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Political uncertainty and firm risk in China[☆]

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Abstract

The political uncertainty surrounded by the turnover of government officials has a major impact on local economies and local firms. This paper investigates the relationship between the turnover of prefecture-city officials and the inherent risk faced by local firms in China. Using data from 1999 to 2012, we find that prefecture-city official turnovers significantly increased firm risk. Our results show that the political risk was mitigated when new prefecture-city officials were well connected with their provincial leaders. In addition, the impact of political uncertainty was more pronounced for regulated firms and firms residing in provinces with low market openness.

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Keywords: Government official turnovers; Political uncertainty; Firm risk; China

1. Introduction

In the finance literature, it has been well documented that political uncertainty is an important factor affecting firm risk and performance. For example, Nippani and Medlin (2002), Nippani and Arize (2005), Li and Born (2006), He et al. (2009), Jones and Banning (2009), Sy and Al-Zaman (2011), Goodell and Bodey (2012), and Goodell and Vähämaa (2013) investigate the effects of U.S. Presidential election on stock market and report a negative relation between the election uncertainty and stock market volatility. Pantzalis et al. (2000) use a broad sample of countries and show the existence of influence of election cycles.

Recently, a number of studies further use election as an exogenous shock to examine how policy uncertainty and political connections affect stock returns and firms' risk-taking behavior. For instance, Pastor and Veronesi (2012) show that changes in government policy increase volatility and risk premia. Kim et al. (2012) document that political geography has a pervasive effect on the cross-section of stock returns. Gulen and Ion (2016) find

a strong negative relationship between firm and industry-level capital investment and the aggregate level of uncertainty associated with future policy and regulatory outcomes. Jens (2017) provides the evidence that firm investment declines 5% before elections and firms delay equity and debt issuances tied to investment before elections. Akey and Lewellen (2017) use a sample of U.S. Congressional elections to show that policy-sensitive firms donate more to candidates for elected office than less-sensitive firms.

However, most existing studies have examined the political uncertainty, especially from the event of Presidential election, in developed countries, but very few have explored that in developing countries. The purpose of this paper is to extend the current literature by investigating the impact of political uncertainty in China. Two perspectives motivate our study. First, political uncertainty plays a more profound role in China than in developed countries because of China's unique socioeconomic system and political bureaucracy. Unlike the market-economy system in the U.S. and other developed countries whose governments use the so-called "invisible hand" to allocate resources and wealth, the socioeconomic structure in China is a mixture of market economy and government-planning systems. As a result, the Chinese government often uses the "visible hand" to directly control resources and allocate wealth, which in turn create uncertainties to firms and volatilities in financial markets.

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Second, China still maintains a centralized government with one-party rule. Even though there is a similar political election cycle in China just like in other countries, there is no national election uncertainty because the Chairman of the Communist Party automatically becomes the president. However, the political uncertainty in China is unequivocally associated with the election and turnover of government officials at local levels, such as provincial Party Secretaries and Governors, and prefecture-city Party Secretaries and Mayors. [Li and Zhou \(2005\)](#), employing the turnover data of top provincial leaders in China between 1979 and 1995, find that the likelihood of promotion (termination) of provincial leaders increases (decreases) with their economic performance. They interpret their findings as evidence that China uses personnel control to induce desirable economic outcomes. Similarly, under the decentralized economic reform, local officials have more authority and incentives to design and implement policies that could help them move up the political ladder. Therefore, any top local leadership change will trickle down to local economic policy changes. The resulting instability and discontinuity of the incumbent's economic development will inevitably enhance the operating risk encountered by local firms.

There are several studies in the literature about local government's impact on firms in China. For example, [Qian \(1995, 1996\)](#) argues that local governments use firms to serve political and social objectives, and therefore they have a negative impact on firm performance. On the other hand, they also show that local governments can help firms to get access to scarce resources and create friendly environments, which lead to a positive impact on firm performance. [Chang and Wong \(2004\)](#) investigate the local political control of decision making in Chinese firms, and show that the existing level of local Party control is excessive and is negatively associated with firm performance.

In this paper, we examine the impact of prefecture-city official turnovers on firm risk and provide new evidence to the literature. The remaining paper is organized as follows. Section 2 presents the development of hypotheses. Data and methodology are discussed in Section 3. Section 4 presents empirical results and Section 5 summarizes the study.

2. Hypotheses development

China's political system is largely centralized with a multidivisional-form hierarchical structure ([Maskin et al., 2000](#)). The government administration broadly consists of five layers as shown in [Fig. 1](#). On the top is the central government, followed by the provincial governments (including autonomous regions and provincial-level cities). Prefecture-city, County, and Township governments are third, fourth and fifth levels. The Politburo Standing Committee of the Chinese Communist Party is the head of this “multidivisional system”, which ultimately controls and determines policies, operations, and appointments of top government officials.

Under this hierarchical system, the central government sets national economic policies and appoints the leaders of provincial governments, whereas provincial governments set their own goals and develop strategies for their respective provinces, and

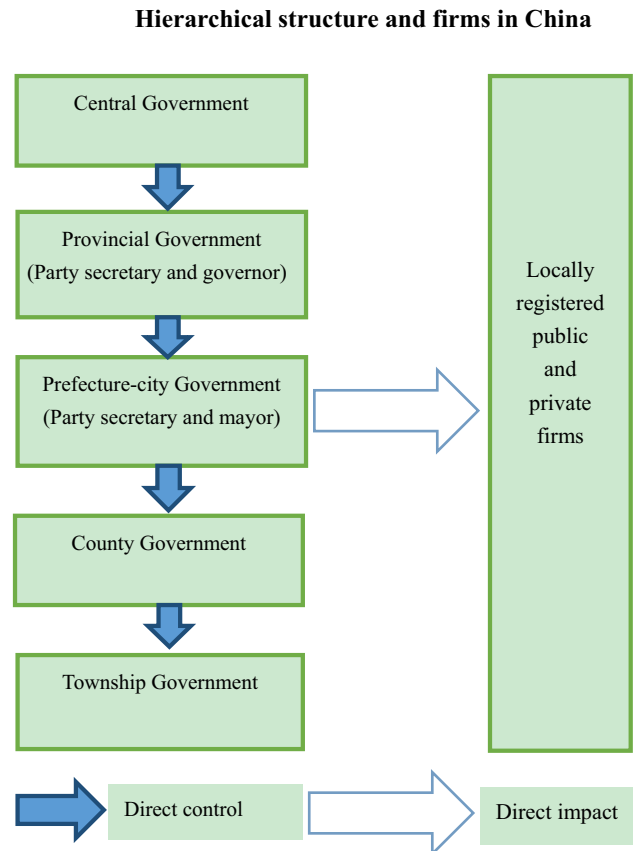


Fig. 1. Hierarchical structure and firms in China.

appoint the leaders of prefecture-city governments. In both province and prefecture-city governments, Party Secretary is the highest-ranking official, followed by the administrative head like Governor or Mayor. This dual Party Secretary/administrative head structure is designed to ensure the Communist Party with full control.

In this study, we define “local government” as the prefecture-city government, which is ranked below province but above county. Several points are worth mentioning. First, prefecture-city governments have substantial and discretionary control of local economic resources. The fiscal decentralization in China allows local governments to share budgetary expenditures and revenues with the central government. They design local economic policies and strategies based on their budget and spending plans. They decide land usage, set up business rules, codes and regulations, and provide investment opportunities and financial credits for local firms. Many of these local policies touch on daily business operations, such as work safety inspections and investment project approval ([Gordon and Li, 2012](#)). Therefore, prefecture-city governments have a direct impact on local firms.

Second, the career evaluation and promotion of prefecture-city officials are directly tied to their local economic performance ([Wu et al., 2013; Deng et al., 2015](#)). Prefecture-city officials are appointed by the provincial government and are evaluated based on local economic performance, which is heavily dependent on the tax revenues collected in their juris-

diction. Therefore, the performance of local firms can directly affect prefecture-city officials' political future.

Due to vast differences in geography, population, resource, economic development, tax revenue, and fiscal burden, local government officials have greater authority and flexibility in their own districts. As a result, both Mayor and Party Secretary of a prefecture-city government play a crucial role in policy decision-making on local economic growth. When these top ranking officials pursue their political and social objectives, they routinely exercise power to favor potential socioeconomic projects that will benefit their future promotion. However, when they are either promoted or replaced, some of their on-going policies and projects not endorsed by successors could be in danger of being discontinued, which might induce local firms to delay making investment decisions until some or all of the policy uncertainty is resolved. This testimony is also reflected in [Julio and Yook \(2012\)](#) who show that firms reduce expenditures during times of political uncertainty in the U.S. Therefore, our first hypothesis is stated below:

H1: The political uncertainty surrounding prefecture-city leadership changes leads to higher firm risk.

Hierarchically speaking, economic policies and fiscal budget at the prefecture-city level must receive approval from provincial leaders like Governor and/or Party Secretary. So any bonding relation or political tie between provincial leaders and local officials will unequivocally favor local expenditure allocations and growth. [Persson and Zhuravskaya \(2012\)](#) find that provincial leaders who are closely connected to local officials typically provide more public goods such as education and health care expenditures towards the local development. Similarly, when a prefecture-city official is promoted to become the provincial Governor or Party Secretary, he/she tends to keep a close and strong relationship with his/her successor (either new Party Secretary or Mayor) at the prefecture-city level. Such connection would benefit both because the new provincial leader needs a loyal successor at the local level in order to continue his or her influence. Reciprocally, the new local official would expect support and protection from the provincial leader. This implicit contract between the two government leaders will likely benefit the prefecture-city with additional assistance from the top. Accordingly, our second hypothesis is as follows:

H2: The political connection between new prefectural-city officials and provincial leaders negatively influences firm risk.

3. Data and methodology

3.1. Data

The sample companies during 1999–2012 were selected based upon the following criteria: (1) including only A-shares listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange, (2) excluding IPO firms in the year of listing, (3) excluding firms identified by the stock exchanges with a delisting risk due to abnormal financial reporting, (4) excluding firms that were registered in Beijing, Shanghai, Tianjin, and Changqing, because these four cities are the so-called Special Administrative Regions that directly report to the central government, and (5)

Table 1
Description of turnovers of local government officials during 1999–2012.

Year	Party Secretary		Mayor		Either official change		External		Same origin		Number of cities	Number of provinces
	Turn-over	%	Turn-over	%	Turn-over	%	Turn-over	%	Turn-over	%		
1999	12	13.5%	16	18.0%	26	29.2%	16	18.0%	14	15.7%	89	23
2000	27	23.5%	29	25.2%	43	37.4%	29	25.2%	15	13.0%	115	26
2001	44	29.7%	50	33.8%	64	43.2%	42	28.4%	36	24.3%	148	26
2002	46	28.6%	50	31.1%	71	44.1%	51	31.7%	22	13.7%	161	26
2003	58	34.7%	65	38.9%	90	53.9%	59	35.3%	38	22.8%	167	26
2004	33	18.9%	33	18.9%	56	32.0%	36	20.6%	27	15.4%	175	26
2005	38	21.2%	46	25.7%	65	36.3%	39	21.8%	29	16.2%	179	26
2006	38	20.8%	51	27.9%	66	36.1%	39	21.3%	24	13.1%	183	26
2007	51	27.7%	72	39.1%	90	48.9%	47	25.5%	45	24.5%	184	26
2008	77	39.5%	70	35.9%	103	52.8%	58	29.7%	47	24.1%	195	26
2009	25	12.9%	34	17.5%	46	23.7%	19	9.8%	16	8.2%	194	26
2010	26	13.3%	31	15.8%	45	23.0%	33	16.8%	12	6.1%	196	26
2011	57	28.2%	72	35.6%	92	45.5%	67	33.2%	26	12.9%	202	26
2012	72	34.3%	77	36.7%	108	51.4%	71	33.8%	31	14.8%	210	26
Total	604	25.2%	696	29.0%	965	40.2%	606	25.3%	382	15.9%	2398	361

Table 2
Statistical description of variables.

Variable	Observation	Average	St Dev	Min	Max	Median
BETA	12,456	1.014	0.202	−0.096	1.740	1.036
CHANGE	12,456	0.397	0.489	0	1	0
EXTERNAL	12,456	0.286	0.452	0	1	0
ORIGIN	12,456	0.150	0.357	0	1	0
SIZE	12,456	21.491	1.073	19.350	24.740	21.360
LEVERAGE	12,456	0.477	0.189	0.070	0.891	0.484
TOBINSQ	12,456	1.600	0.874	0.677	5.856	1.310
ROA	12,456	0.033	0.382	−1.681	0.627	0.033
OWNERSHIP	12,456	0.381	0.160	0.094	0.748	0.361
STATE	12,456	0.367	0.482	0	1	0
AGE	12,456	2.692	0.379	1.390	3.220	2.830

excluding financial companies. The final sample includes 1580 listed firms with 12,456 observations in 214 cities. Furthermore, the turnover data of prefecture-city officials, including inauguration and terminating dates, tenure, origin, their relationship with provincial leaders, etc., were manually collected from each prefecture-city's annual reports, resulting in a total of 604 Party Secretary turnovers and 696 Mayor changes.

The measurement of firm risk in the literature includes (1) earnings volatility (John et al., 2008), (2) debt ratio (Faccio et al., 2011), and (3) beta (Montgomery and Singh, 1984; Barton, 1988). Since both earnings volatility and debt ratio are usually measured over a three to five years rolling window, they do not fit our need to measure firm risk in a given year. We follow Montgomery and Singh (1984) and Barton (1988) by measuring firm risk as beta, which was collected from the China Stock Market Accounting Research (CSMAR) database. While beta measures a firm's systematic risk, we also use total risk measured by return volatility for a robustness test.

According to Alesina and Perotti (1996), political instability is defined as the propensity to observe government changes that can be constitutional (i.e., according to the law) or unconstitutional (i.e., *coup d'état*). So the turnovers of government officials can be used as an indicator of political uncertainty. We divide the turnover of prefecture-city leaders in a given year into three groups: (1) change of Party Secretary only, (2) change of Mayor only, and (3) change of either Party Secretary or Mayor. The rationale is that although Party Secretary is entrusted with the supervision of the local government, Mayor is the *de facto* chief administrator who designs and implements local socio-economic policies, so they may exert different influences on firm performance. Also considering the inauguration date of the new official, we define any position change that occurs in the first (second) half of the year as the current-year (next-year) change because it takes time for the new official to exert any influence on local economy (Li and Zhou, 2005).

The degree of political uncertainty can be affected by two factors. One is whether the new prefecture-city official is promoted from outside or within the province. We expect less uncertainty if the new official is promoted within the province who has already worked in the province for a number of years, and more uncertainty if the new official comes from another province who has never served or served less than one term in the province. The

second factor is whether the new prefecture-city official and the provincial leader share the same origin (i.e., born in the same province). In the Chinese culture, a person's hometown is considered an important part of his/her identity, and the close relationships of people from the same hometown could create a tightly bound community. Therefore, if both the new prefecture-city official and the provincial leader share the same origin, less political uncertainty is expected.

3.2. Methodology

To test the aforementioned two hypotheses, we set up several regression models with control variables chosen from the corporate finance literature. The dependent variable is RISK, which is firm risk measured by either beta or return volatility.¹ CHANGE is a dummy variable, which is 1 if a change occurs for either Mayor or Party Secretary during a year, and 0 otherwise. CHANGE has two variations. CHANGE-M is a dummy variable, which is 1 for a Mayor change, and 0 otherwise; CHANGE-PS is a dummy variable, which is 1 for a Party Secretary change, and 0 otherwise. Furthermore, we follow Faccio et al. (2011) by using SIZE, LEVERAGE, and ROA to control for firm size, debt and performance. Additionally, we include OWNERSHIP (the ownership of the largest shareholder) following Faccio and Lang (2002), and TOBINSQ (Tobin's Q) and AGE (firm age after IPO) following John et al. (2008) as control variables. A dummy variable, STATE, is also added to separate state-owned firms from private firms. To remove outliers, winsorization is performed at the 1% level. In order to control for unobserved industry and year effects that are correlated with the main regressors, we choose the fixed-effect model that includes both industry and year controls.

We use the following regression model to test the impact of prefecture-city official turnovers on firm risk, i.e., the first

¹ Bouchkova et al. (2012) document that industry-level systematic volatility is associated with domestic political uncertainty and global political risks translate into larger idiosyncratic volatility. Because our study is at the firm level, we focus on total volatility, which includes both idiosyncratic risk and systematic risk. The latter matters in pricing firm value and the former is diversifiable at the portfolio level.

Table 3
Group tests.

Variable	Sample group	Obs.	Mean test		Median test	
			Mean (beta)	t-Value	Median (beta)	Z-Value
CHANGE	Either Party Secretary or Mayor (CHANGE = 1)	4950	1.018	−1.78**	1.037	−1.64
	Otherwise (CHANGE = 0)	7506	1.011		1.036	
EXTERNAL	Promoted from outside (EXTERNAL = 1)	3563	1.023	−3.02***	1.038	−2.15**
	Promoted from within (EXTERNAL = 0)	1387	1.004		1.033	
ORIGIN	Same origin as the Provincial leader (ORIGIN = 1)	1865	1.009	2.45***	1.035	1.70*
	Otherwise (ORIGIN = 0)	3085	1.024		1.038	
STATE	State-owned firm (STATE = 1)	1821	1.031	−3.46***	1.040	−2.47**
	Private firm (STATE = 0)	3129	1.010		1.036	

Note: We use t-statistic to test the mean value and use Wilcoxon statistic to test the median value.

* Denote significance at 10% level.

** Denote significance at 5% level.

*** Denote significance at 1% level.

hypothesis:

$$\begin{aligned}
 \text{RISK}_{i,t} = & \alpha + \beta_1 \text{CHANGE}_{i,t} + \beta_2 \text{SIZE}_{i,t-1} \\
 & + \beta_3 \text{LEVERAGE}_{i,t-1} + \beta_4 \text{TOBINSQ}_{i,t-1} \\
 & + \beta_5 \text{OWNERSHIP}_{i,t-1} + \beta_6 \text{ROA}_{i,t-1} + \beta_7 \text{STATE}_{i,t-1} \\
 & + \beta_8 \text{AGE}_{i,t-1} + \varepsilon_{i,t}
 \end{aligned} \quad (1)$$

where RISK is the firm risk measured by either beta or return volatility; CHANGE is a dummy variable, which is 1 if change occurs for either Mayor or Party Secretary during a year, and 0 otherwise; CHANGE has two variations. CHANGE-M is a dummy variable, which is 1 for a Mayor change, and 0 otherwise; CHANGE-PS is a dummy variable, which is 1 for a Party Secretary change, and 0 otherwise; SIZE is the logarithm of total assets; LEVERAGE is total debt divided by total assets; TOBINSQ is market value of equity plus debt divided by total assets; OWNERSHIP is shares owned by the largest shareholder divided by total outstanding shares; ROA is net income divided by total assets; STATE is a dummy variable, which is 1 if it is a state-owned firm, and 0 otherwise; and AGE is the logarithm of (1+ years after IPO).

The second regression model designed to test the second hypothesis is specified below:

$$\begin{aligned}
 \text{RISK}_{i,t} = & \alpha + \beta_1 \text{CHANGE}_{i,t} + \beta_2 \text{CHANGE} * \\
 & \text{EXTERNAL}_{i,t-1} + \beta_3 \text{CHANGE} * \text{ORIGIN}_{i,t-1} + \beta_4 \\
 & \text{SIZE}_{i,t-1} + \beta_5 \text{LEVERAGE}_{i,t-1} + \beta_6 \text{TOBINSQ}_{i,t-1} \\
 & + \beta_7 \text{OWNERSHIP}_{i,t-1} + \beta_8 \text{ROA}_{i,t-1} \\
 & + \beta_9 \text{STATE}_{i,t-1} + \beta_{10} \text{AGE}_{i,t-1} + \varepsilon_{i,t}
 \end{aligned} \quad (2)$$

where EXTERNAL is a dummy variable, which is 1 if the new prefecture-city official is from another province, and 0 otherwise; and ORIGIN is a dummy variable, which is 1 if the

new prefecture-city official is from the same province as either provincial Party Secretary or Governor, and 0 otherwise.

To further examine the degree of political uncertainty, we include two interaction variables in Eq. (2), CHANGE*EXTERNAL and CHANGE*ORIGIN. The former is expected to capture whether the new prefecture-city official is promoted from outside or within the province and the latter to examine whether the new prefecture-city official comes from the same hometown as the provincial leader.

4. Empirical results

Table 1 describes the prefecture-city official turnovers in China from 1999 to 2012. There were a total of 965 prefecture-city leadership changes in 214 cities during this period, with 604 Party Secretary changes and 696 Mayor turnovers. The sample in 1999 was smaller than other years because of missing data from several cities. The turnovers of Party Secretary and Mayor were higher in 2003, 2008, and 2012, respectively, because the Party's National People's Congress was held in 2002, 2007, and 2012 that resulted in more local leadership changes. As also shown in Table 1, only 25.3% of the new prefecture-city officials came from outside the province and 15.9% came from the same hometown as their provincial leaders.

Table 2 reports the statistics of variables used in regressions. As shown, beta is in a range of −0.096 to 1.740, with a mean and median value of 1.014 and 1.036, respectively, consistent with the average beta of both Shanghai and Shenzhen Stock Exchanges. It indicates that firm risk varied widely over the sample period that includes both up and down market cycles. Other variables also exhibit wide variations in the sample even after a 1% winsorizing process.

We further divide the sample based on the following dummy variables, CHANGE, EXTERNAL, ORIGIN, and STATE,

Table 4
Impact of prefecture-city official turnovers on firm risk.

Variable	Expected change	Change of Mayor only	Change of Party Secretary only	Change of either Mayor or Party Secretary
CHANGE	+			0.011 ^{***} (2.99)
CHANGE-M	+	0.009 ^{**} (2.35)		
CHANGE-PS	+		0.006 [*] (1.67)	
SIZE	–	–0.045 ^{***} (–19.38)	–0.045 ^{***} (–19.39)	–0.045 ^{***} (–19.39)
LEVERAGE	+	–0.020 [*] (–1.67)	–0.020 [*] (–1.67)	–0.020 [*] (–1.67)
TOBINSQ	–	–0.057 ^{***} (–19.30)	–0.057 ^{***} (–19.33)	–0.057 ^{***} (–19.33)
OWNERSHIP	–	–0.036 ^{***} (–3.01)	–0.036 ^{***} (–3.00)	–0.035 ^{***} (–2.99)
ROA	–	–0.652 ^{***} (–16.87)	–0.651 ^{***} (–16.85)	–0.652 ^{***} (–16.87)
STATE	?	–0.002 (–0.49)	–0.002 (–0.47)	–0.002 (–0.48)
AGE	–	0.025 ^{***} (4.63)	0.025 ^{***} (4.65)	0.025 ^{***} (4.63)
α		2.009 ^{***} (40.47)	2.011 ^{***} (40.52)	2.008 ^{***} (40.47)
Industry effect		Yes	Yes	Yes
Year effect		Yes	Yes	Yes
N		12,456	12,456	12,456
R ²		0.169	0.1692	0.1696
F		33.71	33.67	33.77

The table reports results for the following regression: $RISK_{i,t} = \alpha + \beta_1 CHANGE_{i,t} + \beta_2 SIZE_{i,t-1} + \beta_3 LEVERAGE_{i,t-1} + \beta_4 TOBINSQ_{i,t-1} + \beta_5 OWNERSHIP_{i,t-1} + \beta_6 ROA_{i,t-1} + \beta_7 STATE_{i,t-1} + \beta_8 AGE_{i,t-1} + \varepsilon_{i,t}$; where $RISK = \beta$; $CHANGE$ = a dummy variable, which is 1 if a change occurs for either Mayor or Party Secretary during a year, and 0 otherwise. $CHANGE$ has two variations. $CHANGE-M$ = a dummy variable, which is 1 for a Mayor change, and 0 otherwise. $CHANGE-PS$ = a dummy variable, which is 1 for a Party Secretary change, and 0 otherwise. $SIZE$ = logarithm of total assets; $LEVERAGE$ = total debt divided by total assets; $TOBINSQ$ = market value of equity plus debt divided by total assets; $OWNERSHIP$ = shares owned by the largest shareholder divided by total outstanding shares; ROA = return on assets; $STATE$ = a dummy variable, which is 1 if it is a state-owned firm, and 0 otherwise; and AGE = logarithm of (1+ age after the IPO). The t-values are in the parentheses.

* Denote significance at 10% level.

** Denote significance at 5% level.

*** Denote significance at 1% level.

respectively, to test the mean beta difference between groups. As shown in Table 3, the mean beta difference between groups with and without government changes is statistically significant at the 5% level, which suggests that political risk is positively associated with the prefecture-city leadership change. We also find that both mean risk levels are higher when new leaders are promoted from outside the province and when they are not connected with their provincial leaders. Furthermore, firm risk is significantly higher for private firms than for state-owned companies. These preliminary results are consistent with our hypotheses.

Table 4 reports the results of regression (1). To test whether prefecture-city leadership changes lead to higher risk for local firms, we divide prefecture-city official changes into three groups: change of Mayor only, change of Party Secretary only, and change of either Mayor or Party Secretary. As shown, all three groups show a statistically significant and positive impact on firm risk. This finding supports our first hypothesis that prefecture-city leadership changes lead to higher firm risk.

In addition, Table 4 shows that firms controlled by the largest shareholder ($OWNERSHIP$), and firms with a larger size ($SIZE$), a higher growth potential ($TOBINSQ$), and a better performance (ROA) are more inclined to mitigate both political risk and firm risk, which is not true for firms with a longer listing history and firms with a higher leverage because high financial risk leads to high firm risk. However, there is no difference between state-owned and private firms.

Table 5 presents the results of regression (2) based on the degree of political uncertainty measured by whether the new prefecture-city official is promoted from another province or has the same origin as the provincial leader. As shown in Column 3 of Table 5, the coefficient of $CHANGE*EXTERNAL$ is 0.021 that is statistically significant at the 1% level, meaning that external candidates tend to exert more significantly positive impact on firm risk than do their counterparts promoted from within the province. This result is intuitive because internally promoted prefecture-city officials are more familiar with local economic and political development, so they are more predictable in policy

Table 5

Characteristics of prefecture-city official turnovers and firm risk.

Variable	Expected change	External	Origin
CHANGE	+	−0.003 (−0.62)	0.014*** (3.42)
CHANGE*EXTERNAL	+	0.021*** (3.33)	
CHANGE*ORIGIN	−		−0.010* (−1.78)
SIZE	−	−0.044*** (−12.13)	−0.043*** (−12.02)
LEVERAGE	+	−0.040** (−2.06)	−0.039** (−2.00)
TOBINSQ	−	−0.056*** (−11.28)	−0.057*** (−11.30)
OWNERSHIP	−	−0.052*** (−2.71)	−0.052*** (−2.73)
ROA	−	−0.659*** (−10.31)	−0.662*** (−10.37)
STATE	?	0.001 (0.18)	0.002 (0.28)
AGE	−	0.021** (2.36)	0.021** (2.41)
α		2.050*** (26.28)	2.059*** (26.37)
Industry effect		Yes	Yes
Year effect		Yes	Yes
N		4950	4950
R ²		0.176	0.175
F		14.06	13.88

The table reports results for the following regression: $RISK_{i,t} = \alpha + \beta_1 CHANGE_{i,t} + \beta_2 CHANGE*EXTERNAL_{i,t-1} + \beta_3 CHANGE*ORIGIN_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5 LEVERAGE_{i,t-1} + \beta_6 TOBINSQ_{i,t-1} + \beta_7 OWNERSHIP_{i,t-1} + \beta_8 ROA_{i,t-1} + \beta_9 STATE_{i,t-1} + \beta_{10} AGE_{i,t-1} + \varepsilon_{i,t}$; where: $RISK = \beta$; $CHANGE = 1$ if a change occurs for either Mayor or Party Secretary during a year, and 0 otherwise; $EXTERNAL = 1$ if the new prefecture-city official is from another province, and 0 otherwise; $ORIGIN = 1$ if the new prefecture-city official is from the same province as either provincial Party Secretary or Governor, and 0 otherwise; $SIZE = \ln(\text{total assets})$; $LEVERAGE = \text{total debt} / \text{total assets}$; $TOBINSQ = \text{market value of equity plus debt} / \text{total assets}$; $OWNERSHIP = \text{shares owned by the largest shareholder} / \text{total outstanding shares}$; $ROA = \text{return on assets}$; $STATE = 1$ if it is a state-owned firm, and 0 otherwise; and $AGE = \ln(1 + \text{age after the IPO})$. The t-values are in the parentheses.

* Denote significance at 10% level.

** Denote significance at 5% level.

*** Denote significance at 1% level.

making and are expected to cause less uncertainty after they assume the leadership position, whereas external candidates may take years to become as well connected as internally promoted candidates.

As reported in Column 4 of Table 5, the coefficient of $CHANGE*ORIGIN$ is -0.010 that is statistically significant at the 10% level, indicating that the new prefecture-city official with the same origin as the provincial leader tends to provoke less uncertainty as perceived by local companies, resulting in lower firm risk. The “hometown” connection is like an implicit contract that guarantees more political and economic support from the top. In addition, the control variables in Table 5 perform the same as those in Table 4. Overall, the findings reported in Table 5 are consistent with our hypothesis H2 that the close connection between prefecture-city officials and provincial leaders will cause less political uncertainty and thus lower firm risk.

We conduct a robustness check by changing the risk measurement from beta to total risk measured by the annualized volatility using 52 weekly stock returns. The results of regression (1) with

the new risk measurement are shown in Table 6. Overall, the findings are consistent with those reported in Table 4, which further support hypothesis H1, i.e., firm risk increases significantly around prefecture-city official turnovers.

Furthermore, we examine the impact of another two factors, government regulation and provincial market openness, on firm risk. First, we define any industry whose business deals with national security, natural monopoly, public service, and advanced technology as a regulated industry. According to the guidelines of China Securities Regulatory Commission, regulated industries include mining, chemical petroleum, energy, metal, public utilities, transportation, information technology, real estate, and media. Because of the rigid nature of regulated industries, not only are regulated industries subject to higher business risk due to their concentrated business operations, they are also more sensitive to changes like government leadership turnovers that may cause political instability. In this regard, we include a dummy variable, REG , in the regression model below where REG equals 1 for regulated firms and 0 otherwise.

Table 6
Test results based on alternative risk measurement.

Variable	Expected change	Change of Mayor only	Change of Party Secretary only	Change of either Mayor or Party Secretary
CHANGE	+			0.001*** (3.18)
CHANGE-M	+	0.001** (2.41)		
CHANGE-PS	+		0.001** (2.20)	
SIZE	–	–0.002*** (–11.83)	–0.002*** (–11.84)	–0.002*** (–11.84)
LEVERAGE	+	0.011*** (12.16)	0.011*** (12.16)	0.011*** (12.16)
TOBINSQ	–	0.003*** (12.34)	0.003*** (12.31)	0.003*** (12.31)
OWNERSHIP	–	0.000 (0.33)	0.000 (0.35)	0.000 (0.35)
ROA	–	–0.027*** (–9.05)	–0.027*** (–9.03)	–0.027*** (–9.04)
STATE	?	0.000 (0.96)	0.000 (0.97)	0.000 (0.97)
AGE	–	–0.000 (–1.47)	–0.000 (–1.45)	–0.001 (–1.47)
α		0.091*** (24.22)	0.091*** (24.22)	0.091*** (24.14)
Industry effect		Yes	Yes	Yes
Year effect		Yes	Yes	Yes
N		12,456	12,456	12,456
R ²		0.593	0.593	0.593
F		269.32	268.75	269.86

The table reports results for the following regression: $RISK_{i,t} = \alpha + \beta_1 CHANGE_{i,t} + \beta_2 SIZE_{i,t-1} + \beta_3 LEVERAGE_{i,t-1} + \beta_4 TOBINSQ_{i,t-1} + \beta_5 OWNERSHIP_{i,t-1} + \beta_6 ROA_{i,t-1} + \beta_7 STATE_{i,t-1} + \beta_8 AGE_{i,t-1} + \varepsilon_{i,t}$.

The dependent variable RISK is measured by the return volatility. The rest of the variables were defined in Table 4. The t-values are in the parentheses.

*Denote significance at 10% level.

** Denote significance at 5% level.

*** Denote significance at 1% level.

Next, the openness of each province varies widely in China due to geographic location, historical and political factors. Provinces with open market and a high degree of globalization are less prone to government interventions and as a result, local companies are less sensitive to policy changes. Therefore, we add another variable, OPENNESS, using Fan et al.'s (2010) index to measure each province's market openness.

We set up the following regression to test the aforementioned two factors with two interaction terms:

$$\begin{aligned}
 RISK_{i,t} = & \alpha + \beta_1 CHANGE_{i,t} + \beta_2 CHANGE * \\
 & REG_{i,t-1} + \beta_3 CHANGE * OPENNESS_{i,t-1} + \beta_4 \\
 & SIZE_{i,t-1} + \beta_5 LEVERAGE_{i,t-1} + \beta_6 TOBINSQ_{i,t-1} + \beta_7 \\
 & OWNERSHIP_{i,t-1} + \beta_8 ROA_{i,t-1} + \beta_9 STATE_{i,t-1} + \beta_{10} \\
 & AGE_{i,t-1} + \varepsilon_{i,t}
 \end{aligned} \quad (3)$$

where REG is a dummy variable, which equals 1 for regulated firms and 0 otherwise; OPENNESS = an index of market openness compiled by Fan et al. (2010); CHAGE*REG is an interaction variable to measure the impact of prefecture-city official turnovers on regulated firms; and CHANGE*OPENNESS is

an interaction variable to measure the impact of prefecture-city official turnovers in provinces with different market openness.

As shown in Table 7, the coefficient of CHANGE*REG is positive and the coefficient of CHANGE*OPENNESS is negative, as both are statistically significant at the 5% level. These results indicate that during prefecture-city official turnovers, companies operating in regulated industries tend to face higher firm risk than their non-regulated counterparts, and companies residing in provinces with high market openness encounter lower firm risk than their low market openness counterparts.

5. Conclusion

Firms face not only nonsystematic risks such as own financial and business risks, but also systematic risks. Most financial studies have focused on the impact of macro-economic factors on firm risk, but less on the impact of political uncertainty on firm risk. This paper investigates the political risk in China and specifically examines the impact of prefecture-city official turnovers on firm risk.

Using data from 1999 to 2012, our results show that firm risk, whether it is measured by systematic risk or total risk, increases significantly in the year of prefecture-city official turnovers.

Table 7

Test results based on characteristic of firms.

Variable	Expected change	REG	OPENNESS
CHANGE	+	−0.012*** (−2.63)	0.034*** (3.24)
CHANGE*REG	+	0.013** (2.38)	
CHANGE*OPENNESS	+		−0.003** (−2.44)
SIZE	−	−0.045*** (−19.39)	−0.045*** (−19.51)
LEVERAGE	+	−0.020* (−1.67)	−0.022* (−1.84)
TOBINSQ	−	−0.057*** (−19.33)	−0.057*** (−19.37)
OWNERSHIP	−	−0.035** (−2.99)	−0.042*** (−3.58)
ROA	−	−0.652*** (−16.88)	−0.669*** (−17.38)
STATE	?	−0.002 (−0.47)	−0.003 (−0.61)
AGE	−	0.025*** (4.63)	0.027*** (4.90)
α		2.007*** (40.41)	2.010*** (41.14)
Industry effect		Yes	Yes
Year effect		Yes	Yes
N		12,456	12,456
R ²		0.170	0.164
F		33.29	50.51

The table reports results for the following regression: $RISK_{i,t} = \alpha + \beta_1 CHANGE_{i,t} + \beta_2 CHANGE*REG_{i,t-1} + \beta_3 CHANGE*OPENNESS_{i,t-1} + \beta_4 SIZE_{i,t-1} + \beta_5 LEVERAGE_{i,t-1} + \beta_6 TOBINSQ_{i,t-1} + \beta_7 OWNERSHIP_{i,t-1} + \beta_8 ROA_{i,t-1} + \beta_9 STATE_{i,t-1} + \beta_{10} AGE_{i,t-1} + \varepsilon_{i,t}$; where: $RISK = Beta$; $CHANGE =$ a dummy variable, which is 1 if a change occurs for either Mayor or Party Secretary during a year, and 0 otherwise; $REG =$ a dummy variable, which is 1 for regulated firms, and 0 otherwise; $OPENNESS =$ an index measuring market openness; $SIZE =$ logarithm of total assets; $LEVERAGE =$ total debt divided by total assets; $TOBINSQ =$ market value of equity plus debt divided by total assets; $OWNERSHIP =$ shares owned by the largest shareholder divided by total outstanding shares; $ROA =$ return on assets; $STATE =$ a dummy variable, which is 1 if it is a state-owned firm, and 0 otherwise; and $AGE =$ logarithm of (1+ age after the IPO). The t-values are in the parentheses.

* Denote significance at 10% level.

** Denote significance at 5% level.

*** Denote significance at 1% level.

Furthermore, we find that firm risk rises (falls) when the new prefecture-city official is promoted from outside (inside) the province and comes from a different (same) origin as the provincial leader. Furthermore, we find that regulated firms and firms residing in provinces with low market openness encounter higher firm risk.

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