

# Political embeddedness and multi-layered interaction effects on the performance of private enterprises: lessons from China

Performance of  
private  
enterprises

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Eli Gimmon

*Department of Economics and Management, Tel Hai Academic College,  
Upper Galilee, Israel and Visiting Professor, Center for Israeli Studies,  
University of Electronic Science and Technology of China, Chengdu, China*

Ying Teng

*School of Management and Economics, Center for Israeli Studies,  
University of Electronic Science and Technology of China, Chengdu, China, and*

Xiaobin He

*School of Social Sciences, Tsinghua University, Beijing, China*

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## Abstract

**Purpose** – This study aims to present multi-layered embeddedness and explore the main and interaction effects of political embeddedness on the performance of private enterprises in China. This study tests multi-layered embeddedness through interaction effects between three layers, namely, political, territorial and inter-firm embeddedness. Political embeddedness is related at the personal and the firm levels.

**Design/methodology/approach** – The authors used secondary data of four non-panel waves (2002, 2008, 2010 and 2016) of large samples having identical questions based on the Chinese private enterprises' survey. The accumulated number of business owners' responses is a total of 10,686.

**Findings** – The main effects of each of the layers of embeddedness showed a positive influence on enterprise performance consistently and unchanged over time which fits the Chinese Guanxi regardless of the immense macro-economic transition. However, unexpectedly some interactions showed negative significant effects on performance.

**Practical implications** – First, business owners should be aware of the specific contribution to the performance of political embeddedness at both the firm level and the personal level. Second, the pursuit of exercising simultaneously several layers of embeddedness may be detrimental to company performance. This study provides generalizable lessons regarding different embeddedness layers beyond the context of China's transition economy.

**Originality/value** – First, the authors extend political embeddedness to the firm level whilst in previous research this construct had been mostly related to the personal level. Second, building on the resource-based view and redundant resources the authors present the disadvantage of "over-embeddedness" as related to multi-layered embeddedness which has been understudied.

**Keywords** Transition economy, Chinese private enterprises performance, Multi-layered embeddedness, Political embeddedness, Redundant resources

**Paper type** Research paper



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## 1. Introduction

Previous research of the social, spatial and institutional embeddedness of enterprises has enhanced the general understanding of their heterogeneity (Wigren-Kristofersen *et al.*, 2019), yet embeddedness is keeping a confusingly fuzzy notion (Markusen, 1999) and polyvalent concept. There are many definitions of what embeddedness might consist of such as political, cultural, structural, cognitive, social, temporal and technological (Hess, 2004). The effect of mixed or multi-layered embeddedness of businesses has been under-explored (Zaheer *et al.*, 2010; Szkudlarek and Wu, 2018; Wigren-Kristofersen *et al.*, 2019). Szkudlarek and Wu (2018, p. 589) asserted that mixed embeddedness got limited empirical work though is an important determinant of entrepreneurial activities whilst it “draws attention to a multi-level embeddedness of individuals within their context and how this could affect entrepreneurial opportunities through access to resources and markets”. In the same line, Zaheer *et al.*, (2010) argued that extant research is silent on possible complementarities and redundancies across multiple networks in influencing organizational behaviour and outcomes. Yang and Modell (2012) called for further research on the multi-layered nature of institutional embeddedness and other forms of this phenomenon.

This study relates to the Chinese context, as China is an economy in transition, as well as the world’s largest social system and the second largest economy in the world (Boisot and Child, 1999). The private sector is central to the success of the Chinese economy (Li *et al.*, 2015), therefore, in light of the transition in the growing Chinese macro-economy we investigate micro-economic trends related to multiple embeddedness of private enterprises. In the transition and authoritarian economy of China political embeddedness in form of business–state ties hold a prominent effect on firm performance (Fuller, 2010; Wei and Ling, 2015; Haveman *et al.*, 2017; Zhang and Guo, 2019; Zhang *et al.*, 2020). Particularly in the Chinese context, since 2000 more private enterprises have established a branch of the Communist Party of China in their enterprise to enhance their business–state ties. However, previous studies (Haveman *et al.*, 2017) referred political embeddedness mostly personally to the enterprise’s leader, although the relationship based on the identity of the individual employee is different from the relationship based on the identity of the enterprise organization (Shipilov *et al.*, 2014; Sun *et al.*, 2011). Therefore, measuring the political embeddedness of enterprises with the personal political embeddedness of entrepreneurs is not sufficient. In this study, considering the particularity of China’s transition economy we are challenged to test the effects of political embeddedness at the following two complementary levels: the personal level which follows previous research and in addition the understudied organizational firm level. This is responding the challenge exposed by Cheng *et al.* (2019), who argued that the measurement of political connections of private enterprises in China is a challenge.

Therefore, our research questions aim to fill the gap in the literature by investigating at different points of time in the context of the Chinese transition economy the effects on enterprise performance of as follows:

- Political embeddedness main effects at the personal level, as well as at the firm level and
- Their interaction effects with different layers of embeddedness.

Building on the theory of embeddedness (Polanyi, 1944; Granovetter, 2005) and following the triple embeddedness framework of Geels (2014), in addition to the political layer in the Chinese context we relate to two other layers of embeddedness as follows: inter-firm and territorial. The inter-firm layer refers to fundamental social networks in the Chinese economy in which private enterprises usually rely on the informal social network to make

up for the deficiency of formal institutions (Peng and Luo, 2000; Liang and Gong, 2016; Li *et al.*, 2019). In view of the differences in the level of institutional development among different regions in China during economic transformation, we also relate to territorial embeddedness as the regional institutional settings of the 31 provinces in the country.

To explore the two research questions, we used secondary data of four different samples in which the relevant questions were identical based on the Chinese Private Enterprises Survey (CPES), as responded by owners of private enterprises between the years 2002 and 2016. Our results corroborate the positive main effect of political embeddedness as found in most of the previous studies and moreover, we found it to be consistent over time contrary to He *et al.* (2018), who suggested that the effects of embeddedness in China may change over the years. Interestingly the interaction effects of between either personal or firm political embeddedness with the layers of inter-firm and territorial embeddedness showed no positive effect and in some of the studied year's negative effect of the multi-layered embeddedness on company performance. This finding is probably due to the effect of redundant resources on diminishing economic benefits (Mohr *et al.*, 2016) even more so in emerging economies (Zhu *et al.*, 2006).

This research provides a theoretical model of embeddedness grounded in the prominent Chinese micro-economy. It contributes to the literature of embeddedness by extending the construct of political embeddedness to the firm level. The multi-layered perspective provides support to the resource-based view (RBV) as related to networks through non-redundant ties (Goerzen, 2007). Our study has important implications for founders and owners of private enterprises in China and probably in other transition economies who evidently can gain the benefit of each of the three different layers of embeddedness. However, the pursuit of simultaneously several layers of embeddedness may be detrimental to their company performance, namely, the more embeddedness the less outcome.

## 2. Theoretical background and hypotheses

### 2.1 Theoretical background: the embeddedness of enterprises

The term embeddedness means to be anchored in a larger structure (Hornby and Turnbull, 1995) and refers to economic activity as a by-product of social relations and interactions between different elements in different kinds of networks, reflecting the array of social relations that characterizes economic relations (Granovetter, 1985). The development of networks along with communication channels can lead to the creation of complex, multi-layered relationships between actors, groups and institutions, regardless of geographic or physical limitations (Taylor, 2010). The activity level in these networks is related to the economic integration of the business in the market can predict the level of their economic success (Greenberg *et al.*, 2018; He *et al.*, 2018; Luo *et al.*, 2020).

Embeddedness can be regarded on the one hand as an organisational constraint, however, on the other hand it may create distinctive opportunity sets for enterprises. Dacin *et al.* (1999, p. 335) claimed that "Embeddedness as "opportunity" is shaped by the fact that embeddedness constitutes firm activity but is, at the same time, constituted and redefined by the behaviour of strategic actors. Hence, the relationship between an organisation and the context in which it is embedded is reciprocal in nature [. . .]. Cultural and cognitive mechanisms serve to define the range of possible organisational actions across a variety of contexts and levels of analysis". Upon providing opportunities embeddedness is an enabler of entrepreneurship and a tool in which enterprises can gain higher performance.

## 2.2 Political embeddedness and enterprise performance

Political embeddedness can be defined broadly as bureaucratic, instrumental or affective ties to the state and its actors (Michelson, 2007). This construct has been mostly related to the individual level characterizing one of its major shareholders or senior executives (Cheng *et al.*, 2019) though political embeddedness also pertains to the corporate level (Zhang and Guo, 2019) in which a private firm as an institution is related to the political connection.

Governments not only regulate the functioning of the national economy but also own property, controls enormous financial resources, hires employees and contractors and transacts with many firms. Relational networks with the government clarify rules and norms and the government's expectations of the firm (Oliver, 1997). These networks help a firm to obtain approval and support from key constituents in the institutional environment. Political ties provide chief executive officers (CEOs) the legitimacy required to pursue new products or ventures (Yiu and Lau, 2008). A political embeddedness perspective should consider both advantages and constraints associated with ties to the government, as firms with direct ties to the government may experience significant costs associated with government officials' involvement in the corporate governance process (Okhmatovskiy, 2010). Another disadvantage is that political embeddedness can trigger potential buyers' concern about the difficulty to control, and hence, hinder buyer acquisition (Luo *et al.*, 2020). A similar phenomenon was shown in a study of Mergers & Acquisitions (M&A) deals from 2008 to 2018 related to Chinese listed energy firms (Li *et al.*, 2021) where executives' political connections have a positive effect on corporate performance only if there are no M&A activities whilst political connections were found to harm firm performance through M&A activities. Pang and Wang (2020) found in a large sample covering 49 countries and 151,475 firm-year observations that political connections have an adverse net effect on the firm's operating performance, as well as the firm value. They explain that although political connections may provide access to more critical resources, the firm may be imposed by governmental or political interests which cause multiple agency conflicts.

In a study in Russia Okhmatovskiy (2010) found that firms' board and ownership ties to state-owned enterprises are associated with higher profitability whilst no significant differences are discovered for firms with direct ties with the government. He asserted that the key issue is a degree of government involvement in corporate governance whilst the optimal degree of embeddedness is associated with keeping some distance from the government and avoiding "over-embeddedness". Okhmatovskiy suggested to consider the political embeddedness of firms in various contexts whilst taking into account that the optimal degree of embeddedness may vary depending on as follows:

- The organisational goals,
- The political environment (e.g. stability of a political regime) and
- The legal environment (e.g. government rights as a shareholder).

Regarding political embeddedness, in China, numerous studies mostly found a positive effect on company performance. This factor has crucial importance in a transition economy such as China (Boisot and Child, 1999) where the patronage networks between the state and the business would provide the firm with advantages such as lower transaction costs and access to non-tradable political resources and government protection (Wei and Ling, 2015). Political embeddedness to the central government in China provides better access to the support and resources provided by the government and was found to have a negative influence on the quality of corporate social responsibility disclosures (Rauf *et al.*, 2020). Based on a survey of 700 CEOs of private enterprises in China, Burt and Oppen (2020) found

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that politically connected firms with an advantaged business network show more prosperous business, therefore, they caution the entrepreneur who intends to ignore the government. The political networks of the firms' directors have a significant effect on their firm performance and help a firm to obtain the political capital required for enterprises' endeavours.

In a study of listed firms in China, [Haveman et al. \(2017\)](#) found that as economic transitions proceed and uncertainty increases, business–state ties increasingly improve firm performance. They explain that firms can reduce uncertainty by developing relationships with state bureaucrats, how they operate, engender trust between firms and bureaucrats, persuade bureaucrats to lighten regulatory burdens, grant firms access to state-controlled resources and improve government oversight. They concluded that the value of the business–state relations varies over time, depending on the trajectory of both economic and political institutions. Whilst referring to the reported performance it should be noted that politically connected enterprises are more likely to use less detectable real earnings management strategies than enterprises with no political embeddedness, so that the latter show lower total earnings ([Wang et al., 2020](#)).

A study of 980 lawyers in 25 cities in China ([Michelson, 2007](#)) found that political embeddedness as a source of protection helped Chinese lawyers survive their everyday difficulties, such as routine administrative interference, official rent seeking and police harassment and intimidation. Lawyers relied on formal bridges with the state bureaucracy including organisational ties through membership in law firms politically embedded in the state.

[Wei and Ling \(2015\)](#) studied the performance of corporate entrepreneurship and found that this business activity leads a path to competitive advantages for firms in transition economies. Their study in China showed no significant effect of CEOs' political ties on their corporate entrepreneurship.

In his qualitative study of local state-run venture capital firms investing in the technology sector in China, [Fuller \(2010\)](#) found that the political factors influencing the distribution of finance can explain the behaviour and essential failure of these firms. His findings demonstrate that several distinct, separate and non-clashing institutional arrangements are concurrently operating and shaping the behaviour of venture capital firms in China. It should be noted that this study refers to state-owned firms which does not necessarily apply to the private sector. [Zhou \(2013, 2014\)](#) found that in China political connections substitute for, rather than complement, formal market and legal institutions. These connections are more useful for smaller firms and have stronger effects under less developed markets though playing a diminishing role during regional institutional development.

[Mai et al. \(2015\)](#) and [Zhang et al. \(2020\)](#) explored political embeddedness as related to the entrepreneurs' political connections as measured by personal membership in the Chinese People's Congress (PC) and/or the Chinese People's Political Consultative Conference (CPPCC). Both studies found that entrepreneurs' political characteristics are positively related to the establishment of formal political ties by new ventures and provide advantages to new-ventures in China. [Cheng et al. \(2019\)](#) indicated that measurement of political connections is a challenge and most prior studies assumed that a firm has political connections if one of its major shareholders or senior executives worked or currently works for the government agencies or served as a delegate to the PC or CPPCC.

Whilst most studies-related political embeddedness personally to the top management of the firm, to the best of our knowledge [Zhang and Guo \(2019\)](#) is the only study which explored political embeddedness also in the firm level. Based on the CPES data set they

revealed that the political connection of private firms as measured by their entertainment expenditures (if over the medium range) has a positive effect on performance as measured by securing bank loans for investments in Research & Development (R&D) activities. They concluded that firms which have fewer financial constraints and are located in regions with better financial development can benefit from more bank loans via corrupt business practices. As political embeddedness at the firm level has been understudied, we searched in the web (Wei and Hua, 2016) for comments made by Chinese private business owners. Besides the advantages of having the firm politically embedded, there are indications of drawbacks considered by some entrepreneurs such as waste of internal resources which may unfavourably affect their firm performance.

Haveman *et al.* (2017) explained the effect of political embeddedness on firm performance mainly due to the access to additional resources such as preferential taxation and subsidies (Cheng *et al.*, 2019; Zhang *et al.*, 2020) brought by political relationship building. Following previous research (Luo *et al.*, 2020; Zhang and Guo, 2019; Mai *et al.*, 2015) we hypothesize that in transitional economies political ties are considered to have a great effect on firm performance. The following hypotheses relate to both levels of political embeddedness whilst there is limited research regarding the firm level:

- H1a.* Political embeddedness at the personal level has a positive effect on enterprise performance.
- H1b.* Political embeddedness at the firm level has a positive effect on enterprise performance.

### *2.3 Multi-layered embeddedness and enterprise performance*

The multi-dimensional conceptualization of embeddedness enables interactions between firms-in-industries and their environments (Geels, 2014). He suggested to investigate the wide range of environmental pressures faced by firms-in-industries, their changing trends and possible significant interactions between the layers.

The combination of different layers of embeddedness may provide an additional positive or negative effect on firm performance. Multi-layered embeddedness in rural regions was found (Greenberg *et al.*, 2018) to have an advantage for the growth of small and medium-sized enterprises (SMEs) which were embedded both locally and outside of the region. Sasaki and Yoshikawa (2014) analysed theoretically the dynamic interactions between intra-regional cultures and the organisational cultures of firms that enter those regions and proposed that there are expected varying significant interaction effects between the different layers of organisational cultures and intra-national regional cultures on organisational performance. A qualitative longitudinal field study of Yang and Modell (2012) in a local government department in northeast China found that simultaneous embeddedness constituted by multi-layer institutionalized expectations, as well as espoused values positively affected firm performance and enabled managers to exercise episodic power in the pursuit of performance. On the other hand, over-embeddedness was found to have a disadvantage influence on inter-firm partnership formation, meaning that increases in firms' embeddedness will generate decreasing returns to the firms (Hagedoorn and Frankort, 2005).

In light of the RBV, non-redundant resources and capabilities are more likely to lead to the creation of valuable, rare and non-inimitable advantages (Barney, 1991) than are overlapping or redundant resources and capabilities (Mohr *et al.*, 2016). The resource dependence approach demonstrates that various external resources are the key to



organization development (Pfeffer and Salancik, 1978; Li *et al.*, 2021). The access to diverse and non-redundant resources increases firms' competitiveness and performance. The complementary layers of embeddedness are assumed to present fundamental categories of embeddedness (Hess, 2004) with limited overlapping.

Following previous research, it is likely to expect positive interaction effects of more than one layer of embeddedness on firm performance. As this study deals with three layers of embeddedness, to explore two-way interaction effects, the following hypothesis *H2* is split into five sub-hypotheses:

- H2.* The interaction effects of the combined layers of embeddedness have a positive effect on enterprise performance.
- H2a.* The interaction of political personal and inter-firm embeddedness has a positive effect on enterprise performance.
- H2b.* The interaction of political firms and inter-firm embeddedness has a positive effect on enterprise performance.
- H2c.* The interaction of political personal and territorial embeddedness has a positive effect on enterprise performance.
- H2d.* The interaction of political firm and territorial embeddedness has a positive effect on enterprise performance.
- H2e.* The interaction of inter-firm and territorial embeddedness has a positive effect on enterprise performance.

### 3. Methodology

#### 3.1 Data and sample

The data used in the paper is derived from the CPES which is well representing the population of private companies in China and was used in numerous previous studies (Du *et al.*, 2015; Liang and Gong, 2016; Zhang and Guo, 2019). The data can accurately reflect the basic situation of private enterprises of all sizes in China (Xu *et al.*, 2019). In the paper, we used the surveys of the years 2002, 2008, 2010 and 2016 for which the required information for the hypotheses was available. The data provided for each year, respectively, reflect the information from a year ago and totally contain the survey data of nearly 14 years.

#### 3.2 Variables and measures

The dependent variable in the study is enterprise performance, operationalized by operating income, which is the natural logarithm of the amount resulting from firm operations after deducting operating expenses at the end of the previous year.

In the analysis, we use two main explanatory variables related to political embeddedness for which no multi-collinearity was found between them. One is personal political embeddedness, a dummy variable indicating whether entrepreneurs are delegates of the PC or members of the CPPCC, as these indicators were commonly used in previous studies (Zhang *et al.*, 2020). The other one is the firm's political embeddedness, which is a dummy variable indicating whether the firm has established a branch of the Communist Party of China with more than three employees who are formal party members. To the best of our knowledge, this variable has not been applied before to measure political embeddedness. The organization branch has a meaningful role in provisioning essential connections with the government. Regulations on the work of the branch of the Communist Party of China

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(Book writing group, 2018, Article 4) indicating “For party branches in non-public economic organizations, emphasis is placed on uniting the masses of employees to promote the healthy development of enterprises”.

To test for multi-layered moderation effects, we add two variables as follows:

- (1) Inter-firm embeddedness, measured by the variable whether the entrepreneur is a member of the Federation of Industry and Commerce.
- (2) Territorial embeddedness in terms of regional economics, measured by the “market index” of the province in which the firm is located indicating the level of economic development and market activities (Wang *et al.*, 2019) as measured by the Chinese national government.

To avoid reversed causality and endogeneity we used the reported market index for the year prior to the reported firm’s income.

Control variables include characteristics of both the entrepreneur/business owner and the firm. The control variables relating to the entrepreneur show entrepreneur’s age, gender, education, economic status, social status and political status. The variable entrepreneur’s age takes the natural logarithm. The entrepreneur’s gender here is a dummy variable coded 1 if the entrepreneur is a male; 0, a female, otherwise. The entrepreneur’s education is measured by an ordinal variable in which a larger number indicates a higher level of education. Furthermore, the self-evaluated status includes economic status, social status and political status, reflecting the relative status of entrepreneurs on a scale of 1 (highest) to 10 (lowest). The control variables concerning the firm characteristics include firm age and family investment. The firm age is measured by the logarithm of the amount of the difference between the year of survey and the founding year of the business. The family investment is proxied by the percentage of family ownership in the firm net assets. Finally, the analysis also controls for the industry sector and the location. The firm industry sectors are dummy variables, and the firm location is also a dummy variable, coded according to the geographical area of the company’s province.

### 3.3 Methods of analysis

The CPES data does not repeat the same samples in different years, therefore, it is a repeated cross-sectional design rather than a panel data. As the time intervals between the given sampled years (2002, 2008, 2010 and 2016) are not identical, we avoided a problematic analysis of pooled cross-sectional time-series and instead applied individual analyses for each of the surveys (Lebo and Weber, 2015). Moreover, in analysing the four years of data separately we adopted a more conservative approach as asserted by Han *et al.* (2019). Whilst a pooled analysis would have increased the sample size for each CPES measure, and thus the likelihood of obtaining statistical support for the tested hypotheses, the separate individual analyses per year enable reliable repeated testing.

In the main analysis, Tobit models were used to explore the effects of embeddedness on enterprise performance. As a robustness check, we used as the dependent variable the natural logarithm of the number of firm’s employees at the end of per year.

Finally, to address the concern that firms’ different embeddedness and performance may be jointly determined by omitted variables, we applied the method of Heckman two-stage (Heckman, 1979) to test for endogeneity problems. Concerning the variables on political embeddedness and inter-firm embeddedness, we used their industry’s embeddedness level variable as an instrumental variable, respectively, by referring to the existing research literature, indicating that the examined effects do not show any significant endogenous problems.



## 4. Result

### 4.1 Descriptive statistics

**Table 1** displays the main descriptive statistics of the data used in the analyses concerning all variables as represented in different years.

### 4.2 Main effects

**Table 2** shows the results of the main effects of each of the layers of embeddedness on enterprise performance for all years. Political embeddedness (both at personal and firm levels) has a positive effect on performance, and these effects are significant at 1% level, which is proved by the survey data of 2002, 2008, 2010 and 2016. It suggests that political embeddedness can be beneficial for building the connections between private firms and government, which helps obtaining important economic resources and then improving financial performance. Specifically, political personal embeddedness and political firm embeddedness indeed have significant positive effects on enterprise outcomes, respectively, indicating firms with either political personal embeddedness or political firm embeddedness may perceive higher outcomes. Hence, *H1a* and *H1b* are supported. Moreover, the larger coefficients of the firm level in comparison to the personal level for each of the four years suggest that political firm embeddedness has a stronger effect on enterprise performance than political personal embeddedness.

**Table 2** indicates that after controlling for other important factors, the coefficients of territorial embeddedness and inter-firm embeddedness are positive and statistically significant in all equations, as supported by the survey data of 2002, 2008, 2010 and 2016. In regard to change over time, the results show repeated consistent main effects along with the tested period of 16 years. It should be noted that time series analysis as a panel could not be performed, as these surveys was not handed to the same respondents over the different years.

### 4.3 Interaction effects

The results of the regressions including the interaction effects for each of the four investigated years are presented at the bottom of **Table 2**. These analyses show further

| Variable                        | 2002 |      | 2008 |      | 2010 |      | 2016  |       |
|---------------------------------|------|------|------|------|------|------|-------|-------|
|                                 | Mean | SD   | Mean | SD   | Mean | SD   | Mean  | SD    |
| Operating income                | 6.39 | 1.69 | 6.93 | 2.16 | 6.93 | 2.28 | 6.39  | 2.89  |
| Employment                      | 4.22 | 1.25 | 4.11 | 1.54 | 4.15 | 1.47 | –     | –     |
| Political personal embeddedness | 0.49 | 0.5  | 0.57 | 0.5  | 0.53 | 0.5  | 0.32  | 0.47  |
| Political firm embeddedness     | 0.28 | 0.45 | 0.37 | 0.48 | 0.36 | 0.48 | 0.30  | 0.46  |
| Inter-firm embeddedness         | 0.85 | 0.36 | 0.74 | 0.44 | 0.71 | 0.45 | 0.58  | 0.49  |
| Territorial embeddedness        | 5.13 | 1.22 | 7.75 | 1.65 | 6.19 | 1.38 | 7.62  | 1.69  |
| Gender                          | 0.9  | 0.3  | 0.85 | 0.35 | 0.86 | 0.35 | 0.82  | 0.38  |
| Age                             | 3.74 | 0.19 | 3.77 | 0.19 | 3.79 | 0.19 | 3.80  | 0.21  |
| Education                       | 3.21 | 0.85 | 2.9  | 1.17 | 3.94 | 1.1  | 3.01  | 1.08  |
| Firm age                        | 1.62 | 0.74 | 1.83 | 0.77 | 1.88 | 0.71 | 2.45  | 0.76  |
| Economic status                 | 4.6  | 1.76 | 5.04 | 1.77 | 5.27 | 1.88 | 5.65  | 1.85  |
| Social status                   | 4.01 | 1.95 | 5.06 | 1.81 | 5.31 | 1.9  | 5.60  | 1.87  |
| Political status                | 4.84 | 2.29 | 5.56 | 2.16 | 5.93 | 2.24 | 6.24  | 2.17  |
| Family investment               | 0.14 | 0.35 | 0.1  | 0.3  | 0.07 | 0.25 | 78.97 | 30.89 |

**Table 1.**  
Descriptive statistic

|  | 2002                   | 2008                  | 2010                  | 2016                  |
|--|------------------------|-----------------------|-----------------------|-----------------------|
| N  | 2,626                  | 1,726                 | 2,337                 | 3,997                 |
| Political personal embeddedness                            | 0.410***<br>(6.427)    | 0.529***<br>(5.196)   | 0.478***<br>(5.164)   | 0.437***<br>(5.485)   |
| Political firm embeddedness                                | 1.074***<br>(16.226)   | 1.044***<br>(11.360)  | 1.119***<br>(13.044)  | 1.097***<br>(14.007)  |
| Inter-firm embeddedness                                    | 0.217***<br>(2.688)    | 0.833***<br>(7.425)   | 0.651***<br>(6.451)   | 1.575***<br>(16.876)  |
| Territorial embeddedness                                   | 0.329***<br>(8.224)    | 0.322***<br>(8.118)   | 0.213***<br>(5.014)   | 0.183***<br>(5.839)   |
| Gender   | 0.336***<br>(3.560)    | 0.262**<br>(2.308)    | 0.150<br>(1.359)      | 0.166*<br>(1.852)     |
| Age  | -0.285*<br>(-1.831)    | -0.345<br>(-1.495)    | 0.466**<br>(2.215)    | -0.413*<br>(-1.921)   |
| Education  | 0.406***<br>(11.468)   | -0.183***<br>(-5.120) | 0.200***<br>(5.516)   | 0.336***<br>(9.645)   |
| Firm age   | 0.129***<br>(3.272)    | 0.276***<br>(4.776)   | 0.293***<br>(4.877)   | 0.704***<br>(11.512)  |
| Economic status  | -0.223***<br>(-11.383) | -0.222***<br>(-6.084) | -0.246***<br>(-7.251) | -0.284***<br>(-9.204) |
| Social status  | 0.020<br>(0.938)       | 0.007<br>(0.170)      | 0.011<br>(0.275)      | 0.015<br>(0.395)      |
| Political status   | 0.069***<br>(4.079)    | 0.006<br>(0.192)      | 0.034<br>(1.277)      | 0.051*<br>(1.871)     |
| Family investment  | -0.188**<br>(-2.336)   | -0.379***<br>(-2.858) | 0.040<br>(0.263)      | -0.002**<br>(-2.037)  |
| Industry dummy   | Control                | Control               | Control               | Control               |
| Area dummy   | Control                | Control               | Control               | Control               |
| Constant   | 4.116***<br>(6.345)    | 5.535***<br>(6.144)   | 2.511***<br>(2.915)   | 3.901***<br>(4.665)   |
| Adjusted $R^2$   | 0.282                  | 0.429                 | 0.385                 | 0.502                 |
| Political personal embeddedness * Inter-firm embeddedness  | -0.625***              | 0.120                 | -0.277                | -1.330***             |
| Adjusted $R^2$   | 0.285                  | 0.457                 | 0.385                 | 0.505                 |
| Political firm embeddedness * Inter-firm embeddedness      | -0.223                 | 0.129                 | -0.484**              | -0.984***             |
| Adjusted $R^2$   | 0.283                  | 0.436                 | 0.386                 | 0.505                 |
| Political personal embeddedness * Territorial embeddedness | -0.001                 | -0.188***             | -0.243***             | -0.060                |
| Adjusted $R^2$   | 0.282                  | 0.462                 | 0.390                 | 0.502                 |
| Political firm embeddedness * Territorial embeddedness     | -0.021                 | 0.008                 | -0.082                | -0.084**              |
| Adjusted $R^2$   | 0.282                  | 0.436                 | 0.385                 | 0.502                 |
| Inter-firm embeddedness * Territorial embeddedness         | 0.024                  | -0.255***             | -0.131**              | -0.086**              |
| Adjusted $R^2$   | 0.282                  | 0.435                 | 0.386                 | 0.502                 |

**Table 2.**  
Effects of  
embeddedness on  
enterprise operating  
income

**Notes:** \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively. Coefficients are in unstandardized forms

regressions based on the upper part of Table 2 whilst including the interactions between each two layers of embeddedness.

The estimation results indicate that inter-firm embeddedness mitigates the positive effect of political personal embeddedness on enterprise performance (significantly for the years 2002, 2016) and similarly it mitigates the positive effect of political firm embeddedness (significantly for the year 2010). It means that inter-firm embeddedness weakens the positive relationship between political embeddedness and enterprise performance, hence, *H2a* and *H2b* are not supported. In other words, the positive effect of political embeddedness on enterprise performance is weaker in firms having inter-firm embeddedness.

The coefficient of interaction between political personal embeddedness and territorial embeddedness is negative and statistically significant for the years 2008 and 2010. It means that territorial embeddedness weakens the positive effect of political personal embeddedness on enterprise performance and *H2c* is not supported. Territorial embeddedness has a negative moderating effect on the relationship between political firm embeddedness and enterprise performance for the year 2016, and this effect is significant at a 1% level, hence, *H2d* is not supported. In the same way, the results also show that for the years 2008, 2010 and 2016 territorial embeddedness has a significant negative moderating effect on the relationship between inter-firm embeddedness and enterprise performance and this effect is significant at a 1% level. This indicates that territorial embeddedness weakens the positive effect of inter-firm embeddedness on enterprise performance and *H2e* is not supported. Finally, during the analysis of the effects of multi-layered embeddedness on enterprise performance, we explored the effect of three-way interaction terms in the regressions. The coefficients of these terms were insignificant.

#### 4.4 Robustness checks

To check the robustness of our results, we performed additional regressions where the dependent variable was the natural logarithm of the number of firm's employees at the end of each year. Data related to the number of employees was available. The additional tests replicated the results above, hence, we found that the previous findings still hold indicating that political embeddedness, territorial embeddedness and inter-firm embeddedness have a significant positive effect on enterprise performance.

In summary (Figure 2) hypotheses *H1a* and *H1b* are supported whilst showing significant positive effects. Hypotheses *H2a* through *H2e* are not supported whilst showing no positive effects, specifically either negative or insignificant effects.

## 5. Discussion and conclusions

### 5.1 Discussion

The results of this study show that at the first stage of analysis all main effects of the three layers of embeddedness in China, namely, political (as of both personal and firm levels), territorial and institutional, were found to have a positive significant effect on enterprise performance. As we hypothesized the positive main effect of political embeddedness is not surprising and it corroborates previous studies in China (Fuller, 2010; Michelson, 2007; Wei and Ling, 2015; Haveman *et al.*, 2017; He *et al.*, 2018), as well as in other countries (Okhmatovskiy, 2010).

Simultaneous multi-layered embeddedness was tested by the interaction effect of the different combinations of embeddedness. It should be noted that there are no measures for the intensity of multi-layered embeddedness (Wigren-Kristofersen *et al.*, 2019). For part of the tested years our results of the two-way interactions show negative effects and for the other years non-significant effects rather than positive effects on firm performance: the

interaction effect of political-personal with territorial was negative in 2008 and 2010; the effect of political-personal with institutional was negative in 2002 and 2016; the effect of political-firm with territorial was negative in 2016; the effect of political-firm with institutional was negative in 2002, 2010 and 2016; the effect of territorial with institutional was negative in 2008, 2016 and 2016. All the other two-way interactions were not significant. It should be noted that the interaction effect between the two levels of political embeddedness, namely, the personal and firm level showed no significant effect at any of the tested years. Also, the three-way interaction showed no significant effect either whilst including the political-personal or the political-firm variables with territorial and inter-firm embeddedness. As not any interaction showed a positive effect on performance, hypotheses *H2a* through *H2e* are not supported. Figure 1 illustrates the detailed results for each of the four tested years. Previous studies (Sasaki and Yoshikawa, 2014; Greenberg *et al.*, 2018) showed varying results whilst our study through the analysis of a large database presents no positive effect of multi-layered embeddedness on enterprise performance.

In view of the resource dependence approach which claimed that various external resources are the key to organization development (Pfeffer and Salancik, 1978; Li *et al.*, 2021) multi-layered embeddedness could be expected to yield higher firm performance. However, in line with Hagedoorn and Frankort (2005), we suggest that a high level of overall embeddedness, namely, “over-embeddedness” has a detrimental effect whilst diminishing firm performance. Following the conventional RBV logic, the positive effects of each layer of embeddedness might be offset due to the rising costs of coordinating and managing the overlapping redundant resources (Goerzen, 2007; Mohr *et al.*, 2016). Zaheer *et al.* (2010) suggested that whilst there is an overlap in multiple networks, efficiency should arise to eliminate redundancy. Enterprises in emerging economies are resource poor (Zhu *et al.*,

| Interacting layers of embeddedness                         | Survey of 2002   | Survey of 2008   | Survey of 2010   | Survey of 2016   | Conclusion   |
|--|------------------|------------------|------------------|------------------|--|
| Political personal embeddedness * Inter-firm embeddedness  | √<br>(-0.625***) | ×                | ×                | √<br>(-1.330***) | <i>H2a</i><br>Positive interaction effect on performance not supported |
| Political firm embeddedness * Inter-firm embeddedness      | ×                | ×                | √<br>(-0.484**)  | √<br>(-0.984***) | <i>H2b</i><br>Positive interaction effect on performance not supported |
| Political personal embeddedness * Territorial embeddedness | ×                | √<br>(-0.188***) | √<br>(-0.243***) | ×                | <i>H2c</i><br>Positive interaction effect on performance not supported |
| Political firm embeddedness * Territorial embeddedness     | ×                | ×                | ×                | √<br>(-0.084**)  | <i>H2d</i><br>Positive interaction effect on performance not supported |
| Inter-firm embeddedness * Territorial embeddedness         | ×                | √<br>(-0.255***) | √<br>(-0.131**)  | √<br>(-0.086**)  | <i>H2e</i><br>Positive interaction effect on performance not supported |

**Figure 1.** Multi-layered embeddedness has a negative or insignificant interaction effect on the performance of private enterprises in China

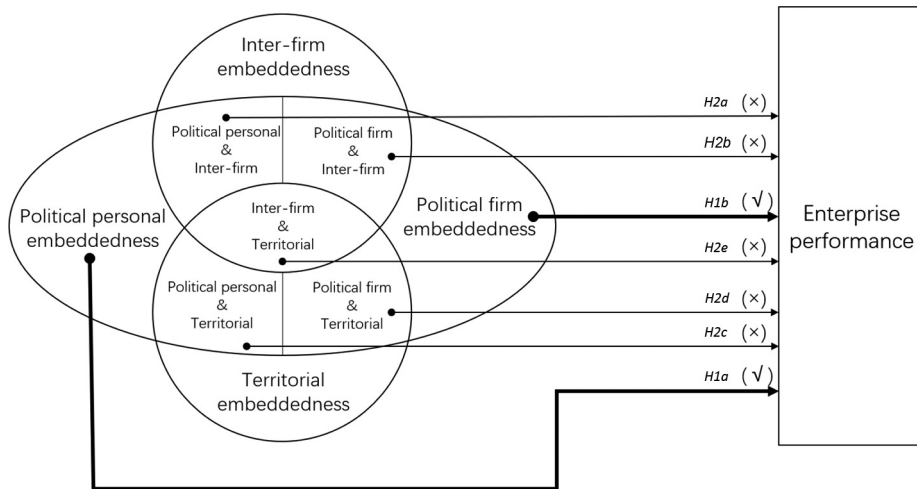
**Notes:** √ : Significant; × : not significant

2006), and thus the waste related to overlapping resources may have a negative effect on their performance.

The context of China is important, as it is the second largest economy in the world, and it is unique due to the transition it has been gone through in the past three decades (He *et al.*, 2018). Though in this period of time the Chinese macro-economy has changed in many aspects with tremendous growth (e.g. the number of employees in private companies increased from 34 million in 2002 to 180 million in 2016, as reported by the National Bureau of Statistics of China, 2020), in view of micro-economy the results show unchanged effects of embeddedness on enterprise performance along with 14 years (Table 2). This result does not corroborate He *et al.* (2018), who expected the effects of embeddedness in China will change over the years, however, it may be explained due to the observation that Chinese people still endorse many traditional values and their strong influence on the social behavior in China (Leung, 2008). This finding of unchanged effect may consider expectations for change having an important role even if traditional values are very strong on social behaviour (Begeç and Arun, 2020). Guanxi as one of the most common indigenous constructs used to describe social reality in Chinese culture at the level of dyads and networks (Li *et al.*, 2019).

5.2 Conclusions

We propose a conceptual model (Figure 2) which illustrates the multi-layered embeddedness as related to private enterprises in the Chinese context and its longitudinal effects on performance. This figure also provides a summary for the resulting outcomes of all the hypotheses. The interactions demonstrate the unexpected negative effects of multi-layered embeddedness on firm performance, probably due to the costly redundant resources. The conceptual model is built on Geels (2014) and on Hess (2004, p. 178), who proposed three dimensions of fundamental categories of embeddedness which are knitted one to the other. Following the actor-network theory (Murdoch, 1998) which highlights the importance of linking time and space within heterogeneous networks, Hess asserted that his model forms a



**Figure 2.** Conceptual model of multi-layered embeddedness and its longitudinal effects on the performance of private enterprises in China

Notes: ✓ : The hypothesis is supported; ×: the hypothesis is not supported

space-time context. In this regard, our study shows a consistent form of relationships over time. We suggest applying this model to other economies in transition like Russia.

The contribution of this research is first in applying the fuzzy concept of embeddedness (Markusen, 1999) to the context of the Chinese transition economy whilst referring to political embeddedness and its interaction with two other layers, namely, territorial and inter-firm embeddedness. We extended political embeddedness beyond the common personal level (Cheng *et al.*, 2019) to the firm level as can be measured in the Chinese context (Book writing group, 2018). The extended construct provides a wider perspective on the role of political connections for private enterprises. We suggest that political embeddedness at the personal level, as well as at the firm level influencing the performance of private enterprises in other countries and under different political systems though this phenomenon can be difficult to reveal and explore.

Secondly, whilst very few studies have explored the effects of multi-layered embeddedness, we found this factor (as operationalized in term of two-way interactions between two layers of embeddedness) have insignificant effects and in some cases to have an unexpected negative effect on firm performance. This finding may seem to be contrary to the RBV (Barney, 1991) expecting the value of accumulated resources, however, we assert it means that the different layers are to a certain extent overlapping (Figure 2). Hence, this study supports RBV in view of redundant resources (Goerzen, 2007; Mohr *et al.*, 2016) which have a non-positive effect on firm performance.

Thirdly, in face of the rapidly changing Chinese macro-economy, we found no fundamental micro-economic changes in relation to the effects of embeddedness on firm performance. This consistency may not be expected for transition economies but seems to align with the traditional Chinese Guanxi culture.

Private enterprises in China and to a certain extent in other transition economies may draw practical implications from this study in getting benefits from different layers of embeddedness. Business owners should be aware of the specific contribution to the performance of political embeddedness at the personal level and at the firm level. The same conclusion was provided by Burt and Opper (2020) as advice to CEOs of private enterprises in China. However, the pursuit of multi-layers of embeddedness, namely, exercising political embeddedness along with either inter-firm embeddedness or territorial embeddedness may diminish the performance of their enterprises. Based on this study political embeddedness at the firm level has a strong positive impact on firm performance, hence, we suggest CEOs of private enterprises search for this layer of embeddedness.

### *5.3 Limitations and further research*

For this study, we used rich data based on the CPES which has been conducted every two years. The sampling process did not entail a problem of pre-selection as we excluded potential endogeneity by applying the Hackman test. However, whilst using secondary data we had only the items which had been included in the survey. As the questionnaire has been slightly changed over the years, we could use only the years in which identical items were available. Also, as in different years, the survey was not handed to the same respondents, we could not perform time series analysis over different years as a panel.

Whilst this study focuses on moderation effects as related to interactions between multi-layered embeddedness, we also checked for potential mediators between political embeddedness and firm performance. These tests found that the variables education, firm age and owner's economic status account for only partial significant mediation effects. Future research may explore if different relationships are affected by mediation. Our finding regarding the effect of political embeddedness in the personal level and furthermore in the



firm level may get some extent of generalization as of different political systems; however, the operationalization of these variables is not straight forward and may be debatable. In addition, we suggest that multi-layered embeddedness should get further research due to the very few studies currently exploring notions of “over-embeddedness” (Wigren-Kristofersen *et al.*, 2019). Whilst this study relates to the context of China, generalization of the findings onto other countries needs further research in other economies.

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**Corresponding author**

Ying Teng can be contacted at: [1027670057@qq.com](mailto:1027670057@qq.com)