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How do the attributes and changes of senior management affect the company's abnormal rate of return? Evidence from China

高階經理人的屬性和變動如何影響公司的股價異常報酬率？來自中國的實證證據

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Abstract: This research employs the event study method to investigate China A-share listed companies from 2015 to 2017 and analyze the influence factors of stock prices triggered by changes in senior management. Based on the analysis results, we find that changes in senior management are taken as unfavorable news, and so the stock market has significantly negative reactions to said changes. However, this research does not see any significant influence factors of the market reaction caused by a change in the chairman of the listed company. Instead, the general manager's company attributes (private capital or state-owned capital), political background, method of change, and hiring method all significantly incur market reactions. The results herein can serve as a basis for investors' portfolio decisions when a company announces an executive change and offer the China Securities Regulatory Commission (CSRC) a reference for its stock market supervision.

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Keywords: Executive attributes, executive changes, stock prices, event study, abnormal return.

摘要：本研究採用事件研究法對 2015 年至 2017 年中國 A 股上市公司的進行調查，並分析高階經理人的變動因素如何影響股價。根據分析結果，我們發現高階經理人變動被視為不利消息，因此股市對上述變動有顯著負面反應，但本研究並未發現上市公司董事長變動對市場反應產生重大影響的因素。相反的，總經理的公司屬性（私人資本或國有資本）、政治背景、變動方式和聘用方式都會引起市場的反應。此結果可作為公司宣布高階經理人變動消息時對於投資者的投資組合決策依據，並為中國證監會的股票市場監管提供參考。

關鍵詞：高階經理人屬性、高階經理人變動、股票價格、事件研究法、異常報酬率

1. Introduction

Changes in senior management have been a focus of the academic community for a long time (Tangpong *et al.*, 2021), taking up an important strand of corporate governance research (Miyajima *et al.*, 2018), which believes that the corporate governance mechanism is the key factor determining a company's performance (Huang *et al.*, 2010; Lin and Wang, 2010). Via in-depth studies of corporate governance issues, scholars have turned their focus toward corporate executive change. For example, Coffee (1999) believes that a good corporate governance mechanism should be able to reprimand senior executives of underperforming companies on time. In other words, such a mechanism should achieve clear rewards and punishments that reward managers with good management skills and dismisses managers who perform poorly. Indeed, company performance typically helps evaluate the quality of management, thereby motivating managers with good business performance and branding managers with poor business performance. In addition, as executives determine their company's development strategy and business policy, the success of the company is largely linked to the executive

management strategy. Therefore, the appointment and removal of executives are two of the most important decisions a company makes, because they can significantly cause stock price fluctuations (Luan and Tien, 2017).

Due to the rapid development of China's economy in the past few decades, the securities market is now more fully developed and improved, which means that stock prices should reflect all relevant information (e.g., changes in senior management). Indeed, investors have continued to grow during the bull market in China's securities in 2015. For example, the number of new accounts opened was 4.841 million in 2014, rising greatly to 41.238 million new accounts in 2015 (Huang, 2016). Executives of listed companies, as excellent management talents of their company, can bring a lot of profits and broad development prospects. Therefore, any executive changes should cause a large fluctuation in stock prices, because these changes will affect the economic interests of existing corporate investors and potential investors, as noted by empirical examinations in several countries (Al-ahmad, 2018; Burchard, 2021; Phuong, 2021). However, this research takes an exploring perspective to explain stock price fluctuations, because a more overall understanding of the mechanisms is ignored. Indeed, past studies have not tailored the key factors affecting responses in the China securities market, including senior management's company attributes (private capital or state-owned capital), political background, method of change, and hiring method.

The target of this research is therefore to investigate those gaps in the China securities market. First, we propose that the change in private enterprise executives and state-owned enterprises executives should have a significantly different market reaction. Second, senior management's political background, unconventional change, and external hiring should also have a significant effect on market reaction. This makes sense, because such important information disclosures directly affect investors' buying or selling of stocks (Chi *et al.*, 2012). Investors or potential investors who have a vested interest in an existing company must observe the changes in senior management keenly to analyze the company's strategy and see if the investment returns meet expectations. For example, if the cumulative rate of return is expected to be negative after the announcement date

of the executive change announcement, then investors who hold company shares may temporarily sell their holdings to reduce losses. Investors may re-examine the company after the executive change to see if it is still worth investing into. Third, the management power of a company is not completely in the hands of CEOs in China as it is in Western countries, as the chairman and the general manager jointly own the management rights of the company. Therefore, studying the China sample can help complement CEO-targeted studies in the West or other countries. Finally, research in Taiwan or other countries mainly focus on private companies, while many listed companies in China are state-owned enterprises (SEOs) controlled by the government. Therefore, the market response to the change of executives in private companies and the market response to SEOs may differ due to the problem of political background.

In summary, this research focuses on publicly listed companies in China that have experienced executive changes to study the impact on stock prices. First, we introduce the research literature on a company's executive changes and summarize the past research results. Next, we explain the concepts and theories of this research, including the definition of executive changes, research hypotheses, and research methods. Next, we extract the stock price data of listed companies that have changed their executives and analyze the impact of the announcement on the stock price. We apply the event study method (Ball and Brown, 1968; Chan *et al.*, 2015) to calculate the abnormal rate of return and the cumulative abnormal rate of return, use the cumulative abnormal rate during the event period as the dependent variable, and employ the type of executive change and corporate governance variables as the explanatory variables to test these hypotheses. Finally, we discuss the analysis results of a company's executive changes and stock price changes in order to propose management implications.

2. Literature review

2.1 Relationship between changes in senior management and abnormal rate of return

Scholars have studied the impact of senior management change on a company's stock price, but the conclusions vary. The research direction can be roughly summarized into three perspectives.

The first perspective is a positive correlation between the changes in senior management and the abnormal rate of stock price. Bonnier and Bruner (1989) study conclude that the market effect of an executive change is positive. Xu *et al.* (2009) look at the wealth effect of chief executive officer (CEO) succession and find that the average market cumulative abnormal return rate is significantly greater than zero after CEO succession. Quan *et al.* (2009) note that the long-term resignation of the chairman is good news and has an impact on shareholder wealth - that is, the market will produce a positive cumulative abnormal return rate. Based on these studies, when news of executive changes is released, it will give the market a good expectation that these changes are beneficial information.

The second perspective is that executive changes negatively correlate with the abnormal return. Goldman and Slezak (2003) find that only when the company's performance exceeds the lower limit of its acceptable range is the negative correlation significant between company performance and the probability of executive change. Ismail (2012) introduces 289 mergers and acquisitions from 1952 to 2003 and adopts corporate governance indicators as an influencing factor to predict the market response after the change of control rights. His research present that the lower the governance index of the target company is, the greater is the probability that the combined returns will be negative.

The third perspective is that there is no correlation between changes in senior management and the abnormal return. Warner *et al.* (1988) use an event study to examine the market's response to executive change. Their results show that the average abnormal return is almost zero.

Through the above literature review, we find that the conclusions of these studies are quite different and generate a few academic gaps. Therefore, we take an exploring perspective to fill these gaps.

2.2 Definition of executive change

According to the current "Company Law" in China, a company's senior management personnel refers to a company's manager, deputy manager, financial controller, the board secretary of the listed company, and other personnel as stipulated in the company's articles of association. The measure of executive change goes under the regulations on information disclosure management of listed companies as stipulated by the China Securities Regulatory Commission (CSRC) in 2007, which states that a listed company should disclose information when a director change occurs, more than one-third of the supervisors or managers change, the chairman changes, or the manager fails to perform corporate duties.

In the actual situation of corporate governance in China, the management power of a company is not completely in the hands of the CEO as in Western countries, but the chairman and the general manager jointly own the management rights of the company. Therefore, a change in both will cause the stock price to fluctuate. At the same time, the research purpose of this article is the impact of listed companies' announcements of executive changes on stock price changes, and so we employ the actual situation of corporate governance in China. We refer to the "Company Law" and "Administrative Measures for Information Disclosure of Listed Companies" to examine the impact of changes in the stock price of listed companies. An executive is defined as the chairman and general manager of the listed companies - that is, changes in senior management refer to changes of one or both of the chairman or general manager.

2.3 Research hypothesis

State-owned enterprises (SOEs) refer to enterprises entrusted by state-owned capital to hold shares, while private enterprises mainly refer to enterprises without state-owned capital. The changes in SOE executives are not sensitive to operating performance, because it is mainly designated by the government, rather than the results of the survival of the fittest. On the other hand, private enterprises compete and survive in a fully competitive market, and so changes in private enterprise

executives are based on a performance-oriented market mechanism. The changes in private enterprise executives are based on operating performance. Therefore, changes in the senior management of private enterprises will signal to the market that the company's actual operating conditions are worse than market expectations. This research puts forward the first hypothesis as follows.

Hypothesis 1: The market response to changes in private enterprise executives is significantly worse than the market reaction to state-owned enterprise executives.

This article follows Huang *et al.* (2018) to define the political background of executives, which means that executives have experience in the government, government agencies, people's congresses, and political associations. Chan *et al.* (2012) believe that companies can benefit from political relations, such as tax incentives, low industry entry barriers, and preferential loan policies. Therefore, political relations have a positive impact on corporate performance. Fan *et al.* (2007) believe that political connections can lead to the rent-seeking behavior of entrepreneurs (Tollison, 2004) and increase agency costs, which in turn will hurt corporate performance. When a listed company hires executives with no political background, the market will think that the listed company determines the appointment of a new executive based solely on the management and leadership ability of the executive. Therefore, it is more beneficial for the company to appoint executives without a political background. This research puts forward the second hypothesis as follows.

Hypothesis 2: The market response to the successor's non-official political background is significantly better than the market response to those with official political background.

This research uses Wu *et al.* (2013)'s definition of routine changes and unconventional changes in executives. Routine changes refer to the resignation of senior executives due to work transfer, retirement, expiration of tenure, physical health, personal involvement in cases, dismissal, improvement of corporate governance structure, termination of the agency, or undisclosed reasons. Therefore, compared with routine changes, unconventional changes will be interpreted by

investors as the result of the company's internal governance structure, enabling the company to optimize the company's talent status to meet performance expectations. Therefore, this research puts forward the third hypothesis as follows.

Hypothesis 3: The market response to an unconventional change of executives is significantly better than the market response to routine changes of executives.

When a company recruits executives, there are two ways of hiring them. One is to hire senior managers through an internal selection, and the other is to hire senior managers from outside. Investors may have different market reactions to different ways of hiring. Internal successors are based on the leadership of their predecessors and may be influenced by their predecessors' thinking and business strategies. Therefore, after taking office, they are more likely to continue the management style of their predecessor and may lack any innovation motivation. If the company hires senior managers from outside, then these external successors may not be affected by predecessors' thinking and business strategies. Therefore, they often carry out drastic reforms to the management of the company. Compared with internally promoted executives, externally hired senior executives are more likely to improve the company's operating conditions and turn losses into profits. This research puts forward the fourth hypothesis as follows:

Hypothesis 4: The market response to externally recruited executives of listed companies is significantly better than to internally recruited executives.

3. Research methods

3.1 Research methods

The main purpose of an event study is to investigate whether an event (such as executive replacement, merger, dividend announcement, or earnings announcement) will cause abnormal changes in stock prices. This information can be used to understand whether the stock price correlates to a specific event. This research employs the event study method to analyze the wealth effect of changes in senior management by examining the accumulated excess returns obtained by

the company's shareholders before and after the announcement of the change of senior management.

3.2 Basic introduction of an event study

Dolley (1933) is the first to use an event study to look into the impact of a company's stock split announcement on a stock's abnormal return. Ball and Brown (1968) further expand the event study method and pioneer the use of a cumulative abnormal return to examine the impact of information on a company's financial statements on stock prices. The event study method has been used for decades in the business field, especially in accounting and finance. The event study method focuses on testing the changes in stock price before and after an event or the degree of response of a stock price to information disclosed in an announcement. According to the research purpose, specific events are taken to study the changes in sample stock prices before and after the events, which can explain the impact of specific events.

3.3 Event day and estimation period setting

Since it is necessary to estimate the expected rate of return when no specific event occurs, the expected pattern must be established over time. As shown in Figure 1, the expected pattern is established with t_1~t_2 to predict the period (t_3~t_4) that may be affected by the event. The interval (t_1~t_2) is called the estimation period, and the length of the estimation period is set as the T period ($T=t_2-t_1+1$).

The period of the event is a period around the event day. Here, t=0 is the day when the event occurs. The interval (t_3~t_4) is called the event period, and the length of the event period is W, where $W=t_4-t_3+1$.

In this research, we take 210 days to 30 days before the event date as the estimation period - that is, [-210, -30] for a total of 181 days. We also take 10 days before and after the event date as the event period - that is, [-10, 10] for 21 days.

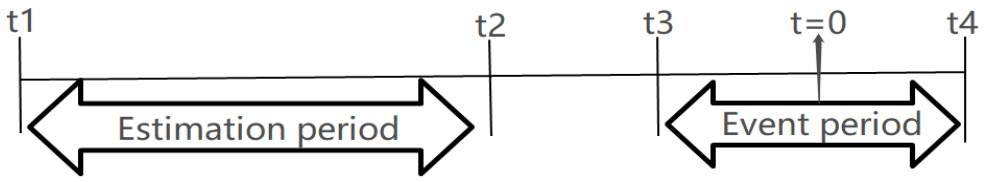

Figure 1

3.4 Choice of stock price expectation model

The models for calculating abnormal returns in empirical research mainly include the following: average adjustment model, market index adjustment model, risk adjustment model, and market model. In empirical research the market model is the most widely used, and so this article also employs it to calculate normal returns.

The market model is based on the data of the estimation period, using the least square method to establish the following regression model:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

Here, R_{mt} and R_{it} represent the market securities portfolio and the yield of the i[th] listed company's stock at point t, respectively. ε_{it} is the error term. Parameters $\hat{\alpha}_i$ and $\hat{\beta}_i$ are estimated by the least square method using the estimated period sample and the market's rate of return.

The expected rate of return for the event period E is:

$$E(\hat{R}_{iE}) = \hat{\alpha}_i + \hat{\beta}_i R_{mE} \quad (2)$$

Here, R_{mE} is the abnormal return rate of company m in the event period E, R_{iE} is the actual rate of return, and $E(\hat{R}_{iE})$ is the expected rate of return.

3.5 Calculation of abnormal return rate

When the expected rate of return is calculated, the abnormal rate of return can be calculated at the same time. The abnormal rate of return is the actual rate of return for the event period minus the expected rate of return for the event period.

$$AR_{iE} = R_{iE} - E(\hat{R}_{iE}) \quad (3)$$

Here, AR_{iE} is the abnormal return rate of the company during the event period E. R_{iE} is the actual rate of return, and $E(\hat{R}_{iE})$ is the expected rate of return. AR_{iE} can aptly reflect the impact of research events on the stock price of individual stocks on each event day, but many factors affect stock price fluctuations during the event period. To reduce the impact of individual stocks on the yield of all samples, a more objective result is needed.

The abnormal rate of return for all samples should be averaged to reduce the impact of other factors on the results. The average abnormal rate of return AR_{Rt} is calculated as follows:

$$AAR_E = \frac{1}{N}\sum_{i=1}^{N} AR_{iE} \quad (4)$$

Here, N is the number of companies, and AR_{iE} is the abnormal return rate of the first company in the event period.

Because this paper examines the market reaction during the event period, it is necessary to accumulate the average abnormal return rate obtained during the event period and finally obtain the cumulative abnormal return rate. The cumulative abnormal return rate of the sample population in the event period is CAR_t:

$$CAR_{(t3,t4)} = \sum_{t3}^{t4} AAR_E \quad (5)$$

3.6 Data sources and research samples

3.6.1 Data sources

The following types of data are used in this research: (1) announcement of the proposed replacement of the chairman and general manager and the 19 major event announcements within 10 days; (2) daily stock market returns of Shanghai and Shenzhen A-share listed companies under normal conditions; and (3) financial indicators such as ROA and asset-liability ratio. All three types of data come from Flush Financial Database (iFinD).

3.6.2 Determination of the study sample

This research determines the final sample, the clean sample, and the research sample in sequence to obtain the final sample. The specific screening method is as follows.

3.6.2.1 Initial sample

We extract the announcement data of the chairman and general manager of all listed companies on the China A-shares board from 2015-2017.

3.6.2.2 Cleaning sample

According to the above initial sample, the subsequent 19 major event announcement days within the event period [-10, +10] are eliminated one by one to obtain a clean sample as follows:

(1) Distribution announcement date; (2) Distribution plan announcement date; (3) Annual, semi-annual, and quarterly report announcement date; (4) Equity incentive announcement date; (5) Board member status announcement date; (6) Executive incentive announcement; (7) Share transfer announcement date; (8) M&A and reorganization announcement date; (9) M&A and reorganization equity change announcement date; (10) Equity division reform announcement date; (11) A-share allotment announcement date; (12) Announcement date of additional issuance of A-shares; (13) Announcement date of capital investment; (14) Announcement date of guarantee; (15) Announcement date of asset acquisition and sale; (16) Litigation and arbitration; (17) Announcement date of penalties for major violations; (18) Special treatment (operating losses for two consecutive

years) announcement date; and (19) Announcement date of the change of the accounting firm.

3.6.2.3 Research sample

Based on the above-mentioned clean samples, the final research samples are further screened according to the following rules: (1) Listed before January 1, 2014; (2) Data available for 4 consecutive fiscal years from 2014 to 2017; (3) Excluding financial listed companies in the insurance industry; and (4) Eliminate all special treatment companies.

4. The results

4.1 Total sample inspection

4.1.1 Chairman change sample inspection

Figure 2 shows that companys' stock price fluctuated significantly within 10 days before the announcement of a chairman change. The cumulative abnormal return rate shows an upward trend before the announcement of the change. In the event interval [-5,0], the abnormal rate of return presents an upward trend near the announcement day of the chairman change and reaches the maximum value of 0.76% on the day of the event (t=0). However, the cumulative abnormal rate of return has dramatically dropped.

To further verify the fluctuation of the average abnormal return rate of [-5, 0] and [0, 10] in the event period in Figure 2, the following t-test is performed on the cumulative average abnormal return rate in the interval. The test results are in Table 1.

Table 1 shows that the cumulative abnormal return rate caused by the chairman of the listed company is 0.20% on the day before the announcement of a change in the chairman, and the result is not significant (t-value = 1.631). When the chairman's change is announced (t=0), the cumulative abnormal return rate begins to decline rapidly, showing a downward trend over time. The cumulative average return rate of abnormality in the event interval [0, 10] is -0.50%, and the

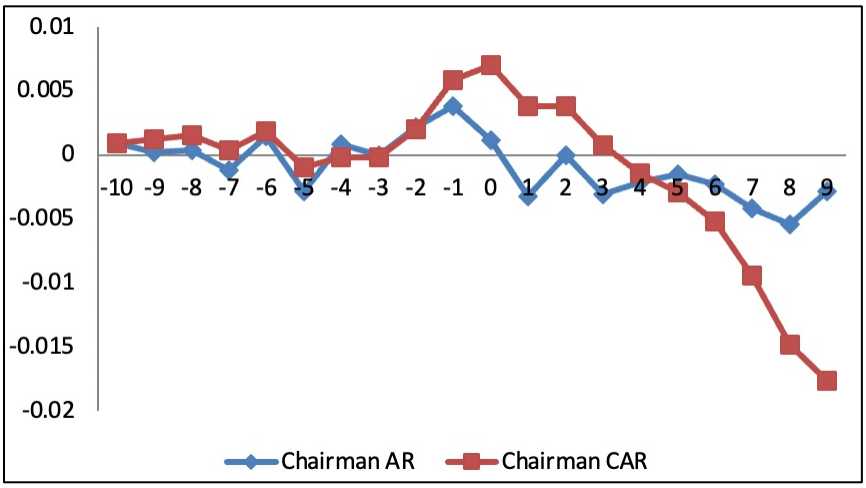

Figure 2

Ten days before and after a chairman change

Table 1

Results of the interval t-test

Event interval	[-5,0]	[0,10]
CAR	0.002	-0.005
t	1.631	-1.828
sig.	0.164	0.097

result is significant (t-value = -1.828). It shows that the cumulative abnormal return rate after the announcement of the chairman change is declining - that is, the negative reaction of the market to the change in the company chairman is significant.

4.1.2 General manager sample inspection

Figure 3 shows that a company's stock price fluctuates significantly within 10 days before the announcement of a change in the general manager. In event interval [-4,0], the abnormal rate of return shows an upward trend near the announcement day of the general manager change and reaches the maximum value of -0.30% on the event day (t=0). After the announcement date, the cumulative abnormal return rate drops significantly.

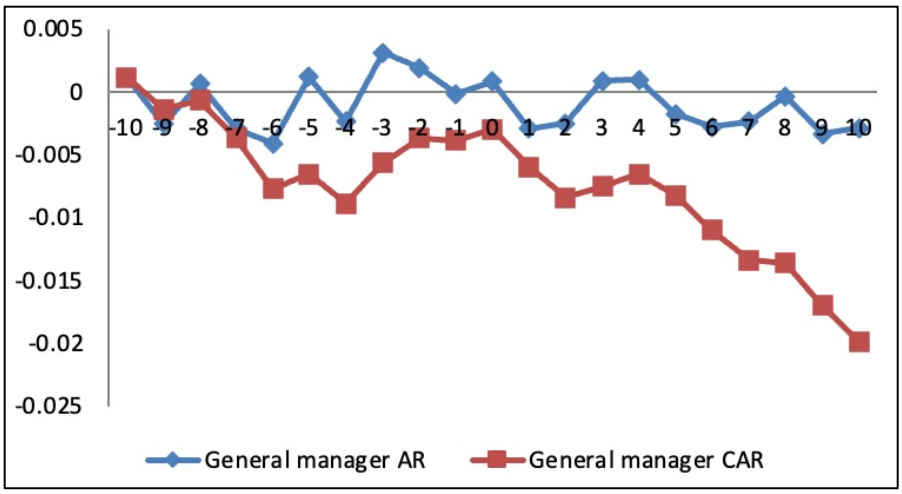

Figure 3
Ten days before and after the general manager change

To further verify the fluctuation of the average abnormal return rate in [-4, 0] and [0, 10] in the event period in Figure 3, the following t-test is performed on the cumulative average abnormal return rate in the interval. The test results are in Table 2.

Table 2 shows that the cumulative average abnormal return rate of the event interval [-4, 0] before the change announcement is -0.50%, and the result is significant (t-value = -4.717). After the event, the cumulative average return rate of abnormality in the interval [0, 10] is -1.00%, and the result is significant (t-value = -6.558). It shows that the cumulative abnormal rate of return after the announcement of a change in general manager shows a downward trend - that is, the negative reaction of the market to the announcement of such change is significant.

4.1.3 Simultaneous change in the chairman and general manager sample

Figure 4 shows that within the 10 days before and after a simultaneous change announcement, the company's chairman and general manager's changes cause major fluctuations in a company's stock price. During the event, the cumulative

Table 2

Results of the interval t-test

Event interval	[-4,0]	[0,10]
CAR	-0.005	-0.010
T	-4.717	-6.758
sig.	0.009	0.000

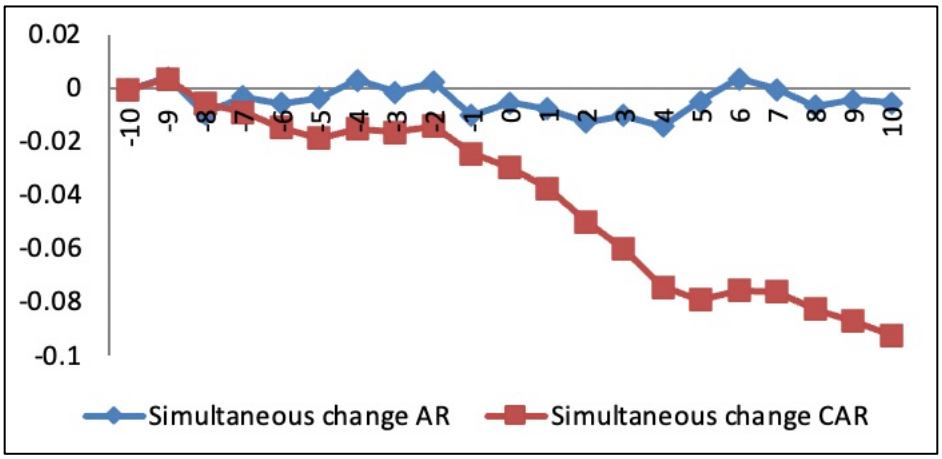

Figure 4

Ten days before and after the simultaneous change of chairman and general manager

abnormal return rate shows a downward trend, and the rate of decline accelerates significantly after the announcement of the change.

To further verify the fluctuation of the cumulative average abnormal return rate before and after the announcement of a simultaneous change t, we conduct a t-test on the cumulative average abnormal return rate of the event interval [-10, -1] before the announcement and the event interval [1,10] after the announcement. For example, the event of a senior management change occurs on one day, and it should have an abnormal fluctuation before (e.g., 10 days) and after (10 days) that day. Generally speaking, the announcement of executive changes should have been known to some people in advance, leading to abnormal stock selling behavior by them. Similarly, when the announcement of the executive change is released,

there will be abnormal stock selling behavior. The event study method assumes that the first ten days and the ten days after the event have significant stock price volatility.

To further verify the fluctuations of the cumulative average abnormal return before and after the announcement of simultaneous changes, this research analyzes the cumulative average abnormal return of the event interval before the announcement [-10, -1] and after the announcement [1,10] by the t-test. The test results are as follows.

Table 3 shows that the cumulative average abnormal return rate of the event interval [-10, -1] before the change announcement is -1.10%, and the result is significant (t-value = -4.249). After the event, the cumulative average return rate of abnormality in the interval [1, 10] is -7.20%, and the result is significant (t-value = -13.077). It shows that the cumulative abnormal rate of return after the announcement shows a downward trend - that is, the negative reaction of the market to the announcement of the simultaneous change is significant.

4.2 Multiple linear regression

To further explore the influencing factors of the degree of response in the equities market caused by changes in senior management, this research employs the cumulative abnormal return rate CAR_{-10}^{10} in time events as the explanatory variable of the regression model and employs the nature of the business (Character), the political background of the successor executive, the change of the former executive (Abnor), and the successor of the successor executive (Out) as the explanatory variables. From the research of Kato and Long (2006), this research selects asset size (Size), asset-liability ratio (Lev), total net interest rate

Table 3

Results of the interval t-test

Event interval	[-10, -1]	[1,10]
CAR	-0.011	-0.072
t	-4.249	-13.077
sig.	0.002	0.000

(ROA), and equity concentration (Shrc) as control variables. The definition and calculation method of variables are shown in Table 4.

The multiple regression analysis model is as follows:

$$CAR_{10}^{10} = \alpha + \beta_1 Character + \beta_1 Political + \beta_3 Abnor + \beta_4 Out + \beta_5 Size + \beta_6 Lev + \beta_7 ROA + \beta_8 Shrc + \varepsilon \quad (6)$$

Here, α is the constant term of the regression equation, β_1 to β_8 are the regression coefficients of the regression equation, and ε is the random error term of the regression equation.

Table 4

Quantification and description of each variable

Variable type	Symbol	Variable name	Variable meaning
Explained variable	CAR_{10}^{10}	Cumulative abnormal return	Cumulative abnormal return rate for the event period [-10, 10]
Explanatory variables	Character	Nature of corporate equity	The nature of the sample company is 0 for state-owned enterprises and otherwise 1
	Political	Political background	When the successor's political background is official, it is taken as 0 and otherwise is 1
	Abnor	Change method	Sample company's top ten shareholders' shareholding ratio in the previous year
	Out	Successor source	Successor takes a value of 0 when it comes internally and otherwise 1
Control variables	Size	Asset size	Natural logarithm of the total assets of the sample company in the previous year
	Lev	Debt asset ratio	Debt asset ratio of the sample company in the previous year
	ROA	Profit rate to net worth	Profit rate to the net worth of the sample company in the previous year
	Shrc	Ownership Concentration	Sample company's top ten shareholders Ownership concentration in the previous year

4.3 Descriptive statistical analysis

Table 5 shows the descriptive statistics of the main variables of the chairman sample. It can be seen from Table 5 that the difference between CAR10 -10 is obvious. The cumulative abnormal return rate of the sample company is as high as 37.30%, and the lowest is only -76.90%. In addition, the average cumulative abnormal return rate of the sample companies is -1.20%, indicating that most of the sample companies have significant negative reactions within 10 days before and after the change of chairman. The average value of Political is 0.821, which indicates that 82.10% of the companies that have a chairman change have a non-official chairman, and 17.90% of the successor chairman is an official. The average value of Abnor is 0.231, indicating that 23.10% of the companies that have a chairman change have an unconventional change of the previous chairman, and 76.90% have a regular change of the previous chairman. The average value of Out is 0.301, indicating that 30.10% of the board of directors of the company that has a chairman change are from the outside, and 69.90% make up the successor chairman from the inside. The average value of Size is 22.475, and the standard deviation is 1.422, indicating that the asset size data of the sample companies are more evenly distributed. The average value of Lev is 45.20%, and the standard deviation is 21.10%, indicating that although the financial structure of the sample companies has significant differences, most of them are relatively stable. The average ROA is 5.80%, and the standard deviation is 6.30%, indicating that the profitability and the distribution of ROA of the sample companies are relatively scattered. The average value of Shrc is 39.10%, and the standard deviation is 15.7%, indicating that most of the sample companies have a high degree of equity concentration.

Table 6 gives descriptive statistics for the main variables of the general manager change sample. As can be seen from the table, the difference between CAR10 -10 is obvious. The cumulative abnormal return rate in the sample goes up to 34.30%, and the lowest is only -63.90%. In addition, the cumulative abnormal return rate averages -0.20%, indicating that most sample companies

Table 5

Descriptive statistics of the main variables of the chairman change sample

Variable name	N	MIN	MAX	AV.	SD
CAR_{-10}^{10}	156	-0.769	0.373	-0.021	0.129
Character	156	0	1	0.340	0.475
Political	156	0	1	0.821	0.385
Abnor	156	0	1	0.231	0.423
Out	156	0	1	0.301	0.460
Size	156	17.757	26.365	22.475	1.422
Lev	156	0.055	0.969	0.452	0.211
ROA	156	-0.211	0.372	0.058	0.063
Shrc	156	0.090	0.755	0.391	0.157

Table 6

Descriptive statistics of the main variables of the general manager change sample

Variable name	N	MIN	MAX	AV.	SD
CAR_{-10}^{10}	146	-0.639	0.343	-0.020	0.146
Character	146	0	1	0.568	0.497
Political	146	0	1	0.911	0.286
Abnor	146	0	1	0.253	0.436
Out	146	0	1	0.308	0.463
Size	146	19.461	26.365	22.068	1.381
Lev	146	0.034	0.865	0.440	0.197
ROA	146	-0.358	0.239	0.053	0.077
Shrc	146	0.107	0.855	0.366	0.157

have a significantly negative reaction within the 10 days before and after the executive change. The average value of Character is 0.568, which means that private enterprises account for 56.80% of those with executive changes, and SOEs make up 43.20%. The average value of Political is 0.911, which indicates that 91.10% of the companies that have a general manager change have a non-official general manager, and 8.90% of the successor general manager is an official. The average value of Abnor is 0.253, indicating that 25.3% of the companies that have a general manager change have an unconventional change of the previous general manager, and 74.7% have a regular change of the previous general manager. The average value of Out is 0.308, indicating that 30.8% of the board of directors of

the company that has a general manager change are from the outside, and 70.20% form the successor general manager from the inside. The average value of Size is 22.068, and the standard deviation is 1.381, which indicates that the sample company's asset size data are more evenly distributed. The average value of Lev is 44.00%, and the standard deviation is 19.70%, indicating that the sample company's financial structure is significantly different. The average value of ROA is 5.30%, and the standard deviation is 7.70%, indicating that the profitability of most sample companies is not too high or too low, and the distribution of ROA data is relatively scattered. The average value of Shrc is 36.60%, and the standard deviation is 15.7%, indicating that the concentration of ownership of most sample companies is high, and the distribution of Shrc data of sample companies is relatively scattered.

4.4 Correlation coefficient

Table 7 shows that the correlation coefficient of chairman variables between each variable is less than |0.5|. Table 8 shows the correlation coefficient of general manager variables between each variable is less than |0.3|.

4.5 Analysis of regression results of factors affecting executives' market reaction

Table 10 shows the summary of the chairman model fit, and R^2 of the model

Table 7

Pearson correlation coefficient of chairman variables

	Character	Political	Abnor	Out	Size	Lev	ROA	Shrc
Character	1.000							
Political	0.124	1.000						
Abnor	0.057	0.098	1.000					
Out	-0.058	-0.166*	0.105	1.000				
Size	-0.385**	-0.060	0.102	-0.064	1.000			
Lev	-0.181*	0.070	0.037	0.011	0.405**	1.000		
ROA	0.085	0.051	0.041	0.098	-0.070	-0.171*	1.000	
Shrc	-0.418**	0.047	-0.051	-0.038	0.398**	0.097	0.031	1.000

Note: ** indicates that the correlation is significant at 0.01, and * indicates that the correlation is significant at 0.05.

Table 8

General manager Pearson correlation coefficients

	Character	Political	Abnor	Out	Size	Lev	ROA	Shrc
Character	1.000							
Political	0.068	1.000						
Abnor	0.190*	-0.094	1.000					
Out	-0.077	-0.156	0.225**	1.000				
Size	-0.392**	0.059	-0.186*	0.121	1.000			
Lev	-0.262**	0.062	-0.113	0.160	0.542**	1.000		
ROA	0.062	-0.036	0.112	-0.062	-0.004	-.196*	1.000	
Shrc	-0.306**	-0.070	-0.177*	0.042	0.298**	0.026	0.282**	1.000

Note: ** indicates that the correlation is significant at 0.01, and * indicates that the correlation is significant at 0.05.

Table 10

Summary of chairman's model fit

Model	R	R^2	Adjust R^2	Standard error
1	0.128	0.016	-0.037	0.132

is 0.016, which means that the explanatory power of the model is 1.60%. In addition, the F statistic does not pass the significance test (Table 11), and so the model affects the chairman change. The explanatory power of the market reaction factors is insufficient.

The regression results in Table 12 show that the coefficients of Character, Political, and Out are positive, but not significant, indicating that the market does not care about the nature of the company, the political background of the successor, and the method of appointment when the chairman changes. Thus, Hypotheses 1, 2, 3, and 4 are not supported. The reason may be that investors are more concerned about the change of the company's management rights instead of the change of ownership, and so there is no significant response to such a change.

Table 13 presents that the general manager regression model fit has R^2 of the model at 0.121, which means that the interpretation ability of the model is 12.1%. In the real world, the influencing factors of the explained variables are very complicated. It is also common sense that the model fit is not high, and R^2 is not

Table 11

ANOVA of chairman's model

	Average squared	df	Average squared	F	Sig.
Return	0.043	8	0.005	0.308	0.962
Residual	2.543	147	0.017		
Total	2.585	155			

Table 12

Regression results of factors affecting the market reaction to a chairman change

Variable	Non-standardized coefficient		Standardization coefficient	T	Sig.
	B	Standard error	Beta		
Constant	-0.165	0.200		-0.824	0.411
Character	0.006	0.026	0.024	0.249	0.804
Political	0.003	0.029	0.008	0.088	0.930
Abnor	-0.013	0.026	-0.042	-0.502	0.616
Out	0.020	0.024	0.072	0.842	0.401
Size	0.008	0.009	0.085	0.832	0.407
Lev	0.000	0.001	-0.028	-0.303	0.763
ROA	0.054	0.172	0.026	0.311	0.756
Shrc	-0.001	0.001	-0.102	-1.063	0.290

Table 13

Summary of general manager model fit

Model	R	R^2	Adjust R^2	Standard error
1	0.348	0.121	0.070	0.140

the only criterion for testing whether the model is reasonable.

Table 14 indicates that the F value of the model is 2.354, passing the 5% significance level. It can be concluded that the regression model has a significant linear relationship with the explained variables, and each explanatory variable has significance to the explained variables.

The regression results in Table 15 show that the Character coefficient is

Table 14

ANOVA of the general manager model

	Average squared	df	Average squared	F	Sig.
Return	0.372	8	0.046	2.354	0.021
Residual	2.704	137	0.020		
Total	3.076	145			

Table 15

Regression results of a general manager's change in market reaction factors

Variable	Non-standardized coefficient		Standardization coefficient	T	Sig.
	B	Standard error	Beta		
Constant	-0.427	0.230		-1.858	0.065
Character	-0.047	0.027	-0.162	-1.778	0.078
Political	0.107	0.042	0.210	2.560	0.012
Abnor	0.066	0.029	0.196	2.254	0.026
Out	0.008	0.027	0.024	0.280	0.780
Size	0.019	0.011	0.180	1.714	0.089
Lev	-0.001	0.001	-0.192	-1.928	0.056
ROA	-0.001	0.002	-0.06	-0.687	0.493
Shrc	-0.001	0.001	-0.096	-1.033	0.304

significantly negative, indicating that a change in the general manager of a private enterprise produces a significantly negative reaction and thus supports Hypothesis 1. The coefficient of Political is significantly positive, indicating that the political background of the successor general manager is non-official, and the market has produced a significant positive response that supports Hypothesis 2. The coefficient of Abnor is significantly positive, indicating that the market has a significantly positive response to the general manager's abnormal change, thus supporting Hypothesis 3. The coefficient is negative, but it is not significant. It indicates that the market is not concerned about the source of employment of the general manager change, and hence Hypothesis 4 is not supported. The reason may be that the investors may pay more attention to the actual business ability of the general manager.

The coefficient of Size is significantly positive, indicating that the larger the assets are of the listed company in which the general manager changes, the greater is the positive market response. The reason may be that listed companies with large assets have more effective internal governance mechanisms. Investors may believe that the change of general manager is the result of the effective role of the corporate governance mechanism, and therefore the positive response arises to listed companies with larger assets. The coefficient of Lev is significantly negative, indicating that the higher the asset-liability ratio of the listed company is in which the general manager changes, the greater is the negative market reaction. The reason may be that the higher asset-liability ratio may cause a higher financial leverage and is prone to leave a bad impression of debt default. Investors may pay more attention to the business performance after changing the general manager. Therefore, investors may not regard the previous business performance of the listed company as a reference indicator for the listed company whose investment has changed.

The coefficient of Shrc is negative, but it is not significant, indicating that the market may not pay attention to the shareholding ratio of the top ten shareholders of the company with a general manager change. The reason may be that the investor believes that ownership concentration and management rights are separate. Investors are more concerned about the impact of the general manager change event. Therefore, the negative reaction to the listed company with the higher asset-liability ratio is more significant. The coefficient of ROA is negative, but it is not significant, indicating that the market is not concerned about the company's ROA with a change in general manager.

5. Conclusion

5.1 Conclusion

This research is based on the hypothesis of effective capital markets, taking China A-share main board companies from 2015 to 2017 as a sample and using the event study method to conduct a theoretical analysis of the impact of senior

management changes on the market.

First, during the event period the market's negative reaction to changes in the chairman and general manager is significant, indicating that investors are not optimistic about the development prospects of listed companies with changes in senior management. When the announcement of changes in senior management is released, the cumulative abnormal return rate increases significantly. After the announcement of the changes in the chairman and general manager, the cumulative abnormal return rate drops rapidly. At the same time, the cumulative abnormal return rate caused by the chairman and general manager during the incident continues to decline.

Second, this research does not find any factors that influence investors' market response to the transfer of control rights of listed companies. Investors do not pay enough attention to changes in the board of directors of listed companies. Due to the separation of ownership and management rights of modern enterprises, investors believe that the chairman of the board does not participate in the actual operations of the company. Therefore, a change in the chairman of the board may not have a significant impact on the company's future performance.

Third, when the listed company that changes the general manager is a private enterprise, the market response to a change of general manager is significantly better than that of an SOE. The reason is that the general manager of an SOE is mainly engaged in administrative appointments, and so investors are less sensitive to changes in the general manager. The reason for general manager changes in private enterprises is because their operating performance often fails to meet the expectations of the board of directors. Therefore, replacing the general manager of a private enterprise is mainly done to improve the company's operating performance.

Fourth, when the political background of the successor is non-official, the market has a significant positive response. Indeed, when a listed company hires an executive with no political background, the market may consider that the listed company is solely determining the appointment of new executives based on the management and leadership ability of the executive. Therefore, the appointment

of executives without a political background is more beneficial to the company.

Fifth, the market response to an unconventional change in general manager is better than routine change. Indeed, investors may believe that the routine change of the general manager is a matter in the company's plan and will not have a significant impact on the company's future business performance. However, an unconventional change may bring greater uncertainty in the future, yet it also fills the company's future with opportunities. As a result, an unconventional change sends investors a signal that the company has implemented a new way of doing business by replacing the general manager to improve corporate performance.

Sixth, based on the results, since there is no significant difference in the appointment of internal and external general managers by listed companies, investors may not care about how the successor is appointed. On the contrary, it may be more important to understand the operational capabilities of the successor and the business strategy that adapts to the company's future business performance.

Seventh, the results of this research present that a smaller scale of corporate assets implies a higher cumulative abnormal return rate caused by a change of general manager. In other words, the internal corporate governance mechanisms of large-asset listed companies are relatively complete and effective, and so the resignation of the general manager is the result of an effective corporate internal governance mechanism.

Finally, the results of this research show that a smaller financial leverage of the enterprise causes a higher abnormal stock return rate due to a change of general manager. Indeed, compared to companies with greater financial leverage, companies with less financial leverage have less financial pressure and a lower risk of debt default. Therefore, investors expect that the successor manager can give full play to the role of financial leverage in a company environment with small financial leverage so that the successor's business methods and development strategies are not restricted by insufficient funds to achieve a good performance.

5.2 Suggestions

5.2.1 Advice to the regulatory authorities

After decades of development, although the China securities market system has undergone many revisions, there is still a lot of room for improvement compared with the securities market system of developed countries. Indeed, the China securities market still has a large number of listed companies' information disclosures that do not meet securities disclosure requirements. To varying degrees, information disclosure and operating conditions are untrue, and major issues are not disclosed. The results of this research present that the information disclosed is an important factor for investors to evaluate stocks. Therefore, strengthening the supervision of the information disclosure of listed companies can protect the interests of ordinary investors and also help further regulate the securities market.

5.2.2 Advice for listed companies

Whether for appointments or resignations of senior executives, they should be handled in strict accordance with the company's rules and regulations, which are the result of the effective functioning of the company's internal governance mechanism. Therefore, the impact of human factors on executive changes should be reduced, because it could incur stock price fluctuations. According to the conclusion of this research, the cumulative abnormal rate of return increases significantly near the announcement date of a change in chairman and general manager. After the announcement of the change, the firm's cumulative abnormal return rate drops rapidly. In this case, the information on changes of the chairman and the general manager is likely leaked in advance, and informed investors bought and sold shares in advance on the day of the announcement to make illegal gains. This may harm the interests of ordinary investors, and so listed companies should strictly keep confidential all information on changes in senior management.

5.2.3 Advice to investors

This research suggests that investors should rationally treat any changes in the senior management of listed companies. When investors analyze the impact of such changes, they must not only look at the impact of the changes on the company's future operating performance, but also combine the characteristics of changes in senior management (such as change methods, successors' political background, etc.) and their impact on corporate governance. It is necessary to

comprehensively examine the whole situation (such as asset scale, asset-liability ratio, etc.) and other information in order to determine investment strategies, thereby reducing investment risks.

5.3 Research limitation

First, the event study method should fit the efficient market hypothesis. This hypothesis is one of the most controversial investment theories, and many pieces of evidence support or oppose it. In reviewing the literature on the efficient market hypothesis, even the large U.S. stock market does not quite fit this assumption. Therefore, we do not stress the efficient market hypothesis in this article. Many other articles also employ the China stock market via the event study method (Huang *et al.*, 2014; Liao *et al.*, 2019; Wang, 2020).

Second, there may be other factors that affect the results of the four hypotheses of this study. It is thus recommended that further studies use a longer period to investigate more Chinese listed companies.

Third, because this article presents an exploratory study, Table 10 and Table 11 are reasonable. Exploratory research does not require a strong theoretical basis to be carried out. Thus, it has very low explanatory power (e.g., R^2).

Finally, this article employs the event study method to examine the four hypotheses in the China stock market, but the event study method has its own limitations. The first concern is the non-synchronicity problem of the event (Duso *et al.*, 2011; Scholes and Williams, 1977). For example, the causal relationship that a particular event (e.g., senior management change) triggers unusual stock price volatility may just be a coincidence. The other concern is the beta-instability problem of the econometric model (Alexander and Chervany, 1980; MacKinlay, 1997), because the beta coefficient may vary with time, which causes a greater error in the abnormal rate of return. Therefore, the four hypotheses in this article should be examined through more listed companies and a longer time period in the China stock market to better test their validity.

References

Al-ahmad, Z. (2018). Stock market reaction to the announcement of top management changes: Preliminary findings from the damascus securities exchange (DSE). *International Journal of Advanced Research*, *6*(4), 666-676.

Alexander, G., and Chervany, N. (1980). On the estimation and stability of beta. *Journal of Financial and Quantitative Analysis, 15*(1), 123-137.

Ball, R., and Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, *6*(2), 159-178.

Bonnier, K. A., and Bruner, R. F. (1989). An analysis of stock price reaction to management change in distressed firms. *Journal of Accounting and Economics*, *11*(1), 95-106.

Burchard, C. H., Proelss, J., Schäffer, U., and Schweizer, D. (2021). Bad news for announcers, good news for rivals: Are rivals fully seizing transition-period opportunities following announcers' top management turnovers?. *Strategic Management Journal*, *42*(3), 579-607.

Chan, C. C., Hsu, Y. Y., and Chen, L. L. (2015). The media effect on stock market overreaction. *Corporate Management Review*, *36*(1), 47-72.

Chan, K. S., Dang, V. Q. T., and Yan, I. K. M. (2012). Chinese firms' political connection, ownership, and financing constraints. *Economics Letter*, *115*(2), 164-167.

Chi, L. C., Tang, T. C., and Chen, M. Y. (2012). Corporate transparency as a defense against a stock price plunge: Evidence from a market-crash context. *Corporate Management Review*, *32*(1), 137-162.

Coffee, J. C. (1999). The future as history: The prospects for global convergence in corporate governance and its implications. *Northwestern University Law Review*, *93*(3), 641-707.

Dolley, J. C. (1933). Characteristics and procedure of common-stock split-ups. *Harvard Business Review*, *111*(3), 316-326.

Duso, T., Gugler, K., and Yurtoglu, B. (2011). How effective is European merger control?. *European Economic Review*, *55*(7), 980-1006.

Fan J. P., Wong T. J., and Zhang, T. Y. (2007). Politically-connected CEOs, corporate governance and post – IPO performance of China's newly partially privatized firms. *Journal of Financial Economics*, *84*(2), 330-357.

Goldman, E., and Slezak. S. L. (2003). Delegated portfolio management and rational prolonged mispricing. *The Journal of Finance*, *58*(1), 283-311.

Huang, C. H., Lin, F., Wu, S. F., Huang, J. B. (2014). Is corporate governance effective in earnings management in Asian emerging markets? *Chiao Da Manag. Rev*, *34*(1), 87-111.

Huang, C. J., Shiue, M. J., and Chang, Y. S. (2010). How does corporate governance affect firm performance? The mediating role of agency costs. *Corporate Management Review*, *30*(2), 107-146

Huang, D., Xu, W., and Yang, H. (2018). A study on the impact of political connections and golden hook's shareholding on the change of executives. *Soft Science*, *32*(10), 80-83.

Huang, H. Y. (2016). *Shanghai stock exchange statistics annual*. Shanghai stock exchange. http://www.sse.com.cn/aboutus/publication/yearly/documents/c/tjnj_2015.pdf

Ismail, A. (2012). Do target firms always gain? The determinants of target firm's loss in US takeovers. *Corporate Ownership and Control*, *10*(1), 254-270.

Kato, T., and Long, C. (2006). Executive turnover and firm performance in China. *American Economic Review*, *96*(2), 363-367.

Liao, T. J., Yu, S. H., Liu, I. C., and Chiou, T. Y. (2019). Local institution contingencies for the effects of local market orientation on foreign SMEs'

performances: Evidence from an emerging market. *Corporate Management Review, 39*(1), 1-47.

Lin, C. H., and Wang, W. C. (2010). The impact of employee compensation disclosure on corporate governance structure. *Corporate Management Review*, *30*(1), 81-119.

Luan, C. J., and Tien, C. (2017). Where is foreign institutional investors' efficacy? A transparency & disclosure perspective. *Corporate Management Review*, *37*(1), 41-75.

MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of Economic Literature*, *35*(1), 13-39.

Miyajima, H., Ogawa, R., and Saito, T. (2018). Changes in corporate governance and top executive turnover: The evidence from Japan. *Journal of the Japanese and International Economies*, *47*, 17-31.

Phuong, L. C. M. (2021). Stock price reactions to information about top managers. *Banks and Bank Systems*, *16*(2), 159-169.

Quan, X., and Wu, S. (2009). Research on shareholder wealth effect and influencing factors of long-serving board chairman departure. *Economic Management, 31*(8), 119-125.

Scholes, M., and Williams, J. (1977). Estimating betas from nonsynchronous data. *Journal of Financial Economics*, *5*(3), 309-327.

Tangpong, C., Lehmberg, D., and Li, Z. (2021). CEO replacement, top management vacancy, and the sequence of top management team changes in high technology turnaround companies. *Long Range Planning.* Advance online publication https://doi.org/10.1016/j.lrp.2021.102103

Tollison R. D. (2004). *Rent seeking*. In C.K. Rowley and F Schneider (Eds.), The encyclopedia of public choice (pp. 495-499). Springer.

Wang, J. J. (2020). Pairs trading in the Taiwan, Hong Kong, and China stock markets before and after short-selling deregulation. *Corporate Management Review*, *40*(1), 35-75.

Warner, J., Watts, J., and Wruck, K. (1998). Stock prices and top management changes. *Journal of Financial Economics*, *20*, 461-492.

Wu, L., Xie, Z., and Zhou, K. (2013). The market response to changes in company executives: Empirical evidence from China's A-share market. *Journal of Beijing Technology and Business University*, *28*(5), 62-69.

Xu, W. L., Qian, X. H., and Liang, R. Z. (2009). The wealth effects of CEO succession based on the demographic characteristics. *Journal of Management Science*, *22*(5), 24-33.