lindell & Whitney, 2001), the average length of visiting China while these returnee entrepreneurs were working/studying overseas. This variable was not statistically significant in relation to our dependent variable (sales growth β = -0.08). Hypotheses 2 and 3 still held after we filtered out the main effect of common method bias using this marker variable. This result was further verified by our 95% sensitivity analysis.

3.3. Measurements

3.3.1. Dependent variable

3.3.1.1. Firm performance. We measured returnee venture performance by an ordinal variable that allows us to rank order their sales growth in the past three years, in five equally spaced intervals (1 = below 10%, 2 = between 10% and 30% including 10%, 3 = between 30% and 50% including 30%, 4 = between 50% and 100% including 50%, 5 = 100% and above). Sales growth is a widely acknowledged indicator of successful firms and a central ambition of high-tech returnee ventures (Gilbert, McDougall, & Audretsch, 2006; Wright et al., 2008). We used multi-year averages in an effort to mitigate concerns over potential variability in single-year returns (Meyer & Gupta, 1994). The three-year time frame we used is consistent with prior research examining medium to long-term performance (Boyd, 1995; Simerly & Li, 2000).

3.3.2. Independent variables

3.3.2.1. Overseas business knowledge transfer. This was measured by an ordinal variable that captures the degree of novelty of overseas business knowledge compared to that of domestic knowledge in four equally spaced intervals (Agarwal et al., 2004). The variable was created based on the following two questions: *Have you bought back any business knowledge from your host country (e.g. a business model, new business ideas and concepts) that is new for China? If Yes, how advanced is it?* The variable took the value of 1 if it was at 'average domestic level'; 2 if it was at 'advanced domestic level'; 3 if it was at 'advanced international level', and 0 otherwise.

To more precisely capture the impact of informal institutional difference and formal institutions, we reviewed the relevant literature and the documents relating to government policies for returnee entrepreneurs, as well as conducting interviews to aid the development of these measures. This is because the institutional environment within which returnee ventures operate is context specific, and prior research has provided only a very limited number of measurements for these concepts. In particular, prior research has tended to focus on generic government policy support and standard regulations in terms of formal institutions. In addition, extant literature on international knowledge

transfer has mainly examined the sources and motivations for international knowledge transfer (Hansen, Mors, & Lovås, 2005; Szulanski, 1996), but not the institutional contextual conditions for the outcomes of such transfers. We first reviewed the relevant literature to identify important theoretical dimensions for each of the three types of institutional dimensions and then interviewed seven returnee entrepreneurs to collect contextual information on these three institutional aspects. The interviews aided the development of these measurements. We asked returnee entrepreneurs about their experience of operating under each of the three types of institutional dimensions and asked them to specify one or more aspects of informal institutional differences between the home and host countries, local government policy environment, and local business infrastructure that they knew about, or had actually benefited or suffered from. The interviewer took notes and restated the interviewees' comments to verify their actual meaning during the interviews, and to categorize informal institutional differences, the local government policy support, and local business infrastructure development into several dimensions.

3.3.2.2. Informal institutional differences. To develop a context-sensitive measure of the differences in social norms/values and informal rules between returnee entrepreneurs' home region and host countries, we relied on qualitative interviews to generate relevant items. We asked returnee entrepreneurs to indicate their experiences of readapting to the social norms/values and local informal rules in China. Based on the information collected through the interviews, we developed four items to measure the extent to which they perceived differences in social norms and local informal rules compared with their host countries using four statements: (1) Returnee entrepreneurs' management orientations may not work in China; (2) Returnee entrepreneurs' behavioral patterns may not match the way of doing business in China; (3) Returnee entrepreneurs do not understand the informal 'rules of the game' in China; and (4) Returnee entrepreneurs' beliefs based on Western culture conflict with Chinese culture. These items were also rated on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The higher the scale, the larger the differences in informal institutions between the home region and host countries. The results of EFA indicated a one-factor solution, with all eigenvalue equal to 2.369 which explained 60% of the total variance, and loadings greater than 0.71.

3.3.2.3. The level of local government policy support. As a large country, China consists of 31 provinces in which local governments have implemented various policies to support returnee-founded firms (Wang & Lu, 2012). Thus, we measured the level of local government policy support towards returnee-founded firms by classifying the information collected in the interviews into three categories: the extent to which the local government provides 1) funding for returnee businesses; 2) knowledge transfer mechanisms to facilitate overseas knowledge acquisition and application; 3) incentive schemes for innovation. We further checked the policies issued by various levels of local government to ensure that we had covered the important dimensions in policy support for returnee ventures. Each scale item used a 5-point Likert-type response format ranging from 1 strongly disagree, to 5 strongly agree. Finally, the three dimensions of local government policy support were aggregated together to measure the policy environment for returnee ventures. To examine the validity of the measures regarding the level of local government policy support, we conducted exploratory factory analysis (EFA). The results from EFA suggest that one factor with eigenvalue equal to 2.816 explained 94% of the total variance, and all loadings greater than 0.65.

3.3.2.4. Local business infrastructure. Similarly, we also drew on the interviews to develop items measuring the local business infrastructure. Two main categories for the local business infrastructure emerged from the interviews: the dynamic of the activities of local business

communities and associations and the advancement of the services provided by local business intermediaries. In the survey, we asked returnee entrepreneurs to rate the extent to which they agreed that (1) the activity of local business communities and associations are vigorous and (2) local business intermediaries are dedicated to provide state of the art services (1 = strongly disagree, to 5 = strongly agree). We performed an EFA. The results indicated a one-factor solution with eigenvalue equal to 2.660 which explained 89% of the total variance, and all loadings exceeded 0.75. We aggregated the two dimensions into one measurement for local business infrastructure.

We also conducted confirmatory factory analyses (CFA) to examine the discriminant validity of these constructs. The Cronbach's alphas for the level of local government policy support, local business infrastructure and informal institutional differences were found to be 0.97, 0.94 and 0.75 respectively. The CFA results indicated that a three-factor model (x^2 = 169.69, df = 32, ρ < .01, RMSEA = .05, CFI = .96, GFI = .93, TLI = .95) fits the data better than all the alternative models including a one-factor model and three two-factor models. For instance, results from our chi-square difference test revealed that the three-factor model had a better fit than the one-factor model (Δx^2 = 221.17, Δdf = 3, ρ < .01, RMSEA = .16, CFI = .63, GFI = .60, TLI = .53).

3.3.3. Control variables

We included a set of control variables to account for the impact of other factors. First, we controlled for returnees' individual characteristics, such as their bicultural capability, which makes them more sensitive to opportunities in their home market (Barner-Rasmussen, Ehrnrooth, Koveshnikov, & Mäkelä, 2014; Dimitratos, Buck, Fletcher, & Li, 2016), and their level of capital investment in the overseas knowledge transfer, which substantially motivates returnee entrepreneurs to make a greater effort to transfer such knowledge and apply it in an effective manner. We captured returnee entrepreneurs' bicultural capability by two ordinal variables indicating their capability to network with people from the same home country at home and overseas respectively (Tadmor, Galinsky, & Maddux, 2012). These variables were created based on the two questions measuring the extent to which returnee entrepreneurs were able 1) to connect with overseas Chinese alumni associations and overseas hometown associations, and 2) to remain in touch with their colleagues and friends in China, while they were studying and/or working abroad. These questions were rated a Likert scale ranging from 1 (never) to 5 (extremely frequent). We measured the level of returnee entrepreneurs' capital investment in their overseas business knowledge transfer by an interval variable taking values from 1 to 5 (1= less than 100 thousand RMB, 2 = between 100 and 500 thousand RMB including 100 thousand RMB, 3 = between 500 thousand and 2 million RMB [including 500 thousand RMB], 4 = between 2 and 10 million RMB [including 2 million RMB], 5 = 10 million RMB and above). Previous studies have suggested that returnee entrepreneurs' overseas working or studying experience affects their ability to acquire and diversify their skills, and the extent to which they can adopt the local norms/values of host countries (Carpenter, Sanders, & Gregersen, 2001; Dustmann, 2001; Liu et al., 2015). Thus, we further controlled for the returnee entrepreneurs' *length of working and/or studying overseas* measured by the years that returnees had worked/studied in their host countries as an additional dimension of bicultural capability. We also controlled for the *percentage of employees with overseas experience* by an interval variable taking values from 1 to 5 (1 = below 10%, 2 = 10% and between 10% and 20%, 3 = 20% and between 20% and 30%, 4 = 30% and between 30% and 40%, 5 = 40% and above).

Second, we controlled for firm and industry characteristics, as venture performance is likely to vary with firm size, age, funding sources, R&D intensity, industries and locations in China. *Firm size* was measured as the number of employees, which was converted to five ordered intervals (1 = below 10 people, 2 = between 10 and 49 people, 3 = between 50 and 199 people, 4 = between 200 and 999

people, 5 = more than 1000 people) (Wiklund & Shepherd, 2005). *Firm age* was measured as the years since the firm was founded (Wischnevsky, 2004). To capture firm *funding sources*, we included dummies distinguishing the receipt of private and corporate venture capital investment (Wright et al., 2005). *R&D intensity* was an interval variable capturing the average percentage of total expenditure spent on the R&D process during the past three years, in five ordered and equally spaced categories (1 = below 20%, 2 = 20% and between 20% and 40%, 3 = 40% and between 40% and 60%, 4 = 60% and between 60% and 80%, 5 = 80% and above) (Grabowski & Vernon, 1990). To account for sectoral differences, we included a sector dummy which takes the value of 1 if a returnee business competes in an industry which belongs to one of the seven national strategic emerging industries according to the 12th Five-Year Plan Outline, and 0 otherwise.

Third, we introduced a set of location dummies by categorizing provinces into the three economic zones: the Pearl River Delta Economic Zone, the Yangtze River Delta Economic Zone and the Beijing-Tianjin Economic Zone. In addition, we also controlled for the host country of returnee entrepreneurs with a dummy variable. The variable takes the value of 1 if a returnee entrepreneur's host country is a developed economy and 0 otherwise, following the World Bank's categorization of developed countries. Returnees from developed host countries may have greater access to novel business knowledge.

3.4. Analytical approach

We used Ordinal Probit regression to test our hypotheses, given the ordinal nature of our dependent variables (ordered sales growth). However, it is worth noting that in the ordinal probit model, the parallel regression assumption, which assumes that the relationship between each pair of performance outcome groups or sales growth categories is the same, should hold. We tested this assumption using an approximate likelihood ratio test and a Wald test (Brant, 1990). The results from both tests supported this assumption (approximate likelihood ratio test: x^2 = 54.80, ρ = .23; Wald test: x^2 = 9.64, ρ = 1.00), indicating the ordinal probit model as the most appropriate estimation method for our analysis.

4. Results

4.1. The main analyses

Table 1 presents the descriptive statistics and correlations of the variables. Table 2 summarizes the results from Ordinal Probit estimates of returnee firm performance measured by sales growth. Model 1 shows the regression results with only control variables. Model 2 lists the results of the main effects of different institutional dimensions and the transfer of overseas business knowledge without interactions. Model 3 tests the moderating effect of informal institutional differences on the importance of overseas business knowledge transfer for firm performance derived in Hypothesis 1. Model 4 presents the interactions of local government policy support and local business infrastructure with informal institutional differences and overseas business knowledge transfer, respectively. We estimated the full model using generalized structure equation modeling (GSEM) in Model 5 to minimize the endogeneity problem. In addition, to alleviate concerns about multicollinearity, we examined the variance inflation factors (VIF) of each model after our regression analysis. Average and independent VIF scores were 2.91, which is below 3 with no indication of multicollinearity. We also mean-centered all nonbinary independent variables and calculated the VIF values of each model.

As shown in Table 2, the coefficient of the interaction term between informal institutional differences and overseas business knowledge transfer is positive (β = .227) and statistically significant (ρ < .05) in Model 3. However, when we include the variables of local government policy support and business infrastructure in Model 4, the coefficient of

Table 1

Descriptive Statistics and Correlations.

Variable name	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Sales growth	2.592	1.458	1																			
2. Level of local government policy support (PS)	0.242	1.739	0.097	1																		
3. Informal institutional differences (ID)	-0.280	1.536	-0.016	-0.155	1																	
4. Local business infrastructure (BI)	-0.100	1.702	-0.032	0.479	0.034	1																
5. Transfer of overseas business knowledge (TB)	1.774	1.154	0.038	0.004	-0.055	0.059	1															
6. Length of working or studying overseas	9.850	6.664	-0.009	0.094	0.031	-0.207	0.074	1														
7. R&D intensity	2.638	1.461	0.229	0.123	-0.074	-0.062	0.084	0.183	1													
8. Firm size	2.019	0.951	0.115	-0.039	0.140	-0.100	0.036	0.146	0.257	1												
9. Firm age	4.971	3.225	0.380	0.143	-0.063	-0.074	0.021	0.077	0.588	0.062	1											
10. Bicultural capability (connecting people overseas)	2.776	1.066	0.135	-0.158	-0.007	-0.142	-0.049	-0.062	0.360	0.002	0.442	1										
11. Bicultural capability (connecting people at home)	3.054	0.916	0.109	0.265	0.000	0.261	0.214	0.092	0.057	-0.030	0.001	-0.071	1									
12. Level of capital investment in overseas business knowledge transfer	1.972	1.340	0.093	0.290	-0.088	0.285	0.019	-0.133	0.013	0.027	-0.060	-0.119	0.452	1								
13. % of employees with overseas experience	1.971	1.319	-0.148	-0.003	-0.008	0.042	0.035	-0.033	-0.173	0.104	-0.240	-0.221	-0.052	0.029	1							
14. Corporate venture capital	0.266	0.443	-0.068	-0.063	-0.018	0.029	0.091	0.160	0.088	0.007	-0.012	-0.089	0.060	-0.002	0.038	1						
15. Private venture capital	0.276	0.448	0.181	-0.010	-0.015	0.052	0.085	0.104	0.409	0.153	0.408	0.116	0.068	-0.111	-0.059	-0.135	1					
16. Located in the Pearl River Delta Economic Zone			-0.058	0.108	-0.028	0.218	0.082	-0.112	-0.258	-0.155	-0.142	-0.096	0.130	-0.008	0.085	-0.051	-0.055	1				
17. Located in the Yangtze River Delta Economic Zone	0.110	0.313	-0.081	0.020	0.141	0.140	0.029	0.043	-0.127	-0.113	-0.182	-0.007	0.009	-0.022	-0.016	0.064	-0.147	-0.064	1			
18. Located in the Beijing-Tianjin Economic	0.219	0.414	0.209	0.149	-0.087	0.033	-0.076	-0.023	0.260	0.219	0.355	0.203	-0.014	0.074	-0.046	-0.071	0.233	-0.321	-0.605	1		
19. Host country (advanced economy)	0.540	0.499	0.086	0.031	-0.043	-0.128	0.009	0.341	0.205	0.126	0.165	0.017	-0.029	-0.075	-0.098	0.052	0.063	-0.275	0.009	0.127	1	
20. Sector (emerging sectors)	0.295	0.456	0.087	0.112	-0.024	-0.185	-0.049	0.294	0.319	0.251	0.232	0.122	-0.048	-0.088	-0.024	0.048	0.219	-0.107	0.093	-0.067	0.273	1

Note: N = 196. The absolute value of correlation greater than 0.130 is significant at p < 0.05 level.

Table 2
Ordinal Probit Regression of Returnee Venture Performance.

Dependent variable: Sales growth	Model 1 Coef.	Model 2 Coef.	Model 3 Coef.	Model 4 Coef.	Model 5 Coef.
Independent variables					
Local government policy support (PS)		0.104	−0.127	−0.108	0.073
		(0.098)	(0.197)	(0.206)	(0.237)
Informal institutional differences (ID)		−0.063	−0.520*	−0.449*	−0.239
		(0.095)	(0.206)	(0.212)	(0.235)
Local business infrastructure (BI)		−0.145	0.175	0.344$^+$	0.201
		(0.097)	(0.226)	(0.274)	(0.299)
Transfer of overseas business knowledge (TB)		0.017	−0.061	0.050	0.249
		(0.127)	(0.150)	(0.166)	(0.194)
Interaction variables					
PS x TB			0.091	0.085	0.046
			(0.097)	(0.107)	(0.117)
BI x TB			−0.191*	−0.262*	0.055$^+$
			(0.107)	(0.129)	(0.114)
ID x TB Hypothesis 1			0.227*	0.170	−0.197
			(0.091)	(0.097)	(0.142)
ID x PS x TB Hypothesis 2				0.206**	0.242**
				(0.080)	(0.096)
ID x BI x TB Hypothesis 3				−0.208**	−0.223**
				(0.092)	(0.102)
ID x PS			0.132	−0.213	−0.284$^+$
			(0.068)	(0.145)	(0.168)
ID x BI			−0.127	0.280	0.282$^+$
			(0.074)	(0.193)	(0.204)
Control variables					
Length of working or studying overseas	−0.014	−0.045	−0.038$^+$	−0.059*	−0.070*
	(0.014)	(0.024)	(0.025)	(0.027)	(0.029)
R&D intensity	0.110$^+$	0.248*	0.271*	0.323**	0.361**
	(0.062)	(0.115)	(0.121)	(0.124)	(0.137)
Firm size	0.505***	0.591*	0.584*	0.629*	0.720*
	(0.120)	(0.235)	(0.246)	(0.253)	(0.290)
Firm age	−0.009	−0.049	−0.014	−0.008	0.001
	(0.029)	(0.059)	(0.068)	(0.074)	(0.078)
Bicultural capability (connecting with people overseas)	0.150	−0.124	−0.095	−0.046	−0.174
	(0.092)	(0.161)	(0.167)	(0.173)	(0.212)
Bicultural capability (connecting with people at home)	0.083	0.400*	0.477*	0.436*	0.369*
	(0.094)	(0.175)	(0.191)	(0.195)	(0.210)
Level of capital investment in overseas business knowledge transfer business business knowledge transfer	−0.033	−0.100	0.052	0.020	−0.246
	(0.101)	(0.166)	(0.180)	(0.188)	(0.233)
% of employees with overseas experience	−0.099$^+$	−0.090	−0.003	−0.006	0.028
	(0.067)	(0.098)	(0.105)	(0.109)	(0.129)
Corporate venture capital	−0.219	0.299	−0.081	−0.109	0.139
	(0.195)	(0.344)	(0.378)	(0.383)	(0.428)
Private venture capital	−0.103	0.359	0.200	0.403	0.551
	(0.219)	(0.396)	(0.414)	(0.439)	(0.463)
Located in the Pearl River Delta EEconoZoneZone Economic Zone	0.564	1.429*	2.109**	1.930*	1.499
	(0.535)	(0.677)	(0.741)	(0.772)	(0.923)
Located in the Yangtze River Delta Economic Economic Zone	0.288	0.748	1.054	1.097	0.672
Economic Zone	(0.345)	(0.529)	(0.575)	(0.611)	(0.687)
Located in the Beijing-Tianjin Economic Zone	0.317	0.600	0.669	0.427	0.357
Zone	(0.283)	(0.421)	(0.446	(0.467)	(0.554)
Host country (advanced economy)	0.163	0.912	1.080**	1.010*	1.129*
	(0.215)	(0.392)	(0.415)	(0.428)	(0.539)
Sector (emerging sectors)	0.007	−0.238	−0.354	−0.038	−0.068
	(0.187)	(0.315)	(0.344)	(0.375)	(0.417)
Pseudo R2	0.083	0.157	0.216	0.246	
Chi square (Log likelihood for Model 5)	50.01***	40.5***	35.79***	33.49***	−280.67

N = 196. Standard errors appear in parentheses.

$^+$ p < 0.1.
* p < 0.05.
** p < 0.01.
*** p < 0.001.

this interaction term becomes insignificant. Taken together, these results indicate that the moderating effect of informal institutional differences on the relationship between overseas business knowledge transfer and returnee venture performance mainly manifests through its interaction with local government policy support and business infrastructure, providing partial support for Hypothesis 1.

Hypothesis 2 predicts that the higher the level of local government policy support, the stronger the moderating effect of informal institutional differences between home region and host countries on the relationship between new business knowledge transferred by returnee entrepreneurs and their venture performance. In Model 4, the interaction effect among informal institutional differences, local government

policy support and overseas business knowledge transfer is positive (β = .206) and statistically significant (ρ < .01), suggesting that the moderating effect of informal institutional differences on the relationship between new business knowledge transfer by returnee entrepreneurs and their venture performance becomes greater as the level of local government policy support increases. Therefore, Hypothesis 2 is supported.

Finally, we find support for Hypothesis 3. Model 4 in Table 2 shows that the coefficient for the interaction among informal institutional differences, local business infrastructure and overseas business knowledge transfer is negative (β = -0.208) and statistically significant (ρ < .01, Model 4). As predicted, the moderating effect of the level of informal institutional differences on the relationship between business knowledge transferred by returnees and their venture performance is stronger when the local business infrastructure is underdeveloped.

To gain further insights into the moderating effects of informal institutional differences, local government policy support and local business infrastructure on the relationship between overseas business knowledge transfer and firm performance, we plotted the significant results obtained in Models 3 and 4, which are depicted in Figs. 2 and 3A and B. Fig. 2 provides visual support for Hypothesis 1, which postulates that the importance of overseas business knowledge transferred by returnee entrepreneurs in boosting their venture performance is strengthened by high levels of informal institutional differences between home and host countries. In support of Hypothesis 2, Fig. 3A shows that the marginal effect of business knowledge transferred by returnee entrepreneurs on their venture performance is strongest when the levels of both informal institutional differences and local government policy support are high. Fig. 3B suggests that when the local business infrastructure is underdeveloped and the level of informal institutional differences is high, the marginal effect of overseas business knowledge transferred by returnee entrepreneurs on their venture performance is stronger, lending graphic support for Hypothesis 3.

To determine whether individual slopes are statistically different from each other, and the slope of each of our proposed combinations regarding local government policy support and business infrastructure

development is statistically significant in predicting returnee venture performance, we performed slope difference tests and a simple slope test with high/low test values at one standard derivation above and below the mean value of overseas business knowledge transfer (Cohen, Cohen, West, & Aiken, 2003; Dawson & Richter, 2006). The results from the slope difference tests show that the slope of high levels of local policy support with overseas business knowledge transferred by returnees (regression line 1 in Fig. 3A) is statistically different from the other three regression lines (line 2, ρ < .001; line 3, ρ < .001; line 4, ρ < .001 in Fig. 3A). In terms of the development of the local business infrastructure, we find that the slope of under-developed local business infrastructure and high levels of informal institutional differences (regression line 3 in Fig. 3B) is statistically different from the remaining regression lines (line 2, ρ < .001; line 3, ρ < .001; line 4, ρ < .001 in Fig. 3B). In each case, the simple slope of the predicted regression line (line 1 in Fig. 3A and line 3 in Fig. 3B) is positive and statistically significant (ρ < .001).

4.2. Additional analyses

To substantiate the robustness of our findings, we undertook several additional analyses. To assess the direction of causality between overseas business knowledge transfer and firm performance, we followed Landis and Dunlap (2000). We set firm performance as an independent variable and overseas business knowledge transfer as the dependent variable and tested the interaction effect of the new independent variable and the moderating variables (different institutional dimensions) on the new dependent variable. The results show that none of these reverse interaction terms is significant, suggesting that reverse causality is of minimal concern in our data (Cao, Gedajlovic, & Zhang, 2009). We also tested whether the three institutional dimensions are antecedents of overseas business knowledge transfer with the inclusion of all control variables. The results indicate that none of these institutional dimension variables has a statistically significant relationship with overseas business knowledge transfer. We further re-estimated the model using the ordinal logit regression, and an alternative dependent
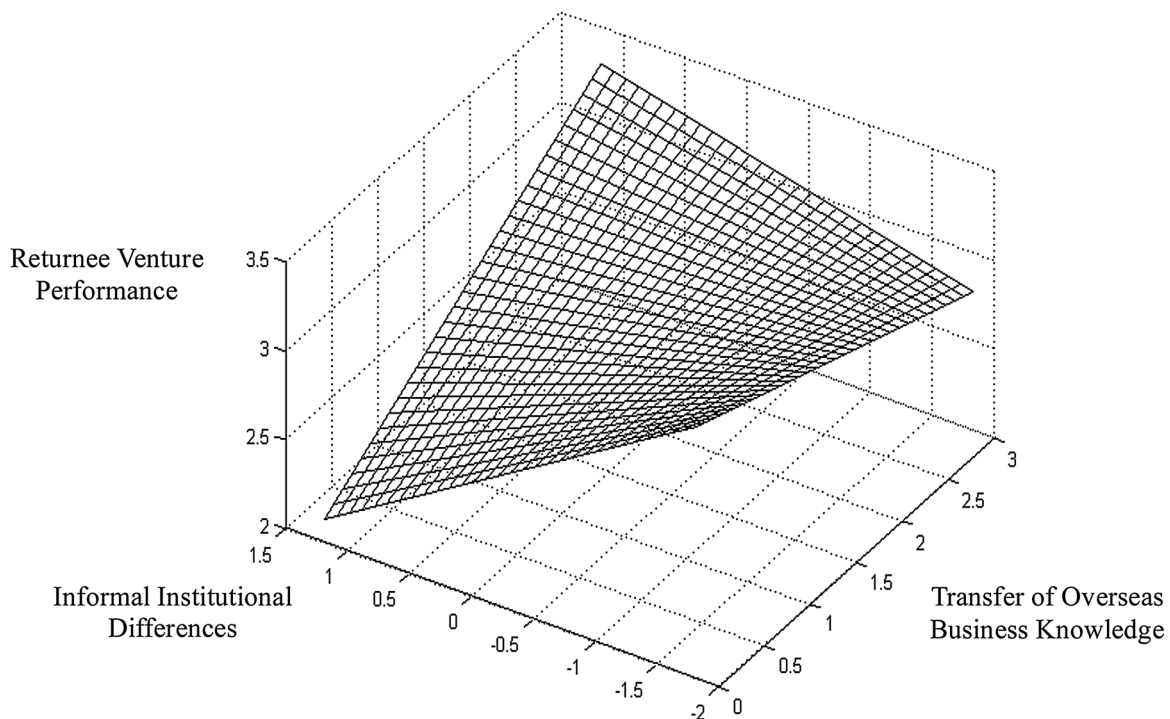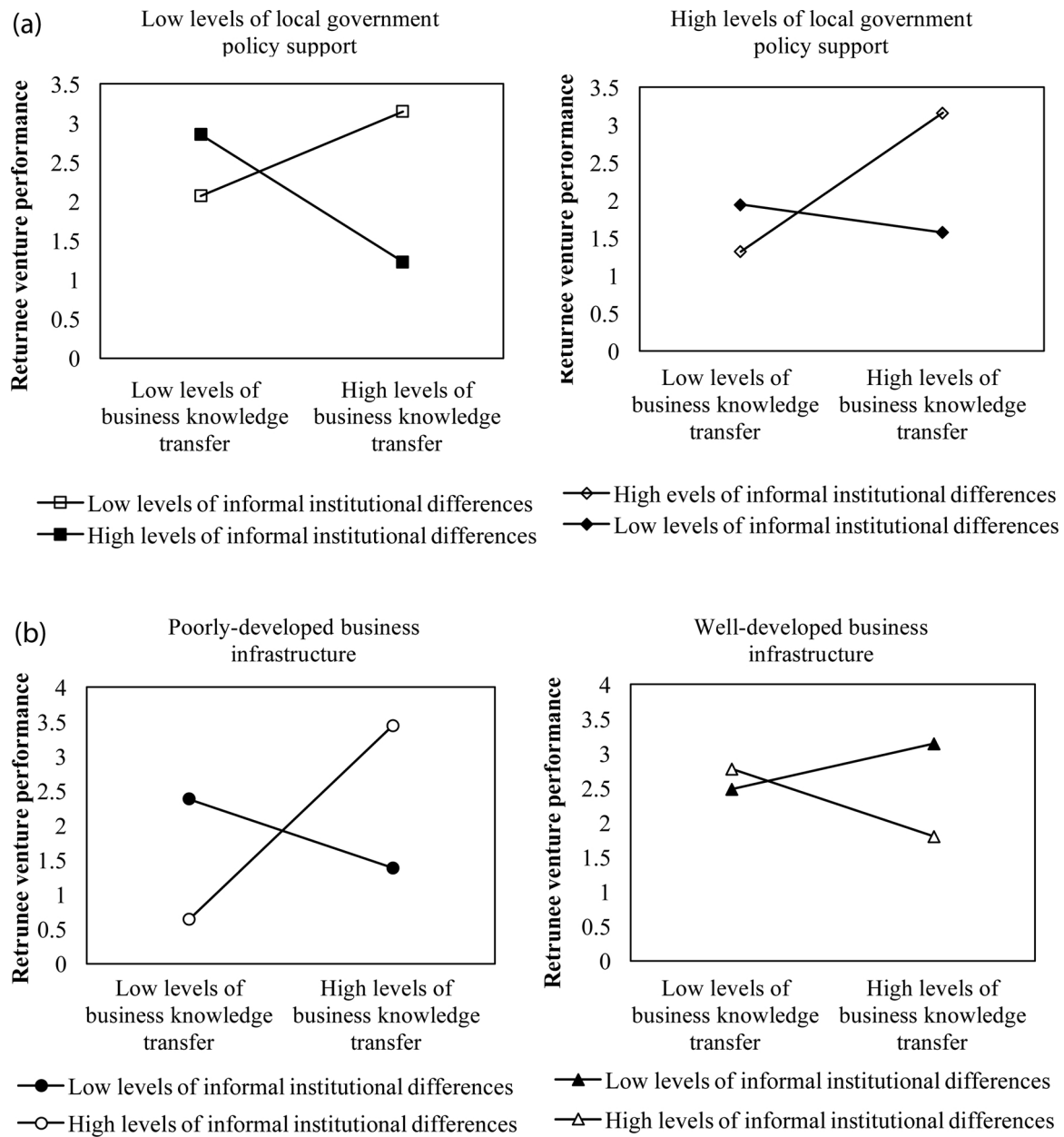

Fig. 2. Interaction between the transfer of overseas business knowledge by returnee entrepreneurs, informal institutional differences and returnee venture performance.

(a)

Low levels of local government policy support

High levels of local government policy support

(b)

Poorly-developed business infrastructure

Well-developed business infrastructure

Fig. 3. The interaction effects (H2 and H3).

A. Impact of government poilicy support on business knowledge transfer and returnee venture performance for low and high levels of informal insitutional differences.

B. Impact of business infrastaucture on business knowledge transfer and returnee venture performance for low and high levels informal insitutional differences.

variable, ordered employment growth, and the results were consistent with our current results in terms of the signs of the coefficients of our independent variables and the significance levels.

As a supplementary analysis, we also tested whether local government policy support and local business infrastructure jointly moderate the relationship between overseas business knowledge transfer and returnee venture performance, but found no support for this conjecture[1]. The results suggest that the moderating effects of both local government policy support and local business infrastructure on the importance of overseas business knowledge transfer in boosting returnee venture performance are self-determining and not subject to each other's interaction. This further confirms informal institutional differences and either of these two types of formal institutional

environments in the home country can interact with overseas business knowledge transfer and jointly affect returnee venture performance.

5. Discussion

5.1. The main findings

Adopting an institutional perspective, this study focuses on the extent to which informal institutional differences, and the interrelationship between such differences, local government policy support and local business infrastructure affect the value of overseas business knowledge in returnee venture performance. We find that perceived informal institutional differences have a positive moderating effect on the relationship between overseas business knowledge and returnee venture performance. Our results suggest that the knowledge-based

[1] Results are available upon request.

advantage of returnee entrepreneurs is not universal, and depends on variations in social norms/values and informal rules between home and host countries. Such variations help preserve the distinctiveness of returnee ventures and encourage new perspectives beyond prevailing local social norms, thus enabling returnee entrepreneurs to achieve the advantage of competitive heterogeneity. Viewing institutions as largely immobile facets of the environment, extant research has used national and organizational perceptions of informal institutional differences to emphasize how firms either adapt to or offset pressures for conformity with firm-specific advantages (Orr & Scott, 2008; Zuckerman, 1999). In such a research setting, how mobile individuals, such as returnee entrepreneurs, perceive informal institutional differences between their home and host countries, and how such differences affect the value of overseas business knowledge, has been largely overlooked.

In addition, our findings show that local government policy support reinforces the performance-enhancing effect of overseas business knowledge transferred by returnee entrepreneurs, given informal institutional differences. This suggests that local government policy support provides favorable conditions under which returnee entrepreneurs are able to exploit the advantage associated with variations in informal institutions between their home and host countries when commercializing their overseas knowledge. In particular, tangible policy support, such as providing funding and incentive schemes, grants returnee entrepreneurs external endorsement and legitimacy (Lounsbury & Glynn, 2001; Navis & Glynn, 2011). Returnee entrepreneurs can benefit from such support, but maintain their identity without losing their uniqueness. External legitimacy gained through local government policy support does not undermine returnee entrepreneurs' status and their ventures' competitive heterogeneity. Thus, there is a complementarity between policy support and informal institutional differences in maximizing the impact of overseas business knowledge transferred by returnee entrepreneurs on their venture performance.

Third, we find that there is a substitute relationship between the development of a local business infrastructure and informal institutional differences in affecting the value of overseas business knowledge. This finding reflects a paradoxical issue relating to whether returnee entrepreneurs should conform to local informal institutions or strive to be different in order to achieve advantages based on competitive heterogeneity (Tan et al., 2013). On the one hand, operating in a region with a well-established local business infrastructure helps returnee entrepreneurs to be re-embedded in the local context, thus enhancing returnee ventures' social legitimacy. On the other, this also could lead returnee ventures to be more or less similar to their local peers, thus reducing their competitive heterogeneity. As a result, returnee entrepreneurs may lose benefits associated with variations in informal institutions. A well-established local business infrastructure also helps build close connections between returnee ventures and local firms. The interaction between the two types of firms enables local firms to gain a deeper understanding of how returnee entrepreneurs commercialize their overseas business knowledge and thus facilitates imitation of such knowledge.

5.2. Contributions

Our study makes several important contributions to the literature on the interrelationship between international knowledge transfer via entrepreneurs, institutional contexts and firm performance. First, we unpack the extent to which returnee entrepreneurs' perceptions of informal institutional differences affect the link between overseas business knowledge and their venture performance. Prior research has suggested that the effectiveness and usefulness of intangible resources in the international context is constrained by cross-country cultural differences, but has overlooked the link between cross-country informal institutional differences and the sources of competitive heterogeneity (Filatotchev et al., 2011; Liu et al., 2010; Wang, 2015). Our study shows that perceived informal institutional differences provide returnee

entrepreneurs with a novel perspective and unique business insights that are not possessed by domestic entrepreneurs. Knowledge asymmetry and variations in cognition between returnee and domestic entrepreneurs enable returnee entrepreneurs to effectively exploit business knowledge at home, thus enhancing firm performance.

Relatedly, we offer a fine-grained analysis by capturing such informal institutional differences through the direct perceptions of individual knowledge carriers – returnee entrepreneurs – as opposed to analyses based on firm, industry and country level data (Buckley, Clegg, & Wang, 2002; Zhang, Li, Li, & Zhou, 2010). Existing studies tend to measure informal institutional differences either at the national level, which suffers from the imputation of national averages to individuals, or at the organizational level, which omits the characteristics of individual knowledge holders (Buck, Liu, & Ott, 2010; Jackson & Deeg, 2008; Liu et al., 2015; Meyer, 2001). These levels of analyses, however, fail to capture the role of perceived informal institutional differences of individual knowledge holders in international knowledge transfer (Orr & Scott, 2008). In particular, examining informal institutions at the country level risks excluding important insights that can be gained by analyzing individual perceptions of informal institutional differences (Phillips, Tracey, & Karra, 2009; Saka-Helmhout & Geppert, 2011). Our analysis challenges the commonly held view of 'liabilities of outsiderness' and adverse outcomes associated with informal institutional differences by revealing new insights into the benefits associated with being an 'outsider' and an entrepreneur acting as a direct knowledge carrier who straddles transnational contexts. Thus, our research helps shift the academic debate from the positive or negative effect of informal institutional difference, to consideration of under what conditions entrepreneurs are able to leverage informal institutional differences to enhance firm performance.

Second, by focusing on the interactive effect of various institutional forces, our research advances previous studies by examining a broader range of institutional factors simultaneously, and fills important gaps in the existing literature which is predominantly concerned with either formal or informal institutions in isolation. From both theoretical and empirical perspectives, examining either formal institutions or informal institutions in isolation is inadequate to fully account for their complexity and interactive effects (Batjargal et al., 2013). In contrast, we consider complementarity and substitution among different institutional dimensions. This enables us to gain a more precise understanding of the specific institutional boundary conditions that affect the performance implications of international knowledge diffusion through entrepreneur mobility.

Finally, we move away from technological knowledge transfer to business knowledge transfer and draw attention to the role of institutional contexts in such transfers. Extant literature in this area mainly focuses on the impact of transferring technological knowledge (Filatotchev et al., 2011; Kehoe & Tzabbar, 2015; Kim & Marschke, 2005; Liu et al., 2010; Song, Almeida, & Wu, 2003) and tends to overly emphasise the properties of technological knowledge, such as explicit or tacit knowledge and technological barriers, notably technology gaps, by taking the institutional context as given (Castellani & Zanfei, 2003; Görg & Strobl, 2005; Szulanski, 1996). However, overseas business knowledge transfer in the form of creative ideas, compelling business models and best management practices may require different institutional conditions under which such transfer can be translated into superior firm performance. Therefore, our study provides new insights into how to maximize the advantages of overseas business knowledge transfer given institutional conditions.

5.3. Managerial implications

Our findings have important policy and managerial implications. First, our study is of particular interest to emerging and developing economies that are still in the process of crafting policies aimed at stimulating returnee entrepreneurship as a means of promoting

overseas business knowledge transfer and boosting their economic growth. Thus, it is of pivotal importance for policymakers to realize the boundary conditions in designing effective policy initiatives and programs targeted at stimulating overseas business knowledge transfer and economic growth via returnee entrepreneurship. In particular, our study shows that it is necessary for policymakers to take into account social norms and values when designing polices to promote overseas business knowledge transfer and nurture the growth of returnee businesses, given that social norms and beliefs are important and stable contexts for overseas business knowledge flows and firm performance. Second, the findings show that a well-established local business infrastructure helps to disseminate overseas business knowledge. This suggests that developing the local business infrastructure is crucial in motivating local firms to adopt overseas knowledge and best practices. Finally, pursuing competitive heterogeneity through being different is beneficial and enhances the impact of overseas business knowledge transferred by returnee entrepreneurs on firm performance. While being aware of the differences in local social norms and informal 'rules of the game' between host and home countries, returnee entrepreneurs should be able to maintain the unique identity that enables them to gain access to distinctive resources and competences to derive unassailable competitive advantage and superior firm performance.

5.4. Limitations and future research

We should acknowledge some limitations of this study which represent possibilities for future research. First, the study mainly focuses on Chinese returnee entrepreneurs, and hence more studies should be conducted on other emerging economies to verify whether our findings can be extended to economies such as India and Brazil, which have also experienced return migration. Second, while we focus on emerging economy returnee entrepreneurs whose host countries are advanced economies, it would be interesting to look at a situation where economic development or institutional conditions in the home country are similar to those in the host country, such as UK returnees coming back from the US where the institutional contexts between the home country and host country are quite similar. This would help to broaden our research context and validate our findings across different types of host and home institutions. Third, our study has mainly focused on the enabling effect of formal institutions and found empirical support for our prediction. However, future research could examine the constraining force of formal institutions. In particular, investigating how under-developed formal institutions constrain returnees' exploitation of the value of overseas business knowledge will provide a more complete account of the impact of formal institutions on the value of international knowledge transfer through returnee mobility. Finally, our findings were drawn from cross-sectional analysis based on survey data. Future studies could use longitudinal data to examine the process and dynamic nature of the interrelationship between institutional forces, overseas business knowledge transfer and firm performance. Additionally, future research could conduct in-depth qualitative studies to examine how returnee entrepreneurs interact with different institutional forces and capitalize on the commercial value of overseas business knowledge. In particular, future studies could examine how and why institutional contexts affect the value of overseas business knowledge transferred by returnee entrepreneurs, based on detailed qualitative analysis.

6. Conclusion

Taking account of the interplay between informal and formal institutions, we examine the extent to which the value of overseas business knowledge in firm performance changes, given informal institutional differences, government policy and the local business infrastructure. By investigating the moderating impact of formal and informal institutions on the performance implications of overseas business knowledge, our study advances existing research on the relationship between transferring overseas business knowledge and firm performance. Based on an analysis of a sample of entrepreneurial returnee ventures in China, our findings show that the importance of overseas business knowledge transferred by returnee entrepreneurs is contingent on the level of informal institutional variations between their home and host countries and the extent to which such differences are shaped by the local government policy support and business infrastructure. A high level of local government policy support enhances the positive moderating effect of informal institutional differences on the relationship between overseas business knowledge transfer and returnee venture performance, whereas well-developed local business infrastructure substitutes for such an impact.

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