

**Are Venture Firms More Charitable After Receiving Government Subsidy? A Social  
Exchange Perspective**

**ABSTRACT**

Research has suggested that firms in an emerging economy often engage in philanthropy to secure political legitimacy. A natural follow-up question is: *will a firm remain charitable after it gains political legitimacy?* We draw on the social exchange theory to posit that firms gaining greater political legitimacy, as indicated by the amount of government subsidy they received, tend to donate more than those who received less, to pay back the favour from the governments. In addition, this effect becomes stronger when the leadership in either the firms or governments changes, but becomes weaker when both the leadership change. Analysing a sample of venture firms publicly listed on China's Growth Enterprises Market Board during the period between 2009 and 2017, we found support for the ideas.

**Keywords:**

Government subsidy; political legitimacy; philanthropic donation; leadership change; venture firms

Research has shown that in emerging economies, firms tend to engage actively in politically motivated corporate social responsibility (CSR), such as philanthropic donation (Du, 2015; Sánchez, 2000). On the one hand, the governments in such contexts often demand for CSR, and solicit CSR donation from firms, especially those non-state firms (Ma & Parish, 2006). On the other hand, non-state firms are also willing to supply financial assistance in the form of CSR donation to seek government endorsement for political legitimacy, a status perceived as desirable and appropriate by governments (Sánchez, 2000; Wang & Qian, 2011).

These studies have advanced our understandings about CSR's instrumental role for gaining political legitimacy, but are quite scant on what happens afterwards if a firm gains political legitimacy. So the research questions we want to address in this paper are: *Will a firm remain charitable after it becomes politically legitimate? If so, would it donate more or less than those who are less politically legitimate?* We will examine the issues by drawing on the social exchange theory (Blau, 1964; Emerson, 1976).

We first conceptualize that receiving government subsidies grants a firm with political legitimacy, and the more subsidy it receives, the greater the political legitimacy with which it is conferred (e.g., Meuleman & De Maeseneire, 2012; Söderblom, Samuelsson, Wiklund, & Sandberg, 2015). Gaining political legitimacy, we argue, enables a firm to create a base to engage in a social exchange relationship with the government (Liu, Yang, & Augustine, 2018; Su & He, 2010; Zhang, Marquis, & Qiao, 2016).

From the social exchange perspective, when a firm keeps receiving subsidies from governments, it is considered to “take” privileges from the government than other firms receiving less or no subsidies. To return such privileges, the firm needs to “pay back” to the government, such as giving more philanthropic donations (Li, Song, & Wu, 2015; Zhang et al., 2016).

Therefore, we posit that firms conferred with greater political legitimacy, as a result of continuously receiving a greater amount of government subsidy, tend to donate more than those conferred with less political legitimacy. Also, the social exchange perspective suggests that retaining a social exchange relationship expects continuous rewarding actions of involved parties and to maintain a good balance in their mutual commitments to the relationship (Blau, 1964; Emerson, 1976). However, we argue that such balance is not easy to sustain because disruptions, such as changes of core members in the involved parties, may occur during the process.

We test the ideas by analysing new venture firms listed on China's Growth Enterprises Market (GEM) Board during the period of 2009-2017. Chinese venture firms provide an appropriate context to test our hypotheses. This is because new venture firms in China are important contributors to philanthropy (Gao & Hafsi, 2015; Lin et al., 2015). Compared with those large, established state-owned firms, venture firms are small and private, and keener to give CSR donation to seek political legitimacy (Ma & Parish, 2006). This is because gaining political legitimacy provides government endorsement on the quality and growth potential of the recipient firms (Söderblom et al., 2015). In contrast to big, established state-owned firms, small venture firms have limited options to gain political legitimacy, and receiving government subsidy is an important one (Söderblom et al., 2015).

Analysing an unbalanced panel dataset comprising 1,721 firm-year observations of 394 venture firms between years 2009 and 2017, we found that after continuously receiving greater government subsidies, venture firms that tend to make more CSR donations. This relationship becomes stronger when either the firm or the local government in a social exchange pair replaced their leaders; yet the relationship becomes weaker when the leaders in both parties changed.

The primary contributions of this paper are threefold. First, we draw on the social exchange

perspective (Blau, 1964; Emerson, 1976) to understand why venture firms conferred with greater political legitimacy as a result of receiving more government subsidies are still keen to increase their CSR donations. Prior research on political CSR has suggested that gaining legitimacy is an important outcome sought by firms via their CSR donation (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 can be a start of new cycle of engagement in CSR donation, with the aim to retain an ongoing social exchange relationship with the governments. In addition, our findings highlight the importance of changes of the agents (leaders) in affecting the social exchange relationship. As such, this paper identifies important boundary conditions that affect a firm's effort in retaining the social exchange relationship with governments, illuminating a complex dynamic process of business-government social exchange relationship.

## **THEORETICAL BACKGROUND**

### **Politically Motivated CSR in an Emerging Economy**

Prior research identifies firms' strategic purposes of doing philanthropy, and suggests that firms often donate to achieve a synergistic outcome through investing their resources at societal issues that at the same time resonate with their business interests (Saiia, Carroll, & Buchholtz, 2003). Venture firms tend to be strategic in their CSR activities, especially in emerging economies (Sánchez, 2000). This is because CSR donation helps venture firms to gain legitimacy that is critical for them to obtain necessary resources needed for their survival and growth (Pfeffer & Salancik, 1978; Suchman, 1995). Recent studies have referred to such philanthropic donation as a form of *politically motivated CSR* (e.g., Ma & Parish, 2006; Sánchez, 2000; Zhang et al., 2016). Engaging

in politically motivated CSR is to achieve political legitimacy, which as a consequence, can further bring accreditation, status, and resources to the ventures (Meyer & Rowan, 1977; Sánchez, 2000; Suchman, 1995).

In an emerging economy, governments not only make rules and policies to regulate the allocation and transactions of critical resources (Gao & Hafsi, 2015; Marquis & Qian, 2013), but also are often the controllers of critical resources such as land, bank credit, and permit (Dickson, 2003; Gao & Hafsi, 2015; Marquis & Qian, 2013). More importantly, governments often serve as a critical stakeholder and legitimacy provider that is very influential on other stakeholders and resource providers (Marquis & Qian, 2013; Peng & Luo, 2000). Therefore firms, especially venture firms, often feel compelled to engage in philanthropic donation, with an aim to obtain government endorsement and seek political legitimacy (Hillman, 2005; Wang & Qian, 2011; Zhang et al., 2016). For example, Gao and Hafsi (2015) showed that government intervention increases 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.

### **Government Subsidies Confer Political Legitimacy to Venture Firms**

Venture firms are for-profit organisations that generally have lasted for a short period of time since their incorporation (Aldrich & Auster, 1986). Governments across countries often subsidise venture firms to promote and support their growth (Du & Mickiewicz, 2016; Lerner, 2010). The primary goal of subsidizing is to identify the venture firms that meet national priorities, such as technology advanced ones and those in strategic sectors, and then provide financial support to facilitate their growth (Du & Mickiewicz, 2016; Lee, Walker, & Zeng, 2014).

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 set up a total amount of \$320 billion funding to support venture firms by the end of 2015.

In the literature, government subsidy has been mostly considered as financial resources granted to a venture firm (Du & Mickiewicz, 2016; Lerner, 2010). What has not been emphasized adequately enough, we believe, is that receiving government subsidy also signals that a venture firm and its businesses are desirable and meet the expectation of governments. Compared to those large and established firms, venture firms are subject to liability of newness and smallness (Singh, Tucker, & House, 1986; Stinchcombe, 1965). Hence without political legitimacy, venture firms will face severe challenges to access resources from various stakeholders and resource providers, including financial institutions, employees, suppliers, customers, and many others (Stinchcombe, 1965).

### **Government Subsidy and CSR Donation: A Social Exchange Perspective**

Among all the subsidised venture firms that are listed on China's GEM board in year 2017, nearly 70% continued their philanthropic donations, and surprisingly, many of them increased their donation 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 (e.g., Li et al., 2015; Wang & Qian, 2011)). It is necessary to employ a more dynamic view to understand why a (venture) firm continues to donate (even more) after it gains (more) political legitimacy. Su and Tsang (2015) has 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 an social exchange

logic (Blau, 1964; Emerson, 1976).

The social exchange theory was originally proposed and developed to understand the dynamics in interpersonal relationships (Blau, 1964; Emerson, 1976; Thibaut & Kelley, 1959). Developing interpersonal relationship 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, it often needs to reciprocate by returning some favour back to that party in the future. Such relationship then evolves into a trusting, loyal, and mutually committed relationship over time (Emerson, 1976; Gergen, 1969).

Although social exchange theory originates from the individual level, it has been extended to organizational and interorganizational level, such as joint ventures and alliances (Aiken & Hage, 1968; Das & Teng, 2002; Levine & White, 1961). For instance, Steensma and Lyles (2000) applied the theory to explain how the ownership structure of international joint ventures (IJV) affects the potential social exchange relations (conflicts) between the parents and their IJVs. Also the social exchange theory has been applied to understand the business-government interactions and relationship (e.g., Liu et al., 2018; Sun, Mellahi, & Wright, 2012). Building on this line of thinking, our paper conceptualizes that a venture firm engages in a social exchange relationship with its administrative government so that the government grants the legitimacy (subsidy) to the firm, while the firm pays back by making more CSR donations.

## **HYPOTHESES DEVELOPMENT**

### **Government Subsidy, Political Legitimacy, and Philanthropic Donations**

Subsidy is a common approach used by governments across countries to foster the development of new ventures (Clarysse, Wright, & Mustar, 2009; Lee et al., 2014). In emerging

economies with weak institutions, receiving continuous government subsidies provides a certifying effect on selected venture firms, and enhances their political legitimacy. Compared with large and established firms, absence of track records make venture firms appear legitimacy deficient to various stakeholders and potential resource providers (Aldrich, 1999; Stinchcombe, 1965). If a venture firm continuously receives subsidies from government, this signals that the venture firm has a promising growth potential according to the governments, and obtains political legitimacy as a result (Meuleman & De Maeseneire, 2012). Such conferred political legitimacy via government subsidy may further enable the 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 new ventures attract more human and financial capital than their non-subsidised peers.

Prior research has mainly focused on the effect of government subsidies on alleviating the legitimacy concerns over 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 as mentioned, 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 a continuous receipt of government subsidies enables venture firms becomes more tied with governments, and motivate the firms to retain and build up such business-government ties. Yet in maintaining such social exchange relationship with governments, a venture firm cannot just be a ‘taker’ all the time, but also need to be a ‘giver’ (such as making philanthropic donations) at some time to reciprocate the “favour” taken from the governments (Li et al., 2015; Wang & Luo, 2018; Zhang et al., 2016).

CSR donations align well with governments’ interests and social agenda, and can help to



improve the social welfare and meet governments' non-financial targets (Liu et al., 2018; Wang & Qian, 2011). Therefore from the social exchange perspective, continuously receiving government subsidies would 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: A continuous receipt of government subsidy drives a venture firm to make more CSR donations in return.*

Continuing social exchange relationship needs commitment and efforts from both involved parties (Emerson, 1976). Exchange ratio is an important indicator 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 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  $x_1$  and 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 so as to B for  $y_j$ .

Presumably there is a balance point where each party in the relationship can agree on an exchange ratio (Emerson, 1976). Yet it doesn't mean the balance point can be always achieved, nor that each involved party can always realize 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, the exchange ratio of x/y is subject to the trust between the two parties. As such, any factors affecting the mutual trust between involved parties will disrupt the balance point in their social exchange

relationship, fostering the shift of the exchange ratio ( $x/y$ ) (Blau, 1964). In light of the logic, we submit that changes of agents in either of the involved parties impair the trust between the parties.

In the context of China, ‘local governors’, as the leader agents for the prefecture-city governments, have substantial power and discretionary control over local resources (Li, Xia, & Zajac, 2018). They make rules and policies that affect the venture firms operating within their region (Zhong, Lin, Gao, & Yang, 2019). Venture leaders are the key decision makers and need to make various strategic decisions regarding the venture growth, including the decisions on CSR donations (Zhang et al., 2016). The social exchange relationships between venture firms and local governments are largely maintained when venture leaders and local governors trust the other party is willing to continue the current relationship. As a result, changes of local governors and/or venture leaders will disrupt the trust, hurting the existing firm-government social exchange relationship (i.e., CSR donations). Specifically, we posit that the change of leaders in either party is likely to embark firms to repair the loss of trust by investing more efforts in the exchange relationship. However, when the leaders of governments and venture firms both change, the loss of trust between the two parties is significant and deemed to be unrepairable.

### **The Moderating Effect of Local Governor Change**

Local governors make decisions to influence local institutions, hence their turnovers and replacements are likely to generate uncertainties to the firm-government social relationship, and impair the trust between the two parties (Zhong et al., 2019). Under such circumstance, if a venture firm wants to continue the relationship and retain the trust with the government, it needs to do more to show their sincerity in committing to the relationship (Julio & Yook, 2016; Lin et al., 2015; Zhong et al., 2019). As such, we argue, by increasing its exchange ratio in the social exchange with the government, a venture firm expects to mitigate the uncertainty and retain the trust from the

governments with the new governors (Emerson, 1976).

In 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 (Li & Zhou, 2005; Nee, 1992; Wang & Luo, 2018). As a result of fiscal decentralisation in China, prefecture-city governments have obtained greater authority and flexibility in their districts (Li & Zhou, 2005; Nee, 1992). City governors have seized major resources and power to develop local economy and improve social welfare in their jurisdictions (Chen, Li, & Zhou, 2005; 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 good reflection of this situation (Zhong et al., 2019).

To summarize, changes in local governors will impair the trust between the two parties, and disrupt the existing social exchange relationship between venture firms and local governments. 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 social relationship with the government with the new leadership. In contrast, if government leadership is stable, venture firms

can foresee the stability in the current subsidy policies and are likely to maintain a same level of donation commitment for retaining the exchange relation with local governments. Therefore, we propose the following hypothesis:

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

### **The Moderating Effect of Venture Leadership Change**

In light of a similar logic, the leadership change in a venture firm will also impair the trust between the venture firm and the local governments, and disrupt the existing firm-government relationship. To repair the reduced trust, arguably the new venture leadership tends to increase its exchange ratio with the governments by investing more to the relationship, such as making more CSR donations.

Evidence has shown that new firm leadership is often followed with reforms in the firm structure and strategy (Daily & Dalton, 1995; Sliwka, 2007). Local government would not have a same level of trust on the new firm leadership (Das & Teng, 2002), causing uncertainty about the eligibility of a venture firm in receiving the government subsidy. To repair such lack of trust from the local government and governors, venture firms led by new leaders are keen to invest more efforts in their exchange relationship with the governments. To seek a new balance in the firm-government relationship, ventures with new leadership tend to increase their exchange ratio by making more philanthropic donation in response to 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 donation made by the venture becomes stronger*

*when the venture leader changes.*

### **The Three-Way Interaction among Government Subsidy, Venture Leadership Change and Change of Local Governors**

We argued that venture firms tend to increase their exchange ratio in the social exchange relationship with the governments in response to the change of leaders in either of the two parties. It is possible that changes of venture leadership and local governors may occur around a same time period. If this happens, how would venture firms adjust their commitment to the social exchange relationships with governments?

To address this puzzle, we propose a three-way interaction and argue that firms are less likely to increase their commitment (or exchange ratio) to the exchange relationship with the governments when both the governors and venture leaders change, than they are when leaders only change in one party. This is because the leadership changes in both parties damage the mutual trust to the extent that is perceived as unrepairable (Chan & Feng, 2018). When the trust between venture firms with new leaders and governments with new governors reduced to the minimum or even disappears, firms are unlikely to maintain the exchange ratio as they did before. Differently, when only one party replaces the leaders while the other party remains unchanged, the disruption on the trust between the two parties is still considered repairable, and urges venture firms to increase their exchange ratio, such as donating more, to repair the existing social exchange relationship with governments.

To summarize, we propose that the disruption caused by the leadership changes in both involved parties is destructive, and weakens venture firms' tendency to increase their exchange ratio in relationship with the governments.

*Hypothesis 4: There is a three-way interaction among government subsidy, venture*

*leadership change and replacement of local governors in predicting the amount of philanthropic donation made by a venture firm, such that the positive relationship between the government subsidy that a venture firm receives and the amount of philanthropic donation it made becomes the weakest when the venture leaders and local governors both change, than when only venture leaders or when only local governors change.*

## **METHODS**

### **Data and Sample Selection**

We used a sample of firms listed on China's growth enterprises market (GEM) board to test our hypotheses. The GEM board is a tailor-made securities market that offers external financing channels and a low entry threshold for entrepreneurial firms (Qian, Wang, Geng, & Yu, 2017). GEM-listed firms are mostly high-tech firms. In this study, our sample only focuses on firms in the manufacturing and information technology sectors, which not only account for more than 90% of total GEM-listed firms, but also the types of firms 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). Our data starts from 2009 because the GEM board was officially launched in 2009. 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 (Stallkamp, Pinkham, Schotter, & Buchel, 2017). Furthermore, we reviewed firms' annual reports to manually collect data on each venture firm's donation and government subsidy. We identified and reviewed the official websites of prefecture-city governments and manually coded the governors' changes during the study period. We also cross-validated the information on

governors change by searching the related information on Baidu.com, the most commonly used search engine in China (Du & Mickiewicz, 2016; Zhang et al., 2016). In the end by consolidating the different sources of information, we assembled an unbalanced panel dataset comprising 1,721 firm-year observations of 394 venture firms between years 2009 and 2017.

### **Dependent Variable**

Our dependent variable, *amount of philanthropic donation*, was measured as the amount of a venture firm's charitable contribution in a given year. Because this variable is highly skewed, we took a natural logarithm transformation of it (Wang & Qian, 2011; Zhang, Rezaee, & Zhu, 2010).

### **Independent Variables**

*Government subsidy*. Following the prior studies (Lee et al., 2014), we measured this variable using the amount of subsidy obtained from the local governments. In order to indicate the continuity of receiving government subsidy, we measured this variable using the average amount of subsidy received from the local governments in the prior three years. We also took a natural logarithm of this variable. For robust checks, we also computed the average amount of government subsidy using one-year, two-year, four-year and five-year windows (Miller, Xu, & Mehrotra, 2015). The results remain largely consistent.

*Local governors change*. Following the previous studies (An, Chen, Luo, & Zhang, 2016), we measured local governors change at the level of prefecture-city. In China's bureaucratic system, mayor is a top leader in a city, who is mainly responsible for the local economic development (Wang & Luo, 2018). We measured *local governors change* using a dummy indicator, equal to 1 if the mayor of the city was replaced in the last year and 0 otherwise.

*Firm leadership change*. Previous studies (Arthaud-Day, Certo, Dalton, & Dalton, 2006; Daily & Dalton, 1995) suggested that the chairmen of boards are the key leaders, whose

replacement may significantly influence corporate performance (Arthaud-Day et al., 2006), and strategic CSR engagement (Harjoto & Jo, 2011). In this study, we measured *firm leadership change* as a dummy variable, with 1 indicating that the chairman of a firm was replaced in the last year and 0 otherwise (Kuzman, Talavera, & Bellos, 2018).

### **Control Variables**

We carefully selected a set of control variables to account for firm-, regional, and industrial, characteristics. Firstly, we controlled the prior experience and involvement with governments by the chairman of a firm, which, we believe, may influence the firm's orientation toward philanthropic behaviour (Zhang et al., 2016). *Government experience*, a dummy variable, equals to 1 if a chairman served as a government official before, or 0 otherwise (Du, 2017; Fan, Wong, & Zhang, 2007). *Political involvement* was also a dummy indicator, with 1 indicating that a chairman previously served or is currently serving as 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 a number of firm characteristics. *Firm size* was measured as the natural logarithm of total sales. Large firms tend to be relatively more resourceful and thus 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. Surely, 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, Sundgren, & Schneeweis, 1988). *State ownership* was measured as the percentage of the state share to a firm's total share. Firms with state ownership have a formalized ties with the governments, and thus are less likely to rely on donations to reciprocate the helping hand of local governments (Li et al., 2015).

Furthermore, we controlled the 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*, *city dummies* and *year dummies* to capture these variances.

### **Model Specification**

Since the amount of a firm's philanthropic donation was conditioned on whether the firm donates or not in the first place (Wang & Qian, 2011). Therefore, if only using the subsample of firms that donated, our analysis results may be subject to the sample selection bias. We then 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 donation was estimated by applying the probit model to the full sample of firms listed at GEM. As the first-stage model must include one more variable that is not utilized in the second-stage regression, we followed previous studies (Wang & Qian, 2011), and included industry-level philanthropy, measured as the logarithm of the average philanthropic amount within each industry. The "inverse Mills ratio" (IMR), which reflects an adjustment term, was calculated and included as a control variable in the second-stage regression analyses.

In the second-stage, we analysed the effect of received government subsidy on the amount

of firm philanthropy using the subsample of firms that actually donate. The subsample has a panel data structure. We then conducted the Breusch-Pagan test and White test for the second-stage estimation, and the significance results ( $p = 0.000$ ), suggested there is a homoskedasticity bias in the sample (Breusch & Pagan, 1979; White, 1980). To minimize the heteroskedasticity problem, we adopted a generalized least squares (GLS) model to test the hypotheses. The model specification was estimated as the following Eq. (1).

$$\begin{aligned}
 & \text{Firm philanthropy}_{t+1} \\
 & = \beta_0 + \beta_1 \text{Government subsidy}_t + \beta_2 \text{Local governors change}_t \\
 & + \beta_3 \text{Firm leadership change}_t + \beta_4 \text{Government subsidy}_t \\
 & \times \text{Local governors change}_t + \beta_5 \text{Government subsidy}_t \\
 & \times \text{Firm leadership change}_t + \beta_6 \text{Local governors change}_t \\
 & \times \text{Firm leadership change}_t + \beta_7 \text{Government subsidy}_t \\
 & \times \text{Local governors change}_t \times \text{Firm leadership change}_t \\
 & + \beta_8 \text{IMR} + \text{Controls}_t + \varepsilon_t
 \end{aligned} \tag{1}$$

where  $\beta_1$ , the coefficient of government subsidy, is the main focus of interest in Hypothesis 1;  $\beta_4$  and  $\beta_5$  are the coefficients of the interactions between government subsidy and leadership changes in either local governors or venture firms;  $\beta_7$  is the coefficient of the three-way interactions among government subsidy, firm leadership change and change of local governors; *Controls* refer to a set of control variables that may influence firm philanthropy, and  $\varepsilon$  is an error term.

## RESULTS

### Sample Characteristics

Table 1 reports the characteristics of the final sample for analysis, including maximum value, minimum value, mean, number of observations and percentage of observations for each variable included in the model analyses. The greater amount of firm philanthropy was 30 million RMB with a mean of 376 thousand RMB. In terms of government subsidy, in our sample, venture firms received an average of 12.9 million RMB in government subsidy, while the maximum value was 445.2 million RMB. Regarding firm leadership change, about 12.18% of firms in our sample revealed the change of chairmen in boards, and 60.8% of the observations (1,046) witnessed a replacement of local governors.

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### **Descriptive Statistics and Correlation**

Table 2 provides the descriptive statistics and correlation matrix for all of the explanatory and control variables. As expected, government subsidy received by a venture firm is positively correlated with the amount of philanthropy it donates ( $p = 0.000$ ). The correlations among all of the other explanatory variables are less than 0.5, reflecting a low level of multicollinearity (Lind, Marchal, & Wathen, 2012). The maximum variance inflation factor (VIF) is 2.20 with a mean of 1.39. Therefore, multicollinearity is not a serious concern in this study.

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### **Hypotheses Testing**

Table 3 presents the results of the first-stage probit model, estimated by the likelihood of firm's philanthropy. All control variables and a constant were included in Model 1. Model 2 added government subsidy. Industry-level philanthropy was added in Model 3. Then we computed the

IMR based on Model 3 to correct for the potential sample selection bias.

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 Insert Table 3 about here  
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Table 4 presents the result of the second-stage GLS regression analysis. Model 4 only included the control variables. Model 5 added government subsidy to test our Hypothesis 1. Model 6 and Model 7 included the two-way interaction terms to test the moderating effects of firm leadership change and local governors change, respectively. Finally in Model 9, we tested the three-way interaction effect as proposed in H4.

Hypothesis 1 proposes that government subsidy received by a venture firm is positively associated with the philanthropic donation of the firm. In Model 5, government subsidy has a positive coefficient with the 0.1% level of significance ( $\beta = 0.28$ ;  $p = 0.000$ ). In terms of the substantive effect of government subsidy (Kingsley & Graham, 2017), we found that in our sample, one standard deviation (SD) increase in government subsidy received by a venture firm leads to a 0.16 SD increase in the amount of donation by the firm. Therefore, Hypothesis 1 is supported.

Hypothesis 2 and Hypothesis 3 predict that the change in either local governors or firm leadership strengthens the positive relationship between government subsidy and the amount of philanthropic donation. As shown in Model 6, the interaction term, *Government subsidy*  $\times$  *Local governors change*, yields a positive and significant coefficient ( $\beta = 0.09$ ;  $p = 0.002$ ). This result supports Hypothesis 2. Similarly, the interaction term of *Government subsidy*  $\times$  *Firm leadership change* in Model 7 is also positive and significant ( $\beta = 0.33$ ;  $p = 0.03$ ), thus supporting Hypothesis 3.

To better interpret these two moderating effects, we followed the previous studies (Burgers & Covin, 2016; Su & Tsang, 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 becomes stronger. Then holding other variables constant, we also calculated the Average marginal effects (AME) of government subsidy on donations at representative values of firm leadership change (0 and 1 as representative values). The result shows that, when local governors are replaced, the marginal effect of government subsidy on the amount of philanthropic donations increases 11.8% from 21.7% to 33.5%. Similarly, Figure 1(b) reveals that with firm leadership change, the positive relationship between government subsidy and philanthropic donation becomes stronger. Regarding the effect size, the AME results show that, when the firm leadership is changed, the marginal effect of government subsidy on the amount of philanthropic donations increases 27.8% from 27.3% to 55.1%, holding other variables constant.

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 Insert Figure 1 about here  
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We also hypothesized that there is a three-way interaction among 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 9, *Government subsidy*  $\times$  *Firm leadership change*  $\times$  *Local governor*, was negative and significant ( $\beta = -1.08$ ;  $p = 0.04$ ), providing the evidence that the relationship between government subsidy and philanthropic donation becomes the least positive when leaders are replaced in both the parties. Thus, the Hypothesis 4 is supported.

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 Insert Table 4 about here  
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We also plotted Figure 2 to illustrate the effect of the three-way interaction. Figure 2

confirms Hypothesis 4 by showing that the positive relationship between government subsidy and philanthropic donation when governors and firm leaders are both replaced, as indicated by Line (4), is significantly smaller than the positive relationships as indicated in both Line (2) and Line (3). Line (2) and Line (3) respectively depict the positive relationship between government subsidy and firm philanthropy when either the firm leaders or the local governors are replaced. In terms of the effect magnitude, we found by holding other variables constant, 1% increase of government subsidy leads to 8.8% increase in philanthropic donation when both firm leaders and local governors are changed. However, 1% increase of government subsidy results in 31.5% increase in philanthropic donation when only local governors are changed, or 126% increase in donation when only firm leaders are replaced.

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 Insert Figure 2 about here  
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### **Robustness Analysis**

We conducted additional analyses to test whether our regression results are robust. First, we adopted several alternative measures of the independent variable to check whether our findings are robust. In doing so, we re-calculated government subsidy using one-year, two-year, four-year and five-year time windows. As shown in the Table 5, the coefficients of our main variables and interaction terms are largely consistent to the main results as reported in Table 4. This further lends support to our hypotheses.

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 Insert Table 5 about here  
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Second, 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).

To test whether this is the case in our context, we conducted the panel Granger causality tests to examine the dual-directional causality between government subsidy and firm philanthropy (Abrigo & Love, 2016; Granger, 1969). As shown in Panel A of Table 6, all  $F$  statistics of Granger causality from government subsidy to firm philanthropy are significant in each lag lengths but insignificant from firm philanthropy to government subsidy. The results confirm that the risk of reverse causality is low in our analyses and indeed, it is government subsidies that cause firm philanthropy.

Furthermore, we adopted the two-stage least squares (2SLS) regressions to mitigate the other potential endogeneity. For example, firm receiving greater government subsidy can be more innovative and capable, so that they are more likely to be profitable, allowing them to donate more. To test this potential endogeneity, we identified research and development (R&D) investment 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 the government subsidy it receives (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. Panel B of Table 6 presents the results of 2SLS regressions at both stages. As shown in the first stage analysis (Model 14), the R&D investment, our instrumental variable, has a positive and significant effect ( $\beta = 0.49$ ;  $p = 0.000$ ) on government subsidy. In the second stage (Model 15), our independent variable, government subsidy, has a positive and significant coefficient ( $\beta = 0.70$ ;  $p = 0.009$ ), 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 6 show that the  $F$ -statistics value ( $\beta = 159.55$ ) 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 under-identification test ( $LM$ -statistics) ( $p < 0.001$ ) reported in Table 6 also shows that the instrumental variable we identified is appropriate.

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Insert Table 6 about here  
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## DISCUSSION AND CONCLUSION

We draw on the social exchange theory to posit that firms gaining greater political legitimacy, as indicated by the amount of government subsidy they received, tend to donate more than those who received less, to pay back the favour from the governments. Analysing a sample of venture firms listed in China's GEM Board during the period of 2009-2017, we found that venture firms continuously receiving greater government subsidy tend to donate more than those firms receiving less government subsidies. In addition, this positive effect of government subsidy on firm philanthropy becomes stronger when the leaders of one party, either the local governments or the firms, are replaced. Yet when the leaders of the two parties are both changed, the positive effect of government subsidy on firm philanthropy becomes reduced, indicating a significant three way interaction between government subsidy, firm leadership change and change in local governors on firm philanthropic donation. The present study departs the literature on politically motivated CSR in three significant ways.

First, our study draws on the social exchange theory to extend the literature on politically



motivated CSR. 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 regarding firms' motivation to conduct political CSR. Yet applying the social exchange theory (Blau, 1964; Emerson, 1976), we go beyond the prior literature to show that firms granted with political legitimacy, as a result of receiving government subsidy, tend to perceive this as a favour from the government. Hence to reciprocate the favour, these firms would want to make more philanthropic donations. In this way, our paper sheds lights to the literature on politically motivated CSR and demonstrate that gaining political legitimacy is not the end of CSR donation for venture firms, but a start of developing a new social reciprocal relationship with the governments.

In addition, this study extends the social exchange theory to a new context, 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. As such, our study extends the social exchange theory from the interpersonal, inter-firm interactions to the business-government interactions.

On the other hand, this study also advances the social exchange theory by identifying important boundary conditions in affecting the dynamics of the social exchange relationship between firms and the governments. As noted, the relative commitments invested by firms and governments (i.e., the exchange ratio) into the exchange relationship are grounded in the 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 governments or firms foster the firms to increase their input into the exchange relationship; yet interestingly, leadership changes in both firms and governments at the same time curb the firms from increasing their exchange ratio in their social exchange relationship with the governments.

### **Practical Implications**

Our findings inform valuable implications to managers and policy makers. Prior studies on philanthropy behaviours of large national or multinational companies often assume that corporate donations will rise and fall with the availability of resources (Buchholtz et al., 1999; McGuire et al., 1988; Seifert, Morris, & Bartkus, 2003). Yet our study suggests that that despite facing the resource constraints, venture firms are also keen to make donations, especially those receiving greater government subsidy tend to make more philanthropic donation to reciprocate the favour from the government.

Our findings suggest that venture firms with greater political legitimacy tend to regard donations as a way to pay back the governments and sustain an ongoing social exchange relationship with the local governments. When interacting with local governments, venture firms would like to show their appreciation for the local governments' helping hand and their willingness to maintain a long-term and reciprocal relationship with local governments. As such, donation actually is not an "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 social exchange relationship with the governments (Su & Tsang, 2015).

### **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 hard to generalise the findings to other

contexts where governments seldom or do not subsidize. The relationships established in this study is more applicable to other emerging economies where business-government interactions are important for firm growth and development. Hence it is interesting for future research to test our findings in other emerging economies.

In addition, corporate donations can be in various forms. In this study, we only focused on cash-based donations. Future research can extend to other forms of corporate philanthropy or other forms of CSR engagement. Our use of dummy indicators to reflect the leadership changes in firms and governments 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. A replaced governor may be promoted or demoted. Such subtle differences in leadership changes are not captured in the current study. Therefore future research is warranted to examine these subtle differences between the new and old firm leaders and their implications on how the firm-government social exchange relationship evolves.

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**TABLE 1**  
**Sample Descriptive Statistics**

Variables	Max	Min	Mean	No. of obs.	% of obs.
Firm philanthropy					
Have	1	1	1	1,057	61.42
Not have	0	0	0	664	38.58
Philanthropy amount (10,000 RMB)	3,000.00	0	37.60	1,721	100
Government subsidy (10,000 RMB)	44,521.10	0	1,286.68	1,721	100
Local governors change					
Have	1	1	1	1,046	60.78
Not have	0	0	0	675	39.22
Firm leaders change					
Change	1	1	1	59	3.43
No change	0	0	0	1,662	96.57
Government experience					
Have	1	1	1	119	6.91
Not have	0	0	0	1,602	93.09
Political involvement					
Have	1	1	1	379	22.02
Not have	0	0	0	1,342	77.98
Firm size (10,000 RMB)	4,100,000.00	690.00	86,356.47	1,721	100
Firm age	29	2	12.48	1,721	100
Slack resource	0.79	0.01	0.22	1,721	100
Financial performance	0.37	-0.46	0.06	1,721	100
State ownership	0.72	0	0.01	1,721	100
City GDP (100,000,000 RMB)	25,123.45	374.54	10,627.54	1,721	100
Industry					
Manufacturing	-	-	-	1,340	77.86
Information technology	-	-	-	381	22.14

**TABLE 2**  
**Descriptive Statistics and Correlation Matrix**

No.	Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1	Philanthropy amount ( <i>Ln</i> )	11.97	1.66	1											
2	Government subsidy ( <i>Ln</i> )	15.43	0.92	0.19	1										
3	Local governors change	0.64	0.48	0.04	0.26	1									
4	Firm leadership change	0.03	0.16	0.00	0.01	0.06	1								
5	Government experience	0.09	0.28	-0.02	0.01	0.07	-0.05	1							
6	Political involvement	0.31	0.46	0.04	0.00	0.00	-0.08	0.08	1						
7	Firm size ( <i>Ln</i> )	20.25	0.73	0.22	0.48	0.20	0.03	0.03	-0.06	1					
8	Firm age	12.75	4.69	0.11	0.19	0.20	0.04	0.01	-0.02	0.10	1				
9	Slack resource	0.23	0.13	0.02	0.20	0.16	0.00	0.08	-0.02	0.49	0.05	1			
10	Financial performance	0.06	0.04	0.11	0.02	-0.16	-0.02	-0.07	-0.11	0.12	-0.01	-0.29	1		
11	State ownership	0.01	0.01	0.02	0.02	-0.07	0.01	0.01	0.02	0.02	-0.02	-0.02	0.03	1	
12	City GDP ( <i>Ln</i> )	17.93	0.97	0.01	0.07	-0.15	-0.03	-0.08	-0.18	0.08	-0.01	0.00	0.17	-0.06	1
13	Inverse Mills ratio	0.43	0.35	-0.24	-0.26	-0.23	0.04	-0.10	-0.31	-0.43	-0.16	-0.17	-0.13	0.03	0.35

Notes:  $N = 1,232$ ; correlations greater than  $|0.05|$  are significant at 0.05.

**TABLE 3**  
**Estimates for Heckman First-Stage Models**

Variables	Model 1	Model 2	Model 3
Government subsidy		0.11 (0.07)	0.11 (0.08)
Local governors change	0.23 (0.13)	0.21 (0.13)	0.07 (0.14)
Firm leadership change	-0.14 (0.23)	-0.15 (0.23)	-0.17 (0.24)
Government experience	0.13 (0.21)	0.13 (0.21)	0.13 (0.22)
Political involvement	0.24 (0.16)	0.23 (0.16)	0.27 (0.17)
Firm size	0.55*** (0.10)	0.50*** (0.11)	0.50*** (0.12)
Firm age	0.02 (0.02)	0.02 (0.02)	0.03 (0.02)
Slack resource	0.33 (0.52)	0.40 (0.53)	0.58 (0.56)
Financial performance	3.69* (1.57)	3.91* (1.58)	3.57* (1.69)
State ownership	-5.24 (3.18)	-5.25 (3.20)	-6.24 (3.37)
City GDP	-0.38 (0.90)	-0.40 (0.90)	-0.30 (1.01)
Industry-level philanthropy			0.37*** (0.04)
Constant	-3.28 (17.09)	-3.58 (16.98)	-3.58 (16.98)
Industry dummies	Included	Included	Included
City dummies	Included	Included	Included
Year dummies	Included	Included	Included
Log-likelihood	-902.79	-901.67	-838.36
Wald $\chi^2$	141.52***	142.75***	194.38***
Number of observations	1,721	1,721	1,721

Notes: \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. Standard errors are in parenthesis.

**TABLE 4**  
**Estimates for Heckman Second-Stage Models**

Variables	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
<i>Independent variable:</i>						
Government subsidy (H1)		0.28*** (0.05)	0.21*** (0.05)	0.27*** (0.05)	0.20*** (0.05)	0.16** (0.06)
<i>Two-way interactions:</i>						
Government subsidy × Local governors change (H2)			0.09** (0.03)		0.09*** (0.03)	0.11** (0.04)
Government subsidy × Firm leadership change (H3)				0.33* (0.16)	0.35* (0.15)	1.00* (0.44)
Local governors change × Firm leadership change						-0.58 (0.49)
<i>Three-way interaction:</i>						
Government subsidy × Firm leadership change × Local governors change (H4)						-1.08* (0.53)
<i>Control variables:</i>						
Local governors change	0.01 (0.08)	0.07 (0.08)	0.05 (0.08)	0.05 (0.08)	0.03 (0.08)	0.04 (0.08)
Firm leadership change	0.13 (0.18)	0.03 (0.15)	0.03 (0.16)	-0.11 (0.13)	-0.13 (0.13)	0.53 (0.39)
Government experience	-0.05 (0.11)	0.04 (0.10)	0.05 (0.10)	0.06 (0.10)	0.06 (0.10)	0.04 (0.11)
Political involvement	0.13 (0.08)	0.19* (0.08)	0.20* (0.08)	0.20* (0.08)	0.20* (0.08)	0.19* (0.08)
Firm size	0.61*** (0.09)	0.57*** (0.09)	0.59*** (0.09)	0.58*** (0.09)	0.60*** (0.09)	0.60*** (0.09)
Firm age	0.05*** (0.01)	0.05*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
Slack resource	-0.97*** (0.26)	-0.43 (0.26)	-0.41 (0.27)	-0.49 (0.27)	-0.47 (0.27)	-0.44 (0.27)
Financial performance	2.29* (0.92)	4.64*** (1.00)	4.86*** (1.00)	4.57*** (1.01)	4.79*** (1.00)	4.68*** (1.03)
State ownership	-2.42 (2.45)	-4.75* (2.36)	-4.90* (2.35)	-4.74* (2.36)	-4.89* (2.35)	-4.35 (2.34)
City GDP	0.70* (0.31)	0.57* (0.28)	0.56* (0.28)	0.58* (0.28)	0.57* (0.28)	0.63* (0.28)
Inverse Mills ratio	0.20 (0.29)	0.88** (0.29)	1.00** (0.30)	0.87** (0.29)	0.99*** (0.30)	0.92** (0.31)
Constant	-12.96* (5.79)	-14.69** (5.03)	-13.85** (5.10)	-14.80** (5.00)	-14.12** (5.06)	-14.28** (5.17)
Industry dummies	Included	Included	Included	Included	Included	Included
City dummies	Included	Included	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included	Included	Included
Wald $\chi^2$	2476.55** *	11630.94* **	5915.12** *	11505.76* **	11942.47* **	12292.35* **
Number of observations	1,232	1,232	1,232	1,232	1,232	1,232

Notes: \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001. Standard errors are in parenthesis.

**TABLE 5**  
**Robustness Check: Alternative Measures of Government Subsidy**

Independent variable:	<i>One-year average</i>	<i>Two-year average</i>	<i>Four-year average</i>	<i>Five-year average</i>
	Model 10	Model 11	Model 12	Model 13
<i>Independent variable:</i>				
Government subsidy (H1)	0.05 (0.04)	0.08 (0.05)	0.19*** (0.06)	0.22*** (0.06)
<i>Two-way interactions:</i>				
Government subsidy × Local governors change (H2)	0.09*** (0.01)	0.09*** (0.02)	0.14*** (0.04)	0.16*** (0.05)
Government subsidy × Firm leadership change (H3)	1.16* (0.49)	1.08* (0.46)	0.95* (0.44)	0.91* (0.43)
Local governors change Firm × Firm leadership change	-0.16 (0.48)	-0.37 (0.47)	-0.57 (0.51)	-0.63 (0.52)
<i>Three-way interaction:</i>				
Government subsidy × Firm leadership change × Local governors change (H4)	-1.47** (0.55)	-1.38** (0.53)	-1.09* (0.54)	-1.00 (0.53)
<i>Control variables:</i>				
Local governors change	0.06 (0.08)	0.05 (0.08)	0.03 (0.08)	0.02 (0.08)
Firm leadership change	0.22 (0.41)	0.46 (0.39)	0.57 (0.39)	0.59 (0.39)
Government experience	0.01 (0.11)	0.01 (0.11)	0.06 (0.11)	0.07 (0.11)
Political involvement	0.18* (0.08)	0.18* (0.08)	0.19* (0.08)	0.20* (0.08)
Firm size	0.66*** (0.09)	0.64*** (0.09)	0.58*** (0.09)	0.56*** (0.09)
Firm age	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
Slack resource	-0.63* (0.25)	-0.58* (0.26)	-0.35 (0.27)	-0.32 (0.27)
Financial performance	4.17*** (0.99)	4.28*** (1.01)	4.96*** (1.03)	5.04*** (1.03)
State ownership	-3.52 (2.24)	-3.69 (2.28)	-4.46 (2.34)	-4.57 (2.37)
City GDP	0.72* (0.28)	0.73** (0.28)	0.57* (0.28)	0.57* (0.29)
Inverse Mills ratio	0.83** (0.30)	0.82** (0.30)	0.98** (0.31)	0.99*** (0.31)
Constant	-15.74** (5.08)	-15.77** (5.03)	-13.30* (5.23)	-13.10* (5.25)
Industry dummies	Included	Included	Included	Included
City dummies	Included	Included	Included	Included
Year dummies	Included	Included	Included	Included
Wald $\chi^2$	10575.71***	6685.10***	3407.25***	2901.06***
Number of observations	1,232	1,232	1,232	1,232

Notes: \* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001. Standard errors are in parenthesis.

**TABLE 6**  
**Robustness Check: Granger Causality Test and 2SLS Regression Results**

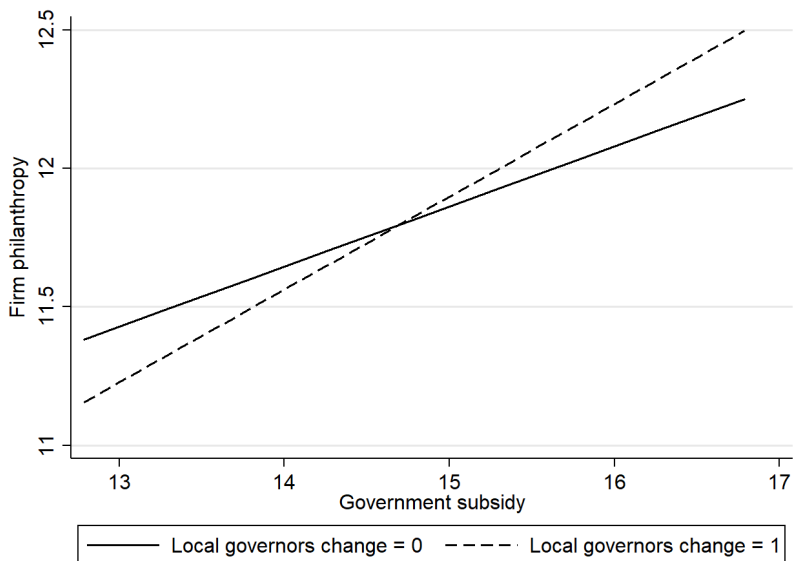
<b>Panel A: Panel Granger causality test</b>				
Lag lengths	Causality from government subsidy to firm philanthropy		Causality from firm philanthropy to government subsidy	
	<i>F</i> statistics	<i>P</i> - value	<i>F</i> statistics	<i>P</i> - value
1	11.12***	0.001	0.97	0.326
2	8.88**	0.003	3.37	0.066
3	8.56**	0.003	2.96	0.085
4	8.23**	0.004	3.05	0.081
5	8.65**	0.003	3.40	0.065
<b>Panel B: 2SLS regressions with the instrumental variable</b>				
Variables	<i>First stage</i>		<i>Second stage</i>	
	Model 14		Model 15	
<i>Instrumental variable:</i>				
R&D investment	0.49*** (0.06)			
<i>Independent variable:</i>				
Government subsidy (H1)			0.70** (0.27)	
<i>Control variables:</i>				
Local governors change	0.04 (0.10)		0.01 (0.28)	
Firm leadership change	-0.15* (0.06)		0.01 (0.15)	
Government experience	-0.22*** (0.06)		0.23 (0.22)	
Political involvement	-0.18** (0.07)		0.35* (0.17)	
Firm size	-0.42*** (0.09)		0.68*** (0.17)	
Firm age	-0.01 (0.01)		0.05** (0.02)	
Slack resource	-0.74** (0.27)		0.02 (0.59)	
Financial performance	-5.37*** (0.90)		7.89*** (2.37)	
State ownership	7.01*** (1.56)		-7.84 (4.83)	
City GDP	0.28 (0.32)		0.06 (0.68)	
Inverse Mills ratio	-2.45*** (0.28)		1.99* (0.90)	
Constant	11.24 (6.24)		-14.43 (13.28)	
Industry dummies	Included		Included	
City dummies	Included		Included	
Year dummies	Included		Included	
Adjust $R^2$	0.68		0.26	
<i>LM</i> -statistics			45.62***	
<i>F</i> -statistics			159.55	
Wald $\chi^2$			4467.37***	
Number of observations	1,232		1,232	

Notes: \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001. Standard errors are in parenthesis.

**FIGURE 1**

**Interaction Plots of Moderating Effects of Local Governors Change and Firm Leadership Change**

(a) The moderating effect of local governors change



(b) The moderating effect of firm leadership change

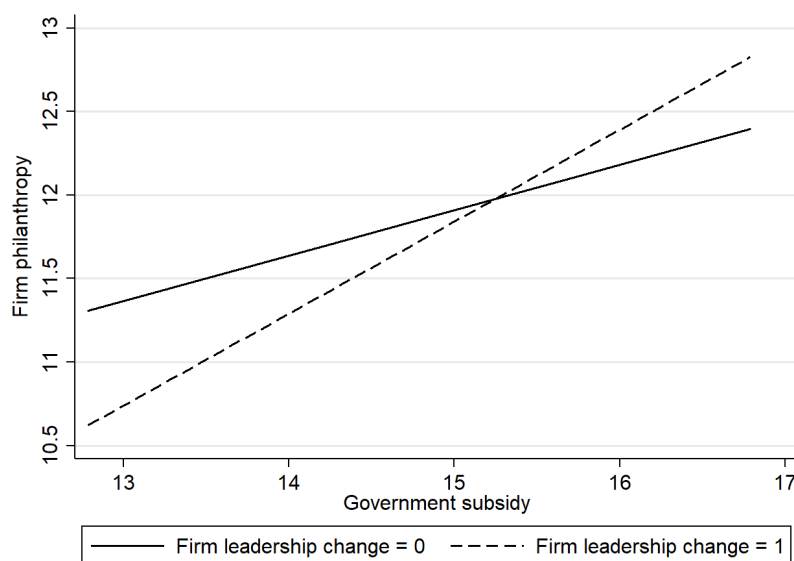


FIGURE 2

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

