Getting Back a Level Playing Field under State Capitalism: Evidence from Quake Donations by Privately-controlled Companies in China

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Abstract

Non-state-controlled corporations typically face discrimination in business operations under China's authoritarian state capitalism. Donations to government-favored causes facilitate government-business cooperation, which helps donor firms win governments' trust and retrieve a level playing field. With an event study of corporate donations to Wenchuan earthquake relief campaign in 2008, we detect strong and positive market reactions to non-state-controlled donor firms, especially those operating in regions with high-level bureaucratic discretion, where the ownership-based discrimination is particularly severe and donations can redress discriminatory treatments. Donor firms also display improvements in long-term performance indicators, which suggests an expansion of business opportunities and government procurement contracts.

Keywords: Quake donations, State capitalism, Level playing field, Market reactions, Firm performances.
JEL Classification Codes: H11, D22, P10

1 Introduction

Corporate donations are an important aspect of strategic corporate social responsibility, which plays an increasingly significant role in firm survival and growth in contemporary market economies. Corporate expenditure on community services, philanthropic programs, environmental protection and employee welfare can create value added for firms through improved corporate image, the goodwill and loyalty of customers, the enhanced employee morale, and the more lenient or favorable treatment by regulators (Navarro, 1988; Godfrey, 2005; Hong and Liskovich, 2015). However, it is much less understood what roles corporate donations play under state capitalism, where governments use markets to extend their own political and economic leverage through state ownership and control of enterprises, through allocation of credit to privileged companies (e.g., national champions), etc., and most of non-state-owned companies are often disadvantaged in product and factor markets (Musacchio and Lazzarini, 2012; Bremmer, 2010).

Under state capitalism, corporate donations are likely to contribute to the realization of the political, economic and social objectives of governments. Consequently, for privately-controlled companies, donations not only improve the corporate image to the public but also signal the loyalty of corporations to bureaucrats and the cooperativeness of corporations in the pursuit of government-favored causes. This may help corporations to win the trust of governments, which subsequently remedies the ownership-type-based discrimination in business operation. Hence, corporate donations could become a powerful instrument of government-business cooperation under state capitalism, and their effects on business operation and firm valuation are likely to stem from an underlying force different from that in free-market economies: retrieving a level playing field in business operation.

We conduct a study of corporate donations in the wake of Wenchuan earthquake in China on May 12, 2008 to investigate this issue. China provides an ideal setting. The country has grown rapidly over the past few decades, but has also developed into a leading example of state capitalism, i.e., it relies on and supports state-owned national champions in key industrial sectors (Megginson, 2017). Furthermore, the Chinese political system is a leading authoritarian regime, which reinforces the state control of the economy and leads to an authoritarian state capitalism model. The rising strength of the Chinese economy, and the similar model pursued by other countries such as Russia, show the prevalence and importance of state capitalism around the world (Musacchio and Lazzarini, 2012; Megginson, 2017). Actually, one of the central contentious points in the current trade disputes or, more broadly, political and economic disputes between China and the U.S. is whether China's state capitalism leads to a protectionist and mercantilist economic model that disrupts global trade and threatens the Western interests.[1] Taken together, these considerations make it intriguing to investigate the corporate philanthropic behavior under state capitalism.

In an authoritarian state capitalism system, governments often place much emphasis on swift responses to natural disasters as a way to enhance the legitimacy of the regime. State capitalism is often regarded as revealing the preference for stability and aversion to risks (Bremmer, 2010). Although there is no election pressure, an authoritarian regime treats disaster relief efforts as a way to demonstrate state capacity and enhance the political legitimacy of the regime. Thus, organizing timely rescue operations and conducting subsequent reconstruction of quake-hit areas remain on the top of the government's agenda.

[1] Please refer to the statement by Mr. Dennis Shea, the U.S. Ambassador to WTO, entitled "China's Trade-Disruptive Economic Model and Implications for the WTO", WTO General Council, July 26, 2018, and the U.S. Vice President, Mr. Mike Pence's remarks on the administration's policy toward China delivered at Hudson Institute on October 4, 2018.

Two striking features are noteworthy in the relief campaign under China's authoritarian state capitalism model. First, the top-down mechanism in China's authoritarian regime prompts subnational governments to support and participate in the relief campaign, which also in nature constitutes to a large extent a tournament among local bureaucrats to show their loyalty to the central leadership. Second, subnational governments often face resource constraints in the relief campaign, and the model of government-business cooperation through corporate donations can partly help overcome this obstacle. No doubt state-owned enterprises (SOEs) can be a reliable force in the quake rescue operation. Meanwhile, the vibrant sector of non-state-owned enterprises (non-SOEs) plays an instrumental role by making donations to complement government resources. As non-SOEs are typically disadvantaged in resource allocation under state capitalism, they may actively contribute to the quake relief campaign to show their loyalty to governments, which would likely help them gain a level playing field in business operations.

We employ the event study approach to investigate the impact of corporate donations on listed firm valuation in the wake of Wenchuan earthquake. It is found that there are significant positive market reactions to corporate donations made by non-state-controlled companies. As discussed briefly in Section 3.1., state-controlled companies' donation decision is likely to be part of the whole relief campaign plan of the government apparatus and is thus largely involuntary. State-controlled companies also have little need to win government's trust through donation. Indeed, we find that state-controlled donor firms did not produce significantly stronger stock market performance than those state-controlled non-donor firms. In this study, we therefore mainly focus on the voluntary donations made by non-state-controlled companies. We then further look at the market responses to non-state-controlled donor firms located in regions with different institutional quality, and find that the significant positive valuation effects only exist for those

companies operating in regions with strong bureaucratic discretion represented by a high (above-mean) degree of government intervention or bureaucratic corruption where discrimination against non-SOEs is expected to be larger and the effect of corporate donations in redressing this discrimination could also be more salient.

Furthermore, we analyze the changes in operating performance indicators of donor firms from the three years before to the three years after corporate donations, and compare them with the corresponding changes of non-donor firms. Donors displayed significant improvements in total sales, total costs, the ratio of sales to costs, the amount of loans obtained, the size of on-going projects, and the amounts of fixed assets and total assets. Moreover, listed firms in regions with a higher degree of bureaucratic discretion (proxied by government intervention and corruption) exhibited more significant improvements in those performance indicators, which suggests an expansion of business opportunities and government procurement contracts. These results are consistent with and substantiate the findings from market response analysis.

The positive market reactions to donations are likely to result from the expected improvements in corporate image as socially responsible businesses in the eyes of the public, which will boost corporate sales but is not peculiar to state capitalism. Nonetheless, the concentration of significant market reactions to donations made by listed companies operating in regions with high bureaucratic discretion points to the role of corporate donations in helping facilitate business development under state capitalism.

We interpret these findings as suggesting that corporate donations can serve as one instrument of government-business cooperation to get back the level playing field for disadvantaged non-state firms under the authoritarian state capitalism model. Compared with SOEs that are favored by governments, non-SOEs are typically disadvantaged in resource

allocation (such as obtaining bank credit), etc., in an economy dominated by the government. Non-SOEs, however, can conduct philanthropic activities to support government-favored causes and show their allegiance to the government. In turn, the government would regard them as trustworthy and provide a level playing field for them. Our study therefore puts the analysis of corporate donations to disaster relief in the context of government-business relations and sheds light on the unique role of corporate donations in the state capitalism model. In our view, corporate donations to the natural disaster relief and recovery campaign can be a platform for reciprocal exchanges of support between bureaucrats and non-SOEs. In this sense, it has some similarity to bribery in functionality. Nonetheless, as discussed in Section 5.4., it is still fundamentally different from bribery in several key aspects and involves less distortion and inefficiency in resource allocation.

This study is related to a growing literature on corporate philanthropic responses to disasters. The existing studies mainly examine the determinants of corporate donations to disaster relief. They document a link between corporate donations and firm size, profitability, cash resource constraint, geography, leverage and industry (see, for example, Amato and Amato, 2007; Brammer and Millington, 2005). Shan, Gan and Zheng (2008), Gan and Shan (2010), Zhang, Zhu, Yue and Zhu (2010), and Zhang, Rezaee and Zhu (2010) are close to our study in the sense that they also study corporate donations after Wenchuan earthquake. Nonetheless, they all focus on examining what factors prompt firms to donate. Shan, Gan and Zheng (2008) and Gan and Shan (2010) point out the importance of advertising motives as firms engaged in consumer-oriented industries were more likely to donate. Zhang, Zhu, Yue and Zhu (2010) find a positive correlation between firm advertising intensity and the probability and the amount of corporate giving. Zhang, Rezaee and Zhu (2010) find that state-owned firms donated less and were less likely to donate than did privately-owned firms, but they did not go deeper in detecting the underlying rationale.

Our study is also related to several studies of the impacts of corporate donations to disaster relief on firm valuation. Muller and Kräussl (2008) use event study methodology to investigate stock market reactions to corporate donation announcements by 108 U.S. firms made in response to Hurricane Katrina. They show that overall, corporate donations were linked to neither positive nor negative abnormal returns. Pattern (2008) investigates the market reaction to corporate press releases announcing donations to the relief effort following the December, 2004 tsunami in Southeast Asia. Results from a sample of 79 U.S. companies indicate a statistically significant positive 5-day cumulative abnormal return, and the amount of the donations influenced the size of positive market reactions. Our study examines the market reaction to corporate donation in the context of China's authoritarian state capitalism and examines region-level heterogeneity in market reactions, which sheds new light on the issue.

This study is also somewhat related to the literature on whether corporations make political or campaign contributions to gain access to politicians and buy influence in legislation and regulation. As discussed in Section 5.5, although corporate donations to quake relief may indirectly improve the chances of promotion of bureaucrats in China's authoritarian state capitalism, corporate campaign contribution in the U.S. is still fundamentally different in nature from quake donations in China. Even within this line of literature, the findings on whether corporations buy political favors remain mixed (Ansolabehere, et al., 2003). For example, Kalla and Broockman (2016) find that activists are more likely to be able to secure a meeting with a senior staffer of a member of Congress when they reveal themselves to be donors instead of merely constituents. In contrast, Fowler, et al. (2017) find that corporate campaign contributions do not appear to buy significant political favors. In contrast, we find sizeable value gains to quake donor firms.

The rest of the paper is organized as follows. Section 2 provides a background for various conceptual issues discussed in the paper. Data and variables are introduced in Section 3. Section 4 illustrates the empirical strategy. Section 5 presents and discusses the results. Section 6 concludes the paper.

2 Background

2.1 Wenchuan Earthquake

The earthquake that occurred in Sichuan province of China on May 12, 2008 is named the Wenchuan earthquake because the earthquake's epicenter was located at Wenchuan County, Sichuan, 80 kilometers west-northwest of Chengdu, the provincial capital. The quake was measured at 8.0 Ms (surface wave magnitude) and 7.9 Mw (moment magnitude scale). The earthquake has caused severe casualties. According to official statistics, as of September 18, 2008, 69,227 people were confirmed dead, 374,643 people were injured, and 17,923 people were missing in the wake of the earthquake. It was the deadliest earthquake to hit China since the 1976 Tangshan earthquake, which killed at least 240,000 people.

Partly because of the lack of an adequate seismic building design code, the earthquake has caused massive damage of properties and houses, leaving at least 5 million people without housing. Millions of livestock and a significant amount of agriculture were also destroyed. Furthermore, property damage aggravated human casualties. A CNN news report entitled "China: 2008 Quake Killed 5,335 Students" released on May 8,2009 cites China's state-run Xinhua news agency that the earthquake killed 5,335 students and left another 546 children disabled, mainly because of the shoddy construction of school buildings.

The Chinese government conducted rescue operation swiftly and with uncharacteristic openness (The Economist, “Days of Disaster”, May 15, 2008). President Hu Jintao directed the whole disaster rescue operation. Just 90 minutes after the earthquake, Premier Wen Jiabao, flew to the earthquake area to oversee the rescue work. Soon after the quake, the Ministry of Health sent ten emergency medical teams to Wenchuan County (TIME, “China’s Quake Damage Control”, May 13, 2008). On the same day, the Chengdu Military Region Command dispatched 50,000 troops and armed police to help with disaster relief work in Wenchuan County (Bloomberg, “50,000 Troops Deployed”, May 12, 2008). By May 15, over 150 aircrafts were deployed in relief operations, resulting in the largest non-combat airlifting operation in People’s Liberation Army history (Zhang Ning, "Premiere Wen Orders 90 More Helicopters for Quake Relief Work", China Central Television, May 15, 2008). The Chinese rescue efforts were acclaimed for being “swift and very efficient” by the international community (BBC, "Search for China Quake Survivors", May 13, 2008).

The earthquake hit an area that has been largely neglected and untouched by China’s growing economic prosperity. Health care is poor in inland rural areas such as the quake region. According to Vice Minister of Health, Mr. Gao Qiang, the Chinese government has picked up the costs of care to earthquake victims, many of whom have little or no insurance (Associated Press, "Long Wait for Medical Care after China Quake", May 15, 2008).

At the same time, the Internet was extensively used for passing information to aid rescue and recovery efforts. State media has devoted most of its coverage to the rescue efforts. All television stations in the Chinese mainland cancelled all regularly-scheduled programming, and replaced it with live earthquake footage for multiple days after the quake. Moreover, the State Council declared a three-day period of national mourning for the quake victims starting from May

19, 2008. It was the first time that a national mourning period has been declared for something other than the death of a state leader.

Following the earthquake, corporate, organizational and individual donations were actively launched. People from all over the Chinese mainland made donations (Wall Street Journal, "Chinese People Open Their Hearts and Wallets Following Earthquake", May 15, 2008). People also donated blood, resulting in long line-ups in most major Chinese cities (Xinhua News Agency, "Humanitarian Emotion Glitters in China Earthquake Relief", May 15, 2008). Domestic corporations, multinational corporations, and various non-profit organizations also made substantial donations.

The donations, especially corporate donations, reached a climax on the evening of May 18 when the Chinese central government and China Central Television Station (CCTV-1) hosted a special four-hour program called *The Giving of Love*. It featured a wide range of entertainment, literary, business and political figures from mainland China, Hong Kong, Singapore and Taiwan. Entrepreneurs actively made donations that evening, and the total amount hit 1.5 billion Chinese Yuan (approximately US$208 million).

Furthermore, the Chinese government launched a massive quake region reconstruction campaign. On June 11, 2008, the State Council established a counterpart support plan, in which 19 eastern and central provinces and municipalities were arranged to help the 18 quake-hit counties in Sichuan province and other affected areas in Gansu and Shaanxi provinces on the “one province to one affected county” basis. The plan spanned 3 years, and cost no less than one percent of the province or municipality’s budget. On November 6, 2008, it announced that it would spend 1 trillion RMB (about US $146.5 billion) over the next three years to rebuild areas ravaged by the earthquake. In 2012, the restoration and reconstruction were claimed to have been completed. A

large amount of 865.8 billion yuan (137.5 billion U.S. dollars) has been invested in post-quake reconstruction efforts, and 99 percent of 29,692 related projects have been completed. Local governments have successfully helped more than 12 million people in rural and urban areas repair their houses, and have relocated 200,000 farmers who lost their farmlands.

2.2 State Capitalism

In general, the role of the state in market economies is mainly reflected in government regulations and state ownership of business. Government regulation is extensive in modern market economies**.** State ownership is also pervasive around the world. In spite of decades of privatization, state ownership is still prevalent in developed and developing countries. In OECD countries, governments keep extensive equity ownership shares in a large fraction of corporations (Bortolotti and Faccio, 2009). In emerging market economies, SOEs contribute a large portion of GDP, which can be as high as approximately 20-30% in countries such as Brazil, China, Russia, Thailand, Vietnam, etc., and represent approximately 30% of total stock market capitalization (Musacchio and Lazzarini, 2012).

Across different market economies, the role of the state versus the market indeed varies considerably (see, e.g., Shleifer, 1998; La Porta et al., 1999; Djankov, et al., 2003). Some economies have a really strong role of the state in the economy (such as China and Russia), ranging from government-mediated dispute resolution to outright government control in both factor and output markets, whereas government intervention in some other countries is largely confined to conventional state regulation of the market, provision of public goods, etc. Across different regions in China, there are also variations in the degree of government control of or intervention in the regional economy (Du, Lu and Tao, 2014). State capitalism is a variety of capitalism where

markets are primarily seen as a tool to serve national interests or at least those of ruling elites rather than an engine of opportunities for the individual (Bremmer, 2010). Under state capitalism, governments exercise control directly and indirectly over resource allocation through instruments such as government ownership and control of key economic actors, government directives, extensive regulations, control over factor and product markets, etc. A defining feature of *the market economy with Chinese characteristics,* or *Chinese-style state capitalism,* is the extensive undertaking of economic activity by the State in the form of widespread state ownership, industrial policies, government subsidies to national champions, control and regulations of businesses, etc. Despite nearly forty years of economic reforms, China has retained a significant proportion of SOEs or state-controlled corporations in most industries. SOEs have helped the governments to fulfill multiple social and political responsibilities, such as keeping excess employment, to maintain social stability. At the same time, China has developed its non-state-owned economy including domestic private firms and foreign multinationals on the margin (Bai, Li, Tao and Wang, 2000). This situation is likely to continue in the future. According to the political report delivered by President Xi Jinping in the 19th National Congress of the Chinese Communist Party (CCP), held in Beijing from October 18 to 24, 2017, China will stick to the national strategy of keeping the dominant position of state ownership in its economy, and will support state capital in becoming stronger, doing better and growing bigger.

SOEs enhance the state capacity in achieving economic development and social objectives, e.g., pursuing industrial policies to nurture industries with strategic importance, maintaining social stability through job creation, etc. SOEs also facilitate bureaucrats to pursue their political agenda and help them seek bureaucratic promotion and rents. It is therefore not surprising that the government usually gives priority to SOEs in resource allocation through state apparatus, whereas

non-state-owned firms have much less chances of participating in state initiatives and have disadvantaged access to resources. For example, SOEs usually have access to subsidized loans, whereas privately-owned firms are largely denied the access (Musacchio and Lazzarini, 2012). Thus, unequal status or lack of level playing field for SOEs and non-SOEs is a typical symptom of an economy where the state plays an important part, especially for state capitalism.

The unlevel playing field between SOEs and non-SOEs has been a striking phenomenon in China's economic transition and development. According to Sheng and Zhao (2012) and Unirule Institute of Economics (2015), the favorable treatments received by SOEs compared with non-SOEs are mainly reflected in fiscal subsidies, subsidized loans, and privileged access to land and natural resources. For example, the fiscal subsidies to loss-making SOEs amounted to 365.3 billion yuan in the period 1994-2006, and SOEs received fiscal subsidies in various forms of 274.1 billion yuan during 2007-13. The average corporate income tax paid by SOEs was only 10%, while that by private firms was 24% during 2007-9. The average real interest rate on bank loans to SOEs in the period 2001-13 was as low as 1.6%, whereas that for private firms was 4.68%. Moreover, SOEs were exempted from paying land rents, and rents of using natural resources (oil, minerals, etc.). Consequently, the recorded profitability of SOEs is not a reflection of their real performance, but the result of numerous preferential policies and an unfair business environment. This unfairness is a result of fiscal subsidies from the central government, different financing costs, as well as subsidized land and resource rents. Provided SOEs will keep their dominant position in the national economy, the uneven playing field for non-state-owned firms is most likely to persist.

Naturally, economic policies in state capitalism exhibit a strong tendency to serve the political interests of the governments. One important observation is that state capitalism typically reveals the government's preferences for stability and aversion to risks (Bremmer, 2010;

Musacchio and Lazzarini, 2012). This makes both state-controlled and non-state-controlled companies weather economic fluctuation better: they are less likely to experience pronounced recessions, and more likely to receive bank bailout and corporate restructurings in a swift and smooth manner. For the same reason, state capitalism is likely to mobilize economic and social resources more efficiently and organize natural disaster relief campaign more rapidly to minimize the shocks of natural calamities to the society.

2.3 Government Responsiveness to Natural Disasters in an Authoritarian Regime

The government reaction to natural disasters and its capacity to conduct rescue activities is an important indicator of state capacity and regime legitimacy. In democracies, electoral competition may create pressures on the accountability of government officials and prompt national and subnational governments to be responsive to citizens' needs of disaster relief (see, e.g., Besley and Burgess, 2002; Eisensee and Stromberg, 2007; Healy and Malhortra, 2009; Cole, Healy and Werker, 2012). In China's authoritarian regime, there is no meaningful electoral competition. Nonetheless, the political leadership still places much emphasis on natural disaster relief efforts because they are an important way to demonstrate state capacity and to enhance the political legitimacy of the ruling party.

Firstly, the Communist ideology dictates that the Chinese Communist Party is the loyal representative of the fundamental interests of the people. Disaster relief is a good occasion to substantiate and prove this claim. Secondly, the ideas of morality and benevolence of the Chinese traditional culture, especially the doctrines of Confucianism, contain the principle of reciprocity, i.e., the people will support the leadership and the regime as long as they are taken care of during

hard times (Wright, 1960). This is also consistent with the social exchange theory. This strengthens the incentive of the authoritarian regime to adopt swift rescue actions.

Consequently, in the wake of Wenchuan earthquake, the Chinese central leadership organized the rescue and relief campaign rapidly and efficiently. As mentioned above, the central leadership mobilized a large number of military troops and armed police to carry out the rescue operations in a timely manner; the central government allocated substantial rescue funds to the quake region quickly, etc. In China's authoritarian regime, the top-down mechanism prompts sub-national governments to follow suit to provide financial assistance and other forms of support to the rescue campaign. At the same time, the government and the state-controlled media aroused a public outpour of emotion over the quake and its victims from various non-governmental organizations, firms, and individuals. Donations and volunteer helpers became a popular form of assistance to the quake victims and quake region.

The whole quake relief campaign orchestrated by the central government has achieved several goals. Firstly, the campaign has demonstrated the state capacity and increased the legitimacy of the regime. It helped display the willingness and the ability of the leadership to handle major emergency events, which is one key aspect of state capacity.

Various studies show that natural disasters such as earthquake generated huge direct costs in terms of both casualties and property damage, and developing countries bear the lion's share of the burden. This is largely because less developed countries lack resources for prevention efforts, have weak enforcement of mitigation rules, e.g., building codes, land-use planning, engineering intervention, etc. (Cavallo and Noy, 2009). As the quake hit a poor region with below-national-average income, the lack of market solutions dictates that state action plays an instrumental role in providing social protection to vulnerable populations. Moreover, the quake region involves a

large proportion of ethnic minority people. The political demand for the central government responsiveness to calamity is even more acute. Since disaster relief spending is much more effective in enhancing political legitimacy than does the investment in disaster preparedness (Healy and Malhotra, 2009), it is not surprising that the government would mobilize tremendous amounts of resources for the disaster relief efforts.

Secondly, the active participation of the sub-national governments in the relief campaign exhibits that the pressure of central government supervision works well in prompting the compliance of the local governments with the central government's command and the respect of the sub-national governments for the central government. The state-controlled media typically announced on a daily basis a group of best-performing provinces that made sizeable donations to the campaign, which added to the pressures of a *de facto* donation tournament among regions. This can enhance the authority of the central leadership and the unity of the entire administrative system. As the central government keeps the power to appoint, promote, replace or remove subnational government officials, the quake relief participation of sub-national governments constituted to some degree a tournament among local bureaucrats to show their support and loyalty to the central leadership. For this reason, it is not only the central leadership but also the sub-national leadership that are keen to promote quake relief contributions from various sectors.

Thirdly, to a large degree, the relief campaign widely participated by the subnational governments, the private sector and the public greatly alleviates the concern that the central budget cannot accommodate the financial needs of the relief program. In Imperial China, natural disasters sometimes led to rebellions because the government did not have sufficient resources to provide state protection for the people and thus lost its legitimacy (McKnight, 2013). This historical lesson keeps reminding the current leadership of the importance of providing state protection and

addressing the concerns of the people after natural disasters occur. The financial contributions of sub-national governments complement the central fiscal outlays in the rescue and reconstruction efforts. Donations by firms and individuals also helped the governments to achieve the success of quake relief campaign. It is reported that within six months after the Wenchuan earthquake the donation amounted to 76.2 billion yuan nationwide, and approximately 80% of the donation funds flowed to the accounts of governments at various levels.[2] This shows that donations helped the Chinese government considerably in its quake relief campaign. At the same time, a study of quake relief campaign can shed light on the puzzling durability of the Chinese authoritarian regime and the nature of the state capitalism in China.

3 Data and Variables

3.1 Data

The information on the donations made by listed firms in the wake of the Wenchuan earthquake is collected from several sources: (1) corporate announcements on special corporate donations for the earthquake victims; (2) information on corporate donations for earthquake relief that is released in the relevant companies' websites; (3) information disclosed by media news reports on earthquake donations made, typically, by a group of corporations; (4) donations announced by firms in the earthquake relief fund raising party called *The Giving of Love* organized by the CCTV on May 18, 2008.

The information collected on corporate donations includes the date of the donation made, the date of the public announcement or media coverage of the corporate donation, the amount of

[2] For a report on this, please refer to http://www.chinahush.com/2009/08/13/80-percent-of-the-earthquake-relief-donation-went-to-the-chinese-government/

the donation (donation size), the types of donation (i.e., in-kind/materials donation or cash donation), etc.

Eventually, we obtain the information on donations made by 1379 non-state-controlled listed firms. If a company makes multiple donations, we only consider the first donation it makes in the event study analysis.

The data on individual stock trading come from the Dataset on Stock Prices and Returns in China's Capital Markets produced and maintained by the SinoFin Financial Information, a financial data company, and China Center for Economic Research (CCER), Peking University. The firm-level stock returns are individual companies' daily stock returns that are adjusted for distributions and splits. The market return is daily market return derived on the basis of the Shanghai Shenzhen CSI 300 index, which is a widely-used capitalization-weighted stock market index designed to replicate the performance of 300 stocks traded in the Shanghai and Shenzhen stock exchanges.

By combining the firm-level donation data with the individual stock trading data, we obtain a balanced panel data set which covers 1230 firms and 600 continuous trading days for each firm (i.e., approximately 340 pre-event trading days as estimation window to derive the estimated beta coefficient for each firm, and six calendar months both before and after the quake as event window).

We collect the basic firm attributes and financial information from both the China Stock Market and Accounting Research (CSMAR) dataset and the above-mentioned SinoFin-CCER dataset. Firm attributes include the location of its operation, industry affiliation, the year when a firm got listed, the proportion of stock ownership of the controlling stockholder, etc. Firms' financial information encompasses total sales, total costs, loans, construction work and business projects in progress, fixed assets, total assets, ROA, operating income, etc.

Since we are interested in investigating how government-business relations under state capitalism shape the investors' perception of corporate donations, we will mainly consider non-state-controlled listed firms whose donation decisions are relatively independent of governments' explicit or implicit executive order. The decisions on donations of state-controlled firms, i.e., whether to make donations and how much to donate, are highly likely a result of government instruction and coordination amid this politicized quake rescue campaign. For instance, Lo (2014) shows that SOEs in China were often under the obligations to donate in the wake of the earthquake, and sometimes the government asked them to contribute to quake relief in other ways, e.g., being directly involved in quake relief operations, instead of making donations. The employees of SOEs or state-controlled work units also complained that their donations had been extracted under pressures from the Party leaders, and sometimes were even simply deducted from their wages by fiat (Link, 2008). Actually, in unreported results, we find that state-controlled donor listed firms did not generate statistically significantly different market reactions than did state-controlled non-donor listed firms, and the fact that SOE donations were often not independent and autonomous corporate decisions could be one important reason. Moreover, as discussed in Section 5.3, donations can improve corporate image as a socially responsible firm to the public, and donor firms would be rewarded with better product sales. Corporate donations to quake relief may signal corporations' allegiance and support to governments and bureaucrats, and help them win government support in future business operations. Clearly, state-controlled corporations are presumed to be public interest oriented, and donation for improving public image is far less of a concern. State-controlled corporations are directly administered by governments at various levels so that winning government support is unlikely to be a primary motive for donation. This could be

another important reason why donor SOEs did not enjoy significant positive market reactions.[3] In view of these complications, we mainly focus on non-state-controlled listed companies in our analysis.

To identify state-controlled companies and non-state-controlled ones, we make use of the information on the controlling shareholder from the CSMAR dataset and cross-check by the complementary information on the ownership nature of the ultimate controlling shareholder from the above-mentioned SinoFin-CCER dataset. If the ultimate controller is a state entity, i.e., a state-owned enterprise or a government entity, we treat the firm as state controlled; otherwise the firm is regarded as non-state controlled, which includes privately-controlled companies, collectively-controlled ones, foreign-controlled ones, shareholding employees-controlled ones, etc.

3.2 Variables

In the event study, we use the market model to compute normal returns for individual stocks. We use the trading period (-470, -131), that is, 470 to 131 trading days prior to the earthquake day as the estimation window to derive the typical relationship between the firm's stock return and the market return through regression analysis. On the basis of the estimates of the beta coefficients, the daily normal returns are projected and then used to calculate the abnormal returns for the event window from trading days -130 to 130. In the part of robustness tests, we replace daily abnormal returns with monthly cumulative abnormal returns, which are the sum of daily abnormal returns in each period of 20 trading days for each firm.

[3] The earlier literature also finds different market reactions toward state-controlled and non-state-controlled corporations in China. For instance, Berkman, Cole and Fu (2010) find that the market responses to the securities-market regulations to enhance minority shareholder protection were much weaker for firms with government blockholders because investors were skeptical that regulators would undertake actions to harm those government blockholders' interests.

In studying the stock market responses to corporate donations, the abnormal returns of individual company stocks are the key dependent variable. One primary explanatory variable is the interaction term between the indicator variable of donor firms and the indicator variable of the period after the date of public disclosure of the donations, which captures the effect of donation making on corporate donors' stock returns relative to the non-donor firms. To capture the impact of the amount of donations on market reactions, we replace the indicator variable of donor firms by the amount of donation, *Donation Size,* in some parts of the analysis, which is the amount of cash donations scaled by the mean value of the firm's operating income over the period 2005-7 and reflects how large a fraction of operating income the firm is willing to take out to donate to the quake regions.

In our sample, of 740 non-state-controlled firms making donations after the quake, 664 firms made donations once, 69 firms twice, and the remaining corporations donated more than twice. For firms having donated more than once, we use the average amount of donations. As we treat the period after the first donation as the post-donation period while we use the mean value of multiple donations to compute *Donation Size*, we try to mitigate the concern of the mismatch of the two types of data by dropping those firms with more than one donation in the robustness check, and the results are qualitatively the same.

In investigating what kinds of listed firms made donations, we carry out probit regression analysis. The dependent variable is an indicator variable that takes value one when a firm donated and zero otherwise. The explanatory variables include several categories. The first category is the prior accounting performance measures, i.e., the logarithm of the mean return on assets (ROA) over the period 2005-7 and the logarithm of the mean operating income in the years 2005-7. The second category is the prior stock performance of individual companies, which include the mean

abnormal returns in the 20 trading days before the earthquake (from day -20 to day 0), in the 60 trading days before the earthquake (from day -60 to day 0), and in the 120 trading days before the quake (from day -120 to day 0). We consider these two categories of explanatory variables mainly to examine whether firms with better corporate accounting performance and stock market performance before the earthquake were more likely to donate. If so, it may suggest the existence of reverse causality, that is, if firm performance and accounting performance exhibit momentum, better performing firms were more capable of making donations, and it is not donation that affects firm performance but rather the other way round.

We also consider the corporate leverage ratio (the mean ratio of debt to assets over the period 2005-7), whether the company is state-controlled, i.e., the ultimate controller is a state entity, whether the firm is located in the quake regions (Sichuan and Chongqing), and whether the firm is engaged in consumer-oriented industries. Firms operating in quake regions may have a stronger sense of obligation to donate to fulfill their social responsibility. Following Gan and Shan (2010), we define an industry as consumer-oriented if the products of the industry are directly sold to consumers. The list of consumer-oriented industries is contained in Appendix Table A6. We control for consumer-oriented industry affiliation because firms engaged in these industries are more likely to donate as part of their advertising or marketing strategy.

In the part of the analysis of the corporate performances and corporate policies, we examine the logarithm of the values of the following variables: total sales, total costs, the ratio of sales to costs, the amount of loans (i.e., the sum of long-term loans and short-term loans from banks and other financial institutions), the size of ongoing projects (i.e., construction work and business projects in progress), fixed assets, and total assets. Table 1 provides the definition and the sources of the variables we use. The summary statistics of some key variables are presented in Table 2.

4 Empirical Strategy

4.1 Event Study Method

Inspired by Lee and Mas (2012), we employ a relatively long panel (up to six months) of high frequency data on daily stock returns for each firm, and carry out DID analysis by comparing the evolution patterns of abnormal stock returns for the treatment group firms (i.e., donor firms) and the control group firms (i.e., non-donor firms). This long panel dataset allows us to examine stock returns over several months beyond the donation event so as to capture the relatively long-term effects of corporate donations. This enables us to not rely heavily on the assumption that the stock price immediately and instantaneously adjusts to capture the expected impacts of donation on corporate valuation, which is particularly meaningful and relevant for emerging market economies like China where the information efficiency of stock market prices is weaker than that in advanced economies.

The objective of our study is to assess the impact of corporate donations in the wake of the earthquake on the stock market value of firms. Ideally, we would like to compare a donor firm's stock returns with the returns the firm would have experienced in the absence of donation. The event-study method provides a good approach to estimating this counterfactual return.

The abnormal return is defined as the difference between a stock's actual return and the expected return given the stock's sensitivity toward market risk. To derive the expected return, we employ the widely-used market model, i.e.,

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

where R_{it} is the actual return of firm i on day t, R_{mt} is the market return on day t, and ε_{it} is the error term. β_i measures the sensitivity of firm i's returns to market risk. Based on the returns data

in the estimation window (-470, -130), we obtain the estimates of β_i for firm i, and use the estimated beta coefficient to compute the normal returns $E[R_{it}]$ on day t in the event window for firm i.

For a donor company i, the abnormal return (AR) on day t in the event window is

$$AR_{it} = R_{it} - E[R_{it}]$$

To mitigate the concern that abnormal returns with large magnitude on some trading days may cast big impacts on our regression analysis, we also use monthly cumulative abnormal returns (CAR) in the robustness check. The monthly CAR is the sum of daily abnormal returns in each period of 20 trading days for each firm, i.e.,

$$CAR_{i\,t1\,t2} = \sum_{\tau=t1}^{t2} AR_{i\tau}$$

4.2 Estimation Specifications

To identify the possible effects of donations for Wenchuan earthquake on firm valuation, we mainly follow Lee and Mas (2012) to employ the DID estimation strategy in conducting event study. We also carry out DID analysis for accounting-based firm performance indicators. Specifically, we exploit two sources of variations: time variation (the first difference, i.e., before and after the date of donation) and cross-sectional variation (the second difference, i.e., non-state-controlled listed firms making donations or the treatment group, and non-state-controlled listed firms making no donation or the control group). The identification relies on the comparison of outcome variables for the treatment group with those of the control group, both before and after the Wenchuan earthquake.

The main estimation specification is

(1) $y_{it} = \beta Treatment_i \times Post_t + \lambda_i + \lambda_t + \varepsilon_{it}$,

where y_{it} is the outcome variable of firm i in date t; $Treatment_i$ is a dummy variable taking the value of 1 if firm i belongs to the treatment group (i.e., firms that made donation) and 0 otherwise; $Post_t$ is also a dummy variable taking the value of 1 during the periods after a firm made donations and 0 otherwise; λ_i is the firm dummy capturing all time-invariant firm characteristics; λ_t is the date dummy capturing all time-variant factors common to all firms on the same date; and ε_{it} is the error term. The coefficient of interest in this study is β. To deal with the potential heteroskedasticity and serial correlation, we cluster standard errors at the firm level (see Bertrand, Duflo, and Mullainathan, 2004).

For this study, we consider two sets of outcome variables: (1) company stocks' abnormal returns, which are derived from the market return of the composite index of the two stock exchanges in China, and (2) firms' accounting performance variables, such as logarithm of the value of total sales, total costs, the ratio of sales to costs (as a proxy for profits), ongoing projects, loans (long-term loans plus short-term loans), total fixed assets, and total assets.

One may be concerned that firms in the treatment group and their counterparts in the control group may follow different time trends in their outcome variables. To address this concern, we allow for firm-specific time trends in our estimation specification, i.e., the inclusion of additional controls $\lambda_i \times t$, as shown below:

(2) $y_{it} = \beta Treatment_i \times Post_t + \lambda_i + \lambda_t + \lambda_i \times t + \varepsilon_{it}$,

5 Empirical Results

5.1 The Effects of Donations on Abnormal Returns

We begin by investigating the effects of donation for Wenchuan earthquake on firms' abnormal returns. Before presenting regression results, we plot the time trend of the difference in the daily

abnormal returns between the treatment and control groups over the pre- and post-donation periods in Figure 1. The difference hovers around zero and has no clear time trend before the date of donation. However, there is an upward trend of the difference between the treatment and control groups in abnormal returns after corporate donation announcements, which implies a positive effect of donation on firm valuation.

Regression results corresponding to the main estimation specification (1) (referred to as Specification 1) and the additional estimation specification (2) (referred to as Specification 2) are reported in Table 3. We identify the impact of donations on firms' abnormal returns using three different event windows: **event window (-120, 120)**, namely, the period from the 120th trading day before the date of donation (day 0) to the 120th trading day after the date of donation; **event window (-60, 60)**, namely, the period from the 60th trading day before the date of donation to the 60th trading day after the date of donation; **event window (-20, 20)**, namely, the period from the 20th trading day before the date of donation to the 20th trading day after the date of donation.

Panel A of Table 3 presents the estimation results obtained using all those non-state-controlled firms that did not donate as the control group (referred to as Control Group 1). We find that, for both Specifications 1 and 2, the impact of donation on firms' abnormal returns is positive and statistically significant for each of the three event windows. In terms of the magnitude of the impact, compared with the control group, donation leads to an average increase in firms' daily abnormal return by around 0.30%.

One may be concerned that the donation decision by firms could be endogenous. For example, firms in the treatment group tend to be larger firms or firms with better performance, which might lead to biased estimation of the donation effect. To address this concern, we attempt to form a matched control group wherein firms have similar propensity to make quake donations

as do the donor firms. To do so, as a first step, we look into the possible determinants of firms' donation decision. We consider several types of potential determinants: (1) companies' prior stock market performance; (2) companies' accounting-based performance; (3) whether a firm is engaged in a consumer-oriented industry; companies operating in consumer-oriented industries may be more likely to donate because they tend to use donation as an advertisement strategy to win over prospective customers; (4) how long a company has been listed; it is likely that more newly listed firms have a stronger propensity to donate to build up their corporate images; (5) whether a company operates in the quake region; on the one hand, a company from the quake region could incur losses during the earthquake, which might curb its ability to donate; on the other hand, a company from the quake region could have a stronger sense of social obligation to donate for the welfare of the local community; (6) some other firm attributes such as firm size and corporate leverage; larger firms with higher visibility and social influence are more likely to take the lead in quake donation; firms with a higher leverage may have less cash reserve available for quake donation.

As shown in Table 4, a firm is less likely to donate if it has been listed for a longer period of time, if it is smaller in operating income (firm size), if it has a higher ratio of debt to assets (leverage), and if it is not based in the primary quake regions (i.e., Sichuan and Chongqing). A higher leverage ratio curbs donation probably because the burden of debt repayment reduces the amount of cash reserve available for donation purpose. Companies in quake regions have a stronger sense of obligation to make donations. Noticeably, a firm's donation decision is not related to or shaped by its mean abnormal return experienced in the one-month trading period immediately before the earthquake donation (i.e., trading period (-20, 0)), or the mean abnormal return experienced in the trading period (-60, 0), or the mean abnormal return experienced in the

trading period (-120, 0). At the same time, companies' accounting-based performance measure, return on assets (ROA), does not produce statistically significant effects on the likelihood of donation. Both findings alleviate the concern of reverse causality, namely, firms with better prior stock performance or accounting performances are more likely to donate and hence display the positive impact of donations on abnormal returns.

Based on the probit regression results of Table 4, we construct an alternative control group using the propensity score matching method (Kernel matching approach). Specifically, we first estimate the probability of a firm making donation using those essential determinants in Table 4, specifically, the logarithm of mean operating income over the years of 2005 to 2007, the number of years since a firm's listing, debt to assets ratio, industry dummy variables and province dummy variables (see Appendix Table A1 for the Probit regression results). Then, for each firm in the treatment group, we select a group of firms with similar propensity to donate but did not make donations as its control group (referred to as Control Group 2). As indicated in Appendix Table A2, the matched groups do not exhibit statistically significant differences in these important firm characteristics, and hence the quality of the matching is quite good.

Panel B of Table 3 summarizes the results obtained using Control Group 2. Clearly, our main results regarding the positive impact of donation on a firm's abnormal returns remain robust to the use of the matched control group. The magnitude of the impact remains similar.

It is noteworthy that the utilization of DID estimation in event study can help improve inference. First, confirming parallel pre-treatment (i.e., pre-donation) trends is especially helpful to relatively long event window analysis. Evidence that abnormal returns to treated and control firms are similar outside the event window will reinforce the conclusion that the divergence in stock performance during the event window is due to the differences in making donations or not.

Second, a relatively longer event window allows more time and chances for firm characteristics, which are not captured by event study, to affect returns. By comparing stock performance of donor firms with that of non-donor firms, especially that of Control Group 2 that is formed on the basis of similarity in some key firm attributes, we would substantially reduce the likelihood of this situation happening.

5.2 Robustness Checks

In this subsection, we report the results of a series of robustness checks about the donation effect on abnormal returns carried out to address various concerns about our estimation.

First, we exclude from our sample those firms located in the primary quake regions hit hard by the earthquake (Sichuan and Chongqing). The performance of those firms was likely to be adversely affected by the quake. Meanwhile, due to their proximity to the site of earthquakes, those firms were more inclined to make donation than firms from unaffected regions because of social pressures or their obligations to local community (shown in Table 4), but the market reaction to their donations might not be strong as their donations were well anticipated and might not signal much to the market. Having a majority of those firms in the treatment group would under-estimate the impact of donations on abnormal returns. As shown in Panel A of Table 5, our results remain robust to the exclusion of Sichuan and Chongqing-based firms.

Second, we focus our analysis on the sample of firms that made donations, and use those firms that donated later as the control group for those that donated earlier. This can further control for the effects of the unobservable differences in firm attributes between donor and non-donor firms on their stock market performances. As shown in Panel B of Table 5, we find that the daily abnormal return of firms making donation earlier turns out to be on average slightly larger in

magnitude than in Table 3 (0.32-0.33% as opposed to 0.30% reported in Table 3)**.** Combined with our earlier results in Table 3, the message is that corporate donation helps improve stock market performance, and firms that made donations earlier obtained better market reactions.

Third, we drop those firms which donated beyond two weeks after Wenchuan earthquake from our sample. Since the CCTV philanthropic party held on May 18th (nearly one week after the quake) serves as an influential public call for corporate donations from the government, we treat the first two post-quake weeks as the peak period of donation, and donations made after the first two weeks are off-peak ones. As firms observed that those making donations enjoyed positive stock market reactions, they might have followed suit as a strategy to boost their market performance. Thus, the inclusion of those firms making donations beyond two weeks after the earthquake may lead to some endogeneity problem. In our sample, 383 out of 740 firms in the treatment group donated in the first week after Wenchuan earthquake, 224 firms donated in the second week afterwards, and the remaining 133 firms donated beyond two weeks after the earthquake. As shown in Panel C of Table 5, our findings remain robust to the exclusion of those 133 firms that donated more than two weeks after the earthquake, with the magnitude of the impact remaining largely similar.

Fourth, so far in our analysis we use daily stock returns to calculate daily abnormal returns over different time windows. As a robustness check, we follow Lee (1999) and Lee and Mas (2012) to calculate monthly cumulative abnormal returns (namely, the sum of daily abnormal returns in each period of 20 trading days for each firm). The monthly abnormal return is expected to be less volatile than the daily abnormal return. As shown in Panel D of Table 5, the impact of donation on the firm's cumulative abnormal returns remains positive and statistically significant, with the

magnitude of the impact being approximately 3.3-3.4%. In other words, quake donations could generate an average cumulative abnormal return of around 3.3-3.4% per month for donor firms.

Fifth, so far the key independent variable of our analysis is a dummy variable indicating whether a listed firm donated or not. Part of the reason for using this dummy variable is that some of the donations were in-kind donations and were difficult to monetize and compare their value. In our robustness check, we separate our donor firm sample into two subsamples: in-kind donations and cash donations. Out of 740 firms that made donations, 635 made cash donations while 105 firms had in-kind donations. Among those that made cash donations, the average size of donation was RMB 3.2 million, with the minimum of RMB 1.8 thousand and the maximum of RMB 211 million. For the subsample of cash-donation firms, we use the amount of donation scaled by the firm's operating income as the key independent variable.

Panel A of Table 6 presents the results for the subsample of cash donation firms where the control group is all the non-donor firms. It is shown that with one percentage point increase in the proportion of donation in the firm's operating income, the daily abnormal return increases by approximately 0.11% on average. Panel B in Table 6 presents the results for the subsample of in-kind donation firms with all the non-donor firms as control group firms. Surprisingly, in-kind donations have no significant effect at all on abnormal returns. Panel C of Table 6 restricts the analysis to the subsample of donor firms, and compares the market reactions to cash donations with those to in-kind donations. The results further confirm that cash donations generated a significantly larger market reaction than did in-kind donations.

One possible reason is that in-kind donations might signal a shortage of cash holdings of the firm, which canceled out to some degree the positive message of donations to the market. In-kind donations can also suggest a lack of sincerity on the part of donor firms in assisting governments

in fulfilling social objectives. For example, firms might use their inventory of surplus products or surplus intermediate goods as donations.

In Appendix Table A3, we present some more regression results that examine the effects of donation size on market reactions. We use the ratio of the amount of donation to operating income as a measure of donation size. Panels A, B and C focus on the subsample excluding firms in the quake regions (Sichuan and Chongqing) with all the remaining non-donor firms as control group firms, the subsample of donor firms (using firms that donated later as control group for the ones that donated earlier), and the subsample dropping those firms that donated beyond two weeks after the occurrence of the quake (with all the remaining non-donor firms as the control group), respectively. The key explanatory variable, *Donation Size*, produces statistically significant and positive estimated coefficients.

5.3 Donations under China's Authoritarian State Capitalism

The significant positive market reactions to corporate donations can be subject to different interpretations. However, two lines of argument are noteworthy. Firstly, donations can improve corporate image as a socially responsible firm to the public, and the public, especially consumers, would reward donor firms with more purchases of the firms' products. Secondly, corporate donations to the government-favored cause may signal corporations' allegiance and support to governments and bureaucrats, which will help them win government support in future business operations. This is especially important for business survival and growth under China's authoritarian state capitalism.

The first explanation is a conventional argument for corporations to carry out donations to improve corporate image, and an improved perception of donor firms by the public often serves as

an advertisement for the products of the donor firms. The second explanation particularly points to the statuses of and the roles played by non-state-controlled corporations under China's state capitalism. Unlike other socialist economies in the former Soviet Union and Central and Eastern Europe, China has adopted a gradual approach to restructuring and privatizing its state-owned enterprises. China keeps SOEs to fulfill multiple responsibilities aside from economic growth, such as maintaining social stability, which is beneficial to all firms in the economy, while it allows for the emergence and development of privately-owned enterprises which have comparatively high productivity and contribute considerably to economic growth (see, for example, Bai, Li, Tao, and Wang, 2000). Even after nearly four decades of economic reforms, China still keeps a sizable proportion of SOEs in terms of both output and employment.

SOEs in Chinese-style state capitalism involve not only lower productivity possibly due to their multiple responsibilities and the associated low-powered incentive contracts, but also enjoy administrative monopoly, which presumably arises from distorted input and output markets in favor of SOEs and against their privately-owned counterparts. It is also possible that there is a lingering ideological bias against the development of private enterprises due to the gradual approach taken by China in economic reforms. Thus, non-state-controlled enterprises do not face a level playing field in business operations but encounter a series of governments' discriminatory policies against them. Indeed, it was only until 2004 (around 26 years after the beginning of economic reforms in China) when China incorporated the protection of private properties into its constitution. As stated in Section 2, there are both anecdotal evidence and systematic studies suggesting that non-state-controlled enterprises are discriminated against in both the input markets (such as access to external finance) and output markets (such as in government procurements).

The administrative monopoly power enjoyed by SOEs has squeezed the fields for the business of non-SOEs in China. How can non-SOEs in the Chinese economy dominated by the influence of the government get back the level playing field? One important way can be for non-state-controlled firms to actively participate in the government-favored causes to help the governments to fulfill their social and political objectives. This will help non-state-controlled firms to signal their political allegiance to the governments and bureaucrats. Then, the latter will be more likely to treat the former as trustworthy and reliable non-state-controlled firms that can assist in achieving socioeconomic goals, and consequently reduce or eliminate discriminations against those firms as a reward. Corporate donations to the campaign of quake relief and quake region restructuring are exactly one prominent example of this type of behavior. Indeed, there is anecdotal evidence suggesting that by conducting philanthropic activities to government-favored causes and showing their allegiance to the government, China's privately-owned firms might possibly alleviate the discrimination they encounter in both input and output markets.[4]

In order to distinguish these two types of explanations, we can carry out two types of analysis. Firstly, we examine the differences in market reactions to corporate donations made by non-state-controlled firms operating in regions which exhibit different degrees of government control over markets. If the second explanation is the primary reason, it is reasonable to conjecture that when bureaucrats have more discretion on resource allocation in their administrative region, the positive impact of donation on firms' valuation is expected to be more salient because bureaucrats can rectify discriminatory treatments and restore equal treatments to the donor firms. Regions with a greater degree of government intervention in the economy and bureaucratic corruption are

[4] Earlier studies such as Bai, Lu and Tao (2006) suggest that private firms can have easier access to external finance by making donations.

expected to have a higher level of bureaucratic discretion and generally have more discrimination against non-state-controlled firms in the first place. In China's transition economy, government intervention in the regional economy typically relies considerably on SOEs to fulfill socioeconomic objectives; bureaucratic corruption may aggravate discrimination against privately-owned enterprises as discriminatory regulations force or induce private entrepreneurs to bribe bureaucrats in order to obtain permits for business operation, etc. Both contribute to the non-level playing field for privately-owned enterprises.[5] At the same time, these are also the regions where government officials have more discretion in providing a level playing field for those non-state-controlled donor firms that cooperate with them. If the first explanation is the driving force, however, the effect of donations on corporate image to the public is unlikely to vary much across regions with different government institutional features, and we do not expect to observe significant differences in market reactions to donations by firms operating in different regions.

Secondly, we can carry out a relatively direct test of the first explanation by comparing the market reactions to quake donations made by firms engaged in consumer-oriented industries with those in non-consumer-oriented industries. If the first explanation holds, we expect to observe stronger market reactions to quake donations in consumer-oriented industries than in non-consumer-oriented ones. If the second explanation is the main reason, the effect of government influence on business operation is less likely to vary much between consumer and non-consumer-oriented industries.

To conduct the tests, we first use a well-known index of regional government intervention developed by National Economic Research Institute (NERI) (2007) to separate regions into two

[5] Indeed, there are a lot of studies documenting the existence of regional variations in economic institutions and its impacts on firm performance and economic growth (see Du, Lu and Tao, 2014 for a review of their work in this area).

groups, one with lower (below mean) government intervention and the other with higher (above mean) government intervention. We carry out regression analysis of the donation effect with the non-donor firms as control group in the subsample of regions with lower government intervention and that of regions with higher government intervention, respectively. As shown in Table 7, we do not find any impact of donations on abnormal returns of non-state-controlled donor corporations located in the regions with a lower degree of government intervention, compared with the non-state-controlled non-donor firms in these regions. In stark contrast, non-state-controlled donor corporations in the regions with higher government interventions enjoyed a significant daily average premium in abnormal returns of approximately 0.7% in the post-donation period.

Next, we construct a corruption index using the information obtained from the Survey of China's Private Enterprises dataset.[6] Specifically, it is the proportion of private entrepreneurs in a region answering "Yes" to a question concerning whether it is necessary for the region to have stricter policies against government corruption, with a higher value of this variable (denoted by *Government Corruption*) indicating a higher level of bureaucratic corruption. We define all those regions with the value of corruption index higher than the national mean value as higher corruption regions, and the remainder as the lower corruption regions, and repeat our analysis for these groups of regions separately.

As shown in Table 8, we do not find any significant impact of donation making on abnormal returns of non-state-controlled corporations located in the lower-corruption regions, compared with the non-state-controlled firms making no donation in these regions. However, non-state-controlled donor corporations in higher-corruption regions enjoyed a daily average abnormal

[6] For more details about this survey data, please see, for example, Li, Meng, Wang, and Zhou (2008), and Lu and Tao (2009).

return premium of around 0.5% in the post-donation period relative to the non-donor non-state-controlled firms in these regions. In Appendix Tables A4 and A5, we examine the market reactions to in-kind donations of firms in different provinces. From Appendix Table A4, we observe that firms with in-kind donations operating in regions with higher government intervention displayed significantly higher abnormal returns in all the event windows, i.e., (-20, +20), (-60, +60), (-120, +120). In Appendix Table A5, firms with in-kind donations in higher-corruption regions displayed significantly higher abnormal returns in the longer event windows of (-60, +60) and (-120, +120).

Finally, as a direct test of the first explanation, we conduct regression analysis for the subsample of non-state-controlled firms operating in consumer-oriented industries and the subsample of non-state-controlled firms in non-consumer-oriented industries, respectively. Appendix Table A6 lists a group of industries that are regarded as consumer-oriented ones. Appendix Table A7 presents the regression results for firms operating in the two types of industries. Clearly, the market reactions to donations in non-consumer-oriented industries were statistically significant and positive. In contrast, the market reactions to quake donations of firms in consumer-oriented industries were negative albeit statistically insignificant. This finding reinforces our conclusion that the improvement in public image of donor firms as an advertisement to consumers is unlikely to be the dominating factor in driving positive market reactions.

In summary, we find that only in regions with weaker economic institutions did non-state-controlled corporations enjoy significant positive market reactions to their donations after the Wenchuan earthquake. These striking results suggest that the improvement in corporate image for non-state-controlled firms to be regarded as socially responsible firms in the eyes of consumers is unlikely to be the driving force for positive market reactions to quake donations. The benefits of corporate image improvement should be closely tied to consumers, and are not likely to vary

significantly across regions with variations in economic institution strength. Instead, the expected benefits of gaining level playing fields are likely to be the primary force behind positive market reactions. This is quite intuitive once we understand the unique situation of non-SOEs in an economy where SOEs remain dominant in the market and favored by the government. Presumably, in those regions with poorer economic institutions (more government intervention and more bureaucratic corruption), government officials have more discretion in resource allocation and in the economic decision making process. They typically exercise more vehemently their power to intervene in economic activities, give more favorable treatments to SOEs which can help them to fulfill their political and social goals, and hence non-SOEs encounter more severe discrimination from local governments. Nonetheless, if non-SOEs make donations, they can show their allegiance to the local governments, win trust from bureaucrats, and gain a level playing field. In other words, donations help alleviate some of the discrimination private entrepreneurs face in the input and output markets vis-a-vis their state-owned counterparts. In regions with weaker economic institutions, the benefits from achieving a level playing field are more striking, and hence the significantly positive market reactions to donations by these non-SOEs.

Thus, it is reasonable to interpret our findings as suggesting that one important way to get back the level playing field is for non-state-controlled firms to actively participate in the government-favored causes to help the governments to fulfill their social and political objectives. Then these non-state-controlled donor firms are more likely to be treated as trustworthy and reliable ones that can assist in achieving socioeconomic goals, and consequently discrimination against them is reduced or even eliminated as a reward. Corporate donations to the campaign of quake relief and quake region restructuring are exactly one prominent example of this type of behavior.

One case is a family-controlled firm, Tianjin Rongcheng United Iron and Steel Group Company Limited.[7] The boss, Mr. Zhang Xiangqing, is a native of Tangshan. In the tragic Tangshan earthquake in 1976, he himself survived but lost his parents. In the 1990s, he and his wife gradually built up a business and developed it into one major private enterprise in Tianjin. In the wake of the Wenchuan earthquake, the couple first donated 30 million yuan. They were picked by the Tianjin government to be recommended to participate in the CCTV donation party held on May 18, 2008. On the site they decided to raise the amount of donation to 100 million yuan. His action caught a great deal of public attention because this orphan of Tangshan earthquake made a big donation to the Wenchuan earthquake victims out of his sympathy and similar painful experiences in the past. The Party chief of Tianjin municipality at that time, Mr. Zhang Gaoli, expressed appreciation of his generosity on behalf of Tianjin government and Tianjin people. Following the donation, Mr. Zhang's company received quite a few awards and quite much government support. The company received financial support from the Ministry of Finance for its waste water processing project in 2008; it was designated as a model large-scale enterprise by the Ministry of Industry and Information Technology, and received financial support from the Ministry of Finance in 2009; the company's steel products were designated as famous-brand products of Tianjin municipality in 2009; the company was designated as the firm with trustworthy product quality and the firm with satisfactory product quality by the General Administration of Quality Supervision, Inspection, and Quarantine of China in 2009, etc. Compared with the pre-quake period, the frequency and the level of the government awards, certification, and support the company received after the earthquake were undoubtedly considerably higher. This helped the

[7] This case is based on the information contained in several news reports published by Chinese official media and introductions to the company.

company to regain a level playing field, and it has become the largest privately-owned firm in Tianjin.

Another case is Alibaba Group, an influential Chinese e-commerce company. When it launched the largest U.S. initial public offering (IPO) in New York on September 19, 2014, the company's executive chairman, Mr. Jack Ma, talked in his interview with Bloomberg about his philosophy of how a company deals with the Chinese government.[8] In his opinion, it is a great opportunity for a company if it can deal with the government and bureaucrats well, communicate with them, listen to their problems, solve their problems, and tell them the company's problems. This is the way that Alibaba survived in the past fifteen years. He emphasized that a company should be in love with the government and bureaucrats, but should not marry them. It is his philosophy that a company should make sure that it solves the problems the government wants to solve.

Alibaba did do this after the Wenchuan earthquake. On May 19, 2008, Alibaba announced to donate 25 million yuan to form a foundation to support the reconstruction of the quake-hit areas in Qinghai and Sichuan provinces. In November 2008, Alibaba donated another 5 million yuan to the state-run China Foundation for Disabled Persons for the rehabilitation and training of disabled quake victims.[9]

More recently, many private Chinese conglomerates are pouring billions of dollars into President Xi Jinping's drive to raise the incomes of every adult in China above the poverty line by 2020 (Financial Times, "China's Indebted Conglomerates Pile into Anti-Poverty Push", August 3,

[8] The interview is available at https://www.youtube.com/watch?v=CcWmPA-2Xh0

[9] Actually, this amount of donation is not small compared with the donations of most of the listed companies. Only 11 Chinese listed companies donated more than 25 million yuan in the wake of the Wenchuan earthquake.

2018). These conglomerates have pledged to invest heavily in the scheme, which represents a substantial increase in charitable spending for the companies, although the amounts of money pledged remain small as a proportion of their total assets. It is believed that these conglomerates are contributing to this anti-poverty campaign to show their political allegiance and cooperativeness, and to win trust and business opportunities from the Chinese government. For instance, Alibaba has pledged RMB10 billion towards anti-poverty efforts with the purpose of spreading ecommerce into remote areas. Agricultural conglomerate New Hope is spending RMB 2 billion on pig-breeding projects. Some other conglomerates such as Evergrande, Fosun, Wanda, and Hainan Airlines are also investing substantially in the anti-poverty projects. These companies were heavily indebted and under mounting regulatory pressures and political criticisms for their overseas acquisitions financed by domestic borrowing amid China's corporate deleveraging campaign in recent years. It is believed that their participation in the anti-poverty efforts is mainly for the purpose of reducing the regulatory pressures on their highly leveraged capital structure by showing their loyalty to and cooperativeness with the CCP leadership. Clearly, contributions to and investment in poverty reduction campaign help governments to fulfill their socioeconomic development strategy, and the government system would find these privately-controlled conglomerates more trustworthy and cooperative.

It is noteworthy that the finding on the stronger market reactions for firms that donated within two weeks after the quake also reinforces our main argument. Donations of non-state-controlled firms serve as a signal of political allegiance. Those firms that donated earlier demonstrated stronger initiatives and activeness in helping governments and bureaucrats fulfill their social objectives, which could be more appreciated by government officials and would reap more benefits from retrieving a level playing field.

5.4 How did Donations Affect Firms' Long-term and Short-term Performances?

In this subsection, we try to understand how donations bring about benefits to non-state-controlled firms and thus allow them to enjoy abnormal returns after making donations. To answer this question, we investigate whether donor firms experienced improvements in their short-term and long-term performances, which could then justify the positive stock market reactions to their quake donations.

We first look at several broad indicators of firm performances, i.e., total sales, total costs and the ratio of total sales to total costs. Total sales and total costs can provide information on the scale of business operations. More specifically, an increase in total sales of a donor firm can stem from the fact that consumers welcome the donor firm's products. It can also result from more favorable treatments from governments as they are granted more government procurement contracts, etc. We use the ratio of total sales to total costs as a proxy for firm profitability, mainly because profit figures are typically subject to various accounting and tax adjustments and firms may purposely distort profit figures for tax evasion reasons, etc.

As shown in Panel A of Table 9, when examined over the long period of 2005-2011, i.e., three years before and after the earthquake and donation, those non-state-controlled donor corporations, compared with those non-state-controlled non-donor firms, enjoyed a 42% increase in sales, 22% increase in total costs, and 18% increase in the log ratio of sales to costs.

Next, we further explore the underlying factors that contributed to the improvement in donor firm performances. Because of data limitations, we focus on several variables for which data are available and can potentially shed light on the importance of government-business relationship in shaping corporate performances. First, bank loans. Provided it is widely documented that privately-owned firms are discriminated against in gaining access to loans from the predominantly

state-controlled banking system, this is probably the most striking indicator of how well the non-state-controlled donor firms are treated in this key factor market compared with their non-donor counterparts. An increase in the size of bank loans obtained may well reflect that donor firms were successful in retrieving a level playing field to some degree. Second, the size of ongoing projects. An increase in the size of ongoing projects largely indicates getting new business opportunities and achieving business expansion, and part of this expansion may come from receiving government procurement contracts. The other two variables are fixed assets and total assets. An increase in fixed assets and/or total assets can also reflect business expansion to a large extent. In this sense, these two variables can complement the size of ongoing projects in partially capturing the opportunities of business expansion and public procurement contracts in the post-donation period.

As shown in Panel A of Table 9, underlying the increase in sales, those non-state-controlled firms enjoyed a considerable increase of 67% in the total amount of loans, experienced a substantial increase (78%) in the size of ongoing projects, and registered an impressive increase in assets (41% increase in total fixed assets and 19% increase in total assets) relative to their non-donor counterparts.

To understand better the role of government-business relationship in shaping donor firm performances, we further examine the effects of donation on the performances of non-state-controlled firms operating in regions with different strengths in economic institutions.

Panels B and C show how quake donations affect the long-term performances of non-state-controlled corporations operating in regions with lower government intervention and higher government intervention, respectively. While donor companies in both types of regions experienced statistically significant increases in the costs, fixed assets and total assets, those donor

corporations located in regions with a higher degree of government intervention displayed statistically significant increases in the sales to cost ratio and the size of ongoing projects.

Panels D and E carry out the similar analysis for non-state-controlled firms operating in regions with a lower and a higher degree of corruption, respectively. Donor firms in both types of regions displayed a significant increase in costs, the ratio of sales to costs, fixed assets and total assets. Donor companies in less corrupted regions also displayed a significant increase in the size of ongoing projects. Moreover, the increases in donor firms' sales, costs, the ratio of sales to costs, bank loans, fixed assets and total assets are larger in magnitude in more corrupted regions than in less corrupted regions.[10]

Table 10 presents the regression results on the long-term performances around donations in the matched samples, i.e., donor firms and their matched control firms. It is interesting that log of sales is significantly larger for donor firms than for non-donor firms, and donor firms in higher-government-intervention provinces and higher-corruption provinces have larger sales values than do those matched non-donor companies. Other results remain qualitatively equivalent to those of Table 9.

Hence, with the exception of ongoing projects in lower-corruption provinces, corporate donations brought about much more impressive improvements in long term performance for non-state-controlled firms located in regions with poorer institutions compared with those in regions with better institutions.

To understand the effects of quake donations on corporate performance further, we repeat the analysis for a shorter time period, 2007-2009, i.e., one year before and after the earthquake and

[10] In unreported results, we conduct Chow tests and find that the estimated coefficients of these variables mentioned are statistically significantly different between the high and low government intervention regions and between the high and low corruption regions.

donation. As shown in Panel A of Table 11, compared with those non-state-controlled firms that did not make any donation, those non-state-controlled donor firms enjoyed significant increases of 24% in sales and 12% in total costs; they achieved a 12% increase, albeit statistically insignificant, in the log ratio of sales to costs. Underlying the increase in sales, those non-state-controlled donor firms, relative to their non-donor counterparts, experienced a substantial increase (72%) in the size of ongoing projects, and displayed modest increases in assets (21% increase in total fixed assets). Panels B-E show that, generally speaking, quake donations produced stronger impacts on short-term performance of firms located in regions with poorer institutions than those in regions with better institutions, although some of those impacts are statistically insignificant possibly due to the shorter time duration and the smaller number of observations in regression analysis.

In Table 12, we carry out the short-term performance analysis based on the matched sample. The results are largely similar to those in Table 10. Corporate sales increased significantly more for donor firms in higher-corruption provinces than in lower-corruption provinces. The ratio of sales to costs of donor firms increased significantly in the post-quake year for the whole matched sample, and donor firms in provinces with higher government interventions enjoyed a significant increase in the sales-to-costs ratio than their non-donor matched control firms. This strengthens the findings from Table 10 that donations brought more benefits to firms operating in provinces with more government intervention. At the same time, the size of fixed assets and total assets increased more significantly by donor firms in provinces with lower government intervention and lower corruption. We need to take a balanced view of the strengths and limitations of the short-term performance changes. On the one hand, they are likely to reflect more closely the effects of

corporate donation making; on the other hand, many benefits of donation may take time to realize so that the long-term performance changes around donation may be more informative in this sense.

In order to improve the consistency of estimates, we conduct the panel GMM estimation by using the lagged regressors as instrumental variables. The results are presented in Table 13. Compared with the results in Table 9, Table 13 shows that donor firms in provinces with higher government intervention or higher corruption enjoyed more significant or larger increases in sales than did non-donor firms in the three years after making donations. Moreover, the contrast in the proxy measure of profitability, i.e., the sales-to-costs ratio, between provinces with higher corruption and those with lower corruption becomes more striking. Donor firms in lower-corruption regions did not display significant increases in the sales to costs ratio, whereas donor firms in regions with higher corruption registered a significant increase. The other results are more or less qualitatively similar.

Taken together, our analysis shows that, by making donations, non-state-controlled listed firms were able to enjoy faster business expansion and higher profits (a result of much more increases in sales than in costs), in both the short term and the long term, which explain the significant positive market reactions they enjoyed from donation. More importantly, by comparing the performance changes of non-state-controlled donor firms in regions with different strengths in economic institutions, our results suggest that private enterprises were able to redress the discriminations they faced in both the input market (e.g., more bank loans) and the output market (e.g., more sales) through corporate donation. Consistently, such redress of discrimination is more pronounced in regions where bureaucrats have more discretionary power. The results also suggest that larger sales as a result of better corporate image of donor firms to the public is probably not the primary reason for the stronger corporate performance of donor firms.

Our analysis demonstrates the role of corporate donation as an instrument of government-business cooperation. To some extent, corporate donations bear some resemblance to bribery in that they fulfill the same goal of achieving the cooperation between bureaucrats and entrepreneurs. In corruption, entrepreneurs pay bribes to government officials to form a collusion so as to win business permits or licenses, receive loans, etc. Nonetheless, they are fundamentally different in several key features. Firstly, corporate donations contribute to the capacity of governments in the provision of public goods, whereas bribes only benefit some specific corrupted officials. Secondly, bribes target specific bureaucrats so that the reward scheme to bribe-paying entrepreneurs largely hinges on that the bribe-taking government officials remain in power. When bribe-taking bureaucrats move to work in other areas or supervise other industries, the entrepreneurs will need to explore business opportunities in these new areas or industries, or bribe new bureaucrats. In contrast, corporate donations help non-state-controlled firms and entrepreneurs to win trust from the whole government rather than specific bureaucrats, which is likely to generate a more long-lasting, more institutionalized and more stable relationship between donor firms and the government. Thirdly, the illegality and secrecy of bribery encourage corrupted officials to give undue weight to those business lines that are easy for them to grab bribes and keep their misconduct secret, e.g., infrastructure projects, etc. To keep bribe-taking secret, corrupted officials will also keep the number of entrepreneurs that they collude with as small as possible; consequently, they would discourage new business entry and competition, discourage growth and innovation, etc. (Shleifer and Vishny, 1993). In contrast, corporate donation is an apparently legal and legitimate activity, which is consistent with the world trend of growing awareness of corporate social responsibility. Thus, corporate donation involves much less inefficiency and distortion in resource allocation than does bribery.

5.5 A Comparison with Corporate Political Contributions

This study is also related to the literature on corporate political contributions in both developed countries and emerging market economies. In the U.S. and some other mature Western democracies, corporate political or campaign contributions are viewed as a powerful means of gaining access to politicians and buying influence from them. Political elections can be conceptualized as a competitive market for private benefits, and firms or other special interests can make campaign contributions to curry favor with politicians (see, for example, Grossman and Helpman, 2001). Through corporate campaign contributions, a company can help its sympathetic candidates to win elections or ingratiate itself with a candidate who is likely to win anyway. It is expected that elected officials may propose grants and procurement contracts that can directly benefit the contributing company, or vote or pressure for favorable changes in legislation or regulation which can indirectly benefit the contributing firm. The empirical findings on whether corporate contributions buy political favors remain mixed (Ansolabehere, et al., 2003; Fowler, et al., 2017). In emerging market economies, campaign contributions are also likely to help firms establish or strengthen political connections and gain favorable treatments. For example, Claessens, Feijen, and Laeven (2008) find that Brazilian firms that provided contributions to elected federal deputies in the 1998 and 2002 elections experienced higher stock returns and substantially increased their bank financing.

Although there is no meaningful political competition through elections in China's authoritarian regime, it is likely that corporate donations to disaster relief can help bureaucrats to fulfill their political objectives of achieving an efficient disaster rescue campaign and indirectly enhance the chances of these bureaucrats of keeping their official positions or getting promotion in bureaucratic hierarchy. In this sense, corporate donations to quake relief campaign might

become the *de facto* corporate political contributions that indirectly help government officials in political competition and enable the donor firms to curry favor with bureaucrats.

Nonetheless, it is important to point out that corporate donations to disaster relief in the context of China's authoritarian state capitalism are fundamentally different from corporate political or campaign contributions in democracies such as the U.S.

Firstly, corporate campaign contributions target specific political candidates running for elections. In contrast, corporate donations to disaster rescue efforts in China enable firms to share the financial burden of disaster relief with the government, especially the local government, and help the whole government apparatus to realize the goal of delivering a fast and efficient rescue campaign, which in turn helps enhance the legitimacy of the regime. Although it is likely that disaster donations can ingratiate the donor company with some specific government officials, what is more important is that the donor firm demonstrates its loyalty to and cooperativeness with the whole government system so that the government's removal of unfair treatments of the donor company would not hinge primarily on these specific officials. In this sense, corporate disaster relief donations help donor firms to gain access to the government system and to be treated as reliable and trustworthy friends of the government. [11]

Secondly, the leveling of the playing fields received by the donor firms are not equivalent to the fruits of rent seeking through campaign contribution. Under China's state capitalism, SOEs are invariably treated much better than do non-SOEs in general and thus usually enjoy rents from their privileged status in the economy. Corporate donations can help non-SOE donor firms to partially rectify the unlevel-playing field between SOEs and non-SOEs, but they do not seek and

[11] Actually, in the context of China's state capitalism, the efforts of entrepreneurs or corporations to cultivate connections to government officials are typically specific to certain bureaucrats and bear more resemblances to campaign contributions in mature democracies.

obtain additional benefits on top of what SOEs have. Moreover, the non-SOE donors typically made good use of the improved treatments in the product and factor markets and produced superior performances. This is in contrast to rent-seeking firms making campaign contributions. As shown in Claessens, Feijen, and Laeven (2008), those Brazilian firms that made campaign contributions to elected federal deputies obtained more bank loans but performed poorly, which involves efficiency losses. On the contrary, the non-SOE donor firms in our study delivered better performances after overcoming some obstacles in the product and factor markets, which contains less allocation inefficiency.

6 Conclusion

This study employs event study approach to document a strong positive market reaction to non-state-controlled listed firms that made donations to the relief campaign of Wenchuan earthquake in China in 2008, and the positive market responses were driven by companies operating in regions with a higher degree of bureaucratic discretion reflected in more government intervention and perceived corruption. The long-term post-donation firm performance changes were consistent with the favorable market reactions. Our findings suggest that non-state-controlled firms probably used quake donations, which assisted governments in fulfilling the political goal of quake relief, as an instrument to win the trust of bureaucrats and get back a level playing field under an authoritarian state capitalism model. In this sense, corporate donations or corporate social responsibility activities can serve as an instrument of government-business cooperation and help non-state-controlled donor firms win back a level playing field and a friendly business environment.

As civil society is repressed to a large extent in China's authoritarian regime, corporate donations in response to the call of the government for some major public events can fill in the void left by the weakness of the sector of non-government organizations and enhance social

welfare to some degree. Nevertheless, this type of corporate social responsibility activity may ignore many aspects that are directly beneficial to citizens but are of less concern to the government. For example, environmental protection has for a long time been a less serious concern than GDP growth for local bureaucrats so that many corporations do not pay enough attention to it. Furthermore, given the nature of corporate donation as an instrument of reciprocal exchanges of favors between entrepreneurs and bureaucrats, firm donations under state capitalism could deter the development of a fair business environment built upon rule of law, and impede the establishment of a level playing field for both state-controlled and non-state-controlled enterprises. In this sense, a return of corporate donation to its original meaning as a fulfillment of corporate social responsibility is called for.

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Table 1 Definition of Variables

This table reports the variables used in our regression analyses and their description. Data sources: D=donation information data; S= Dataset on Stock Prices and Returns in China's Capital Markets produced and maintained by the SinoFin Financial Information; C= China Stock Market and Accounting Research (CSMAR) dataset.

Variable	Description	Source
Abnormal return	Abnormal stock return	S
Donation Indicator	An indicator variable that takes value one if company i made quake donation and zero otherwise	D
Cash donation Indicator	An indicator variable that takes value one if company i made cash donation and zero if a company made in-kind donation	D
Meanabr20	Mean Abnormal Return in the 20 trading days before donation	S
Meanabr60	Mean Abnormal Return in the 60 trading days before donation	S
Meanabr120	Mean Abnormal Return in the 120 trading days before donation	S
ROA	Average value of natural logarithm of return on assets over three years before donation	D
Number of listing years	Number of years since listing	D
Operating income	Average value of natural logarithm of operating income over three years before donation	D
Consumer-oriented industry	Consumer-oriented industry indicator	D
Debt to asset ratio	Average value of natural logarithm of debt to assets ratio over three years before donation	D
Quake region firm	Quake region firm indicator taking value one if a firm is located in Sichuan or Chongqing and zero otherwise	D
Cash donation size	Donor firm i's donation value scaled by its operating income	D
Sales	Natural logarithm of total sales	C
Cost	Natural logarithm of total costs	C
Profit	Natural logarithm of the ratio of total sales to total costs	C
Asset	Natural logarithm of total assets	C
fixed asset	Natural logarithm of fixed assets	C
Loan	Natural logarithm of the sum of long and short term loans	C
Ongoing projects	Natural logarithm of the value of ongoing projects	C

Table 2 Summary Statistics of Some Key Variables

This table provides summary statistics for some key variables in the study.

Variable	Obs	Mean	Std. Dev.	Min	Max
Abnormal return	321,030	0.001	0.038	-0.555	11.647
Donation Indicator	1,387	0.596	0.491	0.000	1.000
Cash donation Indicator	827	0.672	0.470	0	1
Meanabr20	1,387	0.000	0.017	-0.042	0.565
Meanabr60	1,387	0.000	0.007	-0.051	0.188
Meanabr120	1,387	0.002	0.005	-0.043	0.094
ROA	1,362	0.100	1.451	-1.675	27.780
Number of listing years	1,387	2.161	0.507	0.693	2.833
Operating income	1,370	20.732	1.469	12.685	27.647
Consumer-oriented industry	1,370	0.142	0.350	0.000	1.000
Debt to asset ratio	1,360	-0.686	0.584	-3.086	5.769
Quake region firm	1,387	0.094	0.292	0.000	1.000
Cash donation size	1,387	0.001	0.012	0.000	0.432

Variable	Obs	Mean	Std. Dev.	Min	Max
Sales	9286	20.814	2.130	0.000	28.550
Cost	9279	20.872	1.557	12.570	28.511
Profit	9275	-0.052	1.074	-19.403	2.110
Total Asset	9292	21.534	1.473	0.000	29.160
Fixed Asset	9292	19.806	2.070	0.000	27.062
Loan	9158	17.945	6.006	0.000	25.637
Ongoing projects	9199	15.026	6.553	0.000	25.526

Table 3 Market Reactions to Corporate Donations

This table analyses the effects of corporate donations on abnormal stock returns. In Panel A, the sample includes all the donor firms (treatment group) and all the non-donor firms (control group), whereas in Panel B, the sample includes the donor firms (treatment group) and the matched control group firms. The matching is carried out through propensity score matching (kernel matching) as shown in Table A1. Regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on a trading day t in the event window. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Panel A Abnormal return (whole sample)**					
Donation Indicator$_i$ *Post$_{it}$	0.002968*	0.002976*	0.002936*	0.002955*	0.002975*	0.00273*
	(0.001525)	(0.001527)	(0.001535)	(0.001541)	(0.00158)	(0.001617)
Number of observations	319,800	319,800	147,600	147,600	49,200	49,200
Dependent variable	**Panel B Abnormal return (matched sample)**					
Donation Indicator$_i$ *Post$_{it}$	0.003085**	0.003093**	0.003053*	0.003072*	0.003180**	0.002923*
	(0.00156)	(0.001560)	(0.001569)	(0.001574)	(0.001616)	(0.001655)
Number of observations	303,680	303,680	140,160	140,160	46,720	46,720
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table 4 What Firms Made Quake Donations?

This table presents the probit regression results on the determinants of corporate quake donation making. The sample contains all the donor firms and non-donor firms. The dependent variable is an indicator variable of Donated that takes value one if a company made quake donation and zero otherwise. The explanatory variables include a host of firm attributes: Mean Abnormal Return in the 20 trading days before donation (Mean abr20) (Columns 1-5), Mean Abnormal Return in the 60 trading days before donation (Column 6) and Mean Abnormal Return in the 120 trading days before donation (Column 7), the Natural logarithm of return on Assets (ROA), Consumer-oriented industry indicator, Quake region firm indicator, Number of years since listing, Debt to assets ratio, and the Natural logarithm of operating income. ROA, Debt to assets ratio, and Natural logarithm of operating income take the mean value over the period 2005-7. The regressions sometimes control for industry dummy and/or province dummy variables as indicated. Robust standard errors are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Dependent variable	**Donated**						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Mean abr20	-0.7775	0.3164	1.2636	0.1274	0.979		
	(2.1177)	(2.4154)	(2.2654)	(2.5308)	(2.394)		
Mean abr60						-1.361	
						(6.251)	
Mean abr120							-9.138
							(9.585)
ROA	-0.0030	0.0602	0.0699	0.0878	0.0867	0.0918	0.0928
	(0.0235)	(0.1955)	(0.1931)	(0.2058)	(0.206)	(0.205)	(0.205)
Consumer oriented	-0.0365	-0.0126	0.0050				
	(0.0982)	(0.1012)	(0.1044)				
Quake region firms	0.0247	0.2279		0.2616**			
	(0.1175)	(0.1230)		(0.1299)			
Number of listing years		-0.2180***	-0.1804**	-0.2787***	-0.247***	-0.248***	-0.255***
		(0.0724)	(0.0788)	(0.0789)	(0.0860)	(0.0860)	(0.0864)
Debt to assets ratio		-0.1117*	-0.1382**	-0.0981	-0.126*	-0.125	-0.133*
		(0.0672)	(0.0692)	(0.0736)	(0.0765)	(0.0765)	(0.0770)
Operating income		0.2542***	0.2788***	0.2995***	0.331***	0.330***	0.331***
		(0.0277)	(0.0294)	(0.0317)	(0.0342)	(0.0341)	(0.0342)
Industry dummy	No	No	No	Yes	Yes	Yes	Yes
Province dummy	No	No	Yes	No	Yes	Yes	Yes
Number of observations	1,362	1,353	1,346	1,319	1,312	1,312	1,312

Table 5 Robustness Test 1, Market Reactions to Corporate Donations

This table shows the results of robustness checks on the effects of corporate donations on abnormal stock returns. In Panel A, we drop both donor and non-donor firms operating in quake regions (Sichuan province and Chongqing city) from the sample. In Panel B, the sample is restricted to the donor firms. In Panel C, we drop those donor firms which donated two weeks or longer after the quake. In Panel D, we use monthly cumulative abnormal return as the dependent variable. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on a trading day t in different event windows. The key explanatory variable, Donation Indicator_i *Post_{it}, is an interaction term of Donation Indicator_i (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post_{it} (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Panel A Abnormal return (subsample that drops quake region firms)**					
Donation Indicator_i *Post_{it}	0.003204**	0.00321**	0.003188**	0.003209**	0.003478**	0.003215*
	(0.001549)	(0.001551)	(0.001558)	(0.001564)	(0.001607)	(0.001649)
Number of observations	288,860	288,860	133,320	133,320	44,440	44,440
Dependent variable	**Panel B Abnormal return (subsample of donor firms)**					
Donation Indicator_i *Post_{it}	0.003265**	0.003266**	0.003227**	0.00323**	0.003306**	0.003312**
	(0.001582)	(0.001582)	(0.001593)	(0.001593)	(0.001644)	(0.001647)
Number of observations	192,400	192,400	88,800	88,800	29,600	29,600
Dependent variable	**Panel C Abnormal return (subsample that drops donor firms which donated two weeks or longer after the quake)**					
Donation Indicator_i *Post_{it}	0.00339*	0.003402*	0.00339*	0.003411*	0.00339*	0.003115*
	(0.00174)	(0.001743)	(0.00174)	(0.001747)	(0.00174)	(0.001784)
Number of observations	285,220	285,220	131,640	131,640	43,880	43,880
Dependent variable	**Panel D Monthly cumulative abnormal return**					
Donation Indicator_i *Post_{it}	0.0331***	0.0332***	0.0334***	0.0335***	0.0336***	0.0343***
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Number of observations	319,800	319,800	147,600	147,600	49,200	49,200
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table 6 Robustness Test 2, Market Reactions to Cash Donations and In-kind Donations

This table shows the heterogeneous effects of corporate cash donations and in-kind donations on abnormal stock returns in three subsamples. In Panel A, we drop the firms that made in-kind donations from the sample. The independent variable is Donation $Size_i$*$Post_{it}$, which is an interaction term of Donation $Size_i$ (donor firm i's donation value scaled by its operating income) and $Post_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). In Panel B, we drop the firms that made cash donations from the sample. The key explanatory variable, Donation $Indicator_i$*$Post_{it}$, is an interaction term of Donation $Indicator_i$ (an indicator variable that takes values one if company i made quake donation and zero otherwise) and $Post_{it}$. In Panel C, we restrict our sample to donor firms and compare cash donor firms with in-kind donor firms. The independent variable, Cash $Indicator_i$ *$Post_{it}$, is an interaction term of Cash $Indicator_i$ (an indicator variable that takes value one if firm i made cash donation and zero otherwise) and $Post_{it}$. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on a trading day t in different event windows. The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Panel A Abnormal return (cash donations)**					
Donation $Size_i$*$Post_{it}$	0.00108 **	0.00108**	0.00108**	0.00109**	0.00106**	0.00107**
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Number of observations	280,535	280,535	129,480	129,480	43,160	43,160
Dependent variable	**Panel B Abnormal return (in-kind donations)**					
Donation $Indicator_i$ *$Post_{it}$	0.0035	0.0036	0.0035	0.0036	0.0030	0.0026
	(0.0027)	(0.0027)	(0.0027)	(0.0027)	(0.0028)	(0.0029)
Number of observations	191,620	191,620	88,440	88,440	29,480	29,480
Dependent variable	**Panel C Abnormal return (cash versus in-kind donations)**					
Cash $Indicator_i$ *$Post_{it}$	0.00003*	0.00003*	0.00003*	0.00003*	0.00003**	0.00003**
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Number of observations	215,020	215,020	99,240	99,240	33,080	33,080
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table 7 Market Reactions to Quake Donations in Regions with High and Low Government Intervention

This table shows the heterogeneous effects of corporate donations on abnormal stock returns in different regions: low government intervention regions and high government intervention regions, respectively. We define high (low) government intervention regions as those regions with government intervention index values above (below) the sample mean across regions. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on trading day t in different event windows. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Abnormal return (low government intervention regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.002211	0.002218	0.002188	0.002207	0.00223	0.00191
	(0.00171)	(0.00172)	(0.00173)	(0.00173)	(0.00178)	(0.00183)
Number of observations	262,340	262,340	121,080	121,080	40,360	40,360
Dependent variable	**Abnormal return (high government intervention regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.006955**	0.006964**	0.006868**	0.006889**	0.006672**	0.00678**
	(0.00325)	(0.00326)	(0.00327)	(0.00329)	(0.00335)	(0.00339)
Number of observations	57,460	57,460	26,520	26,520	8,840	8,840
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table 8 Market Reactions to Quake Donations in Regions with High and Low Corruption

This table shows the heterogeneous effects of corporate donations on abnormal stock returns in different regions: low corruption regions and high corruption regions, respectively. We define high (low) corruption regions as those regions with corruption index values above (below) the sample mean across regions. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on trading day t in different event windows. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Abnormal return (low corruption regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.000592	0.000594	0.000587	0.000603	0.000573	0.000041
	(0.001993)	(0.001996)	(0.002004)	(0.002011)	(0.002082)	(0.002165)
Number of observations	157,040	157,040	72,480	72,480	24,160	24,160
Dependent variable	**Abnormal return (high corruption regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.004992**	0.005004**	0.004931**	0.004952**	0.004967**	0.004993**
	(0.00228)	(0.002284)	(0.002298)	(0.002306)	(0.002343)	(0.00237)
Number of observations	162,760	162,760	75,120	75,120	25,040	25,040
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table 9 Analysis of Firms' Long-term Performance around Donation

This table shows the effects of corporate donations on long-term firm performances (2005-2011), i.e., three years before and after quake donations. In Panel A, the analysis is conducted for the whole sample. In Panels B to E, we look at the heterogeneous effects of donations on firm performances in different regions: low-corruption regions, high-corruption regions, low-government-intervention regions and high-government-intervention regions, respectively. The dependent variables are total sales, total costs, the ratio of total sales to total costs, loan amount (sum of long and short term loans), value of ongoing projects, fixed assets, total assets, respectively, all of which are in the logarithm form. These variables are all from firms' annual financial statements. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Column	**1**	**2**	**3**	**4**	**5**	**6**	**7**
VARIABLES	**Lnsale**	**lncost**	**ln(sales/cost)**	**lnloan**	**ln(ongoing projects)**	**ln(fixed asset)**	**lnasset**
Sample	**Panel A Whole sample**						
Donation Indicator$_i$ *Post$_{it}$	0.4162***	0.2215***	0.1821**	0.6743**	0.7814***	0.4122***	0.1910***
	(0.106)	(0.048)	(0.071)	(0.305)	(0.296)	(0.103)	(0.053)
Observations	9,286	9,279	9,275	9,158	9,199	9,292	9,292
Sample	**Panel B Firms in low government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.3680***	0.2254***	0.1270	0.5038	0.4481	0.3591***	0.2023***
	(0.129)	(0.060)	0.086	(0.386)	(0.388)	(0.118)	(0.073)
Observations	5,849	5,845	5,843	5,733	5,766	5,853	5,853
Sample	**Panel C Firms in high government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.4831***	0.2189***	0.2536**	0.9002*	1.3080***	0.4850***	0.2189***
	(0.179)	(0.080)	0.118	(0.487)	(0.461)	(0.186)	(0.080)
Observations	3,437	3,434	3,432	3,425	3,433	3,439	3,434
Sample	**Panel D Firms in low-corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.3730***	0.1937***	0.1596*	0.5162	1.2787***	0.3932***	0.1529**
	(0.131)	(0.064)	0.087	(0.376)	(0.380)	(0.144)	(0.065)
Observations	5,456	5,451	5,449	5,427	5,452	5,459	5,459
Sample	**Panel E Firms in high-corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.4803***	0.2634***	0.2152*	0.8975*	0.0187	0.4397***	0.2494***
	(0.178)	(0.073)	0.120	(0.514)	(0.471)	(0.138)	(0.088)
Observations	3,830	3,828	3826	3,731	3,747	3,833	3,833
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 10 Analysis of Firms' Long-term Performance around Donation (matched sample)

This table shows the analysis of the effects of corporate donations on long-term firm performances (2005-2011) in five panels using the matched sample. In Panel A, all donor firms and their matched controls are included in the sample. In Panels B to E, we look at the heterogeneous effects of donations on firm performances in different regions: low corruption regions, high corruption regions, low government intervention regions and high government intervention regions, respectively. The dependent variables are total sales, total costs, the ratio of total sales to total costs, loan amount (sum of long and short term loans), value of ongoing projects, fixed assets, total assets, respectively, all of which are in the logarithm form. These variables are all from firms' annual financial statements. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Column	1	2	3	4	5	6	7
VARIABLES	**lnsales**	**lncost**	**ln(sales/cost)**	**lnloan**	**ln(ongoing projects)**	**ln(fixed asset)**	**lnasset**
Sample	**Panel A Whole sample**						
Donation Indicator$_i$ *Post$_{it}$	0.3791***	0.2156***	0.1597***	0.5480*	0.8613***	0.3898***	0.2166***
	(0.097)	(0.048)	(0.062)	(0.304)	(0.299)	(0.100)	(0.044)
Observations	8,706	8,701	8,699	8,649	8,675	8,708	8,708
Sample	**Panel B Firms in low government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.3394***	0.2387***	0.1016	0.4189	0.5291	0.3630***	0.2629***
	(0.107)	(0.060)	(0.065)	(0.379)	(0.392)	(0.110)	(0.052)
Observations	5,394	5,390	5,390	5,344	5,367	5,394	5,394
Sample	**Panel C Firms in high government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.4363**	0.1870**	0.2370**	0.7028	1.3836***	0.4266**	0.1466*
	(0.176)	(0.080)	(0.115)	(0.495)	(0.461)	(0.186)	(0.078)
Observations	3,312	3,311	3,309	3,305	3,308	3,314	3,314
Sample	**Panel D Firms in low-corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.3477***	0.2059***	0.1386*	0.5506	1.4688***	0.4353***	0.2143***
	(0.121)	(0.065)	(0.076)	(0.376)	(0.384)	(0.147)	(0.055)
Observations	5,226	5,222	5,222	5,197	5,219	5,226	5,226
Sample	**Panel E Firms in high-corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.4307***	0.2325***	0.1937*	0.5142	-0.0762	0.3222***	0.2215***
	(0.160)	(0.072)	(0.104)	(0.515)	(0.471)	(0.120)	(0.073)
Observations	3,480	3,479	3,477	3,452	3,456	3,482	3,482
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 11 Analysis of Firms' Short-term Performance around Donation

This table shows the analysis of the effects of corporate donations on short-term firm performances (2007-2009), i.e., one year before and after donation, in five panels. In Panel A, the analysis is conducted for the whole sample. In Panels B to E, we look at the heterogeneous effects of donations on firm performances in different regions: low corruption regions, high corruption regions, low government intervention regions and high government intervention regions, respectively. The dependent variables are total sales, total costs, the ratio of total sales to total costs, loan amount (sum of long and short term loans), value of ongoing projects, fixed assets, total assets, respectively, all of which are in the logarithm form. These variables are all from firms' annual financial statements. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Column	**1**	**2**	**3**	**4**	**5**	**6**	**7**
VARIABLES	**lnsales**	**lncost**	**ln(sales/cost)**	**lnloan**	**ln(ongoing projects)**	**ln(fixed asset)**	**lnasset**
Sample	**Panel A Whole sample**						
Donation Indicator$_i$ *Post$_{it}$	0.2370**	0.1174***	0.1246	0.3048	0.7197**	0.2107*	0.0576
	(0.112)	(0.042)	(0.085)	(0.321)	(0.350)	(0.120)	(0.070)
Observations	4,112	4,110	4,110	4,051	4,062	4,112	4,112
Sample	**Panel B Firms in low government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.1706	0.0985*	0.0722	0.2694	0.1677	0.1699	0.0336
	(0.144)	(0.054)	0.111	(0.424)	(0.472)	(0.148)	(0.112)
Observations	2,629	2,628	2,628	2,574	2,580	2,629	2,629
Sample	**Panel C Firms in high government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.3211*	0.1449**	0.1886	0.2962	1.6014***	0.2433	0.0897
	(0.177)	(0.065)	0.131	(0.481)	(0.511)	(0.204)	(0.068)
Observations	1,483	1,482	1,482	1,477	1,482	1,483	1,483
Sample	**Panel D Firms in low-corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.2283*	0.1007*	0.1278	0.1427	1.2333***	0.2387	0.0229
	(0.118)	(0.056)	0.084	(0.403)	(0.456)	(0.168)	(0.099)
Observations	2,362	2,361	2,361	2,344	2,357	2,362	2,362
Sample	**Panel E Firms in high-corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.2497	0.1384**	0.1232	0.5376	-0.0214	0.1663	0.1061
	(0.216)	(0.062)	0.170	(0.521)	(0.542)	(0.163)	(0.096)
Observations	1,750	1,749	1,749	1,707	1,705	1,750	1,750
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 12 Analysis of Firms' Short-term Performance around Donation (matched sample)

This table shows the analysis of the effects of corporate donations on short-term firm performances (2007-2009) in five panels using the matched sample. In Panel A, all donor firms and their matched controls are included in the sample. In Panels B to E, we look at the heterogeneous effects of corporate donations on firm performances in different regions: low-corruption regions, high-corruption regions, low government intervention regions and high government intervention regions, respectively. The dependent variables are total sales, total costs, the ratio of total sales to total costs, loan amount (sum of long and short term loans), value of ongoing projects, fixed assets, total assets, respectively, all of which are in the logarithm form. These variables are all from firms' annual financial statements. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

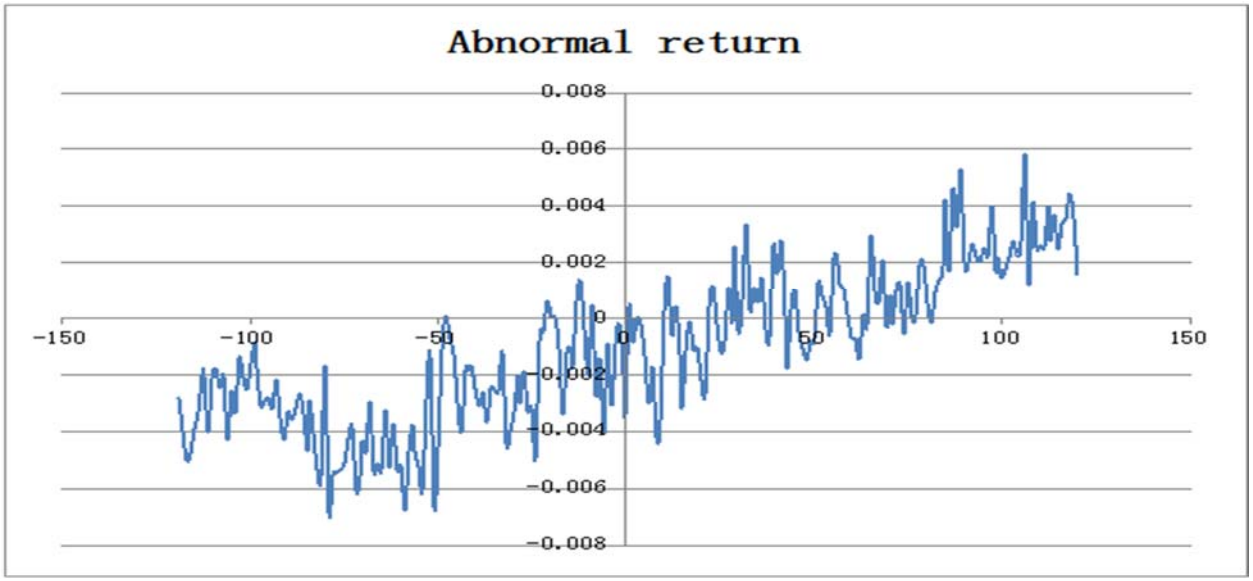
Column	**1**	**2**	**3**	**4**	**5**	**6**	**7**
VARIABLES	**lnsales**	**Lncost**	**ln(sales/cost)**	**lnloan**	**ln(ongoing projects)**	**ln(fixed asset)**	**Lnasset**
Sample	**Panel A Whole sample**						
Donation Indicator$_i$ *Post$_{it}$	0.2660***	0.1294***	0.1420**	0.2415	0.8260**	0.2138**	0.1087***
	(0.097)	(0.040)	(0.069)	(0.313)	(0.351)	(0.109)	(0.037)
Observations	3,843	3,841	3,841	3,817	3,825	3,843	3,843
Sample	**Panel B Firms in low government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.2040**	0.1260**	0.0781	0.2775	0.2930	0.2250*	0.1238***
	(0.098)	(0.049)	(0.065)	(0.404)	(0.472)	(0.121)	(0.043)
Observations	2,414	2,413	2,413	2,391	2,397	2,414	2,414
Sample	**Panel C Firms in high government intervention regions**						
Donation Indicator$_i$ *Post$_{it}$	0.3508*	0.1359**	0.2281*	0.1210	1.6650***	0.1784	0.0855
	(0.187)	(0.068)	(0.138)	(0.486)	(0.513)	(0.203)	(0.070)
Observations	1,429	1,428	1,428	1,426	1,428	1,429	1,429
Sample	**Panel D Firms in low-corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.2083**	0.1201**	0.0885	0.1943	1.3728***	0.3216**	0.1237***
	(0.099)	(0.054)	(0.059)	(0.390)	(0.460)	(0.154)	(0.045)
Observations	2,261	2,260	2,260	2,243	2,256	2,261	2,261
Sample	**Panel E Firms in high corruption regions**						
Donation Indicator$_i$ *Post$_{it}$	0.3492*	0.1420**	0.2205	0.3100	0.0280	0.0562	0.0863
	(0.188)	(0.060)	(0.145)	(0.518)	(0.535)	(0.143)	(0.062)
Observations	1,582	1,581	1,581	1,574	1,569	1,582	1,582
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 13 Analysis of Firms' Long-term Performance (GMM)

This table shows the analysis of the effects of corporate donations long-term firm performances (2005-2011) in five panels using the GMM method. In Panel A, the regressions are conducted for the whole sample In Panels B to E, we look at the heterogeneous effects of corporate donations on firm performances in different regions: low-corruption regions, high-corruption regions, low government intervention regions and high government intervention regions, respectively. The dependent variables are total sales, total costs, total sales to total costs, loan amount (sum of long and short term loans), value of ongoing projects, fixed assets, total assets, respectively, all of which are in the logarithm form. These variables are all from firms' annual financial statements. The key explanatory variable, Donation $Indicator_i$ *$Post_{it}$, is an interaction term of Donation $Indicator_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and $Post_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Column	**1**	**2**	**3**	**4**	**5**	**6**	**7**
VARIABLES	**lnsales**	**lncost**	**ln(sales/cost)**	**Lnloa**	**ln(ongoing projects)**	**ln(fixed asset)**	**lnasset**
Sample	**Panel A Whole sample**						
Donation $Indicator_i$ *$Post_{it}$	0.1724**	0.0697**	0.1342**	0.3909	1.2216***	0.1637**	0.0626
	(0.078)	(0.030)	(0.064)	(0.251)	(0.289)	(0.070)	(0.040)
Observations	6,524	6,509	6,503	6,395	6,437	6,533	6,533
Sample	**Panel B Firms in low government intervention regions**						
Donation $Indicator_i$ *$Post_{it}$	-0.0702	0.0424	-1.1249	0.2934	0.5911	0.1852**	0.1035
	(0.109)	(0.039)	(1.677)	(0.349)	(0.407)	(0.090)	(0.064)
Observations	4,077	4,070	4,066	3,963	3,997	4,084	4,084
Sample	**Panel C Firms in high government intervention regions**						
Donation $Indicator_i$ *$Post_{it}$	0.3989***	0.1133**	0.3238***	0.4519	1.9064***	0.1697	0.0696
	(0.134)	(0.046)	(0.120)	(0.355)	(0.414)	(0.115)	(0.047)
Observations	2,447	2,439	2,437	2,432	2,440	2,449	2,449
Sample	**Panel D Firms in low corruption regions**						
Donation $Indicator_i$ *$Post_{it}$	0.1466*	0.0646*	0.0703	0.2474	1.7509***	0.1914**	-0.0059
	(0.088)	(0.038)	(0.071)	(0.307)	(0.324)	(0.090)	(0.047)
Observations	3,872	3,862	3,858	3,833	3,862	3,878	3,878
Sample	**Panel E Firms in high corruption regions**						
Donation $Indicator_i$ *$Post_{it}$	0.2697*	0.0828*	0.2977**	0.5989	-0.1214	0.1560	0.1493**
	(0.144)	(0.048)	(0.131)	(0.430)	(0.615)	(0.117)	(0.074)
Observations	2,652	2,647	2,645	2,562	2,575	2,655	2,655
Lag dep values	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Figure 1 Abnormal Return around Donation



This figure shows the estimated coefficients of the interaction term Donation Indicator$_i$ *Date$_t$, which indicate the differences in abnormal returns between donor and non-donor firms on each trading day in the period of 120 trading days before and after donation event (day 0). Date and firm dummies are added; standard errors are clustered at the firm level.

Online Appendix

Table A1 Propensity Score Matching (PSM Kernel Matching Approach)

This table presents probit model regression results based on propensity score matching with Kernel matching approach. The dependent variable is an indicator variable of Donation that takes value one if a company made quake donation and zero otherwise. We use the statistically significant explanatory variables in Table 2 as independent variables, which include Return on Assets (ROA), Number of years since being listed, Debt to assets ratio, and the logarithm of Operating income. Robust standard errors are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Probit regression results	
Dependent variable	Donated
ROA	0.0904
	(0.2049)
Listing years	-0.2472***
	(0.0860)
Debt assets ratio	-0.1248
	(0.0764)
Operating income	0.3298***
	(0.0341)
Industry dummy	Yes
Province dummy	Yes
Number of observations	1,312

Table A2 Matched and Unmatched Results Comparison

This table presents descriptive statistics of and comparisons between the donor firms (the treated group) and the non-donor firms (the control group) in some key characteristics before and after propensity score matching. “Matched” denotes the case after propensity score matching is done; “Unmatched” denotes the case before propensity score matching is done. “Treated” denotes the group of donor firms; “Control” denotes the group of non-donor firms. The key characteristics include ROA (return on assets), the number of years since listing, Debt to assets ratio, and the logarithm of Operating income. Industry and province dummies are included in the probit regressions for matching.

Comparison before and after matching							
		Mean			Reduct	t-test	
Variable	Sample	Treated	Control	Bias(%)	Bias(%)	t	p>t
ROA	Unmatched	0.0300	0 .0102	9.8		1.89	0.059
	Matched	0.0300.	0.0280	1.0	89.7	0.25	0.805
Listing years	Unmatched	2.1232	2.2161	-18.6		-3.31	0.001
	Matched	2.1242	2.1255	-0.3	98.7	-0.05	0.963
Debt assets ratio	Unmatched	-0.7297	-0.6619	-12.5		-2.26	0.024
	Matched	-0.7298	-0.7355	1.0	91.6	0.22	0.824
Operating income	Unmatched	21.045	20.313	53.2		9.52	0.000
	Matched	21.04	20.916	9.0	83.1	1.94	0.053
State	Unmatched	0.1033	0.1280	-7.7		-1.39	0.165
	Matched	0.1037	0.0972	2.0	73.6	0.42	0.673
Industry dummy	Unmatched	…	…	…	…	…	…
	Matched	…	…	…	…	…	…
Province dummy	Unmatched	…	…	…	…	…	…
	Matched	…	…	…	…	…	…

Table A3 Robustness Test, Market Reactions to Donations of Different Sizes

This table shows the results of robustness checks on the effects of donation size on abnormal stock returns in three subsamples: dropping firms operating in the quake regions (Sichuan province and Chongqing city), restricting the sample to the donor firms, dropping those donor firms which donated two weeks or longer after the quake, respectively. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on trading day t in different event windows. The key explanatory variable, Donation $Size_i$*$Post_{it}$, an interaction term of Donation $Size_i$ (donor firm i's donation size scaled by its operating income) and $Post_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Abnormal return (drop Sichuan & Chongqing firms)**					
Donation $Size_i$*$Post_{it}$	0.00101***	0.00101***	0.00101***	0.00102***	0.00099***	0.00101***
	(0.00035)	(0.00035)	(0.00035)	(0.00036)	(0.00033)	(0.00033)
Number of observations	253,755	253,755	117,120	117,120	39,040	39,040
Dependent variable	**Abnormal return (for donor firms only)**					
Donation $Size_i$*$Post_{it}$	0.00114**	0.00114**	0.00114**	0.00115**	0.00112**	0.00116**
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Number of observations	153,655	153,655	70,920	70,920	23,640	23,640
Dependent variable	**Abnormal return (drop donor firms which donated two weeks or longer after the event)**					
Donation $Size_i$*$Post_{it}$	0.00105**	0.00105**	0.00105**	0.00106**	0.00105**	0.00106**
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Number of observations	257,135	257,135	118,680	118,680	39,560	39,560
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table A4 Market Reactions to In-kind Donations of Firms in Different Regions (High vs. Low Government Intervention)

This table shows the heterogeneous effects of in-kind corporate donations on abnormal stock returns in different regions: low-corruption regions and high-corruption regions, respectively. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on trading day t in different event windows. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Abnormal return (low government intervention regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.0002	0.0002	0.0002	0.0002	-0.0004	-0.0010
	(0.0032)	(0.0032)	(0.0033)	(0.0033)	(0.0033)	(0.0034)
Number of observations	142,480	142,480	65,760	65,760	21,920	21,920
Dependent variable	**Abnormal return (high government intervention regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.0138***	0.0139***	0.0139***	0.0140***	0.0138***	0.0140***
	(0.0046)	(0.0046)	(0.0047)	(0.0047)	(0.0050)	(0.0051)
Number of observations	49,140	49,140	22,680	22,680	7,560	7,560
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table A5 Market Reactions to In-kind Donations of Firms in Different Regions (High Corruption vs. Low Corruption)

This table shows the heterogeneous effects of in-kind corporate donations on abnormal stock returns in different regions: low-corruption regions and high-corruption regions, respectively. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable is the daily abnormal return of company i on trading day t in different event windows. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes value one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Abnormal return (low corruption regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.0004	0.0004	0.0003	0.0003	-0.0000	-0.0009
	(0.0033)	(0.0033)	(0.0033)	(0.0033)	(0.0034)	(0.0036)
Number of observations	99,320	99,320	45,840	45,840	15,280	15,280
Dependent variable	**Abnormal return (high corruption regions)**					
Donation Indicator$_i$ *Post$_{it}$	0.0073*	0.0073*	0.0074*	0.0074*	0.0066	0.0067
	(0.0044)	(0.0044)	(0.0044)	(0.0044)	(0.0046)	(0.0046)
Number of observations	92,300	92,300	42,600	42,600	14,200	14,200
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes

Table A6 List of Consumer-Oriented Industries

This table shows the industry codes and names of consumer-oriented industries in this study. Industry Codes are issued by the China Securities Regulatory Commission.

Industry code	Industry Name
C0	Food and beverages
C13	Clothes and other fiber products
C4370	Household and personal chemical products
C4830	Household and personal rubber products
C4930	Household and personal plastic products
C55	Household and personal electronic apparatus
C7505	Automobile manufacturing
C7510	Motorcycle manufacturing
C7515	Bicycle manufacturing
C7620	Household electrical appliances manufacturing
C7825	Watches and clocks
F09	Air transport industry
H11	Retail
I	Finance and insurance
J	Real estate
K	Social services
L	Communication and cultural industries

Table A7 Market Reactions to Corporate Donations of Firms Operating in Consumer-oriented and Other Industries

This table shows the analysis of heterogeneous market reactions to quake donations by firms operating in consumer-oriented industries and non-consumer-oriented industries, respectively. All regressions are conducted over three event windows (-20, 20), (-60, 60) and (-120, 120) according to estimation specification (1) as shown in Equation (1) and specification (2) as shown in Equation (2), respectively. The dependent variable in Panels A, B and C is the daily abnormal return of company i on trading day t in the event window. The key explanatory variable, Donation Indicator$_i$ *Post$_{it}$, is an interaction term of Donation Indicator$_i$ (an indicator variable that takes values one if company i made quake donation and zero otherwise) and Post$_{it}$ (an indicator variable that takes value one in the periods after company i made donation and zero otherwise). The regressions control for firm fixed effects and year fixed effects. In addition, estimation specification (2) differs from specification (1) in that the former controls for firm-specific time trends, whereas the latter does not. Standard errors are clustered at the firm level and are reported in the brackets. Superscripts *, **, *** represent statistical significance at the 10%, 5%, and 1% level, respectively.

Event Window	**(-120 120)**		**(-60 60)**		**(-20 20)**	
Estimation specification	**1**	**2**	**1**	**2**	**1**	**2**
Dependent variable	**Abnormal return (firms in consumer-oriented industries)**					
Donation Indicator$_i$ *Post$_{it}$	-0.0042	-0.0042	-0.0042	-0.0042	-0.0046	-0.0066
	(0.0041)	(0.0042)	(0.0041)	(0.0042)	(0.0043)	(0.0047)
Number of observations	43,680	43,680	20,160	20,160	6,720	6,720
Dependent variable	**Abnormal return (firms in non-consumer-oriented industries)**					
Donation Indicator$_i$ *Post$_{it}$	0.0038**	0.0038**	0.0037**	0.0038**	0.0039**	0.0039**
	(0.0016)	(0.0016)	(0.0017)	(0.0017)	(0.0017)	(0.0017)
Number of observations	272,220	272,220	125,640	125,640	41,880	41,880
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm time trend	No	Yes	No	Yes	No	Yes