

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

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A MARKET ECONOMY WITH CHINESE CHARACTERISTICS

- Significant state ownership
 - Chong-en Bai, Daokui LI, Zhigang TAO, and Yijing WANG, *A Multi-Task Theory of the State Enterprise Reform*, Journal of Comparative Economics, 28 (2000), 716-738.
 - Chongen Bai, Jiangyong Lu, and Zhigang Tao, *The Multitask Theory of State Enterprise Reform: Empirical Evidence from China*, American Economic Review, Papers and Proceedings, volume 96, No. 2, May 2006, 353-357.
 - Chongen Bai, Jiangyong Lu, and Zhigang Tao, *How does privatization work in China?* Journal of Comparative Economics, 37, 2009, 453--470.
- Strong role of the state vis-a-vis the market in the economy
 - Julan Du, Yi Lu, and Zhigang Tao, *The Role of the State in Resolving Business Disputes in China*, Journal of Comparative Economics, Volume 42, 2014, 940-953.

A MULTI-TASK THEORY OF THE STATE ENTERPRISE REFORM

Enterprise Reform

- Enterprise reform is gradual.
 - Some autonomy for SOEs
 - Entry of non-state owned enterprises (NSOEs)
 - Privatization of SOEs
- Coexistence of state and non-state enterprises.
- SOEs perform poorly compared to NSOEs.

Business Format Franchising

Chong-en Bai and Zhigang Tao, Contract Mixing in Franchising as a Mechanism for Public Good Provision, *Journal of Economics & Management Strategy*, 2000, 85-113.

- Why does China keep state-owned enterprises despite the fact that they are less efficient and profitable than private enterprises?
- The theory starts with the observation that during transition, a social safety net has to be established in order to achieve social stability. Otherwise, social instability caused by mass unemployment would create an undesirable general environment for business and thereby lower the overall efficiency in the economy.

- At the start of reform, independent agencies specializing in providing a social safety net are missing, since before transition, SOEs functioned as the main social welfare providers. It is also very difficult to quickly establish an institution independent of the SOEs to provide the safety net even if the funding is available. Therefore, during reform, the reformist government chooses to slow down the SOE reform and to keep a certain number of SOEs in order to maintain social stability. The remaining SOEs continue to be charged with multiple tasks: the task of production and that of social welfare provision.

- Private enterprise allocates no effort to stability maintenance and all of his effort to production because his stability maintenance effort has only a small effect on profit
- The manager of an SOE, with a fixed salary, is less motivated. But he is indifferent to its allocation between production and stability maintenance.

- The fundamental reason for the above results is that stability is a public good, which implies that the effect of a manager's stability maintenance effort on the profit of his firm is generally smaller than that of his production effort. So long as the manager's payoff depends on the profit of his firm, he will not fully take into account the externality of his stability maintenance effort and will provide too little of it. The government can mitigate the problem of under-provision of stability maintenance effort only by keeping some SOEs where the managers are paid fixed wages and are monitored.

- Our theory of SOE reform is based on a second-best argument. The conclusion that a certain proportion of SOEs should continue to exist during reform is driven by the condition that the government cannot find other means to provide a social safety net to unemployed workers.
- Legacy of socialist ideology
- Political consideration

Main results

- State-owned enterprises are less profitable than private enterprises.
 - private firms free-ride on SOEs for stability
 - SOEs have lower profit incentives and therefore have a lower effort level
- When government provision of stability is sufficiently small, it is optimal to keep state-owned enterprises.
- When state-owned enterprises are sufficiently inefficient, it is better to have some private enterprises.

Institutional environment for China's private enterprises

- Dominance of state ownership and gradual reform process (Cao, Qian and Weingast, 1999; Bai, Li, Tao and Wang, 2000; Bai, Lu and Tao, 2006a).
- Lingering ideological biases against private sector development
 - Amendment of the Constitution in 1988: “The state permits the private sector to exist and develop within the limits prescribed by law. The private sector is a complement to the socialist public economy.”
 - Amendment of the Constitution in 1999: “The private sector is an *important* part to the Socialist market economy”
 - Amendment of the Constitution in 2004: formal protection of private property

Chinese-Style State Capitalism

- Massive state control of the national economy under an authoritative regime;
- State ownership and state sector play a leading role;
- State-owned enterprises and state-controlled companies:
- Biological sons of the State;
- Backbones of the state capitalism model;

Chinese-Style State Capitalism

- Non-state-owned enterprises and non-state-controlled companies:
- Adopted sons of the State;
- Need to behave well (follow the will of the government) to please the State for survival and growth.

HOW TO GET BACK A LEVEL PLAYING FIELD UNDER STATE CAPITALISM

Wenchuan Earthquake

- The great Sichuan earthquake that occurred in Wenchuan, Sichuan province on May 12, 2008;
- Killing 69,195 people, with 18,392 missing;
- At least 5 million people were left without housing;
- Millions of livestock and a significant amount of agriculture were also destroyed.

Natural Disaster, State Capacity and State Building

- Ability to conduct rescue activities: an important indicator of state capacity;
- Strong, competent, and capable government institutions: able to mobilize people and resources for rescue efforts in a natural disaster;
- Rescue efforts: military troops and armed police were dispatched; rescue teams; emergency fiscal aid;

Natural Disaster, State Capacity and State Building

- Local government cross-subsidy;
- Media support;
- Massive donation efforts: individuals, corporations, various organizations;
- Most individual donations were organized and mobilized by Party organizations at different levels;
- Governments called on firms to donate.

Donation and State Capacity Building

- The Chinese government wants to enhance political legitimacy and state capacity;
- Calling on corporations and people to make donation can show the caring heart of the leadership and increase the legitimacy of the political regime;
- Donations can add to the resource mobilization capacity of the State;
- Complements to fiscal outlays for rescue and rebuilding efforts.

Donation and State Capacity Building

- State-controlled companies: the governments can instruct them to donate;
- Non-state-controlled companies: the governments encourage them to donate; Would like to comply with the will of the government;

Corporate Donations

- Drink Company, 广东加多宝集团,
- JDB Group, made a donation of 100
- million yuan;
- 要捐就捐一个亿, 要喝就喝王老吉
- Donation: a big marketing success
- Image: Patriotic business with high CSR



Corporate Donations



- Vanke: property tycoon
- On May 12, decides to donate 2.2 million yuan value of money and materials;
- “200万是个适当的数额。中国是个灾害频发的国家，赈灾慈善活动是个常态，企业的捐赠活动应该可持续，而不应成为负担。万科对集团内部慈善的募捐活动中，有条提示：每次募捐，普通员工的捐款以10元为限。其意就是不要慈善成为负担。”
- Public criticism: too little; too mean
- On May 20, decides to make a donation of 100 million yuan

Overview of Quake Donations

- Total number of A-share listed firms in May 2008: 1387
- Number of listed firms that donated: 827
- Number of firms that donated in the First week after the earthquake: 348
- Number of firms that donated in the Second week after the earthquake: 434

Overview of Quake Donations

- 157 state-owned firms, 87 donated.
- 59 donated in the first two weeks.
- Average donation size: 3,200,000 yuan.
- Average donation size of state-owned firms: 4,260,000 yuan.

Two Competing Views of Corporate Donations

- 1. Corporate charitable giving: part of Corporate Social Responsibility;
- Help establish the public perception that the corporation is a good corporate citizen fulfilling social responsibility;
- 2. Corporate strategic donation: much more directly tied to the purpose of seeking favorable treatments/rents from the government, etc. by making donations.

Corporate Donation and Stock Market Reaction

- Both the corporate social responsibility (CSR)/corporate image view and the strategic donation view:
- Predict that the donation of non-state-controlled companies should arouse more significant and positive stock market reaction;
- **1. CSR view**
- State-controlled companies: perceived to have a stronger sense of social responsibility;
- making donation is nothing surprising;

Corporate Donation and Stock Market Reaction

- Non-state-controlled companies: donation displays an enhanced sense of social responsibility;
- More favorable response from the market;
- **2. Strategic donation view**
- State-controlled companies: already enjoy government's preferential treatment;
- Donation won't bring additional rents;

Corporate Donation and Stock Market Reaction

- Non-state-controlled companies: donation may well bring additional rents such as government project contracts, procurement contracts, etc.
- Stronger market reaction for non-state-controlled companies' donation activities to reflect this additional benefits and increments in firm value;

Corporate Donation and Stock Market Reaction

- **Which view is more relevant?**
- To further distinguish these two alternative views, we examine market reactions to donation of non-state-controlled listed companies located in regions with different quality of government;
- Variation in the degree of government corruption and government intervention.
- CSR/Corporate Image view: market reaction should not be sensitive to the variation in government quality;

Corporate Donation and Stock Market Reaction

- Strategic donation view: market reactions should be stronger in regions with more corrupt and interventionist government because of potentially larger rents obtained from these governments;
- Prediction: market reaction is more significant for non-state-controlled company donations in more corrupt and interventionist regions.

Market Reaction

- Using event study method;
- Employ the market model to calculate abnormal returns;
- Detect significant market reactions;

Regression: DID Analysis

$$y_{fd} = \beta d_{it} + \gamma_f + \lambda_d + \varepsilon$$

y_{fd}

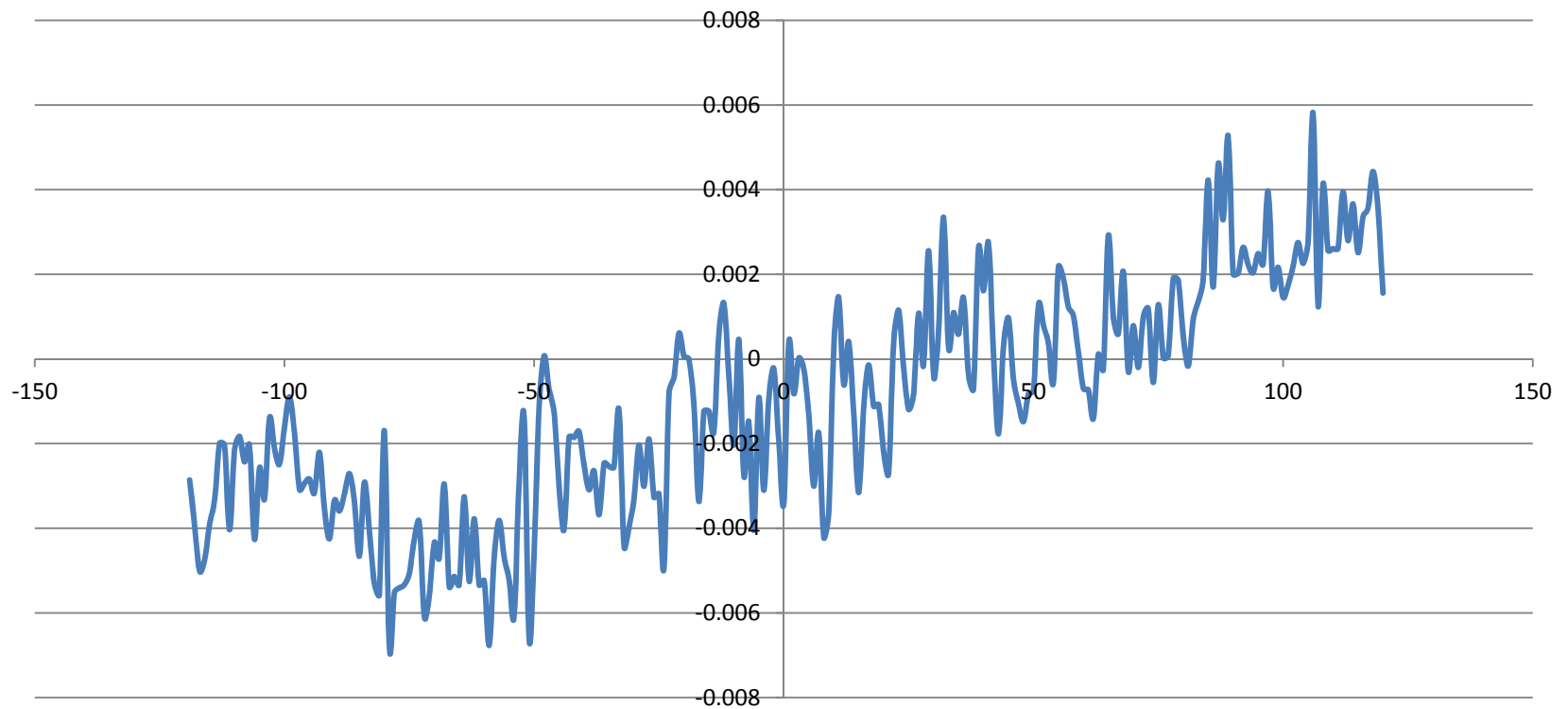
| | |
|--------------------------------|---|
| y_{fd} (abnormal_return2) | Abnormal return of firm f at date d |
| d_{it} (dp) | Dummy: 1, firm f after donation date; 0, others |
| γ_f (company_id) | Firm fixed effect |
| λ_d (date) | Time fixed effect |

Whole Sample

| Dependent variable | Abnormal return | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.003375** (0.001466) | 0.003381** (0.001468) | 0.003387** (0.001476) | 0.003405** (0.001482) | 0.003401** (0.001517) | 0.003193** (0.00155) |
| 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 |
| Number of observations | 360620 | 360620 | 166440 | 166440 | 55480 | 55480 |
| R-squared | 0.0456 | 0.0456 | 0.0260 | 0.0260 | 0.0131 | 0.0133 |

Figure 1

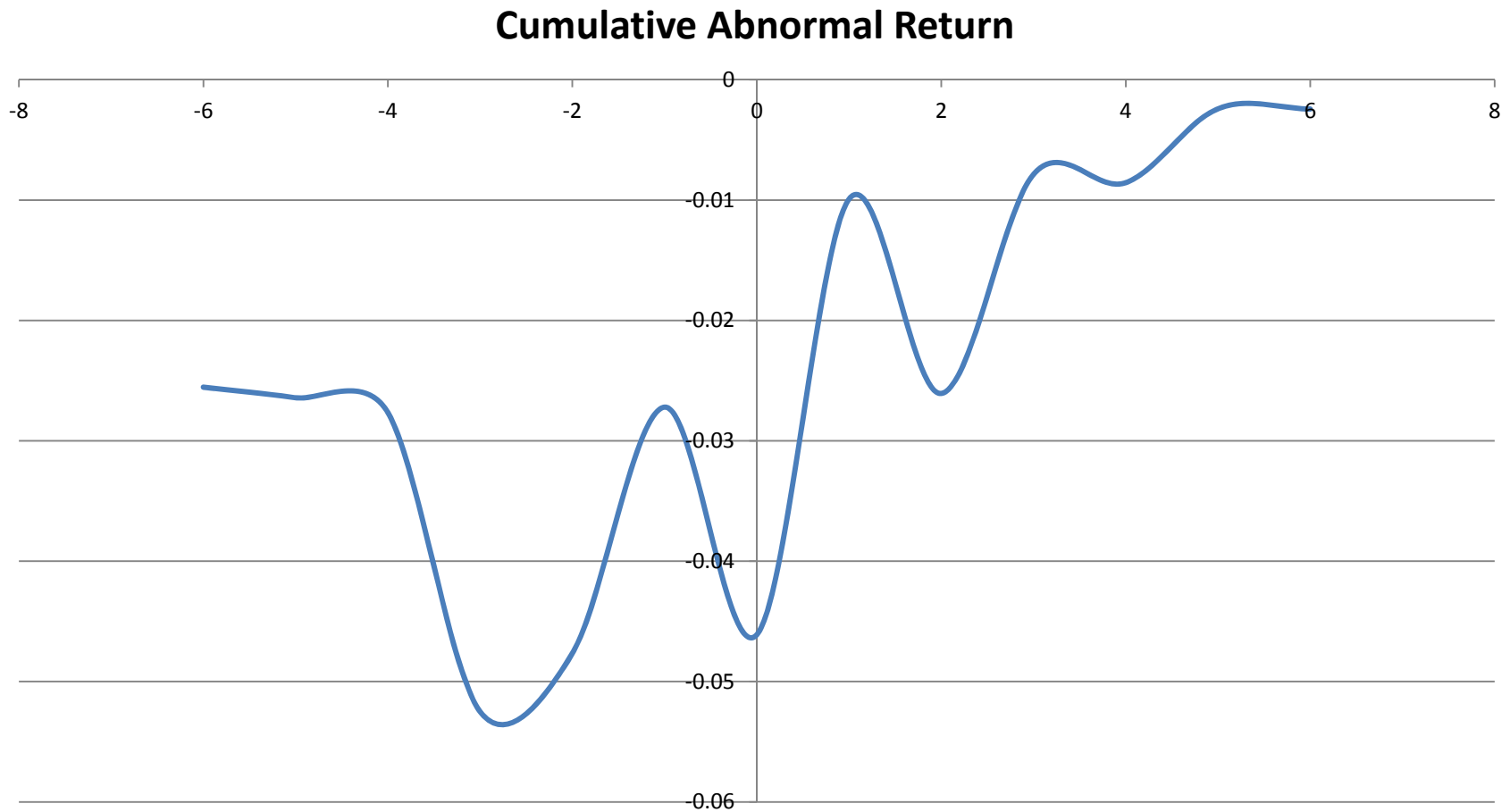
Abnormal return



Robustness Check: Using Monthly CAR for the Whole Sample

| Dependent variable | Monthly Cumulative Abnormal return | | | | | |
|--------------------------|------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.0345*** (0.0082) | 0.0346*** (0.0082) | 0.0348*** (0.0082) | 0.0348*** (0.0082) | 0.0357*** (0.0083) | 0.0364*** (0.0083) |
| 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 |
| Number of observations | 360620 | 360620 | 166440 | 166440 | 55480 | 55480 |
| R-squared | 0.0074 | 0.0074 | 0.0094 | 0.0094 | 0.0139 | 0.0139 |

Figure: Using Monthly CAR



Donation Size Effect

| Dependent variable | Abnormal return | | | | | |
|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 8.875* (4.646) | 8.856* (4.644) | 8.857* (4.641) | 8.964* (4.714) | 8.669* (4.573) | 8.727* (4.571) |
| 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 |
| Number of observations | 316675 | 316675 | 146160 | 146160 | 48720 | 48720 |
| R-squared | 0.045 | 0.045 | 0.024 | 0.024 | 0.012 | 0.012 |

Sub-sample of Firms that Donated (comparing firms donated earlier and those later)

| Dependent variable | Abnormal return | | | | | |
|------------------------|----------------------------|----------------------------|--------------------------|--------------------------|-------------------------|--------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.0037248** (0.0015223) | 0.0037254** (0.0015224) | 0.003735** (0.001534) | 0.003737** (0.001534) | 0.003785** (0.00158) | 0.003792** (0.001582) |
| 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 |
| Number of observations | 215020 | 215020 | 99240 | 99240 | 33080 | 33080 |
| R-squared | 0.0595 | 0.0595 | 0.0459 | 0.0459 | 0.0377 | 0.0377 |

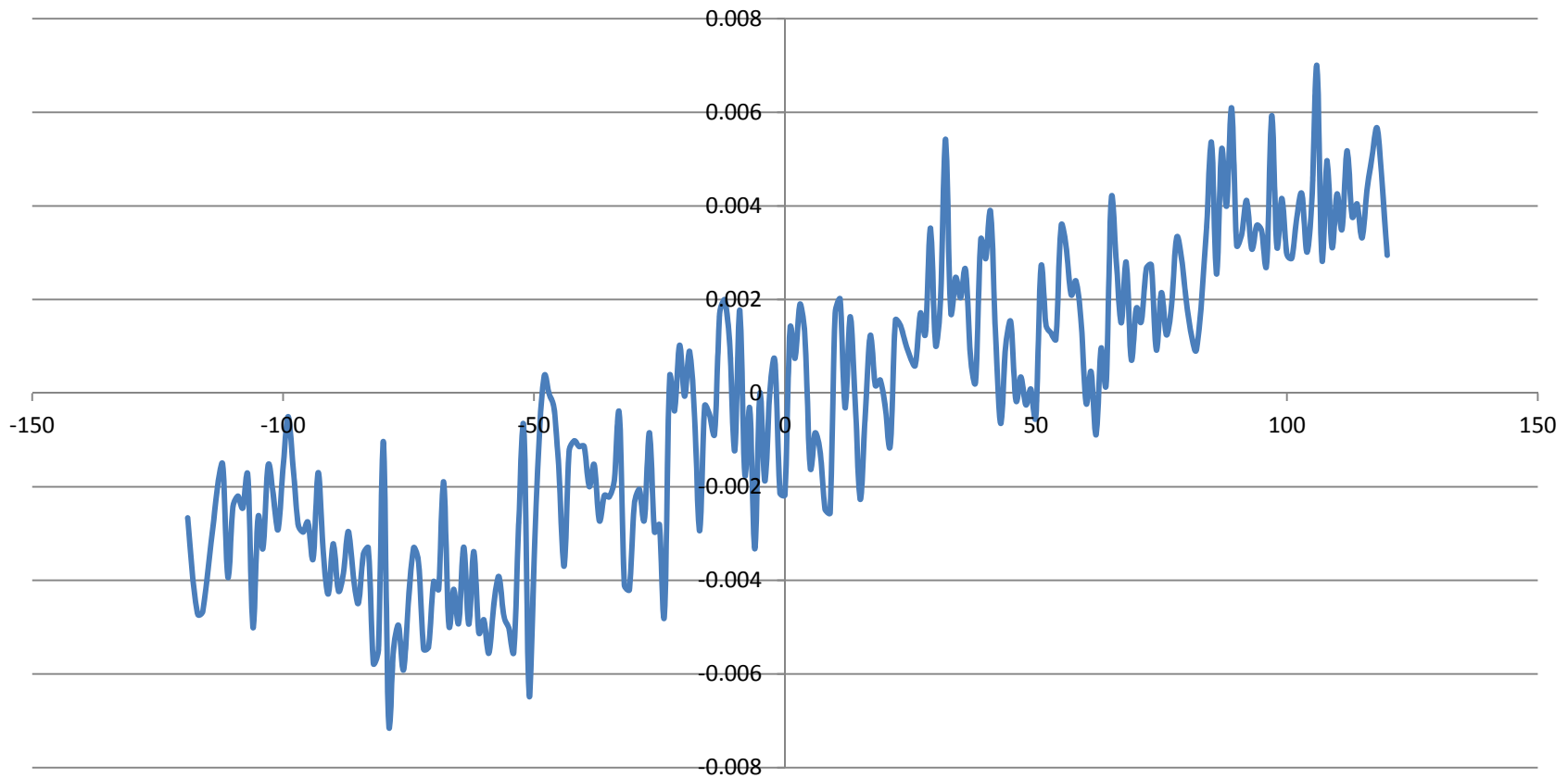
Dropping Firms in the Quake Provinces

| Dependent variable | Abnormal return | | | | | |
|------------------------|----------------------------|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.0034105** (0.0014953) | 0.0034148** (0.0014979) | 0.003397** (0.001503) | 0.003417** (0.001509) | 0.003620** (0.001548) | 0.003397** (0.001585) |
| 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 |
| Number of observations | 326820 | 326820 | 150840 | 150840 | 50280 | 50280 |
| R-squared | 0.0442 | 0.0442 | 0.0250 | 0.0250 | 0.0116 | 0.0116 |

Figure

Dropping Firms in the Quake Provinces

ab



Dropping Firms that Donated Two Weeks after the Quake

| Dependent variable | Abnormal return | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.003913** (0.001689) | 0.003923** (0.001692) | 0.003913** (0.001689) | 0.003933** (0.001696) | 0.003913** (0.001689) | 0.003678** (0.001728) |
| 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 |
| Number of observations | 321360 | 321360 | 148320 | 148320 | 49440 | 49440 |
| R-squared | 0.0458 | 0.0458 | 0.0262 | 0.0262 | 0.0120 | 0.0120 |

What Firms Donated?

- Including prior firm stock market performance, ROA, engagement in consumer-oriented products, Sichuan firms, listing years, debt/assets ratio, operating income, etc.
- Key finding: prior-period abnormal returns are not a significant determinant of donation decision;

Table Probit Regressions

| Dependent variable Estimation specification | Donated | | | | | | |
|--|---------------------|---------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6(meanabr60) | 7(meanabr120) |
| Meanabr20 | -0.7775 (2.1177) | 0.3164 (2.4154) | 1.2636 (2.2654) | 0.1274 (2.5308) | 0.9560 (2.3943) | -1.4017 (6.2477) | -9.1434 (9.5833) |
| ROA | -0.0030 (0.0235) | 0.0602 (0.1955) | 0.0699 (0.1931) | 0.0878 (0.2058) | 0.0866 (0.2057) | 0.0917 (0.2048) | 0.0927 (0.2045) |
| Consumer oriented | -0.0365 (0.0982) | -0.0126 (0.1012) | 0.0050 (0.1044) | | | | |
| Sichuan firms | 0.0247 (0.1175) | 0.2279 (0.1230) | | 0.2616** (0.1299) | | | |
| Listing years | -0.2180*** | (0.0724) | -0.1804** (0.0788) | -0.2787*** (0.0789) | -0.2452*** (0.0860) | -0.2465*** (0.0861) | -0.2533*** (0.0864) |
| Debt assets ratio | -0.1117* | (0.0672) | -0.1382** (0.0692) | -0.0981 (0.0736) | -0.1253 (0.0765) | -0.1249 (0.0765) | -0.1325* (0.0770) |
| Operating income | 0.2542*** | (0.0277) | 0.2788*** (0.0294) | 0.2995*** (0.0317) | 0.3314*** (0.0343) | 0.3304*** (0.0342) | 0.3319*** (0.0343) |
| State | | | | | -0.0562 (0.1240) | -0.0575 (0.1240) | -0.0573 (0.1240) |
| Industry dummy | no | no | no | yes | yes | yes | yes |
| Province dummy | no | no | yes | no | yes | yes | yes |
| Number of observations | 1362 | 1353 | 1346 | 1319 | 1312 | 1312 | 1312 |

Control Group Approach

- Find a control group with similar propensity to donate but actually not;
- Using propensity score matching method (Kernel matching approach);

Table 6

| Probit regression results | |
|---------------------------|------------------------|
| Dependent variable | Donated |
| ROA | 0.0902 (0.2048) |
| Listing years | -0.2458*** (0.0860) |
| Debt assets ratio | -0.1242 (0.0764) |
| Operating income | 0.3305*** (0.0342) |
| State | -0.0571 (0.1240) |
| Industry dummy | yes |
| Province dummy | yes |
| Number of observations | 1312 |

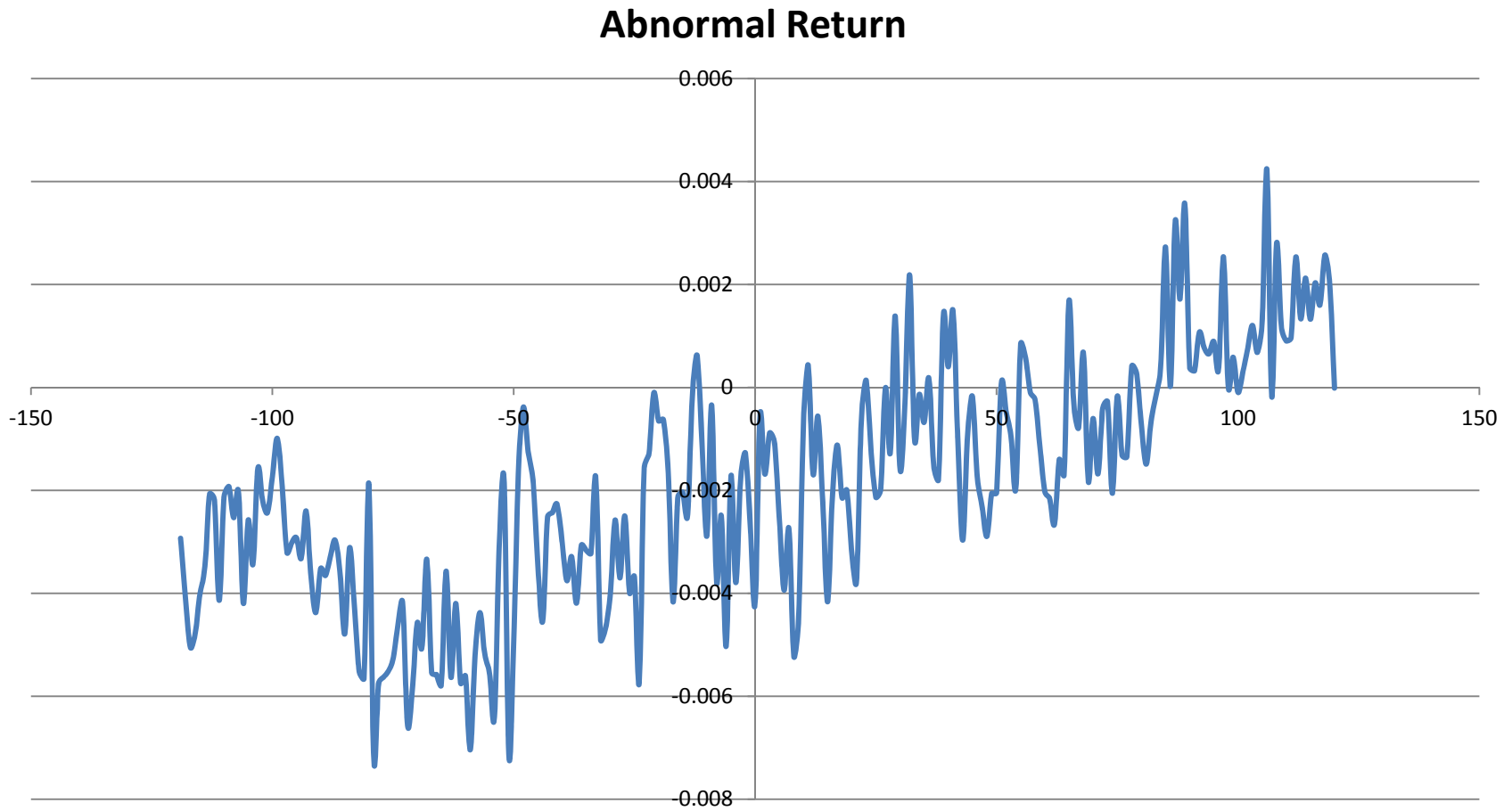
Good matching

| Comparison before and after matching | | | | | | | |
|--------------------------------------|-----------|---------|---------|---------|----------------|--------|-------|
| Variable | Sample | Mean | | Bias(%) | Reduct Bias(%) | t-test | |
| | | Treated | Control | | | 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 | ... | ... | ... | ... | ... | ... |

Matched Sample Regressions

| Dependent variable | Abnormal return | | | | | |
|--------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.003218** (0.00153) | 0.003225** (0.001532) | 0.003231** (0.001542) | 0.003247** (0.001548) | 0.003312** (0.001587) | 0.003101* (0.001623) |
| 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 |
| Number of observations | 340340 | 340340 | 157080 | 157080 | 52360 | 52360 |
| R-squared | 0.0472 | 0.0472 | 0.0261 | 0.0261 | 0.0132 | 0.0132 |

Matched Sample



State-controlled Companies vs. Non-State-Controlled Companies

- Examine whether market reaction patterns differ significantly between the state-controlled companies and non-state-controlled companies;

State-controlled Firms

| Dependent variable | Abnormal return | | | | | |
|--------------------------|------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.007291 (0.005082) | 0.007289 (0.00509) | 0.007647 (0.005136) | 0.007663 (0.005159) | 0.007258 (0.005182) | 0.007343 (0.005242) |
| 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 |
| Number of observations | 40820 | 40820 | 18840 | 18840 | 6280 | 6280 |
| R-squared | 0.098 | 0.098 | 0.077 | 0.077 | 0.048 | 0.048 |

Non-State-Controlled Firms

| Dependent variable | Abnormal return | | | | | |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.002968* (0.001525) | 0.002976* (0.001527) | 0.002936* (0.001535) | 0.002955* (0.001541) | 0.002975* (0.00158) | 0.00273* (0.001617) |
| 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 |
| Number of observations | 319800 | 319800 | 147600 | 147600 | 49200 | 49200 |
| R-squared | 0.05 | 0.043 | 0.024 | 0.024 | 0.012 | 0.012 |

State-Controlled Firms (Dropping Sichuan and Chongqing Firms)

| state owned firms Dependent variable | Abnormal return | | | | | |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | dif (-120 120) | | dif (-60 60) | | dif (-20 20) | |
| Donation effect | 0.005752 (0.005313) | 0.005745 (0.005322) | 0.005752 (0.005313) | 0.005767 (0.005338) | 0.005308 (0.005366) | 0.005392 (0.005429) |
| 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 |
| Number of observations | 37960 | 37960 | 17520 | 17520 | 5840 | 5840 |
| R-squared | 0.098 | 0.098 | 0.079 | 0.079 | 0.045 | 0.045 |

Non-state-controlled Firms (Dropping Sichuan and Chongqing)

| other firms | | Abnormal return | | | | | |
|------------------------|-----------------|--------------------------|-------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| Dependent variable | dif (-120 120) | | dif (-60 60) | | dif(-20 20) | | |
| | Donation effect | 0.003204** (0.001549) | 0.00321** (0.001551) | 0.003188** (0.001558) | 0.003209** (0.001564) | 0.003478** (0.001607) | 0.003215* (0.001649) |
| 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 | |
| Number of observations | 288860 | 288860 | 133320 | 133320 | 44440 | 44440 | |
| R-squared | 0.041 | 0.041 | 0.023 | 0.023 | 0.011 | 0.011 | |

Regional Institutions and Market Reaction

- Examine whether stock market reactions are stronger in regions with more corrupt and interventionist governments.

Non-State-Controlled Firms in High Corruption Regions

| Dependent variable | Abnormal return | | | | | |
|--------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.004992** (0.00228) | 0.005004** (0.002284) | 0.004931** (0.002298) | 0.004952** (0.002306) | 0.004967** (0.002343) | 0.004993** (0.00237) |
| 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 |
| Number of observations | 162760 | 162760 | 75120 | 75120 | 25040 | 25040 |
| R-squared | 0.054 | 0.054 | 0.049 | 0.049 | 0.027 | 0.027 |

Non-State-Controlled Firms in Low Corruption Regions

| Dependent variable | Abnormal return | | | | | |
|--------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF (-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.000592 (0.001993) | 0.000594 (0.001996) | 0.000587 (0.002004) | 0.000603 (0.002011) | 0.000573 (0.002082) | 0.000041 (0.002165) |
| 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 |
| Number of observations | 157040 | 157040 | 72480 | 72480 | 24160 | 24160 |
| R-squared | 0.039 | 0.039 | 0.018 | 0.018 | 0.009 | 0.009 |

Non-State-Controlled Firms in High Government Intervention Regions

| Dependent variable | Abnormal return | | | | | |
|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|
| | DIF (-120 120) | | DIF(-60 60) | | DIF(-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.006955** (0.00325) | 0.006964** (0.00326) | 0.006868** (0.00327) | 0.006889** (0.00329) | 0.006672** (0.00335) | 0.00678** (0.00339) |
| 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 |
| Number of observations | 57460 | 57460 | 26520 | 26520 | 8840 | 8840 |
| R-squared | 0.05 | 0.05 | 0.033 | 0.033 | 0.049 | 0.049 |

Non-State-Controlled Firms in Low Government Intervention Regions

| Dependent variable | Abnormal return | | | | | |
|--------------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|
| | DIF(-120 120) | | DIF (-60 60) | | DIF(-20 20) | |
| Estimation specification | 1 | 2 | 1 | 2 | 1 | 2 |
| Donation effect | 0.002211 (0.00171) | 0.002218 (0.00172) | 0.002188 (0.00173) | 0.002207 (0.00173) | 0.00223 (0.00178) | 0.00191 (0.00183) |
| 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 |
| Number of observations | 262340 | 262340 | 121080 | 121080 | 40360 | 40360 |
| R-squared | 0.043 | 0.043 | 0.023 | 0.023 | 0.01 | 0.01 |

Short Summary

- Positive market reaction to corporate donation in Wenchuan earthquake;
- Non-state-controlled firms account for the significant market reaction;
- More striking positive market reactions for non-state-controlled firms located in regions with more corrupt and interventionist governments;
- Strategic donation motive under Chinese-style state capitalism model.