The Fit Between Managerial Ties and Resource Bundling Capabilities: Implications for Performance in Manufacturing Firms

Feifei Jiang, Hai Guo, Zelong Wei, and Donghan Wang

***Abstract*—This study advances managerial ties and firm performance research by examining the contingent value of resource bundling capabilities in the context of China's manufacturing industries. Using a sample of 290 manufacturing firms, we demonstrate that managerial ties and resource bundling capabilities can interactively impact firm performance. Specifically, business ties are positively related to, but political ties have an inverted U-shaped relationship with manufacturing firm performance. Further, business and political ties can interact to positively impact manufacturing firm performance. More importantly, improving resource bundling capabilities has a positive moderating effect on the relationship between managerial ties and manufacturing firm performance, whereas pioneering resource bundling capabilities has a negative moderating effect. Overall, we contribute to the literature by explicating different roles of business ties versus political ties played in creating value for manufacturing firms and extending the contingent view of managerial ties from a resource management perspective.**

***Index Terms*—Business ties, firm performance, managerial ties, political ties, resource bundling capabilities.**

I. Introduction

A PIVOTAL network-based strategic option that has permeated Chinese business world is managerial ties (*guanxi*), which encompass a wide range of top managers' boundary-spanning and interpersonal connections with external entities [51], [53]. Scholars have reached broad consensus on that managerial ties can be translated into higher firm profitability and market valuation, because managerial ties enable a firm to access to scarce resources [17], [42], capture business opportunities [12], build institutional advantages [21], as well as conduct innovative activities [33], [47]. It is worth noting that prior research has also documented the dark side of managerial ties in that a firm might suffer substantial loss of value in case of employing managerial ties [9], [19], [22]. Thus, we get confused on how effectively and under what conditions can managerial ties enhance firm performance.

The present study joins and contributes to this debatable scholarly conversation in two ways. First, instead of investigating the independent effects of different types of managerial ties on firm performance, this study embraces their joint effects. Managerial ties are typically characterized by two key dimensions: business ties and political ties [30], which "differ fundamentally with respect to the resources they may provide" [32, p. 2]. Existing literature has distinguished the effects of business ties and political ties on firm performance [17], [32], [47]. Given that building and maintaining business and political ties simultaneously may involve significant tradeoffs [38], we thus go beyond these independent effects and propose that business ties and political ties can contribute to firm performance in an interactive way.

Second, this study advances managerial ties and firm performance research by examining the contingent value of resource bundling capabilities. Acknowledging that the value of managerial ties are context dependent in nature [30], [32], [52], quite a few studies adopt the contingency approach, with a focus on examining the moderating roles of institutional and environmental factors [8], [19], [32], [42], [44]. Surprisingly, little attention has been paid to the role of internal capabilities. Sirmon and Hitt [36, p. 1376] propose that "the 'fit' between resource investment and their means of deployment is important for firm performance". In this study, we address this gap by introducing resource bundling capabilities as a new contingency factor. Here, resource bundling capability is important in that it helps tap into the potential of resources acquired through managerial ties. Two primary resource bundling capabilities have been identified: improving resource bundling capabilities and pioneering resource bundling capabilities [34]. Specifically, improving resource bundling capabilities tend to reconfigure a firm's extant resource portfolio, but pioneering resource bundling capabilities attempt to integrate external, new resources into current resource portfolio. Thus, it is interesting to ask: can different resource bundling capabilities create value synergies with different managerial ties to maximize firm performance?

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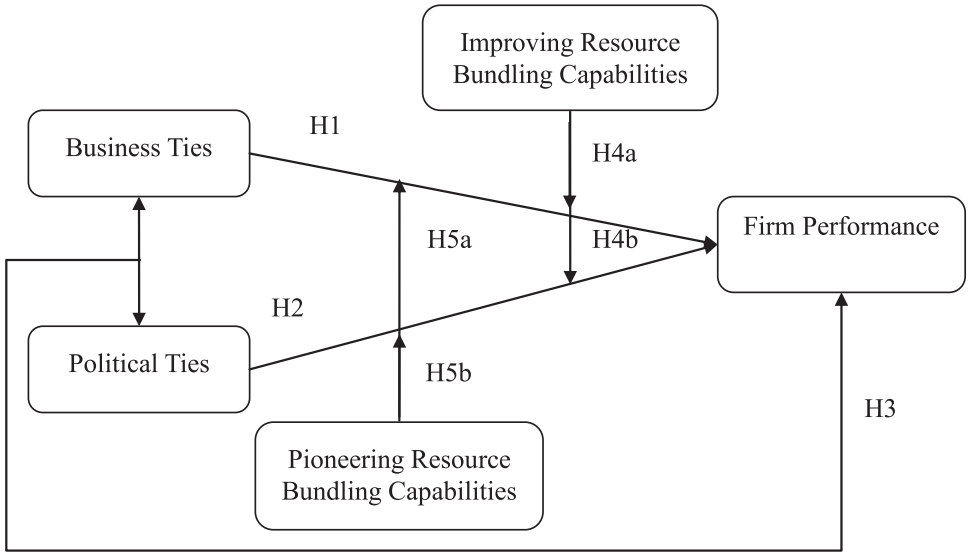

Fig. 1. Conceptual model.

Taken together, we develop and test a conceptual model that explains how managerial ties affect firm performance (see Fig. 1). By doing so, this study makes two major contributions. First, going beyond extant research that generally treats managerial ties as an aggregate construct, this study not only distinguishes the effects of business and political ties on firm performance but also examines their joint effect. Second, this study advances the contingency-based view of managerial ties by proposing that the roles of managerial ties depend on a firm's internal resource bundling capabilities.

II. Theoretical Background

A. Managerial Ties and Firm Performance

Serving as a bridge linking the organization with its external environment, managerial ties are widely recognized as a key determinant to firm performance in the context of transition economies [30]. The practice of managerial ties has been the lifeblood of business conducting in China [19]. After nearly 40 years of pervasive institutional transitions, the importance of managerial ties in China continues for two reasons: first, although the Chinese economy has advanced towards a more market-based competition, the formal institutional system is still evolving. Second, the Chinese government still maintains a pivotal role in guiding economic transition and resource allocation [31].

How do managerial ties affect firm performance in transition economies? Our literature review reveals three streams of research. First, early studies tend to treat managerial ties as an aggregate construct, and, in general, assert a positive link between managerial ties and firm performance [19], [21], [30]. The metal analysis of Luo *et al*. [24] further validates this view. The second stream of research recognizes that business and political ties capture two distinct facets of managerial ties and thus will impact firm performance differently [8], [10], [19]. However, empirical results are mixed. For example, Li *et al.* [22] posit that business ties have a positive effect on the profitability of foreign firms in China, whereas political ties have a negative effect. Sheng *et al*. [32] suggest that business ties have a stronger positive effect on firm performance than political ties. Kotabe *et al*. [17] find a U-shaped relationship between business ties with knowledge acquisition, and an inverted U-shaped relationship between political ties and knowledge acquisition. Still, an emerging third stream of research tends to focus on a particular type of managerial ties [12], [50]. For example, Sun *et al.* [39] investigate how different political ties (i.e., government ownership ties and managerial political ties) affect firm value.

In this study, we endeavor to expand the second stream of research by exploring the independent as well as the joint interactive effects of business and political ties on firm performance. Consistent with Peng and Luo [30], we distinguish business ties from political ties. Business ties represent a firm's informal, interpersonal social connections with players of the business community, such as buyers, suppliers, competitors, and other collaborators. Political ties are firm managers' social connections with government officials in various levels of administrations, including central and local governments [30].

B. The "Fit" View

Contingency theory concerns the performance implications of "fit" between pairs of variables of interests [41], which has been widely applied to managerial ties research. The contingent value of managerial ties has long been recognized, by investigating two classes of contingency factors: 1) organizational characteristics, such as firm ownership [19], [30], firm size [30], and location [44]; and 2) environmental characteristics, such as industrial growth [30] and environmental uncertainties [8], [19], [32], [42].

While follow-up research is valuable, the introduction of internal capabilities seems to have considerable merit. As suggested by resource management perspective, valuable resources

may remain unused if firms fail to deploy them appropriately [37], [36]. This approach suggests that the fit between resources provided by managerial ties and resource management is important for firm performance. Particularly, both resource management perspective [37] and dynamic capabilities perspective [15], [26] argue that a firm's capability in bundling various resources is critical for resource acquisition and utilization.

In this study, we focus on two fundamental resource bundling capabilities: improving and pioneering resource bundling capabilities. Specifically, improving resource bundling capabilities are a set of identifiable processes with a focus on recombining current resources such as knowledge and skills in order to create learning and extensions of a firm's capabilities. Pioneering resource bundling capabilities are those operate to integrating new, external resources or capabilities with current internal resources [7], [37]. While the former elaborates and extends a firm's current capabilities, the latter focuses on developing or creating entirely new capabilities. Although improving bundling is not likely to create completely novel and discontinuous innovations, it does enable a firm to make noticeable innovations to improve its performance [7]. We suspect that improving and pioneering resource bundling capabilities may moderate the relationship between managerial ties and firm performance differently.

III. Hypotheses Development

A. Managerial Ties and Firm Performance

Business ties positively affect firm performance. First, close business ties provide firms with crucial market information that may not available in the open market, such as product information and changes in the markets [32]. For example, close ties with suppliers make manufacturing firms acquire quality materials and services and timely delivery, and those with buyers help manufacturing firms understand customer needs and thereby enable them to win customer loyalty [47]. With the help of information, firms could understand new offerings and develop new products tailored to new market demands. In China, a firm's managers often prefer to obtain necessary information through *guanxi* networks, because these sources offer information advantages, including timeliness, richness, and minimal bias [22].

Second, close business ties provide a robust and informal channel for smooth communications in exchanges. It could lead to shared trust and encourages reciprocity and therefore facilitate exposure and acquisition to partner's tacit know-how [14]. In addition, close social interactions also create common beliefs and commitment to the partnership, which further lower the risk of opportunism and facilitate transactions [6].

Although the cultivation of business ties entails cost, this cost is controllable. In business ties, exchange parties have common interests in maximizing their economic returns [32]. Therefore, transactional parties would build business ties by nature without making too many investments. In addition, business ties generally rely on personal relations and exchange of favors. Specifically, when a firm offers information to other parties, it constitutes a favor, which also needs to be repaid at some point in the future, but with more flexibility with regard to how the obligations or favors should be repaid [6].

H1: Business ties have a significantly positive effect on firm performance.

Although market-based mechanisms have been increasingly introduced into China, the government still controls sizable portion of strategic resources and holds considerable power to allocate resources and approve projects [12], [25]. Manufacturing firms in China can use political ties to obtain key regulatory resources to build institutional advantages. First, close ties with government officials help firms obtain scarce resources include priority access to land permits and bank loans. Second, political ties provide firms institutional benefits such as technology grants, public contracts, and export licenses [12], [48]. Third, political ties can bring firms latest information about industrial planning or policy changes, which in turn helps discover institution-based market opportunities [12]. For these reasons, a commonly held notion is that firms should build political ties to achieve competitive advantage in China.

However, a firm and its managers that rely excessively on political ties with government officials, however, may hurt their performance. When a firm uses its political ties to obtain scare resources or gain permission to enter certain business, *ex ante* investments, in the form of gift-giving, banquets, and managerial efforts, are devoted to building personal relationships with political ties [29]. Political ties might become a "grabbing hand" rather than a "helping hand" when trying to strengthen them [47]. For example, a firm may be awarded some critical resources from government officials, but in return it must fulfill political-orientated goals for the local government, which may not be congruent with the firm's business goals [39].

Second, as political ties get embedded in organizational routines over time, a firm and its managers tend to rely on preferential treatment from the government to achieve success and experience a relatively lower level of competitive pressure [23]. Such high level of dependence makes political ties become a significant liability for a firm when this firm is exposed to market challenges. Thus, this firm is likely to rest on laurels rather than to pursue technological improvement [17], which may be detrimental to its sustainable performance. Empirical evidence provides some indirect support for this argument. For example, Chen and Wu [8] suggest that high political ties decrease a firm's incentives to improve innovation efficiency. These high ties are associated with resource-bridging capability but not with adaptive capability.

Hence, the positive effect of political ties on firm performance would be initially strong due to the benefits of governments' favorable policies and scarce resources, but becomes weaker and eventually turns to negative direction since the costs associated with strong political ties overweigh their benefits, yielding an inverted U-shaped relationship.

H2: Political ties have a significantly inverted U-shaped effect on firm performance.

When a firm enjoys both high political ties and business ties, it might benefit from a complementary effect. First, high

political ties and business ties are complementary in resource acquisition. High political ties may allow a firm to acquire regulatory but generic resources such as bank loans, whereas high business ties may allow a firm to acquire relatively specialized resources such as tacit knowledge [13]. General resources such as cash help a firm to search for satisfactory solutions in integrating with tacit knowledge acquired through business ties [16]. Thus, high political ties enhance the value of a firm's business ties. In turn, high business ties facilitate exploring to industry-specific information that deepens the knowledge bases of firms and reinforces their capability in applying generic resources through political ties. Thus, high business ties enhance the value of a firm's political ties.

Second, high political ties and business ties are complementary in addressing market uncertainty. In a competitive and uncertain market, such like China's manufacturing industries, high business ties help a firm acquire latest market information and introduce novel offerings to respond to changing market demands [47]. Yet the real success of novel products is risky and uncertain, so here political ties can be valuable: high political ties help a firm gain privileged entry into markets [48]. Therefore, high political ties might help business ties to tap into market value.

Finally, high business ties mitigate the weakness of extremely strong political ties. Strong political ties, as argued above, may exert complacency which limits a firm's entrepreneurship. Business ties help deal with this dilemma. *Guanxi* is reciprocal in nature. Thus, guanxi partners might stop providing favors to a firm if it could not provide useful information as a returned favor in the future [6]. Thus, high business ties make the firm who enjoys strong political ties keep active in doing business and seeking external resources. Therefore,

H3: Political ties and business ties have a significantly positive interactive effect on firm performance.

B. Moderating Roles of Resource Bundling Capabilities

Whereas managerial ties provide firms with opportunities to acquire scarce resources and crucial information, whether the acquired resources can generate superior performance depends on a firm's capabilities to allocate and employ these resources effectively. We suggest that two types of resource bundling capabilities—improving and pioneering resource bundling capabilities—may affect the relationship between managerial ties and firm performance in different ways.

Although managerial ties bring in external resources, firms should bundle them with existing resources to promote firm performance [40]. Improving resource bundling capabilities, which focus on the reconfiguration of current resources, provide potential support for this process. Specifically, improve bundling capabilities often absorb external resources to reinforce preexisting resource bases. Therefore, firms with higher improve bundling capabilities tend to select and employ external resources that can fit better with firms' local resource bases.

Business ties often bring a firm resources tightly linked to existing resource bases. Thus, improving bundling capabilities will be more effective in directing firms to quickly acquire resources that could maximize firm value [46]. Improving resource bundling capabilities enable firms to integrate externally acquired resources through business ties to adapt to existing products and launch better products to the market. In this sense, improving resource bundling capabilities can help the firm achieve the potential of resources acquired through business ties.

High improving resources bundling capabilities, coupled with political ties, may weaken the negative impacts of political ties. Compared with business ties, political ties often bring general resources or bridge to resources in other industries, which are not specific to business operations and thus are difficult to be used in a direct way. High improving resource bundling capabilities guide firms to choose external resources that fit with existing resource bases and support existing businesses. Therefore, high improving bundling capabilities may weaken the positive effect of political ties.

More importantly, given the reduced value of political ties as external resource pipelines, firms will reduce their reliance on political ties when improving bundling capabilities are high. The decrease of reliance on political ties reduces potential government interventions as well as inertia to external environmental changes. Therefore, when improving bundling capabilities are strong, the negative effect of political ties as "grabbing hand" and a firm's "shelter" both decrease. Therefore,

H4a: The positive relationship between business ties and firm performance is significantly stronger when a firm's improving bundling capability is higher.

H4b: The inverted U-shaped relationship between political ties and firm performance is significantly flatter when a firm's improving bundling capability is higher.

Pioneering resource bundling capabilities involve integrating new, external resources with current controlled resources, largely for the purpose of creating entirely new capabilities and achieving first-mover advantages in the market [34]. Unfortunately, because of the cost associated with cultivating business ties, firms are generally relying on repeated ties to acquire resources [49]. As a result, business ties often lose their exclusive value for obtaining scarce key resources.

On the contrary, the value of resources acquired from political ties is enhanced. Although political ties cannot provide specific resources, the general resources (i.e., financial support) often enable a firm to exchange and build new resources. More importantly, political ties often bridge the firm with firms in other industries, which help firms to access to heterogeneous resources. When pioneering bundling capability is high, firms prefer to employ these resources to create new resource combinations. Firms with high pioneering capability may rely more on political ties to access new resources. Therefore, pioneering bundling capability strengthens the positive effect of political ties.

However, increased reliance on political ties may incur government interventions and organizational inertia. Breakthrough innovation supported by pioneering bundling is generally associated with weak legal contracts and uncertain performance [52]. Under such conditions, firms usually use their political ties to win contracts and business licenses when their technologies and products are not better than those of their rivals [18]. Therefore,

H5a: The positive relationship between business ties and firm performance is significantly weaker when a firm's pioneering resource bundling capability is higher.

H5b: The inverted U-shaped relationship between political ties and firm performance is significantly more pronounced when a firm's improving bundling capability is higher.

IV. Method

A. Sample and Data Collection

We used survey data collected from China's manufacturing industries to test the hypotheses. The manufacturing industry offers a particularly useful setting since competition within this sector is fierce. There is a long history that the Chinese government has substantially reduced its holdings in the manufacturing sector; meanwhile, the number of privately-owned and foreign-owned manufacturing firms has increased substantially [45]. Therefore, network-based strategy is pervasive in this relatively free market.

The questionnaire was originally designed in English and then, was translated into Chinese with the assistance of four doctoral students who are competent in both languages. To ensure content validity, we conducted onsite interviews with three senior managers in which we asked them to verify that the measures were relevant and complete. On the basis of their responses, we modified a few questionnaire items to enhance their clarity. A pilot test was conducted with 18 senior managers. We asked the managers to answer all survey questions and indicate the clarity of their wording. To reduce the social desirability bias, we make sure all questions are put forward to be "*neutral*," and informed all respondents in advance of the academic purpose of the project, the confidentiality of their response, and that their responses would be used only in aggregated analysis without any judgment. Based on their feedback, we refined the survey to ensure their relevance and clearance in the Chinese context and finalized the survey.

For the final survey, we collected data from six provinces such as Shaanxi, Henan, Guangdong, Jilin, Jiangsu, and Shandong province which cover eastern, central and western areas which present tremendous institutional diversity. With the help of the local government, we obtained a list of over 10 000 firms. From this list, we randomly selected a sample of 400 firms that operated within the four-digit Chinese Industrial Classification codes 1311-4290, which spanned diverse industries, including chemical and pharmaceutical, electrical equipment, electronic communication, general equipment and instrument manufacturing. Except for this list, the government also provides us with the names, phone numbers, and e-mail addresses of top managers (a chairman or a CEO) of the sampled firms.

We called managers to invite them for participation. If they agreed, two doctoral students were sent to conduct the on-site survey. In order to avoid common method variance (CMV) problem, we asked one top manager who is familiar with firm strategy to complete questionnaire A and then asked another top manager familiar with operation management to complete questionnaire B independently. All doctoral students were trained for at least 10 h on survey method, communication skills, and how to avoid social desirability bias. Although this approach is both timely and financially costly, it is critical to obtain reliable data in emerging economies [43]. Finally, 290 firms offered valid responses with a response rate of 72.5%.

Inter-rater reliability was checked to confirm that the two respondents in each pair shared similar views of key constructs. Matched pairs of the first and second respondents were built, and each indicator was analyzed separately. The results show that correlations between the two respondents for each of the items are all above 0.2 and significant, a finding which buttresses the validity of the scales [5].

We assessed nonresponse bias by testing for possible differences between respondents and non-respondents after the data was collected. We found little statistically significant differences between respondents and nonrespondents across firm size, ownership status, sales and age, suggesting that nonresponse bias was not a significant concern [2]. The likelihood of nonresponse bias was further tested by splitting the total sample into two groups. A comparison of the two groups revealed no significant differences.

Except addressing common method bias through procedural remedies (collecting data from two respondents in each firm), we also test the potential CMV using statistical remedies such as Harman's single factor approach. An unrotated factor analysis using the Eigen value-great-than-one criterion revealed six distinct factors that accounted for 68.88% of the total variance, with the first factor explaining only 16.36% in our sample. Thus, no single factor emerged, nor did one factor account for most of the variance.

B. Measures

The survey measures were mainly developed based on existing research items and scales. All items were measured on a five-point Likert-type scale, anchored by "1—strongly disagree" to "5—strongly agree." For each company, we take the average of the response from two responders. If one response is missing, we take the other one. We provide a full list of scales and items in the Appendix.

Firm performance is not only reflected by its high short-term performance, but also its long-term earning capacity. Therefore, we measure manufacturing firm performance with the following five items.

1) Sales growth.
2) Market share growth.
3) Rate of return on sales.

TABLE I
DESCRIPTIVE STATISTICS AND CORRELATION MATRIX

Variables	Mean	S. D.	1	2	3	4	5	6	7	8	9
1. Business ties	4.046	0.456	1								
2. Political ties	3.640	0.725	0.239**	1							
3. Improving resource bundling capabilities	3.621	0.554	0.350**	0.240**	1						
4. Pioneering resource bundling capabilities	3.372	0.727	0.358**	0.234**	0.723**	1					
5. Manufacturing firm performance	3.422	0.541	0.328**	0.096	0.556**	0.495**	1				
6. Firm size	2.826	1.478	–0.095	0.200	0.070	–0.040	0.109	1			
7. Firm age	15.414	15.799	0.023	0.146*	–0.010	–0.087	–0.041	0.555**	1		
8. High-tech firm	1.527	0.500	–0.024	0.034	–0.003	0.036	0.037	–0.030	–0.075	1	
9. Product or service change frequency	2.448	0.905	–0.070	0.033	–0.027	0.013	–0.095	0.093	–0.012	–0.030	1
10. Environmental threat	3.434	0.804	0.106	0.136*	0.092	0.066	–0.059	0.221**	0.161**	–0.071	0.169**

Significance level: $^{*}p < 0.05$; $^{**}p < 0.01$; $N = 290$.

TABLE II
COMPARISON OF MEASUREMENT MODELS

Model	Model Description	χ^2	df	$\Delta\chi^2$	RMSEA	GFI	NFI	CFI
Model 1	Two-factor model: improving and pioneering resource bundling capabilities were treated as two distinct factors	7.46	8	–	0.01	0.99	0.99	0.99
Model 2	One-factor model: improving and pioneering resource bundling capabilities were combined into one factor	63.33	9	55.87***	0.14	0.93	0.95	0.95

$^{***}p < 0.001$. $N = 290$.

4) Customer satisfaction.
5) Long-term profitability.

Improving resource bundling capabilities and *pioneering resource bundling capabilities* are measured using three items, respectively, based on research of Sirmon and Hitt [35] and Sirmon *et al.* [34], [37].

Our developmental work leads to the creation of six items to measure *business ties* and three items to measure *political ties* mainly based on the research by Peng and Luo [30], Li *et al*. [19], and Atuahene-Gima and Li [3]. Items for business ties describe the ties firms established with their business partners, whereas items for political ties assessed the ties firms established with the government or government officials.

We included five control variables. First, we measured *firm size* as the logarithm of the number of employees since the number of employees can be highly correlated with sales growth [30]. *Firm age* was also controlled because matured firms are likely to have greater market share and lower growth rate [20], and it was measured by the number of years since its foundation. Compared to traditional manufacturing firms, high-tech manufacturing firms need to pursuit performance by developing explorative rather than exploitative capabilities. To capture this difference, *high-tech firm* was broadly controlled using a dummy variable to indicate whether a firm is certificated as a high-tech enterprise by the government. In addition, *product or service change frequency* in the industry was controlled because a firm facing high demand uncertainty is more likely to fall behind in the market and result in a decline in performance. Furthermore, as firms facing more threats in the market maybe more risk-averse and reluctant to achieve performance through developing new capabilities, thus we also controlled *environmental threat*. Firm size, changing frequency of product or service, and environmental threat were measured on a five-point Likert-type scale, anchored by "1—strongly disagree" to "5—strongly agree."

C. Analysis

Table I shows basic information on each factor and correlations among these factors. The internal consistency was estimated using Cronbach's alpha. Typically, reliability coefficients of 0.70 or higher are considered adequate [28]. Nunnally [28] further states that permissible alpha values can be slightly lower for newer scales (larger than 0.60). In this study, Cronbach's alpha values for all factors except improve bundling were well above 0.70 (see the Appendix). As a new scale, the alpha value for improve bundling was 0.67, exceeding the threshold of 0.60. Construct validity is a combination of convergent validity and discriminant validity. Convergent validity is achieved when the loading is 0.7 or higher [11]. Convincingly, all 20 items in the various scales were above this threshold. In addition, an average variance extracted (AVE) of 0.50 or greater for each construct also ensures convergent validity. We found all AVE values surpassed the recommended threshold of 0.50 for each construct.

Insofar as the off-diagonal elements are lower than the diagonal elements as shown in Table I, the shared variance between all possible pairs of constructs is lower than the AVE for the individual construct, in support of discriminant validity. We also used other two tests to verify the distinctiveness

TABLE III
RESULTS OF HIERARCHICAL REGRESSION ANALYSIS

Variables	Manufacturing firm performance				
	Model 1	Model 2	Model 3	Model 4	Model 5
Independent variables					
Business ties (BT)		0.406***	0.418***	0.224***	0.230***
Political ties (BT)		–0.101	–0.135	–0.197***	–0.196***
Political ties^2 (PT^2)		–0.128*	–0.202***	–0.090$^+$	–0.123*
Improving resource bundling capabilities				0.315***	0.267***
Pioneering resource bundling capabilities				0.252***	0.336***
Interactions					
BT × PT			0.187***	0.173***	0.160***
BT × Improving resource bundling capabilities				0.131**	0.128*
BT× Pioneering resource bundling capabilities				–0.249***	–0.260***
PT × Improving resource bundling capabilities				0.127***	0.184***
PT × Pioneering resource bundling capabilities				–0.243***	–0.364***
PT^2 × Improving resource bundling capabilities					0.165*
PT^2 × Pioneering resource bundling capabilities					–0.255***
Control variables					
Firm size	0.306***	0.375***	0.364***	0.274***	0.258***
Firm age	–0.189***	–0.253***	–0.202***	–0.176***	–0.178***
High-tech firm	–0.025	0.005	–0.001	0.002	–0.002
Product/service change frequency	–0.164***	–0.100*	–0.110*	–0.114**	–0.088*
Environmental threat	–0.142**	–0.197***	–0.210***	–0.183***	–0.193***
F	2.448**	4.469***	4.015***	4.780***	4.340***
R^2	0.099	0.246	0.265	0.505	0.522
Adjusted R^2	0.059	0.191	0.199	0.399	0.401
$\triangle R^2$		0.011	0.019	0.240	0.017

*Significance level: $^+p < 0.1$; $^*p < 0.05$; $^{**}p < 0.01$; $^{***}p<0.001$; $N = 290$.

of the two variables in this study, namely improving bundling and pioneering bundling. First, Bagozzi's [4] criterion can be employed through chi-square difference tests using confirmatory factor analysis (CFA). Allowing for correlation between improving bundling and pioneering bundling and then fixing the correlation at 1.0, a significant difference in chi-square values for the free and fixed models indicates the distinctiveness of the two constructs [4]. Second, we conducted a dimensional-level CFA including improving bundling and pioneering bundling. Table II presents the CFA results. Model 1 was the baseline model treating improving bundling and pioneering bundling as two distinct factors, and Model 2 was a one-factor model with improving bundling merged with pioneering bundling to form a single factor. As shown, the baseline two-factor model fit the data better ($\chi^2 = 7.46$; $df = 8$; root mean square error of approximation [RMSEA] = 0.01; goodness of fit index [GFI] = 0.99; normed fit index [NFI] = 0.99; comparative fit index [CFI] = 0.99), providing evidence of the construct distinctiveness of improving bundling and pioneering bundling.

V. RESULTS

To minimize multicollinearity, we created interaction terms by multiplying the relevant mean-centered scales [1]. Table III presents the results of the standardized regression estimates. Model 1 included the control variables. Model 2 added the independent variables and its quadratic term to test the main

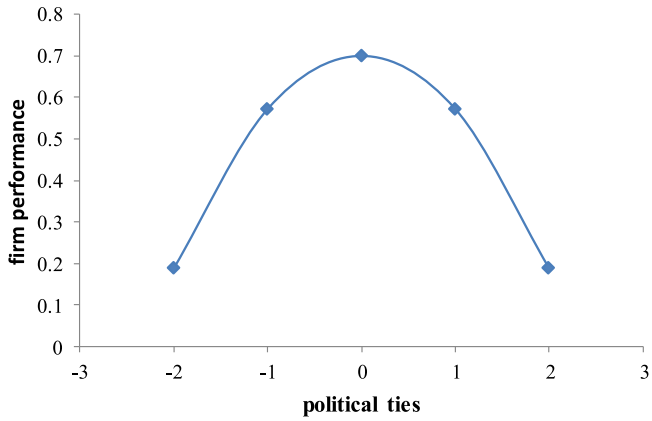

Fig. 2. Relationship between political ties and firm performance.

effects, Model 3 added the interactions of business ties and political ties, Model 4 added first-order interactions, and Model 5 included all the predictors in the regression.

In H1 and H2, we predict a positive effect of business ties on firm performance and an inverted U-shaped effect of political ties on firm performance, respectively. According to Model 2, business ties have a positive effect on firm performance ($\beta = 0.406,\ p < 0.001$), supporting Hypothesis 1. Political ties have no effect on firm performance, but the quadratic term exhibits a negative relation ($\beta = -0.128,\ p < 0.05$). Therefore, political ties display a curvilinear relationship with firm performance, supporting Hypothesis 2. The turning point is at a political ties

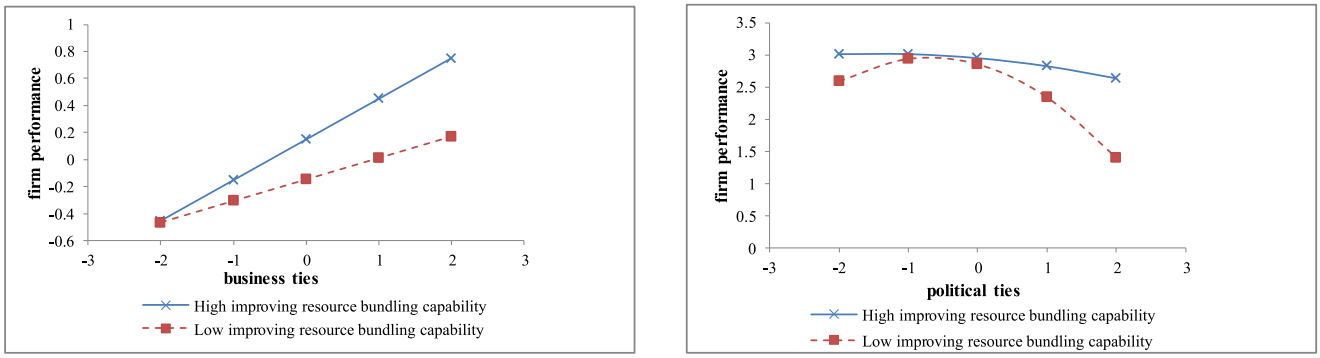

Fig. 3. Moderating effect of improving resource bundling capabilities.

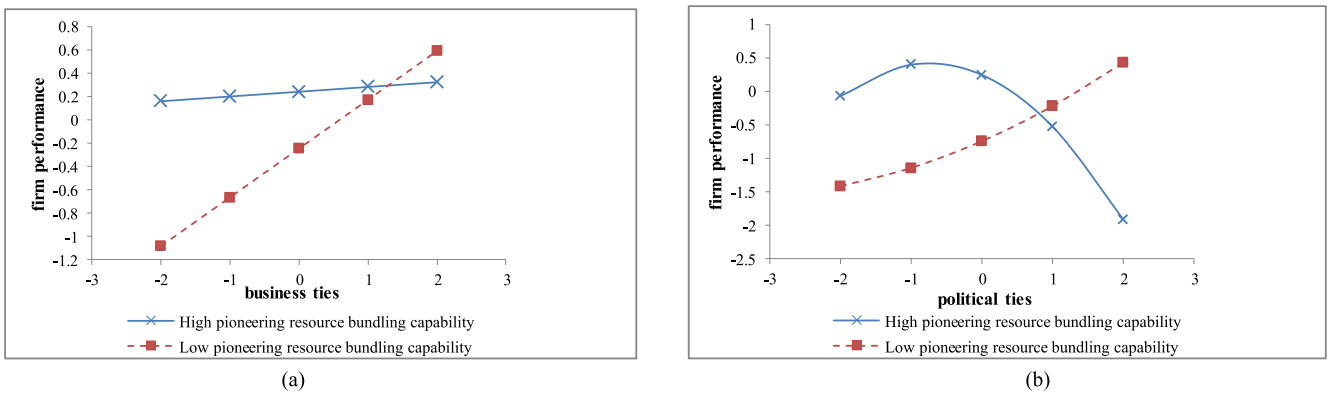

Fig. 4. Moderating effect of pioneering resource bundling capabilities.

value of 0 (centered), which is well located within the data range. Fig. 2 illustrates the convex relationship, providing evidence in support of H2.

In H3, we consider a joint effect of business ties and political ties on firm performance. The results in Model 4 provide support for H3 ($\beta = 0.187,\ p < 0.001$). That is, business ties and political ties interactively impact firm performance in a positive way.

In H4a and H4b, we predict that improving bundling capabilities strengthen the positive relationship between business ties and firm performance as well as the inverted-U shaped relationship between political ties and firm performance, respectively. As shown in Model 5,the interaction term of business ties and improving bundling is positively related to firm performance ($\beta = 0.128,\ p < 0.05$), thus supporting Hypothesis 4a. The first-order interaction between political ties and firm performance is positive ($\beta = 0.184,\ p < 0.001$), and the second-order interaction is also positive ($\beta = 0.165,\ p < 0.05$). We plotted the impact of business and political ties on firm performance for the low and high levels of improving bundling capabilities in Fig. 3(a) and (b), respectively [1]. Fig. 3(a) reveals that business ties have a stronger positive effect on firm performance at high levels ($\beta = 0.301,\ p < 0.01$) than at low levels ($\beta = 0.159,\ p < 0.01$). Fig. 3(b) reveals that at higher level of political ties, the inverted-U shape becomes flatter, further supporting H4b.

We examined the moderating effect of pioneering bundling capabilities to test H5a and H5b. According to Model 5, the interaction term of business ties and pioneering bundling is negatively related to firm performance ($\beta = -0.260,\ p < 0.001$). It reveals that the positive effect of business ties on firm performance is weaker when pioneering bundling capabilities are high, supporting Hypothesis 5a. The first-order interaction between political ties and firm performance is negative ($\beta = -0.364,\ p < 0.001$), and the second-order interaction is also negative ($\beta = -0.255,\ p < 0.001$). We also decomposed the interaction terms at low and high levels of pioneering bundling capabilities in Fig. 4(a) and (b). Fig. 4(a) indicates that business ties have a positive effect on firm performance when pioneering bundling capabilities is low ($\beta = 0.419,\ p < 0.01$) but a nonsignificant effect when pioneering bundling capabilities is high. Fig. 4(b) indicates that the U-shaped relationship turns into U-shape at lower value of pioneering bundling capabilities. Thus, H5b is supported.

VI. Discussion

A. Theoretical Contributions

Our study makes three major contributions to the literature. First, this study enriches managerial ties and firm performance research by distinguishing two types of managerial ties:

business and political ties, and investigating their independent as well as joint effects on firm performance. Specifically, our results show that business ties have a positive effect on firm performance, whereas political ties have an inverted U-shaped relationship with firm performance. These results confirm the assertion that both business and political ties contribute to firm performance, but through different mechanisms [17], [32]. Particularly, by embracing and elaborating both the advantages and disadvantages associated with political ties, this study provides a fuller and deeper understanding of how political ties impact firm performance. Interestingly, we find that business ties and political ties not only impact firm performance independently, but also interactively: those strong in business ties will benefit more from political ties and strong in political ties will benefit more from business ties, suggesting a complementarity effect.

Second, this study contributes to the contingency-based view of managerial ties by proposing that the roles of managerial ties depend on a firm's internal resource bundling capabilities. We find that two types of resource bundling capabilities—improving and pioneering resource bundling capabilities—indeed impact the effectiveness of business ties and political ties, albeit via opposing moderating mechanisms. For business ties, improving resource bundling capabilities increase their positive effect on firm performance, but pioneering resource bundling capabilities weaken it. For political ties, the inverted U-shaped effect on firm performance is weakened when improving resource bundling capabilities are high, but strengthened when pioneering resource bundling capabilities are high. Overall, our findings support the notion that the value of managerial ties is contingent on a firm's internal capabilities, thus providing additional insights into existing literature [30], [32].

Finally, this study provides a more nuanced understanding of the "resource/capabilities fit" view. The resource management perspective insists that valuable resources benefit a firm when coupled with deployment capabilities [36]. In support of this argument, our findings clearly demonstrate that some capabilities will add value to firm resources but some capabilities will entail loss of value. Take business ties, for example, they fit well with improving resource bundling capabilities, but cannot create synergy with pioneering resource bundling in enhancing firm performance. In addition, our findings echo Huesch's question [15] of whether there always exist synergies between resources and resource management capabilities. Definitely, our answer is no. In this way, our findings enrich the "resource/capabilities fit" view.

B. Managerial Implications

This study also provides important managerial implications. First, our results indicate that business ties provide firms with market resources and act as a channel to develop novel product through acquiring partner's specific knowledge. In practice, managers in manufacturing firms should strengthen their connections with other business organizations in the open market to improve performance. Rather, managers in firms must be very careful about their heavy use of political ties. Although political ties may advance firm performance, too much emphasis on political ties may lead to the problem of "overembeddedness" and thus weaken a firm's capability in exploration and innovation. Managers need to keep connections with government officials at arm's length and avoid relying heavily on these officials; otherwise, they will suffer from loss of profitability. The positive interactive effect of business and political ties shows that the two types of managerial ties can mutually reinforce in improving firm performance. Thus, managers of resource-sufficient firms could endeavor to pursue business ties and political ties simultaneously.

Second, managers need to take actions to appropriately develop resource bundling capabilities in order to enhance firm performance. Having access to managerial ties is useful, but such ties can generate greater success if coupled with resource bundling capabilities. However, managers should be cautious in their use of bundling capabilities when relying on managerial ties. Improving resource bundling capabilities can add value to managerial ties, whereas pioneering resource bundling capabilities may reduce the value. Thus, for manufacturing firms operating in transition economies such like China, once relying heavily on managerial ties, managers need to focus on developing capabilities in improving rather than pioneering resource bundling in order to tap the full potential of managerial ties.

C. Limitations and Future Research

This study has certain limitations. First, our sample is limited to manufacturing firms in China, which makes the results context-specific. Although countries in transition economies may share some common features, they still have their own specific features. Therefore, generalizability of the results to other transition economies is questionable and deserves for further research.

Second, our study addresses the impacts of ties strength or quality on firm performance. However, as social capital theory implied, social ties include three dimensions, namely structural, relational, and cognitive [27]. While this study focuses on the relational dimension, other dimensions such as structural one reflected by ties diversity or centrality are also expected to be linked to firm performance. Consideration of other dimensions can provide further insights into the understanding of the relationship between managerial ties and firm performance.

Third, our measure of firm performance is based on managers' subjective perception, a widely applied approach in literature. Future research should obtain objective measures, such as return on assets return on sales, to improve the rigor of our findings [30].

Finally, the cross-sectional dataset used in this study prevents us from testing causal linkages [32]. Future research could use longitudinal data to examine the causality relationship in our theoretical model and also investigate the dynamic interplay among managerial ties, resource bundling capabilities, and firm performance.

APPENDIX
MEASUREMENT SCALES

Variables	Description	Loadings
Business ties (α = 0.881; AVE = 0.632)	1. Our top managers have cultivated close connections with our buyers	0.793
	2. Our top managers have put great emphasis on understanding our buyers' needs	0.839
	3. Our top managers have focused on developing relationships with our buyers	0.833
	4. Personal relationships with our suppliers are important to the firm	0.733
	5. Our top managers have invested in relationships with the managers of our suppliers	0.810
	6. Our top managers have understand our suppliers' strengths and weaknesses	0.755
Political ties (α = 0.891; AVE = 0.822)	1. Our top managers ensured good relationships with influential government officials	0.918
	2. Our top managers have invested heavily in building relationships with government officials	0.927
	3. Improving our relationships with government have been important to us	0.874
Improving resource bundling capabilities (α = 0.670; AVE = 0.605)	1. We have made necessary investments in its supporting resources	0.805
	2. We have sustained its underlying resources	0.705
	3. We have improved the qualities of firm's resources (such as employees, machines, etc.)	0.818
Pioneering resource bundling capabilities (α = 0.889; AVE = 0.818)	1. We have recombined resources in novel ways	0.899
	2. We have integrated new and/or complementary resources together	0.910
	3. We have combined new, but valuable resources with existing resource in an uniquely innovative way	0.905
Manufacturing firm performance (α = 0.833; AVE = 0.601)	We have improved our performance in the following aspects:	0.832
	1. Sales growth	0.832
	2. Market share growth	0.841
	3. Rate of return on sales	0.721
	4. Customer satisfaction	0.736
	5. Long-term profitability	0.739

α, Cronbach's alpha.

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