Political Connections and Stock crash risk—Empirical evidence from A-share companies in China

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ARTICLE DETAILS

ABSTRACT

Based on the sample data of 2010-2014 A-share companies in China, This thesis empirically tested the influence of political connections on stock price crash risk in the future. The results showed that both of political connections and political connections strength were remarkable negative correlation with the listed company's share price crash risk in the future. Research conclusion of this thesis has an important theoretical and practical significance both for overall understanding the economic consequences of political connections and how to guard against crash risk.

I. Introduction

The collapse in stock prices is refers to the phenomenon that company's share price bubble due to hiding the bad news, and when the accumulated bad news are all released into the market in an instant, stock price drops sharply (Jin and Myers, 2006; Nianhang Xu, etc., 2012). This kind of phenomenon will not only destroy the investors' confidence in the financial markets, affect the national financial stability, but also could lead to a mismatch of scarce capital, eventually endanger the normal operation of the real economy, even cause the economic crisis (Guojin Chen, etc., 2008). So how to prevent and reduce the crash risk of the listed company is both a topic of common interest for supervision department and investors, and is also a hot issue discussed by current companies in the financial field.

This research aims to examine whether the stock price crash risk is affected by the political connections of listed companies and the variations in the influences of a variety of political connections on the stock price crash risk. Two types of opposite opinions are reflected in the influence mechanism of political connections, i.e. government intervention and interactive relationship, respectively. From above two opinions, the political connections of the companies may affect the stock price crash risk theoretically, however, in fact, whether the political connections really affect the stock price crash risk of the companies? Whether the various influences on the stock price crash risk are generated due to various advantages of relations and intensity of government intervention?

II. methods

A hypothesis

The price collapses is also known as share price slumping, it means that in the absence of any warning, the market index or individual stocks price suddenly sharply slump (Guojin Chen, etc., 2008). The share price collapses is caused by information management behavior of company the management and other matters result in information opaque and information asymmetry, the specific formation mechanism is that the company management generally tend to not disclose or delay to disclose bad news, as operating cycle of hidden bad news continues to gradually accumulate to a limitation, the hidden bad news are instantaneously concentrated to release into the stock market, and then cause great negative impact on the company stock prices and eventually collapse (Jin and Myers,2006, Nianhang Xu, 2012). This thesis holds that political connections will affect the crash risk of company stock price from multiple aspects.

Firstly, the main purpose for the enterprises to establish political connections is to consider the political connections as an important strategic resource, take advantage of all kinds of scarce resources and preferential policy obtained from the government (Peng and Luo,2000, Jianping Deng and Yong Zeng, 2009). Secondly, under background of the special system in China, the executives with political connections often play the dual role of "both of officer and businessman", when these executives (especially state-owned enterprise executives) are making business decisions, they need to do difficult trade-off between the economic interests of enterprises and political outlook of individuals. Thirdly, in addition to demand enterprises with political connections to bear policy burdens, the more general patterns of manifestation that government intervene enterprise business through political connections is the supervision and guidance for enterprises to perform and comply with the relevant supervisory policies and laws and regulations. Based on the above theoretical analysis, this thesis holds that enterprises with political connections tend to be more active in disclosing bad news, thus reducing stock price crash risk caused by instantly releasing the accumulated bad news, hereby put forward the first research hypothesis of this thesis.

Hypothesis H: compare with enterprises without political connections, the future crash risk of enterprises with political connections is lower.

B Sample selection and data sources

In this thesis, the research samples are 2010-2014 China's two cities both of Shanghai and Shenzhen A-share main board listed companies. This thesis screened the initial samples as following: (1)Eliminate samples of cross listed companies issuing B shares or H shares at the same time. (2)Eliminate enterprise samples that has been ST or *ST during the sample inspection. (3) Eliminate enterprise samples of insolvency. (4)Eliminate enterprise samples of financial industry. (5)Eliminate enterprise samples of data missing. Finally, we have got 4,937 effective annual observation samples for the thesis.

Political connection data used in this thesis is from the author by manual sorting according to the listed company executives' resume information provided in the Wind database, the rest of the financial and accounting data was directly taken from CSMAR database. Metering software Stata10.1 is used for relevant statistic analysis in the thesis.

C Variable definition and measurement

Refer to the practice of Hutton, etc. (2009), Nianhang Xu, etc. (2012), we adopted the following method to measure the share price crash risk of listed company for the thesis. The details, this thesis will depict share price collapse event of the listed companies by the residuals from regressing extension index model (1), as following.

$$r_{j,t} = \alpha_j + \beta_{1,j}r_{m,t-1} + \beta_{2,j}r_{i,t\ 1} + \beta_{3,j}r_{m,t}$$
$$+\beta_{4,j}r_{i,t} + \beta_{5,j}r_{m,t+1} + \beta_{6,j}r_{i,t\ 1} + \varepsilon_{j,t}\ (1)$$

Furthermore, the log transformation is used for ensuring the residual (i.e. $\varepsilon_{j,t}$) follows the standard normal distribution, since the distribution height of the residual generated by model (1) are deviated. The value $W_{j,t}$ via the log transformation is defined as the specific rate of return of the company j in the period t.

$$W_{j\,t}\quad \ln(1+\varepsilon_{j,t})\,(2)$$

Two variables related to the stock price crash risk are formulated based on the parameter $W_{j,t}$: (1)Skewness coefficient of negative rate $NCSKEW_{j,t}$

$$NCSKEW_{j,t} = -[n(n-1)^{3/2}\sum W_{j,t}^3]/$$
$$[(n-1)(n\quad 2)(\sum W_{j,t}^2)^{3/2}]\,(3)$$

where n is the number of week of stock trade for company j. The negative extent of skewness coefficient is serious when the value of the parameter $NCSKEW_{j,t}$ is large; meanwhile, the stock price crash risk of company j is big.

(2)Fluctuation ratio of return $NUVOL_{j,t}$

$$DUVOL_{j,t} = \ln\left\{[(n_u-1)\sum_{DOWN} W_{j,t}]/[(n_d-1)\sum_{UP} W_{j,t}^2]\right\}(4)$$

where the variables nu and nd represent the number of week when the specific rate of return of the company j (i.e. $W_{j,t}$) is higher and lower than the average rate of return, respectively. The distribution of the specific rate of return tends to be inclined left when $NUVOL_{j,t}$ value is large, leading to the high risk of stock price crash of the company j in the period t.

III .Results

Refer to the practice of Hutton, etc. (2009), and Kim, etc. (2011) and Nianhang Xu, etc. (2012,2013b) and other literatures, this thesis designed the following econometric model (4) to test the influence of political connection on the crash risk of the listed company's share price in the future.

$$\{NCSKEW_{i,t}, DUVOL_{i,t}\} = \beta_0 + \beta_1 PoliticalConnections_{i,t-1} +$$
$$\sum Control + \sum Industry + \sum Year + \varepsilon_{i,t-1}(5)$$

$\{NCSKEW_{i,t}, DUVOL_{i,t}\}$ is the measuring index of crash risk used in the thesis, $PoliticalConnections_{i,t-1}$ means political connections variables of listed company, $\sum Control$ is a group of control variables, $\sum Industry$ and $\sum Year$ respectively stand for industry and annual virtual variables, ε_t residual term.

IV Discussion

The statistical results of major parameters are included in Table 1. As shown in the Table 1, the mean values and standard covariance of the skewness coefficient of negative rate $NCSKEW_{j,t}$ are -0.206 and 0.501, respectively. Correspondingly, two characteristic values of the fluctuation ratio of return $NUVOL_{j,t}$ are -0.158 and 0.291, respectively. It is demonstrated that the parameters of various companies and periods for estimating the stock price crash risk are in variation. The mean value of parameter PCDUM is 0.238, which means the 23.8 percent of sample companies own the political connections; two characteristic values of the intensity parameter of political connection PCMAX are 7.685 and 15.794; meanwhile, their maximum values reaches 74, which means that the obvious variation of the political connections exists among different listed companies. It is an important dimension of the research related to the political connection and needs to be considered.

Table I
Descriptive statistics of variables

variable	sample size	mean value	standard deviation	minimum value	median	maximum value
$NCSKEW_t$	4937	-0.206	0.501	-1.607	-0.173	0.959
$DUVOL_t$	4937	-0.158	0.291	-0.855	-0.155	0.526
$PCDUM_{t-1}$	4937	0.238	0.426	0	0	1
$PCMAX_{t-1}$	4937	7.685	15.794	0	0	74

$GOVDUM_{t-1}$	4937	0.223	0.416	0	0	1
$GOVMAX_{t-1}$	4937	0.242	0.443	0	0	4
$DBWYDUM_{t-1}$	4937	0.136	0.342	0	0	1
$DBWYMAX_{t-1}$	4937	0.137	0.355	0	0	7
RET_{t-1}	4937	0.009	0.016	-0.024	0.010	0.045
$SIGMA_{t-1}$	4937	0.075	0.022	0.038	0.074	0.140
ROA_{t-1}	4937	0.058	0.055	-0.141	0.052	0.240
LEV_{t-1}	4937	0.509	0.175	0.081	0.525	0.861
BM_{t-1}	4937	0.700	0.271	0.147	0.705	1.242
$SIZE_{t-1}$	4937	21.66	1.045	19.39	21.59	24.64
$ACCM_{t-1}$	4937	0.071	0.075	0.001	0.048	0.442

Table 2 listed OLS multiple regression analysis results of influence relationship of the political connection on share price crash risk. It's known from Model 1 to Model 4 in the table that whether it is share price crash risk of negative yield skewness coefficient NCSKEW index sum or earnings fluctuated ratio DUVOL index measures, also whether it's the political connection dummy variables PCDUM or political connection strength variables PCMAX, political connections variables of sample companies all obtained regression coefficient of significant negative under the 1% statistical level.It is demonstrated that the company with political connection is prefer to reveal the bad news instead of hiding, which is useful in alleviating the negative impact on the stock price caused by the excess accumulation and the outbreak of this moment of bad news and reducing the stock price crash risk of the listed companies in the future. This company's behavior also is suitable in maintaining the good relationship with government and helping government to avoid the fluctuation of economical development. Furthermore, the company will obtain more policy subsidy provided by local government and avoid the risk of judicial investigation due to the stock price crash.

Table II
Regression results of influence relationship of the political connection on share price crash risk

	OLS multiple regression model			
	$NCSKEW_t$	$NCSKEW_t$	$DUVOL_t$	$DUVOL_t$
	Model 1	Model 2	Model 3	Model 4
$PCDUM_{t-1}$	-0.054***		-0.034***	
	(-3.268)		(-3.507)	
$PCMAX_{t-1}$		-0.002***		-0.001***
		(-3.437)		(-3.804)
$NCSKEW_{t-1}$	0.011	0.011	0.006	0.006
	(0.780)	(0.768)	(0.735)	(0.752)
RET_{t-1}	0.554	0.560	0.203	0.207
	(0.497)	(0.502)	(0.317)	(0.323)
$SIGMA_{t-1}$	-0.448	-0.431	-0.428	-0.424
	(-0.818)	(-0.806)	(-1.371)	(-1.356)
ROA_{t-1}	0.094	0.091	0.051	0.049
	(0.696)	(0.672)	(0.632)	(0.608)
LEV_{t-1}	0.022	0.018	-0.007	-0.009
	(0.486)	(0.406)	(-0.269)	(-0.354)
BM_{t-1}	-0.153***	-0.154***	-0.087***	-0.090***
	(-3.368)	(-3.387)	(-3.408)	(-3.433)
$SIZE_{t-1}$	0.010	0.012	0.007	0.008
	(1.168)	(1.333)	(1.445)	(1.628)
$ACCM_{t-1}$	0.056	0.055	0.021	0.020
	(0.587)	(0.573)	(0.383)	(0.369)
Intercept	0.076	0.046	-0.015	-0.034
	(0.367)	(0.222)	(-0.130)	(-0.288)
Sample size	5,437	5,437	5,437	5,437
F value	7.99***	8.08***	7.34***	7.45***
Adjustment R^2	0.041	0.041	0.037	0.037

V. REFERENCES

Based on the relevant data of political connection of 2010-2014 A-share main board listed companies in China, This thesis researched the influence of political connections on stock price crash risk of listed companies in the future. The research results showed that both of political connections and its strength are remarkable negative correlation with the listed company's share price crash risk in the future. it shows that political connections reduced the risk of the listed company's share price crash risk, political connections, especially connections between government officials is an important factor of the listed company share price crash risk. Under the background of special system in China, In order to maintain a good relationship with the government(especially local governments), help the government avoid the dramatic ups and downs of economic development and at the same time also in order to obtain more tax deduction and exemption, governmental subsidy and other policy benefits from the government department, and avoid the risk of judicial investigation due to share prices fell sharply, companies with political connection , especially the connection with government officials tend to strictly implement the information disclosure rules of security supervision department, timely and timely reveal bad news rather tha hiding company's bad news to improve information disclosure quality,thus to a certain extent, it could alleviate the excessive accumulation of bad news and negative impact on the company's share price caused by sudden disclosure, eventually reduce the crash risk of the company's share price in the future.

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