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Value of corruption in China: Evidence from anti-corruption investigation☆

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HIGHLIGHTS

- Anti-corruption investigation is greeted with USD 30 billion increase in market capitalization of affected firms.
- As market expects further anti-corruption investigation, later announcements experience smaller abnormal return.
- Anti-corruption campaign is more effective when higher-ranked officials are targeted.

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ABSTRACT

Using recent anti-corruption investigation in China, we show that Chinese listed firms suffered an aggregate loss of USD 30 billion in firm value due to corruption. Furthermore, we show that anti-corruption investigation is more effective when top officials are targeted.

1. Introduction

Having a close relationship with the government may offer corporations resources and opportunities that are not available to corporations without the connection (e.g. Allen et al., 2005; Bunkanwanicha and Wiwattanakatang, 2009; Claessens et al., 2008; Faccio, 2002; Ferguson and Voth, 2008; Goldman et al., 2013; Johnson and Mitton, 2003; Khwaja and Mian, 2005; Ovtchinnikov and Pantaleoni, 2012; Tahoun, 2014). Due to these private benefits, corruption between politicians/government and corporations may arise in countries where property rights are insecure. However, the benefits to the connected firms come at the cost which is eventually paid by the whole society due to inefficiencies involved with the corruption (e.g. Chen et al., 2011; Gupta, 2005; Murphy et al., 1993).

China has experienced dramatic economic development over the past three decades, however, the economic development came together with side effects such as high inflation rate and corruption level. In 2013, as a part of the anti-corruption movement of the new leadership, China initiated a nation-wide broad-ranged investigation on corruption in local governments, state-owned enterprises (SOEs), state-run universities, etc. The investigations were announced and performed in four batches over the two-year period in 31 localities.[1] This anti-corruption investigation will bring benefits as well as costs to firms involved. Benefits include better efficiency, transparency, and fairness, while costs may include political uncertainty, discontinuity of policies, and inefficiencies arising from lost talent. Table 1 shows the scope

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[1] The fifth batch was not based on geography, thus all localities were covered by the fourth batch. Henceforth, we exclude the fifth batch of announcements in our analysis.

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Table 1
Announcement and results of anti-corruption investigation by province.

Province	Batch	Date	Dept.	Office	Basic
Year 2013					
Guizhou	1	5.29	12	107	4,541
Chongqing	1	5.29	24	262	1,766
Hubei	1	6.2	29	241	5,915
Neimenggu	1	6.3	12	57	1,933
Jilin	1	10.31	9	29	525
Shanxi (T)	2	10.31	26	336	11,517
Anhui	2	11.4	14	111	1,450
Guangdong	2	11.4	38	421	4,132
Hunan	2	11.4	48	441	10,068
Yunnan	2	11.4	15	145	455
Year 2014					
Hainan	3	3.24	11	87	1,237
Gansu	3	3.27	10	224	3,378
Ningxia	3	3.27	12	30	703
Fujian	3	3.28	17	191	5,457
Henan	3	3.28	40	773	21,226
Tianjin	3	3.28	10	59	354
Liaoning	3	3.29	12	372	8,453
Shandong	3	3.29	43	490	14,963
Xinjiang	3	3.29	16	117	2,051
Beijing	3	3.31	26	246	996
Tibet	3	7.25	5	49	732
Qinghai	4	7.26	13	77	518
Guangxi	4	7.28	22	213	3,976
Heilongjiang	4	7.28	10	396	7,429
Jiangsu	4	7.28	20	139	1,345
Sichuan	4	7.28	28	200	13,217
Hebei	4	7.29	43	445	9,415
Zhejiang	4	7.29	7	515	1,075
Shanxi (X)	4	7.3	32	350	10,213
Shanghai	4	7.3	5	37	400

of the anti-corruption investigation.[2] *Dept.* indicates the number of arrested officials at the department level, *Office* indicates the number of arrested officials at the city or municipal level, and *Basic* indicates the arrested lower ranked local government employees. During the period, more than 100,000 government officials were arrested across all ranks.

Using this sudden anti-corruption enforcement campaign as an experiment, we find that the initial announcement of the anti-corruption investigation was greeted positively by the market with higher than 30% abnormal return on an annual basis (2.56% abnormal return around 21-day event). The estimated loss of firm value due to corruption is approximately 201 billion Chinese yuan (or USD 30 billion) for the first three batches of announcements. Such systemic discount in Chinese firms due to corruption prior to the anti-corruption movement was alleviated as the government added more provinces in the list. The corruption discount is more severe in provinces with higher corruption, lending further support that Chinese market priced corruption negatively prior to the anti-corruption movement. In the final stage of the movement, the investigation is negatively viewed by the market for affected provinces. Due to the quick positive effect of the anti-corruption investigation, the systemic risk from corruption is relieved with earlier batches of announcements, thus the last set of investigations did little to decrease systemic corruption risk, but increased political uncertainty in the province leading to negative returns in affected firms.

Our paper contributes to the literature two-fold. First, this is one of the first papers studying the recent Chinese anti-corruption investigation, which offers insights on policies and regulations. Second, we value corruption at the provincial level. As such, unlike most prior empirical results, we conclude, on average, that negative value of corruption is loaded on all public firms in the province.

Our study is most closely related to the stream of literature studying political connection and stock return or accounting performance. Fisman (2001) estimates the value of political connection using 25 business groups in Indonesia and finds that politically connected firms in Indonesia enjoyed great value from the connection. Amore and Bennedsen (2013) find that changes in the definition of municipalities resulted in a boost in accounting performance for connected firms. Ferguson and Voth (2008) suggest companies that had significant links to the Nazis in the early 1930s enjoyed exceptional growth. Goldman et al. (2009, 2013) find that politically-connected directors add value to firms and that these firms benefit from increased procurement contracts after winning an election. Cooper et al. (2010) find that future return is higher for firms that contribute to more political candidates. Blanes I Vidal et al. (2012) find that when a senator leaves his office, a company with a lobbyist experience in the retired senator's office will suffer sizable losses. Borisov et al. (2015) also find that the value of lobbying firms drop significantly at the news of legal sentencing of a corporate lobbyist. Akey (2015) finds that companies that donated to winning candidates can enjoy a 3% abnormal return post-election.

Several studies also investigate corruption in China. Chen et al. (2011) find that investment decisions of more politically connected firms are distorted in China. Cheng (2017) finds that sudden death of politically-connected independent directors will result in more than a 3% drop in stock prices over the ten-day window. Using a nine-year panel dataset of more than 100,000 firms, Jiang and Nie (2014) find that corruption improves profitability for private firms but not the SOEs. We add to this literature by showing that corruption was priced negatively before, but the discount has been alleviated since the anti-corruption movement in China.

The rest of the paper is organized as follows: Next section will describe the data and empirical methodology, Section 3 will discuss the results, and Section 4 will conclude.

2. Empirical methodology

2.1. Data

We identify the announcement of the anti-corruption investigation and results from the website of the Central Commission for Discipline Inspection.[3] The site lists the announcement dates for all mainland Chinese provinces and how many officials are arrested in each province.[4] Other financial market data, including the market return and individual stock returns, are obtained from WIND and China Stock Market & Accounting Research (CSMAR). The risk-free rate is from People's Bank of China, and other financial statement data are obtained from the WIND database. Finally, we use Eventus software through Wharton Research Data Service (WRDS) to perform event studies.

2.2. Main variables

Our dependent variables are daily stock returns or abnormal returns of Chinese firms listed on the Shanghai Stock Exchange or Shenzhen Stock Exchange. Our independent variables are mainly firm and provincial characteristics. Firm variables include: Debt ratio ($\frac{\text{Total Debt}}{\text{Total Asset}}$), liquidity ($\frac{\text{Current asset}}{\text{Current liabilities}}$), profitability ($\frac{\text{Net income}}{\text{Net PP\&E}}$), firm size (log(Total asset)), and a dummy for SOEs. Provincial variables include the announcement sequence in batch order, natural log of population, the proportion of SOEs among public firms, natural log of the number of public firms in the province, and the number of arrested officials per capita.

[2] Shanxi (T) refers to Shanxi province with Taoyuan as the provincial capital, and Shanxi (X) refers to Shanxi province with Xian as the provincial capital.

[3] http://www.ccdi.gov.cn/.

[4] It should be noted that the number of arrests is the ex-post result of the investigation, which become public only months after the announcement.