Do~~es A~~ Firm~~s~~ Become Less Philanthropic After Gaining Political Legitimacy? A Social Exchange Perspective

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ABSTRACT

Research has suggested that firms in emerging economies often engage in philanthropy to secure political legitimacy. A natural follow-up question is whether a firm becomes less charitable after it gains political legitimacy. We draw on the social exchange perspective to posit that firms gaining greater political legitimacy, as indicated by the amount of government subsidy they received, tend to donate more to pay back the favour. In addition, this effect becomes stronger when the leadership in either the firms or local government changes, but such positive moderation effects become weaker when the leadership in both parties changes in the same year. Analysing a sample of venture firms publicly listed on China's Growth Enterprises Market board from 2009 to 2017, we found support for the ideas.

Keywords: government subsidy; political legitimacy; CSR; philanthropic donation; leadership change; venture firms

Does A Firms Become Less Philanthropic After Gaining Political Legitimacy? A Social Exchange Perspective

Research has shown that firms in emerging economies tend to engage actively in corporate social responsibility (CSR), such as philanthropic donations, to gain political legitimacy (Du, 2015; Gao & Hafsi, 2017; Sánchez, 2000; Shirodkar & Beddewela, 2018; Zhang, Marquis, & Qiao, 2016). On the one hand, governments in emerging economies often demand CSR, and solicit CSR donations from firms, especially private firms (Chen, Li, Su, & Sun, 2011; Lin, Tan, Zhao, & Karim, 2015; Ma & Parish, 2006). On the other hand, private firms are also willing to provide financial assistance in the form of CSR donations to seek government endorsement for political legitimacy, a status perceived as desirable and appropriate by governments (Lin et al., 2015; Ma & Parish, 2006; Sánchez, 2000; Wang & Qian, 2011; Zhang et al., 2016).

These studies have advanced our understanding of CSR's instrumental role in gaining political legitimacy, but are scant on what happens after a firm gains political legitimacy. This paper focuses on the research questions: *Will a firm remain charitable after it gains political legitimacy? If yes, would the firm donate more or less after gaining political legitimacy?* We draw on social exchange theory (Blau, 1964; Emerson, 1976) to address these questions.

We first conceptualize that when a firm receives government subsidies, it gains political legitimacy. The more subsidy a firm receives, the greater the political legitimacy conferred (Meuleman & De Maeseneire, 2012; Söderblom, Samuelsson, Wiklund, & Sandberg, 2015; Wu, 2017). We argue that gaining political legitimacy enables a firm to create a base to engage in a social exchange relationship with government (Liu, Yang, & Augustine, 2018; Su & He, 2010; Zhang et al., 2016).

From the social exchange perspective (Blau, 1964; Emerson, 1976), when a firm keeps receiving government subsidies, it would considers itself "taking" privileges from the government more than other firms receiving no or less subsidies,. iIn return for such privileges, the firm often wants to "pay back" the government, such as by making more philanthropic donations (Jia, Xiang, & Zhang, 2019; Li, Song, & Wu, 2015; Zhang et al., 2016). Therefore, in light of the logic, we posit that firms conferred with greater political legitimacy, as a result of receiving a greater amount of government subsidy, tend to donate more than those firms conferred with less political legitimacy. Also, the parties involved in a social exchange relationship expect continuous rewarding actions to maintain a good balance in their mutual commitments to the relationship (Blau, 1964; Emerson, 1976). However, we argue such balance is not easy to sustain because disruptions may occur during the process, such as changes of leaders in the involved parties.

We test the ideas by analysing the venture firms listed on China's Growth Enterprises Market (GEM) board during the period 2009–2017. Consistent to the prior literature (Aldrich & Auster, 1986; Krackhardt, 1995), vVenture firms refer to new and small firms are for-profit organisations that have generally existed for ten and less than ten years only a short period of time since their incorporation (Aldrich & Auster, 1986; Kraekhardt, 1995). Chinese venture firms provide an appropriate context to test our hypotheses because venture firms in Chinathey are important contributors to philanthropy (Gao & Hafsi, 2015; Lin et al., 2015). Compared with large, established state-owned firms, venture firms are mostly small and private, and keener to make CSR donations in exchange for political legitimacy (Lin et al., 2015; Ma & Parish, 2006). This is because gaining political legitimacy provides government endorsement on the quality and growth potential of the recipient firms (Brush, Greene, & Hart, 2001; Söderblom et al., 2015). In

contrast to large and established firms, small venture firms have limited options to gain political legitimacy, and receiving government subsidy is an important avenue (e.g., Söderblom et al., 2015).

Analysing an unbalanced panel dataset comprising 683 firm-year observations of 222 venture firms between years 2009 and 2017, we found that after continuously receiving an increasing amount of government subsidies, venture firms tend to make more CSR donations. We further found that this tendency becomes stronger when either the firm or the local government in the social exchange relationship replaced their leaders; yet such positive moderation effects become weaker when the leaders in both parties changed in the same year.

The primary contributions of this paper are threefold. First, we draw on the social exchange perspective (Blau, 1964; Emerson, 1976) to advance our understanding on why venture firms conferred with greater political legitimacy become more charitable by increasing their CSR donations. Prior research on CSR has suggested that gaining (political) legitimacy is an important outcome sought by firms via CSR donations (Lin et al., 2015; Ma & Parish, 2006; Sánchez, 2000; Wang & Qian, 2011; Zhang et al., 2016). Our paper goes beyond this literature by illuminating that gaining political legitimacy is not the end of a firm's CSR donation, but the start of a new cycle of engagement in CSR donations, with the aim of retaining an ongoing social exchange relationship with the government. In addition, our findings highlight the importance of changes of the agents (leaders) in affecting the social exchange relationship. As such, we identify important boundary conditions that affect firms' efforts in retaining a social exchange relationship with government and illuminates a complex dynamic process of business–government social exchange relationships. Thirdly, we extend the (political) CSR literature which has mostly focused on well-established and large firms (Jeong & Kim, 2019; Jia & Zhang, 2018; Liu et al., 2018; Wang & Qian, 2011e.g.,) to

the context of venture firms that lack legitimacy and face severe resource constraints, where CSR donations are one of the limited means available to reciprocate the rewards granted by government (McGuire, Sundgren, & Schneeweis, 1988; Wang & Bansal, 2012). Our study provides strong evidence that for venture firms make CSR donations behaviour with the motivation of to reciprocation to government with the motivation of to maintaining an ongoing social exchange relationship.

THEORETICAL BACKGROUND

Venture Firms Use CSR to Gain Legitimacy in an Emerging Economy

Firms often need to make philanthropic donations to achieve a synergistic outcome through investing their resources in societal issues that at the same time resonate with their business interests (Gautier & Pache, 2015; Saiia, Carroll, & Buchholtz, 2003). CSR donations can help firms gain the political legitimacy that is critical for them to obtain necessary resources for their survival and growth (Aldrich & Fiol, 1994; Suchman, 1995). Recent studies have referred to such philanthropic donations as a form of *politically motivated CSR* (Den Hond, Rehbein, de Bakker, & Lankveld, 2014; Ma & Parish, 2006; Sánchez, 2000; Shirodkar & Beddewela, 2018; Zhang et al., 2016).

As venture firms are normally subject to resource deficiency, they have to be more strategic in marshalling resources than established firms (Fisher, Kuratko, Bloodgood, & Hornsby, 2017), such as for resource-consuming CSR donations. Venture firms are also deficient in terms of legitimacy (Aldrich & Fiol, 1994; Fisher et al., 2017; Stuart, Ha, & Hybels, 1999). It is imperative for them to seek legitimation, a process whereby stakeholders "accept a venture as appropriate and right, given norms and laws" (Aldrich & Fiol, 1994: 648). This legitimation can elevate a venture's status in the community and bring accreditation, status and resources to ventures (Baum & Oliver,

1991; Fisher et al., 2017). CSR engagement by venture firms can help them in the legitimation process.

In emerging economies, governments not only make rules and policies to regulate the allocation and transactions of critical resources (Gao & Hafsi, 2015, 2017; Marquis & Qian, 2013), but also are often the controllers of critical resources such as land, bank credit and permits (e.g., xxx; Dickson, 2003; Zhang et al., 2016; Gao & Hafsi, 2015; Marquis & Qian, 2013). More importantly, governments are often an influential stakeholder and legitimacy provider influencing other stakeholders and resource providers (Marquis & Qian, 2013; Wang & Qian, 2011; Mellahi, Frynas, Sun, & Siegel, 2016; Peng & Luo, 2000). Research has shown that firms from emerging economies often feel compelled to engage in philanthropic donations, so that they can with the aim of obtaining political legitimacy and needed resources (Gao & Hafsi, 2015, 2017Hillman, 2005; Wang & Qian, 2011; Zhang et al., 2016; Su & He, 2010). For example, Gao and Hafsi (2015) showed that government intervention increases Chinese firms' donations. In another study, Gao and Hafsi (2017) found that firms depending more on the government for support or receiving more scrutiny from the government donate more. Su and He (2010) found that philanthropy activities offer an important way for private firm owners to protect their property rights informally and nurture political connections that may lead to more profitability. Combing the above literatures, we suggest that venture firms from emerging economies are keen to use CSR to gain political legitimacy.

Government Subsidies Confer Political Legitimacy to Venture Firms

Governments often subsidise venture firms to promote and support their growth (Du & Mickiewicz, 2016; Lerner, 2002, 2010). The primary goal of subsidising is to identify the venture firms that meet national priorities, such as advanced technology firms and those in strategic sectors,

and then provide financial support to facilitate their growth (Du & Mickiewicz, 2016; Lee, Walker, & Zeng, 2014, 2017; Lee, Walker, & Zeng, 2017). Government subsidy could be in the form of tax rebates or other non-tax forms, such as direct cash and debt forgiveness (Lee et al., 2014). According to the *China Government Guidance Fund Development Research Report 2016* (Zero2IPO Research, 2016), the Chinese government at all levels had allocated a total amount of US$320 billion funding to support venture firms between 2006 and 2015.

In the literature, government subsidy has mostly been considered as financial resources granted to venture firms (Du & Mickiewicz, 2016; Lerner, 2002, 2010). What has not been emphasised adequately is that receiving government subsidy could also be seen as government endorsement, signalling that a venture firm is conferred with political legitimacy. Ventures are generally small and young, and subject to the liability of newness and smallness (Stinchcombe, 1965; Stuart et al., 1999). As such, it is not reliable to appraise the growth potential of a venture based on its financial performance (Stuart et al., 1999). Instead, other factors, such as political legitimacy, may convey important quality~~ies~~ of a venture firm (Stuart et al., 1999). As pointed out by (Baum & Oliver, 1991: 191), "A young organization that receives a grant from a government agency not only increases its level of resources but also demonstrates its worthiness to receive their resources and conduct its services".

Government Subsidy and CSR Donations: A Social Exchange Perspective

Among all the subsidised venture firms that are listed on China's GEM board in year 2017, nearly 70% made their philanthropic donations and, surprisingly, many of them increased their donations in subsequent years after they received government subsidies. These observations are interesting and important, yet cannot be fully explained by the existing view that firms' engagement in philanthropic donations is primarily to seek political legitimacy (Li et al., 2015;

Wang & Qian, 2011; Zhang et al., 2016; Zheng, Ni, & Crilly, 2019). A dynamic view is necessary to understand why a venture firm continues to donate (even more) after it gains (more) political legitimacy. Su and Tsang (2015: 1130) have noted, "a donation is not the end of give but a start of take", which implies that giving CSR donations is actually an attempt to take something back in the future, indicating a social exchange logic (Blau, 1964; Emerson, 1976).

Social exchange theory was originally proposed and developed to understand the dynamics in interpersonal relationships (Blau, 1964; Emerson, 1976; Homans, 1958; Thibaut & Kelley, 1959). Developing interpersonal relationships is a continuous and dynamic process in which the involved individuals often need to conduct social exchanges (Blau, 1964; Emerson, 1976), where once a party 'takes' an offer from the other party, it often needs to reciprocate by returning some favour back to that party in the future. The relationship then evolves into a trusting, loyal and mutually committed relationship over time (Emerson, 1976; Gergen, 1969; Homans, 1958).

Although social exchange theory originates from the individual level, it has been extended to the organisational and interorganisational level, such as joint ventures (Kwon, 2008; Steensma & Lyles, 2000), strategic alliances (Das & Teng, 2002; Lioukas & Reuer, 2015), knowledge transfer (Watson & Hewitt, 2006), and corporate governance (Ma & Khanna, 2016). For instance, Watson and Hewitt (2006) applied the theory to explain why employees would contribute their own valuable knowledge for the benefit of others and thus facilitate the development of knowledge management systems within an organization. Kwon (2008) assessed trust–commitment partnerships on the basis of the social exchange paradigm and their contributions to international joint venture effectiveness. Social exchange theory has also been applied to understand business–government interactions and relationships (e.g., Jia et al., 2019; Liu et al., 2018). Building on this line of literature, our paper conceptualises that a venture firm engages in a social exchange

relationship with its administrative government, so that the government grants legitimacy (subsidy) to the firm, which the firm then pays back by making more CSR donations.

HYPOTHESES DEVELOPMENT

Government Subsidy, Political Legitimacy, and Philanthropic Donations

Subsidy is a common approach used by governments to foster the development of ventures (e.g., Clarysse, Wright, & Mustar, 2009; Lee et al., 2014). In emerging economies with weak institutions, receiving continuous government subsidies provides a certifying effect to selected venture firms, and enhances their political legitimacy. Compared with large and established firms, venture firms' absence of track records makes them appear legitimacy-deficient to various stakeholders and potential resource providers (Stinchcombe, 1965; Stuart et al., 1999). If a venture firm continuously receives subsidies from its administrative government, this signals that the venture firm has earned a positive evaluation from government, with promising growth potential, and it obtains political legitimacy as a result (Meuleman & De Maeseneire, 2012; Wu, 2017). Such conferred political legitimacy via government subsidy may further enable venture firms to obtain resources from other resource providers in an emerging economy (Du & Mickiewicz, 2016; Zhang et al., 2016). This is evident in Söderblom et al. (2015) which found that subsidised ventures in Sweden attract more human and financial capital than their non-subsidised peers.

Prior research has mainly focused on the effect of government subsidies on alleviating legitimacy concerns about venture firms and, as a result, benefiting the venture firms in terms of their growth, innovation and survival rates (Du & Mickiewicz, 2016; Meuleman & De Maeseneire, 2012; Söderblom et al., 2015). Yet it is largely unknown why and to what extent continuously receiving government subsidies, and achieving great political legitimacy as a result, will drive a venture firm to further engage in CSR donations. We posit that continuous receipt of government

subsidies every year enables venture firms to become more tied to governments, and motivates firms to retain and build up and retain social exchange relationships with business governments ties. Yet in maintaining the social exchange relationships with governments, a venture firm cannot just be a 'taker' all the time, but also needs to be a 'giver' (such as making philanthropic donations) at some time to reciprocate the favour taken from governments (Li et al., 2015; Wang & Luo, 2019; Zhang et al., 2016).

CSR donations align well with governments' interests and social agenda, and can help to improve social welfare and meet governments' non-financial targets (Liu et al., 2018; Wang & Qian, 2011). Therefore from the social exchange perspective, receiving on average a greater amount of government subsidies over time could compel venture firms to increase their CSR donations to reciprocate the helping hand of governments, and sustain a virtuous cycle of social exchange with the governments. We hence propose,

Hypothesis 1: Receiving on average a~~n~~ greater amount of government subsidy over time drives a venture firm to make more CSR donations in return.

Maintaining a social exchange relationship needs commitment and effort from the involved parties (Emerson, 1976). The exchange ratio is, ~~, is~~ an important indicator used to delineate the relative commitments between the two involved parties (Cook & Emerson, 1978; Emerson, 1976). More specifically, Cook and Emerson (1978) used Ax_i:By_j as the notation of the exchange ratio, where *A* and *B* are actors, and *x* and *y* denote the different "resources" exchanged between *A* and *B*. In their relationship, *A* and *B* explore a balance in their offers and counter offers of different amounts of *x* and *y*. For example, if *A* initiates an exchange by offering x_1 then *B* is expected to reward y_1. In a series of transactions between *A* and *B*, *A* can decide x_i based on y_j offered in the prior round of exchange, and similarly *B* for y_j.

Presumably there is a balance point where the two parties in the relationship agree on an exchange ratio (Emerson, 1976). Yet this does not mean the balance point can always be achieved, nor that each involved party can always achieve the optimal exchange ratio (Blau, 1964; Emerson, 1976). For instance, Blau (1964: 94) noted, "Since there is no way to assure an appropriate return for a favour, social exchange requires trusting others to discharge their obligations". Therefore, a stable exchange ratio of x/y is subject to the mutual commitment between the two parties, which represents their desire to develop a stable relationship, willingness to sacrifice short-term benefits for a long-term relationship, and confidence in the stability of the relationship (Kwon, 2008). As such, any factors affecting the commitment of the involved parties will disrupt the balance point in their social exchange relationship, causing the shift of the exchange ratio (x_i/y_j) (Blau, 1964). In light of the logic, we submit that changes in the agents in either of the involved parties impair the other party's perceived stability of the ongoing business–government relationship, which, in turn, impacts firms' responses in their commitment.

In the context of China, the central government sets national economic policies and appoints the leaders of local governments (i.e., governors), whereas local governments set their own goals, develop strategies for the prefecture-cities within their administration, and appoint leadership teams in each city (Jia & Zhang, 2018; Li & Zhou, 2005; Nee, 1992; Wang & Luo, 2019). Local governors, as the leader agents for the prefecture-city governments, have discretionary control over local resources (Li, Xia, & Zajac, 2018; Zhang et al., 2016).[1] They make rules and policies that affect the venture firms operating within their jurisdiction (Jia & Zhang, 2018; Zhong, Lin, Gao, & Yang, 2019). Venture leaders are the key decision makers for venture growth, including CSR donations. The social exchange relationships between venture firms and local governments are largely maintained when venture leaders and local governors are both

committed to the current relationship. As a result, changes of local governors and/or venture leaders will disrupt the perceived balance. Specifically, we posit that the change of leaders in either party is likely to encourage firms to repair the disrupted relationship by investing more resources in the exchange relationship. However, when the leaders of governments and venture firms both change, we submit the disrupted relationship is deemed to be less unrepairable by venture firms.

The Moderating Effect of Local Governor Change

Local governor turnover and replacement is likely to generate uncertainties for the firm–government social relationship, and disrupt the existing balanced commitment between the two parties (Jia & Zhang, 2018; Zhong et al., 2019). Under such circumstance, if a venture firm wants to retain the relationship, it needs to invest more to show its sincerity in committing to the relationship (Julio & Yook, 2016; Lin et al., 2015; Zhong et al., 2019). As such, we posit that to retain the social exchange relationship with governments replaced with new governors, venture firms tend to increase the existing exchange ratio.

As a result of fiscal decentralisation in China in 1978, prefecture-city governments have obtained great authority and seized major resources to develop their local economies and improve social welfare in their jurisdictions (An, Chen, Luo, & Zhang, 2016; Chen, Li, & Zhou, 2005; Jia et al., 2019; Marquis & Qian, 2013). It should be noted that although city governors may not directly allocate subsidy to venture firms, they often play a crucial role in determining the actual operation of subsidy policy, and approving the subsidy allocation to venture firms (Lin et al., 2015).

When local governors are replaced, the regimes regulating subsidy allocation and its implementation may not necessarily be endorsed by new governors (Zhong et al., 2019). After new governors assume their leadership, they often make new initiatives and policy changes, which signal the new governors' willingness and determination to reform the existing policy schemes and

execution to improve the local economy (Li & Zhou, 2005). The Chinese saying 'A new broom sweeps clean' (Xin guan shang ren san ba huo) is a reflection of this situation (Zhong et al., 2019).

Changes in local governors may disrupt the existing social exchange relationship between a venture firm and the local government. To overcome such problems, venture firms are likely to increase their exchange ratio by making more philanthropic donations, to show their enhanced commitment to the government with the new leadership. A recent study by Lin et al. (2015) found that firms' CSR behaviour increased significantly when a mayor was replaced in China, and such behaviour was then rewarded by receiving future government subsidies. As such, we propose the following hypothesis:

Hypothesis 2: The positive relationship between the government subsidy that a venture firm receives and the philanthropic donations made by the venture firm becomes stronger when the local governors change.

The Moderating Effect of Venture Leadership Change

Using similar logic, the leadership change in venture firms will also disrupt their existing relationship with the local government, leading to a potential reduction of government commitment to the relationship. To avoid this, we posit that ventures with new leadership tend to increase their exchange ratio by investing more in the relationship with the government, and hence are likely to make more CSR donations.

Evidence has shown that new firm leadership is often followed by reforms in organisational structure and strategy (Daily & Dalton, 1995; Greiner & Bhambri, 1989; Sliwka, 2007). Worrying that the local government is~~ are~~ not familiar with the new firm leaders and does not endorse the firm's strategic initiatives, venture firms led by new leaders are keen to increase their investment in the exchange relationship with the government. For governments, the social performance of

firms is also important in addition to their financial performance (Lin et al., 2015). Hence to seek a new balance in the relationship with local governments, ventures with new leadership tend to increase their exchange ratio by giving more philanthropic donations in return for the same amount of subsidy that they received from the governments. Therefore, we propose:

> *Hypothesis 3: The positive relationship between the government subsidy that a venture firm receives and the amount of philanthropic donations made by the venture firm becomes stronger when the venture leaders in the venture change.*

The Three-Way Interaction between Government Subsidy, Venture Leadership Change and Change of Local Governors

We argue that venture firms tend to increase their exchange ratio in the social exchange relationship with government in response to the change of leaders in either the venture firms or the local government. It is possible that changes of venture leadership and local governors may occur in the same year. If this happens, how would venture firms adjust their commitment to the social exchange relationship with government?

To address this issue, we argue that the two positive moderation effects discussed above will be weakened when the leadership in the two parties (i.e., local governors and venture leaders) is both replaced. As proposed above, venture firms with new leaders tend to increase their commitment to the existing relationship with local government. Yet such increase of commitment, arguably, becomes weaker when the local governors are also replaced during the same period. This is because when only one party replaces the leaders while the other party remains unchanged, the disruption to the exchange ratio between the two parties is still considered repairable. Venture firms still have confidence to increase their exchange ratio, by donating more, to repair their existing social exchange relationship with local government. But when the leaders in both parties

change at the same time, it will significantly disrupt the existing mutual commitment to the extent that it is perceived as hard to repair or even unrepairable. As such, venture firms with new leaders would rather start building a new exchange relationships with the government with the new governors, than maintaining the previous exchange ratio that was settled with the government with the old governors.

In sum, we propose that the disruption caused by the simultaneous leadership changes in both involved parties is destructive, and weakens the positive moderation effects as proposed in Hypotheses 2 and 3.

Hypothesis 4: There is a three-way interaction between government subsidy, venture leadership change and change of local governors in predicting the amount of philanthropic donations made by a venture firm, such that the positive moderation effect of venture leadership change is weakened when the local governors also change at the same time; and the positive moderation of local governor change is weakened when the venture leadership also changes in the same year.

METHODS

Data and Sample Selection

We used a sample of firms listed on China's Growth Enterprises Market (GEM) board to tested our hypotheses by analysing the ventures firms listed on China's Growth Enterprises Market (GEM) board. The GEM board was founded by Shenzhen Stock Exchange in 2009. GEM is China's second main board market that offers external financing channels for smaller, faster-growing and more entrepreneurial firms that have difficulty in meeting the full requirements of publicly listing on the main board (Qian, Wang, Geng, & Yu, 2017; Wang, Jiao, Xu, & Yang, 2018). GEM-listed firms are mostly high-tech firms that are usually young and small but with great

potential for growth. In this study, we focus our sample only on firms that are founded less than ten years and in the manufacturing and information technology sectors, which account for more than 9089.31% of all GEM-listed firms, and are also favoured by government subsidy.

We collected firm-level data from the China Stock Market and Accounting Research (CSMAR) database which provides important information on the finance and leaders of a firm (Li et al., 2015; Marquis & Qian, 2013; Wang & Qian, 2011). In addition, we sourced city-level data from various years of the *China City Statistical Yearbook,* published by the National Bureau of Statistics of China. We also reviewed firms' annual reports to manually collect data on each venture firm's donations and government subsidy. We collected data on changes in local governors during the study period from two sources: a commercial website (www.hotelaah.com/) and the official websites of city governments (Jia & Zhang, 2018). We cross-validated the information on changes in governors by searching related information on Baidu (www.baidu.com), the most commonly used search engine in China (Du & Mickiewicz, 2016; Zhang et al., 2016). By consolidating the different sources of information, we assembled an unbalanced panel dataset comprising 683 firm-year observations of 222 venture firms between 2009 and 2017.

Dependent Variable

Our dependent variable, *philanthropic donation*, was measured by two indicators: donation ratio and donation amount. We used the same two donation ratios as previous studies: *donation-to-sales ratio* and *donation-to-assets ratio* (Gao & Hafsi, 2015; Jeong & Kim, 2019; Jia et al., 2019). *Donation-to-sales ratio* was computed as the ratio of a venture firm's philanthropic donations to its total sales in a given year (ratio of giving to sales*10000) (Gao & Hafsi, 2015; Jeong & Kim, 2019), and *donation-to-assets ratio* was measured as the ratio of a venture's philanthropic donations to its total assets (Jia et al., 2019; Jia & Zhang, 2018). In addition, we

measured *donation amount* as the total amount of charitable contributions that a venture firm makes in a given year. Since this variable is highly skewed, we took a natural logarithm transformation of it (Wang & Qian, 2011; Zhang et al., 2016; Zhang, Rezaee, & Zhu, 2009). For the sake of space, we only report the analysis results using donation-to-sales ratio in Table 3, while conducting the alternative analyses using the donation-to-assets ratio and donation amount as the robustness tests.

Independent Variables

Government subsidy. Following prior studies (Lee et al., 2017), we measured *government subsidy* using the amount of subsidy obtained from local government. In order to indicate the continuity of receiving government subsidy, we computed this variable using the average amount of subsidy received from the local government in the prior three years, and took a natural logarithm of it. For robustness analyses, we also computed the average amount of government subsidy using one-year, and two-year windows (Miller, Xu, & Mehrotra, 2015). The results remain largely consistent.

Local governor change. Following prior studies (An et al., Chen, Luo, & Zhang, 2016), we measured local governor change at the level of prefecture-city. In China's bureaucratic system, the mayor is the local governor in a city, and is mainly responsible for local economic development (Lin et al., 2015Wang & Luo, 2019). We measured *local governor change* using a dummy indicator, equal to 1 if the local governor of the city was replaced in year *t*-1, and 0 otherwise.

Firm leadership change. Previous studies (Arthaud-Day, Certo, Dalton, & Dalton, 2006; Daily & Dalton, 1995) suggested that the chairs of boards are the key firm leaders, whose replacement may significantly influence corporate performance (Arthaud-Day et al., 2006), and strategic CSR engagement (Harjoto & Jo, 2011). We measured *firm leadership change* as a dummy

variable, with 1 indicating that the chair of a firm was replaced in year *t*-1 and 0 otherwise (Kuzman, Talavera, & Bellos, 2018).

Control Variables

We carefully selected a set of control variables to account for individual, firm and regional characteristics. At the individual level, we controlled for the firm ownership of firm leaders, measured as the equity holdings of the chairs, because firm leaders with greater ownership are more likely to engage in social initiatives (Oh, Chang, & Cheng, 2016). We controlled for firm leaders' political connections with government, which, again, may influence their firms' philanthropic donations (Chin, Hambrick, & Treviño, 2013; Zhang et al., 2016). *Political connection* was constructed as a dummy indicator, with 1 indicating that a chair previously served or is currently serving as a government official, or a delegate for two major political bodies in China, including the People's Congress or the Chinese People's Political Consultative Conference either at the national level or regional level (Li et al., 2015; Zhang et al., 2016). We also controlled for *duality*, coded as 1 when a chair also serves as the Chief Executive Officer (CEO), and 0 otherwise, because a dual chair and CEO could have greater power and discretion to donate (Su & Tsang, 2015).

We also controlled for a number of firm characteristics. *Firm size* was measured as the natural logarithm of the total number of employees at a venture firm. Larger ventures tend to be relatively more resourceful and thus are more likely to donate (Brammer & Millington, 2006; Buchholtz, Amason, & Rutherford, 1999; Wang & Qian, 2011). *Firm age* was computed as the number of years since the firm was established. Although all of the GEM firms are relatively young, those with a longer history are more likely to accumulate resources, and then donate more (Gao & Hafsi, 2015). *Slack resource* was measured as the long-term debt divided by total assets. A firm's

easy access to resources would affect its philanthropic strategy (Seifert, Morris, & Bartkus, 2004). *Financial performance* was measured as a firm's return on assets (ROA) in the prior year. Arguably, firms with better financial performance have more resources to donate (Gao & Hafsi, 2015; McGuire et al., 1988). *State ownership* was measured as a dummy indicator, with 1 indicating a state share of firm ownership, and 0 otherwise. Firms with state ownership have formalised ties with government, and thus are less likely to present a different reciprocated relationship with government (Li et al., 2015). *Past donation* was measured as a dummy variable, with 1 indicating a firm made philanthropic donations in the prior year. Previous donations may drive a firm to continue its donations (Jeong & Kim, 2019).

Furthermore, we controlled city-level characteristics. *GDP per city* was measured as the natural logarithm of a city's Gross Domestic Product (GDP). This reflects a city's economic development, which may also have a positive effect on driving local firms' philanthropic donations (Marquis & Qian, 2013). Finally, considering that government subsidy policies differ across industries, regions and years, we also included *industry dummies*, *province dummies* and *year dummies* to capture these variances.

Model Specification

Since a firm's philanthropic donation was conditioned on whether the firm donates or not in the first place (Wang & Qian, 2011), our results may be subject to sample selection bias if only using the subsample of firms that donated. We estimated a two-stage Heckman selection model to correct such potential sample selection bias (Heckman, 1979). In the first stage, the likelihood of a firm making philanthropic donations was estimated by applying the probit model to the full sample of firms listed at GEM. The dependent variable of the first stage (*Donate*) was a dummy variable, with 1 indicating a venture firm donates in a given year and 0 otherwise. Because of the

external restriction in the Heckman selection model, we followed previous studies (Wang & Qian, 2011) and included industry-average philanthropic donations, measured as the logarithm of the average philanthropic amount within each industry as the external restriction in the first stage. We then calculated the inverse Mills ratio (IMR) in the first stage, which reflects an adjustment term, and included it as a control variable in the second-stage regression analyses.

In the second stage, we analysed the effect of a venture firm's received government subsidy on its subsequent philanthropic donations, using *donation-to-assets ratio*. The subsample has a panel data structure. We conducted the Breusch–Pegan test and White test for the second-stage estimation, and the significance results ($p = 0.000$) suggested there is a homoskedasticity problem in the sample (Breusch & Pagan, 1979; White, 1980). To minimise the heteroskedasticity problem (Beck & Katz, 1995), we followed prior studies (e.g., Lee & Song, 2012; Souder, Zaheer, Sapienza, & Ranucci, 2017) by adopting a generalized least squares (GLS) model with a heteroskedastic error structure to test the hypotheses. We used a STATA command, 'xtgls', for the analysis. For comparison, we also ran panel regressions with random effects in the robustness analysis. The model specification was estimated as the following Eq. (1).

$$\begin{aligned}\text{Donation}-\text{to}-\text{assets ratio}_{t+1} &= \beta_0 + \beta_1 Government\ subsidy_t + \beta_2 Local\ governors\ change_t \\ &+ \beta_3 Firm\ leadership\ change_t + \beta_4 Government\ subsidy_t \\ &\times Local\ governors\ change_t + \beta_5 Government\ subsidy_t \\ &\times Firm\ leadership\ change_t + \beta_6 Local\ governors\ change_t \\ &\times Firm\ leadership\ change_t + \beta_7 Government\ subsidy_t \\ &\times Local\ governors\ change_t \times Firm\ leadership\ change_t \\ &+ \beta_8 IMR + Controls_t + \varepsilon_t\end{aligned} \quad (1)$$

where β_1, the coefficient of government subsidy, is the main focus of interest in Hypothesis 1; β_4 and β_5 are the coefficients of the interactions between government subsidy and leadership changes in either local government or venture firms; β_7 is the coefficient of the three-way interactions between government subsidy, firm leadership change and change of local governors; $Controls$ refers to a set of control variables that may influence firm philanthropy, and ε is an error term.

RESULTS

Descriptive Statistics and Correlation

Table 1 provides the descriptive statistics and correlation matrix for all of the explanatory and control variables. The correlations among all of the explanatory variables are less than 0.5, reflecting a low level of multicollinearity (Lind, Marchal, & Wathen, 2012). The maximum variance inflation factor (VIF) is 2.05 with a mean of 1.35. Therefore, multicollinearity is not a serious concern in this study.

Insert Table 1 about here

Hypotheses Testing

Table 2 presents the results of the first-stage probit model, estimated on a venture firm's likelihood of philanthropy in a given year. Industry-level philanthropy was added in Model 3, showing a significant coefficient ($\beta = 0.36;\ p = 0.000$). Then we computed the IMR based on Model 3 to correct for the potential sample selection bias.

Insert Table 2 about here

Table 3 presents the result of the second-stage GLS regression analysis. Model 1 only included the control variables. Model 2 added government subsidy to test our Hypothesis 1. Model 3 and Model 4 included the two-way interaction terms to test the moderating effects of local governor change and firm leadership change, respectively. Finally in Model 6, we tested the three-way interaction effect as proposed in Hypothesis 4.

Insert Table 3 about here

Hypothesis 1 proposes that a greater amount of government subsidy on average over time received by a venture firm is likely to drive the firm to increase its philanthropic donations. In Model 2, government subsidy has a positive and significant coefficient ($\beta = 0.55;\ \ p = 0.002$). In terms of the substantive effect of government subsidy (Kingsley & Graham, 2017), we found that in our sample, an one standard deviation (SD) increase in government subsidy received by a venture firm in year *t*-1 leads to a 7% increase in its *donation-to-sales ratio* in year *t*. Therefore, Hypothesis 1 is supported.

Hypothesis 2 and Hypothesis 3 predict that change in either local governors or firm leadership strengthens the positive relationship between government subsidy and philanthropic donations. As shown in Model 3, the interaction term, *Government subsidy* $\times$ *Local governors change*, has a positive and significant coefficient ($\beta = 0.12;\ \ p = 0.008$). This result supports Hypothesis 2. Similarly, the interaction term of *Government subsidy* $\times$ *Firm leadership change* in Model 4 is also positive and significant ($\beta = 4.84;\ \ p = 0.033$), thus supporting Hypothesis 3.

To better interpret these two moderating effects, we followed previous studies (Burgers &

Covin, 2016; Su & Tsang, 2015; Wu, Kwan, Yim, Chiu, & He, 2015) to graphically plot the marginal effects. We used '*marginsplot*' command in STATA and plotted the moderating effects as proposed in Hypothesis 2 and Hypothesis 3. As shown in Figure 1(a), when the local governor is replaced, the positive relationship between government subsidy and firm philanthropy, as indicated by the increasing slope, becomes stronger. Then holding other variables constant, we also calculated the average marginal effects of government subsidy on donations at the representative values of firm leadership change (0 and 1 as representative values). The result shows that, when local governors are replaced, the positive effect of government subsidy on the amount of philanthropic donations increases from 45.3% to 88.0%. Similarly, Figure 1(b) also shows that with firm leadership change, the positive relationship between government subsidy and philanthropic donations becomes stronger. Regarding the effect size, we found when firm leadership changes, the positive effect of government subsidy on the amount of philanthropic donations increases from 51.1% to 535.1%, holding other variables constant.

Insert Figure 1 about here

We also hypothesised that there is a three-way interaction between government subsidy, firm leadership change and change of local governors. Combining the above results, the coefficient for the three-way interaction term as shown in Model 6, *Government subsidy* × *Firm leadership change* × *Local governor change*, is negative and significant ($\beta = -18.54;\ p = 0.048$), providing evidence that the positive moderation of venture leadership change is weakened when the local governor is also replaced at the same time; and the positive moderation of local governor change is weakened when the venture leadership is also replaced at the same time. Thus,

Hypothesis 4 is supported.

We also plotted Figure 2 to illustrate the effect of the three-way interaction. As shown in Figure 3, assuming the three-way moderator is local governor change, the positive moderation of firm leadership change when the local governor is also replaced in the same year~~suggested in Hypothesis 2~~, as indicated by the increased ~~(i.e., negative~~ slope ~~change from Line (2) to Line (4))~~ ~~is weakened~~from Line (2) to Line (4), is weaker ~~when the local governor is also replaced in the same year~~ than when the local governor is not replaced, as indicated by the ~~(i.e., negative~~ slope change from Line (1) to Line (3)~~)~~. In addition, we also see a similar pattern when the three-way moderator is firm leadership change. We found the positive moderation effect of local governor change is weakened when firm leader is also replaced in the same year.

Insert Figure 2 about here

Robustness Analysis

We conducted additional analyses to test whether our regression results are robust. First, we adopted several alternative measures for our dependent variable and key independent variables to rerun the analyses. In doing so, we first used the donation-to-assets ratio and donation amount as the alternative measures of our dependent variable (Model 1 and Model 2 in Table 4), and then re-coded government subsidy using one-year and two-year time windows for the independent variable (Model 3 to Model 4 in Table 4). As shown in Table 4, the coefficients of our main variables are largely consistent with the main results as reported in Table 3. This further lends support to our hypotheses. In addition, we measured the leadership change using one-year and two-year windows, and the results are mostly consistent with our main results (results are available

from the authors on request).

Insert Table 4 about here

Second, in order to better investigate the dynamic process of the business–government social exchange relationship, we employed a dynamic panel regression using a system generalised method of moment (GMM) estimator. This regression method not only enables us to eliminate the endogeneity bias, but also controls for dynamic effects by including a lagged dependent variable (Blundell & Bond, 1998). The results in Model 1 in Table 5 showed that the coefficient of the government subsidy is positive and significant, which is consistent with the main results in Table 3. The results of the Arellano-Bond test (AR(2)) and Hansen test indicate that the GMM estimator is therefore consistent. Thus, this test suggest our main effect is not sensitive to regression models.

Insert Table 5 about here

Furthermore, previous studies suggested that engaging in philanthropic activities can help firms to obtain external resources such as government subsidy (McGuire et al., 1988; Seifert et al., 2004), thus a reverse causality bias may exist in the relationship between government subsidy and firm philanthropy. Our proposed relationship may also be confounded with unobserved factors. For example, firms receiving greater government subsidy can be more innovative and capable, so they are more likely to be profitable, allowing them to donate more. In order to mitigate such potential endogeneity issues, we conducted two-stage least squares (2SLS) regressions for the analyses. We identified *R&D investment*, measured as the ratio of R&D (research and development)

amount to total sales, as the instrumental variable in our 2SLS regressions. R&D investment is an appropriate instrument variable, because numerous prior studies have documented the positive relationship between a firm's R&D investment and government subsidy (Certo, Busenbark, Woo, & Semadeni, 2016; Dai & Cheng, 2015), yet there is no clear evidence that a firm's R&D investment has any significant relationship with its philanthropy.

Table 5 presents the results of 2SLS regressions at both stages. As shown in the first stage analysis (Model 2), R&D investment, our instrumental variable, has a positive and significant effect ($\beta = 0.00;\ p = 0.000$) on government subsidy. In the second stage (Model 3), our independent variable, government subsidy, has a positive and significant coefficient ($\beta = 8.29;\ p = 0.034$), showing that government subsidy still has a positive relationship with firm philanthropy even after correcting for the endogeneity. We also performed several tests to check the relevance, exogeneity and strength of our instrumental variable (Bascle, 2008). The results in Table 5 show that the F-statistics value ($\beta = 11.32$) is larger than the threshold value 10 as suggested by Stock and Yogo (2005), meaning that our instrumental variable is strong enough to satisfy the exogeneity and strength requirements for an instrumental variable. In addition, the significant result of an under-identification test (LM-statistics) ($p = 0.000$) reported in Table 5 also shows that the instrumental variable we identified is appropriate.

DISCUSSION AND CONCLUSION

We draw on social exchange theory to posit that firms gaining greater political legitimacy, as indicated by the amount of government subsidy they receive, tend to donate more than those firms who received less subsidy, to pay back the favour from government. Analysing a sample of venture firms listed in China's GEM board during the period of 2009 to 2017, we found that venture firms continuously receiving a greater amount of government subsidy tend to donate more

than those firms receiving less government subsidy. In addition, this positive effect of government subsidy on firm philanthropy becomes stronger when the leaders of one party, either local government or the firms, are replaced. Yet the positive moderation effects become weaker when the leadership of both parties changes in the same period, indicating a significant three-way interaction between government subsidy, firm leadership change and change in local governors on firm philanthropic donations. Our study departs from CSR literature in three significant ways.

First, our study draws on social exchange theory to extend the literature on CSR in emerging economies. The political CSR literature largely assumes that CSR is an effective approach by firms to seek political legitimacy (Lin et al., 2015; Ma & Parish, 2006; Sánchez, 2000; Wang & Qian, 2011; Zhang et al., 2016). Our findings corroborate the previous literature on firms' motivation to conduct political CSR. Applying social exchange theory (Blau, 1964; Emerson, 1976), we go beyond the prior literature to show that firms granted political legitimacy, as a result of receiving government subsidy, tend to perceive this as a favour from the government and feel obligated to return the favour. Hence to reciprocate the favour, these firms want to make more philanthropic donations. In this way, our paper sheds lights on the literature on political legitimacy -seeking CSR, and demonstrates that gaining political legitimacy is not the end of CSR donations for venture firms, but the start of developing a new social reciprocal relationship with government.

In addition, this study extends the social exchange theory that has been widely examined at the interpersonal and inter-firm level (Cropanzano & Mitchell, 2005) to a new context of business–government interaction. On the one hand, our framing of receiving government subsidy as an important form of granted political legitimacy and donation as a "pay back" to government spells out an implicit social exchange relationship between businesses and governments. On the other hand, this study advances social exchange theory by identifying important boundary

conditions in affecting the dynamics of the social exchange relationship between firms and government.

As noted, the relative commitments invested by firms and governments (i.e., the exchange ratio) into the exchange relationship are grounded in social exchange theory (Blau, 1964; Emerson, 1976). Yet few studies explicitly investigate the process of social exchange (Cropanzano & Mitchell, 2005), and what factors drive the respective investments by the involved parties in their social exchange process, resulting in revised exchange ratios. In this study, we confirm that leadership changes in either government or firms foster the firms to increase their input into the exchange relationship; yet interestingly, leadership changes in both firms and government at the same time curb the firms from increasing their exchange ratio in the existing relationship with government. Our results illuminate the dynamic and reciprocal nature of the business–government relationship, and highlight why and how firms react differently to internal and external leadership changes.

Finally, prior studies largely focus on the philanthropy behaviours of large and well-established firms and assume that firm donations will rise and fall with the availability of resources. In line with this, most studies have shown a positive relationship between a firm's resources (i.e. firm size, available cash, or prior financial performance) and corporate philanthropy (Buchholtz et al., 1999; McGuire et al., 1988; Seifert, Morris, & Bartkus, 2003). However, the findings of our study question this conclusion and show that despite resource constraints, venture firms are also keen to undertake philanthropy. Through applying the social exchange theory, we argue that philanthropy is used by venture firms to reciprocate the favour received from governments, and is a means to cultivate a social exchange relationship with local government. Evidently, the positive and significant relationship between the level of government subsidy a firm received and its~~s~~

~~firm's~~ subsequent philanthropy in this study confirms our prediction. This also responds to Gautier and Pache~~'~~s (2015) call for more research beyond large firms.

Practical Implications

Our findings have valuable implications for managers and policy makers. First, venture firms with greater political legitimacy tend to use donations as a way to pay back governments and sustain an ongoing social exchange relationship with local government. When interacting with local government, especially in contexts where governments play a powerful role, venture firms would like to maintain a long-term and reciprocal relationship with local government. As such, managers should understand that their donation is not actually a "one-shot" strategy to obtain political legitimacy as discussed in prior studies, but also an effective tool to develop and sustain a virtuous cycle of a social exchange relationship with government (Su & Tsang, 2015).

Once the social exchange relationship with local government is established, venture firms need to be aware that the existing relationship can be disrupted if the leadership of either party changes. If leaders in only one party change, the social exchange relationship is still perceived as largely repairable with increased donations by the venture firms. However, when leaders in the venture firms and local government are both replaced, the existing exchange relationship is significantly disrupted and deemed unrepairable, leading to firms' reduced donations. Also for policy makers, government subsidy granted to selected firms can be seen as a useful approach to not only confer venture firms with political legitimacy, but also motivate them to be socially responsible.

Limitation and Future Research

The paper has several limitations that inform new directions for future research. Firstly, our analysis focusing on Chinese venture firms makes it questionable ~~hard~~ to generalise the

findings to other contexts where governments seldom or do not subsidise firms. But we believe the relationships examined in this study are applicable in other emerging economies where business–government interactions are also important for firm growth and development. Future research should test our findings in other emerging economies.

In addition, receiving government subsidy ~~has been~~is –conceptualised as gaining political legitimacy. Other than subsidies, government have other means to endorse or grant a firm political legitimacy, such as government rewards, government visits or borrowing from state banks. Future research could examine and compare alternative means of government endorsement of firms.

Third, firm donations can be in various forms. In this study, we only focused on cash-based donations. Future research could extend to other forms of corporate philanthropy or other forms of CSR engagement.

Last, our use of dummy indicators to reflect the leadership changes in firms and local government is unable to fully capture the importance of leadership changes in shaping the social exchange relationships between the two involved parties. For instance, a new firm leader can be promoted either internally or from outside the firm. A replaced governor may be promoted or demoted (Zhong et al., 2019). Such subtle differences in leadership changes are not captured in our study. Therefore, future research is warranted to examine the subtle differences between new and old firm leaders and their implications for how the firm–government social exchange relationship evolves.

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FOOTNOTE

1. In China's political system, there are five layers of state administration: the centre, provinces, prefectures, counties and township (Li & Zhou, 2005). Followed prior studies (e.g., Jia & Zhang, 2018; Lin et al., 2015), this study focuses on prefecture-city government.

TABLE 1

Descriptive Statistics and Correlation Matrix

	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Donation-to-sales ratio	6.15	9.01	1													
2	Government subsidy (Ln)	14.75	1.13	-0.09	1												
3	Local governors change	0.36	0.48	-0.05	0.51	1											
4	Firm leadership change	0.01	0.11	0.03	0.07	0.01	1										
5	Firm leader ownership	0.39	0.48	-0.03	0.27	0.28	-0.01	1									
6	Political connection	0.37	0.48	0.07	0.11	0.14	0.01	-0.04	1								
7	Duality	0.49	0.50	-0.01	-0.10	-0.10	-0.06	-0.04	0.02	1							
8	Firm size (Ln)	6.74	0.71	-0.16	0.41	0.25	-0.01	0.27	-0.02	0.01	1						
9	Firm age	6.69	2.20	-0.04	0.07	0.08	0.05	0.10	-0.10	-0.08	0.03	1					
10	Slack resource	0.21	0.13	-0.18	0.20	0.23	-0.07	0.30	0.00	0.06	0.34	0.10	1				
11	Financial performance	0.06	0.03	0.04	-0.24	-0.28	-0.03	-0.13	-0.02	0.04	-0.12	-0.01	-0.22	1			
12	State ownership	0.11	0.32	0.01	-0.01	-0.07	0.03	-0.09	0.14	-0.01	-0.03	-0.11	-0.05	0.06	1		
13	Past donation	0.78	0.42	0.08	0.06	0.04	0.06	0.11	0.13	-0.02	0.05	0.02	0.05	-0.04	-0.04	1	
14	City GDP (Ln)	17.88	0.94	-0.14	0.10	-0.11	0.08	0.19	-0.15	0.04	0.04	0.01	-0.02	0.15	-0.16	-0.05	1
15	Inverse Mills ratio	0.43	0.37	-0.16	0.03	-0.12	0.06	-0.12	-0.33	0.02	-0.10	0.01	-0.01	-0.04	-0.02	-0.61	0.22

Notes: N = 425; correlations greater than |0.10| are significant at 0.05.

TABLE 2

Estimates for Heckman First-Stage Models

Variables	Model 1				Model 2				Model 3			
	Coef.	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*
Local governors change	0.30	0.16	1.92	0.054	0.32	0.16	2.01	0.044	0.26	0.17	1.51	0.131
Firm leadership change	-0.63	0.45	-1.40	0.160	-0.61	0.45	-1.37	0.171	-0.74	0.47	-1.59	0.113
Firm leader ownership	0.14	0.16	0.89	0.376	0.15	0.16	0.94	0.347	0.06	0.17	0.34	0.736
Political connection	0.37	0.16	2.32	0.020	0.37	0.16	2.31	0.021	0.39	0.18	2.21	0.027
Duality	0.00	0.13	0.03	0.973	-0.00	0.13	-0.03	0.980	-0.00	0.14	-0.01	0.991
Firm size	0.16	0.11	1.48	0.138	0.18	0.11	1.60	0.109	0.15	0.12	1.22	0.224
Firm age	-0.01	0.03	-0.17	0.867	-0.01	0.03	-0.31	0.758	0.02	0.04	0.61	0.542
Slack resource	-0.13	0.52	-0.25	0.799	-0.15	0.52	-0.28	0.777	-0.41	0.58	-0.70	0.486
Financial performance	3.81	0.189	2.02	0.044	3.65	0.19	1.92	0.054	1.92	2.09	0.92	0.358
State ownership	-0.27	0.21	-1.28	0.202	-0.26	0.21	-1.25	0.211	-0.23	0.23	-1.00	0.319
Past donation	1.14	0.18	6.27	0.000	1.15	0.18	6.29	0.000	1.14	0.18	6.23	0.000
City GDP	-0.14	0.11	-1.25	0.210	-0.14	0.11	-1.23	0.219	-0.13	0.13	-1.05	0.292
Government subsidy					-0.05	0.08	-0.62	0.537	0.02	0.09	0.18	0.859
Industry-level philanthropy									0.36	0.06	6.30	0.000
Constant	2.47	2.28	1.08	0.279	2.97	2.40	1.24	0.217	-1.79	2.74	-0.65	0.514
Industry dummies	Included				Included				Included			
Province dummies	Included				Included				Included			
Year dummies	Included				Included				Included			
Log-likelihood	-352.67				-352.48				-323.89			
Number of observations	683				683				683			

Notes: Dependent variable in this table is donation dummy.

TABLE 3

Estimates for Heckman Second-Stage Models

	Model 1				Model 2				Model 3			
	Coef.	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*
Independent variable:												
Government subsidy (G.S.) (H1)					***0.55***	0.18	3.07	***0.002***	0.49	0.18	2.66	0.008
Two-way interactions:												
G.S. × Local governors change (H2)									***0.12***	0.05	2.65	***0.008***
G.S. × Firm leadership change (H3)												
Local governors change × Firm leadership change												
Three-way interaction:												
G.S. × Firm leadership change × Local governors change (H4)												
Moderators:												
Local governors change	-1.25	0.37	-3.41	0.001	-1.60	0.37	-4.34	0.000	-1.63	0.35	-4.65	0.000
Firm leadership change	1.56	2.35	0.67	0.505	1.39	2.34	0.59	0.554	1.44	2.35	0.61	0.539
Control variables:												
Firm leader ownership	0.70	0.36	1.97	0.049	0.82	0.32	2.52	0.012	0.88	0.32	2.74	0.006
Political connection	0.07	0.30	0.22	0.827	-0.04	0.30	-0.13	0.898	-0.04	0.29	-0.12	0.902
Duality	-0.84	0.28	-2.99	0.003	-1.19	0.31	-3.87	0.000	-1.19	0.31	-3.87	0.000
Firm size	-0.80	0.20	-3.92	0.000	-1.02	0.22	-4.55	0.000	-1.06	0.22	-4.78	0.000
Firm age	0.06	0.06	1.03	0.305	0.15	0.07	2.14	0.033	0.14	0.07	2.01	0.045
Slack resource	-8.59	1.13	-7.61	0.000	-9.19	1.10	-8.33	0.000	-9.15	1.09	-8.36	0.000
Financial performance	3.19	4.66	0.69	0.493	5.77	5.20	1.11	0.267	5.50	5.16	1.06	0.287
State ownership	-0.69	0.47	-1.46	0.145	-1.04	0.49	-2.13	0.034	-0.96	0.49	-1.97	0.049
Past donation	1.63	0.44	3.71	0.000	1.52	0.48	3.18	0.001	1.53	0.47	3.22	0.001
City GDP	-1.89	0.25	-7.41	0.000	-2.18	0.25	-8.81	0.000	-2.13	0.25	-8.45	0.000
Inverse Mills ratio	0.06	0.63	0.09	0.926	-0.22	0.66	-0.33	0.739	-0.14	0.65	-0.21	0.835
Constant	49.38	5.37	9.20	0.000	48.57	5.27	9.22	0.000	48.84	5.45	8.96	0.000
Industry dummies		Included				Included				Included		
Province dummies		Included				Included				Included		
Year dummies		Included				Included				Included		
Wald χ^2		1664.88 (p = 0.000)				7421.79 (p = 0.000)				2585.67 (p = 0.000)		
Number of observations		425				425				425		

Notes: Dependent variable in this table is donation-to-sales ratio.

Commented [JY2]: Suggest to highlight those significant in bold black to help reviewers to know which ones are significant at 0.05 level and above.

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TABLE 3 (Continued)

Estimates for Heckman Second-Stage Models

	Model 4				Model 5				Model 6			
	Coef.	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*
Independent variable:												
Government subsidy (G.S.) (H1)	0.51	0.18	2.85	0.004	0.42	0.19	2.26	0.024	0.28	0.18	1.59	0.113
Two-way interactions:												
G.S. × Local governors change (H2)					0.14	0.05	2.61	0.009	0.16	0.05	3.54	0.000
G.S. × Firm leadership change (H3)	***4.84***	2.27	2.13	***0.033***	4.68	2.32	2.02	0.044	21.38	8.23	2.60	0.009
Local governors change × Firm leadership change									-5.32	7.43	-0.72	0.474
Three-way interaction:												
G.S. × Firm leadership change × Local governors change (H4)									***-18.54***	9.37	-1.98	***0.048***
Moderators:												
Local governors change	-1.68	0.38	-4.40	0.000	-1.64	0.38	-4.38	0.000	-1.52	0.38	-3.99	0.000
Firm leadership change	-3.64	2.33	-1.56	0.118	-3.45	2.40	-1.43	0.152	3.53	4.41	0.80	0.424
Control variables:												
Firm leader ownership	0.70	0.32	2.15	0.032	0.76	0.32	2.36	0.018	0.71	0.34	2.11	0.035
Political connection	-0.10	0.30	-0.32	0.752	-0.07	0.30	-0.23	0.817	-0.08	0.29	-0.29	0.773
Duality	-1.24	0.30	-4.06	0.000	-1.22	0.30	-3.99	0.000	-1.11	0.30	-3.69	0.000
Firm size	-1.01	0.23	-4.38	0.000	-1.03	0.23	-4.48	0.000	-0.94	0.23	-4.17	0.000
Firm age	0.16	0.07	2.33	0.020	0.14	0.07	2.14	0.033	0.14	0.07	2.02	0.043
Slack resource	-9.56	1.11	-8.60	0.000	-9.60	1.11	-8.64	0.000	-10.05	1.08	-9.27	0.000
Financial performance	4.48	5.19	0.86	0.388	4.33	5.14	0.84	0.400	4.01	5.04	0.80	0.426
State ownership	-1.12	0.49	-2.28	0.023	-1.02	0.49	-2.07	0.038	-0.84	0.45	-1.87	0.062
Past donation	1.51	0.48	3.17	0.002	1.51	0.47	3.19	0.001	1.60	0.47	3.42	0.001
City GDP	-2.24	0.24	-9.48	0.000	-2.18	0.24	-9.04	0.000	-2.09	0.24	-8.83	0.000
Inverse Mills ratio	-0.15	0.65	-0.23	0.818	-0.09	0.65	-0.14	0.886	0.01	0.65	0.02	0.988
Constant	50.38	5.07	9.94	0.000	50.60	5.22	9.69	0.000	50.16	5.03	9.97	0.000
Industry dummies	Included				Included				Included			
Province dummies	Included				Included				Included			
Year dummies	Included				Included				Included			
Wald χ^2	2790.14 (p = 0.000)				2500.13 (p = 0.000)				3522.78 (p = 0.000)			
Number of observations	425				425				425			

Notes: Dependent variable in this table is donation-to-sales ratio.

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TABLE 4

Robustness Check: Alternative Measures

	Model 1				Model 2				Model 3				Model 4			
	Coef.	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*
Independent variable:																
Government subsidy (H1)	***0.15***	0.06	2.47	***0.013***	***0.31***	0.05	6.24	***0.000***								
Government subsidy (*1-year average*)									***0.37***	0.19	1.96	***0.050***				
Government subsidy (*2-year average*)													***0.51***	0.19	2.72	***0.007***
Moderators:																
Local governors change	-0.58	0.14	-4.24	0.000	-0.31	0.11	-2.68	0.007	-1.33	0.38	-3.47	0.001	-1.50	0.38	-3.98	0.000
Firm leadership change	0.33	0.77	0.43	0.667	0.97	0.25	3.90	0.000	1.47	2.36	0.62	0.533	1.40	2.36	0.59	0.553
Control variables:																
Firm leader ownership	0.43	0.15	2.90	0.004	0.68	0.11	6.09	0.000	0.71	0.34	2.08	0.038	0.78	0.33	2.38	0.017
Political connection	-0.03	0.10	-0.33	0.743	0.06	0.08	0.68	0.498	-0.01	0.30	-0.02	0.982	-0.03	0.30	-0.10	0.918
Duality	-0.15	0.11	-1.37	0.170	0.03	0.10	0.33	0.739	-1.07	0.31	-3.43	0.001	-1.18	0.31	-3.79	0.000
Firm size	-0.17	0.08	-2.06	0.039	0.06	0.08	0.79	0.432	-0.93	0.22	-4.17	0.000	-1.00	0.22	-4.44	0.000
Firm age	0.08	0.03	2.95	0.003	0.02	0.02	0.84	0.399	0.13	0.07	1.80	0.072	0.15	0.07	2.06	0.039
Slack resource	-0.81	0.42	-1.92	0.055	0.70	0.42	1.65	0.099	-9.18	1.12	-8.21	0.000	-9.18	1.11	-8.30	0.000
Financial performance	8.04	1.95	4.12	0.000	6.59	1.39	4.75	0.000	4.20	5.20	0.81	0.419	5.30	5.20	1.02	0.308
State ownership	-0.14	0.17	-0.84	0.401	0.02	0.13	0.17	0.867	-0.80	0.47	-1.69	0.090	-0.93	0.48	-1.93	0.054
Past donation	0.63	0.17	3.77	0.000	0.30	0.12	2.47	0.014	1.50	0.47	3.19	0.001	1.48	0.47	3.12	0.002
City GDP	-0.69	0.10	-6.96	0.000	-0.17	0.08	-2.08	0.038	-2.05	0.26	-7.97	0.000	-2.14	0.25	-8.65	0.000
Inverse Mills ratio	0.28	0.21	1.34	0.181	-0.25	0.17	-1.48	0.139	-0.25	0.65	-0.39	0.697	-0.30	0.66	-0.46	0.645
Constant	13.84	2.14	6.47	0.000	9.66	1.79	5.38	0.000	47.80	5.47	8.73	0.000	48.19	5.31	9.08	0.000
Industry dummies	Included				Included				Included				Included			
Province dummies	Included				Included				Included				Included			
Year dummies	Included				Included				Included				Included			
Wald χ^2	1479.07 (p = 0.000)				2040.25 (p = 0.000)				1958.51 (p = 0.000)				2490.70 (p = 0.000)			
Number of observations	425				425				425				425			

Notes: Dependent variable in Model 1 is donation-to-assets ratio, in Model 2 is donation amount, in Model 3 and Model 4 is donation-to-sales ratio.

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TABLE 5

Robustness Check: Alternative Model, Alternative Sample, and 2SLS Regression for Potential Endogeneity

Variables	*System GMM Estimator*				*2SLS Regression*							
					First stage				*Second stage*			
	Model 1				Model 2				Model 3			
	Coef.	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*	*Coef.*	*SE*	*z*	*p*
Instrumental variable:												
R&D investment					0.00	0.00	6.23	0.000				
Independent variable:												
Government subsidy (H1)	***0.0001***	0.0001	2.51	***0.013***					***8.48***	4.10	2.07	***0.039***
Moderators:												
Local governors change	-0.0002	0.0000	-5.47	0.000	0.30	0.10	3.13	0.002	-4.79	1.96	-2.44	0.015
Firm leadership change	-0.0004	0.0001	-6.40	0.000	-0.06	0.31	-0.20	0.838	2.65	4.27	0.62	0.535
Control variables:												
Firm leader ownership	0.0001	0.0001	1.14	0.256	0.19	0.09	2.06	0.040				
Political connection	-0.0006	0.0001	-7.40	0.000	0.19	0.10	1.95	0.051	-0.96	1.49	-0.64	0.520
Duality	0.000	0.0001	6.47	0.000	-0.09	0.08	-1.06	0.290	-0.06	1.23	-0.05	0.962
Firm size	0.0006	0.0000	13.71	0.000	0.51	0.07	7.34	0.000	-5.12	2.29	-2.24	0.025
Firm age	0.0000	0.0000	1.18	0.241	-0.03	0.02	-1.52	0.129	0.38	0.33	1.15	0.250
Slack resource	-0.0027	0.0003	-9.39	0.000	-0.46	0.34	-1.35	0.176	-5.85	5.50	-1.06	0.287
Financial performance	-0.0023	0.0009	-2.68	0.008	-2.44	1.22	-2.00	0.045	27.53	20.54	1.34	0.180
State ownership	-0.0001	0.0001	-2.51	0.013	0.22	0.12	1.76	0.079	-3.06	1.91	-1.60	0.109
Past donation	0.1167	0.0060	19.43	0.000	0.18	0.12	1.54	0.125	-0.12	1.92	-0.06	0.952
City GDP	-0.0022	0.0004	-5.33	0.000	0.10	0.08	1.30	0.193	-3.21	1.14	-2.83	0.005
Inverse Mills ratio					0.19	0.16	1.18	0.240	-1.99	2.53	-0.79	0.431
Constant	-0.0068	0.0056	-1.20	0.230	9.72	1.56	6.23	0.000	-34.86	46.14	-0.76	0.450
Industry dummies		Included				Included				Included		
Province dummies		Included				Included				Included		
Year dummies		Included				Included				Included		
AR (2)		0.477										
Hansen test (p-value)		59.08 (p = 0.651)										
Wald χ^2						684.00 (p = 0.000)				93.16 (p = 0.000)		
Underidentification test (LM-statistics)										12.36 (p = 0.000)		
Weak identification test (F-statistics)										11.32		
Overidentification test (Hansen J-statistics)										Yes		
Number of observations		478				424				424		

Notes: Dependent variable in this table is donation-to-sales ratio.

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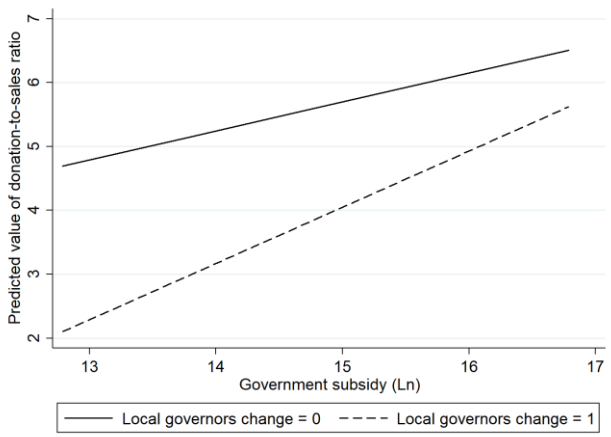
FIGURE 1

Interaction Plots of Moderating Effects of Local Governor Change and Firm Leadership Change

(a) The moderating effect of local governor change



(b) The moderating effect of firm leadership change

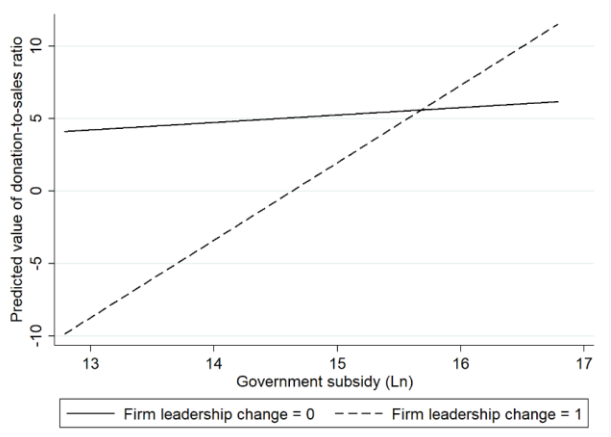


FIGURE 2

Three-Way Interaction Plots of Government Subsidy, Firm Leadership Change and Local Governor Change